QUANTITATIVE ANALYSIS OF DRILLING PREDATION PATTERNS IN THE FOSSIL RECORD: ECOLOGICAL AND EVOLUTIONARY IMPLICATIONS

by

ALAN P. HOFFMEISTER

Dissertation submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY
in
GEOLOGICAL SCIENCES

Michal Kowalewski (chair)
Richard K. Bambach
Patricia H. Kelley
J. Fred Read
Stephen E. Scheckler

March 13, 2002
Blacksburg, Virginia

Keywords: Drilling Predation, Paleozoic, Cenozoic, Brachiopods, Mollusks

QUANTITATIVE ANALYSIS OF DRILLING PREDATION PATTERNS IN THE FOSSIL RECORD: ECOLOGICAL AND EVOLUTIONARY IMPLICATIONS

by

ALAN P. HOFFMEISTER

Michal Kowalewski, Chair

Department of Geological Sciences, Virginia Tech

ABSTRACT

Drilling predation presents a rare opportunity to quantify ecological and evolutionary interactions in the fossil record. To date, most of this research has been done on Late Mesozoic and Cenozoic deposits, and large-scale studies have focused on temporal rather than spatial patterns. However, drilling predation occurs throughout the entire Phanerozoic, and patterns in spatial variability may mask secular trends. These issues are addressed in a series of projects presented here.

An extensive survey of museum specimens and bulk materials indicate that drilling predation in Late Paleozoic brachiopod prey is relatively rare (<1% of fossil specimens are drilled) but widespread and continuously present. The intensity of drilling predation on Late Paleozoic bivalve mollusks (this is the first quantitative report of this kind) is much higher than that seen for contemporaneous brachiopod prey, but lower than what is common for Late Mesozoic and Cenozoic mollusks. Drilling intensity varies significantly between taxa and across localities, (e.g., a sample of the Pennsylvanian brachiopod *Cardiarina cordata* produced an estimate of 32.7%, which is an intensity similar to that seen in Cenozoic mollusks and the highest yet reported for any brachiopod). However, data for the brachiopod genus *Composita*, which appears to be a preferred brachiopod prey in many Late Paleozoic assemblages, show that although this genus is subject to drilling predation continuously throughout its geologic range, the overall intensity is very low (less than 1%) and at no time does the intensity ever exceed 10%.

Spatial variation in Miocene assemblages from Europe is shown to be on the same order as temporal variation throughout the Cenozoic. Significant variation in drilling intensity is also documented for the Paleozoic. This emphasizes the point that to fully understand patterns of predation through time, both spatial and temporal distribution must be considered.

ACKNOWLEDGEMENTS

This work would not have been possible without the efforts and dedication of my committee. Michal Kowalewski, Richard Bambach and J. Fred Read of the Department of Geological Sciences; Stephen Scheckler of the Department of Biological Sciences; and Patricia Kelley of the Department of Earth Sciences at the University of North Carolina-Wilmington have provided continuous support and inspiration, mediated my wilder speculations and, at least in Michal's case, put up with an almost constant supply of bad jokes. If the end does justify the means then we have all succeeded beyond reasonable expectations.

The bulk of this research was funded by the National Science Foundation through a grant to Michal Kowalewski, Richard Bambach and Tomasz Baumiller (University of Michigan). Thanks to the Department of Geological Sciences for providing support in the form of graduate teaching assistantships and a Heath Robinson-Roy Holden Scholarship.

J. Thomas Dutro and John Pojeta, U.S. Geological Survey, sponsored my trips to the Smithsonian Institution, provided invaluable insight into the collections therein and the people who did the collecting, and also invited me to the weekly lunch at the Lincoln House on Tuesdays. Jann Thompson and Mark Florence of the Smithsonian provided technical assistance with the collections.

The staff of the Department of Geological Sciences quietly provided assistance in more ways than I can remember. Many thanks to Connie Lowe, Mary McMurray, Linda Bland, Carolyn Williams, Ellen Mathena, Mark Fortney and Mark Lemon for all of your help over the past few years.

Many thanks to my fellow graduate students, especially the paleontology group, for their comments, discussions, arguments and the occasional suggestion that everything really would make much more sense (or at least not seem so bad) if beer were involved.

Special thanks to Paula Shafer for all of her support, and for being brave enough to spend three weeks in the Smithsonian Institution looking at 14,000 or so brachiopods. My brother and his family in Maryland were kind enough to provide a place to stay on numerous trips to the Smithsonian Institution. Finally, my parents, who still cannot fathom why I do this, have provided moral support for a very long time; without them I would never have come this far.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1: Introduction

Drilling predation presents a rare opportunity to quantify ecological interactions in the fossil record. The fossil record of behavior has been most extensively studied in Late Mesozoic and Cenozoic assemblages, but there are reports of drill holes from almost every period of geologic time. Also, most large-scale studies to date have focused on temporal rather than spatial patterns, and virtually all such projects have dealt with Mesozoic and Cenozoic mollusks. However, organisms other than mollusks are subject to drilling predation, and investigation of both temporal and spatial patterns for these other groups is limited in extent compared to studies of mollusks. This study aims to investigate several aspects of drilling predation that have not received detailed attention yet. These topics are 1) the amount of spatial and environmental variation in drilling predation patterns, 2) frequency of predation on Late Paleozoic brachiopods, 3) comparison of drilling predation between Late Paleozoic brachiopods and bivalve mollusks from the same collections and 4) the evolutionary response to predation by one brachiopod genus throughout its geologic range. While these topics may seem only partly related, they are all linked together by the quantitative approach used here, which results in comparable data regarding the behavior of drilling predation through time and space and between different prey types.

First, spatial variability in the record of drilling predation will be examined by looking at samples from two adjacent bioprovinces that are of the same age. Variability in spatial patterns of drilling may mask secular trends as well as provide important insights into geographic and environmental gradients of predation. For this analysis, samples from the Miocene of Central Europe were used. The samples come from two bioprovinces, Boreal and Paratethys, and from two facies within each province. Two mollusk classes, bivalves and gastropods, are included in the study. This sampling scheme allows for analysis at a variety of spatial scales ranging from regional comparisons (between the bioprovinces) through analyses between facies both within and between bioprovinces and between mollusk classes within provinces, down to analyses within facies within each bioprovince. Such sampling provides a unique opportunity to assemble a detailed picture of spatial and environmental patterns in drilling predation at one time. Escalation parameters and stereotypy in drill hole location are also included to allow for comparison with published data from the same time interval worldwide. The samples are Burdigalian (late early Miocene) and Langhian (earliest middle Miocene) in age, and span less than 3 million years.

The second study involves a detailed look at drilling predation in the Late Paleozoic, a time interval that has not been studied to date in a rigorous manner for predation patterns. The late G. Arthur Cooper spent almost four decades collecting specimens from Permian strata in the Glass Mountains of West Texas. The fossils in these rocks are delicate, silicified specimens enclosed in a carbonate matrix. Acid dissolution of the blocks has provided an exquisite suite of fossils, which are housed at the Smithsonian Institution National Museum of Natural History. Fortunately, Cooper kept all of the fossils from the blocks, even though his research interests were with the brachiopod fauna. Both brachiopods and bivalve mollusks are present in the collection. This presents an ideal opportunity to compare drilling predation between two morphologically and ecologically similar organisms that provide vastly different volumes of flesh for a predator. Kitchell (1986) proposed that the cost-benefit ratio for a drilling predator is a key factor in selecting prey. If this is the case, then nutrient poor brachiopods should experience a lower intensity of attack than the comparatively nutrient rich bivalve mollusks.

A short comment in the taxonomic literature provided the impetus for the third part of this study. Drilling intensities reported from Paleozoic assemblages tend to be lower than what is seen in the Late Mesozoic and Cenozoic (see Kowalewski et al., 1998). However, Cooper (1956) mentioned the presence of many drill holes in one of the species that he described from the Pennsylvanian of New Mexico. The possibility that intense drilling predation existed in the Paleozoic warranted full investigation. Three new species from one formation were described by Cooper (1956), providing the opportunity not only to investigate potentially intense drilling predation but also selectivity by the predator for either size or type (species) of prey.

Finally, drilling predation has often been used to test the hypothesis of escalation proposed by Vermeij (1987) and the Kelley-Hansen Model (Kelley and Hansen, 1996b). However, Dietl et al. (2002) showed that previous studies, based entirely on morphologic characters, might misrepresent which species are escalated and thus provide inaccurate results. Metabolic rate and the ability to escape from predators must also be considered when working with mollusks (Dietl et al., 2002). However, sessile brachiopods do not present this challenge. Brachiopods are, therefore, a more suitable target for testing the hypothesis of escalation using morphological characters alone. *Composita*, a brachiopod genus reported as drilled in the literature (Ausich and Gurrola, 1979; Hoare and Atwater, 1980), and one of the most heavily drilled genera in Cooper's collections from the Permian of West Texas, was chosen for this analysis. *Composita* has a long geologic range, from Late Devonian to Permian, is morphologically unescalated, and shows no appreciable morphologic change throughout its range. The Smithsonian Institution houses 20,566 specimens of *Composita* in its biologic fossil collection that span the entire geologic range of the genus. All of these specimens were examined to investigate evidence of drilling predation and possible escalation in the genus.

The closing chapter of the dissertation provides a general synthesis of the results from these projects. While each project had its own unique goals, they all share common quantitative methods and all are based on intense sampling efforts. Some general statements are suggested regarding the nature of drilling predation and its ecological and evolutionary implications.

CHAPTER 2: Spatial and Environmental Variation in the Fossil Record of Drilling Predation: A Case Study from the Miocene of Central Europe

Abstract

Drilling predation presents a rare opportunity to quantify ecological interactions in the fossil record. Most large-scale studies have focused on temporal rather than spatial patterns. However, spatial variability patterns may both mask secular trends as well as provide important insights into geographic and environmental gradients in predation. To explore spatial patterns in predation, bulk samples of mollusks were collected from middle Miocene (Burdigalian and Langhian) marine deposits of Europe, including multiple sites from two adjacent bioprovinces: the Boreal Province and Paratethys. Two facies were sampled: fine-grained and coarse-grained siliciclastics. The sampling scheme allows for a comparison of drilling predation at the local scale (within provinces), regional scale (between provinces), and between facies (within and between provinces).

In the Miocene of Europe, statistically significant spatial variations in drilling-predation patterns occur locally, regionally, and among facies. These variations can be either masked or exaggerated when the samples are pooled into coarser analytical groupings. Regardless of the taxonomic resolution of the analysis, inter-regional and facies variation between samples is significant and on occasions exceeds 20%. The sample-level pattern of variation in drilling intensity is notably consistent for pooled data and for each mollusk class, but major differences exist at finer taxonomic scales of families and genera. Escalation parameters (proportion of failed and multiple predatory attacks) also vary significantly between the provinces. In contrast, drill-hole size and site distributions display remarkably consistent patterns across samples regardless of the region, environment, composition of potential prey and predator, observed drilling intensity, and levels of escalation parameters. This suggests that stereotypy in predatory behavior can be displayed by higher taxa and may be independent of the environment, geography, and prey type. The dramatic differences between intensity patterns and stereotypy patterns indicate that the scale and nature of spatial variability may vary notably among different predation parameters. Thus, whereas behavioral stereotypy appears to be stable, the drilling intensity and escalation parameters display variability levels that are comparable to the temporal variations observed among samples collected over evolutionary time scales. The spatial variation in the fossil record of all relevant predation parameters should be evaluated independently, and controlled for, before any large-scale temporal trends are inferred.

Introduction

Traces of predation (repair scars, drill holes, tooth marks, etc.) provide a diverse and rich ecological record for Phanerozoic marine ecosystems (e.g., Alexander, 1986; Vermeij, 1987; Kelley and Hansen, 1993, 1996a). Among various lines of evidence, drill holes have been especially well studied. This is because they provide one of the least ambiguous sources of data on prey-predator interaction and are rich in behavioral and ecologic information (Kitchell, 1986). They also offer an impressive fossil record that spans all geological periods of the Phanerozoic (Kowalewski et al., 1998).

The interest in drilling predation stems not only from the opportunity to study individual interactions in the fossil record but also from the chance to document predator-prey interactions in an evolutionary context. In particular, the hypothesis of escalation proposed by Vermeij (1987) can be tested rigorously using drilled prey fossils both from the ecologic evolutionary perspective (e.g., 1986; Kelley and Hansen, 1996a) as well as from the point of view of functional morphology (e.g., Dietl et al., 2000; Leighton, 2001). Much attention has been given to temporal variation in the intensity of shell-drilling predation (Sohl, 1969; Kabat, 1990; Kelley, 1989, 1992; Kelley and Hansen 1996a, b), yet few studies attempt to quantify spatial variation at any given time (Vermeij, 1980, 1982; Geller, 1983; Schmidt, 1989; Hansen and Kelley, 1995; Cadée et al, 1997; Nebelsick and Kowalewski, 1999). In the case of drilling predation on Cenozoic mollusks, Hansen and Kelley (1995) found notable variation between the Atlantic and Gulf Coastal plains of North America. This is not surprising considering that environment, climate, biogeography, and latitude may all control spatial distribution of both predator and prey species. The changes in the composition of prey and predators are likely to generate variability in patterns of drilling predation. The scale and nature of such variability is poorly known, but potentially extreme.

The goal of this study is to investigate the variation in drilling-predation patterns among close to contemporaneous sites from the late early and early middle Miocene of Europe from adjacent but unconnected bioprovinces. Specifically, we will evaluate variation in (1) overall drilling intensity patterns, (2) drilling intensity between the clastic facies within the bioprovinces, (3) drilling intensity between mollusk classes within and between the bioprovinces and/or the clastic facies, (4) escalation parameters (i.e., unsuccessful drill holes and multiple drill holes), and (5) behavioral stereotypy (i.e., prey size and drill-hole site selectivity).

Methods

This study includes samples from two marine provinces that existed in Europe during Miocene times: Boreal and Paratethys (Fig. 2.1). The Miocene sequences have been intensely studied in both provinces and detailed biostratigraphic zonations have been well established regionally and cross-correlated to global chronostratigraphic stages (e.g., Steininger et al., 1985; Rögl and Steininger, 1984; Tobien, 1986; Vinken et al., 1988; Hinsch, 1993; Rögl, 1996, 1998, 1999; and references therein). Our sampling focused on a short interval of time from the late Burdigalian Stage (late early Miocene) to the Langhian Stage (earliest middle Miocene) with a majority of samples (15 of 17) representing a time span of less than 2 million years (17 Ma-15.2 Ma; Berggren et al., 1995) (Fig 2.2). This makes our data ideally suited for evaluating spatial variability in predation patterns. Moreover, not only is the time span geologically short but also climate remained relatively stable during this time interval and there are no major extinctions evident in the marine fossil record. It should be noted that one additional sample that came from the early Serravallian (early middle Miocene, ~ 14 Ma) deposits of the southeastern North Atlantic was included in some analyses, but our primary focus is on the Burdigalian and Langhian samples of Boreal Province and Paratethys.

A total of 17 bulk samples were collected from 11 sites from western and central Europe, including localities in Austria, Hungary, Germany, Belgium, the Netherlands, and France. Nine of the samples came from the Boreal province, seven are from the Paratethys and one is from the southeastern North Atlantic. The samples include bulk sediments collected in the field and unsieved or sieved bulk sediments obtained from museum/university collections. All samples were processed using fine-mesh screens

(<1.0 mm). Two siliciclastic facies are represented by Boreal and Paratethys samples: a low-energy clay facies and a high-energy sand facies. The southeastern North Atlantic sample is from the sand facies. For additional details on sample collection and preparation see Kowalewski et al. (2002).

Each specimen was examined and measured under a Bausch and Lomb binocular microscope with magnification ranging between 10x and 30x. All measurements were done using millimeter-scale engineering paper. Multiple measurements of a random subset of specimens produced results repeatable to the nearest 0.1 mm. Data were collected on specimen size (anterior-posterior and dorsal-ventral dimensions for bivalves, shell height for gastropods), articulation of bivalves (left valve, right valve, articulated shell), and presence or absence of drill holes.

Because the overwhelming majority of specimens were small thin shells, most of the drill holes are two-dimensional. Therefore, the size of the drill holes, as reported here, represents both the inner and outer diameter. For specimens that were drilled, each drill hole was classified as complete, nonfunctional, or incomplete. A drill hole was considered complete if the ratio of inner diameter to outer diameter exceeded 0.5; a nonfunctional drill hole has a ratio below 0.5 (Kitchell et al., 1986). In thin specimens, where the inner and outer diameters are the same, the ratio must be 1. The functionality criteria could be applied only to the few larger specimens thick enough to preserve a three dimensional hole. It should be also noted that this criterion is derived from observations on only one predatory species (*Neverita duplicata*) (see Kitchell et al., 1981) and its wider applicability is, therefore, debatable. A drill hole was considered unfinished if it failed to penetrate the shell completely. Specimens with multiple drill holes were noted and all drill holes were measured and described. Specimens that displayed more than one drill hole were not considered in the quantitative analysis that dealt with size and site selectivity. This is because multiple drillings provide multiple estimates for the inferred size of the predator and require an arbitrary choice of a drill hole to be selected for the predator-prey size analysis. Fortunately, specimens with multiple drill holes are rare (less than 1% of bivalves, less than 3% of gastropods) and their exclusion does not affect the results in a notable manner. The location of each drill hole was quantified following the standard schemes previously proposed for bivalves (Kelley, 1988) and gastropods (Kelley, 1991; see also Berg and Nishenko, 1975; Berg 1976).

Due to the presence of disarticulated valves, a correction is required to compare predation intensities, even though it is likely that every preserved valve came from a separate individual (Gilinsky and Bennington, 1994). The correction must be made because the probability of sampling a drilled valve from a drilled specimen is two times less likely than the probability of sampling any of its two valves (Bambach and Kowalewski, 2000). Drilling intensity can be computed as follows:

$$DI=d/0.5*n \quad \text{or} \quad DI=2*d/n$$

where DI is the drilling intensity, d equals the number of specimens with at least one complete drill hole, and n equals the total number of valves. Note that whereas the two equations must yield the same DI value, they are not synonymous statistically because the sample size n is two times higher when the second equation is employed. Because the power of statistical tests is also a function of sample size, the second equation offers much more statistical power than the first equation. Bambach and Kowalewski (2000) tested both equations using computer simulations and showed that the first equation yields correct estimates of Type I error in statistical testing, whereas the second equation proved to be too powerful. Consequently, the first equation is used here.

All statistical analyses were performed using Statistical Analysis System version 8. For all analyses a significance criterion of 5% (α=0.05) was applied. The analyses were done using SAS codes written by the authors.

Results

Drilling Intensity

The raw data consist of 2021 disarticulated bivalve valves, 25 articulated bivalve shells, and 1825 gastropods. Of these, 1098 disarticulated bivalve valves, 14 articulated bivalve shells, and 1159 gastropods are from Boreal samples; 830 disarticulated bivalve valves, 10 articulated bivalve shells, and 599 gastropods are from Paratethys samples; and 93 disarticulated bivalve valves, 1 articulated bivalve shell, and 67 gastropods are from the Atlantic sample (see Table 2.1). A total of 668 drill holes were present in 569 mollusk specimens. Of these, 474 drill holes occur in 386 specimens from Boreal samples, 162 drill holes occur in 156 specimens from Paratethys samples, and 32 drill holes occur in 27 specimens from the southeastern North Atlantic sample.

Our sampling scheme allows for comparisons at many spatial and taxonomic levels. Presentation of results will start at the coarsest scale (between provinces, at mollusk class level) and proceed to successively finer resolution levels (facies within and between provinces and lower taxa).

Variation in Drilling Intensity

There is considerable variation in drilling intensity among samples: 8.9% to 36.3% for all mollusks (Fig. 2.3A), 0% to 33.1% for bivalves (Fig. 2.3B) and 7.1% to 41.5% for gastropods (Fig. 2.3C). The specific, sample by sample pattern of drilling intensity is remarkably similar in all three cases (see Fig. 2.3).

Provinces

Paratethys samples have the lowest drilling intensity when all specimens are pooled (15.8%) while the Boreal and Atlantic samples have similar, higher values (22.4% and 23.6%, respectively). The difference in drilling intensity is significant between the Boreal Province and Paratethys (Fisher's exact test, $p \ll 0.05$; unless otherwise noted, all p-values reported hereafter are from Fisher's exact test), but is not significant between the Paratethys and Atlantic Province ($p = 0.1$) or the Boreal Province and Atlantic Province ($p = 0.8$). Binomial confidence intervals show a clear separation of the Boreal Province and Paratethys but the southeastern North Atlantic encompasses almost the entire range of the other two provinces (Fig. 2.4). Because the southeastern North Atlantic is represented by only one sample, further comparisons will focus on the Boreal and Paratethys provinces.

Facies

When all samples from both facies are pooled, the sand facies displays a significantly higher drilling intensity than the clay facies (22.2% vs 16.4% respectively, $p \ll 0.05$, see Table 2.1, Fig. 2.4). However, the comparison of the two facies within each province shows that in the Boreal Province the sand facies has a higher drilling intensity than the clay facies (28.1% vs 14.9%, $p<<0.05$, Fig. 4, Table 2.1), whereas in the Paratethys the clay facies has a higher drilling intensity than the sand facies (19.2% vs 12.7%, $p<<0.05$, Fig. 2.4, Table 2.1).

Comparison of variation at the sample level shows that the sand facies contributes more to the overall variability than the clay facies (Fig. 2.5). Samples from the same facies within a province display relatively small amounts of variation, with average values ranging from 2% to 7%. Comparison between samples from different facies within each province shows higher average values (5%-12%). The largest average values for variation in drilling intensity occur when samples from a given facies are compared across provinces (4%-~20%). Comparisons across facies and across provinces yield average values similar in their variation to those seen for comparisons across facies within provinces (7%-15%).

Comparison of Mollusk Classes across Facies and Provinces

Comparison between mollusk classes within facies shows that, in the Boreal Province, gastropods are drilled more frequently than bivalves (16.5% vs. 10.2% in the clay facies, 32% vs. 19.3% in the sand facies, Table 2.1, Fig. 2.6). This pattern can be seen in every possible pairwise comparison of clay vs. sand sample from the Boreal Province. In the Paratethys, bivalves have a higher drilling intensity in clay samples (23.9% vs. 16.2%), but gastropods have the higher drilling intensity in sand samples (17.4% vs. 12.9%, Table 2.1, Fig. 2.6). This pattern is generally consistent for most pairwise comparisons at the sample level (Fig. 2.3 B, C). Collections 12 (clay) and 16 (sand) display a reversed pattern, but this may be due to the small number of individuals in the two samples (n=56.5 in collection 12, n=85 in collection 16).

Comparison within Mollusk Classes across Facies and Provinces

Comparison within each of the mollusk classes across the provinces and facies adds an additional level of complexity to spatial patterns in drilling predation. Bivalve drilling intensity for all samples is very similar when the two provinces are compared: Boreal Province 18.1% and Paratethys 16.9% ($p=0.74$). However, when samples are compared grouped by facies, notable differences are revealed. Bivalves in Boreal sand samples have a higher drilling intensity than in Boreal clay samples (19.3% vs 10.2%, $p<0.05$), whereas bivalves in Paratethys clay samples have a higher drilling intensity than in Paratethys sand samples (23.9% vs 12.9%, $p<<0.05$). When the same facies is compared across the two provinces, bivalves show a higher drilling intensity ($p=0.01$) in the Boreal sand samples (19.3%) than in the Paratethys sand samples (12.9%) (Fig. 2.6). However, bivalves in Paratethys clay samples display a higher drilling intensity (23.9%) than Boreal clay samples (10.2%, $p<<0.05$, Fig. 2.6).

In the case of gastropods, drilling intensity is very different when the two provinces are compared: Boreal Province 24.5% and Paratethys 14% ($p<<0.05$). Comparison of the two facies within each province indicates that in both provinces the sand facies displays a higher drilling intensity than the clay facies (Boreal 32% vs 16.5%, $p<<0.05$; Paratethys 17.4% vs 16.2%, $p=0.8$), although the result is not significant in Paratethys. Comparison of the same facies across the provinces shows that gastropods in Boreal sand samples have a much higher drilling intensity than in Paratethys sand samples (32% vs 17.4%, $p<<0.05$), while gastropods in Boreal clay samples display almost the same drilling intensity as gastropods in Paratethys clay samples (16.5% vs 16.2%, p=1.0).

Target Taxa

The striking similarity in the sample-level pattern of drilling intensity observed when comparing all mollusks and both classes of mollusk suggests that the structure of drilling predation is similar at all taxonomic levels. The families Cardiidae, Corbulidae, Veneridae, and Turridae, which are common in both provinces, were chosen to evaluate this hypothesis. The data do not support this hypothesis (Fig. 2.7). Veneridae and Corbulidae generally display higher values for drilling intensity in the Paratethys, Turridae shows generally higher values for drilling intensity in samples from the Boreal Province, and Cardiidae show relatively constant levels (except for one sample) (see Fig. 2.7).

Genera represented by at least 200 individuals also were examined in more detail. Of the eight genera with at least 200 individuals, three occur only in Boreal province samples while five occur in both provinces. None of the five genera (*Bittium*, *Cyclocardia*, *Varicorbula*, *Euspira*, and *Hinia*) that occur in both provinces show a pattern of drilling intensity similar to that seen in Figure 2.3. Relative to estimates for all mollusks (Fig. 3), *Bittium* and *Varicorbula* display lower drilling intensities in Boreal Province samples, but higher drilling intensities in Paratethys samples. *Cyclocardia* and *Hinia* display higher drilling intensities than average mollusks (Fig. 2.3) in both provinces. *Euspira* specimens display higher drilling intensities in Paratethys samples but mixed higher and lower drilling intensities in the Boreal Province. Similarly, none of the three genera (*Ringicula*, *Astarte*, and *Limopsis*) that are common in the Boreal Province display a pattern of drilling intensity similar to that observed for pooled mollusks from the Boreal samples (Fig. 2.3). *Ringicula* and *Limopsis* consistently display a lower drilling intensity than what is seen in Figure 2.3, while *Astarte* displays both lower and higher drilling intensities. In all nine genera, the variation in drilling intensity between samples ranges from less than 10% to more than 30%.

Size Distribution of Drill Holes and Drilled Shells

The comparison of size-frequency distributions of drill holes from the Boreal and Paratethys provinces reveals some striking similarities for each mollusk class. For bivalves, there is a distinct bimodal distribution with maxima at 0.6 and 1.0 mm for Boreal specimens and maxima at 0.5 and 1.0 mm for Paratethys specimens. The distributions are indistinguishable statistically (Kolmogorov-Smirnov test $p=0.99$, Fig. 2.8). Drill holes in gastropods do not show the same bimodal pattern but display a right-skewed distribution with poorly pronounced modes (Fig. 2.9). The Boreal and Paratethys distributions are again indistinguishable statistically (Kolmogorov-Smirnov test, $p=0.83$).

In contrast, the size distribution of drilled specimens shows significant differences between provinces. Drilled Boreal bivalves display a generally uniform distribution in specimen size. There is, however, a very weak bimodal pattern in the size distribution of drilled Paratethys bivalves (see Fig. 2.8). The two distributions are significantly different (Kolmogorov-Smirnov test, $p<<0.05$). Drilled gastropods also show different patterns in size distribution between the Boreal and Paratethys provinces. The size distribution of drilled Boreal gastropods is right skewed and weakly bimodal with maxima at 3.0 and 10.0 mm, while the size distribution for drilled Paratethys gastropods is right skewed but unimodal with a maximum at 2.0 mm (Kolmogorov-Smirnov test, $p<<0.05$, see Fig. 2.9). For Boreal Province bivalves, the size distribution for drilled and undrilled specimens are indistinguishable statistically (Kolmogorov-Smirnov test, $p=0.85$) while for Paratethys bivalves the two distributions differ significantly (Kolmogorov-Smirnov test, $p=0.03$). Mean anterior-posterior length is quite similar for drilled and undrilled bivalves from both the Boreal Province (5.16 mm and 5.42 mm respectively; Wilcoxon test, $p=0.72$) and the Paratethys (3.99 mm and 4.66 mm respectively; Wilcoxon test, $p=0.26$). The size distributions for drilled and undrilled gastropods are significantly different for the Boreal Province (Kolmogorov-Smirnov test, $p<0.0001$) but for Paratethys they are not (Kolmogorov-Smirnov test, $p=0.91$). Mean shell height in the Boreal samples is significantly larger for drilled than undrilled specimens (6.81 mm and 5.97 mm respectively; Wilcoxon test, $p<<0.05$) while Paratethys specimens show almost no difference (3.77 mm and 3.75 mm respectively; Wilcoxon test, $p=0.88$).

Drill-hole size was plotted against specimen size for both mollusk classes in each province. Spearman rank correlation shows a significant positive correlation in all four cases with r-values ranging from 0.29 (Boreal bivalves) to 0.68 (Paratethys bivalves) and p-values all less than 0.01 (Figs. 2.10, 2.11).

Site Distribution of Drill Holes

Distributions of drill-hole site in bivalves from the Boreal Province and Paratethys are very similar (Fig. 12). In both cases, drill holes are very frequent in sector 5 and rare in other sectors. The two distributions are statistically indistinguishable (Kolmogorov-Smirnov test, $p=0.66$). Sector 5 is in the middle of the valve and represents the greatest area (~20% of the valve) among the nine sectors. To test if these distributions are non-random, a binomial probability function was used to estimate the likelihood of obtaining the observed number of drillings in sector 5 by chance. Boreal samples produced 77 drilled bivalves, 26 of which have the drill hole in sector 5. For 77 events, the probability of getting 26 or more drill holes in a sector with ~20% chance of a random event is extremely low ($p=0.003$). Paratethys samples produced 71 drilled bivalves, 27 of which have the drill hole in sector 5. Again the probability of getting 27 or more drill holes in sector 5 is miniscule ($p=0.0003$). Gastropod prey also show a non-random distribution of drill holes in both the Boreal Province and Paratethys ($p<0.05$ in both cases) (Fig. 2.12). The drill holes concentrate in sector 7, with an appreciable number in sector 8. Again the distributions are statistically indistinguishable when the two provinces are compared (Kolmogorov-Smirnov test, $p=0.16$).

Escalation Parameters

The distribution of nonfunctional and unfinished drill holes shows that unsuccessful drill holes were more common in the Boreal Province than in the Paratethys (Table 2.2, Fig. 2.13). All nine samples from the Boreal Province have at least one unfinished drill hole and five of the nine samples contain nonfunctional drill holes. Only three of the seven Paratethys samples contain unfinished drill holes, one in each sample, while nonfunctional drill holes were not observed at all. The difference in the number of unsuccessful drill holes between the two provinces is significant ($p<<0.05$). Edge drilling was not observed.

Samples from the clay facies have a slightly higher rate of unsuccessful drill holes (19%) than samples from the sand facies (12%, see Fig. 2.13). In the Boreal Province, there is a significant difference ($p<<0.05$) in drilling success between the facies, with the clay facies having a much higher percentage of unsuccessful drills (31.1%) as compared to the sand facies (14.4%). Paratethys samples include only three unsuccessful drill holes, precluding evaluation of the facies pattern in that province.

The size comparison of specimens with completed, functional drill holes versus specimens with unsuccessful (nonfunctional and unfinished) drill holes shows that gastropods with successful drill holes are significantly larger than gastropods with unsuccessful drill holes (Wilcoxon test, $p=0.02$). This is not the case, however, for bivalves regardless of which of the two size variables is used ($p=0.45$ for anterior-posterior length, $p=0.86$ for dorsal-ventral length).

The distribution of specimens with multiple drill holes shows that samples from the Boreal Province contain a significantly higher ($p<<0.05$) proportion of individuals with multiple drill holes (13.7% of the drilled specimens) than Paratethys samples (4.5% of the drilled specimens) (Fig. 2.14). Although most specimens with multiple drillings in Boreal samples display only two drill holes, some specimens display up to seven drill holes (i.e., *Crassispira borealis* [6 holes], *Hinia tenuistriata* [7 holes]), whereas specimens in Paratethys samples never display more than two drill holes. Boreal clay samples have a higher incidence of multiple drillings (19.8% of the drilled specimens), as compared to Boreal sand samples (11.6% of the drilled specimens), but this difference is not significant ($p=0.11$) (Fig. 2.14).

Discussion

Variation in Drilling Intensity

The results indicate that significant variation in drilling intensity is present at all comparative levels: among samples, classes, facies, and provinces. This significant variation is observed both at coarse (all mollusks, each of the mollusk classes) and fine (within families and genera) taxonomic scales of analysis. Below, we discuss the possible causes of variation at different observational scales, starting with the coarsest comparative level; i.e., between provinces.

The differences in drilling intensity between the two sampled provinces of Europe may be due to a number of factors, including faunal differences in prey and predators, differences in environmental and climatic settings, or some combination of those factors. First, there are significant differences in the taxonomic and ecological composition of the Boreal and Paratethys mollusk fauna (Kowalewski et al., in press). Whereas it is hard to predict how any specific taxonomic difference may influence intensity of predation -- especially because we do not know the exact affinity of the predators -- we cannot exclude the possibility that the observed changes in drilling intensity reflect differences in the suite of available prey. Also, the differences between the Boreal Province and Paratethys may simply reflect different relative abundance structures (perhaps even presence of endemic forms) among dominant predatory taxa or different behavior of predators. However, the predator-related factors seem less likely given both striking similarities in the size-frequency distribution of drill holes as well as nearly identical behavioral patterns suggested by drill-hole site distributions and prey vs. drill-hole size correlation.

In addition to biotic factors, external environmental factors such as temperature, salinity, or substrate may affect drilling-intensity patterns. Salinity may have played a role in observed differences between the two provinces because most modern groups of drilling predators prefer fully marine conditions. However, some of those drillers, including both naticids and muricids, can tolerate a lowered salinity associated with brackish conditions (Dietl, personal communication, 2001), so the potential importance of salinity remains unclear. Nevertheless, the muricids and naticids -- the two groups that were most likely responsible for most of the drill holes analyzed here -- use a highly specialized accessory boring organ (ABO) (see Carriker and Gruber, 1999 for a recent review). The ABO aids the drilling process chemically by producing hydrogen ions, which are selectively transported into the borehole for the dissolution and release of calcium ions (Carriker and Gruber, 1999). Thus, it is possible that salinity fluctuations may have affected the efficiency of the ABO chemical system of the Miocene drillers and, consequently, decreased the effectiveness of drilling behavior. The fact that Paratethys samples show a significantly lower drilling intensity than Boreal samples may be, in part, related to salinity differences. All Boreal samples came from marine facies developed on a passive continental margin (e.g., Vinken et al., 1988; Hinsch, 1993). In contrast, Paratethys samples came from areas that were not connected directly to the open ocean and underwent substantial salinity fluctuations during Miocene times (e.g., Steininger and Rögl, 1984; Rögl, 1998). Moreover, the more nearshore samples from the Paratethys (coarse-grained facies) display significantly lower drilling rates than the samples from farther offshore (fine-grained facies), where salinity may have been more stable.

Substrate and bathymetry both may be important in affecting drilling intensity, mostly indirectly, by influencing the faunal composition of prey and predators. It is, therefore, intriguing that the two provinces display the opposite pattern. Samples from sand facies display a higher drilling intensity in the Boreal Province, while clay facies samples display the higher intensity in the Paratethys (Fig. 2.4). Moreover, the pattern remains stable when each mollusk class is analyzed separately (see Fig. 2.6). This not only implies that the factors controlling drilling intensity were different in the Boreal and Paratethys provinces, but also suggests that the substrate does not need to be the primary factor in controlling the rate of predation. The problems with interpreting the role of substrate and bathymetry were previously encountered by Hansen and Kelley (1995), who observed that the drilling intensity in Eocene mollusks from the Moody's Branch Formation did not change in any consistent manner with bathymetry or grain size. In contrast, drilling was significantly higher in deep-water facies of the Yazoo Formation than in the relatively shallower facies of the Moody's Branch Formation. It is also possible that cryptic environmental differences, not reflected by generalized lithofacies-based categories, may be responsible for some of the confusing patterns but, by definition, their role cannot be evaluated rigorously.

Finally, temperature may play an important role in generating the observed variability in predation intensity. Latitudinal analyses of recent and Tertiary mollusks have shown a decrease in drilling intensity toward lower latitudes (Vermeij et al., 1989; Allmon et al., 1990; Hansen and Kelley, 1995). Our data also display this pattern with drilling intensity higher in Boreal samples and lower in Paratethys samples. Although the latitudinal separation of these two provinces is not great, the current paleogeographic reconstructions (Fig. 2.1) suggest that the Paratethys was connected to the south and southeast with subtropical to tropical water masses of the Tethys. Badenian reefs/biostromal structures (Pisera, 1996; Riegl and Piller, 2000) and mollusk fauna, interpreted as seagrass communities with strong tropical affinities (Hoffman, 1977; Dulai, 1996), both support this interpretation. In contrast, the Boreal Province was connected to the north with much colder water masses of the North Atlantic. The two provinces may have thus differed notably in the water temperature.

Hansen and Kelley (1995, p. 275) noted that the pattern of decreased drilling intensity at low latitudes contradicts the view that drilling predators are more diverse and have a greater ecological impact in the tropics (Vermeij, 1987; Vermeij and Dudley, 1982). However, diversity and abundance are not synonymous, and even though the diversity of predators increases at low latitudes, their abundance may remain constant or even decrease. It is also noteworthy that the Cretaceous and Tertiary invertebrates display a latitudinal gradient in shell morphology (increase in ornamentation toward low latitudes) that may be viewed as an indicator of increased shell-crushing predation pressures toward the tropics (Vermeij et al., 1980; Bertness and Cunningham, 1981; Vermeij, 1987). Recently, Leighton (1999) and Dietl and Kelley (2001) have recognized similar gradients in Paleozoic brachiopods.

Regardless of relative importance of all possible factors, our data show clearly that the variation in drilling intensity either can be masked or exaggerated depending on the way the data are pooled across facies and/or provinces. For example, when bivalves are pooled within each province, the two regions appear remarkably similar. But, when the facies are taken into account, a significant difference is revealed (Fig. 2.6). Conversely, in the case of gastropods, pooled data for each province show significant variation in drilling intensity. However, when the data are separated by facies, drilling intensities become very similar across the provinces, except for samples from Boreal sands (see Fig. 2.6). Clearly, the *observed* spatial/environmental patterns may change notably depending on how we compare and/or pool spatial data across taxa, regions, or facies. Some of the comparative patterns can be rather counterintuitive. For example, the average variation of drilling intensity among samples from the same facies, but different provinces, is higher than that among samples that are not only from different provinces, but also from different facies (Fig. 2.5).

Regardless of specific factors controlling the variation in drilling intensity, the middle Miocene samples point to a substantial spatial variability in the fossil record of drilling predation (Table 2.1, Fig. 2.5). Even if taxonomic data are pooled, the differences between individual samples often exceed 20%. Even when comparisons of samples are restricted to within a single facies, province, or class they still may differ by as much as 15%. These values are quite consistent with previous studies on spatial variability in predation. For example, Hansen and Kelley (1995) found that naticid drilling intensity in samples from inner to middle shelf deposits (Eocene, North America) varied from 6.8 to 38.7%. Cadée et al. (1997) found that the frequency of predatory repair scars in gastropods live-collected from macrotidal flats of Cholla Bay (Mexico) varied among species from 7.6% to 87.9%. The variability among microhabitats was also substantial (11.9-30.7% and 26.8-64.9% for two different gastropod species, respectively). Similarly, a notable variability in predation rates was observed by Vermeij (1980, 1982). Finally, Nebelsick and Kowalewski (1999) found that drilling intensity in modern echinoid tests of two species of minute clypeasteroids collected from the Northern Bay of Safaga (Egypt) varied by as much as 83%. In summary, this and previous studies show that the frequency of predation events can vary greatly at all spatial and taxonomic scales of analysis-- between region, across environments, along depth gradients, or even within single habitats.

The frequency of drill holes and repair scars are important paleoecological parameters that have been used extensively to study temporal trends in predation (e.g., Vermeij et al., 1980, 1981; Allmon et al., 1990; Kelley and Hansen, 1993, 1996a, b; Kowalewski et al., 1998). The substantial spatial and environmental variability in predation patterns, observed here and elsewhere, thus may be a serious obstacle in recovering reliable patterns (Schmidt, 1989). To be fair, many of the studies on temporal trends were based on average values derived from multiple samples, so spatial variations should hopefully average out in such analyses. Nevertheless, the temporal changes observed over evolutionary time scales, documented in those studies, are of comparable magnitude to spatial variability observed in modern environments (e.g., Vermeij, 1980, 1982; Schmidt, 1989; Cadée et al., 1997; Nebelsick and Kowalewski, 1999) or among roughly co-eval samples from the Cenozoic fossil record (Hansen and Kelley, 1995; this study).

In summary, further effort should be directed toward documenting spatial variation in the fossil record of predation. This will improve the reliability of reconstructions of secular trends in predation and should help us in understanding the role of environmental and climatic factors in controlling predation intensity and the nature of spatial gradients in prey-predator interactions.

Escalation Parameters

Given substantial variability in drilling intensity, it should not be surprising that the presumed escalation parameters (proportion of unsuccessful predatory attacks [unfinished or failed drill holes] and the frequency of multiple drill holes) also vary significantly between the provinces and facies. Unsuccessful and multiple drill holes occur more frequently in the Boreal Province where drilling predation is more common (Table 2.2, Fig. 2.13). In addition, comparison of samples within the Boreal Province suggests that, while the intensity of drilling predation is greater in the sand facies, the proportion of unsuccessful and multiple drillings is highest in the clay facies. Regardless of the reasons for the observed variability, our data point to strong spatial variability in escalation parameters, including as much as three-fold differences between samples collected from the adjacent sites from the same facies (compare data for samples 1 vs. 2-4; Table 2.2, Fig. 2.13).

Escalation parameters have been used to test Vermeij's (1987) escalation hypothesis and related models (Kelley and Hansen, 1993; Hansen et al., 1999; Kelley et al., 2001). The temporal changes observed over evolutionary time scales, documented in those studies, are of comparable magnitude to spatial variability observed in this study. Again, to be fair, it should be pointed out that these studies were based on average values derived from multiple samples.

Behavioral and Ecological Patterns

In contrast to drilling intensity and escalation parameters, other drilling patterns recovered from our samples appear to have been remarkably stable between the provinces and facies. These patterns (size-frequency distributions of drill holes, site selectivity, and prey vs. drill-hole size correlation) are usually related to ecological and behavioral characteristics of predators (e.g., Kitchell, 1986).

The selective site distribution of drill holes indicates behavioral stereotypy in the selection of the attack site by predatory gastropods and has been observed in many studies, although the preferred site of attack may vary (e.g., Berg, 1976, 1978; Boggs et al., 1984; Kitchell, 1986; Anderson, 1992). The site-selective pattern is quite pronounced in our data from the Miocene of Europe. In bivalves, the preferred location for the drill hole is in the center of the shell, a pattern commonly, but not invariably, observed in bivalves (see Anderson, 1992 and references therein). In gastropods, the preferred sites for drill-hole location are near the aperture. There is also a significant number of drill holes directly opposite the aperture, a pattern interpreted previously as reflecting the greater mobility of gastropods in attempting to escape the predators (Kitchell et al., 1986; Dietl and Alexander, 2000). The observed patterns are very consistent across provinces and facies, suggesting that drill-hole location is stereotyped at a higher taxonomic level than species or even genus and may be independent from the environment, geography, and taxonomy of drilled prey.

The distribution of drill-hole size is also consistent between the provinces for each mollusk class. The bimodal distribution of drill holes seen in bivalves may reflect the bimodal size structure of predators or, more likely, may indicate the presence of predators that produce holes with a different diameter range. Indeed, some studies suggest that muricids produce holes smaller than naticids and, thus, the bimodal pattern may simply reflect the presence of two types of drillers (Kowalewski, 1993; Kowalewski and Flessa, 1994). The bimodal pattern is, at best, weakly pronounced in drill holes found in gastropods. This points to the differences between the size/type of predators on bivalves and predators on gastropods. This difference appears to have been present in both provinces. The consistent patterns in size distribution of drill holes across the provinces are remarkable, especially considering that the size-frequency distributions of drilled specimens (for each mollusk class) do differ significantly between the provinces.

Comparison of size-frequency distributions of drilled and undrilled specimens indicate that predators display variable size selective behavior. In both provinces the increased selectivity is associated with the facies where drilling intensity is higher: gastropods in the Boreal sand samples and bivalves in Paratethys clay samples.

Drill-hole size shows a significant positive correlation with the prey size, a pattern that may indicate that larger predators tend to choose larger prey (e.g., Kitchell et al., 1981; Anderson, 1992). Again, despite all differences, the two provinces show remarkable similarities at class level. Both gastropods and bivalves show significant positive correlation, although the association seems to be slightly stronger in the case of Paratethys prey (higher r-values).

In summary, whereas intensity of predation and escalation parameters display significant spatial variation in the Miocene fossil record of Europe, the majority of the behavioral and ecological patterns are very stable. Their high spatial homogeneity is very surprising, given inter-regional differences in the suite of prey, likely differences in predatory species, notable differences in drilling intensity and escalation parameters, and significant variations in environmental and climatic parameters. The observed pattern indicates that seemingly related paleoecological parameters do not have to co-vary across regions or environments. It should be noted that this pattern is documented here for assemblage-level data (i.e., all mollusks, all bivalves, or all gastropods) and need not necessarily hold true at finer taxonomic scales of resolution provided by genus-level and/or species-level analyses. Further systematic studies into the relationship between the taxonomic resolution of analysis and the observed predation patterns are necessary to fully elucidate this complex issue.

SUMMARY

Miocene bulk samples collected in central and western Europe were analyzed to assess the scale and nature of spatial and environmental variation in drilling predation patterns. Significant variation in intensity of predation (frequency of drill holes) and prey-predator escalation parameters (unsuccessful and multiple drill holes) exists among samples, classes, facies, and provinces and can be observed both at coarse and fine taxonomic scales of analysis. The observed differences may be due to biotic factors (changes in faunal composition of prey and predators) and/or abiotic factors (differences in environmental and climatic settings). Regardless of the underlying causes, the scale of the spatial variability in predation intensity and escalation parameters is comparable in magnitude to temporal trends observed over evolutionary time scales.

In contrast to intensity of predation and escalation parameters, the behavioral and ecological patterns (site and size distribution patterns) are remarkably stable across provinces and facies. This is surprising, considering notable differences in prey, likely difference in predators, and significant variations in environmental and climatic parameters. Clearly, the related paleoecological parameters estimated from predatory drill holes may vary notably in spatial patterns and need not co-vary consistently across regions or environments.

Drilling-predation patterns provide one of the most rigorous insights into the evolutionary history of prey-predator interactions. Whereas previous studies concentrated primarily on local paleoecological interpretations and/or long-term temporal trends, our study strongly suggests that more efforts should be directed toward documenting spatial variation in the fossil record of predation. Such efforts will not only improve our understanding of the nature and scale of spatial gradients in prey-predator interactions but will also advance our understanding of the evolutionary trends in predation.

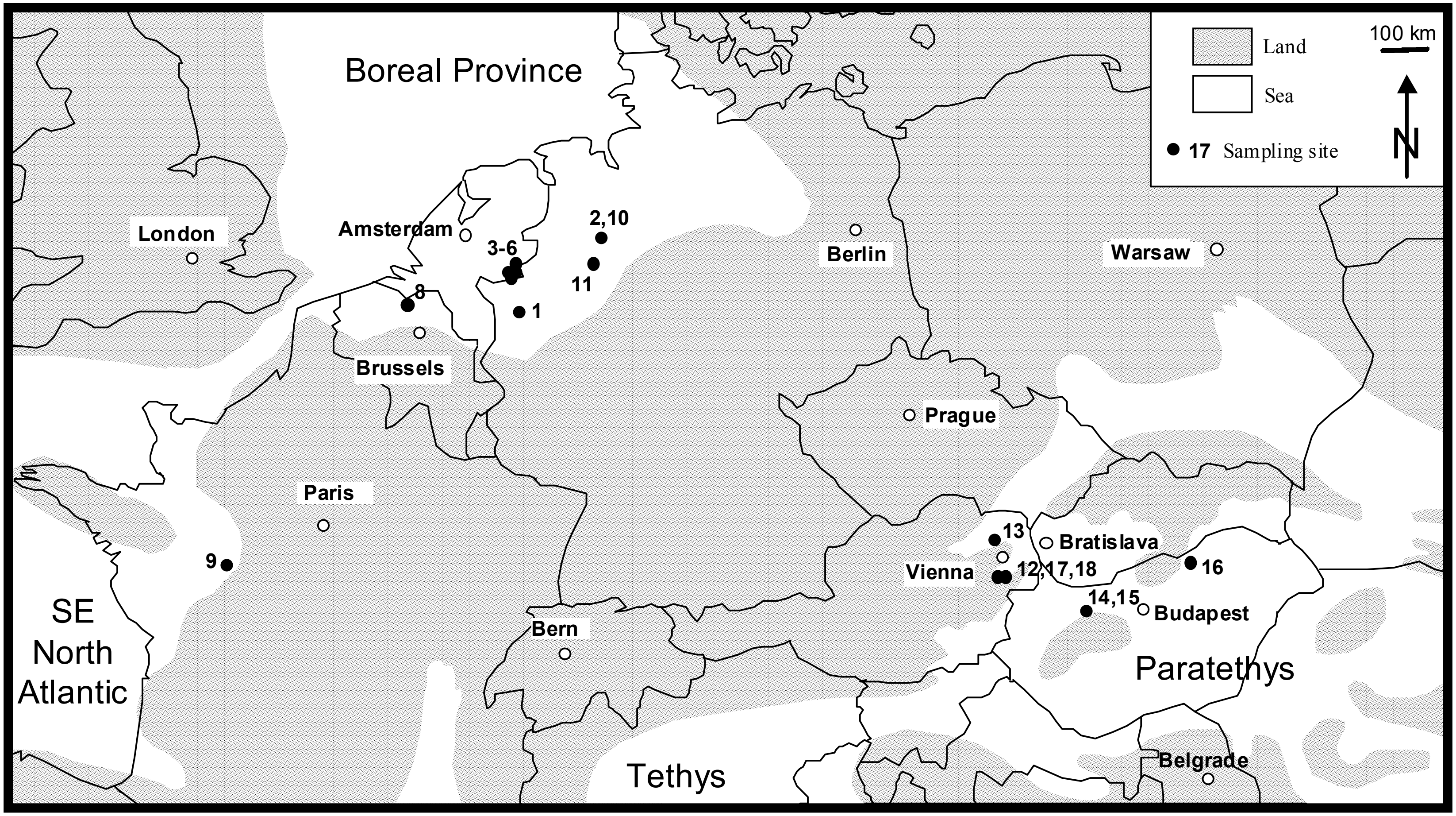

FIGURE 2.1--Middle Miocene paleogeography of Europe showing the location of the sampling sites (modified after Kowalewski et al., 2002).

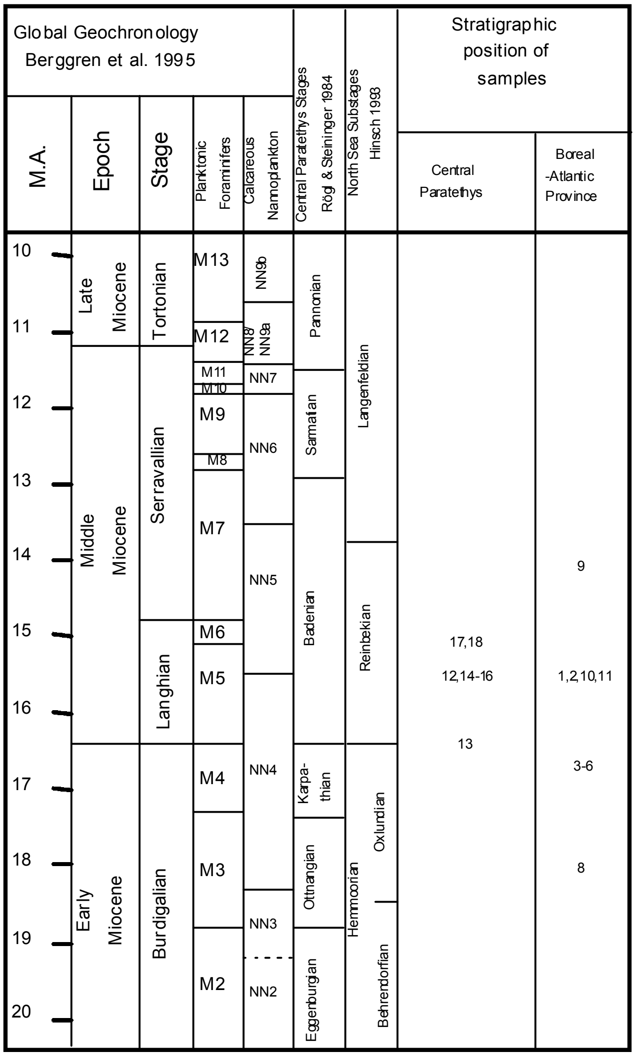

FIGURE 2.2--Stratigraphic position of samples used in this study (modified after Kowalewski et al., 2002).

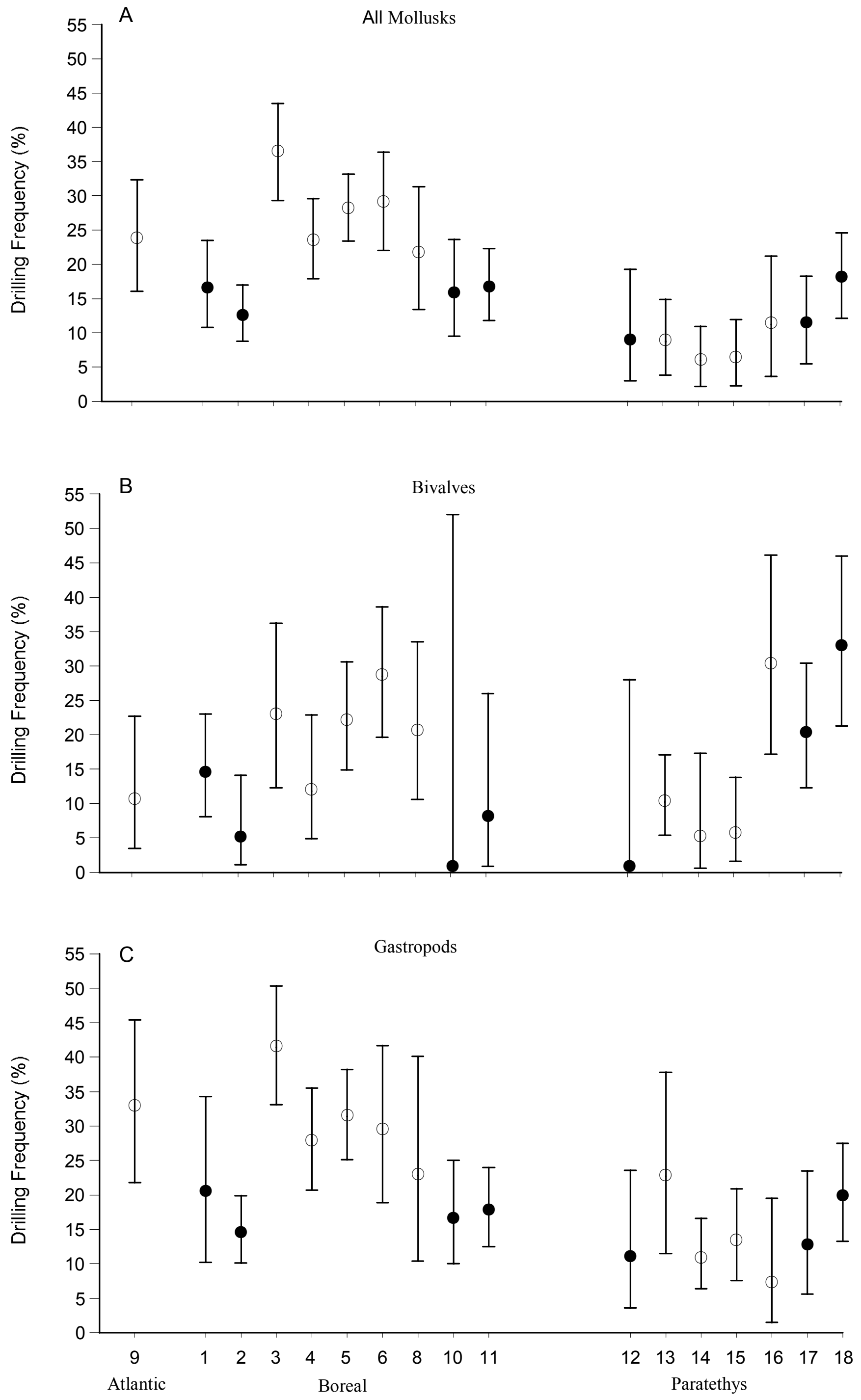

FIGURE 2.3--Sample-level variation in drilling intensity by province for all mollusks (A), for bivalves (B), and for gastropods(C). Error bars indicate 95% binomial confidence intervals. Open and filled circles indicate samples from sand facies and clay facies respectively. Numbers along the X-axis indicate sample numbers.

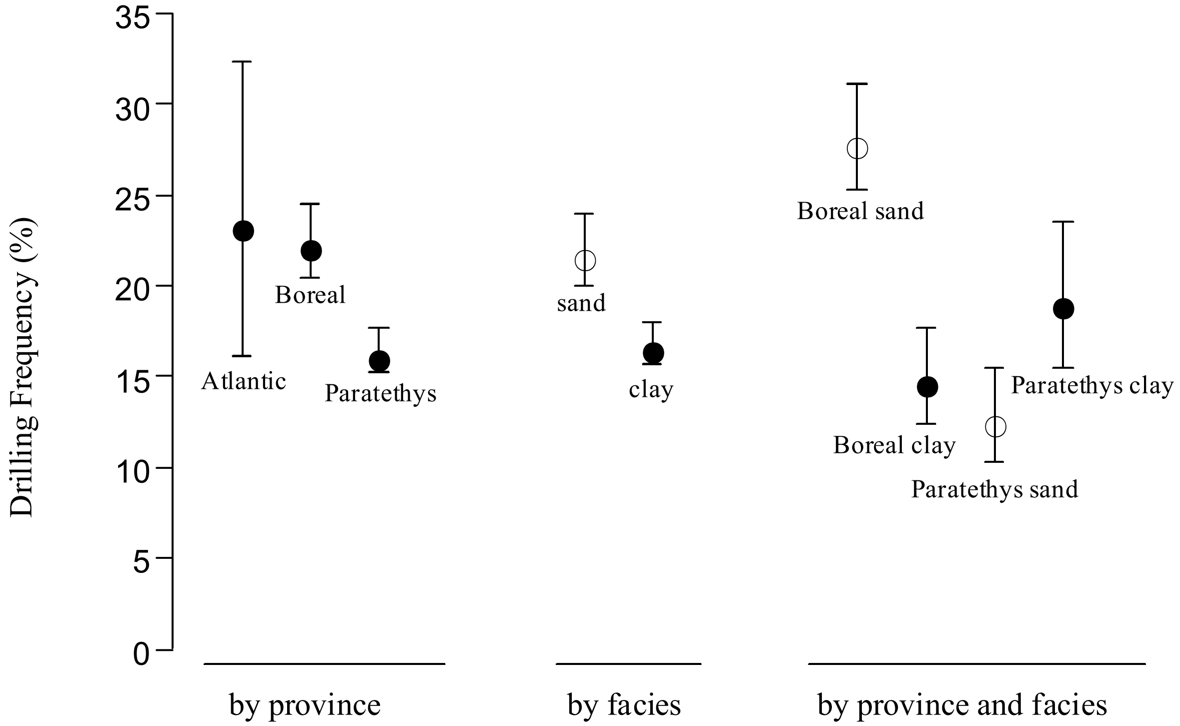

FIGURE 2.4--Variation in drilling intensity at coarsest taxonomic scales. Error bars indicate 95% binomial confidence intervals.

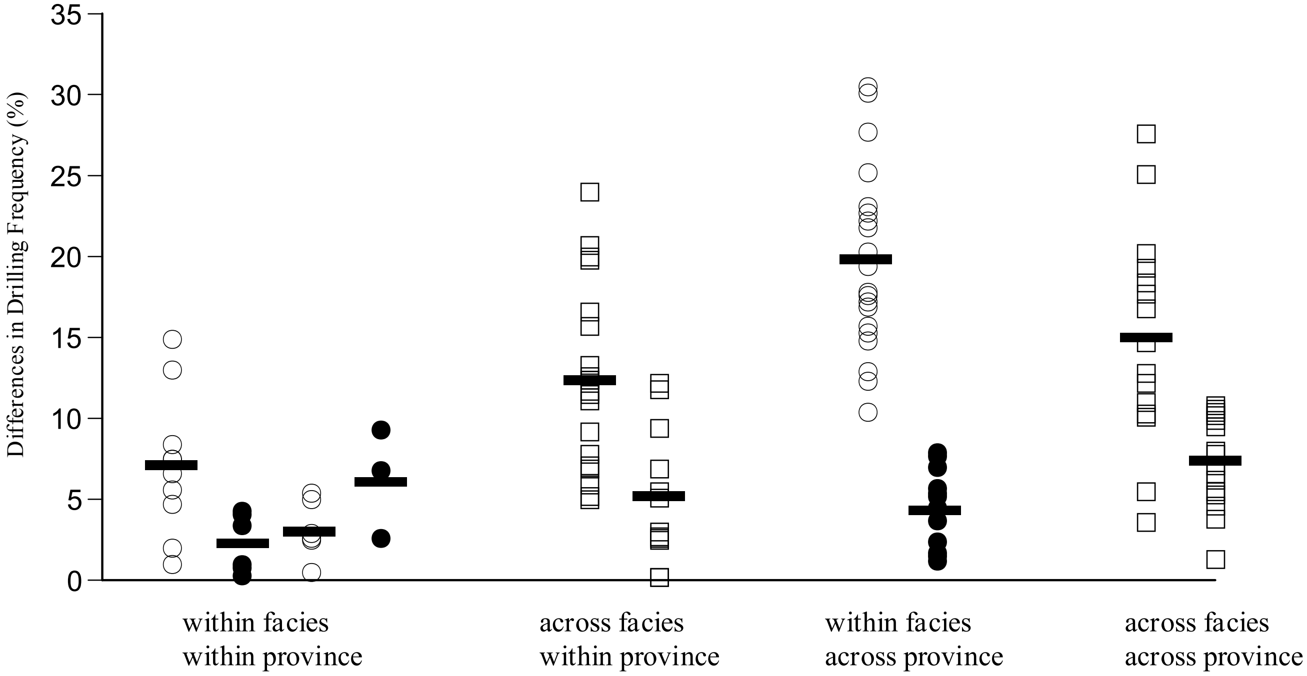

FIGURE 2.5--Variation in drilling intensity within and between facies and provinces measured by pairwise sample-to-sample difference in drilling intensity. Solid bars indicate the average value for each level of comparison. Open circles indicate sand facies samples, filled circles indicate clay facies samples, open squares indicate comparisons between sand and clay facies. Comparisons within facies and provinces show the lowest levels of variation, while comparisons within facies across provinces show the highest levels of variation.

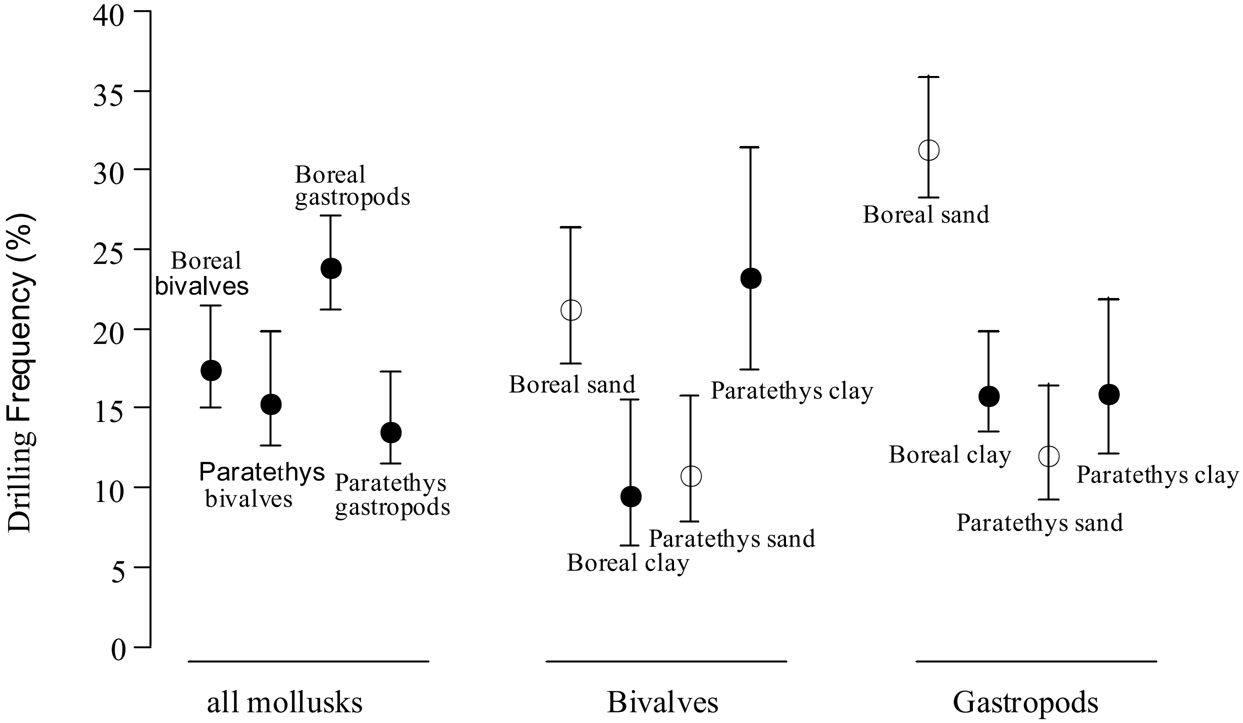

FIGURE 2.6--Variation in the pattern of drilling predation at different scales. Note that when facies are pooled (i.e., all mollusks), the variation in bivalves is masked while the variation in gastropods is exaggerated. Error bars indicate 95% binomial confidence intervals.

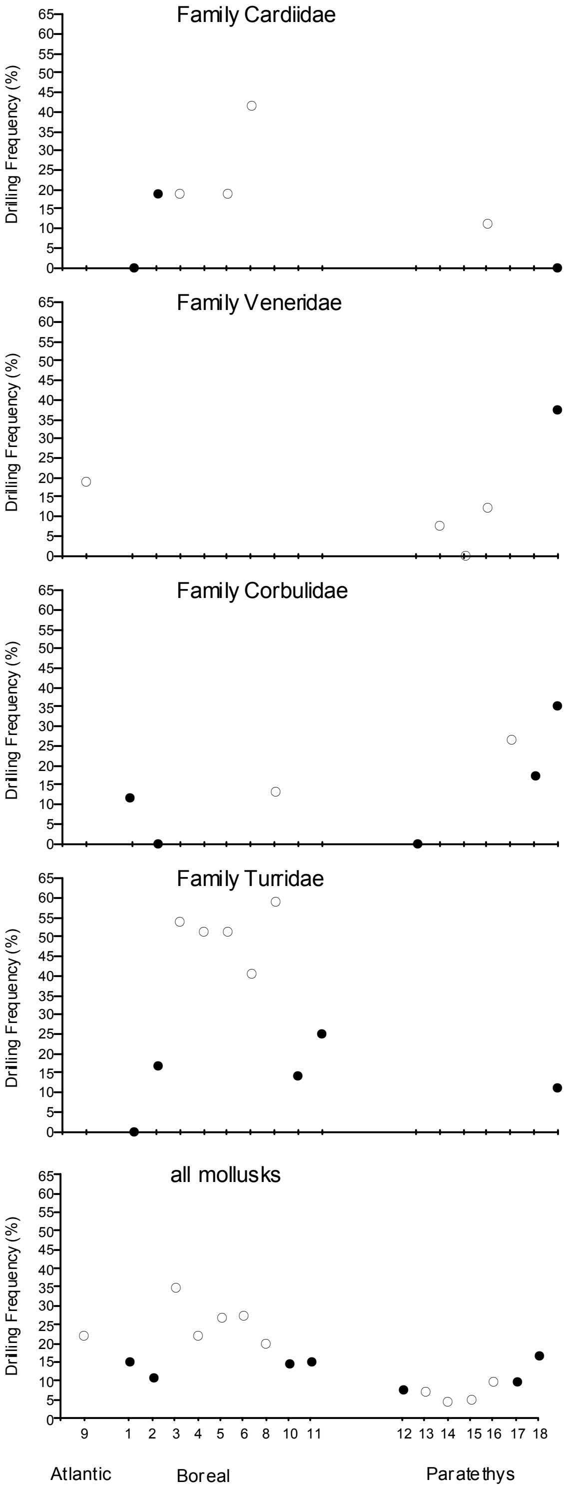

FIGURE 2.7--Comparison of sample-level variation in drilling intensity at the family level with the pattern seen in all mollusks. Numbers along the X-axis indicate sample numbers. Only samples with at least 10 specimens from a given family were considered.

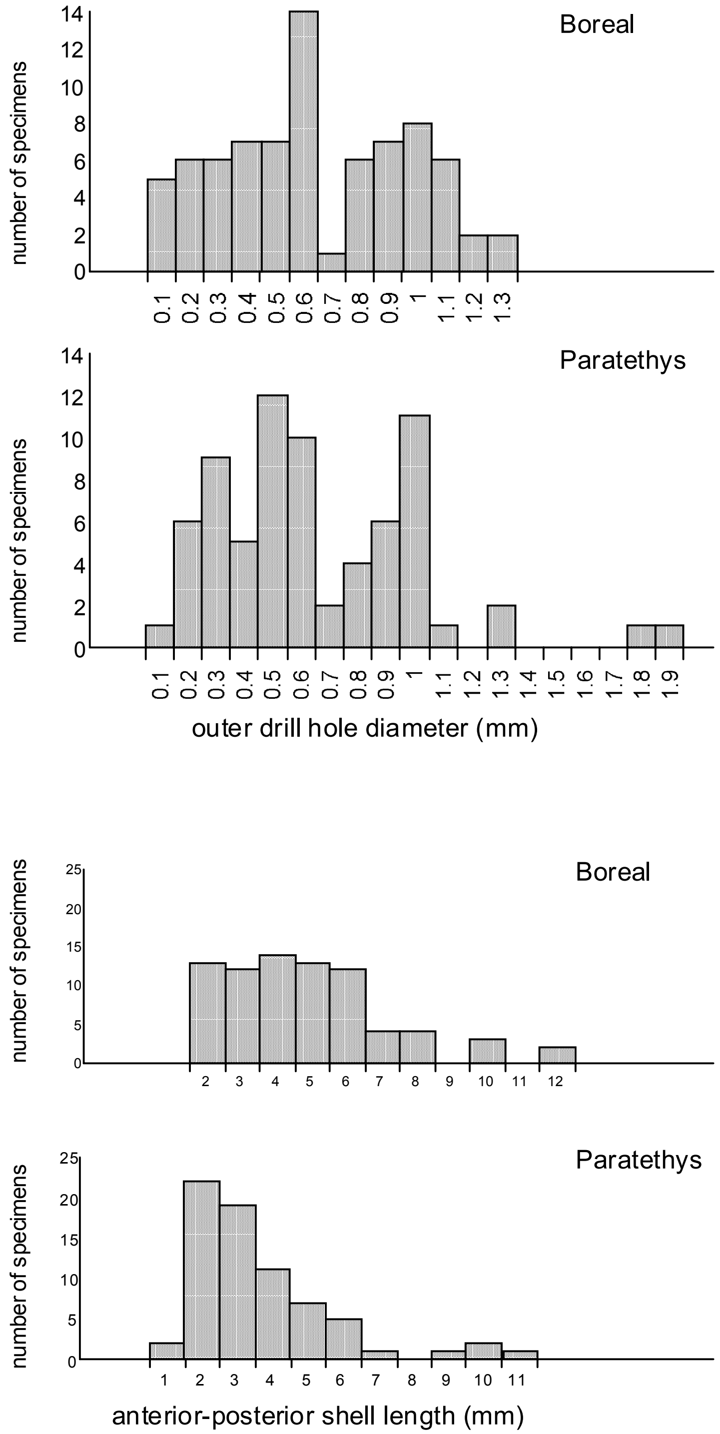

FIGURE 2.8--Drill-hole size-frequency distributions and specimen size-frequency distributions for drilled bivalves.

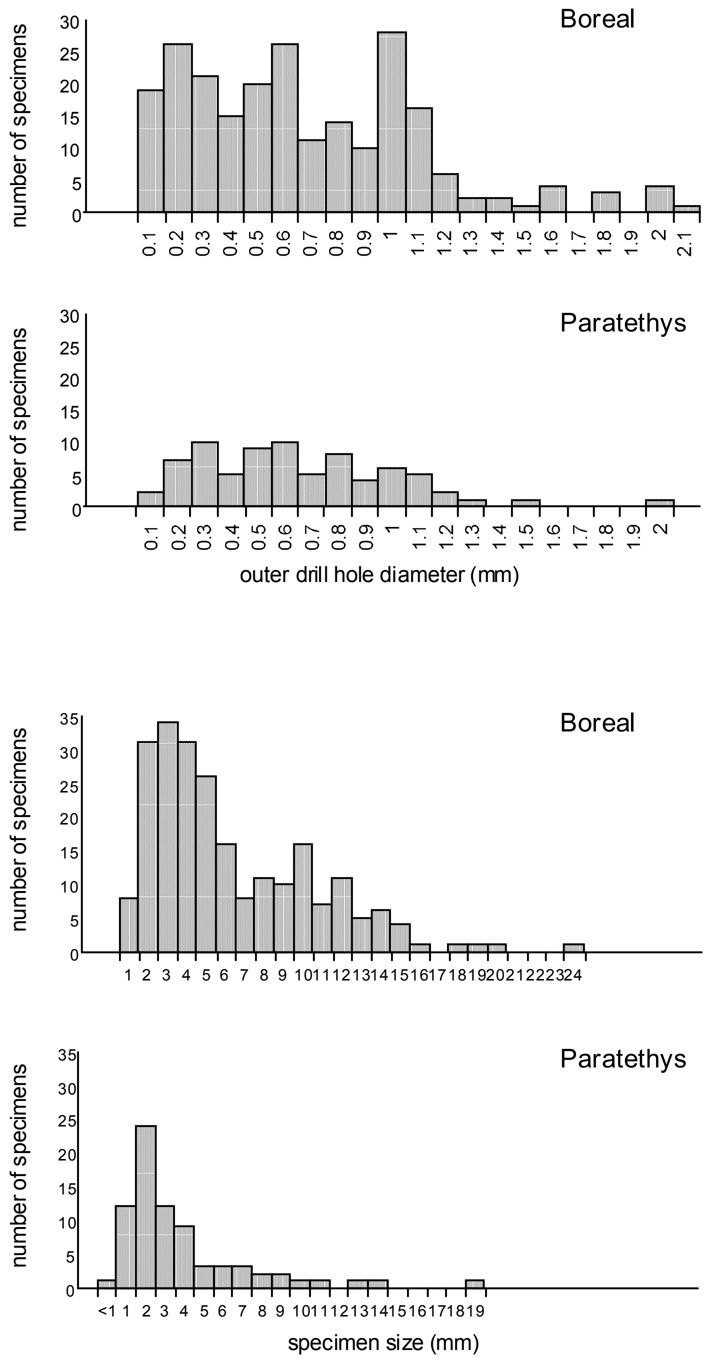

FIGURE 2.9--Drill hole size-frequency distributions and specimen size-frequency distributions for drilled gastropods.

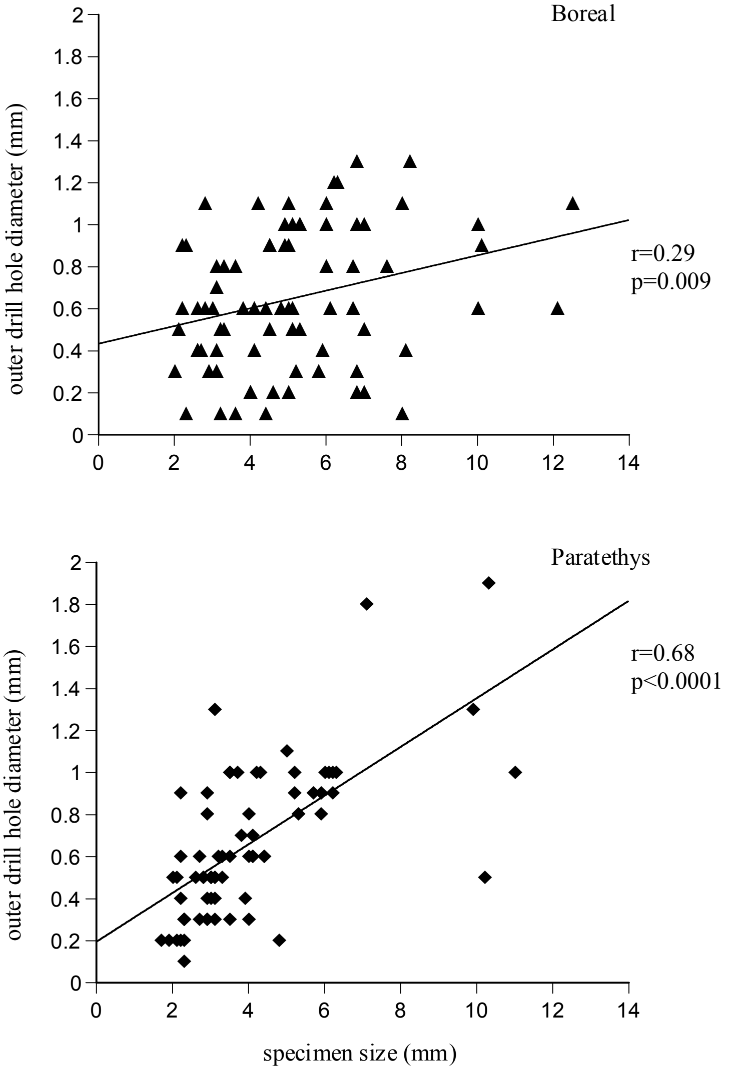

FIGURE 2.10--Scatter plot of the drill hole diameter graphed against the bivalve shell size.

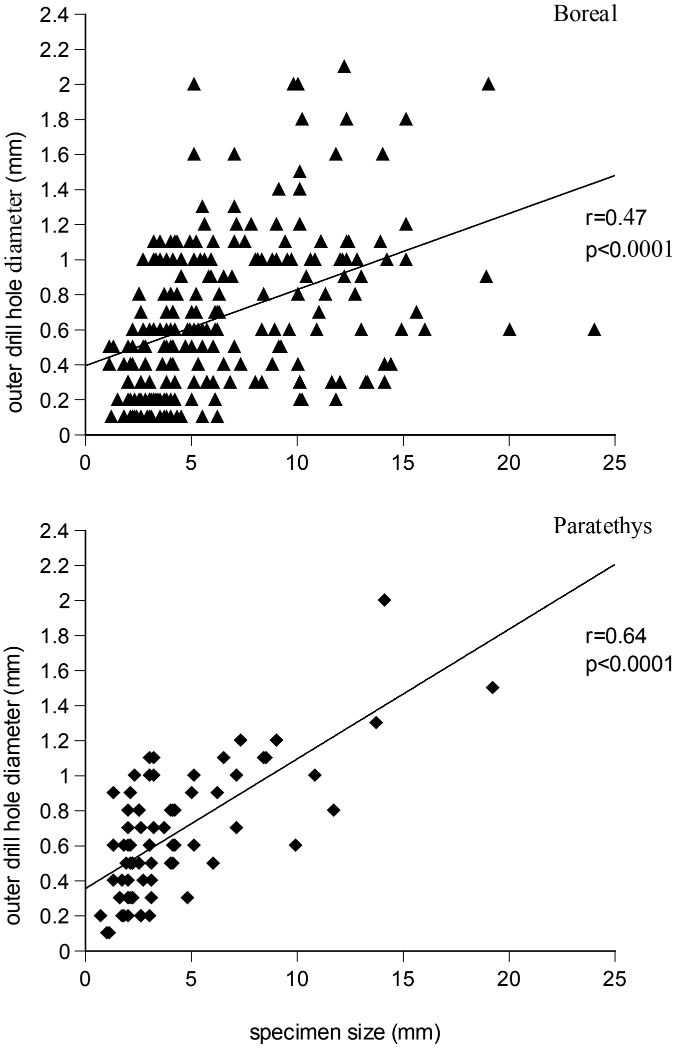

FIGURE 2.11--Scatter plot of the drill hole diameter graphed against the gastropod shell size.

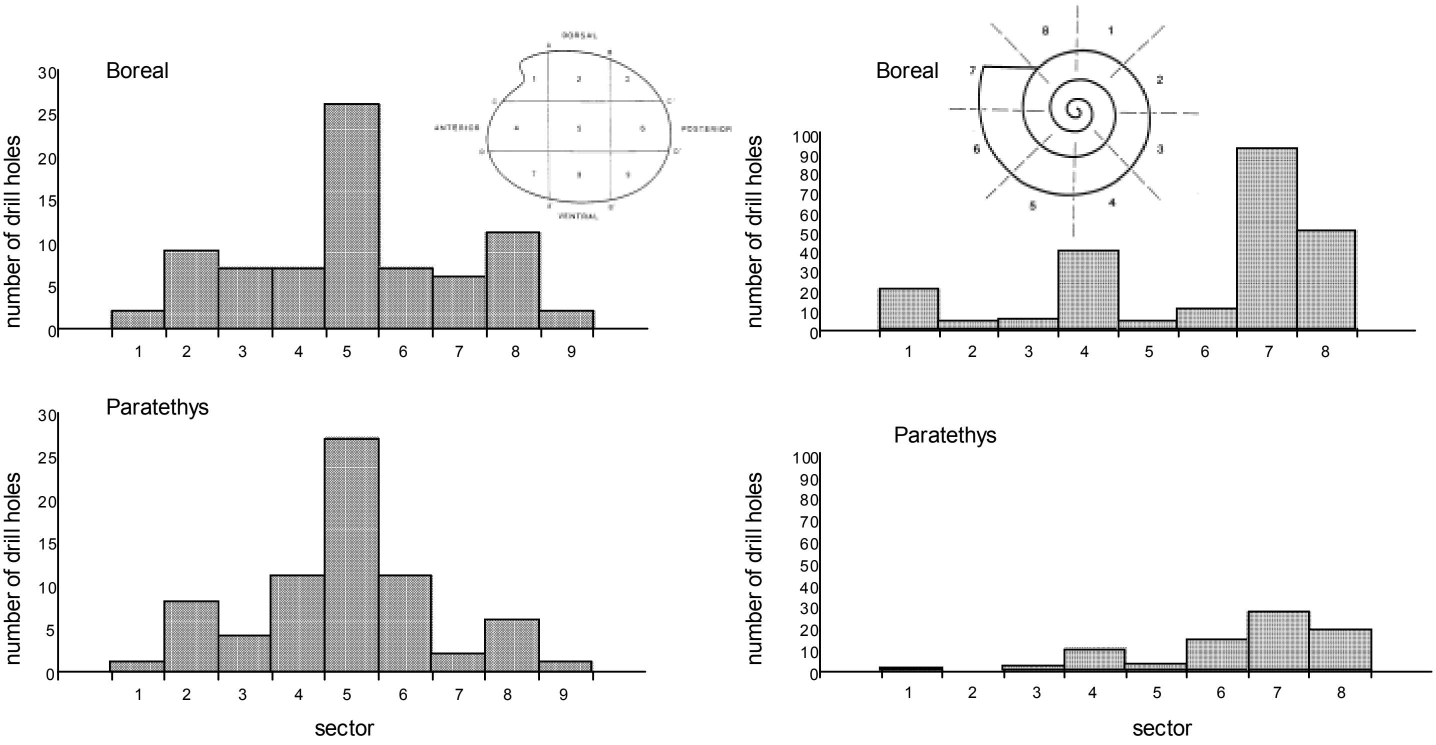

FIGURE 2.12--Drill-hole site-frequency distribution for bivalves and gastropods. Schematic insets for bivalves and gastropods after Kelley (1988) and Kelley (1991), respectively.

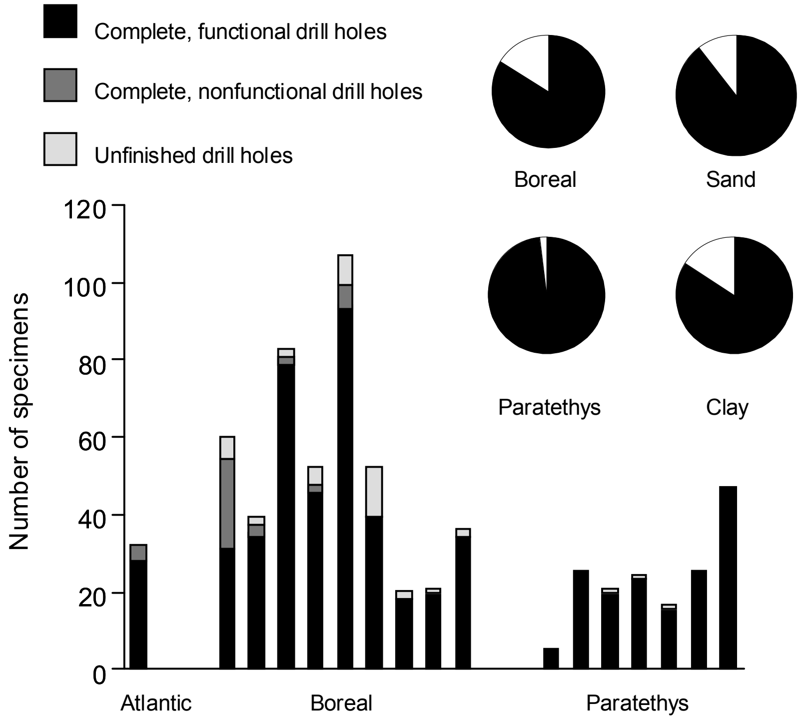

FIGURE 2.13--Unsuccessful drill holes analyzed by province. Pie charts show percentage of successful (black) and unsuccessful (white) drill holes for data grouped by province and facies.

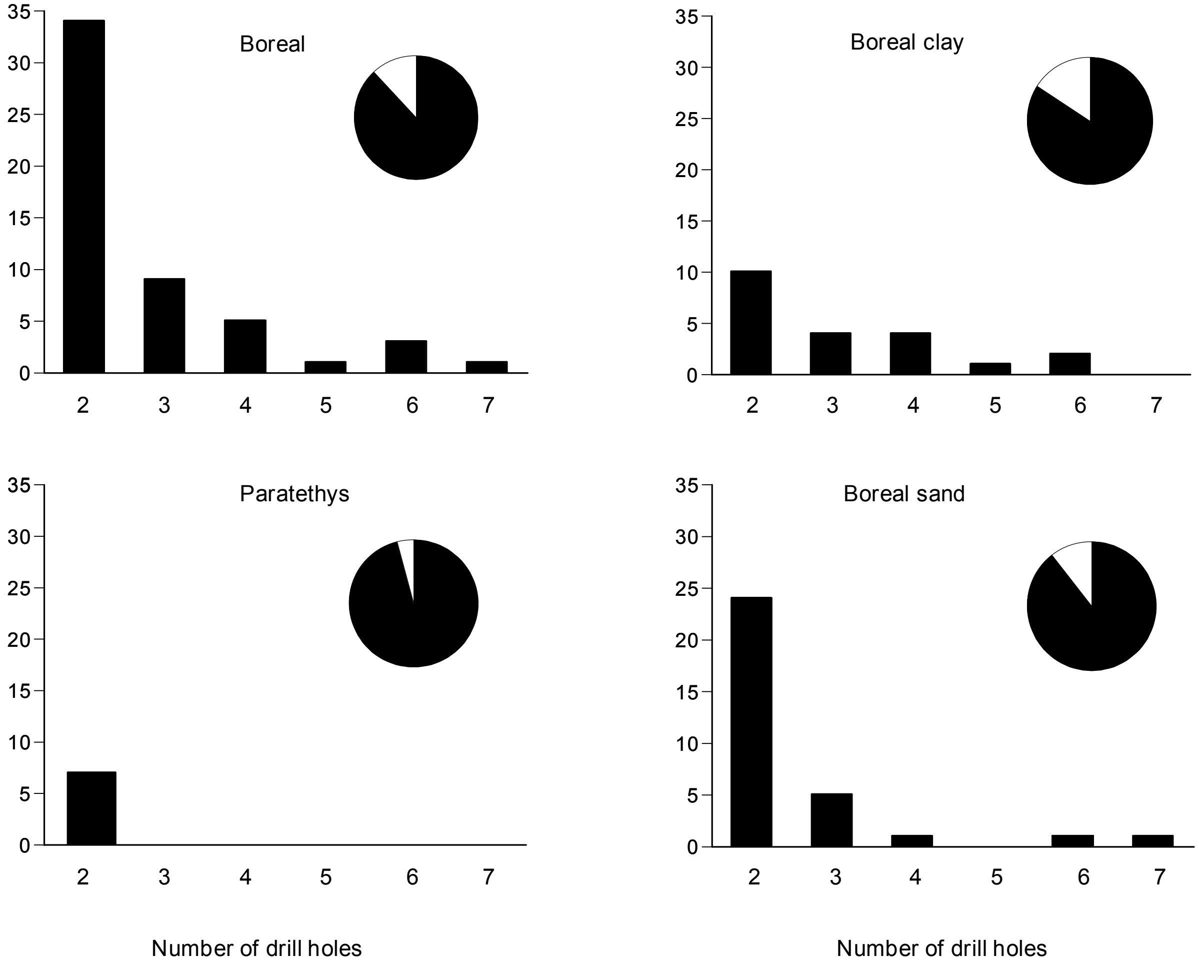

FIGURE 2.14--Comparison of the frequency of multiple drill holes within the Boreal Province and Paratethys and between the clay and sand facies of the Boreal Province. Inset pie charts indicate the proportion of drilled specimens with single (black) versus multiple (white) drill holes.

Table 2.1-Summary of all data from Boreal, Paratethys, and Atlantic samples.

Collection/facies/Bioprovince	lithology	number mollusks	number mollusks drilled	number drillholes	number bivalves	number bivalves drilled	number gastropods	number gastropods drilled	percent mollusks drilled	percent bivalves drilled	percent gastropods drilled
Boreal samples											
1	c	146	24	60	97	14	49	10	16.4	14.4	20.4
2	c	273	34	40	59	3	214	31	12.5	5.1	14.5
3	s	187.5	68	84	52.5	12	135	56	36.3	22.9	41.5
4	s	214	50	54	59	7	155	43	23.4	11.9	27.7
5	s	325	91	108	118	26	207	65	28.0	22.0	31.4
6	s	162.5	47	52	94.5	27	68	20	28.9	28.6	29.4
8	s	88.5	19	20	53.5	1	35	8	21.5	20.6	22.9
10	c	114.5	18	20	4.5	0	110	18	15.7	0	16.4
11	c	211	35	36	25	2	186	33	16.6	8.0	17.7
Atlantic samples											
9	s	114.5	27	32	47.5	5	67	22	23.6	10.5	32.8
Paratethys samples											
12	c	56.5	5	5	10.5	0	46	5	8.9	0	10.9
13	s	161.5	22	25	117.5	12	44	10	13.6	10.2	22.7
14	s	198	19	20	39	2	159	17	9.6	5.1	10.7
15	s	184	23	24	71	8	113	15	12.5	11.3	13.3
16	s	85	16	16	43	13	42	3	18.8	30.2	7.1
17	c	146.5	25	25	83.5	17	63	8	17.1	20.4	12.7
18	c	192.5	46	47	60.5	20	132	26	23.9	33.1	19.7
Facies											
Clay		1140	187	233	340	56	800	131	16.4	16.5	16.4
Sand		1720.5	382	435	695.5	123	1025	259	22.2	17.7	25.3
Sand (Atlantic excluded)		1606	355	403	648	118	958	237	22.1	18.2	24.7
Boreal Clay		744.5	111	156	185.5	19	559	92	14.9	10.2	16.5
Boreal Sand		977.5	275	318	377.5	73	600	192	28.1	19.3	32.0
Paratethys Clay		395.5	76	77	154.5	37	241	39	19.2	23.9	16.2
Paratethys Sand		628.5	80	85	270.5	35	258	45	12.7	12.9	17.4
Bioprovince											
Boreal		1722	386	474	563	102	1159	284	22.4	18.1	24.5
Paratethys		1024	156	162	425	72	599	84	15.8	16.9	14.0
Atlantic		114.5	27	32	47.5	5	67	22	23.6	10.5	32.8
Total		2860.5	569	668	1035.5	179	1825	390			

Table 2.2- Escalation parameter data.

Sample/Province	# specimens drilled	# completed drillholes	# nonfunctional	# unfinished	total drillholes
1	24	31	23	6	60
2	34	35	3	2	40
3	68	80	2	2	84
4	50	47	2	5	54
5	91	94	6	8	108
6	47	39	0	13	52
8	9	18	0	2	20
10	18	19	0	1	20
11	35	34	0	2	36
12	5	5	0	0	5
13	22	25	0	0	25
14	19	19	0	1	20
15	19	23	0	1	24
16	16	15	0	1	16
17	25	25	0	0	25
18	46	47	0	0	47
Boreal	376	397	36	41	474
Paratethys	152	159	0	3	162

CHAPTER 3: Drilling Predation in Brachiopods and Bivalve Mollusks from the Permian Strata of the Glass Mountains, West Texas

Abstract

Bored invertebrates have been described from every period of the Paleozoic. There is, however, little information on the frequency and nature of Late Paleozoic drill holes. Silicified fossils bulk collected by G.A. Cooper from Permian strata in the Glass Mountains of West Texas provide an ideal opportunity to look for evidence of predatory drilling during this interval.

Cooper's collections contain numerous drilled brachiopods and bivalve mollusks. The drill holes are perpendicular to the shell, smooth sided, often beveled in a manner similar to drill holes produced by naticid gastropods today, and have other characteristics consistent with a predatory/parasitic origin. The frequency of drilling in brachiopods (n= 7597) is 1.07% (or 1.36% id questionable drill holes are included), whereas the drilling frequency in mollusks (n= 619) is 7.43% (or 9.05% including questionable drill holes). Drilling intensity is thus significantly higher ($p<<0.05$) in bivalves than in brachiopods. Drilled brachiopods occur throughout the Permian, but drilling frequencies vary notably through time and among sampled facies.

This study confirms that drilling predators and/or parasites were present in the Late Paleozoic. However, drilling intensity at that time rarely exceeded 5%, and thus was much lower than the Late Mesozoic and Cenozoic intensities that typically exceeded 20%. The Late Paleozoic intensities are consistent with those for the rest of the Paleozoic and suggest that the intensity of drilling predation/parasitism in marine benthic

ecosystems remained low throughout the Paleozoic and did not increase until some time in the Mesozoic.

Introduction

The fossil record contains a wealth of ecological and behavioral information for paleontologists to explore. One behavioral aspect that has received considerable attention is drilling predation. The interest in drilling predation stems from the opportunity to study individual interactions in the fossil record and the chance to document predator-prey interactions in an evolutionary context. In particular, the hypothesis of escalation proposed by Vermeij (1987) can be tested rigorously using drilled prey fossils both from the ecologic evolutionary perspective (e.g., Kelley and Hansen, 1996) as well as from the point of view of functional morphology (e.g., Dietl et al., 2000; Leighton, 2001).

Paleozoic Drilling History

Drilling predation is a common phenomenon in the Cenozoic (e.g., Kelley and Hansen, 1993, 1996; Hoffmeister and Kowalewski, 2001), but the record of drill holes is scarce, and more controversial in the Paleozoic (Cameron, 1967; Buehler, 1969; Richards and Shabica, 1969; Sohl, 1969; Rohr, 1976; Sheehan and Lesperance, 1978, Ausich and Gurrola, 1979; Miller and Sundberd, 1984; Conway Morris and Bengston, 1994; Baumiller et al., 1999). Although many of the Paleozoic drill holes are obviously not predatory in nature (e.g., Richards and Shabica, 1969), the ability to bore through hard objects clearly developed soon after the inception of preservable hard parts (see especially Bengston and Zhao, 1992), and it appears that at least some of the Paleozoic drill holes were predatory or parasitic in origin (e.g., Kaplan and Baumiller, 2000;

Kowalewski et al., 2000; Leighton, 2001; see also Wilson and Palmer (2001) and Kaplan and Baumiller (2001) for a discussion on this matter).

Kowalewski et al. (1998) presented an overview of Phanerozoic drilling predation generated from a literature survey. They proposed three distinct intervals in the history of drilling predation and suggested that this predatory strategy was present throughout much of the Paleozoic but at a much lower rate than that seen in the Late Mesozoic and Cenozoic. Of particular interest is the "Mesozoic Phase" (Permian-Early Cretaceous) characterized by very low drilling frequencies attributed by Kowalewski et al. (1998) to either a period of "background drillers which possessed a latent drilling adaptation (exaptation) which for some reason never became successful and widespread" or a time when the predators were facultative and only drilled rarely. There are, however, very few reported data points from this interval. To date the majority of research on drilling predation has focused on the Late Mesozoic and Cenozoic. This has left some critical issues either poorly investigated or entirely unexamined. Chief among these are issues related to the development of drilling predation in the Paleozoic. The aim of this paper is to address several issues related to drilling predation in the Late Paleozoic as well as some methodological concerns detailed below.

Taxonomic Comparison

One avenue of investigation that has been overlooked is the comparison of drilling predation between two morphologically and ecologically similar, contemporaneous phyla that provide different nutritional return to the predator. We know of no direct comparison of drilling intensities between contemporaneous bivalves and brachiopods in the literature to date. Thayer (1981) recognized the desirability of such a comparison and wrote "It would also be of great interest to know when predators began to favor bivalves over brachiopods. The frequency of predation damage in articulates and contemporary bivalves should be compared" (Thayer, 1981, pg. 124). This type of analysis is especially important in the debate over the nature of drill holes in the Paleozoic. Clearly bivalve mollusks provide more energy return for the effort of drilling compared to brachiopods. If assemblages of Paleozoic bivalves are more heavily drilled than contemporaneous brachiopod assemblages then the predatory nature of the drill holes is supported. If, on the other hand, there is no difference in the intensity of drilling experienced by brachiopods and bivalves, or if brachiopods experience a higher intensity, then other possibilities must be considered. One option is that the intent of the attacker was parasitism instead of lethal predation. Also, how the prey lived may have an effect. If the prey is infaunal (as bivalves are) but the predator is epifaunal, then the chance that the prey will be encountered by the predator is reduced.

Time Frame of Drilling

Most previous studies of Paleozoic drilling predation have dealt with single collections that represent short time frames. These studies are important because they show that drilling predation existed at some period in time, but of equal importance is to understand how this behavior developed and changed through time. As an example, the literature survey done by Kowalewski at al. (1998) suggests that there was a peak of drilling in the Devonian. This, however, may or may not be the case. Since there are more reports of drilling from the Devonian than from any other period in the Paleozoic, it is possible that the peak suggested by Kowalewski et al. (1998) is merely an artifact of the volume of data available. Whether or not there was a peak of drilling predation in the

Devonian will only be known when more data are available for the rest of the Paleozoic. This study looks at much of the Permian and thus allows for investigation not only of temporal trends within that time frame but also provides an opportunity to test the pattern generated from the literature.

Comparison With Monographs

For Permian strata the only quantitative data on drilling predation comes from Kowalewski et al. (2000) for bivalve mollusks from the Paraná Basin in Brazil. Their study also used monographic literature to estimate predation rates on brachiopods. Whereas there are some ambiguities inherent in using monographic data (see Kowalewski et al., 2000, for details) the authors argued that since the estimate generated by this approach compared well with the published literature the result obtained was not unreasonable. Much of the data used by Kowalewski et al. (2000) came from the monographic treatment of Permian brachiopods from West Texas published by Cooper and Grant (1972, 1974, 1975, 1976a, 1976b, 1977). The Cooper collections from West Texas are housed at the Smithsonian Institution National Museum of Natural History, which makes it possible to re-examine the specimens and to acquire quantitative data.

This comparison of drilling intensity acquired from examination of monographic literature with quantitative data acquired from the same specimens using bulk material is important since much of the data currently available for Paleozoic drilling predation is in monographic literature. If, as suggested by Kowalewski et al. (2000), reasonable estimates of drilling intensity can be gathered from the literature then time consuming and painstaking field and laboratory work can be minimized in the effort to understand the Paleozoic record of drilling predation. There will certainly be cases where additional field and laboratory work will be required. However, if a good first estimate is available from the literature then future work can be more efficiently directed.

Comparison of Metrics

The final goal is a comparison of metrics for describing drilling intensity. How data are presented may make a difference in the pattern of predation through time. Drilling intensity can be described by the total from all specimens (DI= # drilled specimens/total specimens) (e.g., Kelley and Hansen, 1993; Kowalewski et al., 1998), by the drilling intensity of the most heavily drilled taxon (e.g., Harper et al., 1998), or by the percentage of taxa at a locality that display drill holes (e.g., Vermeij, 1987). Virtually all studies of drilling predation to date have employed only one of the metrics to describe drilling intensity, but see Kelley and Hansen (1993) for a study that employed two metrics. Understanding how to best present the data is essential to avoid misrepresenting behavioral, ecological, and evolutionary patterns.

Materials and Methods

The Glass Mountains have been used as the standard section for the Permian in West Texas because of the completeness of the stratigraphic section in the area (Hill, 1996). Rocks in the Glass Mountains span from the upper Pennsylvanian (Gaptank Formation), through the lower Permian (Neal Ranch, Lenox Hills, Skinner Ranch/Hess, Cathedral Mountain, and Road Canyon formations), up into the upper Permian (Word and Bell Canyon formations) (see Hill, 1996, for a complete discussion of the stratigraphy of the region). Unfortunately, the section does not include deposits from the latest Permian and the Permo-Triassic transition is not represented.

In 1939, the late G. Arthur Cooper began collecting limestone blocks from Late Pennsylvanian and Permian strata in the Glass Mountains of West Texas (Cooper and Grant, 1972; Figure 3.1). These blocks were shipped to the Smithsonian Institution and subjected to acid dissolution, producing exquisite collections of delicate, silicified fossils from many invertebrate phyla (Cooper and Knight, 1946). This collection program continued until 1968, the only interruption being during the time of World War II, and generated what is probably the most representative collection of an ancient ecosystem for easily fossilizable organisms available to paleontologists today. The collection is dominated by brachiopods, but there is also a good representation of mollusks (bivalves and gastropods), crinoids, trilobites, bryozoans, corals, and cephalopods. This bulk collection provides an ideal opportunity to gather quantitative evidence of drilling predation in the Late Paleozoic.

The Permian units of the Glass Mountains were deposited within the Delaware Basin in mixed clastic and carbonate environments (Hill, 1996). The basin itself was subject to periods of tectonic activity (the final stages of development of the Marathon fold belt) as well as periods of relative tectonic inactivity. The majority of the formations reflect generally shallow water conditions (less than 30 m depth), with only the Bone Springs Formation preserving deeper basinal sediments (see Hill, 1996, for detailed environmental descriptions of each formation). The collections made by Cooper and his colleagues are restricted to the carbonate sediments of the basin and represent environments from shelf break to shallow shelf conditions.

Cooper and Grant (1972) recognized two types of organic accumulations in the Glass Mountains. A bioherm has a core of micritic limestone surrounded by bioclastic material. What Cooper and Grant (1972) call a zotikepium, or lush garden, is similar in composition to a bioherm but without a central core, thus the accumulation extends laterally instead of vertically. Bioherms are recognized in the lower part of the section, but are absent above the Road Canyon Formation. The faunal composition and geometry of bioherms is quite variable (Cooper and Grant, 1972). Shell heaps are also recognized by Cooper and Grant (1972). These accumulations of shells have no implication of having been formed by a living community and were most likely the result of storm currents (Cooper and Grant, 1972).

A conservative estimate of the number of brachiopods recovered by Cooper from the Glass Mountains strata is approximately three million individuals. This incredible number of specimens forced us to sample the collection in a manner that would give statistically reliable results in a reasonable period of time. Cooper and Grant (1977) provide a list of species, with relative abundance data for each species, for their sample localities. This compendium was used to select localities to be used in this study. Two criteria were involved in this choice, how many brachiopod genera were listed as common and abundant for each locality (Cooper and Grant (1977) define common species as being represented by 26 to 100 specimens, abundant by 101 to 300 specimens) and stratigraphic position within the section. Localities with at least five common or abundant genera were selected for this study. This did not, however, provide complete stratigraphic coverage, so some localities with fewer than five common or abundant genera were included to improve stratigraphic completeness (Figure 3.2). For each sample locality, 20 randomly chosen, complete individual specimens from the first species encountered of each common or abundant brachiopod genus were examined for evidence of predatory drilling. The number of specimens examined (20) was selected so that each locality would be represented by at least 100 specimens (at least 5 genera). This method provides statistically reliable sample size for each locality without requiring a vast amount of time for data collection. The brachiopod specimens are stored by genus, but species are not arranged in any specific way (e.g., alphabetically or by abundance). The selection of species, therefore, is likely to be random. In cases where a genus had more than one common or abundant species, the first species encountered was examined in detail and all other species were given a quick visual examination for drilled specimens. Drilled specimens from all species of common or abundant brachiopod genera were noted and imaged but only the first species encountered in the collection was used in the quantitative analysis of drilling intensity. All drilled specimens encountered were used in the analyses of drilling stereotypy and specimen size versus drill hole size. This sampling scheme does limit the analysis to only the most common genera, but it is unlikely that rare genera would appreciably alter the results.

Bivalve mollusks are present in far fewer numbers than brachiopods in the collection. This is not a reflection of the collecting methods of Cooper and his colleagues; this reflects the difference in abundance between bivalves and brachiopods in the Late Paleozoic, and in fact throughout the Paleozoic. The smaller number of specimens required a different sampling scheme but allowed for more complete inspection of the specimens available. Rather than limit data collection to only common and abundant genera, all bivalve species represented by at least five specimens were examined. Unfortunately, the fewer numbers of available bivalves also limits the stratigraphic coverage. Bivalve mollusk specimens come only from the Cathedral Mountain, Road Canyon, and Word formations.

All specimens that displayed definite or potential drill holes were digitally imaged, on a scaled black background, using a Sony Mavica FD-90 digital camera. These images were used for all measurements to avoid specimen damage. Length, width, and drill hole diameter were measured for each specimen using Scion NIH software.

Following a strategy proposed by Roopnarine and Buessink (1999), landmark methods were used to evaluate site selectivity of drilling in brachiopods. X-Y coordinates of four Type II landmarks (i.e., mathematical points whose homology is supported only by geometric evidence; Slice *et al*. 1996) and the center of the drill hole were digitally acquired. The landmarks include the tip of the beak, the point along the commisure directly opposing the tip of the beak, and the two points that define the maximum curvature of the shell along the plane of commisure. The landmark data were transformed into shape (Bookstein) coordinates (Bookstein, 1991) by a process of translation, rotation and reorientation with respect to a common baseline and plotted on a Cartesian plane. We chose the line between the tip of the beak and the point along the commisure directly opposite for the common baseline. There is, admittedly, a wide range of shapes represented by the brachiopods examined, so a notable spread in shape coordinates is expected. Shape coordinates of the drill holes were also plotted on the plane with respect to the common baseline. This allows for a rough visual assessment of stereotypy in drill hole location. This analysis of stereotypy is at the most general level, more detailed study for most genera will only be possible when the number of specimens with drill holes is significantly larger. However, two genera in the Permian collection (*Composita* and

Martinia) are represented by enough drilled individuals to look for stereotypy more rigorously. In these cases, an outline of the shell and a uniform grid were superimposed over the plot of shape coordinates. By calculating the frequency of drill holes in any grid square (see also Reyment, 1971; Kowalewski et al. 1997; Roopnarine and Buessink, 1999; Hoffmeister et al., submitted), stereotypy of drill hole location for each valve was assessed.

Since all of the bivalve specimens are preserved as disarticulated valves, a correction is required when comparing predation intensities between bivalve mollusks and brachiopods, even though every preserved mollusk valve likely came from a unique individual (Gilinsky and Bennington, 1994). This correction must be made because the probability of sampling a drilled valve from a drilled specimen is two times less likely than the probability of sampling any of its two valves (Bambach and Kowalewski, 2000; see also Hoffmeister and Kowalewski, 2001, for a thorough explanation of why this is the case).

In this study we use the following criteria to define a drill hole: (1) the hole is circular or oval, and unhealed, (2) the hole is perpendicular to the shell, (3) the hole penetrates only one valve of articulated specimens, and (4) the hole penetrates the valve from the outside (Figure 3.3). These criteria assure that holes made by substrate borers or by abiotic dissolution processes are excluded from the analyses. We thus include in our analysis both Type B drill holes (which are considered to be the result of lethal predation) and Type A drill holes (those ascribed to parasitism) as described by Ausich and Gurrola (1979).

Statistical analyses were performed using Statistical Analysis System version 8 using a significance criterion of 5% (α=0.05). The analyses were done using SAS codes written by MK and APH.

Results

The majority of drill holes encountered in specimens from the Permian of West Texas are circular with no sign of beveling (see Figure 3.3), although there are holes that are oval with definite beveling (Figure 3.3A).

7597 brachiopod specimens were examined from 48 sample localities. Of these, 81 specimens display definite predatory drill holes (drilling intensity of 1.07%) and an additional 30 specimens display drill holes that are more questionable (drilling intensity is 1.46% when questionable holes are included; Table 3.1). Sample level drilling intensity for brachiopods ranged from 0% to 12.5%; while highest drilling intensity per genus ranges from 5% to 35% and percent of taxa drilled ranges from 0% to 53.5% (see Table 3.1). There does seem to be some preference for which brachiopod taxa were attacked. Eighty two brachiopod genera are represented in the 7597 specimens observed. Of these, 27 genera are drilled (32.9%). Six genera have more than one species drilled (22.2% of the drilled genera). Of these six genera, three have two species drilled, one has three species drilled, one has four species drilled and one has five species drilled. These six genera account for 38.2% of the definite drill holes (31 of 81) and 34.2% of all drill holes (38 of 111). There is a clear preference for drilling in the pedicle valve of brachiopods. Of 111 drill holes 87 (78.4) are in the pedicle valve (Fisher's Exact Test, $p \ll 0.05$).

619 bivalve mollusk specimens were examined from 9 sample localities. 23 specimens display definite drill holes (drilling intensity of 7.43%) and another 5

specimens display drill holes that are more questionable (drilling intensity of 9.05% if included).

There is a definite preference for bivalve mollusks as prey over brachiopods when all specimens are considered together (7.43% vs 1.07%, Fisher's Exact Test $p \ll 0.05$; Figure 3.4). This preference is also seen at the formation level. Brachiopods in the Cathedral Mountain Formation have a drilling intensity of 2.74% (40 of 1460 specimens drilled) while bivalves experience a drilling intensity of 7.14% (8 of 112 specimens drilled, $p=0.02$, Fisher's Exact Test). In the Road Canyon Formation, brachiopods display a drilling intensity of 1.82% (12 of 660 specimens drilled) while bivalves have a drilling intensity of 19.56% (18 of 92 specimens drilled; Fisher's Exact Test $\ll 0.05$). No comparison was done for the Word Formation because only one locality produced enough bivalves to be included in this study.

In addition to drilling intensity, the data allow investigation of spatial and temporal patterns in predation. Spatially there is no clear pattern across different localities. Cooper and Grant (1972) provide location maps for many of the sample localities used in this study. In most areas where the same formation was collected at multiple localities, drilled specimens are recovered from localities that are in close proximity to localities that contain no drilled specimens whatsoever.

Each of the three metrics of predation can be used to investigate temporal trends. There is a remarkable similarity between the plots (Figure 3.5). The lower part of the section (Gaptank Formation to Skinner Ranch Formation) is characterized by the general absence of drilled specimens, with only the Neal Ranch Formation containing evidence of drilling predation. The Cathedral Mountain and Road Canyon formations display the highest values for each metric. It is interesting to note that while the Road Canyon Formation has the highest drilling intensity for all specimens (Figure 3.5A), the highest drilling intensity in any genus and the percent of genera drilled are in the Cathedral Mountain Formation (Figure 3.5 B, C). There are also differences in the plots; notably the suggestion of a third peak in the Bell Canyon Formation for percent of taxa drilled which is not as clearly expressed in either of the other plots.

There appears to be stereotypy in the placement of drill holes in brachiopods from the Permian of West Texas. With few exceptions, drill holes are placed in the center of the brachiopod shell (Figure 3.6). Two genera, *Composita* and *Martinia*, are represented by enough drilled specimens to investigate stereotypy more precisely. Since both genera have a similar shape, comparison can be done for each genus and for pooled data. All three plots show a clear preference for drilling in the center of the valve although the drill hole placement in *Martinia* is more spread out (Figure 3.6).

The size of brachiopod and bivalve mollusk specimens, and the size of the drill holes seen in each, are visually similar (Figure 3.7). The range of both specimen and drill hole size is larger for brachiopods than for bivalves, but while the specimen size distributions are significantly different (Kolmogorov-Smirnov test $p<0.05$), the distributions of drill hole size do not differ significantly (Kolmogorov-Smirnov test $p=0.19$). There is no clear relationship between specimen size and drill hole size in either brachiopods or bivalves (Figure 3.8).

Discussion

There is little doubt that drilling predators existed throughout the Permian (Kowalewski et al., 2000; this study). The sparse evidence available to Kowalewski et al.

(1998) also clearly underestimates the rate of predation in the Permian, especially for bivalve mollusks. While drilling predation during the Late Paleozoic as reported here is higher than reported by Kowalewski et al. (1998), it is still significantly lower that the levels seen in the Late Mesozoic and Cenozoic. This supports the idea that drilling intensity in benthic marine ecosystems generally remained low throughout the Paleozoic and did not increase until some time in the Mesozoic (but see Hoffmeister et al., submitted and Deline et al., 2002 for reports of high rates of drilling predation in the Late Paleozoic).

There is a definite preference for bivalve mollusks as prey over brachiopods when all specimens are considered together (7.43% vs 1.07%, $p \ll 0.05$), which is particularly notable given the lower abundance of bivalves. This preference is seen at the formation level as well for the Cathedral Mountain and Road Canyon formations. The Word formation has bivalves at only one locality so statistically valid comparisons were not possible. This suggests that Late Paleozoic predator(s) had developed some ability to identify which prey individuals would provide the most return for the effort of attack. Indeed, it may be that the only reason that brachiopods get drilled at all is the dominance in the number of individuals of brachiopods over bivalve mollusks during the Paleozoic. However, this preference may also be related to life habit. Brachiopods are epibenthic whereas at least some of the bivalves examined are endobenthic. If the predator was infaunal, then bivalves would be encountered more often and thus be subject to greater predation intensity. There not enough drilled bivalve specimens available to adequately test this idea at this time.

The stereotypy seen in drill hole location suggests that the nature of attack is lethal predation, rather than parasitism. Placing the drill hole in the center part of the brachiopod shell allows access to the muscle field (the main source of nutrition from brachiopods) and to the limited flesh of the animal itself. The preference for drilling in the ventral (pedicle) valve, where the large diductor muscles attach, supports the interpretation of lethal predation. This is also supported by the apparent preference for the much meatier bivalve mollusks as prey. Parasitism, however cannot be completely ruled out as a reason for drilling. By locating the drill hole in the center of the shell, especially on the brachial valve, the attacker would have access to the brachidium and thus to the nutrient rich flow generated when the brachiopod was feeding. However, if parasitism were the intent, it would seem to make more sense for the predator to locate the drill hole near the edge of the shell (size permitting) for direct access to the inhalant flow. In either case, the drill holes observed are clearly non-random in their orientation and thus are most likely the result of some form of biotic interaction, be it lethal or non-lethal.

The apparent lack of any spatial pattern of drilling predation in the Glass Mountains strata is not entirely unexpected. Spatial variation in drilling predation during short time spans in the Cenozoic has been shown to be as extensive as the variation seen throughout the Cenozoic (Hansen and Kelley, 1995; Hoffmeister and Kowalewski, 2001). Significant spatial variation is reasonably expected to have existed in the Paleozoic as well. Also, environmental heterogeneity suggested by highly variable facies patterns (see Cooper and Grant, 1972) may have been responsible for uneven distribution of predators and their prey.

The pattern of drilling predation through the Paleozoic seems to be more complex than previously reported. While the intensity of drilling in brachiopods from the Permian of West Texas is quite low compared to reports of brachiopod predation in the Devonian (e.g., Smith et al., 1985; Leighton, 2001), the intensity seen in the Permian bivalves is very similar to the intensities reported for Devonian brachiopods. Unfortunately, we know of no studies of predation on Devonian bivalves so interpretation of this apparent similarity is difficult.

One very unexpected result is a large stratigraphic interval within which none of the samples contain drill holes. The Lenox Hills and Skinner Ranch formations contained a total of twelve localities and 800 specimens but not even a single specimen was drilled. Drilling predators must have existed since there is evidence of drilling in the older Neal Ranch Formation and in all of the younger formations. The lack of drilled specimens cannot be ascribed to poor recovery from the carbonate blocks. It is possible that drilled specimens from these formations do exist but none were included in the individual specimens chosen at random for this study. Environmental effects could also play a role in excluding predators, and taphonomic effects also cannot be eliminated.

Comparison of drilled bivalve mollusks between the Glass Mountain strata and that reported by Kowalewski et al. (2000) shows notable differences. Bivalve mollusks from the Permian of West Texas have a significantly higher drilling intensity (7.4%) than those reported from the Paraná Basin in Brazil (less than 1%) (Fisher's Exact test $p<<0.05$). Several factors are likely the cause of this disparity. First there is a clear difference in the latitude; Texas was equatorial while Brazil was at high latitude during the Permian. The West Texas material displays a greater degree of silicification than that seen from Brazil both in areal and faunal extent.

Drilling intensity in brachiopods from West Texas derived from monographic literature (0.5% to 1%; Kowalewski et al., 2000) is similar, although somewhat lower, to the quantitative data reported here (1.07%). While the difference between the definite drilling intensities (0.5%, Kowalewski et al., 2000; 1.07%, this study) is significant (Chi^2 test, $p << 0.05$), the lower estimate provided by the monographic literature did provide a reasonable first approximation. This is a very promising, if unexpected, result. The logical preference in choosing specimens for illustration is to select the most perfect individuals possible, which would almost always preclude drilled specimens. However, in this case it seems that the authors were equally concerned with presenting a complete account of the fauna. If this attention to detail is consistent, then careful examination of monographic literature should provide a reasonable first estimate of drilling predation throughout the Paleozoic and help to identify periods of time where additional field collections are needed.

The three metrics used to describe drilling predation produced remarkably similar results. Data published by Kelley and Hansen (1993) also generate plots for drilling intensity and percent taxa drilled that are similar. This similarity in results provides an indication that there is some relationship between the metrics such that which one is chosen may not be a critical issue. However, this is only one study and the similarity seen here need not exist in other environments or at other periods of time.

Much work still needs to be done to completely understand the pattern of drilling predation in the Paleozoic. The data presented here show unexpected complexity in the temporal and spatial distribution of Paleozoic drilling. There is also a paucity of data regarding drilling predation on Paleozoic bivalves. All of these issues will only become clear with much additional research. In many cases, monographic literature exists that can provide a reasonable first approximation for the extent of drilling predation. Re-examination of bulk collections housed in museums worldwide, especially those used for the monographic literature, has proven to be a practical method of acquiring quantitative data to check monographic results. In the end, however, new bulk collections will be needed from all periods of the Paleozoic to accurately depict the development of drilling predation throughout the Paleozoic and the role that this behavior played in the evolution of brachiopods and bivalve mollusks.

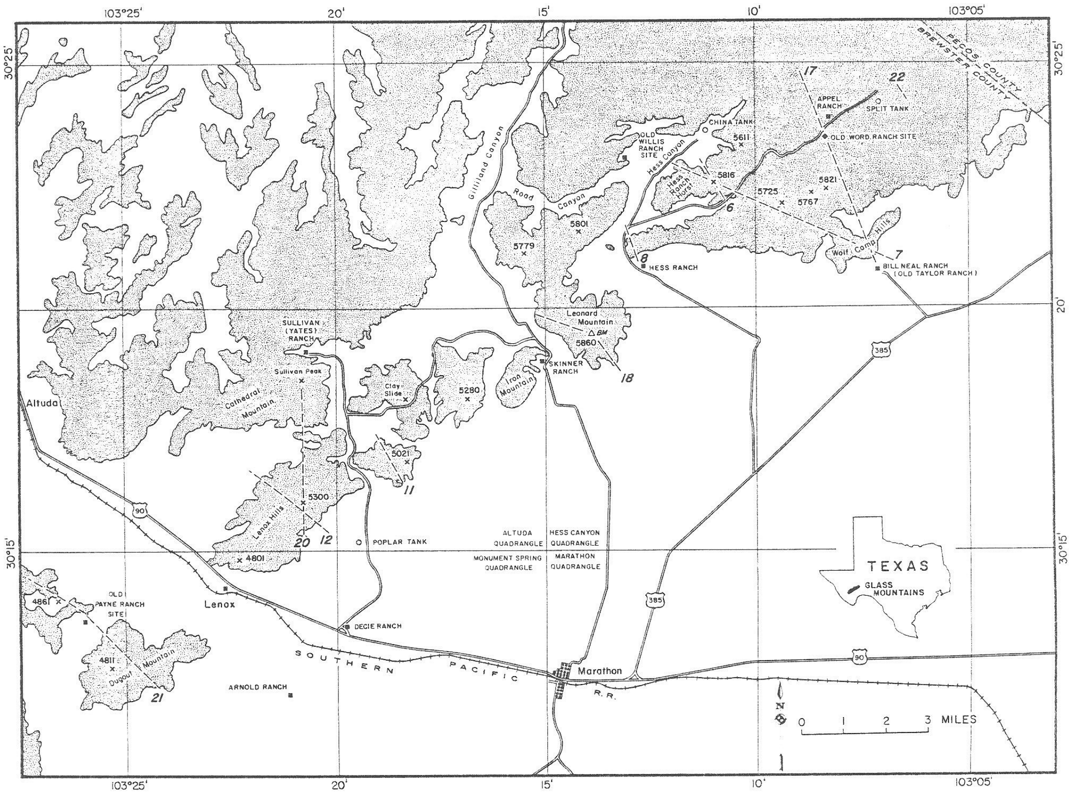

Figure 3.1--Location of the Glass Mountains in West Texas, after Cooper and Grant, 1972

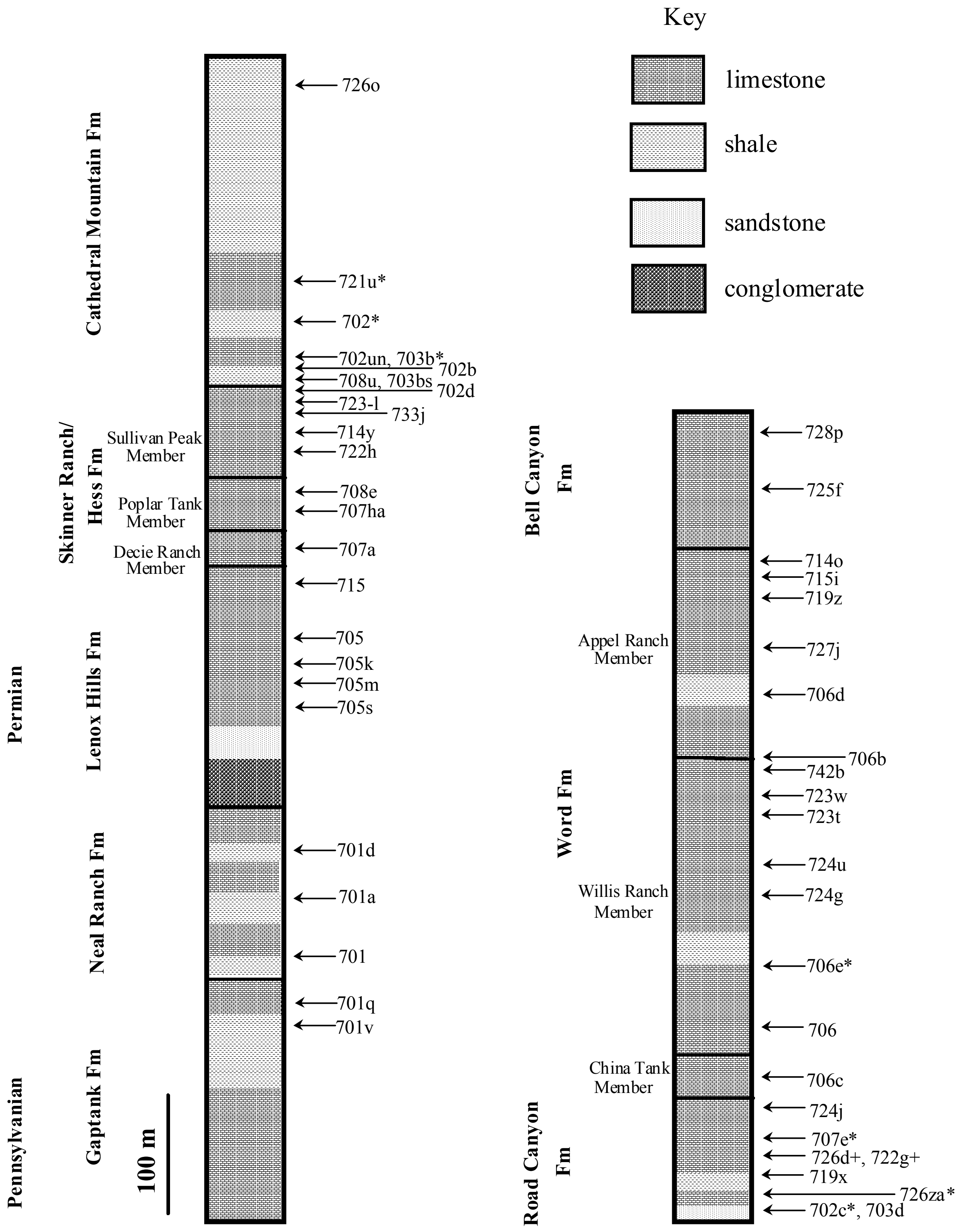

Figure 3.2. Composite stratigraphic column of the Glass Mountains section showing the location of samples used for this study. Localities that produced both brachiopods and bivalves are marked with an *, those that produced just bivalves with a +. Localities listed just by the number produced only brachiopods.

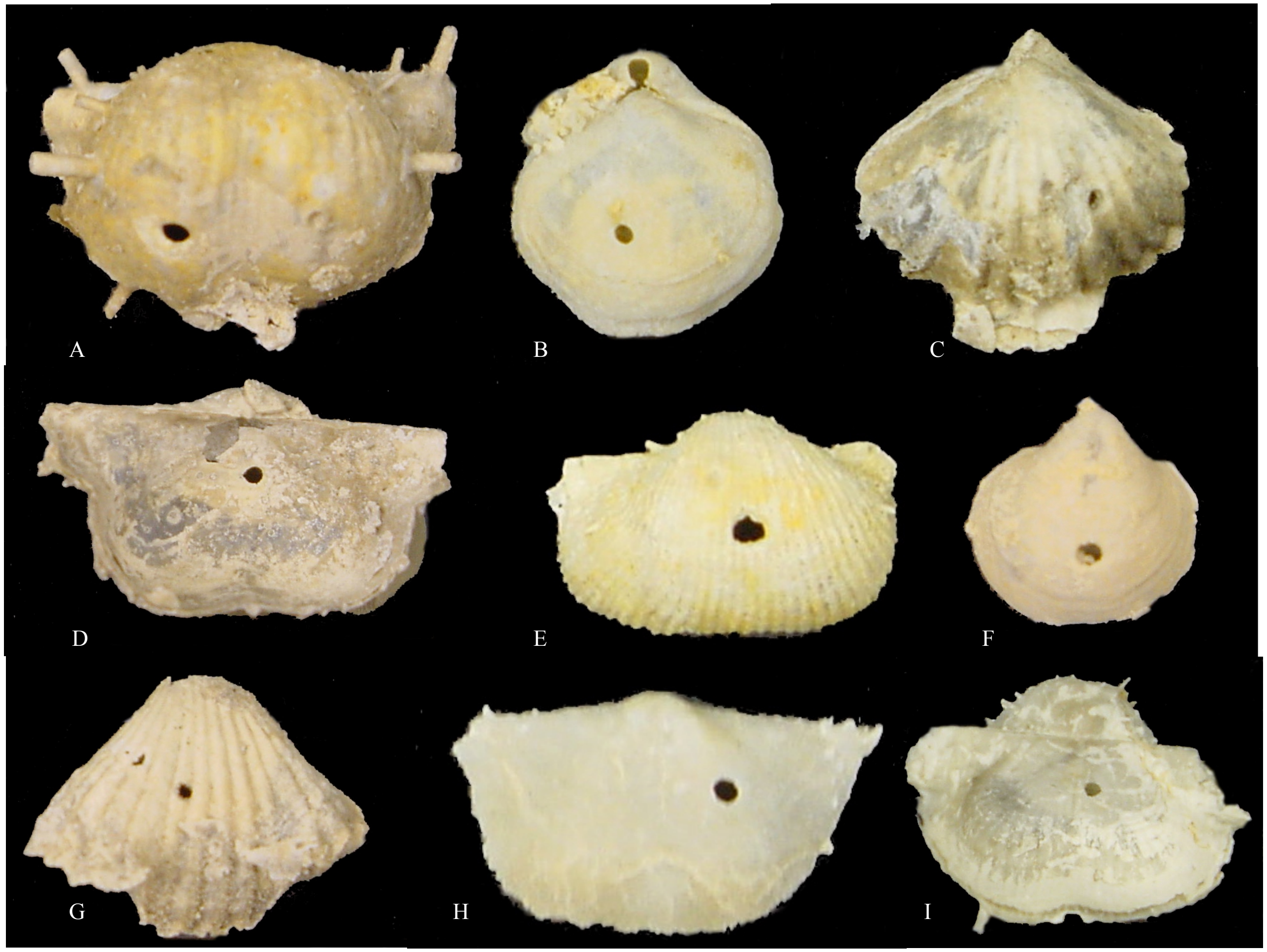

Figure 3.3--Drilled brachiopods from the Cooper collection. A. *Paucispinifera auriculata* (USNM 520070). B. *Composita stalagmium* (USNM 520071). C. *Stenocisma camurum* (USNM 520072). D. *Xestosia linospina* (USNM 148854). E. *Megousia auriculata* (USNM 520073). F. *Martinia miranda* (USNM 520074). G. *Stenocisma triquetrum* (USNM 520075). H. *Dyoros vagabundus* (USNM 520076). I. *Kurtoginella umbonata* (USNM 520077). Photographs by A.P. Hoffmeister.

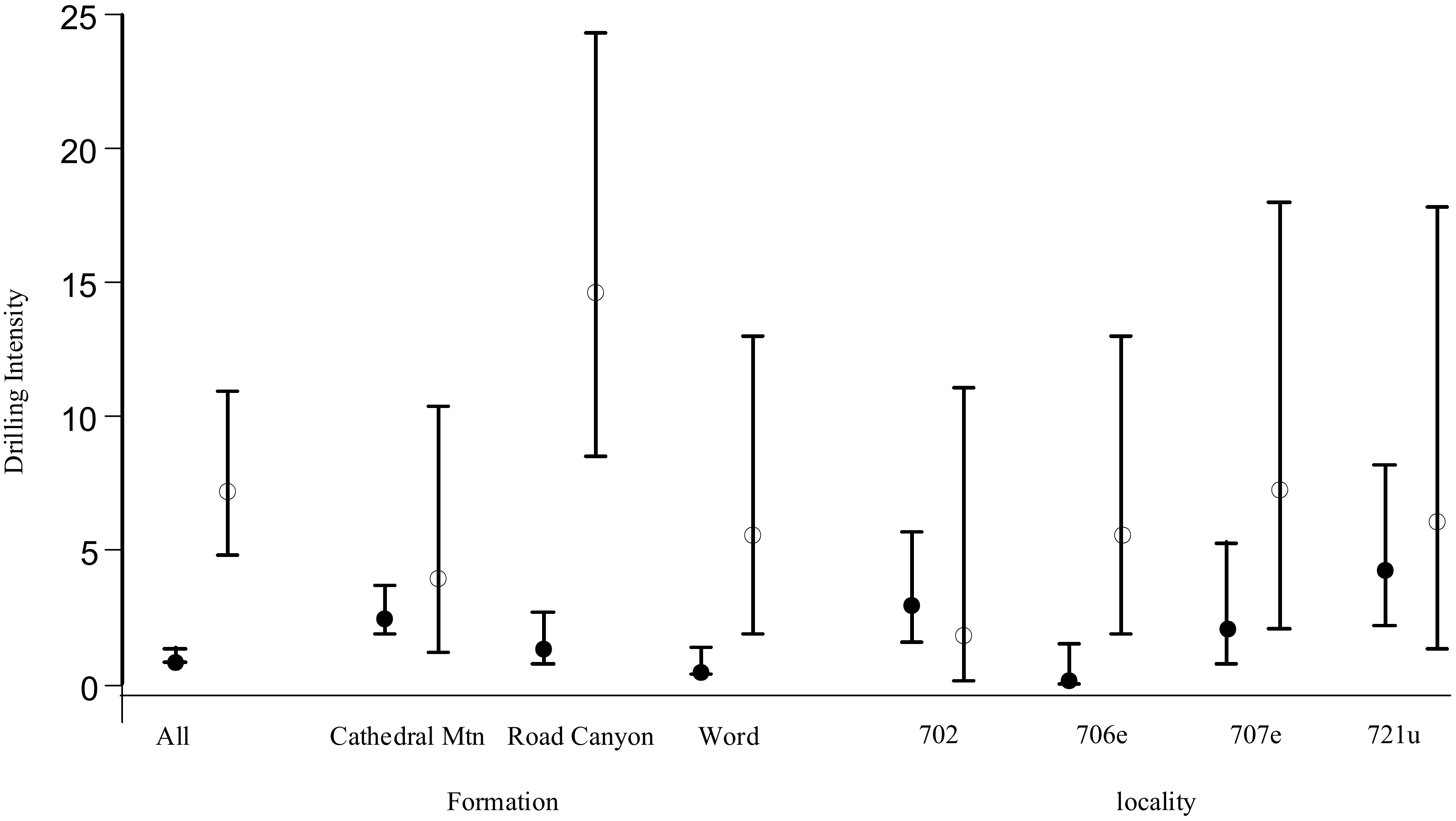

Figure 3.4--Drilling intensity for all specimens, by formation and by location. Open circles indicate bivalve mollusk data, filled circles indicate brachiopod data. Error bars are 95% binomial confidence intervals.

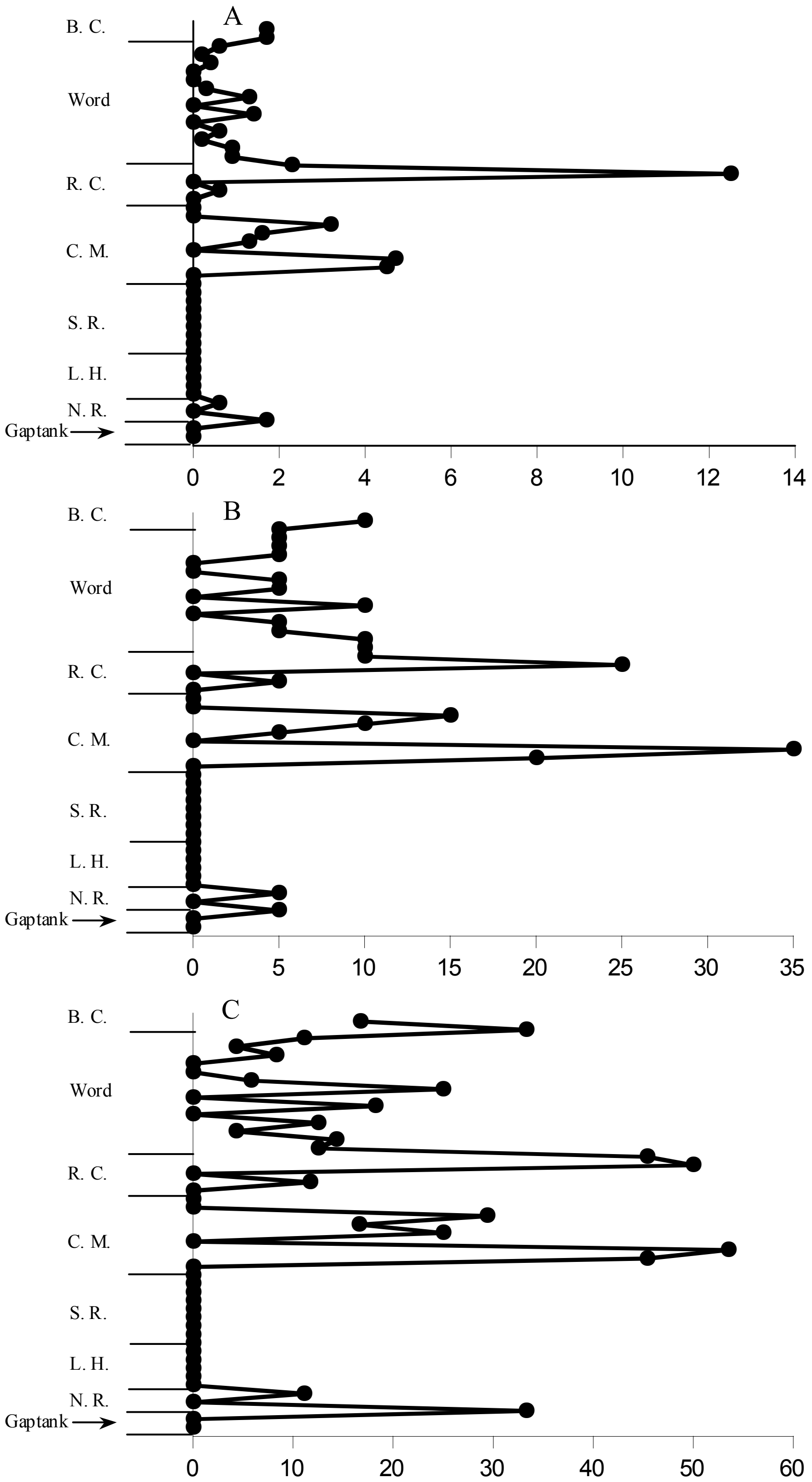

Figure 3.5--Temporal changes in drilling predation intensity as estimated by A. drilling frequency based on all specimens B. highest drilling frequency in a genus C. percent of taxa drilled.

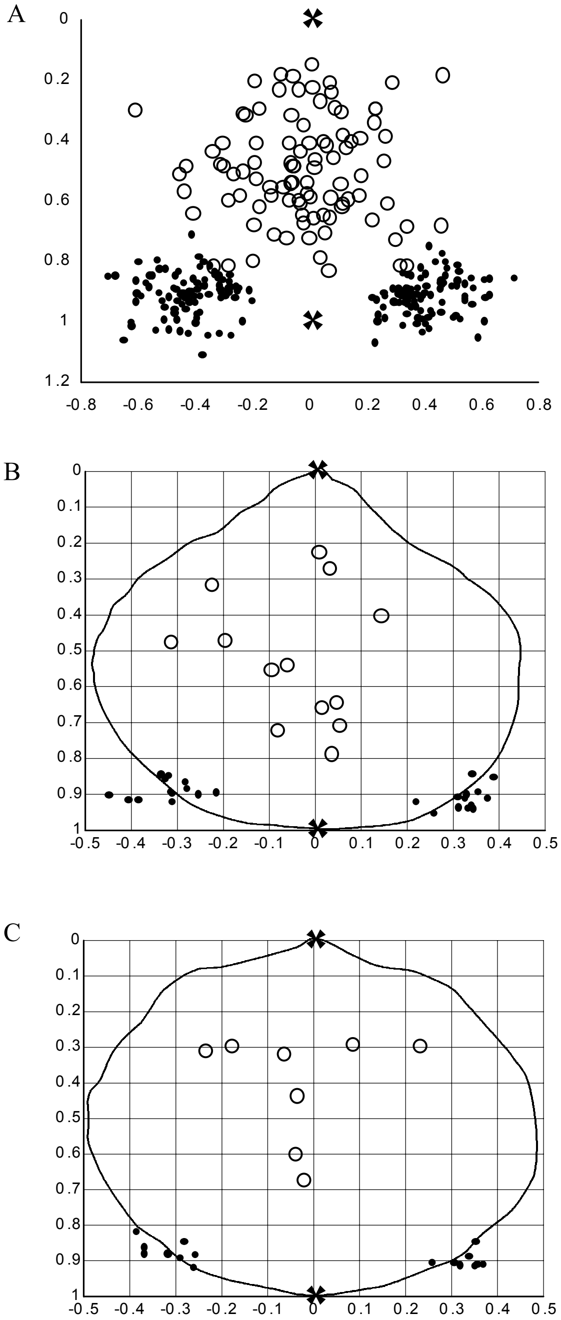

Figure 3.6--Shape coordinates for drilled brachiopods. X indicates the endpoints for the common reference line, filled circles indicate the point of curvature on the commisure and open circles indicate drill hole location. A. all brachiopods. B. for the genus *Composita*. C. for the genus *Martinia*.

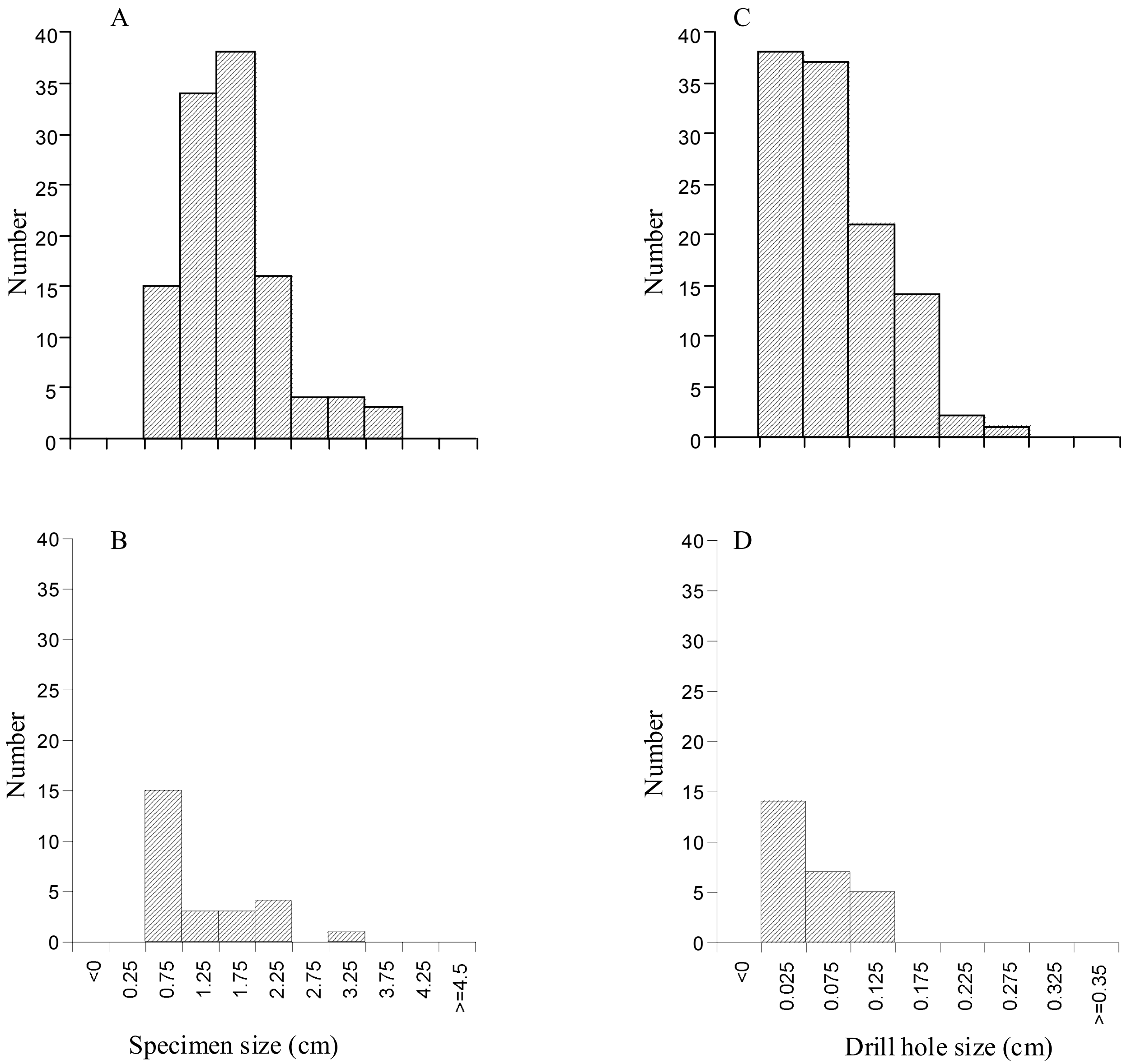

Figure 3.7--Size frequency distributions for drilled prey shells and drill holes for A. drilled brachiopod specimens, B. drilled bivalve mollusk specimens C. drill holes in brachiopods, D. drill holes in bivalve mollusks.

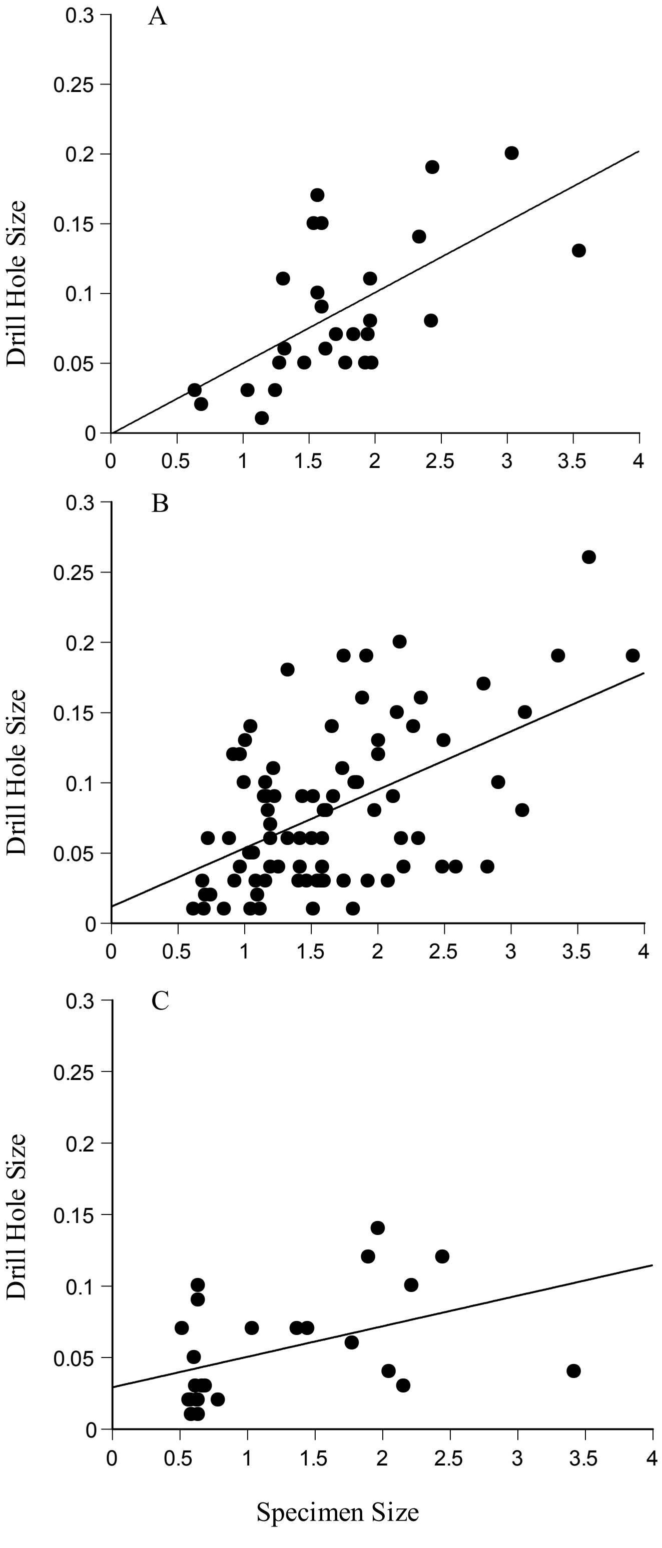

Figure 3.8--Specimen size versus drill hole size plots for A. brachiopods with drill holes in the pedicle valve B. brachiopods with drill hole in the brachial valve C. all bivalve specimens.

Table 3.1-Summary of data and metrics of drilling intensity for brachiopods.

location	formation	number of specimen	number of taxa	drilling intensity	highest genus DI	genus	percent of taxa drilled
728p	Bell Canyon	120	6	1.7	10	Composita	16.7
725f	Bell Canyon	60	3	1.7	5	Hustedia	33.3
714o	Word	180	9	0.6	5	Dyoros	11.1
715i	Word	460	23	0.2	5	Glossothyropsis	4.3
719z	Word	480	24	0.4	5		8.3
727j	Word	360	18	0	NA	NA	0
706d	Word	120	6	0	NA	NA	0
706b	Word	340	17	0.3	5	Megousia	5.8
742b	Word	160	8	1.3	5		25
723t	Word	220	11	1.4	10	Paucispinifera	18.2
724u	Word	160	8	0.6	5	Cyclacantharia	12.5
706e	Word	460	23	0.2	5	Paucispinifera	4.3
706	Word	560	28	0.9	10	Costispinifera	14.3
706c	Word	320	16	0.9	10	Liosotella	12.5
707e	Road Canyon	220	11	2.3	10		45.4
726za	Road Canyon	40	2	12.5	25	Composita	50
719x	Road Canyon	140	7	0	NA	NA	0
702c	Road Canyon	340	17	0.6	5		11.7
726o	Cathedral Mtn	220	11	0	NA	NA	0
724j	Cathedral Mtn	40	2	0	NA	NA	0
702	Cathedral Mtn	340	17	3.2	15		29.4
702un	Cathedral Mtn	240	12	1.6	10		16.6
703b	Cathedral Mtn	80	4	1.3	5	Nudauris	25
702b	Cathedral Mtn	300	15	4.7	35	Martinia	53.5
721u	Cathedral Mtn	220	11	4.5	20	Composita	45.4
723l	Skinner Ranch	40	2	0	NA	NA	0
714y	Skinner Ranch	100	5	0	NA	NA	0
722h	Skinner Ranch	180	9	0	NA	NA	0
733j	Skinner Ranch	120	6	0	NA	NA	0
708e	Skinner Ranch	60	3	0	NA	NA	0
707ha	Skinner Ranch	120	6	0	NA	NA	0
707a	Skinner Ranch	40	2	0	NA	NA	0
705k	Lenox Hills	60	3	0	NA	NA	0
701d	Neal Ranch	180	6	0.6	5	Hustedia	11.1
701	Neal Ranch	120	9	1.7	5		33.3
701q	Gaptank	89	5	0	NA	NA	0

CHAPTER 4: Intense Drilling Predation on the Brachiopod *Cardiarina cordata* Cooper 1956 from the Pennsylvanian of New Mexico

Abstract

Analysis of bulk collected specimens of *Cardiarina cordata* housed in the Smithsonian Institution reveals that 32.7% (n=400 specimens) of these small brachiopods (<2 mm size) display small (<0.2mm), round (often beveled), are predominantly single holes that penetrate one valve of an articulated shell. The observed drilling frequency is comparable with frequencies observed in the Late Mesozoic and Cenozoic. The drilling organism displayed high valve and site selectivity. In addition, prey size may have been an important factor in the selection of prey species that experienced intense drilling. These results suggest that the high drilling frequencies in the Paleozoic may be restricted to small prey with small drill holes. These small holes may record a different guild of predators/parasites than the larger, but less frequent, drill holes previously documented for Paleozoic brachiopods, echinoderms, and mollusks.

Introduction

Intense drilling predation (>20%) is a common phenomenon in Late Mesozoic and Cenozoic molluscan fossil assemblages (e.g. Hoffman and Martinell, 1984; Vermeij, 1987; Kelley and Hansen, 1993, 1996; Hoffmeister and Kowalewski, 2001). However, the drilling frequencies documented to date for Paleozoic assemblages, mainly for brachiopod prey/host, rarely exceed 10%.

Although drilling predation/parasitism on brachiopods has been documented for all periods of the Paleozoic, the reported levels of drilling intensity are very low (typically less than 1%) (Cameron, 1967; Buehler, 1969; Rohr, 1976; Ausich and Gurrola, 1979; Miller and

Sundberd, 1984; Chatterton and Whitehead, 1987; Conway Morris and Bengston, 1994; Kowalewski et al., 1998, 2000; Kaplan and Baumiller, 2000). Only a few studies reported occurrences where the frequency of drilling on brachiopods exceeds 10% (Brunton and Champion, 1974; Smith et al., 1985; Baumiller et al., 1999; Leighton, 2001). This generally low frequency of predation may be related to the energy budget of the predator (low nutrient gain from the prey; see Kitchell et al., 1981), the lifestyle of the predator (drilling may have been facultative), the low relative abundance of the predator, or some form of defense and/or toxicity of brachiopod prey (Thayer, 1985). Whatever the reason, high frequencies of drilling predation (>10%) on brachiopods are rarely observed in the Paleozoic, both for the entire assemblage as well as for individual taxa.

As part of a comprehensive investigation of drilling predation on Paleozoic brachiopods, bulk collected materials housed in museums have been searched for evidence of drilling predation. In particular, we focused on the enormous collections made by the late G. Arthur Cooper, which are housed in the Smithsonian Institution, Washington D.C. These span the entire Paleozoic and provide an excellent starting point for this type of analysis. We present a case study that documents intense drilling predation in the Late Paleozoic, with a drilling frequency comparable to frequencies that, to date, have only been observed in the Cenozoic.

Materials and Methods

Cooper (1956) described three species of small brachiopod from the Magdalena Formation in the Sacramento Mountains, Otero County, New Mexico: *Coledium* (*Stenocisma*) *bowsheri* Cooper 1956, *Oligothyrina alleni* Cooper 1956, and *Cardiarina cordata* Cooper 1956. When describing *C. cordata* Cooper (1956: 529) stated that" ... many of the specimens bear a small round hole located in any part of the exterior except the beak. This small hole suggests a gastropod boring." One of the specimens figured by Cooper (1956: Plate 61, number 1) shows a very prominent hole in the dorsal valve. The hole is circular, perpendicular to the shell and only penetrates one valve. These are all characteristics that typify predatory/parasitic borings. No mention was made of drill holes in the other two species. The only other report of possible drilling predation in a Pennsylvanian brachiopod known to the authors is by Hoare and Atwater (1980) for the brachiopod *Composita* from the Vanport Shale of Ohio. Since there are so few reports of drilling predation from Pennsylvanian strata in the literature, we revisited Cooper's collection to investigate possible evidence for drilling predation of *C. cordata* in detail.

Otero County is located in the south-central section of New Mexico. The site where Cooper (1956) sampled the Magdalena Formation is in the upper part of Grapevine Canyon, in the Sacramento Mountains located within the Lincoln National Forest, east of the city of Alamogordo. The Magdalena Formation is Early Pennsylvanian (Morrowan) in age (Batten, 1995) and extends from New Mexico southward into Texas.

The specimens were recovered from siliceous residues produced by Cooper and his colleagues by acid dissolution of samples collected from a carbonate bed near the top of the Magdalena Formation (see Cooper, 1956 for details on collection locality and preparation methods). All specimens of *C. bowsheri*, *O. alleni* and *C. cordata* from the Magdalena Formation were acquired on loan from the Smithsonian Institution National Museum of Natural History (SINMNH). Each specimen was examined and measured under a Bausch and Lomb binocular microscope with magnification ranging between 10x and 30x. Anterior-posterior measurements were made using millimeter-scale engineering paper. Multiple measurements of a random subset of specimens produced results repeatable to the nearest 0.1 mm. All drilled specimens were digitally imaged using a Nikon Coolpix 990 digital camera attached to a Nikon petrographic microscope with an external fiber optic light source. The vast majority of specimens examined (>90%) are complete, articulated shells. All drilled specimens are articulated. Complete disarticulated valves and shell or valve fragments sufficiently complete to estimate their dimensions were also included in the size analysis.

Following a strategy proposed by Roopnarine and Buessink (1999), landmark methods were used to evaluate site selectivity of drilling. Data were collected for all *C. cordata* specimens with single drill holes (95% of the drilled specimens). X-Y coordinates of the drill hole centroid and four Type II landmarks (i.e., mathematical points whose homology is supported only by geometric evidence; Slice et al., 1996) were digitally acquired. The landmarks include the tip of the beak, the point of maximum invagination between the two lobes, and the point of maximum curvature for each lobe. The landmark data were transformed into shape (Bookstein) coordinates by a process of translation, rotation and reorientation with respect to a common baseline (Bookstein, 1991) in this case, the line between the tip of the beak and the point of maximum invagination between the lobes. This process minimizes variation due to size differences in the specimens. A uniform grid was generated and the shape coordinates of the points of maximum curvature for each lobe were plotted with respect to the common baseline. An outline of *C. cordata* was then placed on the grid using the endpoints of the baseline as anchors. Shape coordinates of the drill holes were also plotted on the grid with respect to the common baseline. By calculating the frequency of drill holes in any grid square (see also Reyment, 1971; Kowalewski et al., 1997; Roopnarine and Buessink, 1999), stereotypy in drill hole location for each valve was assessed. Statistical analyses were performed using Statistical Analysis System version 8. All statistical analyses were performed using a significance criterion of 5% (α=0.05). The analyses were done using SAS codes written by MK and APH.

Results

The data consist of 562 specimens: 73 of *Coledium bowsheri*, 89 of *Oligothyrina alleni*, and 400 of *Cardiarina cordata*. These numbers represent all specimens of *C. bowsheri* and *O. alleni* present in the bulk collections loaned from SINMNH and a sub-sample of 400 specimens of *C. cordata* selected randomly from a total of several thousand specimens.

Compared to *C. cordata*, *C. bowsheri* and *O. alleni* are relatively large. Only one of the 89 specimens of *O. alleni* was drilled and none of the 73 specimens of *C. bowsheri* were drilled (Fig. 4.1, Table 4.1). *C. cordata* ranges in size from 1.0 mm to 2.0 mm and 131 of 400 specimens displayed drill holes (drilling intensity of 32.7%) (Table 4.1). Since neither *C. bowsheri* nor *O. alleni* have more than one drilled specimen, all subsequent quantitative analyses will focus on *C. cordata*.

Drill holes in *C. cordata* are circular, perpendicular to the shell, and penetrate only one valve of articulated specimens (Fig. 4.2). The holes are small, ranging in size from 0.03 mm to 0.19 mm with a mean value of 0.1 mm. Many of the drill holes display slight beveling (see Fig. 4.2H) similar to that seen in drill holes made by naticid gastropods in the Cenozoic (e.g., Kabat, 1990).

There were no occurrences of edge drilling and no repaired drills were observed. Also, there was no evidence for attachment scars seen on the specimens. Specimens that displayed two drill holes were not considered in quantitative analyses as this would require an arbitrary choice of which drill hole should be selected for analysis. Specimens with two drill holes are rare (only ca. 5% of the drilled specimens) and their exclusion does not affect the results in any notable manner.

Of the 131 drilled specimens of *Cardiarina cordata*, 124 possess a single drill hole in either the ventral (pedicle) or dorsal (brachial) valve. Nearly two thirds (65.3%; 81 of 124) of the specimens are drilled ventrally whereas just over one third are drilled dorsally (34.7%; 43 of 124). There is thus a pronounced and statistically significant (Fishers Exact Test, $p<<0.05$) preference for drilling in the ventral valve. On the other hand, size frequency diagrams for specimens of *C. cordata* drilled dorsally and ventrally are statistically indistinguishable in their shape and median size (Fig. 4.3) (Wilcoxon test, $Z= -1.25$, $p=0.22$; Kolmogorov-Smirnov test, $D=0.13$, $p=0.7$).

Seven specimens have two drill holes (5 of the 7 have both drill holes in the ventral valve (e.g. Fig. 4.2F) while 2 have a single drill hole in each valve). No specimens with two drill holes in the dorsal valve were observed. Neither of the two specimens that possess drill holes in both valves have the drill holes directly opposite each other, indicating that each drill hole was the result of an independent drilling event.

Specimen size was plotted against drill hole size for all drilled specimens (Fig. 4.4). Spearman rank correlation shows that there is no significant positive correlation between the two variables ($r = 0.13$) and visual inspection of the plot does not suggest any, even weak, association between drill hole diameter and specimen size.

There is definite selectivity in the site of the drill holes in *C. cordata*. As noted by Cooper (1956), drill holes in *C. cordata* occur in any part of the shell except the beak. This is also true for our data: most of the holes are located centrally, although a few are located along the shell margins. Visual inspection of drill hole location in *C. cordata* specimens appears to show that drill holes in the ventral valve are more widely distributed than drill holes in the dorsal valve (Fig. 4.5 A-B). However, Hotelling's T^2 test, on the samples of shape (Bookstein) coordinates (see Dryden and Marda, 1998) for dorsal versus ventral holes, does not indicate any significant difference in the preferred position of holes (F=1.94, p=0.15) (note also that there are nearly twice as many holes drilled ventrally which may account for the wider range of hole location observed for ventral valves).

Using a uniform grid a sector-frequency distribution of drill holes in each valve was acquired (Fig. 4.5 C-D). These distributions were compared against Poisson distributions to calculate expected chi^2- and G-values (see also Reyment, 1971). Monte Carlo simulations with 10,000 iterations were run to determine if the observed values could be derived from a random Poisson-distributed population (see Kowalewski *et al*., 1997 for procedural details). The simulation produced highly significant results (ventral valve $p(chi^2)=0.0001$, $p(G)=0.0001$; dorsal valve $p(chi^2)=0.0002$, $p(G)=0.0001$), indicating that the drill holes in *C. cordata* are highly non-random in their location (Fig. 4.6).

Discussion

The results indicate the presence of a predatory organism in the Early Pennsylvanian that showed highly selective behavior in choosing prey species and the site its the attack. The drilling intensity observed (32.7%) is among the highest reported for any Paleozoic brachiopod taxon and is comparable to Cenozoic levels of predation (e.g., Kelley and Hansen, 1993; Kowalewski et al., 1998; Hoffmeister and Kowalewski, 2001). This suggests that predation pressure on Paleozoic benthic taxa was locally high even though the overall pattern is one of low predation intensity.

Drill holes observed in *C. cordata* are similar in size to Type A drill holes described by Ausich and Gurrola (1979; see also Leighton, 2001); however, unlike Type A drill holes, these holes are beveled. This is in contrast to relatively larger, but much less frequent, drill holes (Type B of Ausich and Gurrola, 1979) documented for larger Paleozoic brachiopods, echinoderms, and mollusks. Unlike in the case of Type A drill holes reported by Ausich and Gurrola (1979), there is considerable evidence to indicate that the holes documented here are predatory, not parasitic. First, there is a nearly 100% success rate for all drilled specimens observed; that is, unfinished/incomplete holes and repaired holes are absent and only a few specimens have more than one hole. Note that our report of multiple drill holes in *C. cordata* is unique in that there is no other mention of multiple drill holes in the taxonomic literature of cardiarinids (see below). This may simply be a sampling effect since most of the described species are represented by fewer than 100 specimens. Second, no attachment scars were observed, although the process of silicification may have altered or destroyed any evidence of scarring. Finally, the drill holes (see Fig. 4.5) are generally located in an area that should offer good access to the soft tissue of the animal (see also below).

There is remarkable selectivity by the predator for a single species of small brachiopod from the Magdalena Formation. While two of the three described species are drilled, only *C. cordata* is drilled intensely. The prey species selection may be controlled by specimen size. The smallest species described by Cooper (1956) has the highest drilling intensity while the other, larger species have lower drilling intensities (see Table 1). If this is the case, the critical size threshold for the predator is very narrow. Grant (1988) described a second cardiarinid brachiopod, *Minysphenia conopia*, from the same residues that produced *C. cordata*, *O. alleni*, and *C. bowsheri*. This species is smaller than *C. cordata* (average size ca. 1 mm) and is drilled, but at a much lower intensity (3 out of 200 or 1.5%; Grant 1988, p.125). *Oligothyrina alleni* has an average anterior-posterior length of 4.2 mm and has similar drilling intensity to *M. conopia*.

We note that a similar pattern is seen from a survey of the taxonomic literature for the Family Cardiarinidae. Nine species have been described to date six were reported as having drill holes. These species are *C. cordata*, *Lambdarina manifoldensis* Brunton and Champion 1974, *Minysphenia conopia* Grant 1988, *L. glaphyra* Bassett and Bryant 1993, *L. brownendensis* Morris 1994 and *Hampsia cooperi* Morris 1994. *L. granti* Nazer 1983 is not reported as being drilled, but one of the figured specimens (Nazer, 1983: Fig. 1C) appears to have a drill hole. All reported drill holes are similar in size and shape to those seen in *C. cordata*. Drill hole location generally is not restricted to one part of the shell, but Brunton and Champion (1974) report most of the drill holes on *L. manifoldensis* to be near the midline of the shell. *Lambdarina manifoldensis*, the only other cardiarinid species for which quantitative drilling data are available, is somewhat larger than *C. cordata*. While rigorous size data are not available for *L. manifoldensis*, Brunton and Champion (1974, p. 820) state that the maximum length for this species is 2.5 mm. Morris (1994) provides measurements of four specimens of *L. brownendensis* (average anterior-posterior length of 2.5 mm) and states that *L. brownendensis* is of comparable size to *L. manifoldensis*. Again, in this slightly larger species a lower drilling intensity is observed (7 out of 54 specimens or 12.9%; Brunton and Champion 1974) than that seen in *C. cordata* (Fig. 4.7). Of additional interest are drilled juvenile forms of two species, *L. brownendensis* and *L. glaphyra* (Morris, 1994; Bassett and Bryant, 1993). Notably the highest drilling frequencies ever reported for Paleozoic brachiopods are confined to small taxa (Leighton, 2001; this study). These high drilling frequencies may be associated with Paleozoic predators that drill small holes and preferentially attack small prey species.

The preference for drilling the ventral valve is striking. Ventral valves are drilled with almost twice the frequency in *C. cordata*. This preference is also seen in other cardiarinid brachiopods. Brunton and Champion (1974) report that only 1 of the 7 drill holes (14.3%) in *L. manifoldensis* was in the dorsal valve. Although there are many fewer specimens, this is comparable to the preference seen in *C. cordata* where about one third of the drill holes are seen in the dorsal valve. Paleoecologic information for cardiarinid brachiopods is limited. Brunton and Champion (1974) suggested that *L. manifoldensis* lived in clusters attached either to a hard substrate or to other plants or animals, but Grant (1988) presented evidence from living brachiopods that showed that living on a soft substrate cannot be dismissed for these small brachiopods. All species in the Family Cardiarinidae appear to have a functional pedicle, which suggests that none of the species lived infaunally. Given the uncertain ecology of cardiarinid brachiopods and the unknown identity of the predator, the observed valve preference is hard to interpret. While this preference may simply be due to the larger size of the ventral valve as a platform to drill in, it may be related to the location of the adjustor and diductor muscles in the brachiopod or it may reflect behavioral aspects of the predator(s).

There is also remarkable stereotypy in the site of drill holes in *C. cordata*. Although drill holes can occur anywhere on the shell except the beak, most of the holes are located near the midline of the shell on both valves. A similar pattern was noticed by Brunton and Champion (1974) for *L. manifoldensis* but no quantitative analyses were done for that species. There are compelling reasons for placing a drill hole in the midsection of the valve, especially if the intent of the attack is lethal predation, not parasitism. Placing a drill hole near the middle of the valve provides access to the muscle field, as well as the soft tissue of the victim. If, on the other hand, the intent of the attack was to parasitise the host, then the best location for the drill hole would be near the edge of the valve along the inhalant current.

Summary

Specimens of *Cardiarina cordata* from the Pennsylvanian of New Mexico display evidence of intense predatory drilling. The drill holes show high levels of stereotypy in location, both with respect to valve selection and drill hole location on the valve. There is also extreme selection for prey species, but this selectivity may be size related: species that are slightly larger or slightly smaller than *C. cordata* are attacked far less frequently. These results are similar to those of Leighton (2001) and suggest that two types of predators may have existed in the Late Paleozoic with small prey species experiencing high frequencies of predation and larger prey species experiencing lower frequencies of predation.

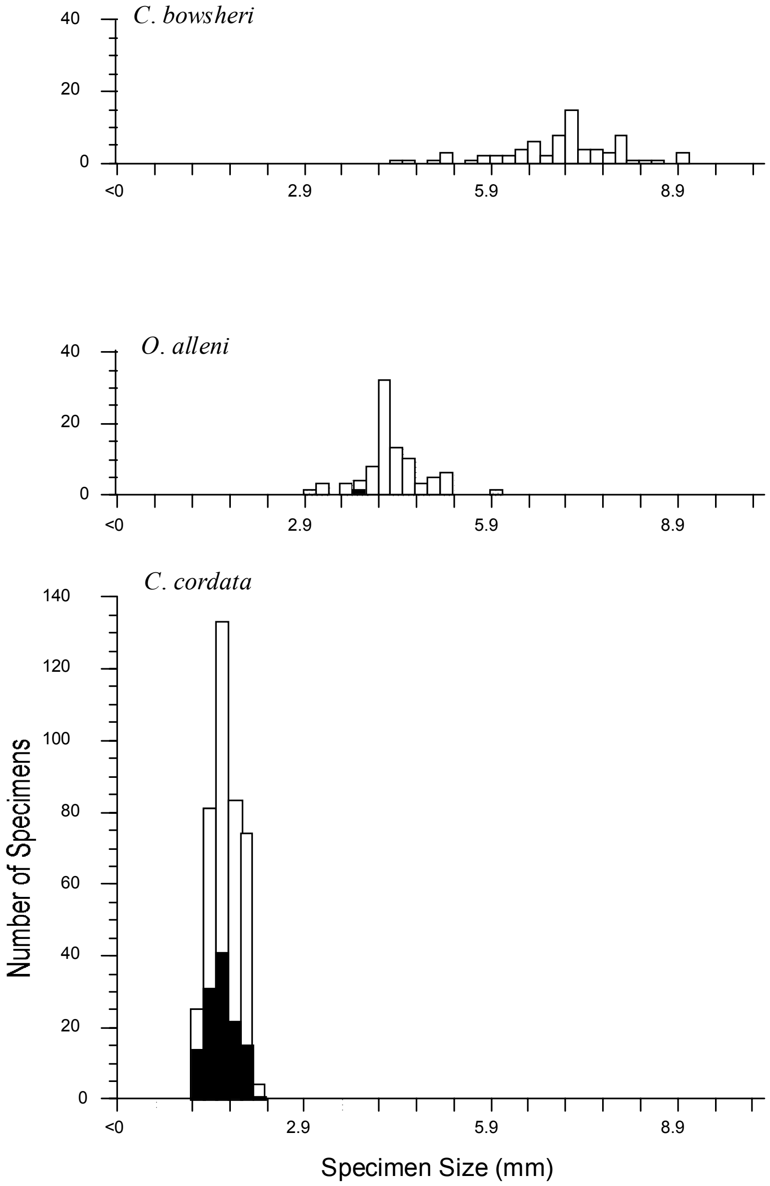

Figure 4.1--Size distributions for the three species described by Cooper (1956). A. *Coledium bowsheri*. B. *Oligothyrina alleni*. C. *Cardiarina cordata*. Filled sections of the bars indicate drilled specimens, open sections indicate specimens without drill holes. A. Ventral valve. B. Dorsal valve.

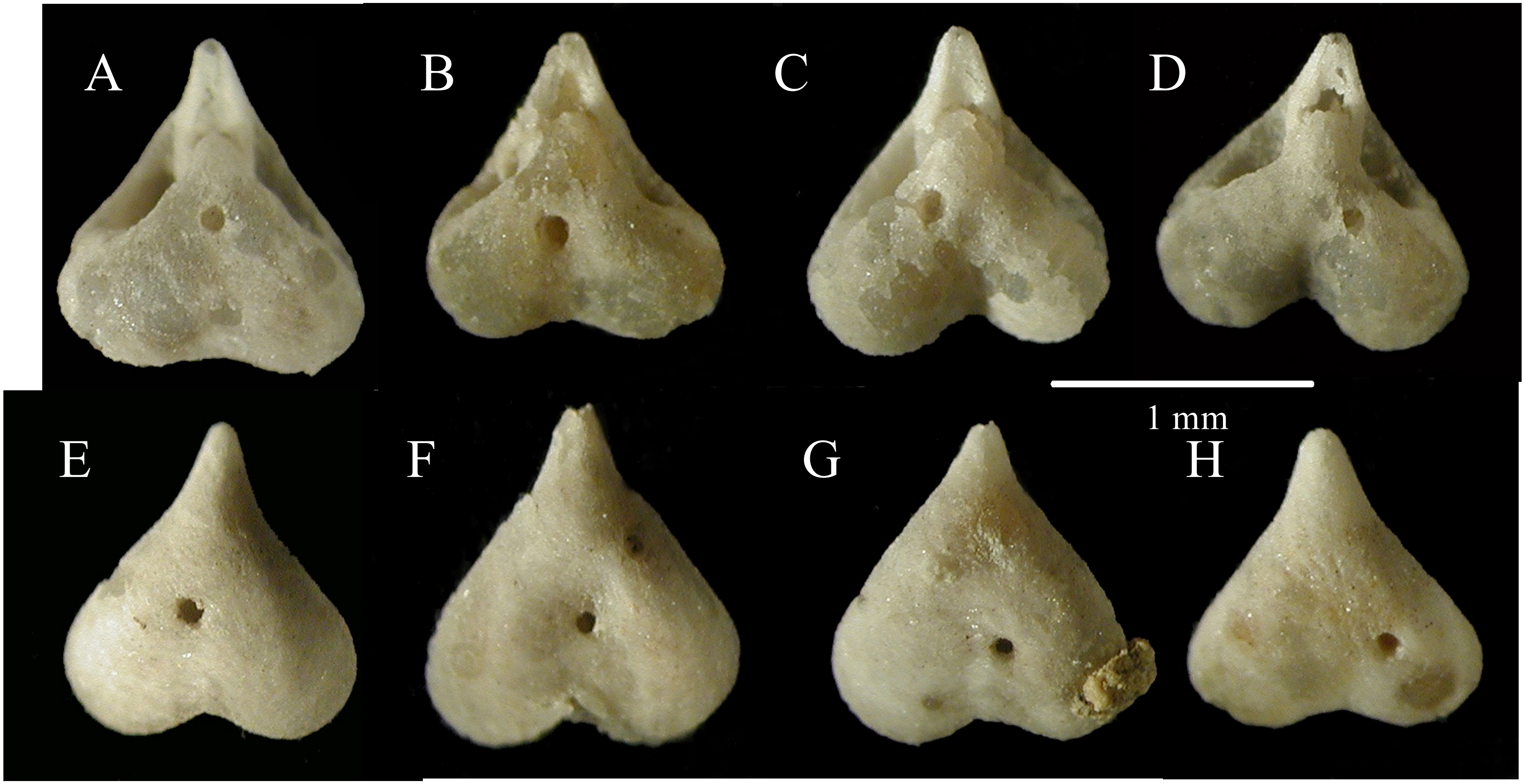

Figure 4.2--Drilled specimens of *Cardiarina cordata*. A (USNM 519300), B (USNM 519301), C (USNM 519302), D (USNM 519303) display drill holes in dorsal valve. E (USNM 519304), F (USNM 519305), G (USNM 519306), H (USNM 519307) display drill holes in ventral valve. Photographs by A.P. Hoffmeister.

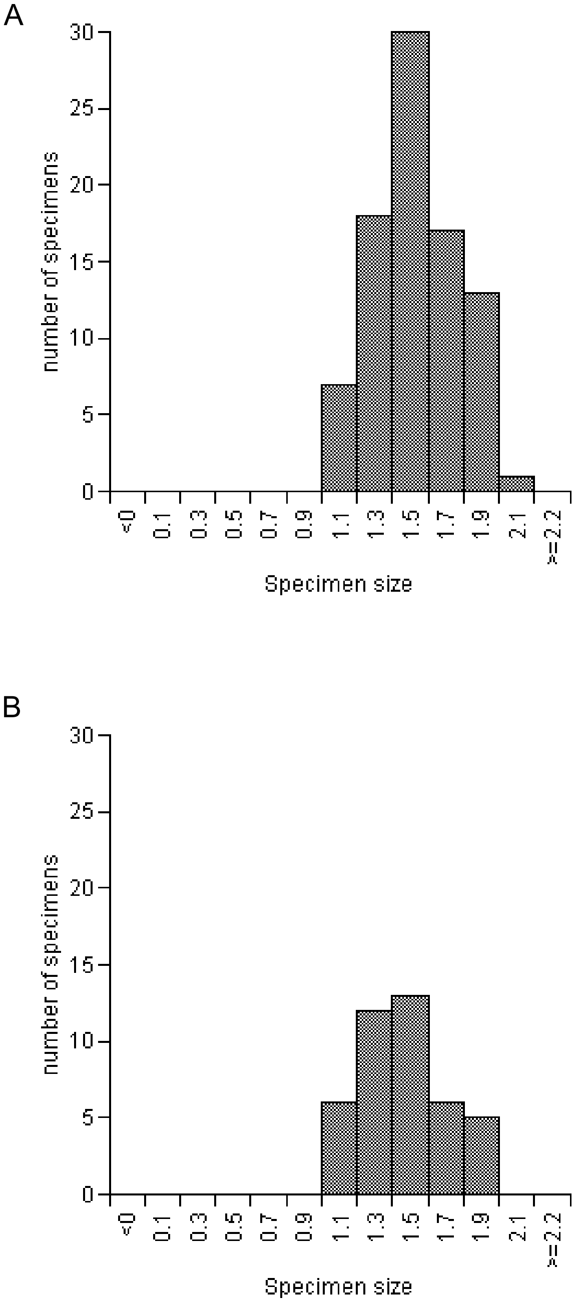

Figure 4.3--Size frequency diagrams for specimens (in mm) with a single drill hole. A. Specimens with drill hole in the ventral valve. B. Specimens with drill hole in the dorsal valve.

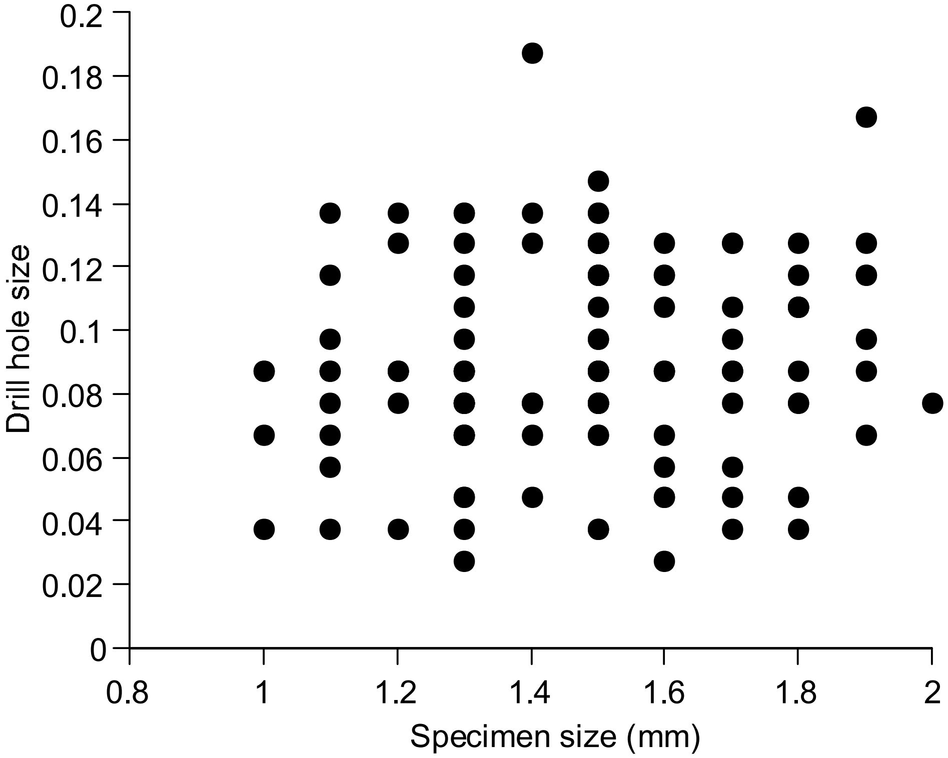

Figure 4.4--Plot of drill hole size versus specimen size.

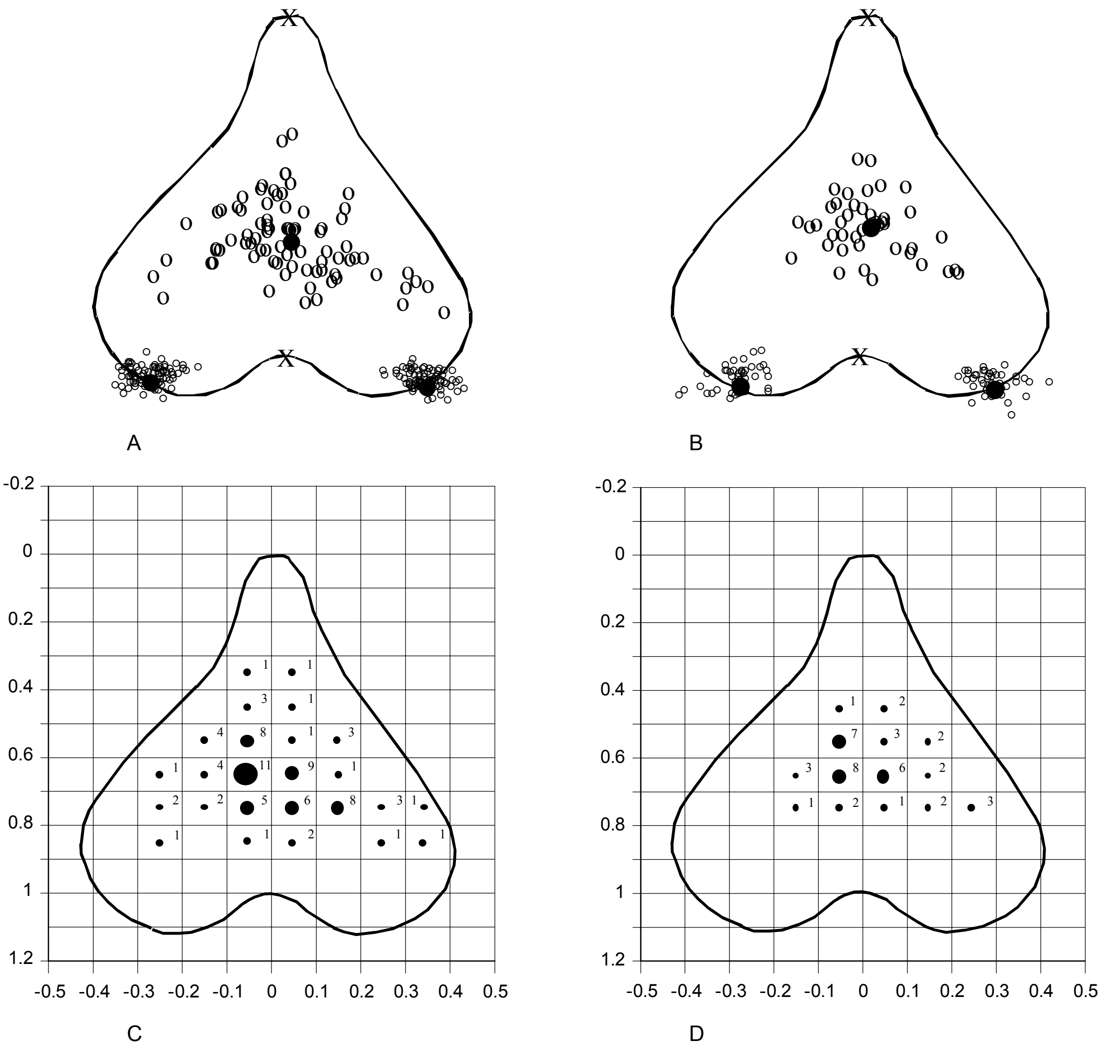

Figure 4.5--A-B. Plot of shape (Bookstein) coordinates of drill holes in ventral (A) and dorsal (B) valve. Endpoints of a standard reference baseline are indicated by X's. Type II landmarks for points of maximum curvature for each lobe are indicated by small open circles, drill holes are indicated by large open circles. Average values for points of maximum curvature and drill hole location are indicated by filled circles. C-D. Sector frequency distribution of drill holes with respect to a uniform grid for ventral (C) and dorsal (D) valve. Size of the circle indicates number of occurrences in each sector, 1 to 5 small circle, 5 to 10 medium circle and more than 10 large circle. Number of occurrences are listed in an upper corner of each sector.

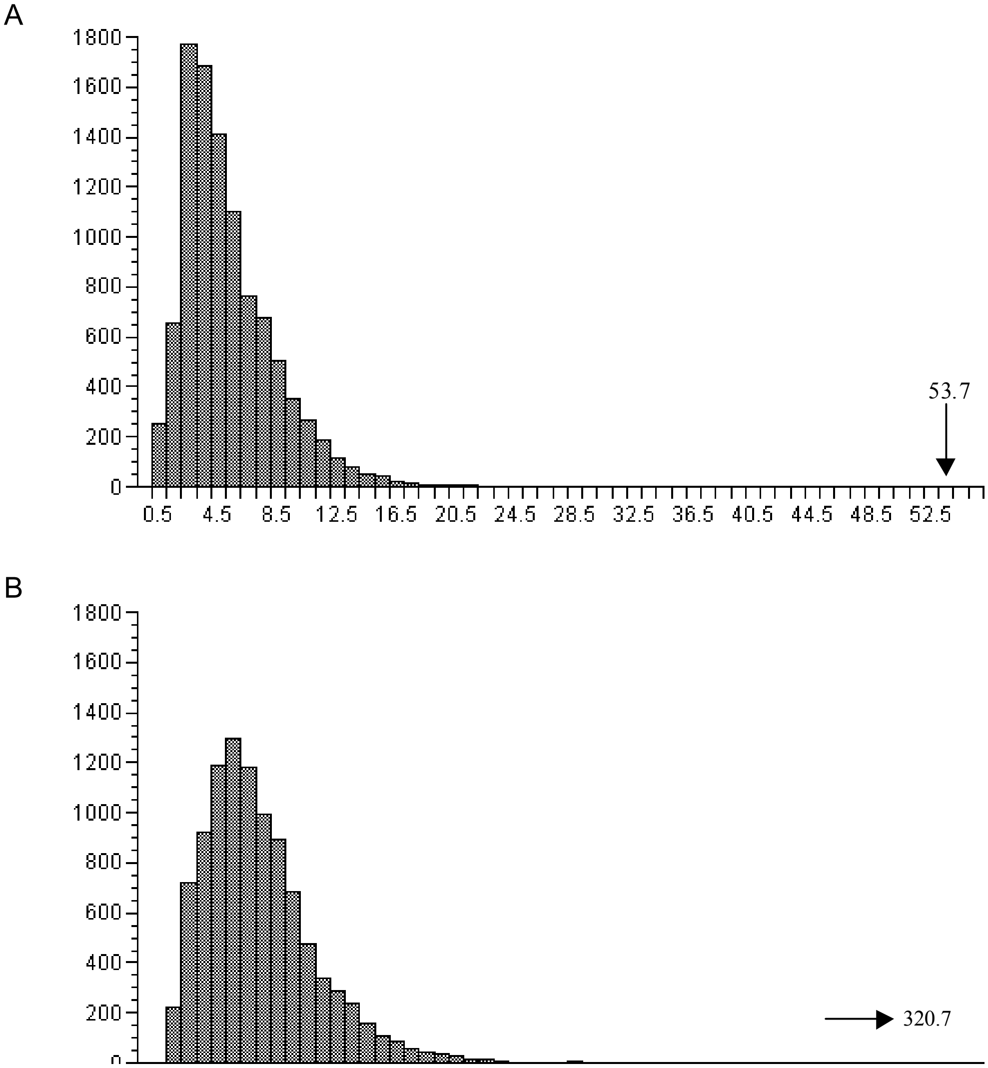

Figure 4.6--Distribution of G-values from Monte Carlo simulations of Poisson models for dorsal and ventral distribution of drill holes (10000 iterations each). A. Ventral valve. B. Dorsal valve. Arrows indicate the actual G-values computed from the distributions of drill holes as shown in Fig. 4C and 4D, respectively.

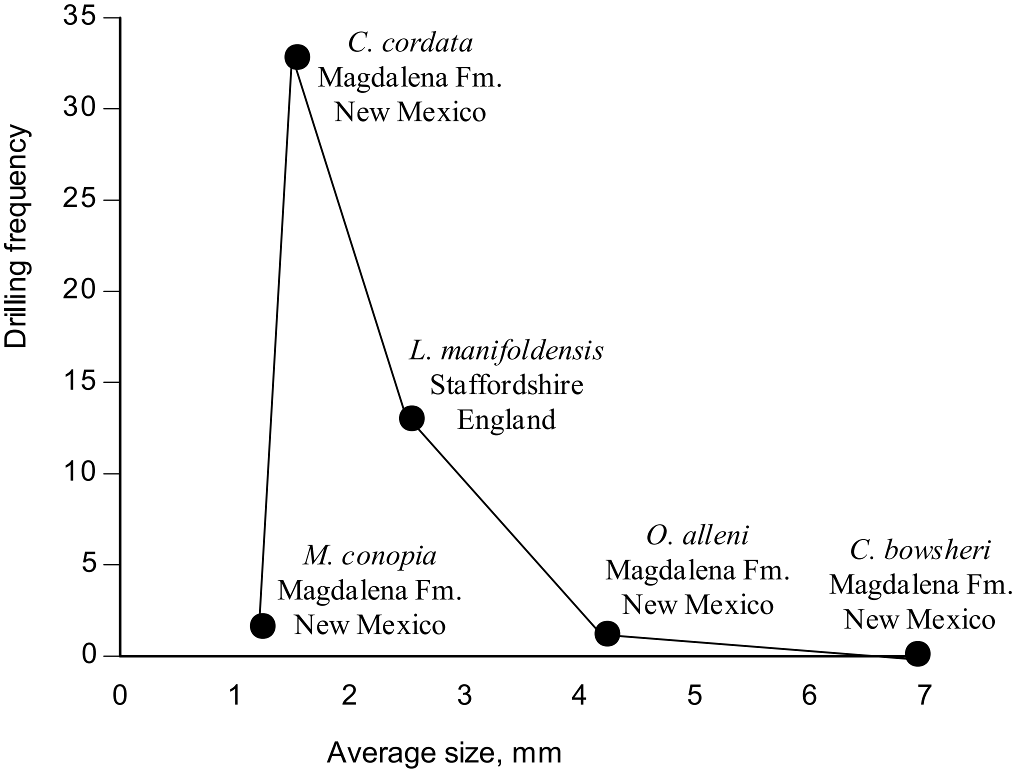

Figure 4.7--Comparison of drilling frequency for the four described species from the Magdalena Formation and the Mississippian cardiarinid *L. manifoldensis* from England. Average size corresponds to data from Table 1 for *C. cordata*, *O. alleni* and *C. bowsheri*. Average size for *M. conopia* is from Grant 1988, average size for *L. manifoldensis* is from Brunton and Champion 1974.

Table 4.1. Data summary

Species	No. of specimens	No. of specimens drilled	Largest specimen	Smallest specimen	Average size	Largest drilled specimen	Smallest drilled specimen	Average drilled specimen
C.bowsheri	73	0	8.8	4.2	6.9	N/A	N/A	N/A
O.alleni	89	1	5.8	2.9	4.2	3.8	3.8	3.8
C.cordata	400	131	2.0	1.0	1.5	2.0	1.0	1.5

CHAPTER 5: The History of Drilling Predation on the Genus *Composita*: A test of Escalation through time

Abstract

Changes in drilling patterns through time offer one of the best records of long-term biotic interactions and can provide rigorous ways of evaluating the hypothesis of escalation of predator-prey systems. One way to test for escalation is to look at one specific lower taxon throughout its geologic range.

We examined all specimens of the brachiopod genus *Composita* (geologic range Late Devonian through Permian) in the biologic collection of the Smithsonian Institution (n=20,566) for evidence of drilling predation. Brachiopods were chosen because of their low mobility (i.e., cryptic prey escalation via increased mobility can be safely ruled out in this case). *Composita* has a smooth shell that shows no outward signs of classic morphologic escalation (spines, ridges, etc.). There is no change in the shell morphology or body size of *Composita* through its geologic range. Our data show that *Composita* was subject to drilling predation, but at extremely low levels. Overall drilling intensity per geological period ranges from a low of 0.55% in the Pennsylvanian to a high of 0.71% in the Mississippian. However, at some localities the drilling intensity is as high as 10%.

The following explanations can be proposed for the absence of change in the morphology and size of *Composita*: (1) predation rates were too low to result in the escalation of prey morphology; (2) holes were made by parasites and negative effects for host were insufficient to force an evolutionary response; and (3) other factors than predation or parasitism were more important in controlling the morphological evolution of *Composita*. On the other hand, the continuous presence of drill holes in *Composita*

through its entire range suggests that the drilling behavior was a highly successful strategy for some predators/parasites of *Composita*.

Introduction

Temporal patterns in the fossil record of drilling predation provide ideal empirical data to test Vermeij's (1987) hypothesis of escalation. To date, however, studies of this nature have mostly been done on mollusks from Late Mesozoic and Cenozoic deposits (e.g., Kelley and Hansen, 1993, 1996; Kelley et al., 2001). The fact that most of the research on drilling predation has focused on Late Mesozoic and Cenozoic mollusks is not surprising considering that the record of drilling predation is most common in these organisms and during this time interval. However, there may be a problem in using mollusks to test for escalation. Traditionally, the level of escalation displayed by a given species has been estimated from shell morphology; increasing thickness and ornamentation in shells is considered to be indicative of increasing levels of escalation while thin and/or smooth shells are considered to be non-escalated. The problem with using these criteria to determine the level of escalation is that some species may not manifest their response to predation in shell morphology, but instead may respond to predation pressures by increasing their mobility by increasing their metabolic rates or by increasing toxicity. Indeed, Dietl et al. (2002) presented evidence for how misclassification of just one species significantly affected the results of a test of escalation. However, metabolic rate, toxicity, and degree of mobility are not readily deduced from the fossil record and, therefore, potentially mobile prey with variable metabolism (e.g., mollusks) offer ambiguous data for testing the escalation model. What then to do?

Drilling predation is not limited to molluscan prey or to Late Mesozoic and Cenozoic strata. Drill holes in brachiopods have been recognized for many years (e.g., Cameron, 1967; Buehler, 1969; Rohr, 1976; Ausich and Gurrola, 1979; Miller and Sundberd, 1984; Chatterton and Whitehead, 1987; Conway Morris and Bengston, 1994; Kowalewski et al., 1998, 2000; Kaplan and Baumiller, 2000). Recent evidence for the influence of morphology on predatory success (Leighton, 2001) and latitudinal gradients in predation (Leighton, 1999; Dietl and Kelley, 2001) on brachiopods suggest that escalation processes postulated for molluscan prey in the Cenozoic may have also been affecting Paleozoic brachiopods. All modern brachiopods have low metabolic rates (Rosenberg et al., 1988), and articulate brachiopods are sessile (Rudwick, 1970). Paleozoic brachiopods, therefore, provide an opportunity to investigate a predator-prey system where cryptic and non-preservable factors such as metabolism and mobility can be reliably ruled out as a problem. However, the effect of impalatability or toxicity, as suggested by Thayer (1985), cannot be ruled out.

Materials and Methods

The biologic collection of brachiopods housed in the Smithsonian Institution National Museum of Natural History is the basis for this study. The biologic collection is arranged by class, order, and genus, then stored by age, facilitating the type of analysis performed here. The specimens in the collection come from most of the continents (North America, South America, Europe, and Asia) although the bulk of the collection is from North America. Species designation is done for only a small percentage of the specimens. For this reason all analyses are done at the genus level.

Composita is a common and easily collected Late Paleozoic brachiopod. The geologic range of *Composita* is Late Devonian to Permian (ca. 100 million years), more than adequate for evolutionary changes driven by escalation to show up. Although known to be subject to drilling predation (Ausich and Gurrola, 1979; Hoare and Atwater, 1980; Hoffmeister et al., in prep) there is no evident change in the shell morphology of *Composita* through time. This, therefore, presents an ideal opportunity to test the hypothesis of escalation in the Paleozoic.

Each individual *Composita* specimen was examined for evidence of predation (drilling and durophagous [shell crushing] marks). Specimens that were on slab or still encased in matrix are not included in this study because both valves could not be examined. All specimens that displayed evidence of predation were removed from the main collections and stored separately for further study.

Every twentieth specimen encountered in each drawer was measured (anterior-posterior length and maximum width) with a digital caliper. This provides a random sample of specimen measurements acquired in a manner that approximates bulk collection techniques and provides statistically reliable data on the size of *Composita* for each period.

All specimens that displayed evidence of predation were imaged on a scaled black background using a Sony Mavica FD-90 digital camera. SCION NIH software was used to measure the anterior-posterior length, maximum width, and drill hole diameter of all imaged specimens.

The use of landmark techniques in assessing stereotypy in drill hole location has proven to be effective (see Roopnarine and Buessink, 1999; Hoffmeister et al., in prep, Hoffmeister et al., submitted for detailed discussion on this method). For this study, four Type II landmarks, the tip of the beak, the point on the commisure directly opposite the beak, and the points of maximum curvature along the commisure were acquired for all drilled specimens, along with the center of the drill hole. Landmark data were converted to shape coordinates and plotted with respect to a common baseline with the two endpoints defined by the tip of the beak and the point along the commisure directly opposite the beak. All results regarding position and trends of landmark data are reported with the brachiopod outline oriented with the pedicle opening pointing to the top of the page.

Results

The morphology of *Composita* is remarkably stable throughout its geologic range. The shape of specimens remains essentially unchanged throughout its geologic range, shell thickness shows no indication of change through time, size does not show any notable trend and no ornamentation (ribs, spines, etc.) develop.

The biologic collection at the Smithsonian Institution contains 20,566 individual *Composita* specimens, 1,015 from the Late Devonian, 6,616 from the Mississippian, 11,485 from the Pennsylvanian, and 1,450 from the Permian. Of the 20,566 specimens 126 display definite drill holes (overall drilling intensity of 0.61%). By period, the drilling intensities are as follows: Late Devonian 0.59% (6 of 1,015 drilled), Mississippian 0.71% (47 of 6,616 drilled), Pennsylvanian 0.55% (63 of 11,485 drilled), and Permian 0.69% (10 of 1,450 drilled). In addition to the definite drill holes, 46 specimens display questionable drill holes (overall drilling intensity 0.84%): 5 from the late Devonian (drilling intensity 1.08%), 18 from the Mississippian (drilling intensity

0.98%), 20 from the Pennsylvanian (drilling intensity 0.72%), and 3 from the Permian (drilling intensity of 0.9%).

There was limited evidence of durophagous predation. Four specimens from the Mississippian Pella Formation in Iowa displayed two areas, symmetrically arranged about the midline of the shell at the anterior end, that were crushed. These crushed areas may represent attacks by small placoderm fish that were ultimately unsuccessful.

Measuring every twentieth specimen from each drawer produced a total of 1,007 measured specimens. Size frequency diagrams derived from these measurements show remarkable similarity (Figure 5.1 A-D). The mode of each distribution by period remains consistent even though the overall shape of the distribution changes somewhat from period to period. This pattern (or lack thereof) is not so clear in the size frequency distributions of drilled specimens (Figure 5.1 E-H), although the modes for these distributions are in the same range as those for the random set. The shapes of the distributions are clearly effected by sample size. Since there are more specimens from the Mississippian and Pennsylvanian than from the Late Devonian and Permian, there is less heterogeneity in these plots.

Frequency distributions of drill hole diameter is left skewed for all periods, although the Mississippian distribution is closer to symmetrical than any of the others (Figure 5.2). Drill holes range in size from 0.2 mm to 2.0 mm in diameter. This size range encompasses both Type A and Type B drill holes as described by Ausich and Gurrola (1979), but none of the drill holes observed displayed the countersunk nature associated with Type B drill holes and, therefore, all drill holes are considered to be Type A.

There does not appear to be a preferred valve when all the data are pooled, but there may be some selectivity at the period level (Figure 5.3). There is a clear preference for the ventral (pedicle) valve in the Late Devonian and Mississippian while the dorsal (brachial) valve is slightly preferred in the Pennsylvanian. There are equal numbers of drilled brachial and pedicle valves in Permian specimens. The results for Late Devonian and Permian may be effected by the small number of drilled specimens.

There is no evident relationship between the size of the specimens and the size of the drill hole (Figure 5.4). In fact, the largest r^2 value for any of the periods is 0.06. The stability in the size frequency diagrams for specimens (Figure 5.1) and drill holes (Figure 5.2) does not necessarily imply that the relationship between he two will remain constant. Indeed, the slope of the regression line does change, especially for Permian specimens (see Figure 5.4D), however the variation that exists throughout the range of *Composita* does not seem to have an effect on the relationship between specimen size and drill hole diameter.

There is no apparent stereotypy in the placement of drill holes on *Composita* when all data are included (Figure 5.5). Drill holes in both the brachial valve (Figure 5.5 B, C) and pedicle valve (Figure 5.5 G, H) are distributed across the shell for Mississippian and Pennsylvanian specimens. The number of drill holes on the brachial valve from the Late Devonian and Permian are too few to reliably infer any trend in preference for brachial (Figure 5.5 A, D) or pedicle (Figure 5.5 F, I) valves. The mean location for drill holes on the brachial valve appears to migrate from the left side of the shell during the Late Devonian to the center of the shell in the Mississippian and Pennsylvanian and on to the right of the shell during the Permian (Figure 5.5 E). The mean location for drill holes on the pedicle valve remains in the center of the shell for Late Devonian, Mississippian and Pennsylvanian specimens but then seems to migrate to the right side of the shell in Permian samples (Figure 5.5 J). The mean location of the points of maximum curvature along the commisure does not show a similar pattern for either valve, in fact these points move very little. This suggests that this movement is related to the change in the distribution of holes and not to morphologic change through time or error in the collection of the landmark points.

Discussion

The data show that *Composita* was subject to drilling predation throughout its geologic range, albeit at generally very low rates. This minimal level of predation might not have been high enough to force a change in the morphology of *Composita*. This low rate of predation is not, however, universal. Some localities produced drilling intensities of nearly 10% (17 of 175 specimens drilled) (Figure 5.6). While there is more variation in the intensity of drilling predation when observed at time scales finer than the period level, there is still no evident trend in the intensity of drilling predation (Figure 5.7). There is also no evident trend or preference for lithology (Figures 5.8, 5.9)

This magnitude of spatial heterogeneity in predation intensity has also been noted for Cenozoic mollusks (Hoffmeister and Kowalewski, 2001). Since expecting that predation would occur at a constant rate in all localities and environments is unreasonable, this is not an unexpected observation. Why no morphological change is evident at localities where drilling intensity is highest is unclear. Factors other than predation were possibly more important to the genus, and the relatively high rate of 10%, or even 16%, might have been an acceptable loss to the population. The drill holes observed may result from parasitism instead of lethal predation. If this is the case, the negative effects on the host might have been insufficient to elicit an evolutionary response to negate the parasitism. Other factors could have been of greater importance than predation (lethal or non-lethal) that controlled the morphologic evolution (or lack of evolution) in *Composita*.

The drilling intensities observed in this study are markedly lower than those reported by Ausich and Gurrola (1979). They report an 18.2% drilling intensity (45 drilled specimens out of 247) in *Composita globosa* from the Mississippian Edwardsville Formation. Ausich and Gurrola (1979) report both Type A (60%) and Type B (40%) drill holes in their specimens (see their Table 1) while our data apparently contain only Type A drill holes. Drilling intensity in *Composita* is also higher, on average, in the Permian of West Texas (5%, 14 of 280 specimens drilled, Hoffmeister et al., in prep). It may be that these two reports merely represent the rare, higher end of the spectrum of drilling in *Composita*. It seems unlikely that the drilling intensity for the genus would be in the 5-20% range when so many specimens examined from such a wide range of localities produced such consistently low values.

The apparent stasis in the size of *Composita* probably reflects the fact that optimum size had been achieved. Our observation that there is no apparent size selectivity by the predator is of more interest. If the size of prey did not matter, then the chance of being the victim of attack becomes purely random. Hoffmeister et al. (in prep) demonstrated that bivalve mollusks were attacked at far higher rates than brachiopods in the Permian of West Texas. Given that, compared to shells of bivalve mollusks, brachiopod shells are fairly thin. A predator could perhaps attack a brachiopod when necessary and acquire at least enough energy to continue the search for the less common bivalves (either a break even cost-benefit value or perhaps a very slight return would probably be enough). This is pure speculation, however. Detailed investigations of Paleozoic bivalve mollusk fossils, especially from the later Paleozoic, needs to be done to see if the pattern reported by Hoffmeister et al. (in prep) actually holds true.

The lack of any relationship between the size of the specimen and the size of the drill hole may further suggest that the predator was not actively choosing *Composita* as a primary prey species. Any understanding of this relationship is difficult without some knowledge of the identity of the predator(s). However, the fact that the size of the drill holes remained relatively consistent through time suggests that there is only one predator responsible for the drill holes observed in *Composita*.

There is also the possibility that intent of the attack was not lethal predation, but parasitism. The drill holes are not beveled, a common indication of predatory drill holes (Ausich and Gurrola, 1979). But there is no evidence for attachment onto the shells of these brachiopods, although the silicification process may have obliterated any such scars.

The overall pattern seen in the *Composita* predator-prey system is one of stability. The size, shape and apparent thickness of the prey, the size and shape of drill hole, and the relationship of specimen size to drill hole diameter does not change through time. This implies that there is one clade of predator attacking *Composita* with a stable, but very low, frequency of attack, which is quite different from what is seen in the Cenozoic.

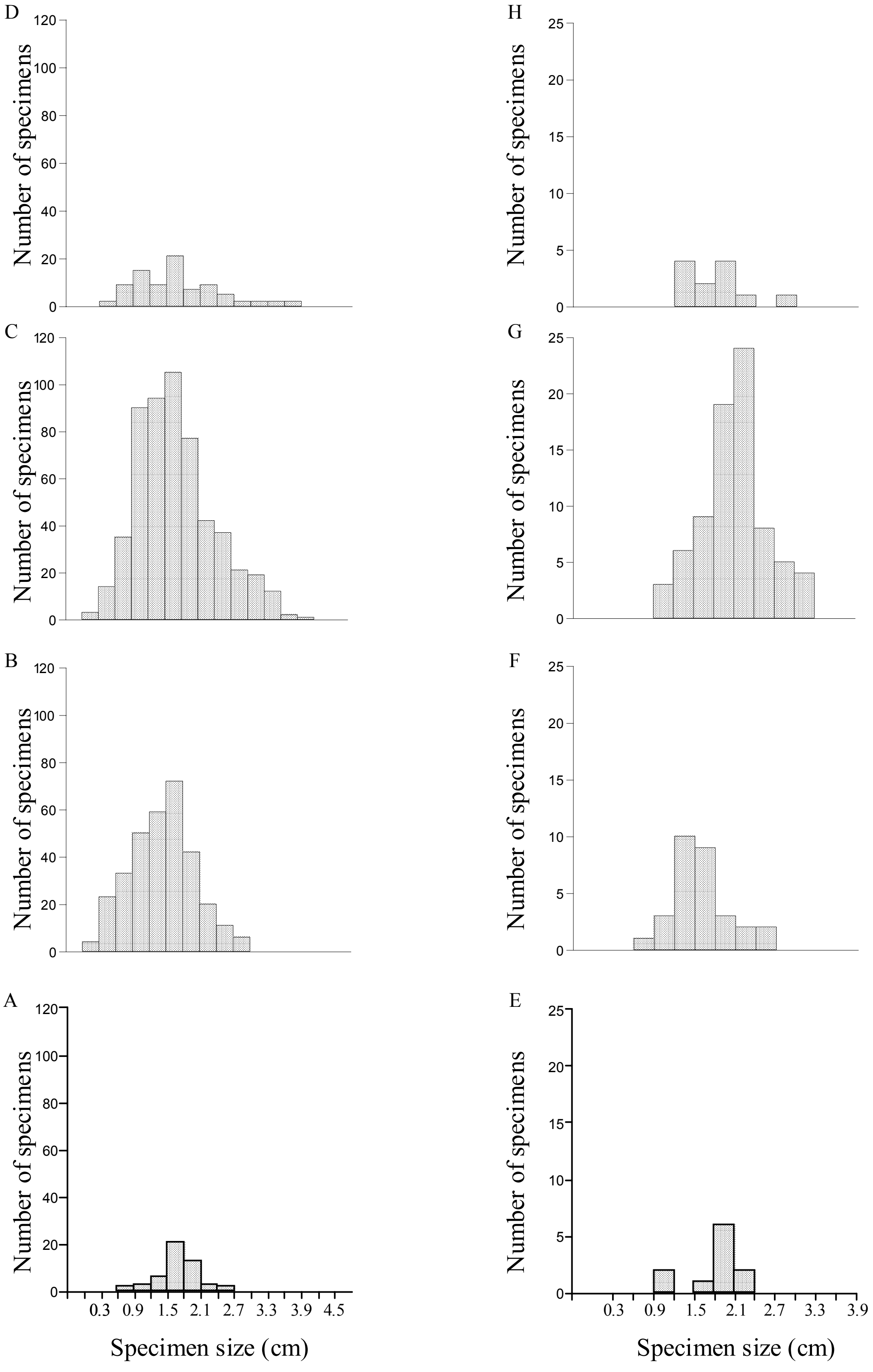

Figure 5.1--Size frequency diagrams for A-D every twentieth specimen and E-H drilled specimens. A and E, Devonian, B and F, Mississippian, C and G, Pennsylvanian, D and H, Permian.

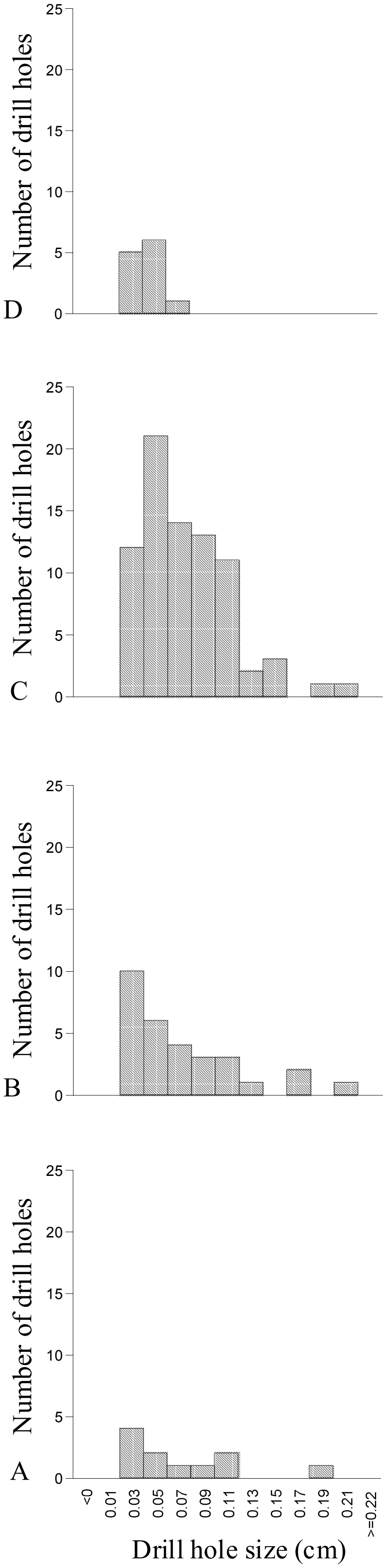

Figure 5.2--Size frequency distributions for drill holes in *Composita*. A. Devonian, B. Mississippian, C. Pennsylvanian, D. Permian.

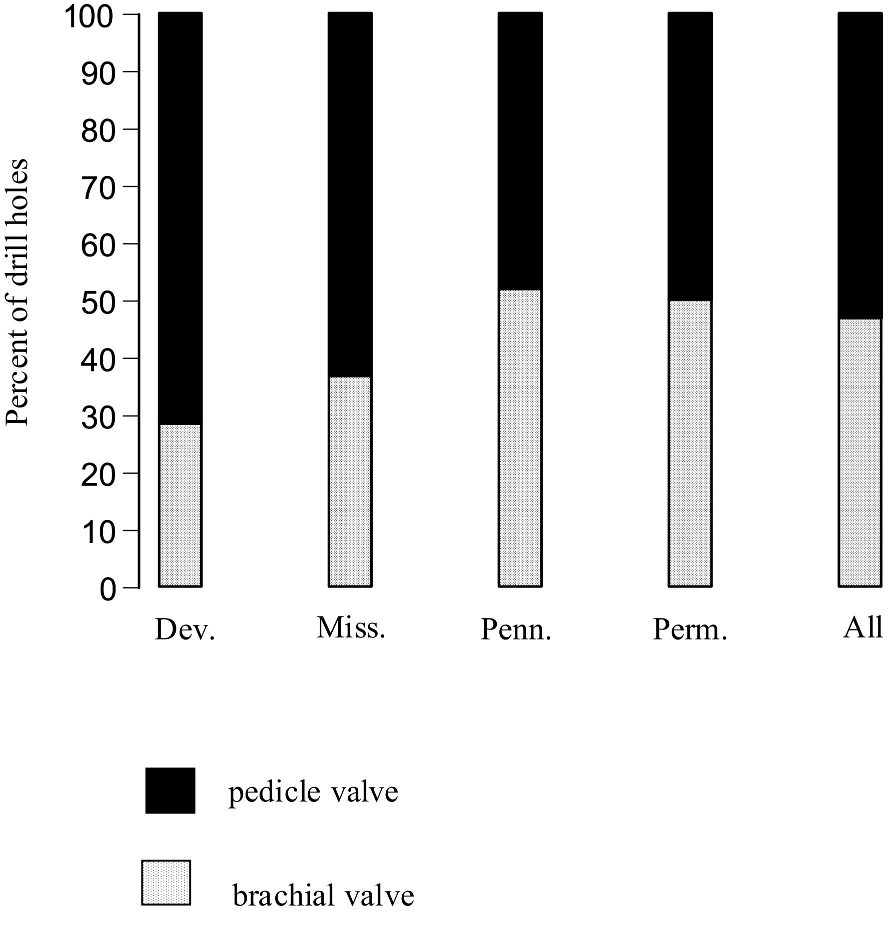

Figure 5.3--Proportion of drill holes in pedicle and brachial valves, represented as a percent of the total number of drill holes.

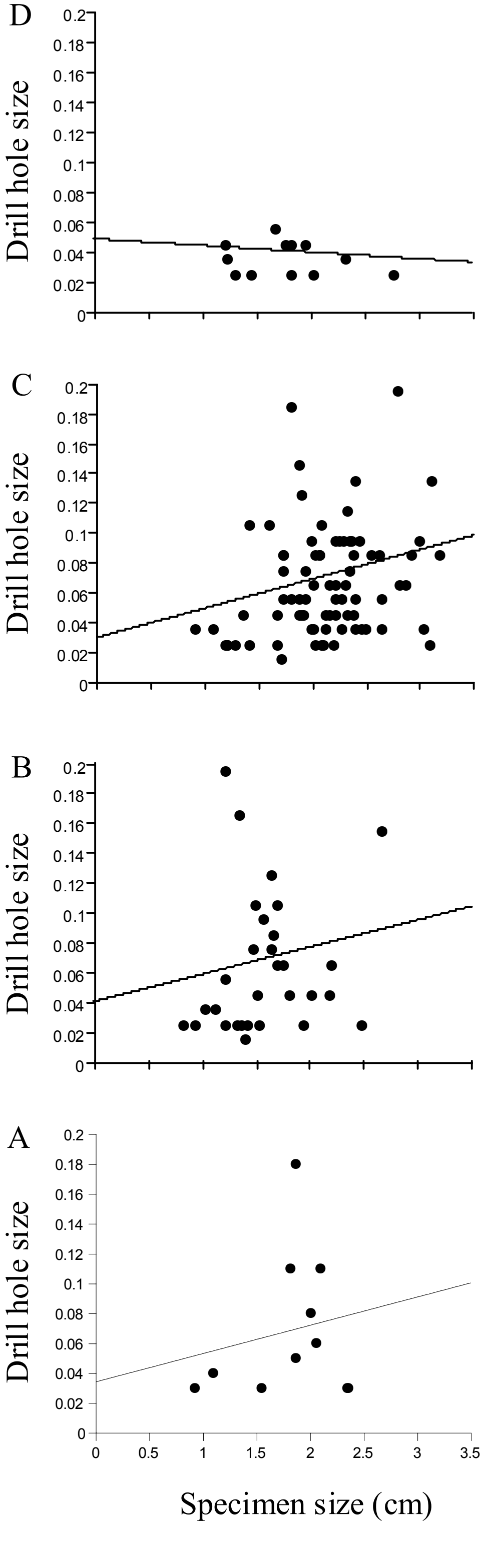

Figure 5.4--Plots of drill hole size versus specimen size. A. Devonian, B. Mississippian, C. Pennsylvanian, D. Permian.

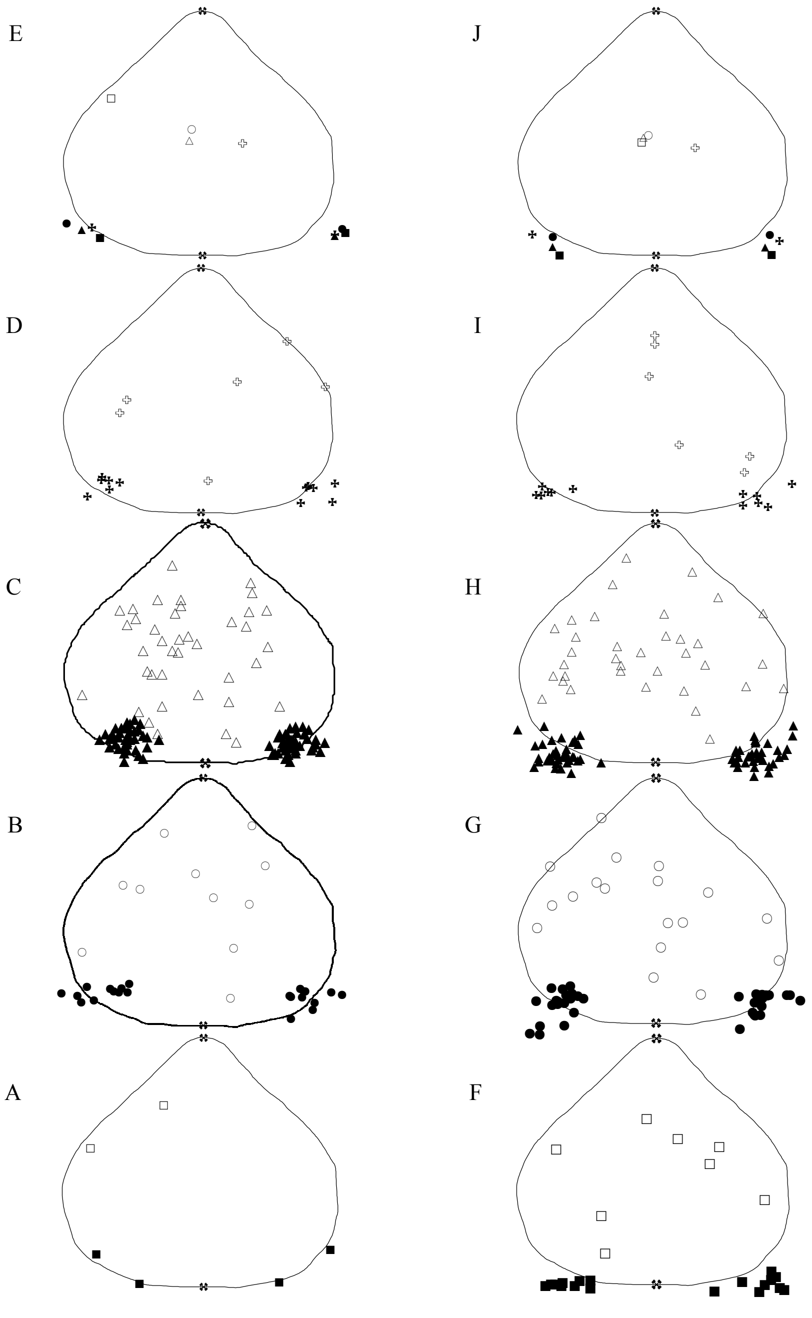

Figure 5.5--Plots of landmark position of drill holes and points of maximum curvature along the commisure. A-E brachial valve, A. Devonian, B. Mississippian, C. Pennsylvanian, D. Permian, E. mean location of points for each Period. F-J pedicle valve, F. Devonian, G. Mississippian, H. Pennsylvanian, I. Permian, J. mean location of points for each Period.

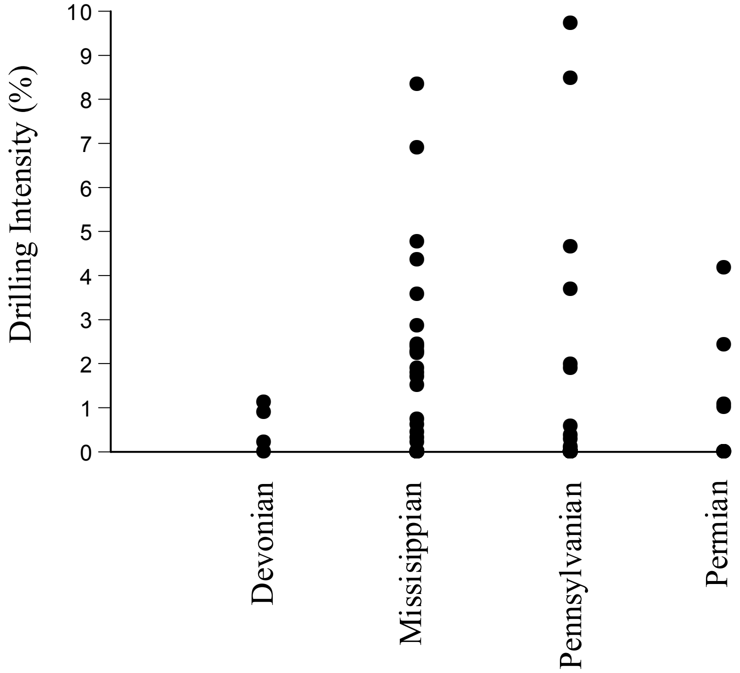

Figure 5.6--Drilling predation in the brachiopod genus *Composita* at the period level for all localities that contain at least 20 specimens.

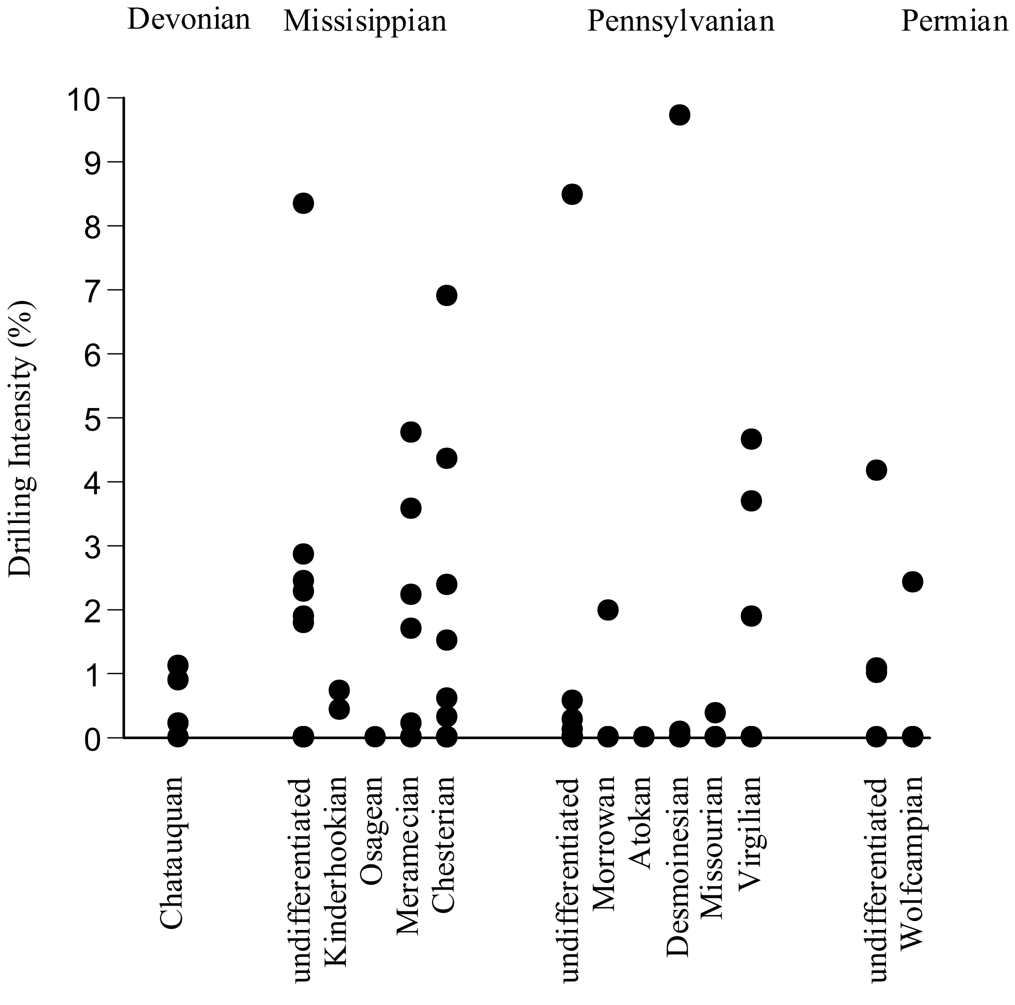

Figure 5.7--Drilling predation in the brachiopod genus *Composita* grouped by North American Stages for all localities that contain at least 20 specimens.

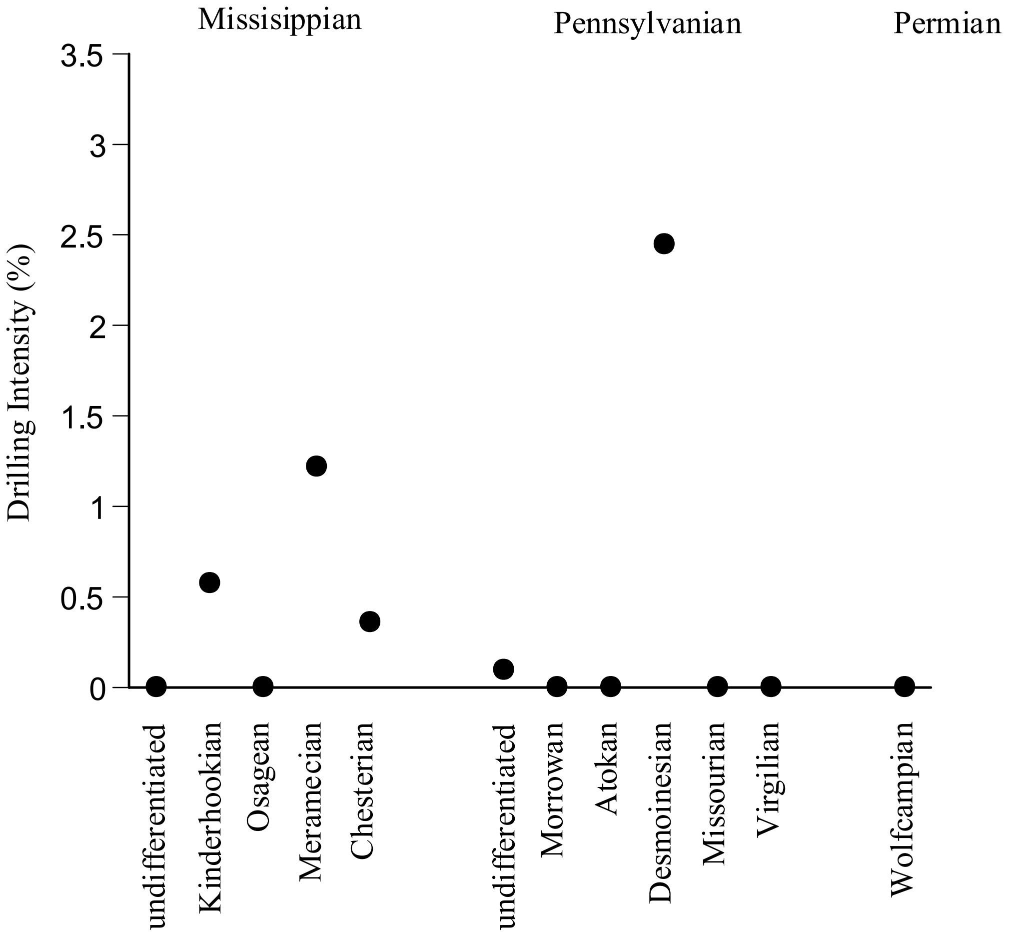

Figure 5.8--Intensity of drilling predation on *Composita* recovered from limestones, grouped by North American Stage.

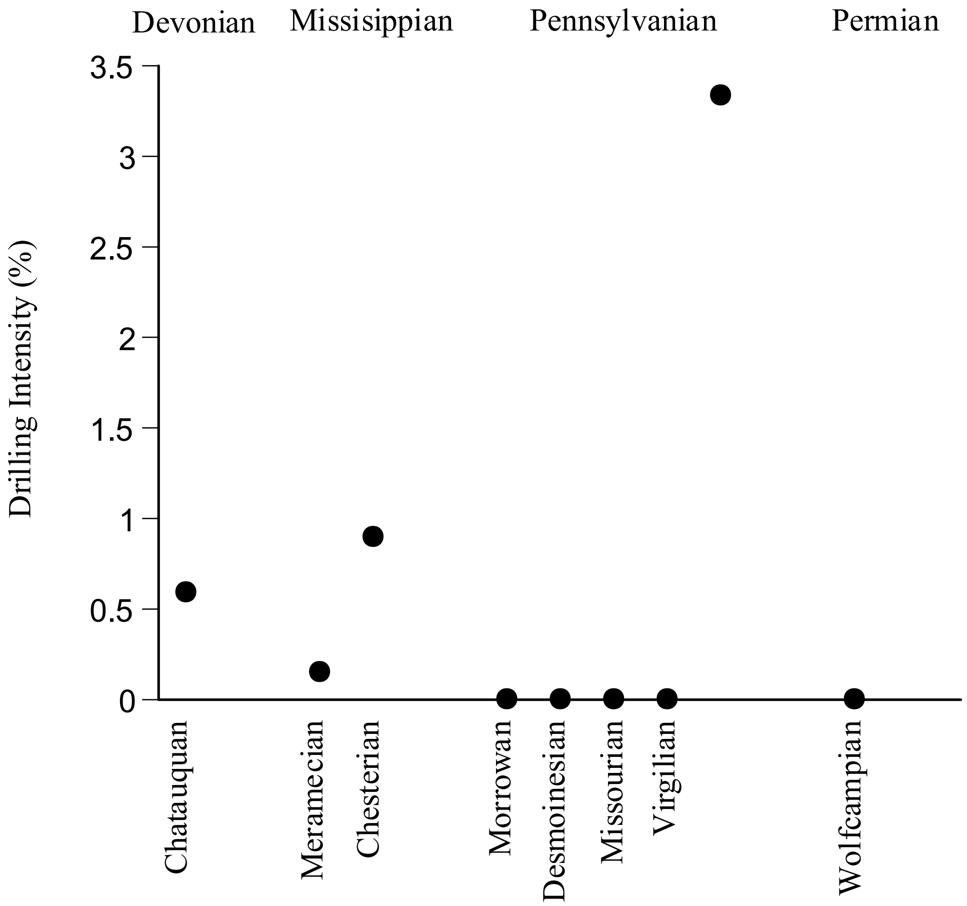

Figure 5.9--Intensity of drilling predation on *Composita* recovered from shales, grouped by North American Stage.

CHAPTER 6: Conclusion

The pattern of predation in the Late Paleozoic is indeed different from that seen in the Late Mesozoic and Cenozoic, but there are also several aspects that appear to be consistent through time. The intensity of drilling predation at the assemblage level in the Late Paleozoic is lower than that seen in Late Mesozoic and Cenozoic assemblages. However, drilling intensity can be very high locally for some species in the Late Paleozoic. Spatial variation in drilling predation existed in both the Paleozoic and Cenozoic. Each of the projects in this dissertation have documented new and important aspects of drilling predation that have ecological or evolutionary implications. These new findings are: (Chapter 2) 1) spatial variation in drilling predation and escalation factors during the Miocene are of the same magnitude as the temporal variation of these parameters throughout the Cenozoic, 2) patterns of this variability can be either exaggerated or masked depending on how the data is pooled, 3) behavioral and ecological patterns are remarkably stable during the Miocene even though there is significant variability in the intensity of drilling predation; (Chapter 3) 4) drilling predators attacked both brachiopods and bivalve mollusks in the Permian, 5) the intensity of drilling predation on bivalve mollusks is much higher than on brachiopods, but still lower than that seen in Late Mesozoic and Cenozoic mollusks, 6) monographic literature can provide good first estimates of drilling predation for periods of time that lack quantitative data; (Chapter 4) 7) the brachiopod *Cardiarina cordata* is subject to intense drilling predation in the Pennsylvanian while three other species from the same locality show little or no evidence for drilling predation; (Chapter 5) 8) the brachiopod genus *Composita* displays evidence of drilling intensity at very low levels throughout its geologic range, 9) although there is a continuous predatory influence on *Composita*, no change in morphology is seen, and 10) spatial variation in drilling intensity similar to that seen in the Miocene is present in the Paleozoic as well.

Spatial heterogeneity is an aspect of drilling predation that is present in both Paleozoic and Cenozoic assemblages. This is not, perhaps, all that surprising. It is unreasonable to expect that predation would occur at a constant rate in all environments or on all species at any point in time. Understanding the patterns and magnitude of this variation is of great importance. Clearly, spatial variation is on the same scale as temporal variation for the Cenozoic. There are at least two factors in this spatial variation, geographic location and environment, and the interplay between them can produce some unexpected results (see Chapter 2). The factors that control spatial heterogeneity in the Paleozoic are less well known and the fact that the identity of the predators is still unknown further complicates the issue.

There is a growing body of evidence that supports the notion that drilling predators have existed throughout the Phanerozoic, although there are still some who dismiss the Paleozoic evidence. It is clear that the ability to make holes in hard material (be it a shell or a hardground) developed very early (see Bengston and Zhao, 1992). The differences in Paleozoic and Cenozoic drilling predation are just as pronounced. Overall drilling intensity in the Paleozoic is lower than that seen in the Cenozoic. This may be due to the difference in the dominant fauna present, brachiopods in the Paleozoic and mollusks in the Cenozoic, but Paleozoic mollusks have much lower drilling intensities than their Cenozoic relatives suggesting that indeed the rates of predation were lower in the Paleozoic. Kowalewski et al. (1998) recognized three phases in the development of drilling predation. This research supports the basic three-part division, but questions which periods belong in each phase. The post-Devonian decline in drilling predation recognized by Kowalewski et al. (1998) appears to be an artifact of where detailed research has been done.

The estimate of drilling intensity on Permian brachiopods from monographic literature (Kowalewski et al., 2000) is comparable to, although somewhat lower than, the value acquired from quantitative data. This is a significant result since it indicates that monographs can be used to fill in the gaps that exist in the Paleozoic record of drilling predation and help to direct future research in the field.

This research provides the first quantitative data for drilling predation in the Pennsylvanian, and the highest drilling intensity yet reported for any brachiopod. This high intensity is only for one species so direct comparison with Kowalewski et al. (1998) is not yet possible, but it seems unlikely that the intensity at the assemblage level will fall below 10%. There is clearly a high selectivity for one brachiopod from the Pennsylvanian sample. It is unclear if this selectivity is for the species or for a size range. If this selection is for a size range rather than for the species, the implication is that there were two guilds of drilling predators active in the Paleozoic: small predators attacking small prey at very high rates and larger predators attacking larger prey at much lower rates.

The temporal pattern of drilling predation in the Paleozoic has turned out to be very complex indeed. *Composita* exemplifies the trend of low intensities of drilling predation throughout the Paleozoic. However, even though the overall intensity is low, there are localities where the intensity of predation reaches nearly 10%. This generally low rate may be the reason that *Composita* shows no morphologic change through time, but other factors cannot be ruled out at this time.

There are several future directions for research on Phanerozoic drilling predation. Enough quantitative data needs to be gathered to test the three-part division of predation as proposed by Kowalewski et al. (1998). My research suggests that there may need to be some revision of which periods are included in the phases recognized by Kowalewski et al. (1998) but that the actual three part division seems sound. One issue that needs to be resolved is how to view drill holes made by parasites (Type A drill holes of Ausich and Gurrola, 1979). For this research both Type A and Type B drill holes were considered to be predatory, whereas Kowalewski et al. (1998) only included Type B drill holes (those listed as predatory by Ausich and Gurrola, 1979) in their analysis. The issue is complicated by the documentation here (Chapter 4) of Type A sized drill holes with Type B characteristics. Data on spatial variation throughout the Phanerozoic is needed before temporal trends can be reliably understood. Some of this data can be recovered from the published literature and some will require additional detailed field work.

REFERENCES

Alexander, R.R., 1986, Resistance to repair of shell breakage induced by durophages in Late Ordovician brachiopods: Journal of Paleontology, 60, 273-285.

Allmon, W.D., Nieh, J.C., and Norris, R.D., 1990, Drilling and peeling of turritelline gastropods since the Late Cretaceous: Palaeontology, 33, 595-611.

Anderson, L.C., 1992, Naticid gastropod predation on Corbulid bivalves: Effects of physical factors, morphological features, and statistical artifacts: Palaios, 7, 602-620.

Ausich, W.I., and Gurrola, R.A., 1979, Two boring organisms in a Lower Mississippian Community of southern Indiana: Journal of Paleontology, 53, 335-344.

Bambach, R.K., and Kowalewski, M., 2000, How to count fossils: Geological Society of America, Abstracts with Programs, 32, A-95.

Bassett, M.G. and Bryant, C., 1993, The micromorphic rhynchonelloidean brachiopod *Lambdarina* from the type Dinantian: Journal of Paleontology, 67, 518-527.

Batten, R.L. 1995, Pennsylvanian (Morrowan) gastropods from the Magdalena Formation of the Hueco Mountains, Texas: American Museum Novitates, 3122, 46 p.

Baumiller, T.K., Leighton, L., and Thompson, D.L., 1999, Boreholes in Mississippian spiriferide brachiopods and their implications for Paleozoic gastropod drilling: Palaeogeography, Palaeoclimatology, Palaeoecology, 147, 283-189.

Bengston, S., and Zhao, Y., 1992, Predatorial borings in Late Precambrian mineralized exoskeletons: Science, v. 257, p. 367-369.

Berg, C.J., Jr., 1976, Ontogeny of predatory behavior in marine snails (Prosobranchia: Naticidae): The Nautilus, 90, 1-4.

Berg, C.J., Jr., 1978, Development and evolution of behavior in mollusks, with emphasis on changes in stereotypy: *in* Burghardt, G.M., and Bekoff, M., eds., The Development of Behavior: Comparative and Evolutionary Aspects: Garland STPM Press, New York, 3-17.

Berg, C.J., Jr., and Nishenko, S., 1975, Stereotypy of predatory boring behavior of Pleistocene naticid gastropods: Paleobiology, 1, 258-260.

Berggren, W.A., Kent, D.V., Swisher, C.C., and Aubry, M-P., 1995, A revised Cenozoic geochronology and chronostratigraphy: *in* Berggren, W.A., Kent, D.V., Aubry, M-P., and Hardenbol, J., eds., Geochronology, time scales and global stratigraphic correlation: SEPM Special Publication no. 54, 129-212.

Bertness, M.D., and Cunningham, C., 1981, Crab-shell crushing predation and gastropod architectural defense: Journal of Experimental Marine Biology and Ecology, 50, 13-230.

Boggs, C.H., Rice, J.A., Kitchell, J.A., and Kitchell, J.F., 1984, Predation at a snail's pace: What's time to a gastropod?: Oecologia, 62, 13-17.

Bookstein, F.L., 1991, Morphometric tools for landmark data: Cambridge University Press, New York, 435 pp.

Brunton, C.H.C. and Champion, C., 1974, A Lower Carboniferous brachiopod fauna from the Manifold Valley, Staffordshire: Palaeontology, 17, 107-111.

Buehler, E.J., 1969, Cylindrical borings in Devonian shells: Journal of Paleontology, 43, 1291.

Cadée, G.C., Walker, S.E., and Flessa, K.W., 1997, Gastropod shell repair in the intertidal of Bahía la Choya (N. Gulf of California): Palaeogeography, Palaeoclimatology, Palaeoecology, 136, 67-78.

Cameron, B., 1967, Oldest carnivorous gastropod borings found in Trentonian (Middle Ordovician) brachiopods: Journal of Paleontology, 41, 147-150.

Carriker, M.R., and Gruber, G.L., 1999, Uniqueness of the gastropod accessory boring organ (ABO): Comparative biology, an update: Journal of Shellfish Research, 18, 579-595.

Chatteron, B.D.E. and Whitehead, H.L., 1987, Predatory borings in the inarticulate brachiopod *Aritotreta* from the Silurian of Oklahoma: Lethaia, 20, 67-74.

Conway Morris, S., and Bengston, S., 1994, Cambrian predators, possible evidence from boreholes: Journal of Paleontology, 68, 1-23.

Cooper, G.A., 1956, New Pennsylvanian brachiopods: Journal of Paleontology, 30, 521-530.

Cooper, G.A. and Grant, R.E., 1972, Permian brachiopods of West Texas, I: Smithsonian Contributions to Paleobiology, 14, 1-231.

Cooper, G.A. and Grant, R.E., 1974, Permian brachiopods of West Texas, II: Smithsonian Contributions to Paleobiology, 15, 233-793.

Cooper, G.A. and Grant, R.E., 1975, Permian brachiopods of West Texas, III: Smithsonian Contributions to Paleobiology, 19, 795-1921.

Cooper, G.A. and Grant, R.E., 1976a Permian brachiopods of West Texas, IV: Smithsonian Contributions to Paleobiology, 21, 1923-2607.

Cooper, G.A. and Grant, R.E., 1976b Permian brachiopods of West Texas, V: Smithsonian Contributions to Paleobiology, 24, 2609-3159.

Cooper, G.A. and Grant, R.E., 1977, Permian brachiopods of West Texas, VI: Smithsonian Contributions to Paleobiology, 32, 3161-3370.

Cooper, G.A. and Knight, J.B, 1946, Permian Studies at the Smithsonian Institution, Washington: Journal of Paleontology, 20, 625-626.

Deline, B, Baumiller, T.K., Kaplan, P., Kowalewski, M., Bambach, R. and Hoffmeister, A.P., 2002, Edge drilling on the Paleozoic brachiopod *Perditocardina*: Geological Society of America, Abstracts with Programs, in press.

Dietl, G.P., and Alexander, R.R., 2000, Post-Miocene shift in stereotypic naticid predation on confamilian prey from the Mid-Atlantic shelf: Coevolution with dangerous prey: Palaios, 15, 414-429.

Dietl, G.P., and Kelley, P.H., 2001, Mid-Paleozoic latitudinal predation gradient: Distribution of brachiopod ornamentation reflects shifting Carboniferous climate: Geology, 29, 111-114.

Dietl, G.P., Alexander, R.R., and Bien, W.F., 2000, Escalation in Late Cretaceous-early Paleocene oysters (Gryphaeidae) from the Atlantic Coastal Plain: Paleobiology, 26, 215-237.

Dietl, G, Kelley, P.H., Barrick, R. and Showers, W., 2002, Escalation and extinction selectivity: Morphology versus isotopic reconstruction of bivalve metabolism: Evolution, 56, 284-291.

Dryden I.L. and Marda K.V., 1998, Statistical Shape Analysis: John Wiley and Sons, New York, 347 pp.

Dulai, A., 1996, Taxonomic composition and paleoecological features of the early Badenian (middle Miocene) bivalve fauna of Szob (Börzsöny Mts, Hungary): Annales Historico-Naturales Nationalis Hungarici, 88, 31-56.

Gilinsky, N.L., and Bennington, B., 1994, Estimating numbers of whole individuals from collections of body parts: A taphonomic limitation of the paleontological record: Paleobiology, 20, 245-258.

Geller, J.B., 1983, Shell repair frequencies of two intertidal gastropods from Northern California: Microhabitat differences: Veliger, 26, 113-115.

Grant, R.E., 1988, The Family Cardiarinidae (Late Paleozoic rhynchonellid Brachiopoda): Senckenbergiana Lethaea, 69, 121-135.

Hansen, T.A., and Kelley, P.H., 1995, Spatial variation of naticid gastropod predation in the Eocene of North America: Palaios, 10, 268-278.

Hansen, T.A., Kelley, P.H., Melland, V., and Graham, S.E., 1999, The effect of climate-related mass extinctions on escalation in molluscs: Geology, 27, 1139-1142.

Harper, E.M., Forsythe, G.T.W., and Palmer, T., 1998, Taphonomy and the Mesozoic marine revolution: Preservation state masks the importance of boring predators: Palaios, 13, 352-360.

Hill, C.A., 1996, Geology of the Delaware Basin - Guadalupe, Apace, and Glass Mountains, southeastern New Mexico and west Texas: SEPM Permian Basin Section, Publication 96-39, 480 pp.

Hinsch, W., 1993, Biostratigraphy and paleogeography of Vierlandian and Hemmoorian (early Miocene) in the Flensburg-Schleswig and North Frisia region: Bulletin de la Société belge de Géologie, 102, 117-145.

Hoare, R.D. and Atwater, D.E., 1980, Predation on the Pennsylvanian brachiopod *Composita* from the Vanport Shale in Ohio: Geological Society of America Abstracts with Program, 12 (5), 229

Hoffman, A., 1977, Synecology of macrobenthic assemblages of the Korytnica Clays (middle Miocene; Holy Cross Mountains, Poland): Acta Geologica Polonica, 27, 227-275.

Hoffman, A. and Martinell, J., 1984, Prey selection by naticid gastropods in the Pliocene of Emporda (Northeast Spain): Neues Jahrbuch für Geologie und Paläontologie Monatshefte, 7, 393-399.

Hoffmeister, A.P. and Kowalewski, M. 2001: Spatial and environmental variation in the fossil record of drilling predation: A case study from the Miocene of Central Europe: Palaios, 16, 566-579.

Hoffmeister, A.P., Kowalewski, M., Bambach, R.K., and Baumiller, T.K. in prep: Drilling Predation in Brachiopods and Bivalve Mollusks from the Permian Strata of the Glass Mountains, West Texas: Palaeogeography, Palaeoclimatology, Palaeoecology.

Hoffmeister, A.P., Kowalewski, M., Bambach, R.K., and Baumiller, T.K. in press: Intense Drilling Predation on the Brachiopod *Cardiarina cordata* Cooper 1956 from the Pennsylvanian of New Mexico: Lethaia.

Kabat, A., 1990, Predatory ecology of naticid gastropods with a review of shell boring predation: Malacologica, 32, 155-193.

Kaplan, P., and Baumiller, T.K., 2000, Taphonomic inferences on boring habit in the Richmondian *Onniella meeki* epibole: Palaios, 15, 499-510.

Kaplan, P., and Baumiller, T.K., 2001, A misuse of Occam's Razor that trims more than just the fat: Palaios, 16, 525-528.

Kelley, P.H., 1988, Predation by Miocene gastropods of the Chesapeake Group: Stereotyped and predictable: Palaios, 3, 436-448.

Kelley, P.H., 1989, Evolutionary trend within bivalve prey of Chesapeake Group naticid gastropods: Historical Biology, 2, 139-156.

Kelley, P.H., 1991, Apparent cannibalism by Chesapeake Group naticid gastropods: A predictable result of selective predation: Journal of Paleontology, 65, 75-79.

Kelley, P.H., 1992, Evolutionary patterns of naticid gastropods of the Chesapeake Group: An example of coevolution: Journal of Paleontology, 66, 794-800.

Kelley P.H., and Hansen, T.A., 1993, Evolution of the naticid gastropod predator-prey system: An evaluation of the hypothesis of escalation: Palaios, 8, 358-375.

Kelley, P.H., and Hansen, T.A., 1996a, Naticid gastropod prey selectivity through time and the hypothesis of escalation: Palaios, 11, 437-445.

Kelley, P.H., and Hansen, T.A, 1996b, Recovery of the naticid gastropod predator-prey system from the Cretaceous-Tertiary and Eocene-Oligocene extinctions: *in* Hart, M.B., ed., Biotic Recovery from Mass Extinction Events: Geological Society of London Special Publication No. 102, 373-386.

Kelley, P.H., and Johnston, J.E., 1986, Within species variation as a basis for interspecific evolution of four coastal plain *Exogyra* species: Geological Society of America, Abstracts with Programs, 18, 654.

Kelley, P.H., Hansen, T.A., Graham, S.E., and Huntoon, A.G., 2001, Temporal patterns in the efficiency of naticid gastropod predators during the Cretaceous and

Cenozoic of the United States Coastal Plain: Palaeogeography, Palaeoclimatology, Palaeoecology, 166, 165-176.

Kitchell, J.A., 1986, The evolution of predator-prey behavior: Naticid gastropods and their molluscan prey: *in* Nitecki, M., and Kitchell, J.A., eds., Evolution of Animal Behavior: Paleontological and Field Approaches: Oxford University Press, Oxford, 88-110.

Kitchell, J.A., Boggs, C.H., Kitchell, J.F., and Rice, J.A., 1981, Prey selection by naticid gastropods: Experimental tests and application to the fossil record: Paleobiology, 7, 533-552.

Kitchell, J.A., Boggs, C.H., Rice, J.A., Kitchell, J.F., Hoffman, A., and Martinell, J., 1986, Anomalies in naticid predatory behavior: A critique and experimental observations: Malacologica, 27, 291-298.

Kowalewski, M., 1993, Morphometric analysis of predatory drillholes: Palaeogeography, Palaeoclimatology, Palaeoecology, 102, 69-88.

Kowalewski, M., and Flessa, K.W., 1994, A predatory drillhole in *Glottidia palmeri* Dall (Brachiopoda; Lingulidae) from recent tidal flats of northeastern Baja California, Mexico: Journal of Paleontology, 68, 1403-1405.

Kowalewski, M., Flessa, K.W., and Marcot, J.D. 1997: Predatory scars in the shells of a Recent lingulid brachiopod: paleontological and ecological implications: Acta Palaeontologica Polonica, 42, 497-532.

Kowalewski M., Dulai, A., and Fürsich, F.T., 1998, A fossil record full of holes: the Phanerozoic record of drilling predation: Geology, 26, 1091-1094.

Kowalewski, M., Simões, M.G., Torello, F.F., Mello, L.H.C., and Ghilardi, R.P. 2000: Drill holes in shells of Permian benthic invertebrates: Journal of Paleontology, 74, 532-543.

Kowalewski, M., Gürs, K., Nebelsick, J.H., Oschmann, W., Piller, W., and Hoffmeister A.P., 2002, Multivariate hierarchical analyses of Miocene mollusks of Europe: Paleogeographic, biostratigraphic, and paleoecological implications: Geological Society of America Bulletin, 114, 239-256.

Leighton, L.R., 1999, Possible latitudinal predation gradient in middle Paleozoic oceans: Geology, 27, 47-50.

Leighton, L.R., 2001, New example of Devonian predatory boreholes and the influence of brachiopod spines on predator success: Palaeogeography, Palaeoclimatology, Palaeoecology, 165, 53-69.

Miller, R.H., and Sundberd, F.A., 1984 Boring late Cambrian organisms: Lethaia, 17, 185-190.

Morris, P.G., 1994, Some new Carboniferous cardiarinid brachiopods from the Middle Limestones (Visean, Chadian) of North Staffordshire, England: Neues Jahrbuch für Geologie und Paläontologie Monatshefte, 5, 267-276.

Nazer, R., 1983 *Lambdarina* (Rhynchonellidacea) from the Upper Visean of Queensland: Journal and Proceedings, Royal Society of New South Wales, 116, 119-121.

Nebelsick, J.H., and Kowalewski, M., 1999, Drilling predation on Recent Clypeasteroid echinoids from the Red Sea: Palaios, 14, 127-144.

Pisera, A., 1996, Miocene reefs of the Paratethys; a review: *in* Franseen, E.K., Esteban, M., Ward, W.C., and Rouchy, J-M., eds., Models for carbonate stratigraphy from

Miocene reef complexes of Mediterranean regions: Society for Sedimentary Geology, Concepts in Sedimentology and Paleontology, 5, 97-104.

Reyment, R.A., 1971, Introduction to Quantitative Paleoecology: Elsevier Publishing Company, Amsterdam, 226 pp.

Richards, R.P., and Shabica, C.W., 1969, Cylindrical living burrows in Ordovician Dalmanellid brachiopod beds: Journal of Paleontology, 43, 838-841.

Riegl, B., and Piller, W.E., 2000, Biostromal coral facies – a Miocene example from the Leitha Limestone (Austria) and its actualistic interpretation: Palaios, 15, 399-413.

Rögl, F., 1996, Stratigraphic correlations of the Paratethys Oligocene and Miocene: Mitteilungen der Gesellschaft der Geologie und Bergbaustudenten in Österreich, 41, 65-73.

Rögl, F., 1998, Palaeogeographic considerations for Mediterranean and Paratethys seaways (Oligocene to Miocene): Annalen des Naturhistorischen Museums in Wien, 99A, 279-310.

Rögl, F., 1999, Mediterranean and Paratethys; Facts and hypotheses of an Oligocene to Miocene paleogeography; short overview: Geologica Carpathica, 50, 339-349.

Rögl, F., and Steininger, F.F., 1984, Neogene Paratethys, Mediterranean and Indo-pacific seaways: *in* Brenchley, P.J., ed., Fossils and climate: Wiley, New York, 171-200.

Rohr, D.M. 1976: Silurian predator borings in the brachiopod Dicaelosia from the Canadian Arctic: Journal of Paleontology, 50, 1175-1179.

Roopnarine P.D. and Buessink, A. 1999: Extinction and naticid predation of the bivalve Chione von Mühlfeld in the Late Neogene of Florida: Palaeontologia Electronica, 2 (1), 24, 719 KB.

Rosenberg, G.D., Hughes, W., and Tkachuck, R.D., 1988, Intermediary metabolism and shell growth in the brachiopod *Terebretalia transversa*: Lethaia, 21, 219-230.

Rudwick, M.J.S., 1970, Living and fossil brachiopods: Hutchinson and Co. Ltd., London, 199 p.

Schmidt, N., 1989, Paleobiological implications of shell repair in Recent marine gastropods from the Northern Gulf of California: Historical Biology, 3, 127-139.

Sheehan, P.M., and Lesperance, P.J., 1978, Effect of predation on the population Dynamics of a Devonian brachiopod: Journal of Paleontology, 52, 812-817.

Slice, D.E., Bookstein F.L., Marcus, L.F. and Rohlf, F.J., 1996, Appendix 1: A glossary for geometric morphometrics *in* Marcus, L.F, Corti, M., Loy, A., Naylor, G.J.P., and Slice, D.E., editors, Advances in Morphometrics: Plenum Press, New York, 531-551.

Smith, S.A., Thayer, C.W., and Brett, C. E., 1985, Predation in the Paleozoic: Gastropod-like drillholes in Devonian brachiopods: Science, 230, 1033-1035.

Sohl, N.F., 1969, The fossil record of shell borings by snails: American Zoologist, 9, 725-734.

Steininger, F.F., and Rögl, F., 1984, Paleogeography and palinspastic reconstruction of the Neogene of the Mediterranean and Paratethys: *in* Dixon, J.E., and Robertson, A.H.F., eds., The geological evolution of the eastern Mediterranean: Geological Society of London Special Publications, no. 17, 659-668.

Steininger, F.F., Rögl, F., and Martini, E., 1976, Current Oligocene/Miocene biostratigraphic concept of the Central Paratethys (Middle Europe): Newsletters on Stratigraphy, 4, 174-202.

Thayer, C.W. 1985: Brachiopods versus mussels: Competition, predation and palatability: Science, 228, 1527-1528.

Thayer, C.W., 1981, Ecology of living brachiopods: *in* Broadhead, T.W., ed., Lophophorates: Notes for Short Course: University of Tennessee Department of Geological Sciences, Studies in Geology 5, 110-126.

Tobien, H., ed., 1986, Nordwestdeutschland im Tertiär: Beiträge zur Regionalen Geologie der Erde, 18, 763 p.

Vermeij, G.J., 1980, Drilling predation of bivalves in Guam: Some paleoecological implications: Malacologica, 19, 329-334.

Vermeij, G.J., 1982, Gastropod shell form, repair, and breakage in relation to predation by the crab *Calappa*: Malacologica, 23, 1-12.

Vermeij, G.J., 1987, Evolution and escalation- an ecological history of life: Princeton University Press, Princeton, New Jersey, 527 p.

Vermeij, G.J., and Dudley, E.C., 1982, Shell repair and drilling in some gastropods from the Ripley Formation (Upper Cretaceous) of the southeastern U.S.A.: Cretaceous Research, 3, 397-403.

Vermeij, G.J., Zisper, E., and Dudley, E.C., 1980, Predation in time and space: Peeling and drilling in terebrid gastropods: Paleobiology, 6, 352-364.

Vermeij, G.J., Schindel, D.E., and Zisper, E., 1981, Predation through geological time: Evidence from gastropod shell repair: Science, 214, 1024-1026.

Vermeij, G.J., Dudley, E.C., and Zisper, E., 1989, Successful and unsuccessful drilling predation in Recent pelecypods: Veliger, 32, 266-273.

Vinken, R., Von Daniels, C.H., Gramann, F., Koethe, A., Knox, R.W., Kockel, F., Meyer, K.J., and Weiss, W., eds., 1988, The Northwest European Tertiary Basin; Results of the International Geological Correlation Programme Project No 124: Geologisches Jahrbuch, Reihe A, 100, 508 pp.

Wilson, M.A., and Palmer, T.J., 2001, Domiciles, not predatory borings: A simpler explanation of the holes in Ordovician shells analyzed by Kaplan and Baumiller, 2000: Palaios, 16, 524-525.

APPENDICES

Appendix A: Miocene of Europe database

Explanation of data elements

Sample: sample number
Species #: designated number for the species in the sample (i.e. 12-4)
Species: name of species
Number: number of individual, relevant only if there are multiple individuals for a given species
b/g: bivalve or gastropod
L/R: left valve or right valve, relevant only for bivalves
Size: size of specimen in mm., measured anterior to posterior on bivalves, apex to end on gastropods
Credibility: how credible is the size measurement, 0=credible, 1=not so credible, based on how much estimation was necessary due to shell breakage
encr.: level of encrustation: 0=no encrustation, 1=less than 10% encrusted, 2=10 to 50% encrusted 3=more than 50% encrusted
bioe.: level of bioerosion: 0=no bioerosion, 1=less than 10% of surface bioeroded, 2=10 to 50% of the surface bioeroded, 3=more than 50% of the surface bioeroded
abra.: amount of abrasion: 0=no abrasion, 1=some abrasion but no loss of features, 2=abrasion has removed up to half of the visible features, 3=abrasion has removed more than 50% of the visible features
edge: integrity of shell edge: 0=complete edge, 1=edge damaged but original extent can be confidently estimated, 2= edge damaged beyond reliable reconstruction
pc: presence of cracks: 0=no cracks, 1=cracks exist
ttg: total taphonomic grade: numeric sum of the taphonomic assignments
nd: no drilling: 0=negative (i.e. there are drillings), 1=positive (i.e. there are no drillings)
cd: complete drilling: 0=negative (i.e. no drilling or drilling of other category), 1=positive (i.e. a complete drill exists)
id: incomplete drilling (id/od<.5, not a successful drill): 0=negative, 1=positive
ud: unfinished drilling: 0=negative, 1=positive
rd: repaired drilling: 0=negative, 1=positive
ed: edge drilling: 0=negative, 1=positive
#d: number of holes drilled: most important when more than one hole exists
md: multiply drilled specimen: 0=negative, 1=positive.
crd: cracked drillhole: 0= no cracks, 1=cracks but no borings, 2=cracks and borings, cracks do not go through the hole(s), 3=cracks and borings, cracks do go through the hole(s)
size 1: interior diameter of hole, in mm.
sector 1: location on shell of hole (after Kelley, 1988)
size 2: interior diameter of second hole, in mm. (if present)
sector 2: location of second hole (if present)
size 3: interior diameter of third hole, in mm. (if present)
sector 3: location of third hole (if present)
criteria for ranking multiple drill holes: largest to smallest cd, then id, rd, ud, ed.

Total Dataset

```
1 1 1 Leionucu 1 b r 17.0 14.1 0 0 1 2 1 1 5 1 . . 1 0.5 1 0 1-1-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2 1 2 Parvicar 1 b l 4.0 4.1 0 0 1 1 1 0 2 1 . . 1 0.5 1 0 1-2-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3 1 2 Parvicar 2 b r 3.9 4.0 0 0 1 1 1 0 3 1 . . 1 0.5 1 0 1-2-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
4 1 2 Parvicar 3 b r 4.1 3.9 0 0 1 1 1 0 3 1 . . 1 0.5 1 0 1-2-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
5 1 2 Parvicar 4 b l 3.4 3.7 1 0 1 2 2 0 5 1 . . 1 0.5 1 0 1-2-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
6 1 2 Parvicar 5 b l 4.0 4.0 1 0 0 1 2 0 3 1 . . 1 0.5 1 0 1-2-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
7 1 2 Parvicar 6 b l 4.5 4.3 0 0 1 2 2 0 5 1 . . 1 0.5 1 0 1-2-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
8 1 3 Limopsis 1 b l 3.4 4.0 1 0 1 2 2 0 5 1 . . 1 0.5 1 0 1-3-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
9 1 3 Limopsis 2 b r 10.0 11.1 0 0 2 2 0 0 4 1 . . 1 0.5 1 0 1-3-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
10 1 3 Limopsis 3 b l 7.1 7.5 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
11 1 3 Limopsis 4 b r 7.2 8.1 0 0 0 2 1 0 3 1 . . 1 0.5 1 0 1-3-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
12 1 3 Limopsis 5 b l 7.1 7.0 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
13 1 3 Limopsis 6 b l 4.5 4.8 0 0 2 2 1 0 5 1 . . 1 0.5 1 0 1-3-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
14 1 3 Limopsis 7 b l 9.0 10.0 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
15 1 3 Limopsis 8 b l 8.0 8.0 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
16 1 3 Limopsis 9 b l 7.0 11.1 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
17 1 3 Limopsis 10 b l 8.1 10.0 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
18 1 3 Limopsis 11 b r 6.1 6.8 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
19 1 3 Limopsis 12 b l 7.0 7.5 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
20 1 3 Limopsis 13 b r 5.0 5.1 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
21 1 3 Limopsis 14 b l 9.0 11.0 0 0 1 2 1 1 5 1 . . 1 0.5 1 0 1-3-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
22 1 3 Limopsis 15 b r 8.6 9.8 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
23 1 3 Limopsis 16 b r 10.0 10.9 0 0 0 2 0 0 2 1 . . 1 0.5 1 0 1-3-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
24 1 3 Limopsis 17 b r 6.4 6.9 1 0 1 2 2 0 5 1 . . 1 0.5 1 0 1-3-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
25 1 3 Limopsis 18 b r 10.1 10.3 1 0 1 2 2 0 5 1 . . 1 0.5 1 0 1-3-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
26 1 3 Limopsis 19 b l 3.8 4.3 1 0 1 2 2 0 5 1 . . 1 0.5 1 0 1-3-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
27 1 3 Limopsis 20 b r 5.6 6.3 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
28 1 3 Limopsis 21 b r 8.0 8.9 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
29 1 3 Limopsis 22 b l 7.1 8.1 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
30 1 3 Limopsis 23 b l 5.2 6.1 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
31 1 3 Limopsis 24 b l 3.1 3.8 1 0 2 2 2 0 6 1 . . 1 0.5 1 0 1-3-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
32 1 3 Limopsis 25 b r 3.6 3.5 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
33 1 3 Limopsis 26 b r 8.0 8.9 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
34 1 3 Limopsis 27 b l 3.4 3.8 0 0 2 2 1 0 5 1 . . 1 0.5 1 0 1-3-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
35 1 3 Limopsis 28 b l 8.2 10.0 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
36 1 3 Limopsis 29 b r 6.6 10.0 1 0 1 2 2 0 5 1 . . 1 0.5 1 0 1-3-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
37 1 3 Limopsis 30 b r 6.7 8.0 0 0 0 2 1 0 3 1 . . 1 0.5 1 0 1-3-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
38 1 3 Limopsis 31 b r 7.0 8.0 1 0 0 2 2 0 4 1 . . 1 0.5 1 0 1-3-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
39 1 3 Limopsis 32 b l 4.0 4.5 0 0 1 2 0 0 3 1 . . 1 0.5 1 0 1-3-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
40 1 3 Limopsis 33 b l 6.0 8.0 1 0 1 2 2 0 5 1 . . 1 0.5 1 0 1-3-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
41 1 3 Limopsis 34 b l 6.2 8.4 0 0 1 2 1 0 4 1 . . 1 0.5 1 0 1-3-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
42  1  3  Limopsis  35  b  l   5.0   6.0  1  0  2  2  2  0  6  1  .  .  1  0.5  1   0  1-3-35  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
43  1  3  Limopsis  36  b  l   2.0   2.0  1  0  0  2  2  0  4  1  .  .  1  0.5  1   0  1-3-36  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
44  1  3  Limopsis  37  b  r   6.2   9.2  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-37  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
45  1  3  Limopsis  38  b  l   4.0   6.1  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-38  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
46  1  3  Limopsis  39  b  l   6.7   9.6  0  0  2  2  1  0  5  1  .  .  1  0.5  1   0  1-3-39  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
47  1  3  Limopsis  40  b  r   6.1   8.0  0  0  2  2  1  0  5  1  .  .  1  0.5  1   0  1-3-40  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
48  1  3  Limopsis  41  b  r   5.8   8.0  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-41  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
49  1  3  Limopsis  42  b  l   4.0   4.8  0  0  2  2  1  0  5  1  .  .  1  0.5  1   0  1-3-42  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
50  1  3  Limopsis  43  b  r   8.0   8.8  0  0  2  2  1  0  5  1  .  .  1  0.5  1   0  1-3-43  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
51  1  3  Limopsis  44  b  r   5.5   6.0  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-44  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
52  1  3  Limopsis  45  b  l   7.8   8.3  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-45  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
53  1  3  Limopsis  46  b  r   6.0   6.8  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-46  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
54  1  3  Limopsis  47  b  l   3.1   3.7  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-47  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
55  1  3  Limopsis  48  b  r   6.3   6.9  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-48  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
56  1  3  Limopsis  49  b  l   4.0   4.3  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-49  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
57  1  3  Limopsis  50  b  l   3.3   4.1  0  0  1  2  0  0  3  1  .  .  1  0.5  1   0  1-3-50  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
58  1  3  Limopsis  51  b  l   6.3   8.8  1  0  1  3  2  0  6  1  .  .  1  0.5  1   0  1-3-51  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
59  1  3  Limopsis  52  b  l   5.0   5.0  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-52  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
60  1  3  Limopsis  53  b  r   7.2  10.0  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-53  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
61  1  3  Limopsis  54  b  r   5.0   5.1  1  0  1  3  2  0  6  1  .  .  1  0.5  1   0  1-3-54  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
62  1  3  Limopsis  55  b  r   4.2   5.3  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-55  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
63  1  3  Limopsis  56  b  r   7.0   8.8  0  0  2  2  1  0  5  1  .  .  1  0.5  1   0  1-3-56  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
64  1  3  Limopsis  57  b  r   4.8   5.1  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-57  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
65  1  3  Limopsis  58  b  r   6.0   6.8  0  0  1  2  0  1  4  1  .  .  1  0.5  1   0  1-3-58  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
66  1  3  Limopsis  59  b  r   7.0   8.1  1  0  2  2  2  0  6  1  .  .  1  0.5  1   0  1-3-59  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
67  1  3  Limopsis  60  b  r   8.1   8.8  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-60  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
68  1  3  Limopsis  61  b  l   6.2   8.0  1  0  2  3  2  0  7  1  .  .  1  0.5  1   0  1-3-61  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
69  1  3  Limopsis  62  b  l   7.8   9.1  0  0  2  2  1  0  5  1  .  .  1  0.5  1   0  1-3-62  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
70  1  3  Limopsis  63  b  r   7.0   8.3  0  0  1  2  1  0  4  0  .  1  1  0.5  1   1  1-3-63  . . . . . . . . . . . . . 1  0.1  2.0  . . . . . . . . . . . . . . . . . . . . . 0  1  0
71  1  3  Limopsis  64  b  l   7.2   7.6  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-64  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
72  1  3  Limopsis  65  b  l   6.1   6.9  0  0  0  3  1  0  4  1  .  .  1  0.5  1   0  1-3-65  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
73  1  3  Limopsis  66  b  r   7.1   7.4  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-66  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
74  1  3  Limopsis  67  b  r   6.1   6.8  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-67  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
75  1  3  Limopsis  68  b  l   4.2   4.2  0  0  1  2  1  0  4  0  .  1  1  0.5  1   1  1-3-68  . . . . . . . . . . . . . 1  0.2  2.0  . . . . . . . . . . . . . . . . . . . . . 0  1  0
76  1  3  Limopsis  69  b  r   8.0  10.0  1  0  1  2  2  0  5  1  .  .  1  0.5  1   0  1-3-69  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
77  1  3  Limopsis  70  b  l   6.8   7.0  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-70  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
78  1  3  Limopsis  71  b  r   9.6  11.2  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-71  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
79  1  3  Limopsis  72  b  l   6.4   7.9  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-72  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
80  1  3  Limopsis  73  b  r   5.2   6.1  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-73  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
81  1  3  Limopsis  74  b  r   3.6   4.0  1  0  1  3  2  0  6  1  .  .  1  0.5  1   0  1-3-74  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
82  1  3  Limopsis  75  b  r   4.5   5.2  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-75  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
83  1  3  Limopsis  76  b  r   3.1   2.0  1  0  1  3  2  0  6  1  .  .  1  0.5  1   0  1-3-76  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
84  1  3  Limopsis  77  b  l   7.1   8.1  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-77  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
85  1  3  Limopsis  78  b  l   5.4   7.0  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-78  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
86  1  3  Limopsis  79  b  l   5.8   7.0  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-79  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
87  1  3  Limopsis  80  b  r   7.0   9.0  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-80  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
88  1  3  Limopsis  81  b  r   9.0  10.1  0  0  0  2  1  1  4  1  .  .  1  0.5  1   0  1-3-81  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
89  1  3  Limopsis  82  b  r   7.6   8.4  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-82  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
90  1  3  Limopsis  83  b  r   7.1   8.7  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-83  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
91  1  3  Limopsis  84  b  r   8.0  11.1  1  0  2  3  2  0  7  1  .  .  1  0.5  1   0  1-3-84  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
92  1  3  Limopsis  85  b  r   4.0   5.0  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-85  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
93  1  3  Limopsis  86  b  r   8.8  10.0  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-86  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
94  1  3  Limopsis  87  b  r   5.2   6.5  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-87  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
95  1  3  Limopsis  88  b  l   6.1   7.9  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-88  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
96  1  3  Limopsis  89  b  l   7.0   7.8  0  0  1  3  1  1  6  1  .  .  1  0.5  1   0  1-3-89  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
97  1  3  Limopsis  90  b  r   3.1   3.3  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-90  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
98  1  3  Limopsis  91  b  r   5.5   6.3  1  0  1  3  2  0  6  1  .  .  1  0.5  1   0  1-3-91  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
99  1  3  Limopsis  92  b  l   8.1   9.1  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-92  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
100  1  3  Limopsis  93  b  r   6.1   8.2  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-93  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
101  1  3  Limopsis  94  b  r   2.7   3.2  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-94  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
102  1  3  Limopsis  95  b  l   5.2   5.4  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-95  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
103  1  3  Limopsis  96  b  r   7.0   8.0  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-96  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
104  1  3  Limopsis  97  b  l   6.9   7.4  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-97  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
105  1  3  Limopsis  98  b  r   7.8  10.0  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-98  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
106  1  3  Limopsis  99  b  r   5.6   7.0  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-99  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
107  1  3  Limopsis 100  b  r   6.2   8.4  1  0  2  3  2  0  7  1  .  .  1  0.5  1   0  1-3-100 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
108  1  3  Limopsis 101  b  r   5.5   6.1  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-3-101 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
109  1  3  Limopsis 102  b  r   6.5   7.4  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-3-102 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
110  1  3  Limopsis 103  b  r   7.0   7.9  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-103 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
111  1  3  Limopsis 104  b  l   5.2   6.0  0  0  1  3  0  0  4  1  .  .  1  0.5  1   0  1-3-104 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
112  1  3  Limopsis 105  b  r   6.6   8.9  0  0  2  3  1  0  6  1  .  .  1  0.5  1   0  1-3-105 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
113  1  4  Cyclocai   1  b  r   5.5   6.0  0  0  1  2  0  0  3  1  .  .  1  0.5  1   0  1-4-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
114  1  4  Cyclocai   2  b  l   6.1   7.1  0  0  1  2  0  0  3  1  .  .  1  0.5  1   0  1-4-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
115  1  4  Cyclocai   3  b  r   3.2   4.0  1  0  1  1  2  0  4  1  .  .  1  0.5  1   0  1-4-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
116  1  4  Cyclocai   4  b  r   4.8   6.1  0  0  1  2  0  0  3  1  .  .  1  0.5  1   0  1-4-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
117  1  4  Cyclocai   5  b  l   3.0   3.4  0  0  0  1  0  0  1  1  .  .  1  0.5  1   0  1-4-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
118  1  4  Cyclocai   6  b  l   3.5   4.0  0  0  1  3  0  0  4  1  .  .  1  0.5  1   0  1-4-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
119  1  4  Cyclocai   7  b  l   4.6   6.1  0  0  1  3  0  0  4  1  .  .  1  0.5  1   0  1-4-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
120  1  4  Cyclocai   8  b  l   4.6   6.1  0  0  1  2  0  0  3  1  .  .  1  0.5  1   0  1-4-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
121  1  4  Cyclocai   9  b  l   3.7   5.0  0  0  0  2  0  0  2  1  .  .  1  0.5  1   0  1-4-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
122  1  4  Cyclocai  10  b  r   4.1   4.9  0  0  1  2  0  1  4  1  .  .  1  0.5  1   0  1-4-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
123  1  4  Cyclocai  11  b  l   2.5   3.5  0  0  1  2  0  0  3  1  .  .  1  0.5  1   0  1-4-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
124  1  4  Cyclocai  12  b  l   2.1   3.2  0  0  0  1  1  0  2  1  .  .  1  0.5  1   0  1-4-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
125  1  4  Cyclocai  13  b  l   2.7   3.6  0  0  1  3  0  0  4  1  .  .  1  0.5  1   0  1-4-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
126  1  4  Cyclocai  14  b  l   4.1   5.0  0  0  1  3  1  0  5  1  .  .  1  0.5  1   0  1-4-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
127  1  4  Cyclocai  15  b  r   3.5   4.1  0  0  2  2  0  0  4  1  .  .  1  0.5  1   0  1-4-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
128  1  5  Astarte_   1  b  l   9.4   8.8  0  0  1  1  1  0  3  1  .  .  1  0.5  1   0  1-5-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
129  1  5  Astarte_   2  b  r   4.5   4.0  0  0  1  1  1  0  3  1  .  .  1  0.5  1   0  1-5-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
130  1  5  Astarte_   3  b  r   5.0   6.0  1  0  2  2  2  1  7  1  .  .  1  0.5  1   0  1-5-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
131  1  5  Astarte_   4  b  r   7.8   7.0  0  0  1  2  1  0  4  1  .  .  1  0.5  1   0  1-5-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
132  1  5  Astarte_   5  b  r   9.2   9.0  0  0  1  1  1  0  3  1  .  .  1  0.5  1   0  1-5-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
133  1  5  Astarte_   6  b  l   5.0   5.1  0  0  1  1  0  0  2  1  .  .  1  0.5  1   0  1-5-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
134  1  5  Astarte_   7  b  l   5.2   4.5  0  0  1  2  0  0  3  1  . .  1  0.5  1   0  1-5-7     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
135  1  5  Astarte_   8  b  l   7.0   6.1  0  0  1  1  1  1  4  1  . .  1  0.5  1   0  1-5-8     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
136  1  5  Astarte_   9  b  l   6.2   6.1  0  0  2  1  1  0  4  1  . .  1  0.5  1   0  1-5-9     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
137  1  5  Astarte_  10  b  l   7.2   7.1  0  0  2  2  1  0  5  1  . .  1  0.5  1   0  1-5-10    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
138  1  5  Astarte_  11  b  l   6.1   6.0  0  0  2  2  1  0  5  1  . .  1  0.5  1   0  1-5-11    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
139  1  5  Astarte_  12  b  l   4.1   3.9  0  0  1  1  1  0  3  1  . .  1  0.5  1   0  1-5-12    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
140  1  5  Astarte_  13  b  l   6.8   6.1  0  0  1  1  0  0  2  1  . .  1  0.5  1   0  1-5-13    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
141  1  5  Astarte_  14  b  l   6.5   6.0  0  0  1  1  1  0  3  1  . .  1  0.5  1   0  1-5-14    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
142  1  5  Astarte_  15  b  l   4.1   4.0  1  0  1  1  2  0  4  1  . .  1  0.5  1   0  1-5-15    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
143  1  5  Astarte_  16  b  l   6.4   7.0  1  0  1  1  2  0  4  1  . .  1  0.5  1   0  1-5-16    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
144  1  5  Astarte_  17  b  r   6.3   6.1  0  0  1  1  0  0  2  1  . .  1  0.5  1   0  1-5-17    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
145  1  6  Varicorb   1  b  r   7.7   7.0  0  0  1  2  1  0  4  1  . .  1  0.5  1   0  1-6-1     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
146  1  6  Varicorb   2  b  r   9.5   8.4  0  0  1  1  1  0  3  1  . .  1  0.5  1   0  1-6-2     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
147  1  6  Varicorb   3  b  l   6.2   5.6  0  0  1  3  1  0  5  1  . .  1  0.5  1   0  1-6-3     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
148  1  6  Varicorb   4  b  r   7.1   6.7  0  0  1  2  1  0  4  1  . .  1  0.5  1   0  1-6-4     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
149  1  6  Varicorb   5  b  l   4.4   3.1  0  0  1  2  1  0  4  0  .  1  1  0.5  1   1  1-6-5   1  0.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
150  1  6  Varicorb   6  b  l   6.1   5.1  0  0  1  3  1  0  5  1  . .  1  0.5  1   0  1-6-6     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
151  1  6  Varicorb   7  b  r   6.5   6.1  0  0  0  3  1  0  4  1  . .  1  0.5  1   0  1-6-7     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
152  1  6  Varicorb   8  b  r   8.6   8.0  0  0  1  2  1  0  4  1  . .  1  0.5  1   0  1-6-8     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
153  1  6  Varicorb   9  b  l   5.0   3.8  0  0  1  3  1  0  5  1  . .  1  0.5  1   0  1-6-9     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
154  1  6  Varicorb  10  b  r   7.0   6.0  1  0  1  2  2  0  5  1  . .  1  0.5  1   0  1-6-10    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
155  1  6  Varicorb  11  b  l   6.1   5.0  0  0  1  2  1  0  4  1  . .  1  0.5  1   0  1-611     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
156  1  6  Varicorb  12  b  r   5.3   5.0  0  0  1  2  1  0  4  1  . .  1  0.5  1   0  1-6-12    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
157  1  6  Varicorb  13  b  r   3.8   3.2  0  0  1  3  1  0  5  1  . .  1  0.5  1   0  1-6-13    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
158  1  6  Varicorb  14  b  l   5.1   4.5  0  0  1  2  1  0  4  1  . .  1  0.5  1   0  1-6-14    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
159  1  6  Varicorb  15  b  l   4.2   3.2  1  0  1  2  2  0  5  1  . .  1  0.5  1   0  1-6-15    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
160  1  7  Gemm_zim   1  g      9.1    .  0  0  1  2  1  0  4  0  1  2  1  1.0  1   1  1-7-1   2  1.5  6  0.8  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
161  1  7  Gemm_zim   2  g     12.2    .  0  0  1  2  1  0  4  1  . .  1  1.0  1   0  1-7-2     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
162  1  7  Gemm_zim   3  g     14.0    .  0  0  2  2  1  0  5  0  .  1  1  1.0  1   1  1-7-3   1  1.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
163  1  7  Gemm_zim   4  g     11.4    .  0  0  2  2  1  0  5  0  1  4  1  1.0  1   1  1-7-4   3  0.6  4  0.6  5  0.3  6  . . . . . .  1  0.3  3.0  . . . . . . . . . . . . . . . . . . . . .  1  1  0
164  1  7  Gemm_zim   5  g     11.8    .  0  0  1  3  1  0  5  1  . .  1  1.0  1   0  1-7-5     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
165  1  7  Gemm_zim   6  g      9.8    .  1  0  1  3  2  0  6  1  . .  1  1.0  1   0  1-7-6     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
166  1  7  Gemm_zim   7  g     11.0    .  0  0  1  2  1  0  4  0  1  2  1  1.0  1   1  1-7-7   2  1.1  7  0.5  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
167  1  7  Gemm_zim   8  g     18.0    .  0  0  1  2  1  0  4  1  . .  1  1.0  1   0  1-7-8     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
168  1  7  Gemm_zim   9  g      9.0    .  0  0  1  1  1  0  3  1  . .  1  1.0  1   0  1-7-9     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
169  1  7  Gemm_zim  10  g      7.2    .  1  0  1  3  2  0  6  1  . .  1  1.0  1   0  1-7-10    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
170  1  7  Gemm_zim  11  g     12.0    .  0  0  2  2  1  0  5  1  . .  1  1.0  1   0  1-7-11    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
171  1  7  Gemm_zim  12  g      9.2    .  1  0  2  2  2  0  6  0  .  1  1  1.0  1   1  1-7-12  1  0.5  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
172  1  8  Hinia_go   1  g      8.0    .  0  0  2  2  1  0  5  1  . .  1  1.0  1   0  1-8-1     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
173  1  8  Hinia_go   2  g      6.8    .  0  0  1  2  0  0  3  1  . .  1  1.0  1   0  1-8-2     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
174  1  9  Unedogem   1  g     10.0    .  0  0  1  2  0  0  3  1  . .  1  1.0  1   0  1-9-1     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
175  1  10  Fusituri   1  g    15.2    .  0  0  1  2  1  0  4  1  . .  1  1.0  1   0  1-10-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
176  1  10  Fusituri   2  g    14.4    .  0  0  1  2  1  0  4  1  . .  1  1.0  1   0  1-10-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
177  1  10  Fusituri   3  g    10.2    .  0  0  1  2  1  0  4  0  .  1  1  1.0  1   1  1-10-3  1  0.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
178  1  10  Fusituri   4  g    13.1    .  0  0  2  3  0  0  5  1  . .  1  1.0  1   0  1-10-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
179  1  11  Limopsis   1  b  l   6.1   6.8  0  0  2  2  1  0  5  1  . .  1  0.5  1   0  1-11-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
180  1  11  Limopsis   2  b  r   6.8  7.1  0  0  2  2  1  0  5  1  . .  1  0.5  1  0  1-11-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
181  1  11  Limopsis   3  b  r   4.0  5.2  0  0  1  2  1  0  4  0  1  2  1  0.5  1  1  1-11-3   1  0.2  3  . . . . . . . . . . . 1  0.1  5.0  . . . . . . . . . . . . . . . . . . . . . 1  1  0
182  1  11  Limopsis   4  b  l   3.1  3.8  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
183  1  11  Limopsis   5  b  l   4.6  5.0  0  0  1  1  1  0  3  0  1  3  1  0.5  1  1  1-11-5   1  0.2  5  . . . . . . . . . . . 2  0.2  5.0  0.1  8  . . . . . . . . . . . . . . . . . . . 1  1  0
184  1  11  Limopsis   6  b  l   4.0  4.1  0  0  2  2  1  0  5  0  .  1  1  0.5  1  1  1-11-6   1  0.2  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
185  1  11  Limopsis   7  b  l   6.6  7.8  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
186  1  11  Limopsis   8  b  l   5.0  5.5  0  0  2  2  1  0  5  1  . .  1  0.5  1  0  1-11-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
187  1  11  Limopsis   9  b  r   3.6  4.0  0  0  1  1  0  0  2  0  1  3  1  0.5  1  1  1-11-9   1  0.1  7  . . . . . . . . . . . 1  0.1  7.0  . . . . . . 1  0.1  8  . . . . . . . . . . . . . 1  1  1
188  1  11  Limopsis  10  b  l   4.6  5.5  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
189  1  11  Limopsis  11  b  l   6.8  7.0  0  0  2  2  1  0  5  0  1  6  1  0.5  1  1  1-11-11   2  0.3  4  0.2  3  . . . . . . . . . 4  0.2  2.0  0.2  2  0.1  3  0.2  7  . . . . . . . . . . . . . . . . . . 1  1  0
190  1  11  Limopsis  12  b  r   6.7  7.1  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
191  1  11  Limopsis  13  b  l   5.1  5.5  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
192  1  11  Limopsis  14  b  l   5.6  6.0  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
193  1  11  Limopsis  15  b  r   4.8  5.1  0  0  2  2  1  1  6  0  1  4  1  0.5  1  1  1-11-15  . . . . . . . . . . . . . 4  0.2  2.0  0.2  2  0.2  8  0.3  9  . . . . . . . . . . . . . . . 0  1  0
194  1  11  Limopsis  16  b  l   7.2  8.1  0  0  1  2  1  1  5  1  . .  1  0.5  1  0  1-11-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
195  1  11  Limopsis  17  b  r   7.9  8.1  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
196  1  11  Limopsis  18  b  r   6.5  7.1  1  0  1  2  2  1  6  1  . .  1  0.5  1  0  1-11-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
197  1  11  Limopsis  19  b  l   6.1  6.7  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
198  1  11  Limopsis  20  b  r   7.0  7.8  0  0  1  2  1  0  4  1  . .  1  0.5  1  0  1-11-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
199  1  11  Limopsis  21  b  l   4.8  5.0  0  0  1  3  1  0  5  1  . .  1  0.5  1  0  1-11-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
200  1  11  Limopsis  22  b  l   5.2  5.8  0  0  1  1  1  0  3  1  . .  1  0.5  1  0  1-11-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
201  1  11  Limopsis  23  b  r   6.2  7.0  0  0  1  3  1  0  5  1  . .  1  0.5  1  0  1-11-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
202  1  11  Limopsis  24  b  l   6.2  7.0  0  0  0  2  1  0  3  1  . .  1  0.5  1  0  1-11-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
203  1  11  Limopsis  25  b  l   7.2  7.2  0  0  1  1  1  0  3  1  . .  1  0.5  1  0  1-11-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
204  1  11  Limopsis  26  b  l   4.0  4.2  0  0  2  3  1  0  6  0  1  4  1  0.5  1  1  1-11-26   4  0.1  7  0.2  8  0.2  8  0.1  9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
205  1  11  Limopsis  27  b  r   5.8  6.2  0  0  1  2  1  0  4  0  1  2  1  0.5  1  1  1-11-27   1  0.3  7  . . . . . . . . . . . 1  0.1  4.0  . . . . . . . . . . . . . . . . . . . . . 1  1  0
206  1  11  Limopsis  28  b  r   4.8  4.8  0  0  2  3  1  0  6  1  . .  1  0.5  1  0  1-11-28  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
207  1  11  Limopsis  29  b  l   5.0  6.2  0  0  1  2  1  0  4  0  1  5  1  0.5  1  1  1-11-29   1  0.2  5  . . . . . . . . . . . 1  0.1  6.0  . . . . . . 3  0.2  1  0.1  5  0.1  5  . . . . . . . . . 1  1  1
208  1  11  Limopsis  30  b  r   6.0  7.0  0  0  1  3  1  0  5  1  . .  1  0.5  1  0  1-11-30  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
209  1  11  Limopsis  31  b  r   5.1  6.2  0  0  2  3  1  0  6  1  . .  1  0.5  1  0  1-11-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
210  1  11  Limopsis  32  b  l   5.2  5.9  0  0  1  2  1  0  4  0  1  4  1  0.5  1  1  1-11-32   1  0.3  5  . . . . . . . . . . . 4  0.2  3.0  0.1  5  0.1  5  0.2  8  . . . . . . . . . . . . . . . . 1  1  0
211  1  11  Limopsis  33  b  l   5.3  5.8  0  0  1  3  1  1  6  1  . .  1  0.5  1  0  1-11-33  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
212  1  11  Limopsis  34  b  l   3.8  4.1  0  0  1  2  1  0  4  0  1  6  1  0.5  1  1  1-11-34   4  0.3  1  0.3  1  0.3  1  0.6  2  . . . .  2  0.1  1.0  0.1  3  . . . . . . . . . . . . . . . . . . . . 1  1  0
213  1  12  Saccella   1  b  l   5.0  3.2  1  0  1  2  2  0  5  1  . .  1  0.5  1  0  1-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
214  1  13  Strepto_   1  g      4.0   .  1  0  2  2  1  0  5  1  . .  1  1.0  1  0  1-13-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
215  1  13  Strepto_   2  g      2.6   .  1  0  0  3  2  0  5  1  . .  1  1.0  1  0  1-13-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
216  1  14  Lyrotyph   1  g      5.6   .  0  0  2  3  1  0  6  1  . .  1  1.0  1  0  1-14-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
217  1  14  Lyrotyph   2  g      7.0   .  0  0  2  3  1  0  6  1  . .  1  1.0  1  0  1-14-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
218  1  15  Apyorlai   1  g     14.2   .  0  0  1  2  1  0  4  1  . .  1  1.0  1  0  1-15-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
219  1  15  Apyorlai   2  g     14.2   .  0  0  1  2  1  0  4  1  . .  1  1.0  1  0  1-15-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
220  1  16  Crass_gr   1  g     17.2   .  0  0  1  2  1  1  5  1  . .  1  1.0  1  0  1-16-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
221  1  16  Crass_gr   2  g      4.8   .  0  0  1  2  1  0  4  0  .  1  1  1.0  1  1  1-16-2   1  0.6  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
222  1  16  Crass_gr   3  g     18.9   .  0  0  1  1  1  0  3  0  .  1  1  1.0  1  1  1-16-3   1  0.9  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
223  1  16  Crass_gr   4  g     21.1   .  0  0  1  1  1  0  3  1  . .  1  1.0  1  0  1-16-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
224  1  17  Straites   1  g     12.0   .  0  0  3  3  1  0  7  1  . .  1  1.0  1  0  1-17-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
225  1  17  Straites   2  g     14.1   .  0  0  2  2  1  0  5  1  . .  1  1.0  1  0  1-17-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
226  1 17  Straites   3  g     3.3   .  0 0 1 3 1 0 5 0 . 1 1 1.0 1  1 1-17-3   1 0.2 7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
227  1 18  Eusp._he   1  g     5.1   .  0 0 2 1 1 0 4 1 . . 1 1.0 1  0 1-18-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
228  1 18  Eusp._he   2  g     3.0   .  1 0 2 2 2 0 6 1 . . 1 1.0 1  0 1-18-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
229  1 20  Hinia_te   1  g     8.1   .  1 0 1 2 2 0 5 1 . . 1 1.0 1  0 1-20-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
230  1 20  Hinia_te   2  g     8.3   .  1 0 1 2 2 0 5 1 . . 1 1.0 1  0 1-20-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
231  1 21  Euspira_   1  g     3.5   .  0 0 2 2 1 0 5 1 . . 1 1.0 1  0 1-21-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
232  1 22  Aquilofu   1  g    19.5   .  0 0 1 2 0 0 3 1 . . 1 1.0 1  0 1-22-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
233  1 23  Bathyt._   1  g     3.0   .  0 0 1 3 0 0 4 1 . . 1 1.0 1  0 1-23-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
234  1 23  Bathyt._   2  g    14.1   .  0 0 1 2 1 1 5 1 . . 1 1.0 1  0 1-23-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
235  1 23  Bathyt._   3  g    13.5   .  0 0 1 2 1 1 5 1 . . 1 1.0 1  0 1-23-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
236  1 23  Bathyt._   4  g    22.8   .  0 0 2 3 1 0 6 1 . . 1 1.0 1  0 1-23-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
237  1 24  Asthenot   1  g     8.0   .  0 0 1 2 0 1 4 1 . . 1 1.0 1  0 1-24-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
238  1 24  Asthenot   2  g     8.6   .  1 0 2 2 2 1 7 1 . . 1 1.0 1  0 1-24-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
239  1 24  Asthenot   3  g     8.0   .  0 0 1 3 1 1 6 1 . . 1 1.0 1  0 1-24-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
240  1 24  Asthenot   4  g     8.7   .  0 0 1 3 1 1 6 1 . . 1 1.0 1  0 1-24-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
241  1 25  Spleudri   1  g    10.0   .  0 0 1 3 0 1 5 1 . . 1 1.0 1  0 1-25-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
242  1 25  Spleudri   2  g    10.1   .  1 0 1 3 2 1 7 1 . . 1 1.0 1  0 1-25-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
243  1 26  Exilfusu   1  g    10.1   .  0 0 1 2 1 1 5 0 1 2 1 1.0 1  1 1-26-1   . . . . . . . . . . . . . . . . . . . . . . 2 0.3 7 0.3 8 . . . . . . . . 0 0 1
244  2  1  Hinia_go   1  g     5.7   .  0 0 1 1 1 0 3 0 0 1 1 1.0 1  1 2-1-1    1 0.3 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
245  2  1  Hinia_go   2  g     7.8   .  0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 2-1-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
246  2  1  Hinia_go   3  g     4.5   .  0 0 2 2 0 0 4 1 0 . 1 1.0 1  0 2-1-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
247  2  1  Hinia_go   4  g     6.2   .  0 0 1 1 0 0 2 0 0 1 1 1.0 1  1 2-1-4    1 0.1 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
248  2  1  Hinia_go   5  g     5.0   .  0 0 1 1 0 0 2 1 0 . 1 1.0 1  0 2-1-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
249  2  1  Hinia_go   6  g     5.0   .  0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 2-1-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
250  2  1  Hinia_go   7  g     4.2   .  0 0 1 1 0 1 3 1 0 . 1 1.0 1  0 2-1-7    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
251  2  1  Hinia_go   8  g     4.0   .  0 0 1 1 1 1 4 0 0 1 1 1.0 1  1 2-1-8    1 0.2 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
252  2  1  Hinia_go   9  g     4.2   .  0 0 1 1 1 0 3 0 0 1 1 1.0 1  1 2-1-9    1 0.2 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
253  2  1  Hinia_go  10  g     3.9   .  0 0 1 1 1 1 4 1 0 . 1 1.0 1  0 2-1-10   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
254  2  1  Hinia_go  11  g     4.2   .  0 0 1 2 1 1 5 1 0 . 1 1.0 1  0 2-1-11   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
255  2  1  Hinia_go  12  g     3.8   .  0 0 1 1 1 0 3 0 0 1 1 1.0 1  1 2-1-12   1 0.6 1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
256  2  1  Hinia_go  13  g     3.5   .  0 0 2 1 0 0 3 1 0 . 1 1.0 1  0 2-1-13   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
257  2  1  Hinia_go  14  g     4.0   .  0 0 1 3 1 1 6 1 0 . 1 1.0 1  0 2-1-14   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
258  2  1  Hinia_go  15  g     4.0   .  0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 2-1-15   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
259  2  1  Hinia_go  16  g     3.0   .  0 0 0 1 1 1 3 1 0 . 1 1.0 1  0 2-1-16   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
260  2  1  Hinia_go  17  g     3.0   .  0 0 1 1 0 0 2 0 0 1 1 1.0 1  1 2-1-17   1 0.2 1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
261  2  1  Hinia_go  18  g     3.5   .  0 0 1 2 0 1 4 1 0 . 1 1.0 1  0 2-1-18   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
262  2  1  Hinia_go  19  g     3.0   .  0 0 1 2 0 1 4 1 0 . 1 1.0 1  0 2-1-19   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
263  2  1  Hinia_go  20  g     2.1   .  0 0 1 1 1 1 4 0 0 1 1 1.0 1  1 2-1-20   1 0.1 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
264  2  1  Hinia_go  21  g     2.1   .  0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 2-1-21   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
265  2  1  Hinia_go  22  g     2.8   .  0 0 1 1 1 1 4 1 0 . 1 1.0 1  0 2-1-22   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
266  2  1  Hinia_go  23  g     2.3   .  0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 2-1-23   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
267  2  1  Hinia_go  24  g     3.0   .  0 0 1 1 1 0 3 0 0 1 1 1.0 1  1 2-1-24   1 0.2 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
268  2  1  Hinia_go  25  g     3.0   .  0 0 1 1 1 0 3 0 0 1 1 1.0 1  1 2-1-25   1 0.3 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
269  2  1  Hinia_go  26  g     1.8   .  1 0 1 2 2 0 5 0 0 1 1 1.0 1  1 2-1-26   1 0.1 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
270  2  1  Hinia_go  27  g     2.7   .  0 0 1 2 2 0 5 1 0 . 1 1.0 1  0 2-1-27   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
271  2  1  Hinia_go  28  g     2.5   .  0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 2-1-28   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
272  2  1  Hinia_go  29  g     2.2  .  0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  2-1-29   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
273  2  1  Hinia_go  30  g     2.3  .  0  0  0  1  0  0  1  1  0  .  1  1.0  1   0  2-1-30   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
274  2  1  Hinia_go  31  g     2.3  .  0  0  1  1  1  0  3  0  0  1  1  1.0  1   1  2-1-31   1  0.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
275  2  2  Hinia_te   1  g    3.2  .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  2-2-1    1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
276  2  2  Hinia_te   2  g    7.0  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-2-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
277  2  3  Bittum_s   1  g     5.6  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-3-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
278  2  3  Bittum_s   2  g     5.7  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-3-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
279  2  3  Bittum_s   3  g     6.7  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-3-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
280  2  3  Bittum_s   4  g     6.0  .  0  0  1  2  1  0  4  0  1  3  1  1.0  1   1  2-3-4    3  0.5  7  0.3  7  0.3  3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
281  2  3  Bittum_s   5  g     6.3  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
282  2  3  Bittum_s   6  g     5.0  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-3-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
283  2  3  Bittum_s   7  g     5.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-3-7    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
284  2  3  Bittum_s   8  g     7.0  .  0  0  0  1  0  0  1  1  0  .  1  1.0  1   0  2-3-8    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
285  2  3  Bittum_s   9  g     4.2  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-9    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
286  2  3  Bittum_s  10  g     3.2  .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  2-3-10   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
287  2  3  Bittum_s  11  g     7.5  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-11   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
288  2  3  Bittum_s  12  g     7.5  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-12   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
289  2  3  Bittum_s  13  g     4.7  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-13   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
290  2  3  Bittum_s  14  g     5.2  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-14   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
291  2  3  Bittum_s  15  g     3.6  .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  2-3-15   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
292  2  3  Bittum_s  16  g     4.1  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-16   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
293  2  3  Bittum_s  17  g     3.7  .  0  0  1  1  1  0  3  0  0  1  1  1.0  1   1  2-3-17   1  0.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
294  2  3  Bittum_s  18  g     4.7  .  1  0  2  2  2  0  6  1  0  .  1  1.0  1   0  2-3-18   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
295  2  3  Bittum_s  19  g     3.6  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-19   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
296  2  3  Bittum_s  20  g     6.0  .  0  0  1  1  1  0  3  0  0  1  1  1.0  1   1  2-3-20   1  0.5  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
297  2  3  Bittum_s  21  g     3.5  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-21   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
298  2  3  Bittum_s  22  g     3.1  .  1  0  1  2  2  0  5  0  0  1  1  1.0  1   1  2-3-22   . . . . . . . . . . . . .  1  0.2  7.0  . . . . . . . . . . . . . . . . . . . . 0  1  0
299  2  3  Bittum_s  23  g     3.1  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-23   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
300  2  3  Bittum_s  24  g     5.2  .  1  0  0  2  2  0  4  1  0  .  1  1.0  1   0  2-3-24   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
301  2  3  Bittum_s  25  g     5.1  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-3-25   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
302  2  3  Bittum_s  26  g     3.5  .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  2-3-26   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
303  2  3  Bittum_s  27  g     5.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-3-27   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
304  2  4  Bathytom   1  g    10.6  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-4-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
305  2  4  Bathytom   2  g     8.8  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-4-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
306  2  4  Bathytom   3  g     5.3  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-4-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
307  2  4  Bathytom   4  g    10.1  .  0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  2-4-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
308  2  4  Bathytom   5  g    12.6  .  0  0  2  1  1  0  3  1  0  .  1  1.0  1   0  2-4-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
309  2  4  Bathytom   6  g    12.0  .  0  0  1  2  1  1  5  1  0  .  1  1.0  1   0  2-4-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
310  2  4  Bathytom   7  g    12.0  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-4-7    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
311  2  4  Bathytom   8  g    14.0  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-4-8    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
312  2  4  Bathytom   9  g    14.6  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-4-9    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
313  2  4  Bathytom  10  g    20.0  .  0  0  2  3  1  0  6  0  0  1  1  1.0  1   1  2-4-10   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
314  2  5  Gemmula_   1  g     4.0  .  0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  2-5-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
315  2  5  Gemmula_   2  g     3.0  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-5-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
316  2  5  Gemmula_   3  g    13.8  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-5-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
317  2  5  Gemmula_   4  g    16.0  .  1  0  2  2  1  0  5  1  0  .  1  1.0  1   0  2-5-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
318  2   5  Gemmula_   5  g     15.0   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-5-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
319  2   5  Gemmula_   6  g     20.0   .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-5-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
320  2   5  Gemmula_   7  g     16.8   .  0  0  1  2  1  1  5  0  1  3  1  1.0  1   1  2-5-7    2  0.6  7  0.6  4  . . . . . . . .  1  0.6  8.0  . . . . . . . . . . . . . . . . . . . .  1  1  0
321  2   5  Gemmula_   8  g     11.7   .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-5-8    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
322  2   5  Gemmula_   9  g     23.0   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-5-9    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
323  2   6  Pyramid_   1  g      4.0   .  0  0  2  2  0  1  5  1  0  .  1  1.0  1   0  2-6-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
324  2   6  Pyramid_   2  g      4.0   .  0  0  1  2  1  1  5  1  0  .  1  1.0  1   0  2-6-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
325  2   7  Streptod   1  g      5.5   .  0  0  1  1  0  0  2  0  0  1  1  1.0  1   1  2-7-1    1  0.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
326  2   7  Streptod   2  g      4.0   .  1  0  1  1  2  0  4  0  0  1  1  1.0  1   1  2-7-2    1  0.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
327  2   7  Streptod   3  g      4.1   .  1  0  1  2  2  1  6  1  0  .  1  1.0  1   0  2-7-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
328  2   8  Turritel   1  g      8.5   .  1  0  2  2  2  1  7  1  0  .  1  1.0  1   0  2-8-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
329  2   8  Turritel   2  g      5.0   .  1  0  1  3  2  1  7  1  0  .  1  1.0  1   0  2-8-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
330  2   9  Turritel   1  g      4.5   .  1  0  1  1  2  1  5  1  0  .  1  1.0  1   0  2-9-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
331  2  10  Lyrotyph   1  g      3.6   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  2-10-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
332  2  10  Lyrotyph   2  g      5.8   .  0  0  2  1  1  0  4  1  0  .  1  1.0  1   0  2-10-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
333  2  10  Lyrotyph   3  g      3.4   .  0  0  2  1  1  0  4  1  0  .  1  1.0  1   0  2-10-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
334  2  10  Lyrotyph   4  g      4.7   .  1  0  1  1  2  0  4  0  0  1  1  1.0  1   1  2-10-4   1  0.5  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
335  2  10  Lyrotyph   5  g      3.8   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-10-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
336  2  10  Lyrotyph   6  g      5.1   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-10-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
337  2  10  Lyrotyph   7  g      5.3   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-10-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
338  2  11  Roxania_   1  g      3.8   .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-11-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
339  2  11  Roxania_   2  g      2.9   .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-11-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
340  2  11  Roxania_   3  g      3.0   .  0  0  1  3  1  1  6  1  0  .  1  1.0  1   0  2-11-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
341  2  12  Euspira_   1  g      2.2   .  0  0  0  2  1  0  3  0  0  1  1  1.0  1   1  2-12-1   1  0.5  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
342  2  12  Euspira_   2  g      2.8   .  0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  2-12-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
343  2  12  Euspira_   3  g      3.0   .  0  0  2  1  1  0  4  1  0  .  1  1.0  1   0  2-12-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
344  2  12  Euspira_   4  g      4.1   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-12-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
345  2  12  Euspira_   5  g      3.0   .  1  0  1  2  2  1  6  1  0  .  1  1.0  1   0  2-12-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
346  2  12  Euspira_   6  g      2.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-12-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
347  2  12  Euspira_   7  g      4.7   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-12-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
348  2  12  Euspira_   8  g      2.7   .  0  0  1  2  1  1  5  0  1  2  1  1.0  1   1  2-12-8   2  0.3  8  0.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
349  2  12  Euspira_   9  g      2.8   .  1  0  1  2  2  1  6  1  0  .  1  1.0  1   0  2-12-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
350  2  12  Euspira_  10  g      2.2   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-12-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
351  2  12  Euspira_  11  g      4.0   .  1  0  1  2  2  1  6  1  0  .  1  1.0  1   0  2-12-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
352  2  12  Euspira_  12  g      2.4   .  0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  2-12-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
353  2  12  Euspira_  13  g      2.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-12-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
354  2  12  Euspira_  14  g      8.2   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-12-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
355  2  12  Euspira_  15  g      2.5   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-12-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
356  2  12  Euspira_  16  g      3.1   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-12-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
357  2  13  Apperhai   1  g     17.8   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-13-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
358  2  13  Apperhai   2  g     14.8   .  1  0  1  2  2  1  6  1  0  .  1  1.0  1   0  2-13-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
359  2  14  Conus_au   1  g     13.0   .  1  0  1  2  2  1  6  1  0  .  1  1.0  1   0  2-14-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
360  2  14  Conus_au   2  g     15.6   .  1  0  1  2  2  1  6  1  0  .  1  1.0  1   0  2-14-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
361  2  15  Varicorb   1  b  l   3.1  2.4  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-15-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
362  2  15  Varicorb   2  b  l   5.1  3.8  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-15-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
363  2  15  Varicorb   3  b  l   4.5  3.3  0  0  0  2  1  0  3  1  0  .  1  0.5  1   0  2-15-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
```

```
364  2  15  Varicorb   4  b  l   3.0   2.5  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-15-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
365  2  15  Varicorb   5  b  r   6.4   5.1  0  0  1  2  1  1  5  1  0  .  1  0.5  1   0  2-15-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
366  2  15  Varicorb   6  b  r   5.0   4.1  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-15-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
367  2  15  Varicorb   7  b  r   4.9   4.8  1  0  1  3  2  1  7  1  0  .  1  0.5  1   0  2-15-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
368  2  15  Varicorb   8  b  r   3.1   3.1  1  0  1  3  2  0  6  1  0  .  1  0.5  1   0  2-15-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
369  2  15  Varicorb   9  b  r   4.8   4.0  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-15-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
370  2  15  Varicorb  10  b  r    4.1   3.5  0  0  1  2  1  1  5  1  0  .  1  0.5  1   0  2-15-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
371  2  16  Ringicul   1  g      3.8   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
372  2  16  Ringicul   2  g      4.0   .  0  0  1  3  0  1  5  1  0  .  1  1.0  1   0  2-16-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
373  2  16  Ringicul   3  g      3.8   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
374  2  16  Ringicul   4  g      3.9   .  0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  2-16-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
375  2  16  Ringicul   5  g      3.5   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
376  2  16  Ringicul   6  g      4.0   .  0  0  1  3  1  1  6  1  0  .  1  1.0  1   0  2-16-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
377  2  16  Ringicul   7  g      3.5   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  2-16-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
378  2  16  Ringicul   8  g      4.1   .  0  0  1  3  0  1  5  1  0  .  1  1.0  1   0  2-16-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
379  2  16  Ringicul   9  g      4.1   .  0  0  1  3  1  1  6  1  0  .  1  1.0  1   0  2-16-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
380  2  16  Ringicul  10  g      4.0   .  0  0  1  2  0  1  4  1  0  .  1  1.0  1   0  2-16-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
381  2  16  Ringicul  11  g      3.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
382  2  16  Ringicul  12  g      2.0   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  2-16-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
383  2  16  Ringicul  13  g      2.8   .  1  0  0  2  2  1  5  0  0  1  1  1.0  1   1  2-16-13   1  0.5  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
384  2  16  Ringicul  14  g      4.1   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
385  2  16  Ringicul  15  g      3.8   .  0  0  1  3  0  1  5  1  0  .  1  1.0  1   0  2-16-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
386  2  16  Ringicul  16  g      3.7   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
387  2  16  Ringicul  17  g      3.7   .  0  0  1  0  0  0  1  1  0  .  1  1.0  1   0  2-16-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
388  2  16  Ringicul  18  g      3.4   .  0  0  1  0  0  0  1  1  0  .  1  1.0  1   0  2-16-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
389  2  16  Ringicul  19  g      3.6   .  0  0  2  0  0  0  2  1  0  .  1  1.0  1   0  2-16-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
390  2  16  Ringicul  20  g      3.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
391  2  16  Ringicul  21  g      4.3   .  0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  2-16-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
392  2  16  Ringicul  22  g      4.0   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
393  2  16  Ringicul  23  g      4.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
394  2  16  Ringicul  24  g      4.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
395  2  16  Ringicul  25  g      3.7   .  0  0  1  0  0  0  1  1  0  .  1  1.0  1   0  2-16-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
396  2  16  Ringicul  26  g      4.2   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-26  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
397  2  16  Ringicul  27  g      4.1   .  0  0  1  2  0  1  4  1  0  .  1  1.0  1   0  2-16-27  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
398  2  16  Ringicul  28  g      3.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-28  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
399  2  16  Ringicul  29  g      3.3   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-29  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
400  2  16  Ringicul  30  g      4.0   .  0  0  1  0  0  0  1  1  0  .  1  1.0  1   0  2-16-30  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
401  2  16  Ringicul  31  g      4.2   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
402  2  16  Ringicul  32  g      3.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-32  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
403  2  16  Ringicul  33  g      3.2   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  2-16-33  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
404  2  16  Ringicul  34  g      4.3   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-34  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
405  2  16  Ringicul  35  g      3.9   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-35  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
406  2  16  Ringicul  36  g      3.2   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-36  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
407  2  16  Ringicul  37  g      4.1   .  0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  2-16-37  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
408  2  16  Ringicul  38  g      3.7   .  0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  2-16-38  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
409  2  16  Ringicul  39  g      3.4   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-39  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
```

```
410  2  16  Ringicul  40  g      3.7   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-40  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
411  2  16  Ringicul  41  g      4.1   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-41  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
412  2  16  Ringicul  42  g      4.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-42  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
413  2  16  Ringicul  43  g      3.9   .  0  0  2  2  0  0  4  1  0  .  1  1.0  1   0  2-16-43  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
414  2  16  Ringicul  44  g      4.1   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-44  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
415  2  16  Ringicul  45  g      3.5   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-45  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
416  2  16  Ringicul  46  g      4.1   .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  2-16-46  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
417  2  16  Ringicul  47  g      4.3   .  0  0  1  2  1  1  5  1  0  .  1  1.0  1   0  2-16-47  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
418  2  16  Ringicul  48  g      3.3   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  2-16-48  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
419  2  16  Ringicul  49  g      4.0   .  0  0  1  3  1  1  6  1  0  .  1  1.0  1   0  2-16-49  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
420  2  17  Cyclocar   1  b  r  7.2   7.9  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-17-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
421  2  17  Cyclocar   2  b  r  5.0   5.1  0  0  2  3  1  0  6  1  0  .  1  0.5  1   0  2-17-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
422  2  17  Cyclocar   3  b  l  5.9   6.0  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-17-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
423  2  17  Cyclocar   4  b  l  4.1   4.3  0  0  2  2  1  0  5  0  0  1  1  0.5  1   1  2-17-4   1  0.6  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
424  2  17  Cyclocar   5  b  l  4.0   4.0  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-17-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
425  2  17  Cyclocar   6  b  r  3.2   3.2  0  0  2  2  0  0  4  1  0  .  1  0.5  1   0  2-17-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
426  2  17  Cyclocar   7  b  r  5.0   5.1  0  0  1  2  0  0  3  1  0  .  1  0.5  1   0  2-17-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
427  2  17  Cyclocar   8  b  l  6.3   6.3  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-17-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
428  2  17  Cyclocar   9  b  r  7.1   7.2  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-17-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
429  2  17  Cyclocar  10  b  l   6.0   6.1  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-17-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
430  2  18  Limopsis   1  b  l  3.6   4.0  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-18-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
431  2  18  Limopsis   2  b  r  7.6   8.0  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-18-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
432  2  18  Limopsis   3  b  r  5.0   5.1  1  0  1  3  2  0  6  1  0  .  1  0.5  1   0  2-18-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
433  2  18  Limopsis   4  b  l  3.6   3.8  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
434  2  18  Limopsis   5  b  l  3.8   4.1  1  0  2  2  2  0  6  1  0  .  1  0.5  1   0  2-18-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
435  2  18  Limopsis   6  b  r  2.1   2.2  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-18-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
436  2  18  Limopsis   7  b  l  4.3   4.8  1  0  2  1  2  0  5  1  0  .  1  0.5  1   0  2-18-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
437  2  18  Limopsis   8  b  r  3.0   3.0  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-18-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
438  2  18  Limopsis   9  b  r  8.0  10.0  0  0  1  3  2  0  6  1  0  .  1  0.5  1   0  2-18-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
439  2  18  Limopsis  10  b  r   7.2  10.0  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
440  2  18  Limopsis  11  b  r   2.6   2.0  1  0  1  3  2  0  6  1  0  .  1  0.5  1   0  2-18-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
441  2  18  Limopsis  12  b  l   6.0   6.1  1  0  2  2  2  0  6  1  0  .  1  0.5  1   0  2-18-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
442  2  18  Limopsis  13  b  r   6.2   7.0  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-18-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
443  2  18  Limopsis  14  b  l   5.0   5.2  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
444  2  18  Limopsis  15  b  r   9.0  10.0  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-18-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
445  2  18  Limopsis  16  b  l   9.0   9.8  0  0  2  2  0  0  4  1  0  .  1  0.5  1   0  2-18-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
446  2  18  Limopsis  17  b  l  10.0  11.0  0  0  2  1  1  0  4  1  0  .  1  0.5  1   0  2-18-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
447  2  18  Limopsis  18  b  l   7.7   8.0  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-18-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
448  2  18  Limopsis  19  b  r   8.7  10.0  0  0  2  2  1  0  5  1  0  .  1  0.5  1   0  2-18-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
449  2  18  Limopsis  20  b  l   7.0   8.2  1  0  1  1  2  0  4  1  0  .  1  0.5  1   0  2-18-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
450  2  18  Limopsis  21  b  r   8.0   9.5  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-18-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
451  2  18  Limopsis  22  b  l   9.0   9.1  0  0  1  1  2  0  4  1  0  .  1  0.5  1   0  2-18-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
452  2  18  Limopsis  23  b  r   9.1  11.0  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
453  2  18  Limopsis  24  b  r   7.1   9.0  0  0  2  2  1  0  5  1  0  .  1  0.5  1   0  2-18-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
454  2  18  Limopsis  25  b  r   6.1   6.5  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-18-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
455  2  18  Limopsis  26  b  r   8.0  10.0  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-26  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
456  2  18  Limopsis  27  b  l   7.2   7.8  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-18-27  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
457  2  18  Limopsis  28  b  l   8.3   9.1  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-28  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
458  2  18  Limopsis  29  b  l   3.2   3.2  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-29  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
459  2  18  Limopsis  30  b  r   5.0   5.3  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-18-30  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
460  2  18  Limopsis  31  b  l   3.4   3.7  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
461  2  18  Limopsis  32  b  l   5.5   6.0  0  0  1  3  1  0  5  1  0  .  1  0.5  1   0  2-18-32  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
462  2  18  Limopsis  33  b  r   7.0   9.0  1  0  2  2  2  1  7  1  0  .  1  0.5  1   0  2-18-33  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
463  2  18  Limopsis  34  b  l   2.1   2.5  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-18-34  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
464  2  18  Limopsis  35  b  l   5.6   5.9  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-35  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
465  2  18  Limopsis  36  b  r   7.1   7.0  1  0  1  2  2  0  5  1  0  .  1  0.5  1   0  2-18-36  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
466  2  18  Limopsis  37  b  l   6.0   6.6  0  0  1  2  0  0  3  1  0  .  1  0.5  1   0  2-18-37  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
467  2  18  Limopsis  38  b  r   4.2   4.5  0  0  2  2  0  0  4  1  0  .  1  0.5  1   0  2-18-38  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
468  2  18  Limopsis  39  b  l   9.2   9.1  1  0  2  1  2  0  5  1  0  .  1  0.5  1   0  2-18-39  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
469  2  18  Limopsis  40  b  l   4.1   4.1  0  0  1  3  1  0  5  1  0  .  1  0.5  1   0  2-18-40  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
470  2  18  Limopsis  41  b  r   6.0   6.5  0  0  2  2  2  0  6  1  0  .  1  0.5  1   0  2-18-41  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
471  2  18  Limopsis  42  b  r   8.0   7.8  0  0  1  3  2  0  6  1  0  .  1  0.5  1   0  2-18-42  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
472  2  18  Limopsis  43  b  l   3.2   3.1  0  0  2  1  1  0  4  1  0  .  1  0.5  1   0  2-18-43  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
473  2  18  Limopsis  44  b  l   2.8   2.8  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-18-44  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
474  2  18  Limopsis  45  b  r   2.9   3.0  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-45  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
475  2  18  Limopsis  46  b  r   5.1   5.2  1  0  1  3  2  0  6  1  0  .  1  0.5  1   0  2-18-46  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
476  2  18  Limopsis  47  b  r   8.0   7.7  1  0  1  2  2  0  5  1  0  .  1  0.5  1   0  2-18-47  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
477  2  18  Limopsis  48  b  r   5.0   5.0  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-18-48  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
478  2  18  Limopsis  49  b  l   6.0   5.5  1  0  1  2  2  0  5  1  0  .  1  0.5  1   0  2-18-49  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
479  2  18  Limopsis  50  b  l   7.0   8.0  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-18-50  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
480  2  18  Limopsis  51  b  r   7.1   9.0  0  0  2  2  1  0  5  1  0  .  1  0.5  1   0  2-18-51  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
481  2  18  Limopsis  52  b  l   5.5   6.2  1  0  2  3  2  0  7  1  0  .  1  0.5  1   0  2-18-52  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
482  2  18  Limopsis  53  b  r   6.0   7.0  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-18-53  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
483  2  19  Astarte_   1  b  r   8.0   7.9  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-19-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
484  2  19  Astarte_   2  b  r   8.0   7.9  0  0  1  0  0  1  2  1  0  .  1  0.5  1   0  2-19-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
485  2  19  Astarte_   3  b  l   7.0   0.1  0  0  1  2  1  0  4  0  0  1  1  0.5  1   1  2-19-3   . . . . . . . . . . . . . . . . . . . . . .1  0.8  1  . . . . . . . . . . . . .0  0  1
486  2  19  Astarte_   4  b  l   6.0   5.8  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-19-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
487  2  19  Astarte_   5  b  r   8.0   8.1  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-19-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
488  2  19  Astarte_   6  b  r   7.0   6.8  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-19-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
489  2  19  Astarte_   7  b  l   7.0   7.1  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-19-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
490  2  19  Astarte_   8  b  r   3.2   3.0  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-19-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
491  2  19  Astarte_   9  b  r   4.8   4.3  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-19-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
492  2  19  Astarte_  10  b  r   6.8   6.1  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-19-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
493  2  19  Astarte_  11  b  l   4.5   4.2  0  0  1  2  0  0  3  1  0  .  1  0.5  1   0  2-19-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
494  2  19  Astarte_  12  b  r   2.5   2.1  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-19-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
495  2  19  Astarte_  13  b  l   4.2   4.0  0  0  0  2  1  0  3  1  0  .  1  0.5  1   0  2-19-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
496  2  19  Astarte_  14  b  r   2.2   2.2  0  0  0  1  1  1  3  1  0  .  1  0.5  1   0  2-19-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
497  2  19  Astarte_  15  b  l   4.9   5.1  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-19-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
498  2  19  Astarte_  16  b  r   4.0   3.8  1  0  2  3  2  0  7  1  0  .  1  0.5  1   0  2-19-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
499  2  19  Astarte_  17  b  r   3.1   2.9  0  0  0  1  0  0  1  1  0  .  1  0.5  1   0  2-19-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
500  2  19  Astarte_  18  b  l   3.3   3.1  0  0  1  2  1  0  4  1  0  .  1  0.5  1   0  2-19-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
501  2  19  Astarte_  19  b  r   3.0   3.1  1  0  1  1  2  0  4  1  0  .  1  0.5  1   0  2-19-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
```

```
502  2  19  Astarte_  20  b  l   4.3   4.3  1  0  0  2  2  0  4  1  0  .  1  0.5  1   0  2-19-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
503  2  19  Astarte_  21  b  r   4.3   4.0  1  0  2  2  2  0  6  1  0  .  1  0.5  1   0  2-19-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
504  2  19  Astarte_  22  b  l   4.0   3.7  0  0  0  2  0  0  2  1  0  .  1  0.5  1   0  2-19-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
505  2  19  Astarte_  23  b  l   7.8   7.2  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-19-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
506  2  19  Astarte_  24  b  l   5.1   5.0  1  0  1  1  2  0  4  1  0  .  1  0.5  1   0  2-19-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
507  2  19  Astarte_  25  b  r   5.1   5.0  1  0  1  2  2  1  6  1  0  .  1  0.5  1   0  2-19-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
508  2  19  Astarte_  26  b  r   8.2   7.9  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-19-26  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
509  2  19  Astarte_  27  b  r   4.5   4.1  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-19-27  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
510  2  19  Astarte_  28  b  r   6.1   5.8  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  2-19-28  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
511  2  19  Astarte_  29  b  l   4.2   4.0  1  0  2  2  2  0  6  1  0  .  1  0.5  1   0  2-19-29  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
512  2  19  Astarte_  30  b  l   6.2   5.8  0  0  2  2  1  0  5  1  0  .  1  0.5  1   0  2-19-30  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
513  2  19  Astarte_  31  b  r   3.0   2.8  0  0  2  1  0  0  3  1  0  .  1  0.5  1   0  2-19-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
514  2  19  Astarte_  32  b  l   3.1   2.8  0  0  2  2  1  0  5  1  0  .  1  0.5  1   0  2-19-32  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
515  2  19  Astarte_  33  b  r   7.1   6.6  0  0  2  1  1  0  4  1  0  .  1  0.5  1   0  2-19-33  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
516  2  19  Astarte_  34  b  l   7.0   6.2  1  0  2  1  2  0  5  1  0  .  1  0.5  1   0  2-19-34  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
517  2  19  Astarte_  35  b  l   3.0   3.2  1  0  2  2  2  0  6  1  0  .  1  0.5  1   0  2-19-35  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
518  2  19  Astarte_  36  b  l   4.5   4.1  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-19-36  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
519  2  19  Astarte_  37  b  l   3.2   3.0  0  0  0  1  1  0  2  1  0  .  1  0.5  1   0  2-19-37  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
520  2  19  Astarte_  38  b  l   2.6   2.5  0  0  0  1  0  0  1  1  0  .  1  0.5  1   0  2-19-38  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
521  2  20  Hagnella   1  g      3.1    .  0  0  0  1  1  1  3  1  0  .  1  1.0  1   0  2-20-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
522  2  21  Yoldiell   1  b  b   2.5   1.3  0  0  0  1  1  0  2  0  0  1  1  1.0  1   1  2-21-1  . . . . . . . . . . . . . . . . . . . . . . . . 1  0.3  8  . . . . . . . . . . . . . . .  0  0  1
523  2  21  Yoldiell   2  b  l   3.0   2.1  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  2-21-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
524  2  22  Goodalli   1  b  r   3.2   3.1  0  0  1  2  0  0  3  1  0  .  1  0.5  1   0  2-22-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
525  2  22  Goodalli   2  b  r   3.1   2.8  0  0  2  1  1  0  4  1  0  .  1  0.5  1   0  2-22-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
526  2  23  Tubonill   1  g      6.2    .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-23-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
527  2  24  Aquilofu   1  g     30.0    .  0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  2-24-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
528  2  25  Crassisp   1  g     18.0    .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-25-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
529  2  26  Unidogem   1  g      4.1    .  1  0  1  2  2  1  6  1  0  .  1  1.0  1   0  2-26-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
530  2  26  Unidogem   2  g      8.0    .  0  0  0  2  1  1  4  1  0  .  1  1.0  1   0  2-26-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
531  2  26  Unidogem   3  g     10.8    .  0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  2-26-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
532  2  26  Unidogem   4  g      2.2    .  1  0  0  3  2  1  6  1  0  .  1  1.0  1   0  2-26-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
533  2  26  Unidogem   5  g      5.2    .  1  0  0  2  2  1  5  1  0  .  1  1.0  1   0  2-26-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
534  2  26  Unidogem   6  g      4.1    .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  2-26-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
535  2  26  Unidogem   7  g      6.7    .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-26-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
536  2  26  Unidogem   8  g     15.8    .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  2-26-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
537  2  26  Unidogem   9  g     16.2    .  1  0  0  2  2  0  4  1  0  .  1  1.0  1   0  2-26-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
538  2  26  Unidogem  10  g     20.3    .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  2-26-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
539  2  27  Boreadri   1  g      8.2    .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-27-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
540  2  27  Boreadri   2  g      5.1    .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-27-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
541  2  27  Boreadri   3  g      5.0    .  1  0  0  2  2  1  5  1  0  .  1  1.0  1   0  2-27-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
542  2  27  Boreadri   4  g     13.2    .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-27-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
543  2  28  Asthenot   1  g      4.0    .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  2-28-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
544  2  29  Fusituri   1  g     16.2    .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  2-29-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
545  2  29  Fusituri   2  g      2.8    .  0  0  0  2  1  1  4  1  0  .  1  1.0  1   0  2-29-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
546  2  29  Fusituri   3  g      5.0    .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  2-29-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
547  2  29  Fusituri   4  g      7.9    .  1  0  1  1  2  0  4  1  0  .  1  1.0  1   0  2-29-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
548  2 29  Fusituri    5  g     11.9   .  0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 2-29-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
549  2 29  Fusituri    6  g     11.8   .  0 0 1 1 1 1 4 1 0 . 1 1.0 1  0 2-29-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
550  2 29  Fusituri    7  g      8.8   .  0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 2-29-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
551  2 29  Fusituri    8  g      7.1   .  1 0 0 2 2 1 5 1 0 . 1 1.0 1  0 2-29-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
552  2 30  Mitrella    1  g      5.1   .  0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 2-30-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
553  2 30  Mitrella    2  g      9.9   .  0 0 0 1 1 0 2 1 0 . 1 1.0 1  0 2-30-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
554  2 31  Orthosur    1  g      8.1   .  0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 2-31-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
555  2 32  Haedropl    1  g      5.5   .  0 0 0 2 1 1 4 1 0 . 1 1.0 1  0 2-32-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
556  2 33  Cordiera    1  g      9.5   .  0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 2-33-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
557  2 34  Babylone    1  g      2.2   .  0 0 0 1 0 0 1 1 0 . 1 1.0 1  0 2-34-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
558  2 34  Babylone    2  g      3.7   .  0 0 1 1 0 1 3 0 0 1 1 1.0 1  1 2-34-2   1 0.1 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
559  2 34  Babylone    3  g      3.4   .  0 0 1 1 1 1 4 0 0 1 1 1.0 1  1 2-34-3   1 0.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
560  2 34  Babylone    4  g      3.8   .  0 0 1 1 0 0 2 0 0 1 1 1.0 1  1 2-34-4   1 0.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
561  2 35  Sorgenfr    1  g      3.9   .  0 0 1 2 0 0 3 1 0 . 1 1.0 1  0 2-35-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
562  2 36  Asthenot    1  g      6.1   .  0 0 0 1 1 0 2 1 0 . 1 1.0 1  0 2-36-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
563  2 36  Asthenot    2  g     10.1   .  0 0 2 2 1 1 6 1 0 . 1 1.0 1  0 2-36-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
564  2 36  Asthenot    3  g      6.5   .  0 0 1 1 0 0 2 0 0 1 1 1.0 1  1 2-36-3   1 0.4 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
565  2 36  Asthenot    4  g      3.8   .  0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 2-36-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
566  2 36  Asthenot    5  g      6.8   .  0 0 1 1 1 1 4 0 0 1 1 1.0 1  1 2-36-5   1 0.3 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
567  2 36  Asthenot    6  g      8.1   .  0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 2-36-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
568  2 36  Asthenot    7  g      9.1   .  1 0 1 2 2 0 5 0 0 1 1 1.0 1  1 2-36-7   1 0.5 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
569  2 36  Asthenot    8  g      5.1   .  0 0 1 1 1 0 3 0 1 2 1 1.0 1  1 2-36-8   1 0.3 8 . . . . . . . . . . 1 0.1 8.0 . . . . . . . . . . . . . . . . . . . 1 1 0
570  2 36  Asthenot    9  g     10.6   .  0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 2-36-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
571  2 36  Asthenot   10  g      9.6   .  0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 2-36-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
572  2 37  Limopsis    1  b l    5.5  5.9 0 0 1 0 1 0 2 1 0 . 1 0.5 1  0 2-37-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
573  2 38  Sacella_    1  b r    8.1  4.6 0 0 1 3 1 1 6 1 0 . 1 0.5 1  0 2-38-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
574  2 39  Hinia_vo    1  g      3.6   .  0 0 0 1 1 0 2 1 0 . 1 1.0 1  0 2-39-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
575  3  1  Aquipect    1  b r   20.4 20.0 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 3-1-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
576  3  2  Apporhai    1  g     11.5   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 3-2-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
577  3  2  Apporhai    2  g     12.0   .  1 0 1 3 2 1 7 1 0 . 1 1.0 2  0 3-2-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
578  3  2  Apporhai    3  g     15.0   .  0 0 0 3 1 0 4 1 0 . 1 1.0 2  0 3-2-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
579  3  2  Apporhai    4  g     14.0   .  0 0 0 2 1 0 3 1 0 . 1 1.0 2  0 3-2-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
580  3  2  Apporhai    5  g     12.2   .  0 0 1 3 1 0 5 0 1 2 1 1.0 2  1 3-2-5    2 0.2 8 0.4 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
581  3  2  Apporhai    6  g     12.8   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 3-2-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
582  3  2  Apporhai    7  g     12.2   .  1 0 1 3 2 0 6 0 0 1 1 1.0 2  1 3-2-7    . . . . . . . . . . . . . . 1.0 0.5 4.0 . . . . . . . . . . . . . . . . . . 0 0 0
583  3  2  Apporhai    8  g     13.3   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 3-2-8    1 0.3 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
584  3  2  Apporhai    9  g     13.8   .  1 0 1 3 2 0 6 1 0 . 1 1.0 2  0 3-2-9    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
585  3  2  Apporhai   10  g     13.9   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 3-2-10   . . . . . . . . . . . . . . 1.0 1.0 8.0 . . . . . . . . . . . . . . . . . . 0 0 0
586  3  2  Apporhai   11  g     13.7   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 3-2-11   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
587  3  2  Apporhai   12  g     12.0   .  1 0 1 3 2 0 6 0 1 2 1 1.0 2  1 3-2-12   2 1.0 4 0.8 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
588  3  2  Apporhai   13  g     13.1   .  0 0 1 3 1 1 6 1 0 . 1 1.0 2  0 3-2-13   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
589  3  2  Apporhai   14  g     10.1   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 3-2-14   1 0.3 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
590  3  2  Apporhai   15  g     12.1   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 3-2-15   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
591  3  2  Apporhai   16  g     14.1   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 3-2-16   1 0.4 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
592  3  3  Astarte_    1  b r    2.7  2.8 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 3-3-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
593  3  3  Astarte_    2  b r    4.1  4.2 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 3-3-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
594  3  3  Astarte_    3  b  r   3.2   3.5  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  3-3-3     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
595  3  3  Astarte_    4  b  r   1.9   2.0  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  3-3-4     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
596  3  3  Astarte_    5  b  r   5.0   5.2  0  0  1  1  1  1  4  1  0  .  1  0.5  2   0  3-3-5     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
597  3  3  Astarte_    6  b  r   4.0   4.5  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-3-6     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
598  3  3  Astarte_    7  b  r   5.0   5.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-3-7     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
599  3  3  Astarte_    8  b  r   4.6   5.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-3-8     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
600  3  3  Astarte_    9  b  r   4.2   5.0  0  0  2  2  1  0  5  1  0  .  1  0.5  2   0  3-3-9     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
601  3  3  Astarte_   10  b  l   5.1   6.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-3-10    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
602  3  3  Astarte_   11  b  l   7.0   8.0  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  3-3-11    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
603  3  3  Astarte_   12  b  l   7.2   8.2  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  3-3-12    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
604  3  3  Astarte_   13  b  l   7.5   8.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-3-13    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
605  3  3  Astarte_   14  b  r   5.3   6.0  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  3-3-14   1  1.0  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
606  3  3  Astarte_   15  b  r   8.2   9.0  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  3-3-15   1  1.3  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
607  3  3  Astarte_   16  b  r   6.8   7.1  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  3-3-16   1  1.3  3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
608  3  3  Astarte_   17  b  l   3.6   4.2  0  0  1  1  0  0  2  0  0  1  1  0.5  2   1  3-3-17   1  0.8  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
609  3  3  Astarte_   18  b  l   5.4   6.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-3-18    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
610  3  3  Astarte_   19  b  r   5.0   5.7  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  3-3-19    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
611  3  3  Astarte_   20  b  r   4.9   5.0  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  3-3-20    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
612  3  3  Astarte_   21  b  l   3.0   3.2  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  3-3-21    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
613  3  3  Astarte_   22  b  l   6.1   7.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-3-22    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
614  3  3  Astarte_   23  b  r   5.2   5.9  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-3-23    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
615  3  3  Astarte_   24  b  r   6.1   7.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-3-24    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
616  3  3  Astarte_   25  b  l   5.9   6.3  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  3-3-25    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
617  3  3  Astarte_   26  b  l   7.0   7.8  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-3-26    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
618  3  3  Astarte_   27  b  l   6.0   8.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-3-27    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
619  3  4  Cyclocar    1  b  r   4.3   4.2  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  3-4-1     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
620  3  4  Cyclocar    2  b  l   4.3   4.2  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  3-4-2     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
621  3  4  Cyclocar    3  b  r   5.8   5.3  1  0  0  1  2  0  3  1  0  .  1  0.5  2   0  3-4-3     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
622  3  4  Cyclocar    4  b  r   2.8   2.8  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  3-4-4     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
623  3  4  Cyclocar    5  b  l   3.1   3.2  0  0  1  1  0  0  2  0  0  1  1  0.5  2   1  3-4-5    1  0.7  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
624  3  4  Cyclocar    6  b  l   7.1   7.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-4-6     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
625  3  4  Cyclocar    7  b  l   6.2   6.1  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  3-4-7     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
626  3  4  Cyclocar    8  b  r   6.2   6.1  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  3-4-8     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
627  3  4  Cyclocar    9  b  r   5.0   5.0  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  3-4-9     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
628  3  5  Gouldia_    1  b  l   2.8   2.7  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  3-5-1    1  1.1  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
629  3  5  Gouldia_    2  b  l   2.6   2.9  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-5-2     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
630  3  5  Gouldia_    3  b  l   4.2   5.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-5-3     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
631  3  6  Glycymer    1  b  r   3.0   3.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-6-1     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
632  3  6  Glycymer    2  b  r   2.7   2.9  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  3-6-2     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
633  3  7  Conus_an    1  g      14.0    .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  3-7-1     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
634  3  7  Conus_an    2  g      22.8    .  0  0  0  2  1  1  4  1  0  .  1  1.0  2   0  3-7-2     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
635  3  8  Crassisp    1  g      16.0    .  1  0  1  2  2  0  5  1  0  .  1  1.0  2   0  3-8-1     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
636  3  8  Crassisp    2  g       9.0    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-8-2    1  1.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
637  3  8  Crassisp    3  g      12.7    .  0  0  0  1  1  0  2  0  1  6  1  1.0  2   1  3-8-3    5  1.0  7  1.1  8  1.3  1  1.0  2  1.1  4  . . . . . . . . . . .  1  0.3  7  . . . . . . . . . . .  1  0  1
638  3  9  Baryspir    1  g      24.0    .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  3-9-1     . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
639  3  9  Baryspir    2  g      14.8    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-9-2     . . . . . . . . . . . . .  1  2.1  7.0  . . . . . . . . . . . . . . . . . . . 0  1  0
```

```
640  3   9  Baryspir   3  g     24.0   .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  3-9-3    1  0.6  3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
641  3   9  Baryspir   4  g     12.1   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-9-4    1  1.0  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
642  3   9  Baryspir   5  g      9.0   .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  3-9-5    1  1.2  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
643  3  10  Ringicul   1  g      4.2   .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  3-10-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
644  3  10  Ringicul   2  g      4.2   .  0  0  0  3  0  0  3  1  0  .  1  1.0  2   0  3-10-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
645  3  10  Ringicul   3  g      3.8   .  0  0  0  3  0  0  3  1  0  .  1  1.0  2   0  3-10-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
646  3  10  Ringicul   4  g      4.4   .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  3-10-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
647  3  10  Ringicul   5  g      4.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
648  3  10  Ringicul   6  g      4.7   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
649  3  10  Ringicul   7  g      3.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
650  3  10  Ringicul   8  g      3.6   .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  3-10-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
651  3  10  Ringicul   9  g      4.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
652  3  10  Ringicul  10  g      4.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
653  3  10  Ringicul  11  g      2.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
654  3  10  Ringicul  12  g      4.1   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
655  3  10  Ringicul  13  g      5.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
656  3  10  Ringicul  14  g      4.1   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
657  3  10  Ringicul  15  g      4.1   .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  3-10-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
658  3  10  Ringicul  16  g      4.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  3-10-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
659  3  10  Ringicul  17  g      2.6   .  1  0  0  3  2  1  6  1  0  .  1  1.0  2   0  3-10-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
660  3  10  Ringicul  18  g      4.8   .  0  0  0  1  0  0  1  1  0  .  1  1.0  2   0  3-10-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
661  3  10  Ringicul  19  g      4.0   .  0  0  1  2  0  0  3  0  0  1  1  1.0  2   1  3-10-19  1  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
662  3  10  Ringicul  20  g      5.0   .  0  0  1  2  0  0  3  0  0  1  1  1.0  2   1  3-10-20  1  0.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
663  3  11  Amychina   1  g      4.8   .  0  0  0  3  1  0  4  1  0  .  1  1.0  2   0  3-11-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
664  3  11  Amychina   2  g     11.8   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-11-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
665  3  11  Amychina   3  g      8.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-11-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
666  3  11  Amychina   4  g      6.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-11-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
667  3  11  Amychina   5  g      3.7   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-11-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
668  3  11  Amychina   6  g      4.1   .  0  0  1  3  1  1  6  1  0  .  1  1.0  2   0  3-11-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
669  3  11  Amychina   7  g      4.1   .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  3-11-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
670  3  11  Amychina   8  g      4.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-11-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
671  3  11  Amychina   9  g      6.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-11-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
672  3  11  Amychina  10  g      7.3   .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  3-11-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
673  3  11  Amychina  11  g      3.2   .  0  0  1  3  0  0  4  0  0  1  1  1.0  2   1  3-11-11  1  0.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
674  3  11  Amychina  12  g      6.1   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-11-12  1  0.7  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
675  3  11  Amychina  13  g      6.3   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-11-13  1  0.7  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
676  3  11  Amychina  14  g      6.3   .  0  0  1  2  1  1  5  0  1  2  1  1.0  2   1  3-11-14  2  1.1  8  1.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3  1  0  0
677  3  11  Amychina  15  g      6.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-11-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
678  3  11  Amychina  16  g      5.7   .  0  0  1  3  1  1  6  1  0  .  1  1.0  2   0  3-11-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
679  3  11  Amychina  17  g      7.8   .  0  0  2  2  1  0  5  1  0  .  1  1.0  2   0  3-11-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
680  3  11  Amychina  18  g      3.2   .  0  0  0  2  0  0  2  1  0  .  1  1.0  2   0  3-11-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
681  3  11  Amychina  19  g     12.7   .  0  0  0  1  0  0  1  1  0  .  1  1.0  2   0  3-11-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
682  3  12  Niso_aca   1  g      5.9   .  0  0  1  2  1  0  4  0  1  4  1  1.0  2   1  3-12-1   4  0.9  7  0.7  6  0.5  7  0.3  7  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
683  3  12  Niso_aca   2  g      9.6   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-12-2   1  0.6  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
684  3  12  Niso_aca   3  g      8.3   .  0  0  1  3  1  1  6  0  1  2  1  1.0  2   1  3-12-3   1  0.6  4  . . . . . . . . . . . . . . . . . . .  1  1.0  7  . . . . . . . . . .  3  1  0  1
685  3  13  Turritel   1  g      8.9   .  1  0  1  2  2  0  5  0  0  1  1  1.0  2   1  3-13-1   1  0.6  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
```

```
686  3  13  Turritel   2  g     12.0   .  0  0  1  1  1  0  3  0  1  2  1  1.0  2   1  3-13-2   1  1.0  3  . . . . . . . . . . 1  0.1  7.0  . . . . . . . . . . . . . . . . . . . 1  1  0
687  3  13  Turritel   3  g     11.0   .  1  0  1  2  2  0  5  1  0  .  1  1.0  2   0  3-13-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
688  3  14  Cylichna   1  g      4.9   .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  3-14-1   1  0.6  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
689  3  14  Cylichna   2  g      3.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-14-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
690  3  15  Hinia_te   1  g      5.8   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-15-1   1  0.9  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
691  3  15  Hinia_te   2  g      6.2   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-15-2   1  0.6  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
692  3  15  Hinia_te   3  g      4.1   .  0  0  0  1  0  0  1  1  0  .  1  1.0  2   0  3-15-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
693  3  16  Narona_v   1  g     15.1   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-16-1   1  1.0  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
694  3  17  Asthenot   1  g      5.5   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-17-1   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
695  3  18  Balcis_s   1  g      7.2   .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  3-18-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
696  3  19  Unedogem   1  g      7.1   .  0  0  1  3  1  0  5  0  1  3  1  1.0  2   1  3-19-1   3  1.0  1  0.4  8  0.2  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
697  3  19  Unedogem   2  g     15.6   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-19-2   1  0.7  3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
698  3  19  Unedogem   3  g      5.7   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-19-3   1  0.3  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
699  3  19  Unedogem   4  g     10.0   .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  3-19-4   1  0.4  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
700  3  19  Unedogem   5  g     11.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-19-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
701  3  19  Unedogem   6  g      6.9   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-19-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
702  3  20  Bathytom   1  g      9.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-20-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
703  3  21  Streptod   1  g      4.1   .  0  0  0  1  1  0  2  1  0  .  1  1.0  2   0  3-21-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
704  3  21  Streptod   2  g      4.1   .  0  0  0  1  1  0  2  1  0  .  1  1.0  2   0  3-21-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
705  3  22  Asthenot   1  g      5.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-22-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
706  3  22  Asthenot   2  g      4.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-22-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
707  3  22  Asthenot   3  g      5.0   .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  3-22-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
708  3  22  Asthenot   4  g      3.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-22-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
709  3  22  Asthenot   5  g      5.1   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-22-6   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
710  3  23  Natica_b   1  g      7.5   .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-23-1   1  1.1  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
711  3  23  Natica_b   2  g      7.0   .  0  0  1  2  1  1  5  0  0  1  1  1.0  2   1  3-23-2   1  1.6  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
712  3  24  Anadara_    1  b  l   2.8   3.9  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  3-24-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
713  3  24  Anadara_    2  b  l   6.0   8.0  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  3-24-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
714  3  25  Varicorb   1  b  r   5.0   5.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-25-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
715  3  25  Varicorb   2  b  l   2.9   3.3  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  3-25-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
716  3  25  Varicorb   3  b  r   4.5   5.2  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  3-25-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
717  3  25  Varicorb   4  b  r   4.8   5.8  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  3-25-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
718  3  25  Varicorb   5  b  r   5.1   6.3  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-25-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
719  3  25  Varicorb   6  b  l   2.1   2.7  0  0  0  3  0  0  3  1  0  .  1  0.5  2   0  3-25-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
720  3  25  Varicorb   7  b  r   4.2   5.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  3-25-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
721  3  25  Varicorb   8  b  r   5.3   6.2  1  0  1  2  2  0  5  1  0  .  1  0.5  2   0  3-25-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
722  3  25  Varicorb   9  b  r   5.0   5.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-25-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
723  3  26  Triotese   1  g     14.2   .  0  0  1  2  1  0  4  0  1  2  1  1.0  2   1  3-26-1   2  0.5  7  0.5  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
724  3  26  Triotese   2  g     16.0   .  0  0  1  3  1  1  6  0  0  1  1  1.0  2   1  3-26-2   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2  1  0  0
725  3  27  Streptol   1  g     10.0   .  0  0  0  2  1  0  3  0  0  1  1  1.0  2   1  3-27-1   1  2.0  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
726  3  27  Streptol   2  g      2.6   .  1  0  0  2  2  0  4  0  0  1  1  1.0  2   1  3-27-2   1  0.7  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
727  3  27  Streptol   3  g     10.3   .  0  0  0  1  2  0  3  1  0  .  1  1.0  2   0  3-27-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
728  3  27  Streptol   4  g     12.2   .  0  0  0  1  2  0  3  1  0  .  1  1.0  2   0  3-27-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
729  3  28  Astarte_    1  b  r  10.0  10.2  0  0  1  2  0  0  3  0  0  1  1  0.5  2   1  3-28-1   1  1.0  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
730  3  28  Astarte_    2  b  r   6.0   6.8  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-28-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
731  3  28  Astarte_    3  b  l   8.1   9.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-28-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
732  3  28  Astarte_   4  b  r   5.8   6.5  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-28-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
733  3  28  Astarte_   5  b  l   7.9   8.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-28-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
734  3  28  Astarte_   6  b  l  10.1  11.2  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  3-28-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
735  3  28  Astarte_   7  b  l   5.0   6.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-28-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
736  3  28  Astarte_   8  b  l   6.3   7.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-28-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
737  3  28  Astarte_   9  b  r   8.2   9.1  0  0  2  1  0  1  4  1  0  .  1  0.5  2   0  3-28-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
738  3  28  Astarte_  10  b  l   7.3   8.0  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  3-28-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
739  3  28  Astarte_  11  b  l   7.0   8.1  0  0  2  1  0  0  3  1  0  .  1  0.5  2   0  3-28-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
740  3  28  Astarte_  12  b  l   6.5   7.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-28-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
741  3  29  Lyrotyph   1  g      5.2    .   0  0  0  1  1  0  2  1  0  .  1  1.0  2   0  3-29-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
742  3  29  Lyrotyph   2  g      5.5    .   0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  3-29-2   1  1.3  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
743  3  30  Hiatella   1  b  l   6.2   3.0  0  0  1  3  1  0  5  0  1  2  1  0.5  2   1  3-30-1   2  0.1  1  0.1  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
744  3  30  Hiatella   2  b  r   3.2   1.8  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  3-30-2   1  0.1  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
745  3  30  Hiatella   3  b  l   5.6   2.0  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  3-30-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
746  3  30  Hiatella   4  b  l   3.5   1.5  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-30-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
747  3  30  Hiatella   5  b  r   6.1   3.0  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  3-30-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
748  3  31  Habecard   1  b  l   2.9   3.0  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  3-31-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
749  3  32  Turritel   1  g      7.0    .   1  0  0  2  2  0  4  0  0  1  1  1.0  2   1  3-32-1   1  1.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
750  3  32  Turritel   2  g      8.3    .   0  0  0  2  1  0  3  0  0  1  1  1.0  2   1  3-32-2   1  1.0  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
751  3  32  Turritel   3  g      4.1    .   1  0  1  2  2  0  5  0  0  1  1  1.0  2   1  3-32-3   1  0.5  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
752  3  32  Turritel   4  g      5.0    .   1  0  0  1  2  0  3  1  0  .  1  1.0  2   0  3-32-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
753  3  32  Turritel   5  g      8.1    .   0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  3-32-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
754  3  33  Spisula_   1  b  l   3.8   5.3  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  3-33-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
755  3  34  Babylone   1  g      7.1    .   0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  3-34-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
756  3  35  Phos_dec   1  g      6.8    .   0  0  1  1  1  0  3  0  1  2  1  1.0  2   1  3-35-1   2  0.3  8  0.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
757  3  36  Fusituri   1  g     10.8    .   0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  3-36-1   1  1.0  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
758  3  37  Anachis_   1  g      5.1    .   0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-37-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
759  3  38  Sorgenfr   1  g       .    . . . . . . . .  0  0  1  1  1.0  2   1  3-38-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
760  3  39  Gonimyrt   1  b  r   5.8   6.1  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  3-39-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
761  3  39  Gonimyrt   2  b  r   4.1   4.8  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  3-39-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
762  3  39  Gonimyrt   3  b  r   6.2   6.5  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  3-39-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
763  3  40  Opalia_p   1  g      8.8    .   0  0  1  2  0  0  3  0  1  2  1  1.0  2   1  3-40-1   2  1.0  8  0.5  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
764  3  41  Pseudamu   1  b  l   9.5   8.4  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-41-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
765  3  42  Sacella_   1  b  r   4.5   8.6  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  3-42-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
766  3  43  Eulinia_   1  g      3.3    .   0  0  0  1  0  0  1  1  0  .  1  1.0  2   0  3-43-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
767  3  44  Splendri   1  g      4.8    .   0  0  1  0  1  0  2  1  0  .  1  1.0  2   0  3-44-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
768  3  45  Gemmula_   1  g      8.1    .   1  0  1  2  2  0  5  0  0  1  1  1.0  2   1  3-45-1   1  1.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
769  3  45  Gemmula_   2  g     10.0    .   0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-45-2   1  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
770  3  46  Hadriana   1  g     15.6    .   0  0  0  2  1  1  4  1  0  .  1  1.0  2   0  3-46-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
771  3  46  Hadriana   2  g      7.8    .   0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-46-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
772  3  47  Gemmula_   1  g      6.2    .   0  0  0  2  1  0  3  0  0  1  1  1.0  2   1  3-47-1   1  0.7  3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
773  3  48  Typhis_p   1  g     12.7    .   0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  3-48-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
774  3  49  Hemiacir   1  g      5.4    .   0  0  0  2  0  0  2  0  0  1  1  1.0  2   1  3-49-1   1  1.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
775  3  51  Limopsis   1  b  r   5.0   4.4  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-51-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
776  3  51  Limopsis   2  b  r   6.0   5.4  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  3-51-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
777  3  51  Limopsis   3  b  l   4.0   4.0  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  3-51-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
778  3  51  Limopsis   4  b  l   2.7   2.6  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  3-51-4    1  0.4  5  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
779  3  51  Limopsis   5  b  l   5.2   5.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-51-5    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
780  3  51  Limopsis   6  b  l   8.1   7.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  3-51-6    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
781  3  51  Limopsis   7  b  l   6.0   5.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-51-7    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
782  3  51  Limopsis   8  b  l   4.9   4.3  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  3-51-8    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
783  3  51  Limopsis   9  b  r   5.0   5.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-51-9    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
784  3  51  Limopsis  10  b  r   8.8   6.8  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  3-51-10  . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
785  3  51  Limopsis  11  b  r   6.0   5.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-51-11  . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
786  3  51  Limopsis  12  b  l   5.2   5.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-51-12  . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
787  3  52  Limopsis   1  b  b   5.2   5.0  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  3-52-1    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
788  3  52  Limopsis   2  b  r   3.8   3.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-52-2    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
789  3  52  Limopsis   3  b  r   6.2   5.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-52-3    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
790  3  52  Limopsis   4  b  l   5.1   5.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-52-4    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
791  3  52  Limopsis   5  b  l   8.6   7.4  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-52-5    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
792  3  52  Limopsis   6  b  l   8.8   7.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-52-6    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
793  3  52  Limopsis   7  b  r   6.1   6.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-52-7    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
794  3  53  Limopsis   1  b  l   2.3   2.0  0  0  1  3  1  0  5  0  0  1  1  0.5  2   1  3-53-1    1  0.1  2  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
795  3  54  Astarte_   1  b  r   6.0   6.2  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  3-54-1    1  1.0  9  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
796  3  54  Astarte_   2  b  l   6.1   6.8  0  0  2  2  1  0  5  1  0  .  1  0.5  2   0  3-54-2    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
797  3  54  Astarte_   3  b  l   3.1   3.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-54-3    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
798  3  54  Astarte_   4  b  l   6.1   5.9  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-54-4    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
799  3  54  Astarte_   5  b  l   8.5   9.5  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-54-5    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
800  3  54  Astarte_   6  b  l   6.2   7.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  3-54-6    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
801  3  54  Astarte_   7  b  r   7.1   7.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  3-54-7    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
802  3  55  Hanstell   1  g     12.2    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-55-1    1  2.1  6  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
803  3  56  Euspira_   1  g      2.0    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-56-1    1  0.5  5  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
804  3  56  Euspira_   2  g      3.8    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  3-56-2    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
805  3  56  Euspira_   3  g      5.0    .  0  0  0  2  1  1  4  1  0  .  1  1.0  2   0  3-56-3    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
806  3  56  Euspira_   4  g      2.0    .  0  0  1  2  1  1  5  1  0  .  1  1.0  2   0  3-56-4    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
807  3  56  Euspira_   5  g      4.3    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  3-56-5    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
808  3  56  Euspira_   6  g      2.2    .  0  0  1  2  1  1  5  1  0  .  1  1.0  2   0  3-56-6    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
809  3  56  Euspira_   7  g      4.3    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  3-56-7    1  0.1  8  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
810  3  57  Retusa_e   1  g      3.0    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  3-57-1    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
811  3  58  Natica_t   1  g      7.2    .  0  0  1  2  1  1  5  1  0  .  1  1.0  2   0  3-58-1    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
812  3  58  Natica_t   2  g      2.5    .  0  0  1  2  0  0  3  0  0  1  1  1.0  2   1  3-58-2    1  0.8  6  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
813  3  58  Natica_t   3  g      2.1    .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  3-58-3    . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
814  4   1  Aquipect   1  b  l  11.8  11.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-1-1     . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
815  4   1  Aquipect   2  b  l  13.1  12.7  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  4-1-2     . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
816  4   2  Glycymer   1  b  r   2.0   1.9  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  4-2-1     1  0.3  5  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
817  4   2  Glycymer   2  b  l   4.1   4.0  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  4-2-2     . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
818  4   2  Glycymer   3  b  r  10.8  11.2  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  4-2-3     . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
819  4   2  Glycymer   4  b  r   3.3   3.3  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-2-4     . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
820  4   2  Glycymer   5  b  r   8.5   9.0  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  4-2-5     . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
821  4   2  Glycymer   6  b  r  17.2  19.0  0  0  2  3  1  1  7  1  0  .  1  0.5  2   0  4-2-6     . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
822  4   3  Natica_h   1  g      9.6    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-3-1     . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
823  4   3  Natica_h   2  g     10.1    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-3-2     1  1.2  8  . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
```

```
824  4  3  Natica_h   3  g   3.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-3-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
825  4  3  Natica_h   4  g   3.8  .  0  0  2  3  1  1  7  1  0  .  1  1.0  2   0  4-3-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
826  4  3  Natica_h   5  g   4.2  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-3-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
827  4  3  Natica_h   6  g   3.1  .  0  0  2  3  1  0  6  1  0  .  1  1.0  2   0  4-3-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
828  4  3  Natica_h   7  g   5.2  .  0  0  0  1  0  0  1  1  0  .  1  1.0  2   0  4-3-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
829  4  3  Natica_h   8  g   6.4  .  1  0  1  2  2  0  5  1  0  .  1  1.0  2   0  4-3-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
830  4  3  Natica_h   9  g   5.9  .  0  0  1  1  1  1  4  1  0  .  1  1.0  2   0  4-3-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
831  4  3  Natica_h  10  g   7.8  .  0  0  0  2  0  0  2  1  0  .  1  1.0  2   0  4-3-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
832  4  3  Natica_h  11  g   2.8  .  0  0  2  3  1  1  7  1  0  .  1  1.0  2   0  4-3-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
833  4  3  Natica_h  12  g   5.1  .  0  0  1  1  0  1  3  1  0  .  1  1.0  2   0  4-3-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
834  4  4  Narona_v   1  g   8.8  .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  4-4-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
835  4  4  Narona_v   2  g  10.2  .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-4-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
836  4  4  Narona_v   3  g  11.1  .  0  0  1  2  1  1  5  1  0  .  1  1.0  2   0  4-4-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
837  4  4  Narona_v   4  g  14.3  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-4-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
838  4  4  Narona_v   5  g  10.8  .  0  0  1  3  1  1  6  1  0  .  1  1.0  2   0  4-4-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
839  4  5  Fusiform   1  g  26.0  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-5-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
840  4  5  Fusiform   2  g  22.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-5-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
841  4  5  Fusiform   3  g  19.0  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-5-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
842  4  6  Baryspir   1  g  10.9  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-6-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
843  4  6  Baryspir   2  g   6.1  .  0  0  1  3  1  1  6  1  0  .  1  1.0  2   0  4-6-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
844  4  6  Baryspir   3  g  14.3  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-6-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
845  4  6  Baryspir   4  g  14.2  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-6-4   1  1.0  8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
846  4  6  Baryspir   5  g  22.2  .  0  0  1  1  0  0  2  0  0  1  1  1.0  2   1  4-6-5   . . . . . . . . . . . . . . . . . . . . 1  3.0  8 . . . . . . . . . . . . . . . 0  0  1
847  4  7  Apporhai   1  g  13.2  .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  4-7-1   1  0.3  8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
848  4  7  Apporhai   2  g  10.1  .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  4-7-2   1  0.3  4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
849  4  7  Apporhai   3  g  12.0  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-7-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
850  4  7  Apporhai   4  g  13.9  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-7-4   1  1.1  2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
851  4  7  Apporhai   5  g  14.1  .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  4-7-5   1  0.3  1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
852  4  7  Apporhai   6  g  12.0  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-7-6   1  0.3  8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
853  4  7  Apporhai   7  g  14.0  .  1  0  2  2  2  0  6  0  0  1  1  1.0  2   1  4-7-7   . . . . . . . . . . . 1  0.1  7.0 . . . . . . . . . . . . . . . . . . . . . . . . 0  1  0
854  4  7  Apporhai   8  g  12.5  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-7-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
855  4  7  Apporhai   9  g  13.0  .  1  0  1  2  2  0  5  1  0  .  1  1.0  2   0  4-7-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
856  4  7  Apporhai  10  g  12.9  .  1  0  1  3  2  0  6  1  0  .  1  1.0  2   0  4-7-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
857  4  7  Apporhai  11  g  11.1  .  1  0  1  3  2  0  6  1  0  .  1  1.0  2   0  4-711   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
858  4  7  Apporhai  12  g  14.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-7-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
859  4  7  Apporhai  13  g  14.2  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-7-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
860  4  7  Apporhai  14  g  12.9  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-7-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
861  4  7  Apporhai  15  g  13.2  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-7-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
862  4  7  Apporhai  16  g   9.8  .  1  0  1  3  2  0  6  1  0  .  1  1.0  2   0  4-7-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
863  4  7  Apporhai  17  g  10.9  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-7-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
864  4  7  Apporhai  18  g  13.1  .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  4-7-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
865  4  7  Apporhai  19  g  14.2  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-7-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
866  4  7  Apporhai  20  g  16.3  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-7-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
867  4  7  Apporhai  21  g  11.6  .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  4-7-21  1  0.3  2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
868  4  7  Apporhai  22  g  12.0  .  0  0  2  3  0  0  5  1  0  .  1  1.0  2   0  4-7-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
869  4  8  Conu_ant   1  g  14.6  .  1  0  0  3  2  1  6  1  0  .  1  1.0  2   0  4-8-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
870  4  9  Gonimyrt   1  b  l   3.1   3.3  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  4-9-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
871  4  9  Gonimyrt   2  b  r   4.1   4.4  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  4-9-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
872  4  9  Gonimyrt   3  b  l   7.2   7.6  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-9-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
873  4  9  Gonimyrt   4  b  r   6.2   6.8  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  4-9-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
874  4  9  Gonimyrt   5  b  r   7.8   8.0  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  4-9-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
875  4  9  Gonimyrt   6  b  l   7.0   7.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-9-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
876  4  10  Astarte_   1  b  r   6.8   7.8  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  4-10-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
877  4  10  Astarte_   2  b  r   8.0   9.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-10-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
878  4  10  Astarte_   3  b  l   9.1  10.0  0  0  0  2  1  1  4  1  0  .  1  0.5  2   0  4-10-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
879  4  10  Astarte_   4  b  l   4.0   4.8  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  4-10-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
880  4  10  Astarte_   5  b  l   7.1   8.0  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  4-10-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
881  4  10  Astarte_   6  b  r   4.5   5.3  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  4-10-6   1  0.5  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
882  4  10  Astarte_   7  b  l   8.5   9.9  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  4-10-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
883  4  10  Astarte_   8  b  r   3.1   4.7  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  4-10-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
884  4  10  Astarte_   9  b  l   7.5   8.1  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  4-10-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
885  4  10  Astarte_  10  b  r   3.1   4.8  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  4-10-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
886  4  10  Astarte_  11  b  l   7.2   8.2  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-10-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
887  4  10  Astarte_  12  b  l   6.8   8.0  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-10-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
888  4  10  Astarte_  13  b  r   7.6   8.9  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  4-10-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
889  4  10  Astarte_  14  b  l   7.2   8.9  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  4-10-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
890  4  10  Astarte_  15  b  l   9.1  10.2  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-10-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
891  4  10  Astarte_  16  b  r   8.0  10.1  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  4-10-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
892  4  10  Astarte_  17  b  l   8.1   9.9  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  4-10-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
893  4  10  Astarte_  18  b  r  10.1  10.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  4-10-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
894  4  10  Astarte_  19  b  r   9.2  10.3  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-10-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
895  4  10  Astarte_  20  b  r   9.8  10.2  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-10-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
896  4  10  Astarte_  21  b  l   6.2   7.2  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-10-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
897  4  10  Astarte_  22  b  r   8.1   9.2  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-10-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
898  4  11  Varicorb   1  b  b   5.1   6.0  0  0  1  0  0  1  2  1  0  .  1  1.0  2   0  4-11-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
899  4  11  Varicorb   2  b  l   2.5   3.0  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  4-11-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
900  4  11  Varicorb   3  b  r   5.1   6.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-11-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
901  4  11  Varicorb   4  b  l   4.0   5.1  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  4-11-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
902  4  11  Varicorb   5  b  l   3.4   4.1  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  4-11-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
903  4  11  Varicorb   6  b  r   5.5   6.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-11-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
904  4  12  Hadriana   1  g       9.8     .  0  0  0  3  1  0  4  1  0  .  1  1.0  2   0  4-12-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
905  4  12  Hadriana   2  g      12.3     .  0  0  0  2  0  0  2  0  0  1  1  1.0  2   1  4-12-2   1  1.0  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
906  4  12  Hadriana   3  g      12.0     .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  4-12-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
907  4  13  Archtect   1  g      10.8     .  1  0  1  2  2  1  6  1  0  .  1  1.0  2   0  4-13-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
908  4  14  Anadara_   1  b  r  11.1  15.0  0  0  1  2  0  1  4  1  0  .  1  0.5  2   0  4-14-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
909  4  14  Anadara_   2  b  r   4.3   5.6  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  4-14-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
910  4  15  Unedogem   1  g      15.0     .  0  0  1  1  1  1  4  1  0  .  1  1.0  2   0  4-15-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
911  4  15  Unedogem   2  g      14.2     .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-15-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
912  4  15  Unedogem   3  g       5.3     .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-15-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
913  4  15  Unedogem   4  g       5.6     .  0  0  0  1  1  0  2  1  0  .  1  1.0  2   0  4-15-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
914  4  15  Unedogem   5  g      13.0     .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-15-5   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
915  4  15  Unedogem   6  g      12.8     .  0  0  1  2  1  1  5  0  0  1  1  1.0  2   1  4-15-6   1  1.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . 2 1 0 0
```

```
916  4  15  Unedogem    7  g      22.3    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-15-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
917  4  16  Streptol    1  g     15.1    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-16-1    1  1.8  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
918  4  16  Streptol    2  g      8.8    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-16-2    1  1.0  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
919  4  16  Streptol    3  g     15.2    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-16-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
920  4  16  Streptol    4  g      7.9    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-16-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
921  4  16  Streptol    5  g      4.3    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-16-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
922  4  17  Ringicul    1  g      4.0    .  0  0  1  2  0  0  3  0  0  1  1  1.0  2   1  4-17-1    1  1.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
923  4  17  Ringicul    2  g      5.0    .  0  0  1  2  0  0  3  0  0  1  1  1.0  2   1  4-17-2    1  0.5  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
924  4  17  Ringicul    3  g      4.2    .  0  0  1  2  0  0  3  0  0  1  1  1.0  2   1  4-17-3    1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
925  4  17  Ringicul    4  g      5.1    .  0  0  1  3  0  0  4  0  0  1  1  1.0  2   1  4-17-4    1  1.0  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
926  4  17  Ringicul    5  g      4.2    .  0  0  1  3  0  0  4  0  1  2  1  1.0  2   1  4-17-5    2  1.0  7  0.8  8  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
927  4  17  Ringicul    6  g      4.2    .  0  0  1  2  0  0  3  0  1  2  1  1.0  2   1  4-17-6    2  1.1  8  1.0  6  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
928  4  17  Ringicul    7  g      5.1    .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  4-17-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
929  4  17  Ringicul    8  g      4.0    .  1  0  1  2  2  0  5  1  0  .  1  1.0  2   0  4-17-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
930  4  17  Ringicul    9  g      3.8    .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-17-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
931  4  17  Ringicul   10  g      5.1    .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-17-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
932  4  17  Ringicul   11  g      4.1    .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-17-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
933  4  17  Ringicul   12  g      4.7    .  0  0  1  3  0  1  5  1  0  .  1  1.0  2   0  4-17-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
934  4  17  Ringicul   13  g      4.0    .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  4-17-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
935  4  17  Ringicul   14  g      3.5    .  1  0  1  3  2  1  7  1  0  .  1  1.0  2   0  4-17-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
936  4  17  Ringicul   15  g      4.9    .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-17-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
937  4  17  Ringicul   16  g      3.2    .  0  0  1  3  0  1  5  1  0  .  1  1.0  2   0  4-17-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
938  4  17  Ringicul   17  g      3.8    .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-17-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
939  4  17  Ringicul   18  g      3.2    .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-17-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
940  4  17  Ringicul   19  g      4.0    .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-17-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
941  4  17  Ringicul   20  g      3.9    .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  4-17-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
942  4  17  Ringicul   21  g      3.8    .  1  0  1  3  2  0  6  1  0  .  1  1.0  2   0  4-17-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
943  4  17  Ringicul   22  g      4.1    .  0  0  1  1  0  0  2  1  0  .  1  1.0  2   0  4-17-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
944  4  18  Triotere    1  g      3.0    .  1  0  0  2  2  0  4  1  0  .  1  1.0  2   0  4-18-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
945  4  18  Triotere    2  g     13.6    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-18-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
946  4  18  Triotere    3  g      8.4    .  0  0  1  2  2  0  5  1  0  .  1  1.0  2   0  4-18-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
947  4  18  Triotere    4  g     10.2    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-18-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
948  4  18  Triotere    5  g      5.9    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-18-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
949  4  18  Triotere    6  g      6.9    .  0  0  1  1  1  0  3  0  1  2  1  1.0  2   1  4-18-6    2  1.0  8  0.2  8  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
950  4  18  Triotere    7  g     15.1    .  0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  4-18-7    1  1.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
951  4  18  Triotere    8  g     10.0    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-18-8    1  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
952  4  19  Lyrotyph    1  g      8.1    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-19-1    1  1.0  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
953  4  19  Lyrotyph    2  g      7.0    .  1  0  1  2  2  0  5  0  0  1  1  1.0  2   1  4-19-2    1  0.5  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
954  4  19  Lyrotyph    3  g      6.1    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-19-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
955  4  19  Lyrotyph    4  g      6.0    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-19-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
956  4  19  Lyrotyph    5  g      7.4    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-19-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
957  4  20  Astarte_    1  b  l   5.0   5.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  4-20-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
958  4  20  Astarte_    2  b  r   4.0   4.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-20-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
959  4  20  Astarte_    3  b  r   6.0   6.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  4-20-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
960  4  20  Astarte_    4  b  l   4.5   5.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-20-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
961  4  20  Astarte_    5  b  l   3.3   4.1  0  0  1  1  1  1  4  1  0  .  1  0.5  2   0  4-20-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
962  4 20 Astarte_   6 b r  2.3  2.6 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 4-20-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
963  4 20 Astarte_   7 b l  8.2  9.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
964  4 20 Astarte_   8 b r  7.1  8.6 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 4-20-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
965  4 20 Astarte_   9 b l  7.3  8.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
966  4 20 Astarte_  10 b l  5.8  6.2 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
967  4 20 Astarte_  11 b l  5.2  6.2 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 4-20-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
968  4 20 Astarte_  12 b r  4.6  5.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 4-20-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
969  4 20 Astarte_  13 b r  4.1  4.8 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 4-20-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
970  4 20 Astarte_  14 b r  6.0  6.6 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 4-20-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
971  4 20 Astarte_  15 b r  6.9  7.2 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
972  4 20 Astarte_  16 b l  3.3  3.9 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
973  4 20 Astarte_  17 b l  6.0  7.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
974  4 20 Astarte_  18 b r  5.8  6.2 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
975  4 20 Astarte_  19 b l  5.6  6.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
976  4 20 Astarte_  20 b l  5.6  6.3 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 4-20-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
977  4 20 Astarte_  21 b r  6.9  7.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
978  4 20 Astarte_  22 b l  5.0  5.8 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
979  4 20 Astarte_  23 b r  5.2  5.9 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
980  4 20 Astarte_  24 b r  4.8  5.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-2024  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
981  4 20 Astarte_  25 b r  4.6  5.1 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 4-20-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
982  4 20 Astarte_  26 b l  5.0  5.3 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
983  4 20 Astarte_  27 b r  4.0  4.4 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 4-20-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
984  4 20 Astarte_  28 b l  6.2  7.1 0 0 1 1 0 0 2 0 0 1 1 0.5 2  1 4-20-28  1 1.2 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
985  4 20 Astarte_  29 b l  4.2  5.1 0 0 1 1 1 0 3 0 0 1 1 0.5 2  1 4-20-29  1 1.1 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
986  4 20 Astarte_  30 b r  4.6  5.3 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 4-20-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
987  4 20 Astarte_  31 b l  4.2  5.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
988  4 20 Astarte_  32 b r  5.8  6.5 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
989  4 20 Astarte_  33 b l  5.0  5.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
990  4 20 Astarte_  34 b r  6.0  6.9 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 4-20-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
991  4 20 Astarte_  35 b r  5.1  5.7 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 4-20-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
992  4 20 Astarte_  36 b l  5.0  5.8 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
993  4 20 Astarte_  37 b l  5.0  5.8 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 4-20-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
994  4 20 Astarte_  38 b r  3.4  3.8 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
995  4 20 Astarte_  39 b r  4.9  5.2 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 4-20-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
996  4 20 Astarte_  40 b l  5.1  6.0 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 4-20-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
997  4 20 Astarte_  41 b r  7.2  7.3 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 4-20-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
998  4 20 Astarte_  42 b l  6.5  7.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
999  4 20 Astarte_  43 b r  7.0  7.2 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1000  4 20 Astarte_  44 b r  6.8  6.9 0 0 2 2 1 0 5 1 0 . 1 0.5 2  0 4-20-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1001  4 20 Astarte_  45 b l  9.5 10.3 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 4-20-45 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1002  4 20 Astarte_  46 b l  6.2  7.0 0 0 0 2 1 1 4 1 0 . 1 0.5 2  0 4-20-46 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1003  4 20 Astarte_  47 b l  6.8  7.5 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 4-20-47 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1004  4 20 Astarte_  48 b l  7.1  8.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 4-20-48 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1005  4 21 Cyclocar   1 b l  5.0  5.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 4-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1006  4 21 Cyclocar   2 b r  7.0  7.0 0 0 2 3 1 0 6 1 0 . 1 0.5 2  0 4-21-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1007  4 21 Cyclocar   3 b r  4.0  4.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 4-21-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
1008  4 21  Cyclocar   4  b  l   5.5   5.1  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  4-21-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1009  4 21  Cyclocar   5  b  l   5.8   5.3  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-21-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1010  4 21  Cyclocar   6  b  l   4.6   4.2  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  4-21-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1011  4 22  Hinia_te   1  g      7.0    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-22-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1012  4 22  Hinia_te   2  g      5.1    .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-22-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1013  4 22  Hinia_te   3  g      5.1    .  0  0  1  1  0  0  2  1  0  .  1  1.0  2   0  4-22-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1014  4 22  Hinia_te   4  g      5.3    .  0  0  1  1  0  0  2  1  0  .  1  1.0  2   0  4-22-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1015  4 23  Limopsis   1  b  l   8.8   7.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  4-23-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1016  4 23  Limopsis   2  b  l   6.2   6.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  4-23-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1017  4 23  Limopsis   3  b  l   9.1   8.1  0  0  2  2  1  0  5  1  0  .  1  0.5  2   0  4-23-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1018  4 23  Limopsis   4  b  r   8.8   8.1  0  0  2  2  1  1  6  0  0  1  1  0.5  2   1  4-23-4   . . . . . . . . . . . . . . . . . . . . . 1  0.3  8  . . . . . . . . . . .  0  0  1
1019  4 23  Limopsis   5  b  l   4.5   4.8  0  0  2  2  1  0  5  1  0  .  1  0.5  2   0  4-23-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1020  4 23  Limopsis   6  b  r   3.0   3.0  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  4-23-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1021  4 23  Limopsis   7  b  l   5.1   5.1  1  0  1  3  2  0  6  1  0  .  1  0.5  2   0  4-23-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1022  4 24  Euspira_   1  g      5.1    .  0  0  1  1  0  0  2  1  0  .  1  1.0  2   0  4-24-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1023  4 24  Euspira_   2  g      4.0    .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-24-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1024  4 24  Euspira_   3  g      3.1    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-24-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1025  4 24  Euspira_   4  g      6.9    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-24-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1026  4 24  Euspira_   5  g      4.1    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-24-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1027  4 25  Pseudamu   1  b  l   7.8   7.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-25-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1028  4 26  Bulichna   1  g      3.3    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-26-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1029  4 26  Bulichna   2  g      2.6    .  0  0  0  1  1  0  2  1  0  .  1  1.0  2   0  4-26-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1030  4 27  Sacella_   1  b  r   3.1   5.9  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  4-27-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1031  4 27  Sacella_   2  b  l   4.3   8.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  4-27-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1032  4 28  Abra_sp.   1  b  r   5.3   8.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  4-28-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1033  4 29  Arctica_   1  b  l   5.0   5.5  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  4-29-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1034  4 29  Arctica_   2  b  l   4.4   5.0  0  0  1  3  1  0  5  0  0  1  1  0.5  2   1  4-29-2   . . . . . . . . . . . . . . . . . . . . . 1  0.2  4  . . . . . . . . . . .  0  0  1
1035  4 29  Arctica_   3  b  r   3.4   3.8  0  0  1  3  1  0  5  0  0  1  1  0.5  2   1  4-29-3   . . . . . . . . . . . . . . . . . . . . . 1  0.1  6  . . . . . . . . . . .  0  0  1
1036  4 30  Boreodri   1  g      7.0    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-30-1   1  1.3  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1037  4 30  Boreodri   2  g      7.8    .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  4-30-2   1  1.2  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1038  4 30  Boreodri   3  g     10.1    .  0  0  0  2  1  0  3  0  0  1  1  1.0  2   1  4-30-3   1  1.5  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1039  4 30  Boreodri   4  g      7.7    .  0  0  1  1  1  0  3  0  1  2  1  1.0  2   1  4-30-4   2  1.0  5  0.4  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1040  4 30  Boreodri   5  g      4.2    .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  4-30-5   1  0.3  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1041  4 30  Boreodri   6  g      5.2    .  1  0  1  2  2  0  5  0  0  1  1  1.0  2   1  4-30-6   1  0.7  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1042  4 30  Boreodri   7  g      8.2    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-30-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1043  4 30  Boreodri   8  g     16.8    .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-30-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1044  4 30  Boreodri   9  g      7.1    .  0  0  1  2  1  1  5  1  0  .  1  1.0  2   0  4-30-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1045  4 30  Boreodri  10  g      6.8    .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  4-30-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1046  4 31  Mitra_sp   1  g     15.1    .  0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  4-31-1   . . . . . . . . . . . . . . . . . . . . . 1  0.8  7  . . . . . . . . . . .  0  0  1
1047  4 31  Mitra_sp   2  g     19.0    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-31-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1048  4 32  Niso_aca   1  g      6.6    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-32-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1049  4 32  Niso_aca   2  g     10.0    .  1  0  1  2  2  1  6  1  0  .  1  1.0  2   0  4-32-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1050  4 33  Amychina   1  g      3.9    .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  4-33-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1051  4 33  Amychina   2  g      6.3    .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  4-33-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1052  4 33  Amychina   3  g      8.4    .  0  0  1  2  1  1  5  0  0  1  1  1.0  2   1  4-33-3   1  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1053  4 33  Amychina   4  g      4.3    .  0  0  1  3  1  1  6  0  0  1  1  1.0  2   1  4-33-4   1  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
```

```
1054  4 33  Amychina   5  g      8.0   .  0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 4-33-5   1 0.3 1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1055  4 33  Amychina   6  g      6.1   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 4-33-6   . . . . . . . . . . . . . 1 0.1 7.0 . . . . . . . . . . . . . . . . . . . . 0 1 0
1056  4 33  Amychina   7  g      4.3   .  0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 4-33-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1057  4 33  Amychina   8  g      4.0   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 4-33-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1058  4 33  Amychina   9  g      3.5   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 4-33-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1059  4 33  Amychina  10  g      5.1   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 4-33-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1060  4 33  Amychina  11  g      6.7   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 4-33-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1061  4 33  Amychina  12  g      7.8   .  0 0 1 1 1 1 4 1 0 . 1 1.0 2  0 4-33-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1062  4 33  Amychina  13  g      4.1   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 4-33-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1063  4 33  Amychina  14  g      7.5   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 4-33-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1064  4 33  Amychina  15  g      8.4   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 4-33-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1065  4 34  Glans_ac   1  b r   4.8  5.0 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 4-34-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1066  4 35  Perister   1  g      9.7   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 4-35-1   1 1.0 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1067  4 35  Perister   2  g      7.1   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 4-35-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1068  4 36  unident.   1  g      4.1   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 4-36-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1069  4 36  unident.   2  g      5.0   .  1 0 2 3 2 0 7 1 0 . 1 1.0 2  0 4-36-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1070  4 37  Crassisp   1  g      8.0   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 4-37-1   1 1.0 1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1071  4 37  Crassisp   2  g      6.5   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 4-37-2   1 0.9 3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1072  4 38  Hiatella   1  b r   2.0  3.8 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 4-38-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1073  4 40  Crassisp   1  g      7.8   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 4-40-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1074  4 40  Crassisp   2  g     12.3   .  0 0 1 1 1 0 3 0 0 1 1 1.0 2  1 4-40-2   1 1.8 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1075  4 41  Opalia_p   1  g      9.8   .  0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 4-41-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1076  4 41  Opalia_p   2  g      5.1   .  1 0 0 2 2 0 4 1 0 . 1 1.0 2  0 4-41-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1077  4 43  Bittum_s   1  g      3.4   .  0 0 0 1 1 0 2 1 0 . 1 1.0 2  0 4-43-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1078  4 44  unident.   1  g      4.3   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 4-44-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1079  4 44  unident.   2  g      2.2   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 4-44-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1080  4 45  Streptod   1  g      5.2   .  0 0 0 1 1 0 2 0 0 1 1 1.0 2  1 4-45-1   1 1.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1081  4 46  unident.   1  g      5.3   .  0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 4-46-1   1 0.4 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1082  4 47  Pyramide   1  g      5.0   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 4-47-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1083  4 48  Astarte_   1  b l   7.8  8.8 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 4-48-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1084  4 48  Astarte_   2  b l   7.8  8.2 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 4-48-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1085  4 48  Astarte_   3  b l   6.1  7.0 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 4-48-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1086  5  1  Glycymer   1  b l  20.0 22.0 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-1-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1087  5  1  Glycymer   2  b l  19.0 19.9 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-1-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1088  5  2  Astarte_   1  b l  10.0 10.5 0 0 1 2 1 0 4 0 0 1 1 0.5 2  1 5-2-1    1 0.6 3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1089  5  2  Astarte_   2  b l   1.8  2.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-2-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1090  5  2  Astarte_   3  b r   4.3  5.1 0 0 0 3 0 0 3 1 0 . 1 0.5 2  0 5-2-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1091  5  2  Astarte_   4  b l   4.4  4.4 0 0 0 2 0 0 2 1 0 . 1 0.5 2  0 5-2-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1092  5  2  Astarte_   5  b r   2.5  3.1 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 5-2-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1093  5  2  Astarte_   6  b r   2.1  2.7 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 5-2-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1094  5  2  Astarte_   7  b l   3.1  3.9 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 5-2-7    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1095  5  2  Astarte_   8  b r   9.1 10.0 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-2-8    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1096  5  2  Astarte_   9  b l   8.6  9.8 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-2-9    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1097  5  2  Astarte_  10  b l  10.0 10.8 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 5-2-10   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1098  5  2  Astarte_  11  b l   4.1  5.1 0 0 1 1 1 0 3 0 0 1 1 0.5 2  1 5-2-11   1 0.4 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1099  5  2  Astarte_  12  b r   4.8  5.4 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 5-2-12   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
1100  5  2  Astarte_  13  b  r   3.0   4.0  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  5-2-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1101  5  2  Astarte_  14  b  r   4.9   5.5  1  0  1  2  2  0  5  1  0  .  1  0.5  2   0  5-2-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1102  5  2  Astarte_  15  b  r   6.5   7.5  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  5-2-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1103  5  2  Astarte_  16  b  l   7.0   8.1  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-2-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1104  5  2  Astarte_  17  b  r   8.0   9.1  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  5-2-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1105  5  2  Astarte_  18  b  l   6.2   7.2  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  5-2-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1106  5  2  Astarte_  19  b  r   8.2   9.3  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-2-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1107  5  2  Astarte_  20  b  r   4.1   5.0  0  0  1  1  1  1  4  1  0  .  1  0.5  2   0  5-2-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1108  5  2  Astarte_  21  b  l  10.2  12.1  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  5-2-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1109  5  2  Astarte_  22  b  r   6.4   7.6  1  0  1  1  2  0  4  1  0  .  1  0.5  2   0  5-2-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1110  5  2  Astarte_  23  b  l   5.1   6.2  1  0  1  3  2  0  6  1  0  .  1  0.5  2   0  5-2-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1111  5  2  Astarte_  24  b  r   9.2  10.2  0  0  0  2  1  1  4  1  0  .  1  0.5  2   0  5-2-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1112  5  2  Astarte_  25  b  r   7.1   8.0  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-2-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1113  5  2  Astarte_  26  b  r  10.0  11.0  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  5-2-26  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1114  5  2  Astarte_  27  b  l   9.0  10.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-2-27  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1115  5  3  Astarte_   1  b  l   9.0   9.7  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1116  5  3  Astarte_   2  b  l   3.4   4.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1117  5  3  Astarte_   3  b  l   4.3   5.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1118  5  3  Astarte_   4  b  l   7.1   8.1  1  0  1  1  2  0  4  1  0  .  1  0.5  2   0  5-3-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1119  5  3  Astarte_   5  b  r   5.0   5.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1120  5  3  Astarte_   6  b  l   6.0   6.7  0  0  1  2  1  1  5  0  0  1  1  0.5  2   1  5-3-6    1  0.8  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1121  5  3  Astarte_   7  b  l   6.3   7.0  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  5-3-7    1  1.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1122  5  3  Astarte_   8  b  r   3.0   3.2  0  0  1  1  1  0  3  0  1  3  1  0.5  2   1  5-3-8    1  0.6  3  . . . . . . . . . . . . . . . . . . . 2  0.2  2  0.1  5  . . . . . . . . . . . 1  0  1
1123  5  3  Astarte_   9  b  r   2.9   3.0  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  5-3-9    1  0.3  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1124  5  3  Astarte_  10  b  r   5.1   5.5  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  5-3-10   1  0.5  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1125  5  3  Astarte_  11  b  r   5.3   6.1  0  0  0  1  1  0  2  0  0  1  1  0.5  2   1  5-3-11   1  1.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1126  5  3  Astarte_  12  b  l   8.0   8.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1127  5  3  Astarte_  13  b  l   1.5   1.8  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  5-3-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1128  5  3  Astarte_  14  b  r   4.1   5.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1129  5  3  Astarte_  15  b  r   5.0   5.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-3-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1130  5  3  Astarte_  16  b  l   1.8   2.0  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  5-3-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1131  5  3  Astarte_  17  b  r   2.8   2.9  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  5-3-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1132  5  3  Astarte_  18  b  r   6.2   6.5  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  5-3-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1133  5  3  Astarte_  19  b  l   4.0   4.3  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1134  5  3  Astarte_  20  b  r   5.1   6.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1135  5  3  Astarte_  21  b  r   2.0   2.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1136  5  3  Astarte_  22  b  r   2.5   2.8  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-3-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1137  5  3  Astarte_  23  b  l   3.1   3.1  0  0  1  1  1  1  4  1  0  .  1  0.5  2   0  5-3-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1138  5  3  Astarte_  24  b  l   2.7   2.6  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1139  5  3  Astarte_  25  b  l   3.2   3.5  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1140  5  3  Astarte_  26  b  r   3.3   3.8  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-3-26  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1141  5  3  Astarte_  27  b  l   5.8   6.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-27  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1142  5  3  Astarte_  28  b  l   3.7   4.1  1  0  1  1  2  0  4  1  0  .  1  0.5  2   0  5-3-28  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1143  5  3  Astarte_  29  b  r   3.1   3.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-29  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1144  5  3  Astarte_  30  b  l   3.4   3.9  1  0  1  1  2  0  4  1  0  .  1  0.5  2   0  5-3-30  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1145  5  3  Astarte_  31  b  r   3.1   3.7  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
1146  5  3  Astarte_  32  b  r   3.3   3.8  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  5-3-32   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1147  5  3  Astarte_  33  b  l   4.6   5.1  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  5-3-33   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1148  5  3  Astarte_  34  b  l   8.0   9.0  1  0  0  1  2  0  3  0  0  1  1  0.5  2   1  5-3-34   1  1.1  2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1149  5  3  Astarte_  35  b  r   4.9   5.5  0  0  0  2  1  0  3  0  0  1  1  0.5  2   1  5-3-35   1  0.9  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1150  5  3  Astarte_  36  b  l   5.1   5.9  0  0  0  2  1  0  3  0  0  1  1  0.5  2   1  5-3-36   1  0.6  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1151  5  3  Astarte_  37  b  r   2.3   2.9  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  5-3-37   1  0.9  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1152  5  3  Astarte_  38  b  r   4.5   5.2  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  5-3-38   1  0.9  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1153  5  3  Astarte_  39  b  l   2.8   3.1  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  5-3-39   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1154  5  3  Astarte_  40  b  l   4.3   5.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-40   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1155  5  3  Astarte_  41  b  r   4.1   4.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-41   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1156  5  3  Astarte_  42  b  l   2.3   2.5  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-42   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1157  5  3  Astarte_  43  b  r   4.1   4.3  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-3-43   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1158  5  3  Astarte_  44  b  r   2.3   2.5  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  5-3-44   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1159  5  3  Astarte_  45  b  l   3.3   4.0  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-3-45   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1160  5  3  Astarte_  46  b  r   3.0   3.3  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-3-46   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1161  5  3  Astarte_  47  b  l   3.2   3.6  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-47   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1162  5  3  Astarte_  48  b  l   3.1   3.2  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  5-3-48   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1163  5  3  Astarte_  49  b  l   4.1   4.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-49   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1164  5  3  Astarte_  50  b  r   4.0   4.2  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-3-50   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1165  5  3  Astarte_  51  b  r   5.1   6.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-51   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1166  5  3  Astarte_  52  b  l   5.1   5.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-52   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1167  5  3  Astarte_  53  b  r   6.0   6.2  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  5-3-53   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1168  5  3  Astarte_  54  b  l   4.8   5.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-54   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1169  5  3  Astarte_  55  b  l   4.0   4.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-55   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1170  5  3  Astarte_  56  b  r   3.2   3.5  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-56   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1171  5  3  Astarte_  57  b  r   6.0   6.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-57   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1172  5  3  Astarte_  58  b  l   7.5   8.3  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-58   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1173  5  3  Astarte_  59  b  l   6.4   7.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-59   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1174  5  3  Astarte_  60  b  l   5.1   5.2  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-3-60   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1175  5  3  Astarte_  61  b  r   4.9   5.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-61   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1176  5  3  Astarte_  62  b  r   3.1   3.2  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  5-3-62   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1177  5  3  Astarte_  63  b  r   4.0   4.2  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-3-63   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1178  5  3  Astarte_  64  b  l   6.1   7.0  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  5-3-64   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1179  5  3  Astarte_  65  b  r   4.9   5.1  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  5-3-65   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1180  5  3  Astarte_  66  b  l   4.2   5.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-66   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1181  5  3  Astarte_  67  b  r   6.6   7.0  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  5-3-67   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1182  5  3  Astarte_  68  b  l   6.1   6.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-68   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1183  5  3  Astarte_  69  b  r   5.3   6.0  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-3-69   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1184  5  3  Astarte_  70  b  l   6.3   6.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-70   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1185  5  3  Astarte_  71  b  l   4.1   5.0  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  5-3-71   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1186  5  3  Astarte_  72  b  r   4.0   4.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-72   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1187  5  3  Astarte_  73  b  r   5.9   6.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-73   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1188  5  3  Astarte_  74  b  l   4.2   5.0  0  0  0  1  0  0  1  0  0  1  1  0.5  2   1  5-3-74   . . . . . . . . . . . . .  1  0.2  9.0  . . . . . . . . . . . . . . . . . . . . . . . . . . 0  1  0
1189  5  3  Astarte_  75  b  l   6.8   7.1  0  0  1  2  0  0  3  0  0  1  1  0.5  2   1  5-3-75   1  1.0  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1190  5  3  Astarte_  76  b  l   6.7   7.3  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  5-3-76   1  0.8  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1191  5  3  Astarte_  77  b  r   7.0   7.6  0  0  1  1  0  0  2  0  0  1  1  0.5  2   1  5-3-77   1  1.0  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
```

```
1192  5  3  Astarte_   78  b  l   9.0   9.3  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-78   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1193  5  3  Astarte_   79  b  l   6.4   6.9  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-79   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1194  5  3  Astarte_   80  b  r   5.4   6.2  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-3-80   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1195  5  3  Astarte_   81  b  l   5.7   6.3  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-81   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1196  5  3  Astarte_   82  b  r   6.3   7.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-82   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1197  5  3  Astarte_   83  b  l   7.0   7.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-83   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1198  5  3  Astarte_   84  b  r   5.4   6.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-3-84   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1199  5  3  Astarte_   85  b  l   4.9   5.1  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  5-3-85   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1200  5  3  Astarte_   86  b  r   4.2   4.8  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  5-3-86   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1201  5  3  Astarte_   87  b  r   6.2   6.6  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-87   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1202  5  3  Astarte_   88  b  l   5.0   5.5  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-88   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1203  5  3  Astarte_   89  b  l   6.0   6.4  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  5-3-89   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1204  5  3  Astarte_   90  b  l   6.1   7.0  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  5-3-90   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1205  5  3  Astarte_   91  b  l   7.8   8.8  1  0  1  1  2  0  4  1  0  .  1  0.5  2   0  5-3-91   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1206  5  3  Astarte_   92  b  l   5.5   6.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-3-92   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1207  5  4  Sacella_    1  b  b   1.8   2.9  0  0  0  3  0  0  3  1  0  .  1  1.0  2   0  5-4-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1208  5  4  Sacella_    2  b  b   1.8   3.1  0  0  0  1  0  0  1  1  0  .  1  1.0  2   0  5-4-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1209  5  4  Sacella_    3  b  l   0.1   3.2  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  5-4-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1210  5  4  Sacella_    4  b  r   1.5   2.2  0  0  0  3  0  0  3  1  0  .  1  0.5  2   0  5-4-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1211  5  4  Sacella_    5  b  r   2.1   3.1  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  5-4-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1212  5  4  Sacella_    6  b  r   1.8   3.0  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  5-4-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1213  5  4  Sacella_    7  b  l   3.9   7.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-4-7    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1214  5  5  Arctica_    1  b  r   5.1   5.2  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-5-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1215  5  5  Arctica_    2  b  r   3.0   3.1  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  5-5-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1216  5  5  Arctica_    3  b  l   4.1   4.3  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  5-5-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1217  5  6  Spisula_    1  b  l   3.8   5.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-6-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1218  5  6  Spisula_    2  b  r   2.6   3.2  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-6-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1219  5  6  Spisula_    3  b  r   1.2   2.0  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  5-6-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1220  5  6  Spisula_    4  b  l   2.3   3.0  0  0  0  2  1  1  4  1  0  .  1  0.5  2   0  5-6-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1221  5  6  Spisula_    5  b  r   3.7   5.2  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-6-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1222  5  7  Anadara_    1  b  l   4.1   5.1  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  5-7-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1223  5  7  Anadara_    2  b  l   4.0   5.6  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  5-7-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1224  5  7  Anadara_    3  b  l   4.0   5.2  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  5-7-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1225  5  8  Varicorb    1  b  r   4.9   6.0  0  0  1  3  1  0  5  0  0  1  1  0.5  2   1  5-8-1    1  1.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
1226  5  8  Varicorb    2  b  r   4.9   6.2  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-8-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1227  5  8  Varicorb    3  b  r   5.8   6.2  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  5-8-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1228  5  8  Varicorb    4  b  l   3.0   4.5  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-8-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1229  5  8  Varicorb    5  b  l   3.0   3.0  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-8-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1230  5  8  Varicorb    6  b  l   3.8   5.0  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  5-8-6    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1231  5  8  Varicorb    7  b  r   4.1   5.0  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  5-8-7    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1232  5  8  Varicorb    8  b  r   5.8   6.5  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-8-8    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1233  5  8  Varicorb    9  b  r   4.1   5.1  0  0  1  3  0  1  5  1  0  .  1  0.5  2   0  5-8-9    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1234  5  9  Limopsis    1  b  l   4.1   4.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  5-9-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1235  5  9  Limopsis    2  b  l   5.0   5.1  1  0  2  3  2  0  7  1  0  .  1  0.5  2   0  5-9-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1236  5  9  Limopsis    3  b  l   4.9   5.0  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  5-9-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
1237  5  9  Limopsis    4  b  l   3.8   3.9  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  5-9-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
```

```
1238  5  9 Limopsis   5 b r   3.3  3.2 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-9-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1239  5  9 Limopsis   6 b r   3.2  3.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-9-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1240  5  9 Limopsis   7 b r   6.7  6.3 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-9-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1241  5  9 Limopsis   8 b l   5.2  5.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-9-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1242  5  9 Limopsis   9 b r   5.2  5.7 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-9-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1243  5  9 Limopsis  10 b r   5.8  5.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-9-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1244  5  9 Limopsis  11 b l   5.7  6.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-9-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1245  5  9 Limopsis  12 b l   5.2  5.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-9-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1246  5  9 Limopsis  13 b l   4.8  4.7 1 0 1 2 2 0 5 1 0 . 1 0.5 2  0 5-9-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1247  5  9 Limopsis  14 b l   8.0  7.8 0 0 2 3 1 0 6 1 0 . 1 0.5 2  0 5-9-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1248  5  9 Limopsis  15 b l   4.7  3.2 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-9-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1249  5  9 Limopsis  16 b r   5.5  5.1 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 5-9-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1250  5  9 Limopsis  17 b l   6.0  7.0 1 0 1 1 2 0 4 1 0 . 1 0.5 2  0 5-9-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1251  5  9 Limopsis  18 b l   8.1  7.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-9-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1252  5  9 Limopsis  19 b l   4.2  4.6 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-9-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1253  5  9 Limopsis  20 b l   7.1  6.6 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-9-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1254  5  9 Limopsis  21 b b   4.1  4.0 0 0 1 2 1 1 5 1 0 . 1 1.0 2  0 5-9-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1255  5  9 Limopsis  22 b r   6.0  5.2 0 0 1 1 1 0 3 0 0 1 1 0.5 2  1 5-9-22  1 1.1 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1256  5 10 Gonimyrt   1 b l   6.1  6.2 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-10-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1257  5 10 Gonimyrt   2 b r   5.2  5.5 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-10-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1258  5 10 Gonimyrt   3 b l   5.0  5.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-10-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1259  5 10 Gonimyrt   4 b l   5.2  6.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-10-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1260  5 10 Gonimyrt   5 b r   6.0  6.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-10-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1261  5 10 Gonimyrt   6 b b   3.1  3.1 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-10-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1262  5 10 Gonimyrt   7 b r   2.7  2.8 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 5-10-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1263  5 11 Laevicar   1 b r  10.9 10.8 0 0 1 3 1 1 6 1 0 . 1 0.5 2  0 5-11-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1264  5 12 Limopsis   1 b l   2.5  2.5 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 5-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1265  5 12 Limopsis   2 b r   3.1  3.0 1 0 1 2 2 0 5 1 0 . 1 0.5 2  0 5-12-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1266  5 12 Limopsis   3 b l   3.5  3.2 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-12-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1267  5 12 Limopsis   4 b b   1.8  2.0 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-12-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1268  5 12 Limopsis   5 b r   4.5  4.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-12-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1269  5 12 Limopsis   6 b l   3.0  2.8 0 0 1 1 0 0 2 0 0 1 1 0.5 2  1 5-12-6  . . . . . . . . . . . . . . . . . . .1 0.6 7 . . . . . . . . . .0 0 1
1270  5 12 Limopsis   7 b r   6.0  5.7 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 5-12-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1271  5 13 Limopsis   1 b r   3.6  3.0 0 0 0 3 1 0 4 1 0 . 1 0.5 2  0 5-13-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1272  5 13 Limopsis   2 b r   6.1  5.1 0 0 2 3 1 1 7 1 0 . 1 0.5 2  0 5-13-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1273  5 14 Hiatella   1 b l   2.0  3.5 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-14-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1274  5 14 Hiatella   2 b l   1.3  2.8 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 5-14-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1275  5 15 Cyclocar   1 b r   2.5  2.3 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 5-15-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1276  5 15 Cyclocar   2 b r   3.3  4.5 1 0 0 3 2 0 5 1 0 . 1 0.5 2  0 5-15-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1277  5 15 Cyclocar   3 b l   4.8  4.7 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-15-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1278  5 15 Cyclocar   4 b r   2.0  2.0 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 5-15-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1279  5 15 Cyclocar   5 b l   2.5  2.2 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-15-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1280  5 15 Cyclocar   6 b r   2.8  2.8 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 5-15-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1281  5 15 Cyclocar   7 b r   5.2  5.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-15-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1282  5 15 Cyclocar   8 b l   4.1  4.0 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 5-15-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1283  5 15 Cyclocar   9 b l   2.8  2.5 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 5-15-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
1284  5 15 Cyclocar  10 b r   5.0  5.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-15-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1285  5 15 Cyclocar  11 b r   3.5  3.8 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-15-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1286  5 15 Cyclocar  12 b r   3.1  3.0 0 0 0 2 0 0 2 0 0 1 1 0.5 2  1 5-15-12  1 0.8 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1287  5 15 Cyclocar  13 b l   3.1  3.1 0 0 1 1 1 0 3 0 0 1 1 0.5 2  1 5-15-13  1 0.4 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1288  5 15 Cyclocar  14 b l   7.0  6.5 0 0 1 2 1 0 4 0 0 1 1 0.5 2  1 5-15-14  1 0.2 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1289  5 15 Cyclocar  15 b r   4.8  4.7 0 0 0 2 0 0 2 0 0 1 1 0.5 2  1 5-15-15  1 0.6 2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1290  5 15 Cyclocar  16 b l   4.8  4.2 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-15-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1291  5 15 Cyclocar  17 b r   4.8  4.8 0 0 0 2 0 0 2 1 0 . 1 0.5 2  0 5-15-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1292  5 15 Cyclocar  18 b l   7.0  6.8 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-15-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1293  5 15 Cyclocar  19 b r   6.1  6.1 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-15-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1294  5 15 Cyclocar  20 b r   5.1  5.1 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-15-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1295  5 15 Cyclocar  21 b l   4.8  4.7 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-15-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1296  5 15 Cyclocar  22 b r   4.0  4.0 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-15-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1297  5 15 Cyclocar  23 b r   5.1  5.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-15-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1298  5 15 Cyclocar  24 b r   7.1  6.9 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-15-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1299  5 15 Cyclocar  25 b l   6.2  6.1 0 0 2 3 1 0 6 1 0 . 1 0.5 2  0 5-15-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1300  5 15 Cyclocar  26 b r   4.1  4.0 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-15-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1301  5 15 Cyclocar  27 b l   7.1  7.0 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-15-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1302  5 15 Cyclocar  28 b r   6.1  5.2 0 0 2 3 1 0 6 1 0 . 1 0.5 2  0 5-15-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1303  5 15 Cyclocar  29 b r   8.0  8.0 0 0 2 3 0 0 5 1 0 . 1 0.5 2  0 5-15-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1304  5 15 Cyclocar  30 b l   5.0  4.9 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-15-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1305  5 15 Cyclocar  31 b r   8.0  7.6 0 0 1 2 1 1 5 1 0 . 1 0.5 2  0 5-15-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1306  5 15 Cyclocar  32 b l   6.2  6.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-15-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1307  5 15 Cyclocar  33 b l   6.1  6.1 0 0 2 3 0 0 5 1 0 . 1 0.5 2  0 5-15-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1308  5 15 Cyclocar  34 b r   6.1  6.3 0 0 2 3 1 0 6 1 0 . 1 0.5 2  0 5-15-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1309  5 15 Cyclocar  35 b l   7.0  6.6 0 0 1 3 0 0 4 1 0 . 1 0.5 2  0 5-15-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1310  5 15 Cyclocar  36 b l   7.1  7.1 0 0 0 2 1 1 4 1 0 . 1 0.5 2  0 5-15-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1311  5 15 Cyclocar  37 b r   5.0  5.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 5-15-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1312  5 15 Cyclocar  38 b l   6.1  6.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 5-15-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1313  5 15 Cyclocar  39 b r   7.1  7.0 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 5-15-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1314  5 16 Acquipec   1 b l   8.2  6.5 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 5-16-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1315  5 16 Acquipec   2 b r   6.8  4.2 0 0 0 1 1 0 2 0 0 1 1 0.5 2  1 5-16-2   1 0.2 2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1316  5 16 Acquipec   3 b r   6.2  5.8 0 0 0 1 2 0 3 1 0 . 1 0.5 2  0 5-16-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1317  5 17 Natica_h   1 g      2.2   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-17-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1318  5 17 Natica_h   2 g      2.0   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-17-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1319  5 17 Natica_h   3 g      1.5   .  0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-17-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1320  5 17 Natica_h   4 g      1.7   .  0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-17-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1321  5 17 Natica_h   5 g      4.4   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 5-17-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1322  5 17 Natica_h   6 g      3.1   .  0 0 2 2 1 0 5 1 0 . 1 1.0 2  0 5-17-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1323  5 17 Natica_h   7 g      4.1   .  0 0 2 2 1 0 5 0 0 1 1 1.0 2  1 5-17-7   1 1.0 1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1324  5 17 Natica_h   8 g      4.1   .  0 0 2 3 1 0 6 1 0 . 1 1.0 2  0 5-17-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1325  5 17 Natica_h   9 g      6.0   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 5-17-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1326  5 18 Euspira_   1 g      5.1   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 5-18-1   1 2.0 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1327  5 18 Euspira_   2 g      6.1   .  0 0 1 1 1 1 4 0 0 1 1 1.0 2  1 5-18-2   1 0.6 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .3 1 0 0
1328  5 18 Euspira_   3 g      3.2   .  0 0 0 1 1 1 3 0 0 1 1 1.0 2  1 5-18-3   1 1.0 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .3 1 0 0
1329  5 18 Euspira_   4 g      3.1   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-18-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
1330  5 18 Euspira_   5 g    4.2  . 0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-18-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1331  5 18 Euspira_   6 g    2.8  . 0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-18-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1332  5 18 Euspira_   7 g    5.1  . 0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-18-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1333  5 18 Euspira_   8 g    3.6  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-18-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1334  5 18 Euspira_   9 g    2.5  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-18-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1335  5 19 Unident.   1 g    4.8  . 0 0 1 2 1 1 5 1 0 . 1 1.0 2  0 5-19-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1336  5 20 Ringicul   1 g    4.2  . 0 0 0 1 0 1 2 1 0 . 1 1.0 2  0 5-20-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1337  5 20 Ringicul   2 g    3.0  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1338  5 20 Ringicul   3 g    3.2  . 1 0 1 3 2 0 6 1 0 . 1 1.0 2  0 5-20-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1339  5 20 Ringicul   4 g    3.8  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1340  5 20 Ringicul   5 g    3.8  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1341  5 20 Ringicul   6 g    3.6  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1342  5 20 Ringicul   7 g    4.1  . 0 0 0 3 0 0 3 1 0 . 1 1.0 2  0 5-20-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1343  5 20 Ringicul   8 g    3.8  . 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-20-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1344  5 20 Ringicul   9 g    4.6  . 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-20-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1345  5 20 Ringicul  10 g    3.7  . 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-20-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1346  5 20 Ringicul  11 g    4.1  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1347  5 20 Ringicul  12 g    4.0  . 0 0 2 2 0 1 5 1 0 . 1 1.0 2  0 5-20-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1348  5 20 Ringicul  13 g    2.8  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-20-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1349  5 20 Ringicul  14 g    4.5  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1350  5 20 Ringicul  15 g    3.8  . 1 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-20-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1351  5 20 Ringicul  16 g    3.2  . 0 0 1 3 2 0 6 0 0 1 1 1.0 2  1 5-20-16  1 1.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1352  5 20 Ringicul  17 g    4.0  . 0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 5-20-17  1 0.5 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1353  5 20 Ringicul  18 g    4.1  . 0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 5-20-18  1 0.4 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1354  5 20 Ringicul  19 g    5.1  . 0 0 1 1 0 0 2 0 0 1 1 1.0 2  1 5-20-19  . . . . . . . . . . . . . . . . . . . . . 1 0.2 6 . . . . . . . . . . . 0 0 1
1355  5 20 Ringicul  20 g    4.1  . 0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 5-20-20  1 0.5 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1356  5 20 Ringicul  21 g    4.5  . 0 0 1 1 0 0 2 0 0 1 1 1.0 2  1 5-20-21  1 1.0 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1357  5 20 Ringicul  22 g    3.5  . 0 0 1 3 0 1 5 0 0 1 1 1.0 2  1 5-20-22  1 1.0 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3 1 0 0
1358  5 20 Ringicul  23 g    4.5  . 0 0 1 2 0 0 3 0 1 3 1 1.0 2  1 5-20-23  3 0.5 3 0.5 3 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1359  5 20 Ringicul  24 g    3.5  . 0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 5-20-24  1 1.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1360  5 20 Ringicul  25 g    4.5  . 0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 5-20-25  1 0.9 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1361  5 20 Ringicul  26 g    2.5  . 0 0 1 3 1 1 6 0 0 1 1 1.0 2  1 5-20-26  1 0.8 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2 1 0 0
1362  5 20 Ringicul  27 g    4.0  . 0 0 1 2 0 0 3 0 0 1 1 1.0 2  1 5-20-27  1 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1363  5 20 Ringicul  28 g    3.5  . 0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 5-20-28  1 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1364  5 20 Ringicul  29 g    4.5  . 0 0 2 3 0 0 5 0 0 1 1 1.0 2  1 5-20-29  1 0.9 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1365  5 20 Ringicul  30 g    4.0  . 0 0 1 3 0 0 4 0 0 1 1 1.0 2  1 5-20-30  1 0.8 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1366  5 20 Ringicul  31 g    4.6  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1367  5 20 Ringicul  32 g    2.5  . 1 0 0 2 2 1 5 1 0 . 1 1.0 2  0 5-20-32  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1368  5 20 Ringicul  33 g    4.7  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-33  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1369  5 20 Ringicul  34 g    4.1  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-34  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1370  5 20 Ringicul  35 g    4.0  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-35  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1371  5 20 Ringicul  36 g    4.2  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-20-36  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1372  5 20 Ringicul  37 g    4.8  . 0 0 0 2 0 0 2 1 0 . 1 1.0 2  0 5-20-37  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1373  5 20 Ringicul  38 g    5.0  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-38  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1374  5 20 Ringicul  39 g    4.8  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-20-39  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1375  5 20 Ringicul  40 g    3.8  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-20-40  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
1376  5 20 Ringicul  41 g   3.8  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-41  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1377  5 20 Ringicul  42 g   3.8  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-42  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1378  5 20 Ringicul  43 g   4.0  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-20-43  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1379  5 20 Ringicul  44 g   4.1  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-20-44  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1380  5 20 Ringicul  45 g   4.2  . 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-20-45  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1381  5 20 Ringicul  46 g   3.0  . 1 0 1 3 2 0 6 1 0 . 1 1.0 2  0 5-20-46  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1382  5 20 Ringicul  47 g   4.9  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-47  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1383  5 20 Ringicul  48 g   3.7  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-48  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1384  5 20 Ringicul  49 g   3.8  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-20-49  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1385  5 20 Ringicul  50 g   3.8  . 0 0 1 3 0 0 4 1 0 . 1 1.0 2  0 5-20-50  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1386  5 20 Ringicul  51 g   3.3  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-20-51  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1387  5 21 Amyclina   1 g   4.1  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1388  5 21 Amyclina   2 g   3.8  . 1 0 1 2 2 1 6 1 0 . 1 1.0 2  0 5-21-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1389  5 21 Amyclina   3 g   8.4  . 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-21-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1390  5 21 Amyclina   4 g   6.1  . 1 0 1 2 2 1 6 1 0 . 1 1.0 2  0 5-21-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1391  5 21 Amyclina   5 g   8.0  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1392  5 21 Amyclina   6 g   2.3  . 0 0 1 1 0 0 2 0 0 1 1 1.0 2  1 5-21-6   1 0.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1393  5 21 Amyclina   7 g   7.1  . 0 0 1 1 1 0 3 0 0 1 1 1.0 2  1 5-21-7  . . . . . . . . . . . . . . . . . . . . . .1 0.6 7 . . . . . . . . . . . . .0 0 1
1394  5 21 Amyclina   8 g   8.1  . 0 0 1 2 0 0 3 0 1 2 1 1.0 2  1 5-21-8   2 0.6 7 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1395  5 21 Amyclina   9 g   5.7  . 0 0 1 2 0 1 4 0 0 1 1 1.0 2  1 5-21-9   1 0.6 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .2 1 0 0
1396  5 21 Amyclina  10 g   5.6  . 0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 5-21-10  1 1.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1397  5 21 Amyclina  11 g   3.5  . 0 0 1 1 1 0 3 0 0 1 1 1.0 2  1 5-21-11  1 0.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1398  5 21 Amyclina  12 g   5.3  . 0 0 2 2 1 1 6 0 0 1 1 1.0 2  1 5-21-12  1 0.6 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .2 1 0 0
1399  5 21 Amyclina  13 g   5.1  . 0 0 1 2 1 1 5 1 0 . 1 1.0 2  0 5-21-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1400  5 21 Amyclina  14 g   7.9  . 0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-21-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1401  5 21 Amyclina  15 g   5.0  . 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-21-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1402  5 21 Amyclina  16 g   3.6  . 0 0 1 2 0 1 4 1 0 . 1 1.0 2  0 5-21-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1403  5 21 Amyclina  17 g   4.2  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1404  5 21 Amyclina  18 g   6.1  . 0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-21-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1405  5 21 Amyclina  19 g   5.1  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1406  5 21 Amyclina  20 g   3.8  . 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-21-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1407  5 21 Amyclina  21 g   6.6  . 0 0 1 2 1 1 5 1 0 . 1 1.0 2  0 5-21-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1408  5 21 Amyclina  22 g   5.3  . 0 0 1 1 1 1 4 1 0 . 1 1.0 2  0 5-21-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1409  5 21 Amyclina  23 g   5.1  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1410  5 21 Amyclina  24 g   5.4  . 0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 5-21-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1411  5 21 Amyclina  25 g   4.2  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1412  5 21 Amyclina  26 g   6.1  . 0 0 1 2 1 1 5 0 0 1 1 1.0 2  1 5-21-26  1 0.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .2 1 0 0
1413  5 21 Amyclina  27 g  14.8  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-27  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1414  5 21 Amyclina  28 g  19.1  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-28  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1415  5 21 Amyclina  29 g   5.9  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-21-29  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1416  5 21 Amyclina  30 g   4.1  . 0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 5-21-30  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1417  5 21 Amyclina  31 g   6.2  . 0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 5-21-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1418  5 21 Amyclina  32 g   7.5  . 0 0 2 2 1 1 6 1 0 . 1 1.0 2  0 5-21-32  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1419  5 21 Amyclina  33 g   6.4  . 0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 5-21-33  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1420  5 21 Amyclina  34 g   6.9  . 0 0 1 1 1 1 4 1 0 . 1 1.0 2  0 5-21-34  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1421  5 21 Amyclina  35 g   6.3  . 0 0 1 2 0 0 3 1 0 . 1 1.0 2  0 5-21-35  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
1422  5 21  Amyclina  36  g    6.0  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-21-36  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1423  5 21  Amyclina  37  g    6.9  .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  5-21-37  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1424  5 21  Amyclina  38  g    4.6  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-21-38  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1425  5 21  Amyclina  39  g    6.1  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-21-39  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1426  5 21  Amyclina  40  g    8.4  .  0  0  2  2  1  0  5  1  0  .  1  1.0  2   0  5-21-40  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1427  5 21  Amyclina  41  g    5.9  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-21-41  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1428  5 22  Lyrotyph   1  g    4.3  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-22-1   1  1.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1429  5 22  Lyrotyph   2  g    7.0  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-22-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1430  5 22  Lyrotyph   3  g    5.2  .  0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  5-22-3   . . . . . . . . . . . . . . . . . . . . . .  1  0.5  4  . . . . . . . . . . .  0  0  1
1431  5 22  Lyrotyph   4  g    5.4  .  1  0  1  2  2  0  5  1  0  .  1  1.0  2   0  5-22-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1432  5 22  Lyrotyph   5  g    5.6  .  0  0  1  1  0  0  2  1  0  .  1  1.0  2   0  5-22-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1433  5 22  Lyrotyph   6  g    5.3  .  0  0  1  1  0  0  2  1  0  .  1  1.0  2   0  5-22-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1434  5 22  Lyrotyph   7  g   12.3  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-22-7   1  1.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1435  5 22  Lyrotyph   8  g    6.0  .  0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  5-22-8   1  0.3  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1436  5 23  Epitoniu   1  g    8.8  .  0  0  0  0  1  0  1  1  0  .  1  1.0  2   0  5-23-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1437  5 24  Turbonil   1  g    5.5  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-24-1   1  0.5  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1438  5 24  Turbonil   2  g    4.9  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-24-2   1  1.1  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1439  5 24  Turbonil   3  g    5.9  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-24-3   1  1.0  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1440  5 24  Turbonil   4  g    6.1  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-24-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1441  5 24  Turbonil   5  g    8.1  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-24-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1442  5 24  Turbonil   6  g    8.0  .  1  0  2  2  2  0  6  1  0  .  1  1.0  2   0  5-24-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1443  5 24  Turbonil   7  g    7.8  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-24-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1444  5 24  Turbonil   8  g   13.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-24-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1445  5 24  Turbonil   9  g    9.9  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-24-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1446  5 24  Turbonil  10  g    5.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-24-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1447  5 25  Niso_aca   1  g    8.0  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-25-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1448  5 26  Aporrhai   1  g   12.8  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1449  5 26  Aporrhai   2  g   14.2  .  0  0  1  1  0  0  2  1  0  .  1  1.0  2   0  5-26-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1450  5 26  Aporrhai   3  g   11.9  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1451  5 26  Aporrhai   4  g   12.8  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1452  5 26  Aporrhai   5  g   10.0  .  1  0  1  2  2  0  5  1  0  .  1  1.0  2   0  5-26-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1453  5 26  Aporrhai   6  g   11.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1454  5 26  Aporrhai   7  g   10.8  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1455  5 26  Aporrhai   8  g   12.9  .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  5-26-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1456  5 26  Aporrhai   9  g   12.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1457  5 26  Aporrhai  10  g   18.3  .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  5-26-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1458  5 26  Aporrhai  11  g   14.1  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-26-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1459  5 26  Aporrhai  12  g   10.6  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1460  5 26  Aporrhai  13  g   10.1  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-26-13  1  1.4  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1461  5 26  Aporrhai  14  g   10.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1462  5 26  Aporrhai  15  g   10.6  .  0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  5-26-15  1  1.0  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1463  5 26  Aporrhai  16  g   14.4  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-26-16  1  0.4  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1464  5 26  Aporrhai  17  g   14.9  .  0  0  1  1  0  0  2  0  0  1  1  1.0  2   1  5-26-17  1  0.6  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1465  5 26  Aporrhai  18  g   11.8  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-26-18  1  1.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1466  5 26  Aporrhai  19  g   10.1  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-26-19  1  0.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1467  5 26  Aporrhai  20  g   10.4  .  0  0  1  2  2  0  5  0  0  1  1  1.0  2   1  5-26-20  1  0.9  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
```

```
1468  5 26  Aporrhai  21  g    15.3  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1469  5 26  Aporrhai  22  g    14.0  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1470  5 26  Aporrhai  23  g    15.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1471  5 26  Aporrhai  24  g    11.5  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1472  5 26  Aporrhai  25  g    12.2  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-26-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1473  5 27  Hinia_te   1  g     3.8  .  0  0  1  1  0  0  2  0  0  1  1  1.0  2   1  5-27-1   1  1.0  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1474  5 27  Hinia_te   2  g     7.9  .  0  0  1  2  1  0  4  0  1  7  1  1.0  2   1  5-27-2   6  0.5  7  0.3  7  0.4  6  0.3  6  0.3  8  0.3  1  1  0.2  7.0  . . . . . . . . . . . . . . . . . . . 1  1  0
1475  5 27  Hinia_te   3  g     7.2  .  0  0  0  2  1  1  4  0  0  1  1  1.0  2   1  5-27-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1476  5 27  Hinia_te   4  g     6.0  .  0  0  0  1  1  0  2  1  0  .  1  1.0  2   0  5-27-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1477  5 27  Hinia_te   5  g     3.8  .  0  0  0  1  1  0  2  1  0  .  1  1.0  2   0  5-27-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1478  5 27  Hinia_te   6  g     7.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-27-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1479  5 28  Conus_an   1  g     7.3  .  1  0  1  2  2  0  5  0  0  1  1  1.0  2   1  5-28-1   1  0.4  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1480  5 29  Haustell   1  g     8.3  .  0  0  1  3  1  0  5  0  0  1  1  1.0  2   1  5-29-1   1  0.3  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1481  5 29  Haustell   2  g    10.9  .  0  0  0  2  1  0  3  0  0  1  1  1.0  2   1  5-29-2   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1482  5 29  Haustell   3  g    11.1  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-29-3   1  1.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1483  5 29  Haustell   4  g     8.0  .  0  0  1  3  1  0  5  0  1  3  1  1.0  2   1  5-29-4   3  1.0  6  1.0  5  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1484  5 29  Haustell   5  g    15.3  .  0  0  1  2  1  0  4  0  1  3  1  1.0  2   1  5-29-5   2  1.2  7  1.0  8  . . . . . . . .  1  0.1  8.0  . . . . . . . . . . . . . . . . . . . 1  1  0
1485  5 29  Haustell   6  g     9.1  .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  5-29-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1486  5 29  Haustell   7  g     7.8  .  1  0  0  3  2  0  5  1  0  .  1  1.0  2   0  5-29-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1487  5 29  Haustell   8  g     8.6  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-29-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1488  5 29  Haustell   9  g    10.2  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-29-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1489  5 29  Haustell  10  g     8.8  .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  5-29-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1490  5 30  Phos_dec   1  g     4.0  .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-30-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1491  5 31  Streptod   1  g    15.0  .  1  0  1  1  2  1  5  0  1  2  1  1.0  2   1  5-31-1   . . . . . . . . . . . . .  2  0.2  7.0  0.1  8  . . . . . . . . . . . . . . . . . 2  0  1  0
1492  5 32  Teretia_   1  g     5.3  .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  5-32-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1493  5 33  Babylone   1  g     7.3  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-33-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1494  5 34  Pleuroto   1  g     9.4  .  0  0  1  1  0  0  2  0  0  1  1  1.0  2   1  5-34-1   1  1.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1495  5 34  Pleuroto   2  g     9.1  .  0  0  0  2  1  0  3  1  0  .  1  1.0  2   0  5-34-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1496  5 34  Pleuroto   3  g    12.0  .  0  0  1  2  1  1  5  1  0  .  1  1.0  2   0  5-34-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1497  5 36  Mitidae_   1  g     8.1  .  0  0  0  1  0  0  1  1  0  .  1  1.0  2   0  5-36-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1498  5 36  Mitidae_   2  g    18.8  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-36-2   . . . . . . . . . . . . .  1  0.1  7.0  . . . . . . . . . . . . . . . . . . . 0  1  0
1499  5 37  Gemmula_   1  g    11.1  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-37-1   1  1.1  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1500  5 38  Fusiturr   1  g    12.4  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-38-1   1  1.1  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1501  5 38  Fusiturr   2  g     8.8  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-38-2   1  0.4  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1502  5 39  Orthosur   1  g    21.9  .  0  0  0  1  1  0  2  1  0  .  1  1.0  2   0  5-39-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1503  5 40  Unedogem   1  g     9.5  .  0  0  1  2  1  0  4  0  1  2  1  1.0  2   1  5-40-1   1  1.0  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1504  5 40  Unedogem   2  g     9.1  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-40-2   1  1.4  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1505  5 40  Unedogem   3  g     9.5  .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-40-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1506  5 40  Unedogem   4  g    24.1  .  0  0  1  2  1  1  5  1  0  .  1  1.0  2   0  5-40-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1507  5 41  Mitra_sp   1  g    15.1  .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  5-41-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1508  5 41  Mitra_sp   2  g    13.8  .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  5-41-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1509  5 42  Crassisp   1  g    21.0  .  0  0  1  2  1  0  4  0  1  2  1  1.0  2   1  5-42-1   2  1.1  7  1.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1510  5 42  Crassisp   2  g    19.0  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-42-2   1  2.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1511  5 43  Unedogem   1  g    11.0  .  0  0  0  1  1  0  2  0  0  1  1  1.0  2   1  5-43-1   1  0.7  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1512  5 43  Unedogem   2  g     9.8  .  0  0  1  2  1  0  4  0  0  1  1  1.0  2   1  5-43-2   1  2.0  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1513  5 43  Unedogem   3  g    15.5  .  0  0  2  3  1  0  6  1  0  .  1  1.0  2   0  5-43-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
1514  5 43  Unedogem   4  g     8.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-43-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1515  5 43  Unedogem   5  g     8.8   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-43-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1516  5 44  Turritel   1  g     5.0   .  1  0  1  1  0  2  4  0  1  2  1  1.0  2   1  5-44-1   1  0.7  1  . . . . . . . . . . . . . . . . . . . . 1  0.2  1  . . . . . . . . . . . . . 1  0  1
1517  5 45  Splendri   1  g     6.1   .  0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  5-45-1  . . . . . . . . . . . . . . . . . . . . . . . . 1  0.6  4  . . . . . . . . . . . . . 0  0  1
1518  5 45  Splendri   2  g     7.0   .  0  0  1  1  1  0  3  1  0  .  1  1.0  2   0  5-45-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1519  5 46  Bulidini   1  g     2.1   .  0  0  1  1  0  0  2  1  0  .  1  1.0  2   0  5-46-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1520  5 46  Bulidini   2  g     2.3   .  0  0  2  2  0  0  4  1  0  .  1  1.0  2   0  5-46-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1521  5 49  Niso_sp.   1  g     4.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  2   0  5-49-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1522  5 50  Balcis_s   1  g     6.1   .  1  0  1  1  2  0  4  1  0  .  1  1.0  2   0  5-50-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1523  5 50  Balcis_s   2  g     4.0   .  0  0  1  1  1  0  3  0  0  1  1  1.0  2   1  5-50-2   1  0.4  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1524  6  1  Glycymer   1  b  l   5.1   6.0  0  0  1  3  1  0  5  0  0  1  1  0.5  2   1  6-1-1    1  1.0  2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1525  6  1  Glycymer   2  b  r   3.2   3.2  0  0  1  3  0  0  4  0  0  1  1  0.5  2   1  6-1-2    1  0.5  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1526  6  1  Glycymer   3  b  l  15.0  16.0  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  6-1-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1527  6  1  Glycymer   4  b  l  23.8  24.6  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  6-1-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1528  6  2  Astarte_   1  b  r   3.1   3.1  0  0  1  3  1  0  5  0  0  1  1  0.5  2   1  6-2-1    1  0.3  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1529  6  2  Astarte_   2  b  r   5.0   5.1  0  0  1  3  1  0  5  0  0  1  1  0.5  2   1  6-2-2    1  0.6  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1530  6  2  Astarte_   3  b  l   3.3   4.1  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  6-2-3    1  0.5  2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1531  6  2  Astarte_   4  b  l   3.8   4.1  0  0  1  3  1  0  5  0  0  1  1  0.5  2   1  6-2-4    1  0.6  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1532  6  2  Astarte_   5  b  r   3.1   3.5  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  6-2-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1533  6  2  Astarte_   6  b  l   2.4   2.9  0  0  0  1  0  0  1  1  0  .  1  0.5  2   0  6-2-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1534  6  2  Astarte_   7  b  l   2.8   3.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-2-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1535  6  2  Astarte_   8  b  l   2.0   1.8  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  6-2-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1536  6  2  Astarte_   9  b  l   2.0   2.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  6-2-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1537  6  2  Astarte_  10  b  l   3.0   3.1  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  6-2-10   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1538  6  2  Astarte_  11  b  r   2.5   2.0  1  0  0  3  2  0  5  1  0  .  1  0.5  2   0  6-2-11   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1539  6  2  Astarte_  12  b  r   2.5   2.9  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  6-2-12   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1540  6  2  Astarte_  13  b  r   2.1   2.1  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  6-2-13   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1541  6  2  Astarte_  14  b  r   2.9   3.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-2-14   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1542  6  2  Astarte_  15  b  l   2.6   2.9  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  6-2-15   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1543  6  2  Astarte_  16  b  r   4.8   5.1  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  6-2-16   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1544  6  2  Astarte_  17  b  r   3.0   3.2  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  6-2-17   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1545  6  2  Astarte_  18  b  r   3.7   4.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-2-18   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1546  6  2  Astarte_  19  b  l   3.0   3.0  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  6-2-19   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1547  6  2  Astarte_  20  b  r   3.7   4.0  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  6-2-20   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1548  6  2  Astarte_  21  b  l   3.3   3.8  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  6-2-21   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1549  6  2  Astarte_  22  b  l   3.9   4.4  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-2-22   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1550  6  2  Astarte_  23  b  l   4.1   4.4  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  6-2-23   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1551  6  2  Astarte_  24  b  r   5.0   5.2  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  6-2-24   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1552  6  2  Astarte_  25  b  l   4.2   4.6  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  6-2-25   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1553  6  2  Astarte_  26  b  r   8.0   8.2  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  6-2-26   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1554  6  3  Astarte_   1  b  r   6.5   7.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1555  6  3  Astarte_   2  b  r   7.1   7.9  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1556  6  3  Astarte_   3  b  r   7.1   7.5  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1557  6  3  Astarte_   4  b  l   6.5   7.3  0  0  1  2  1  1  5  1  0  .  1  0.5  2   0  6-3-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1558  6  3  Astarte_   5  b  l   5.9   6.5  0  0  1  2  0  0  3  0  0  1  1  0.5  2   1  6-3-5    1  0.4  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1559  6  3  Astarte_   6  b  l   8.1   8.8  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  6-3-6    1  0.4  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
```

```
1560  6  3  Astarte_   7  b  r   3.3   3.4  0  0  1  1  1  0  3  0  0  1  1  0.5  2   1  6-3-7    1  0.8  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1561  6  3  Astarte_   8  b  l   7.0   7.2  0  0  2  2  1  0  5  0  0  1  1  0.5  2   1  6-3-8    1  0.5  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1562  6  3  Astarte_   9  b  r   6.1   6.4  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  6-3-9    1  0.6  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1563  6  3  Astarte_  10  b  r   2.0   2.1  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  6-3-10   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1564  6  3  Astarte_  11  b  l   2.0   2.3  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  6-3-11   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1565  6  3  Astarte_  12  b  r   3.0   3.4  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  6-3-12   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1566  6  3  Astarte_  13  b  l   2.8   3.1  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  6-3-13   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1567  6  3  Astarte_  14  b  r   2.1   2.2  0  0  0  3  0  1  4  1  0  .  1  0.5  2   0  6-3-14   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1568  6  3  Astarte_  15  b  r   2.1   2.3  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-15   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1569  6  3  Astarte_  16  b  r   2.0   2.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  6-3-16   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1570  6  3  Astarte_  17  b  l   2.6   2.9  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-17   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1571  6  3  Astarte_  18  b  l   2.9   3.2  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  6-3-18   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1572  6  3  Astarte_  19  b  r   2.3   2.7  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-19   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1573  6  3  Astarte_  20  b  l   3.2   3.7  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-20   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1574  6  3  Astarte_  21  b  r   2.7   3.0  0  0  2  2  1  0  5  1  0  .  1  0.5  2   0  6-3-21   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1575  6  3  Astarte_  22  b  l   2.5   3.0  0  0  2  2  0  0  4  1  0  .  1  0.5  2   0  6-3-22   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1576  6  3  Astarte_  23  b  r   2.1   2.2  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  6-3-23   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1577  6  3  Astarte_  24  b  r   2.8   3.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-24   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1578  6  3  Astarte_  25  b  l   2.5   3.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-25   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1579  6  3  Astarte_  26  b  l   3.6   4.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-26   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1580  6  3  Astarte_  27  b  l   3.5   3.9  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-27   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1581  6  3  Astarte_  28  b  r   3.7   3.9  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  6-3-28   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1582  6  3  Astarte_  29  b  l   4.2   5.0  0  0  2  2  1  0  5  1  0  .  1  0.5  2   0  6-3-29   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1583  6  3  Astarte_  30  b  l   4.2   4.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-30   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1584  6  3  Astarte_  31  b  r   4.1   5.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-31   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1585  6  3  Astarte_  32  b  r   5.1   5.8  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-32   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1586  6  3  Astarte_  33  b  l   5.0   6.0  0  0  0  2  0  0  2  1  0  .  1  0.5  2   0  6-3-33   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1587  6  3  Astarte_  34  b  l   4.2   5.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-34   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1588  6  3  Astarte_  35  b  r   4.2   4.9  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-35   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1589  6  3  Astarte_  36  b  l   4.4   5.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-36   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1590  6  3  Astarte_  37  b  r   5.3   6.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-37   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1591  6  3  Astarte_  38  b  r   5.1   5.8  0  0  2  3  1  0  6  1  0  .  1  0.5  2   0  6-3-38   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1592  6  3  Astarte_  39  b  r   4.4   5.2  0  0  1  2  1  0  4  0  0  1  1  0.5  2   1  6-3-39   1  0.6  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1593  6  3  Astarte_  40  b  r   5.0   5.3  0  0  1  2  1  1  5  0  0  1  1  0.5  2   1  6-3-40   1  1.1  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  3  1  0  0
1594  6  3  Astarte_  41  b  l   2.1   2.1  0  0  1  3  0  0  4  0  0  1  1  0.5  2   1  6-3-41   1  0.5  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1595  6  3  Astarte_  42  b  l   2.6   3.0  0  0  1  2  0  0  3  0  0  1  1  0.5  2   1  6-3-42   1  0.4  2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
1596  6  3  Astarte_  43  b  r   6.1   6.9  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-43   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1597  6  3  Astarte_  44  b  r   5.8   6.2  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-44   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1598  6  3  Astarte_  45  b  r   4.7   5.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-45   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1599  6  3  Astarte_  46  b  l   7.0   7.7  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  6-3-46   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1600  6  3  Astarte_  47  b  r   4.1   5.0  0  0  2  1  1  0  4  1  0  .  1  0.5  2   0  6-3-47   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1601  6  3  Astarte_  48  b  l   5.0   5.4  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-48   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1602  6  3  Astarte_  49  b  l   5.1   5.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-49   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1603  6  3  Astarte_  50  b  r   6.2   6.8  0  0  2  2  1  0  5  1  0  .  1  0.5  2   0  6-3-50   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1604  6  3  Astarte_  51  b  r   5.0   5.3  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-51   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
1605  6  3  Astarte_  52  b  l   5.2   6.1  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-52   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
```

```
1606  6  3  Astarte_  53  b  r   5.2   6.2  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-53   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1607  6  3  Astarte_  54  b  r   6.1   6.4  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-54   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1608  6  3  Astarte_  55  b  r   5.1   6.1  0  0  2  1  1  0  4  1  0  .  1  0.5  2   0  6-3-55   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1609  6  3  Astarte_  56  b  r   6.2   7.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-56   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1610  6  3  Astarte_  57  b  l   6.1   7.0  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-57   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1611  6  3  Astarte_  58  b  l   4.2   4.8  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-58   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1612  6  3  Astarte_  59  b  r   6.2   7.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-59   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1613  6  3  Astarte_  60  b  l   7.0   7.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-60   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1614  6  3  Astarte_  61  b  r   5.9   6.9  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-61   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1615  6  3  Astarte_  62  b  l   4.8   5.1  0  0  0  1  1  0  2  1  0  .  1  0.5  2   0  6-3-62   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1616  6  3  Astarte_  63  b  l   5.1   6.3  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  6-3-63   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1617  6  3  Astarte_  64  b  r   6.1   6.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  6-3-64   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1618  6  3  Astarte_  65  b  r   7.0   7.3  0  0  1  1  1  0  3  1  0  .  1  0.5  2   0  6-3-65   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1619  6  3  Astarte_  66  b  r   8.2   9.1  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  6-3-66   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1620  6  3  Astarte_  67  b  l   8.1   9.1  0  0  1  2  0  0  3  1  0  .  1  0.5  2   0  6-3-67   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1621  6  4  Ringicul   1  g      5.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1622  6  4  Ringicul   2  g      4.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1623  6  4  Ringicul   3  g      5.1   .  0  0  1  3  0  1  5  1  0  .  1  1.0  2   0  6-4-3    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1624  6  4  Ringicul   4  g      4.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-4    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1625  6  4  Ringicul   5  g      4.1   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1626  6  4  Ringicul   6  g      4.2   .  0  0  1  3  0  0  4  0  0  1  1  1.0  2   1  6-4-6    1  1.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1627  6  4  Ringicul   7  g      3.8   .  0  0  1  3  0  1  5  0  1  2  1  1.0  2   1  6-4-7    2  1.0  7  0.8  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3  1  0  0
1628  6  4  Ringicul   8  g      4.7   .  0  0  1  3  0  0  4  0  0  1  1  1.0  2   1  6-4-8    1  0.5  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1629  6  4  Ringicul   9  g      4.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-9    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1630  6  4  Ringicul  10  g      4.1   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-10   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1631  6  4  Ringicul  11  g      3.2   .  1  0  1  3  2  0  6  1  0  .  1  1.0  2   0  6-4-11   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1632  6  4  Ringicul  12  g      3.8   .  1  0  1  3  2  1  7  1  0  .  1  1.0  2   0  6-4-12   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1633  6  4  Ringicul  13  g      3.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-13   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1634  6  4  Ringicul  14  g      3.7   .  0  0  1  3  2  0  6  1  0  .  1  1.0  2   0  6-4-14   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1635  6  4  Ringicul  15  g      4.5   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-15   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1636  6  4  Ringicul  16  g      2.6   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-16   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1637  6  4  Ringicul  17  g      4.6   .  1  0  1  3  2  0  6  1  0  .  1  1.0  2   0  6-4-17   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1638  6  4  Ringicul  18  g      4.0   .  0  0  1  2  0  0  3  1  0  .  1  1.0  2   0  6-4-18   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1639  6  4  Ringicul  19  g      3.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-19   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1640  6  4  Ringicul  20  g      3.1   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-20   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1641  6  4  Ringicul  21  g      4.7   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-21   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1642  6  4  Ringicul  22  g      4.5   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-22   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1643  6  4  Ringicul  23  g      3.6   .  1  0  1  3  2  1  7  1  0  .  1  1.0  2   0  6-4-23   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1644  6  4  Ringicul  24  g      4.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-24   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1645  6  4  Ringicul  25  g      3.3   .  1  0  1  3  2  1  7  1  0  .  1  1.0  2   0  6-4-25   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1646  6  4  Ringicul  26  g      3.9   .  0  0  1  3  0  1  5  1  0  .  1  1.0  2   0  6-4-26   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1647  6  4  Ringicul  27  g      4.8   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-27   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1648  6  4  Ringicul  28  g      3.7   .  0  0  1  3  0  0  4  1  0  .  1  1.0  2   0  6-4-28   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1649  6  5  Fusiturr   1  g      3.0   .  0  0  1  3  1  0  5  1  0  .  1  1.0  2   0  6-5-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1650  6  6  Limopsis   1  b  r   2.7   2.8  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  6-6-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1651  6  6  Limopsis   2  b  l   4.0   4.1  0  0  1  3  0  0  4  1  0  .  1  0.5  2   0  6-6-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
1652  6  6 Limopsis   3 b r   3.4  3.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1653  6  6 Limopsis   4 b l   4.4  4.3 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1654  6  6 Limopsis   5 b l   4.1  4.1 0 0 1 3 0 0 4 1 0 . 1 0.5 2  0 6-6-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1655  6  6 Limopsis   6 b r   4.6  4.3 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1656  6  6 Limopsis   7 b r   5.0  4.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-6-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1657  6  6 Limopsis   8 b r   5.8  5.2 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-6-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1658  6  6 Limopsis   9 b l   5.0  4.8 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-6-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1659  6  6 Limopsis  10 b l   5.7  5.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-6-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1660  6  6 Limopsis  11 b r   5.1  4.9 0 0 1 1 1 0 3 0 0 1 1 0.5 2  1 6-6-11  . . . . . . . . . . . . . . . . . . . . . . 1 0.2 6  . . . . . . . . . . . . . 0 0 1
1661  6  6 Limopsis  12 b l   5.7  5.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-6-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1662  6  6 Limopsis  13 b l   5.5  5.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 6-6-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1663  6  6 Limopsis  14 b r   7.0  6.6 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1664  6  6 Limopsis  15 b r   6.1  6.0 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1665  6  6 Limopsis  16 b l   6.1  5.2 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-6-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1666  6  6 Limopsis  17 b l  10.5  8.2 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1667  6  6 Limopsis  18 b r   8.0  7.2 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1668  6  6 Limopsis  19 b l   6.0  5.8 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 6-6-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1669  6  6 Limopsis  20 b l   9.2  7.8 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1670  6  6 Limopsis  21 b l   8.1  7.8 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1671  6  6 Limopsis  22 b l   9.1  8.0 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-6-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1672  6  7 Hiatella   1 b l   2.0  3.1 0 0 0 3 1 0 4 1 0 . 1 0.5 2  0 6-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1673  6  7 Hiatella   2 b l   1.3  2.6 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-7-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1674  6  7 Hiatella   3 b r   1.9  2.8 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 6-7-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1675  6  7 Hiatella   4 b l   2.0  3.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-7-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1676  6  7 Hiatella   5 b l   2.7  5.1 0 0 1 3 1 1 6 1 0 . 1 0.5 2  0 6-7-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1677  6  7 Hiatella   6 b r   1.8  3.8 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 6-7-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1678  6  7 Hiatella   7 b l   2.6  4.7 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-7-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1679  6  7 Hiatella   8 b l   3.0  5.0 0 0 1 3 1 1 6 1 0 . 1 0.5 2  0 6-7-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1680  6  7 Hiatella   9 b l   1.8  2.6 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-7-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1681  6  8 Bittum_s   1 g     3.2   .  0 0 0 2 1 0 3 1 0 . 1 1.0 2  0 6-8-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1682  6  9 Turritel  1 g     2.6   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 6-9-1   1 0.3 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1683  6 10 Streptol  1 g     7.1   .  0 0 1 2 1 0 4 0 1 2 1 1.0 2  1 6-10-1  1 1.2 5 . . . . . . . . . . . . . . . . . . . . . . 1 0.2 4  . . . . . . . . . . . . . 1 0 1
1684  6 10 Streptol  2 g     5.9   .  0 0 1 2 0 1 4 1 0 . 1 1.0 2  0 6-10-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1685  6 11 Euspira_  1 g     2.7   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 6-11-1  1 1.0 1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1686  6 11 Euspira_  2 g     5.1   .  0 0 1 1 1 0 3 0 0 1 1 1.0 2  1 6-11-2  1 1.6 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1687  6 11 Euspira_  3 g     6.0   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 6-11-3  . . . . . . . . . . . . . . . . . . . . . . 1 1.0 4  . . . . . . . . . . . . . 0 0 1
1688  6 11 Euspira_  4 g     2.0   .  0 0 1 2 1 1 5 1 0 . 1 1.0 2  0 6-11-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1689  6 11 Euspira_  5 g     3.1   .  0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 6-11-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1690  6 11 Euspira_  6 g     5.1   .  0 0 1 3 1 1 6 1 0 . 1 1.0 2  0 6-11-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1691  6 12 Cyclocar  1 b l   7.8  7.8 0 0 1 2 0 1 4 0 0 1 1 0.5 2  1 6-12-1  1  .  8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 1 1 0 0
1692  6 12 Cyclocar  2 b l   7.1  7.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-12-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1693  6 12 Cyclocar  3 b r   7.1  7.1 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 6-12-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1694  6 12 Cyclocar  4 b r   6.0  5.2 0 0 1 2 0 0 3 0 0 1 1 0.5 2  1 6-12-4  . . . . . . . . . . . . . . . . . . . . . . 1 0.5 7  . . . . . . . . . . . . . 0 0 1
1695  6 12 Cyclocar  5 b l   5.2  5.1 0 0 1 2 0 0 3 0 0 1 1 0.5 2  1 6-12-5  . . . . . . . . . . . . . . . . . . . . . . 1 0.3 4  . . . . . . . . . . . . . 0 0 1
1696  6 12 Cyclocar  6 b r   5.0  4.8 0 0 1 1 0 0 2 0 0 1 1 0.5 2  1 6-12-6  1 0.9 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1697  6 12 Cyclocar  7 b l   4.5  4.4 0 0 1 2 0 0 3 0 0 1 1 0.5 2  1 6-12-7  1 0.9 9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
```

```
1698  6 12 Cyclocar   8 b l   3.9  3.7 0 0 1 2 0 0 3 0 0 1 1 0.5 2  1 6-12-8  . . . . . . . . . . . . . . . . . . . . . . . 1 0.3 2 . . . . . . . . . . . 0 0 1
1699  6 12 Cyclocar   9 b l   3.5  3.5 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 6-12-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1700  6 12 Cyclocar  10 b r   2.3  2.2 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 6-12-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1701  6 12 Cyclocar  11 b r   2.6  2.7 0 0 2 1 0 0 3 1 0 . 1 0.5 2  0 6-12-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1702  6 12 Cyclocar  12 b r   4.0  3.9 0 0 1 3 0 0 4 1 0 . 1 0.5 2  0 6-12-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1703  6 12 Cyclocar  13 b l   4.1  3.8 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-12-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1704  6 12 Cyclocar  14 b r   2.5  2.5 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 6-12-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1705  6 12 Cyclocar  15 b r   3.2  3.1 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 6-12-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1706  6 12 Cyclocar  16 b r   3.8  3.4 0 0 1 3 0 0 4 1 0 . 1 0.5 2  0 6-12-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1707  6 12 Cyclocar  17 b l   5.0  4.9 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 6-12-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1708  6 12 Cyclocar  18 b r   5.4  5.2 0 0 2 2 0 0 4 1 0 . 1 0.5 2  0 6-12-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1709  6 12 Cyclocar  19 b r   5.3  5.2 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-12-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1710  6 12 Cyclocar  20 b r   5.9  5.8 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 6-12-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1711  6 12 Cyclocar  21 b r   6.1  6.0 0 0 1 3 0 0 4 1 0 . 1 0.5 2  0 6-12-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1712  6 12 Cyclocar  22 b r   6.0  5.7 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 6-12-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1713  6 12 Cyclocar  23 b l   6.1  5.9 0 0 2 3 1 0 6 1 0 . 1 0.5 2  0 6-12-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1714  6 12 Cyclocar  24 b l   5.9  5.5 0 0 1 3 0 0 4 1 0 . 1 0.5 2  0 6-12-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1715  6 12 Cyclocar  25 b r   6.2  6.0 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-12-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1716  6 12 Cyclocar  26 b l   7.0  6.5 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-12-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1717  6 12 Cyclocar  27 b r   7.0  6.8 0 0 2 3 1 0 6 1 0 . 1 0.5 2  0 6-12-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1718  6 13 Baryspir   1 g     3.1   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 6-13-1   1 0.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1719  6 14 Anadara_   1 b l   7.7 10.1 0 0 1 1 1 1 4 1 0 . 1 0.5 2  0 6-14-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1720  6 15 Mangelia   1 g     2.8   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-15-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1721  6 16 Bathytom   1 g    13.1   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-16-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1722  6 16 Bathytom   2 g     1.8   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 6-16-2   1 0.4 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1723  6 17 Gonimyrt   1 b r   3.0  2.8 0 0 0 3 1 0 4 1 0 . 1 0.5 2  0 6-17-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1724  6 17 Gonimyrt   2 b r   5.9  6.0 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 6-17-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1725  6 17 Gonimyrt   3 b l   4.0  4.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-17-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1726  6 17 Gonimyrt   4 b l   5.1  5.7 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-17-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1727  6 17 Gonimyrt   5 b r   5.1  5.9 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-17-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1728  6 18 Varicorb   1 b r   7.1  7.8 0 0 1 2 1 1 5 0 0 1 1 0.5 2  1 6-18-1  . . . . . . . . . . . . . . . . . . . . . . 1 1.0 1 . . . . . . . . . . . 1 0 0 1
1729  6 18 Varicorb   2 b r   4.2  4.8 0 0 0 3 1 0 4 0 0 1 1 0.5 2  1 6-18-2  . . . . . . . . . . . . . . . . . . . . . . 1 1.0 2 . . . . . . . . . . .   0 0 1
1730  6 18 Varicorb   3 b r   1.6  2.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-18-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1731  6 18 Varicorb   4 b l   3.2  4.2 0 0 2 3 1 0 6 1 0 . 1 0.5 2  0 6-18-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1732  6 20 Lyrotyph   1 g     4.5   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 6-20-1   1 1.0 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1733  6 20 Lyrotyph   2 g     4.1   .  0 0 2 2 1 0 5 1 0 . 1 1.0 2  0 6-20-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1734  6 21 Hadriani   1 g     6.0   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1735  6 22 Hemiacir   1 g     5.6   .  0 0 0 1 1 1 3 0 0 1 1 1.0 2  1 6-22-1   1 1.0 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2 1 0 0
1736  6 22 Hemiacir   2 g     3.2   .  1 0 1 1 2 0 4 1 0 . 1 1.0 2  0 6-22-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1737  6 23 Hinia_te   1 g     3.0   .  0 0 0 1 0 0 1 1 0 . 1 1.0 2  0 6-23-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1738  6 24 Amyclina   1 g     6.3   .  0 0 2 2 1 0 5 0 1 2 1 1.0 2  1 6-24-1   2 0.2 7 0.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1739  6 24 Amyclina   2 g     4.1   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-24-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1740  6 25 Tectonat   1 g     3.1   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-25-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1741  6 26 Acteon_s   1 g     2.0   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-26-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1742  6 27 Strioter   1 g     8.4   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-27-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1743  6 28 Spisula_   1 b r   3.2  4.9 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-28-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
1744  6 29 Niso_acr   1 g     5.9   .  0 0 1 0 1 0 2 0 0 1 1 1.0 2  1 6-29-1  . . . . . . . . . . . . . . . . . . . . . . 1 0.5 7  . . . . . . . . . . . 0 0 1
1745  6 30 Haustell   1 g     5.0   .  0 0 0 1 0 0 1 1 0 . 1 1.0 2  0 6-30-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1746  6 31 Parvicar   1 b r   2.6  2.6 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 6-31-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1747  6 32 Natica_t   1 g    10.2   .  0 0 1 1 1 1 4 1 0 . 1 1.0 2  0 6-32-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1748  6 33 Narona_v   1 g    10.0   .  0 0 1 1 1 0 3 0 1 2 1 1.0 2  1 6-33-1   2 0.6 7 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1749  6 33 Narona_v   2 g     6.0   .  0 0 1 1 1 0 3 0 0 1 1 1.0 2  1 6-33-2   1 1.1 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1750  6 34 Asthenot   1 g     6.9   .  0 0 1 1 1 0 3 0 0 1 1 1.0 2  1 6-34-1   1 0.9 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1751  6 35 Unedogem   1 g    11.9   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-35-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1752  6 36 Unedogem   1 g     8.8   .  0 0 2 2 1 1 6 1 0 . 1 1.0 2  0 6-36-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1753  6 36 Unedogem   2 g     3.2   .  0 0 1 3 1 1 6 1 0 . 1 1.0 2  0 6-36-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1754  6 36 Unedogem   3 g     5.8   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 6-36-3  . . . . . . . . . . . . . . . . . . . . . . 1 0.7 7  . . . . . . . . . . . 0 0 1
1755  6 41 Asthenot   1 g     4.1   .  0 0 1 2 1 0 4 0 0 1 1 1.0 2  1 6-41-1   1 0.7 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1756  6 41 Asthenot   2 g     5.2   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 6-41-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1757  6 42 Gemmula_   1 g     5.2   .  0 0 1 2 1 0 4 0 1 2 1 1.0 2  1 6-42-1   1 0.8 6 . . . . . . . . . . . . . . . . . . . 1 0.6 8  . . . . . . . . . . . 1 0 1
1758  6 43 Roxania_   1 g     2.0   .  1 0 1 3 2 1 7 1 0 . 1 1.0 2  0 6-43-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1759  6 44 Astarte_   1 b r   7.6  9.0 0 0 0 1 0 0 1 0 0 1 1 0.5 2  1 6-44-1   1 0.8 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1760  6 44 Astarte_   2 b l   5.0  5.5 0 0 0 1 0 0 1 0 0 1 1 0.5 2  1 6-44-2  . . . . . . . . . . . . . . . . . . . . . . 1 1.1 2  . . . . . . . . . . . 0 0 1
1761  6 44 Astarte_   3 b r   6.2  7.2 0 0 0 1 0 0 1 0 0 1 1 0.5 2  1 6-44-3  . . . . . . . . . . . . . . . . . . . . . . 1 0.5 5  . . . . . . . . . . . 0 0 1
1762  6 44 Astarte_   4 b r   2.5  2.5 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 6-44-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1763  6 44 Astarte_   5 b r   2.3  2.8 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 6-44-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1764  6 44 Astarte_   6 b r   2.1  2.6 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 6-44-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1765  6 44 Astarte_   7 b r   3.5  4.1 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 6-44-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1766  6 44 Astarte_   8 b ol  4.1  5.0 0 0 1 1 1 0 3 1 0 . 1 1.0 2  0 6-44-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1767  6 44 Astarte_   9 b r   5.2  6.2 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 6-44-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1768  6 44 Astarte_  10 b r   3.6  4.2 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 6-44-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1769  6 44 Astarte_  11 b l   6.1  7.3 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 6-44-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1770  6 44 Astarte_  12 b l   6.7  7.8 0 0 0 2 0 0 2 1 0 . 1 0.5 2  0 6-44-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1771  6 44 Astarte_  13 b r   8.2 10.0 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 6-44-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1772  6 44 Astarte_  14 b r   7.0  8.1 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 6-44-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1773  6 44 Astarte_  15 b r   8.0  9.1 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 6-44-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1774  6 44 Astarte_  16 b r   8.0 10.0 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 6-44-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1775  6 44 Astarte_  17 b r   7.9  9.0 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 6-44-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1776  6 44 Astarte_  18 b l   8.9  9.9 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 6-44-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1777  6 44 Astarte_  19 b r   9.5 10.8 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 6-44-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1778  6 44 Astarte_  20 b l   8.9  9.4 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 6-44-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1779  6 44 Astarte_  21 b r  18.2 17.3 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 6-44-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1780  8  1 Apporhai   1 g    21.2   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 8-1-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1781  8  1 Apporhai   2 g    20.0   .  1 0 1 3 2 0 6 1 0 . 1 1.0 2  0 8-1-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1782  8  1 Apporhai   3 g    22.1   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 8-1-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1783  8  1 Apporhai   4 g    19.0   .  1 0 1 3 2 0 6 1 0 . 1 1.0 2  0 8-1-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1784  8  2 Streptod   1 g    25.9   .  0 0 0 3 1 0 4 1 0 . 1 1.0 2  0 8-2-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1785  8  3 Baryspir   1 g     6.3   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 8-3-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1786  8  4 Cylichna   1 g     2.9   .  1 0 1 3 2 0 6 1 0 . 1 1.0 2  0 8-4-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1787  8  5 Turritel   1 g     7.0   .  1 0 1 3 2 0 6 0 1 2 1 1.0 2  1 8-5-1    2 0.6 4 0.4 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1788  8  5 Turritel   2 g     2.0   .  1 0 1 3 2 0 6 1 0 . 1 1.0 2  0 8-5-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1789  8  5 Turritel   3 g    12.2   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 8-5-3    1 0.9 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
```

```
1790  8  5 Turritel   4 g     4.8   .  1 0 1 3 2 0 6 0 0 1 1 1.0 2  1 8-5-4   . . . . . . . . . . . . . . . . . . . . . 1 0.2 4 . . . . . . . . . . . 0 0 1
1791  8  6 Turbonil   1 g     3.3   .  0 0 1 3 1 1 6 1 0 . 1 1.0 2  0 8-6-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1792  8  7 Amyclina   1 g     4.4   .  0 0 2 3 1 0 6 1 0 . 1 1.0 2  0 8-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1793  8  7 Amyclina   2 g     2.0   .  1 0 1 3 2 0 6 1 0 . 1 1.0 2  0 8-7-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1794  8  8 Unedogem   1 g     3.8   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 8-8-1   1 0.7 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1795  8  8 Unedogem   2 g     3.7   .  1 0 1 3 2 0 6 0 0 1 1 1.0 2  1 8-8-2   1 0.5 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1796  8  9 Odostomi   1 g     2.9   .  0 0 1 1 1 1 4 1 0 . 1 1.0 2  0 8-9-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1797  8 10 Boreodri   1 g     5.1   .  0 0 0 1 1 0 2 1 0 . 1 1.0 2  0 8-10-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1798  8 11 Syrnola_   1 g     3.7   .  1 0 1 2 2 0 5 1 0 . 1 1.0 2  0 8-11-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1799  8 11 Syrnola_   2 g     2.2   .  0 0 1 2 0 0 3 0 0 1 1 1.0 2  1 8-11-2  1 0.6 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1800  8 11 Syrnola_   3 g     2.0   .  0 0 1 1 0 0 2 1 0 . 1 1.0 2  0 8-11-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1801  8 11 Syrnola_   4 g     6.5   .  0 0 2 2 1 1 6 1 0 . 1 1.0 2  0 8-11-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1802  8 12 Turbonil   1 g     3.3   .  1 0 0 1 2 0 3 1 0 . 1 1.0 2  0 8-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1803  8 13 Crassisp   1 g     3.2   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 8-13-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1804  8 14 Roxania_   1 g     1.3   .  1 0 0 2 2 0 4 1 0 . 1 1.0 2  0 8-14-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1805  8 15 Euspira_   1 g     2.6   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 8-15-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1806  8 15 Euspira_   2 g     1.2   .  0 0 1 2 1 0 4 1 0 . 1 1.0 2  0 8-15-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1807  8 15 Euspira_   3 g     1.1   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 8-15-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1808  8 15 Euspira_   4 g     2.1   .  1 0 1 2 2 0 5 1 0 . 1 1.0 2  0 8-15-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1809  8 15 Euspira_   5 g     2.0   .  1 0 2 3 2 0 7 1 0 . 1 1.0 2  0 8-15-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1810  8 15 Euspira_   6 g     2.2   .  1 0 1 2 2 0 5 1 0 . 1 1.0 2  0 8-15-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1811  8 15 Euspira_   7 g     4.0   .  0 0 1 3 1 0 5 1 0 . 1 1.0 2  0 8-15-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1812  8 15 Euspira_   8 g     1.3   .  0 0 1 3 1 0 5 0 0 1 1 1.0 2  1 8-15-8  1 0.5 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1813  8 16 Fusiturr   1 g     4.1   .  0 0 2 3 1 0 6 0 0 1 1 1.0 2  1 8-16-1  1 0.7 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1814  8 17 Pseudamu   1 b l  11.0  9.9 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 8-17-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1815  8 17 Pseudamu   2 b r  10.1  9.5 0 0 1 2 1 0 4 0 0 1 1 0.5 2  1 8-17-2  1 0.9 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1816  8 17 Pseudamu   3 b r   8.3  7.4 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 8-17-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1817  8 18 Pseudamu   1 b l  10.8 10.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 8-18-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1818  8 18 Pseudamu   2 b l   5.6  4.9 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-18-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1819  8 19 Pallioll   1 b l   5.7  5.1 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 8-19-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1820  8 20 Varicorb   1 b r   4.5  5.6 1 0 1 3 2 0 6 0 0 1 1 0.5 2  1 8-20-1  . . . . . . . . . . . . . . . . . . . . . 1 1.1 3 . . . . . . . . . . . 0 0 1
1821  8 20 Varicorb   2 b r   1.7  2.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-20-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1822  8 20 Varicorb   3 b r   2.0  2.0 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 8-20-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1823  8 20 Varicorb   4 b l   1.9  2.2 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-20-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1824  8 20 Varicorb   5 b r   4.5  4.9 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-20-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1825  8 20 Varicorb   6 b r   2.3  3.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-20-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1826  8 20 Varicorb   7 b r   3.1  3.4 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-20-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1827  8 20 Varicorb   8 b r   2.3  2.5 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-20-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1828  8 20 Varicorb   9 b r   2.0  2.0 1 0 0 3 2 0 5 1 0 . 1 0.5 2  0 8-20-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1829  8 20 Varicorb  10 b l   1.3  1.9 0 0 1 3 0 0 4 1 0 . 1 0.5 2  0 8-20-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1830  8 20 Varicorb  11 b r   2.3  2.9 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-20-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1831  8 20 Varicorb  12 b r   2.2  2.2 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-20-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1832  8 20 Varicorb  13 b r   2.5  3.1 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-20-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1833  8 20 Varicorb  14 b l   1.2  1.8 1 0 0 3 2 0 5 1 0 . 1 0.5 2  0 8-20-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1834  8 21 Saccella   1 b l   3.0  5.7 0 0 0 1 0 0 1 1 0 . 1 0.5 2  0 8-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1835  8 21 Saccella   2 b r   1.7  2.8 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 8-21-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
1836  8 21  Saccella   3 b l   2.9  4.8 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-21-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1837  8 21  Saccella   4 b r   2.5  5.0 0 0 0 2 0 0 2 1 0 . 1 0.5 2  0 8-21-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1838  8 21  Saccella   5 b r   3.7  5.9 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 8-21-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1839  8 21  Saccella   6 b r   4.0  5.2 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-21-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1840  8 22  Astarte_   1 b l   4.1  4.5 0 0 2 2 1 0 5 1 0 . 1 0.5 2  0 8-22-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1841  8 23  Yoldiell   1 b b   2.8  4.1 0 0 0 2 1 0 3 1 0 . 1 1.0 2  0 8-23-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1842  8 23  Yoldiell   2 b l   1.3  2.0 0 0 0 2 1 0 3 1 0 . 1 0.5 2  0 8-23-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1843  8 23  Yoldiell   3 b l   1.5  2.3 1 0 0 2 1 0 3 1 0 . 1 0.5 2  0 8-23-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1844  8 23  Yoldiell   4 b r   2.9  3.5 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-23-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1845  8 23  Yoldiell   5 b l   2.8  4.2 0 0 1 3 0 0 4 1 0 . 1 0.5 2  0 8-23-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1846  8 24  Digitari   1 b r   2.3  2.5 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-24-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1847  8 24  Digitari   2 b l   2.6  2.8 0 0 1 2 1 0 4 0 0 1 1 0.5 2  1 8-24-2   1 0.4 8 . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1848  8 25  Astarte_   1 b l   5.3  6.1 0 0 1 1 1 0 3 0 0 1 1 0.5 2  1 8-25-1   1 0.5 2 . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1849  8 25  Astarte_   2 b l   2.8  3.8 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 8-25-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1850  8 25  Astarte_   3 b r   4.1  4.5 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 8-25-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1851  8 25  Astarte_   4 b r   2.2  2.6 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-25-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1852  8 25  Astarte_   5 b l   3.3  4.5 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 8-25-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1853  8 25  Astarte_   6 b l   5.1  6.7 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 8-25-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1854  8 26  Limopsis   1 b r   2.6  2.5 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-26-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1855  8 26  Limopsis   2 b l   2.7  2.7 0 0 2 2 1 0 5 1 0 . 1 0.5 2  0 8-26-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1856  8 26  Limopsis   3 b l   2.3  2.2 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-26-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1857  8 26  Limopsis   4 b l   2.2  2.1 0 0 1 1 1 0 3 1 0 . 1 0.5 2  0 8-26-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1858  8 26  Limopsis   5 b l   2.8  2.8 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 8-26-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1859  8 26  Limopsis   6 b l   2.0  2.1 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-26-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1860  8 26  Limopsis   7 b l   2.1  2.0 0 0 1 2 0 0 3 1 0 . 1 0.5 2  0 8-26-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1861  8 26  Limopsis   8 b l   2.2  2.0 1 0 1 2 2 0 5 0 0 1 1 0.5 2  1 8-26-8   1 0.9 6 . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1862  8 27  Gouldia_   1 b r   1.6  1.6 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-27-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1863  8 28  Parvicar   1 b r   1.3  1.5 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 8-28-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1864  8 28  Parvicar   2 b r   2.0  2.2 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 8-28-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1865  8 29  Glans_ac   1 b r   2.6  2.8 0 0 1 1 0 0 2 0 0 1 1 0.5 2  1 8-29-1   1 0.6 5 . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1866  8 30  Cyclocar   1 b l   5.1  5.1 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 8-30-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1867  8 30  Cyclocar   2 b l   4.2  4.2 0 0 1 1 0 0 2 1 0 . 1 0.5 2  0 8-30-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1868  8 31  Venus_mu   1 b r  26.6 29.0 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-31-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1869  8 31  Venus_mu   2 b r  33.1 34.2 0 0 0 3 1 0 4 1 0 . 1 0.5 2  0 8-31-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1870  8 32  Lucinoma   1 b l  12.2 12.8 0 0 1 3 1 0 5 1 0 . 1 0.5 2  0 8-32-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1871  8 32  Lucinoma   2 b r   7.8  7.7 0 0 0 1 1 0 2 1 0 . 1 0.5 2  0 8-32-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1872  8 32  Lucinoma   3 b l   8.1  8.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-32-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1873  8 32  Lucinoma   4 b l  12.0 12.5 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-32-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1874  8 32  Lucinoma   5 b l   4.2  5.0 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-32-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1875  8 32  Lucinoma   6 b r  11.9 12.5 0 0 1 3 1 1 6 1 0 . 1 0.5 2  0 8-32-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1876  8 32  Lucinoma   7 b r  13.1 13.5 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-32-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1877  8 32  Lucinoma   8 b r   3.3  4.0 0 0 0 2 0 0 2 1 0 . 1 0.5 2  0 8-32-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1878  8 32  Lucinoma   9 b r   5.8  6.3 0 0 1 2 1 0 4 1 0 . 1 0.5 2  0 8-32-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1879  8 32  Lucinoma  10 b r  12.5 13.1 0 0 1 2 1 0 4 0 0 1 1 0.5 2  1 8-32-10  1 1.1 3 . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1880  8 32  Lucinoma  11 b r   6.7  7.2 0 0 1 3 1 0 5 0 0 1 1 0.5 2  1 8-32-11  1 0.6 2 . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1881  8 32  Lucinoma  12 b l   8.0  8.6 0 0 0 2 1 0 3 0 0 1 1 0.5 2  1 8-32-12  1 0.1 3 . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
```

```
1882  8  32  Lucinoma  13  b  l  14.0  14.8  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  8-32-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1883  8  32  Lucinoma  14  b  l   2.8   3.1  0  0  1  2  1  1  5  1  0  .  1  0.5  2   0  8-32-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1884  8  32  Lucinoma  15  b  r   2.6   3.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  8-32-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1885  8  32  Lucinoma  16  b  r  14.1  14.4  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  8-32-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1886  8  32  Lucinoma  17  b  r   3.6   4.1  1  0  1  2  2  0  5  1  0  .  1  0.5  2   0  8-32-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1887  8  32  Lucinoma  18  b  l   2.0   2.1  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  8-32-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1888  8  32  Lucinoma  19  b  r  16.5  16.5  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  8-32-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1889  8  32  Lucinoma  20  b  l   2.3   2.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-32-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1890  8  32  Lucinoma  21  b  l   2.2   2.3  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  8-32-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1891  8  32  Lucinoma  22  b  l  15.3  15.5  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  8-32-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1892  8  32  Lucinoma  23  b  l   3.5   3.8  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-32-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1893  8  32  Lucinoma  24  b  r   2.1   2.4  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-32-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1894  8  32  Lucinoma  25  b  r  14.0  15.1  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  8-32-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1895  8  32  Lucinoma  26  b  r   2.1   2.1  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  8-32-26  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1896  8  32  Lucinoma  27  b  r   3.4   2.8  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  8-32-27  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1897  8  32  Lucinoma  28  b  l  13.0  13.6  0  0  1  3  1  1  6  1  0  .  1  0.5  2   0  8-32-28  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1898  8  32  Lucinoma  29  b  r  13.0  13.6  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-32-29  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1899  8  32  Lucinoma  30  b  l  15.0  15.5  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  8-32-30  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1900  8  32  Lucinoma  31  b  r   1.8   2.0  1  0  0  3  2  0  5  1  0  .  1  0.5  2   0  8-32-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1901  8  32  Lucinoma  32  b  l   2.2   2.3  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-32-32  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1902  8  32  Lucinoma  33  b  r  11.9  12.0  1  0  1  3  2  0  6  1  0  .  1  0.5  2   0  8-32-33  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1903  8  32  Lucinoma  34  b  l  13.0  13.3  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-32-34  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1904  8  32  Lucinoma  35  b  l  14.0  14.5  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  8-32-35  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1905  8  32  Lucinoma  36  b  r  13.2  14.3  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  8-32-36  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1906  8  32  Lucinoma  37  b  r  13.9  14.2  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  8-32-37  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1907  8  32  Lucinoma  38  b  r  14.1  14.9  0  0  0  2  1  0  3  1  0  .  1  0.5  2   0  8-32-38  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1908  8  32  Lucinoma  39  b  l  14.0  14.8  0  0  1  3  1  0  5  1  0  .  1  0.5  2   0  8-32-39  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1909  8  32  Lucinoma  40  b  l  14.0  15.6  1  0  1  2  2  0  5  1  0  .  1  0.5  2   0  8-32-40  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1910  8  32  Lucinoma  41  b  r  12.8  16.2  1  0  1  3  2  0  6  1  0  .  1  0.5  2   0  8-32-41  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1911  8  32  Lucinoma  42  b  l  14.2  15.0  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  8-32-42  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1912  8  32  Lucinoma  43  b  l  12.1   9.9  1  0  1  3  2  0  6  0  0  1  1  0.5  2   1  8-32-43   1  0.6  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1913  8  33  Gonimyrt   1  b  l   4.3   4.3  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-33-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1914  8  33  Gonimyrt   2  b  r   6.0   6.5  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-33-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1915  8  33  Gonimyrt   3  b  l   2.1   2.3  0  0  0  3  1  0  4  1  0  .  1  0.5  2   0  8-33-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1916  8  33  Gonimyrt   4  b  r   6.8   6.6  0  0  2  3  1  0  6  0  0  1  1  0.5  2   1  8-33-4    1  0.3  3  . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1917  8  33  Gonimyrt   5  b  r   7.0   7.0  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-33-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1918  8  33  Gonimyrt   6  b  r   6.0   6.1  0  0  1  2  1  0  4  1  0  .  1  0.5  2   0  8-33-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1919  8  33  Gonimyrt   7  b  l   7.9   8.0  0  0  1  1  0  0  2  1  0  .  1  0.5  2   0  8-33-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1920  8  34  Retusa_s   1  g      3.2     .  0  0  2  3  1  0  6  1  0  .  1  1.0  2   0  8-34-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1921  9   1  Fasciola   1  g      1.7     .  1  0  0  1  2  0  3  1  0  .  3  1.0  2   0  9-1-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1922  9   2  Alvania_   1  g      2.7     .  0  0  1  2  0  0  3  1  0  .  3  1.0  2   0  9-2-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
1923  9   2  Alvania_   2  g      3.1     .  1  0  1  1  0  0  2  0  1  2  3  1.0  2   1  9-2-2    . . . . . . . . . . . . . . . 2  0.1  4.0  0.1  4  . . . . . . . . . . . . . . . . 0  1  0
1924  9   2  Alvania_   3  g      1.0     .  0  0  1  1  2  0  4  0  0  1  3  1.0  2   1  9-2-3    . . . . . . . . . . . . . . . 1  0.2  7.0  . . . . . . . . . . . . . . . . . . . 0  1  0
1925  9   3  Corintiu   1  g      5.0     .  0  0  2  1  1  0  4  0  0  1  3  1.0  2   1  9-3-1    . . . . . . . . . . . . . . . 1  0.2  7.0  . . . . . . . . . . . . . . . . . . . 0  1  0
1926  9   3  Corintiu   2  g      3.9     .  0  0  1  2  1  0  4  0  0  1  3  1.0  2   1  9-3-2     1  1.0  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
1927  9   3  Corintiu   3  g      5.1     .  0  0  0  2  1  0  3  0  0  1  3  1.0  2   1  9-3-3     1  0.9  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
```

```
1928  9  3  Corintiu   4  g     5.1   .  0 0 0 1 1 0 2 0 0 1 3 1.0 2  1 9-3-4    1 0.7 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1929  9  4  Alvania_   1  g     2.0   .  0 0 1 2 0 0 3 0 0 1 3 1.0 2  1 9-4-1    1 0.5 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1930  9  4  Alvania_   2  g     3.7   .  0 0 1 3 0 0 4 0 0 1 3 1.0 2  1 9-4-2    1 0.3 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1931  9  4  Alvania_   3  g     3.2   .  0 0 1 3 1 0 5 0 0 1 3 1.0 2  1 9-4-3    1 0.9 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1932  9  4  Alvania_   4  g     3.2   .  0 0 1 2 0 0 3 0 0 1 3 1.0 2  1 9-4-4    1 0.3 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1933  9  4  Alvania_   5  g     2.1   .  0 0 1 2 0 0 3 0 0 1 3 1.0 2  1 9-4-5    1 1.0 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1934  9  4  Alvania_   6  g     1.9   .  0 0 1 2 0 0 3 0 0 1 3 1.0 2  1 9-4-6    1 0.8 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1935  9  4  Alvania_   7  g     3.5   .  0 0 1 1 0 0 2 1 0 . 3 1.0 2  0 9-4-7    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1936  9  4  Alvania_   8  g     3.3   .  0 0 1 3 0 0 4 1 0 . 3 1.0 2  0 9-4-8    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1937  9  4  Alvania_   9  g     3.7   .  0 0 1 1 0 0 2 1 0 . 3 1.0 2  0 9-4-9    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1938  9  4  Alvania_  10  g     3.0   .  1 0 1 2 2 0 5 1 0 . 3 1.0 2  0 9-4-10   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1939  9  4  Alvania_  11  g     3.5   .  0 0 1 2 0 0 3 1 0 . 3 1.0 2  0 9-4-11   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1940  9  4  Alvania_  12  g     1.1   .  0 0 0 3 0 0 3 1 0 . 3 1.0 2  0 9-4-12   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1941  9  4  Alvania_  13  g     3.2   .  0 0 1 3 0 0 4 1 0 . 3 1.0 2  0 9-4-13   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1942  9  4  Alvania_  14  g     1.3   .  0 0 0 3 0 0 3 1 0 . 3 1.0 2  0 9-4-14   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1943  9  4  Alvania_  15  g     2.7   .  1 0 1 2 2 0 5 1 0 . 3 1.0 2  0 9-4-15   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1944  9  4  Alvania_  16  g     2.8   .  0 0 1 1 0 0 2 1 0 . 3 1.0 2  0 9-4-16   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1945  9  4  Alvania_  17  g     3.5   .  0 0 1 3 0 0 4 1 0 . 3 1.0 2  0 9-4-17   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1946  9  4  Alvania_  18  g     2.0   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-4-18   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1947  9  4  Alvania_  19  g     1.2   .  0 0 1 3 0 0 4 1 0 . 3 1.0 2  0 9-4-19   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1948  9  4  Alvania_  20  g     1.8   .  0 0 1 2 1 0 4 1 0 . 3 1.0 2  0 9-4-20   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1949  9  4  Alvania_  21  g     2.9   .  0 0 1 1 0 0 2 1 0 . 3 1.0 2  0 9-4-21   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1950  9  4  Alvania_  22  g     3.1   .  0 0 1 1 0 0 2 1 0 . 3 1.0 2  0 9-4-22   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1951  9  5  Hydrobia   1  g     1.2   .  0 0 0 2 0 0 2 1 0 . 3 1.0 2  0 9-5-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1952  9  5  Hydrobia   2  g     2.1   .  0 0 1 2 0 0 3 0 0 1 3 1.0 2  1 9-5-2    1 0.2 1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1953  9  5  Hydrobia   3  g     1.0   .  0 0 1 2 0 0 3 0 0 1 3 1.0 2  1 9-5-3    1 0.1 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1954  9  5  Hydrobia   4  g     1.3   .  0 0 0 2 0 0 2 0 1 2 3 1.0 2  1 9-5-4    2 0.3 6 0.1 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1955  9  5  Hydrobia   5  g     1.2   .  0 0 0 2 0 0 2 1 0 . 3 1.0 2  0 9-5-5    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1956  9  6  Cerithop   1  g     3.1   .  0 0 1 2 0 0 3 0 0 1 3 1.0 2  1 9-6-1    1 0.4 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1957  9  7  unident.   1  g     1.9   .  0 0 0 3 0 0 3 1 0 . 3 1.0 2  0 9-7-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1958  9  8  Diodora_   1  g     2.2   .  0 0 1 2 1 0 4 1 0 . 3 1.0 2  0 9-8-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1959  9  9  Tornus_b   1  g     1.0   .  0 0 0 3 0 0 3 1 0 . 3 1.0 2  0 9-9-1    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1960  9  9  Tornus_b   2  g     0.5   .  0 0 0 2 0 0 2 1 0 . 3 1.0 2  0 9-9-2    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1961  9 10  Nucella_   1  g     3.2   .  0 0 1 2 1 0 4 1 0 . 3 1.0 2  0 9-10-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1962  9 11  Bittum_r   1  g     1.9   .  1 0 1 3 2 0 6 1 0 . 3 1.0 2  0 9-11-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1963  9 11  Bittum_r   2  g     4.0   .  1 0 1 1 2 0 4 1 0 . 3 1.0 2  0 9-11-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1964  9 11  Bittum_r   3  g     3.2   .  1 0 1 2 2 0 5 0 0 1 3 1.0 2  1 9-11-3   1 0.9 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
1965  9 12  Pleuroto   1  g     3.1   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-12-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1966  9 13  Turritel   1  g     2.4   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-13-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1967  9 13  Turritel   2  g     2.5   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-13-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1968  9 13  Turritel   3  g    10.9   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-13-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1969  9 14  Astraea_   1  g     1.1   .  0 0 0 2 0 0 2 1 0 . 3 1.0 2  0 9-14-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1970  9 15  Hydrobia   1  g     1.6   .  0 0 1 3 0 0 4 1 0 . 3 1.0 2  0 9-15-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1971  9 16  Mitrella   1  g     7.1   .  0 0 1 3 1 0 5 0 0 1 3 1.0 2  1 9-16-1   . . . . . . . . . . . . . . 0.1 8.0 . . . . . . . . . . . . . . . . . . . . 0 0 0
1972  9 17  Rissoida   1  g     2.1   .  0 0 1 3 1 1 6 1 0 . 3 1.0 2  0 9-17-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
1973  9 18  Sandberg   1  g     2.7   .  1 0 1 3 2 0 6 0 0 1 3 1.0 2  1 9-18-1   1 0.1 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
```

```
1974  9 19 Triphora   1 g     2.4   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-19-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1975  9 20 Muricops   1 g     2.2   .  0 0 1 2 0 0 3 1 0 . 3 1.0 2  0 9-20-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1976  9 21 Vermicul   1 g    29.1   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1977  9 22 Ringicul   1 g     9.1   .  0 0 1 3 0 0 4 1 0 . 3 1.0 2  0 9-22-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1978  9 23 Turritel   1 g     5.7   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-23-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1979  9 23 Turritel   2 g     2.1   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-23-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1980  9 23 Turritel   3 g     2.9   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-23-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1981  9 24 Mangelii   1 g     2.2   .  0 0 1 3 1 0 5 1 0 . 3 1.0 2  0 9-24-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1982  9 25 Cymatosy   1 g     6.5   .  0 0 1 2 1 0 4 1 0 . 3 1.0 2  0 9-25-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1983  9 26 Anachis_   1 g     5.1   .  0 0 1 2 1 0 4 1 0 . 3 1.0 2  0 9-26-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1984  9 27 Callista   1 b l   7.0  9.2 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-27-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1985  9 27 Callista   2 b r   5.9  8.9 0 0 1 3 0 0 4 0 0 1 3 0.5 2  1 9-27-2   1 1.3 2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1986  9 28 Spisula_   1 b r   9.2 11.9 0 0 1 3 1 0 5 0 0 1 3 0.5 2  1 9-28-1  . . . . . . . . . . . . . . .0.3 3.0 . . . . . . . . . . . . . . . . . . .0 0 0
1987  9 28 Spisula_   2 b r   6.1  8.1 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-28-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1988  9 29 Timoclea   1 b l   5.1  5.3 0 0 1 2 1 0 4 1 0 . 3 0.5 2  0 9-29-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1989  9 30 Spisula_   1 b r   5.2  7.3 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-30-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1990  9 31 Callucin   1 b r  11.0 10.8 0 0 1 2 1 0 4 0 1 2 3 0.5 2  1 9-31-1   2 1.0 5 1.0 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
1991  9 32 Cardita_   1 b l   6.0  6.4 0 0 1 2 1 0 4 1 0 . 3 0.5 2  0 9-32-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1992  9 33 Barbatia   1 b l   4.1  8.5 0 0 1 2 1 0 4 1 0 . 3 0.5 2  0 9-33-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1993  9 34 Chlamys_   1 b r   6.7  5.2 0 0 1 1 0 0 2 1 0 . 3 0.5 2  0 9-34-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1994  9 34 Chlamys_   2 b l   7.4  5.8 0 0 1 1 1 0 3 1 0 . 3 0.5 2  0 9-34-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1995  9 34 Chlamys_   3 b r  16.1 12.3 0 0 1 1 1 0 3 1 0 . 3 0.5 2  0 9-34-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1996  9 35 Erycinal   1 b r   1.6  1.6 0 0 1 2 0 0 3 1 0 . 3 0.5 2  0 9-35-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1997  9 35 Erycinal   2 b r   2.0  2.0 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-35-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1998  9 36 Erycina_   1 b l   1.7  1.6 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-36-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
1999  9 37 Carycorb   1 b l   6.9 10.3 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-37-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2000  9 37 Carycorb   2 b l   5.1  8.4 0 0 1 2 0 0 3 1 0 . 3 0.5 2  0 9-37-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2001  9 38 Ervilia_   1 b l   2.1  3.1 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2002  9 38 Ervilia_   2 b l   3.2  5.0 0 0 2 3 0 0 5 1 0 . 3 0.5 2  0 9-38-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2003  9 38 Ervilia_   3 b r   2.0  2.5 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2004  9 38 Ervilia_   4 b r   2.0  2.6 0 0 0 3 1 0 4 1 0 . 3 0.5 2  0 9-38-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2005  9 38 Ervilia_   5 b l   2.8  4.0 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2006  9 38 Ervilia_   6 b l   2.5  3.1 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2007  9 38 Ervilia_   7 b l   1.5  2.2 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2008  9 38 Ervilia_   8 b l   2.1  3.0 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2009  9 38 Ervilia_   9 b r   2.1  3.0 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2010  9 38 Ervilia_  10 b r   2.0  2.8 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2011  9 38 Ervilia_  11 b r   2.1  3.1 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2012  9 38 Ervilia_  12 b l   1.2  1.8 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2013  9 38 Ervilia_  13 b r   1.3  2.2 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2014  9 38 Ervilia_  14 b l   1.5  2.0 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2015  9 38 Ervilia_  15 b l   2.2  3.2 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2016  9 38 Ervilia_  16 b l   2.1  3.1 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2017  9 38 Ervilia_  17 b r   3.2  5.1 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2018  9 38 Ervilia_  18 b l   1.6  2.2 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2019  9 38 Ervilia_  19 b l   4.1  6.0 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
2020  9 38 Ervilia_  20 b r  3.1  4.7 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2021  9 38 Ervilia_  21 b l  3.1  4.3 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2022  9 38 Ervilia_  22 b l  3.2  5.0 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2023  9 38 Ervilia_  23 b r  1.8  2.4 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2024  9 38 Ervilia_  24 b l  2.7  4.0 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2025  9 38 Ervilia_  25 b l  3.0  4.3 0 0 0 3 1 0 4 1 0 . 3 0.5 2  0 9-38-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2026  9 38 Ervilia_  26 b l  1.7  2.2 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2027  9 38 Ervilia_  27 b r  1.6  2.0 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2028  9 38 Ervilia_  28 b l  2.3  3.5 0 0 2 3 0 0 5 1 0 . 3 0.5 2  0 9-38-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2029  9 38 Ervilia_  29 b r  2.3  3.5 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2030  9 38 Ervilia_  30 b l  2.1  2.8 0 0 2 3 1 0 6 1 0 . 3 0.5 2  0 9-38-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2031  9 38 Ervilia_  31 b l  2.3  3.3 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2032  9 38 Ervilia_  32 b r  2.2  3.1 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2033  9 38 Ervilia_  33 b l  1.9  2.5 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2034  9 38 Ervilia_  34 b l  2.0  3.1 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2035  9 38 Ervilia_  35 b r  2.0  3.0 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2036  9 38 Ervilia_  36 b l  2.1  3.0 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2037  9 38 Ervilia_  37 b r  1.8  2.3 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2038  9 38 Ervilia_  38 b l  2.2  3.2 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2039  9 38 Ervilia_  39 b r  1.9  2.4 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2040  9 38 Ervilia_  40 b l  1.7  2.1 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2041  9 38 Ervilia_  41 b l  3.1  5.0 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2042  9 38 Ervilia_  42 b r  2.0  2.3 0 0 0 3 1 0 4 1 0 . 3 0.5 2  0 9-38-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2043  9 38 Ervilia_  43 b r  1.5  2.1 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2044  9 38 Ervilia_  44 b l  1.5  2.1 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2045  9 38 Ervilia_  45 b l  2.1  2.5 0 0 1 2 1 0 4 1 0 . 3 0.5 2  0 9-38-45 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2046  9 38 Ervilia_  46 b r  2.2  3.0 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-46 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2047  9 38 Ervilia_  47 b r  2.4  4.0 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-47 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2048  9 38 Ervilia_  48 b r  1.5  2.0 0 0 0 3 1 0 4 1 0 . 3 0.5 2  0 9-38-48 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2049  9 38 Ervilia_  49 b r  1.8  2.1 0 0 0 3 1 0 4 1 0 . 3 0.5 2  0 9-38-49 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2050  9 38 Ervilia_  50 b r  2.2  3.7 0 0 0 3 0 0 3 1 0 . 3 0.5 2  0 9-38-50 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2051  9 38 Ervilia_  51 b l  2.1  3.1 0 0 0 3 1 0 4 1 0 . 3 0.5 2  0 9-38-51 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2052  9 38 Ervilia_  52 b l  1.3  2.0 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-52 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2053  9 38 Ervilia_  53 b r  2.4  3.7 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-38-53 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2054  9 38 Ervilia_  54 b r  1.9  2.6 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-38-54 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2055  9 39 Erycinel   1 b l  3.2  3.3 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-39-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2056  9 40 Angulus_   1 b l  5.5  9.2 0 0 2 3 1 0 6 1 0 . 3 0.5 2  0 9-40-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2057  9 41 Anadara_   1 b l 16.3 15.7 0 0 2 3 0 0 5 0 0 1 3 0.5 2  1 9-41-1   1 2.2 5 . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2058  9 41 Anadara_   2 b l  7.2  9.8 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-41-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2059  9 41 Anadara_   3 b r  6.4  8.3 0 0 1 2 1 0 4 1 0 . 3 0.5 2  0 9-41-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2060  9 42 Plicatul   1 b r  9.7  7.1 0 0 1 2 1 0 4 0 0 1 3 0.5 2  1 9-42-1   1 2.1 2 . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2061  9 43 Crassost   1 b   15.0 12.0 0 0 1 3 0 0 4 1 0 . 3 1.0 2  0 9-43-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2062  9 44 Glycymer   1 b l  6.9  6.2 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-44-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2063  9 44 Glycymer   2 b l  5.1  5.1 0 0 1 3 1 0 5 1 0 . 3 0.5 2  0 9-44-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2064  9 44 Glycymer   3 b r  7.1  7.6 0 0 1 3 0 0 4 1 0 . 3 0.5 2  0 9-44-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2065  9 44 Glycymer   4 b l  7.2  7.9 0 0 1 3 1 1 6 1 0 . 3 0.5 2  0 9-44-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
2066  9 45  Lima_sp.   1  b  r   10.8   8.1  0  0  1  2  0  0  3  1  0  .  3  0.5  2   0  9-45-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2067  9 46  Cardita_   1  b  l    5.3   7.1  0  0  1  1  0  0  2  1  0  .  3  0.5  2   0  9-46-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2068  9 47  Venus_sp   1  b  r    7.0   7.2  0  0  1  3  1  0  5  1  0  .  3  0.5  2   0  9-47-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2069  9 47  Venus_sp   2  b  r    8.1   8.2  0  0  1  2  0  0  3  1  0  .  3  0.5  2   0  9-47-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2070  9 48  Periglyp   1  b  l    7.9   8.1  0  0  1  3  1  0  5  1  0  .  3  0.5  2   0  9-48-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2071  9 48  Periglyp   2  b  l    5.8   6.8  0  0  1  3  1  0  5  1  0  .  3  0.5  2   0  9-48-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2072  9 48  Periglyp   3  b  r    6.2   7.1  0  0  1  2  1  0  4  1  0  .  3  0.5  2   0  9-48-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2073  9 48  Periglyp   4  b  l   18.2  20.1  0  0  1  2  1  1  5  1  0  .  3  0.5  2   0  9-48-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2074  9 48  Periglyp   5  b  r   20.1  22.0  0  0  1  3  1  0  5  1  0  .  3  0.5  2   0  9-48-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2075  9 49  Astarte_   1  b  r    5.2   7.0  0  0  1  3  1  0  5  1  0  .  3  0.5  2   0  9-49-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2076  9 50  Alvania_   1  g       1.2    .   0  0  1  0  1  0  2  1  0  .  3  1.0  2   0  9-50-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2077  9 51  Lentidiu   1  b  l    5.1   7.9  0  0  1  3  1  0  5  1  0  .  3  0.5  2   0  9-51-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2078  9 52  Cerithiu   1  g       5.4    .   0  0  1  2  0  0  3  0  0  1  3  1.0  2   1  9-52-1   1  1.5  7  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2079  9 52  Cerithiu   2  g       8.0    .   0  0  1  3  0  0  4  0  1  5  3  1.0  2   1  9-52-2   5  1.3  7  0.7  7  0.7  7  0.7  6  0.5  7  . . . . . . . . . . . . . . . . . . . . . 1  0  0
2080  9 52  Cerithiu   3  g       9.7    .   0  0  1  3  1  0  5  0  0  1  3  1.0  2   1  9-52-3   1  2.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2081  9 53  Erycina_   1  b  l    2.8   3.6  0  0  1  3  0  0  4  1  0  .  3  0.5  2   0  9-53-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2082 10  1  Astarte_   1  b  l    3.2   3.9  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  10-1-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2083 10  1  Astarte_   2  b  l    3.6   4.0  0  0  2  1  1  0  4  1  0  .  1  0.5  1   0  10-1-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2084 10  1  Astarte_   3  b  r    3.0   3.3  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  10-1-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2085 10  1  Astarte_   4  b  l    3.0   3.8  0  0  1  1  1  0  3  1  0  .  1  0.5  1   0  10-1-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2086 10  1  Astarte_   5  b  l    3.4   4.0  0  0  0  1  0  0  1  1  0  .  1  0.5  1   0  10-1-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2087 10  1  Astarte_   6  b  r    6.6   7.1  0  0  1  1  0  0  2  1  0  .  1  0.5  1   0  10-1-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2088 10  2  Varicorb   1  b  r    2.3   3.0  0  0  1  3  1  0  5  1  0  .  1  0.5  1   0  10-2-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2089 10  2  Varicorb   2  b  r    2.8   3.5  1  0  0  3  2  0  5  1  0  .  1  0.5  1   0  10-2-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2090 10  3  Limopsis   1  b  r    5.1   5.4  1  0  2  3  2  0  7  1  0  .  1  0.5  1   0  10-3-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2091 10  4  Gemmula_   1  g      13.0    .   1  0  2  3  2  1  8  1  0  .  1  1.0  1   0  10-4-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2092 10  5  Fusiturr   1  g      11.0    .   0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  10-5-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2093 10  5  Fusiturr   2  g      11.3    .   0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  10-5-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2094 10  5  Fusiturr   3  g      13.0    .   0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  10-5-3   1  0.9  2  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2095 10  6  Bathytom   1  g      25.2    .   1  0  1  1  2  0  4  1  0  .  1  1.0  1   0  10-6-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2096 10  7  Euspira_   1  g       1.5    .   0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  10-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2097 10  7  Euspira_   2  g       3.0    .   0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  10-7-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2098 10  7  Euspira_   3  g       2.3    .   0  0  0  1  0  0  1  1  0  .  1  1.0  1   0  10-7-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2099 10  7  Euspira_   4  g       1.6    .   0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  10-7-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2100 10  7  Euspira_   5  g       3.5    .   0  0  1  1  0  1  3  1  0  .  1  1.0  1   0  10-7-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2101 10  7  Euspira_   6  g       2.5    .   1  0  1  2  1  1  5  1  0  .  1  1.0  1   0  10-7-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2102 10  7  Euspira_   7  g       3.2    .   1  0  1  2  1  0  4  1  0  .  1  1.0  1   0  10-7-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2103 10  7  Euspira_   8  g       3.8    .   0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  10-7-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2104 10  7  Euspira_   9  g       3.1    .   0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  10-7-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2105 10  7  Euspira_  10  g       2.0    .   0  0  1  2  0  1  4  1  0  .  1  1.0  1   0  10-7-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2106 10  7  Euspira_  11  g       2.5    .   0  0  1  1  0  0  2  0  0  1  1  1.0  1   1  10-7-11  1  0.8  2  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2107 10  8  Lyrotyph   1  g       3.9    .   0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  10-8-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2108 10  8  Lyrotyph   2  g       5.1    .   1  0  2  2  2  1  7  1  0  .  1  1.0  1   0  10-8-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2109 10  8  Ringicul   3  g       3.1    .   0  0  1  2  1  1  5  1  0  .  1  1.0  1   0  10-8-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2110 10  9  Ringicul   1  g       3.7    .   0  0  0  0  0  0  0  1  0  .  1  1.0  1   0  10-9-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2111 10  9  Ringicul   2  g       4.1    .   0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
2112  10   9  Ringicul    3  g       4.0    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2113  10   9  Ringicul    4  g       3.1    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2114  10   9  Ringicul    5  g       3.6    .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  10-9-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2115  10   9  Ringicul    6  g       3.6    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2116  10   9  Ringicul    7  g       3.6    .  0  0  1  0  0  0  1  1  0  .  1  1.0  1   0  10-9-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2117  10   9  Ringicul    8  g       4.2    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2118  10   9  Ringicul    9  g       3.6    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2119  10   9  Ringicul   10  g       4.0    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2120  10   9  Ringicul   11  g       3.0    .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  10-9-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2121  10   9  Ringicul   12  g       2.9    .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  10-9-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2122  10   9  Ringicul   13  g       3.1    .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  10-9-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2123  10   9  Ringicul   14  g       3.6    .  0  0  1  2  0  0  3  1  0  .  1  1.0  1   0  10-9-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2124  10   9  Ringicul   15  g       3.5    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2125  10   9  Ringicul   16  g       3.6    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2126  10   9  Ringicul   17  g       4.0    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2127  10   9  Ringicul   18  g       4.1    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2128  10   9  Ringicul   19  g       3.8    .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  10-9-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2129  10  10  Hinia_bo    1  g       3.0    .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  10-10-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2130  10  10  Hinia_bo    2  g       2.3    .  0  0  0  0  1  0  1  1  0  .  1  1.0  1   0  10-10-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2131  10  10  Hinia_bo    3  g       2.2    .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  10-10-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2132  10  10  Hinia_bo    4  g       2.2    .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  10-10-4   1  0.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2133  10  10  Hinia_bo    5  g       4.5    .  0  0  2  2  1  0  5  0  0  1  1  1.0  1   1  10-10-5   1  0.1  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2134  10  11  Bittum_s    1  g       1.9    .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  10-11-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2135  10  11  Bittum_s    2  g       4.7    .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  10-11-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2136  10  11  Bittum_s    3  g       1.5    .  1  0  1  1  2  0  4  1  0  .  1  1.0  1   0  10-11-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2137  10  11  Bittum_s    4  g       2.8    .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  10-11-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2138  10  11  Bittum_s    5  g       2.1    .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  10-11-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2139  10  11  Bittum_s    6  g       3.1    .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  10-11-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2140  10  11  Bittum_s    7  g       2.0    .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  10-11-7   1  0.3  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2141  10  11  Bittum_s    8  g       3.5    .  1  0  1  2  2  0  5  0  1  2  1  1.0  1   1  10-11-8   2  0.5  7  0.4  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2142  10  11  Bittum_s    9  g       2.9    .  1  0  0  1  2  0  3  0  0  1  1  1.0  1   1  10-11-9   1  0.1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2143  10  11  Bittum_s   10  g       1.2    .  1  0  1  2  2  0  5  0  0  1  1  1.0  1   1  10-11-10  1  0.1  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2144  10  11  Bittum_s   11  g       2.0    .  0  0  1  1  1  0  3  0  0  1  1  1.0  1   1  10-11-11  1  0.2  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2145  10  11  Bittum_s   12  g       3.8    .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  10-11-12  1  0.2  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2146  10  11  Bittum_s   13  g       3.5    .  1  0  1  1  2  0  4  0  0  1  1  1.0  1   1  10-11-13  1  0.1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2147  10  11  Bittum_s   14  g       3.7    .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  10-11-14  1  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2148  10  11  Bittum_s   15  g       2.9    .  1  0  1  2  2  0  5  0  1  2  1  1.0  1   1  10-11-15  2  0.5  7  0.3  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2149  10  11  Bittum_s   16  g       2.8    .  0  0  1  1  1  0  3  0  0  1  1  1.0  1   1  10-11-16  1  0.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2150  10  11  Bittum_s   17  g       4.6    .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  10-11-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2151  10  11  Bittum_s   18  g       4.1    .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  10-11-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2152  10  11  Bittum_s   19  g       2.2    .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  10-11-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2153  10  11  Bittum_s   20  g       5.0    .  1  0  1  1  2  0  4  1  0  .  1  1.0  1   0  10-11-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2154  10  11  Bittum_s   21  g       3.5    .  1  0  1  1  2  0  4  1  0  .  1  1.0  1   0  10-11-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2155  10  11  Bittum_s   22  g       2.0    .  0  0  0  1  0  0  1  1  0  .  1  1.0  1   0  10-11-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2156  10  11  Bittum_s   23  g       2.4    .  0  0  0  1  0  0  1  1  0  .  1  1.0  1   0  10-11-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2157  10  11  Bittum_s   24  g       4.6    .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  10-11-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
2158 10 11 Bittum_s 25 g    3.1  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2159 10 11 Bittum_s 26 g    4.8  . 1 0 1 2 2 0 5 1 0 . 1 1.0 1  0 10-11-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2160 10 11 Bittum_s 27 g    2.1  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2161 10 11 Bittum_s 28 g    2.5  . 0 0 1 1 1 1 4 1 0 . 1 1.0 1  0 10-11-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2162 10 11 Bittum_s 29 g    3.0  . 0 0 0 1 1 0 2 1 0 . 1 1.0 1  0 10-11-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2163 10 11 Bittum_s 30 g    1.8  . 0 0 0 1 1 0 2 1 0 . 1 1.0 1  0 10-11-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2164 10 11 Bittum_s 31 g    3.9  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2165 10 11 Bittum_s 32 g    4.1  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2166 10 11 Bittum_s 33 g    2.7  . 0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 10-11-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2167 10 11 Bittum_s 34 g    3.0  . 1 0 1 2 2 0 5 1 0 . 1 1.0 1  0 10-11-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2168 10 11 Bittum_s 35 g    3.6  . 0 0 2 2 1 0 5 1 0 . 1 1.0 1  0 10-11-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2169 10 11 Bittum_s 36 g    2.4  . 0 0 1 1 0 0 2 1 0 . 1 1.0 1  0 10-11-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2170 10 11 Bittum_s 37 g    3.2  . 0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 10-11-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2171 10 11 Bittum_s 38 g    3.6  . 0 0 2 2 1 0 5 1 0 . 1 1.0 1  0 10-11-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2172 10 11 Bittum_s 39 g    4.0  . 0 0 0 1 1 0 2 1 0 . 1 1.0 1  0 10-11-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2173 10 11 Bittum_s 40 g    1.8  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2174 10 11 Bittum_s 41 g    1.3  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2175 10 11 Bittum_s 42 g    2.1  . 0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 10-11-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2176 10 11 Bittum_s 43 g    3.2  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2177 10 11 Bittum_s 44 g    1.5  . 0 0 0 1 1 0 2 1 0 . 1 1.0 1  0 10-11-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2178 10 11 Bittum_s 45 g    2.0  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-45 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2179 10 11 Bittum_s 46 g    5.2  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-11-46 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2180 10 12 Asthenot  1 g   6.1  . 0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 10-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2181 10 12 Asthenot  2 g   4.5  . 1 0 1 3 2 0 6 1 0 . 1 1.0 1  0 10-12-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2182 10 12 Asthenot  3 g   5.9  . 1 0 2 3 2 0 7 1 0 . 1 1.0 1  0 10-12-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2183 10 12 Asthenot  4 g   5.9  . 0 0 1 3 1 0 5 1 0 . 1 1.0 1  0 10-12-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2184 10 12 Asthenot  5 g   7.8  . 0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 10-12-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2185 10 13 Babylone  1 g   2.0  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-13-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2186 10 13 Babylone  2 g   2.1  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-13-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2187 10 13 Babylone  3 g   4.3  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-13-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2188 10 13 Babylone  4 g   2.2  . 0 0 1 1 1 0 3 0 0 1 1 1.0 1  1 10-13-4  1 0.4 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2189 10 13 Babylone  5 g   1.8  . 0 0 1 2 1 0 4 0 0 1 1 1.0 1  1 10-13-5  1 0.1 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2190 10 13 Babylone  6 g   3.2  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-13-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2191 10 14 Haedropl  1 g   6.3  . 0 0 1 2 1 0 4 0 0 1 1 1.0 1  1 10-14-1  1 0.8 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2192 10 15 Hinia_te  1 g   3.1  . 0 0 1 1 1 1 4 1 0 . 1 1.0 1  0 10-15-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2193 10 16 unident.  1 g   3.7  . 0 0 1 3 1 0 5 1 0 . 1 1.0 1  0 10-16-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2194 10 17 unident.  1 g   2.1  . 1 0 1 3 2 0 6 1 0 . 1 1.0 1  0 10-17-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2195 10 17 unident.  2 g   2.4  . 1 0 1 3 2 0 6 0 0 1 1 1.0 1  1 10-17-2  . . . . . . . . . . . . . . . . . . . . . .1 0.6 2 . . . . . . . . . . .0 0 1
2196 10 18 Alvania_  1 g   2.0  . 0 0 1 1 1 0 3 1 0 . 1 1.0 1  0 10-18-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2197 10 18 Alvania_  2 g   1.7  . 0 0 0 1 0 0 1 1 0 . 1 1.0 1  0 10-18-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2198 10 20 Asthenot  1 g   6.0  . 0 0 1 2 1 0 4 1 0 . 1 1.0 1  0 10-20-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2199 10 21 Asthenot  1 g   2.5  . 0 0 1 3 1 0 5 1 0 . 1 1.0 1  0 10-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2200 10 22 Strioter  1 g   1.1  . 1 0 1 2 2 0 5 1 0 . 1 1.0 1  0 10-22-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2201 11  1 Cyclocar  1 b r 2.8 2.4 0 0 1 2 0 0 3 1 0 . 1 0.5 1  0 11-1-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2202 11  1 Cyclocar  2 b r 4.1 4.1 0 0 1 3 0 0 4 1 0 . 1 0.5 1  0 11-1-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2203 11  1 Cyclocar  3 b r 4.1 4.0 0 0 1 3 1 0 5 1 0 . 1 0.5 1  0 11-1-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
2204 11 1 Cyclocar 4 b r 7.7 7.1 0 0 1 2 0 0 3 1 0 . 1 0.5 1 0 11-1-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2205 11 1 Cyclocar 5 b r 6.2 6.1 0 0 1 3 0 0 4 1 0 . 1 0.5 1 0 11-1-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2206 11 2 Astarte_ 1 b r 1.3 1.5 1 0 1 2 2 0 5 1 0 . 1 0.5 1 0 11-2-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2207 11 2 Astarte_ 2 b l 3.2 3.6 0 0 1 1 0 0 2 1 0 . 1 0.5 1 0 11-2-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2208 11 2 Astarte_ 3 b r 3.0 3.2 0 0 1 2 0 0 3 1 0 . 1 0.5 1 0 11-2-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2209 11 2 Astarte_ 4 b r 3.1 3.4 0 0 1 2 1 0 4 1 0 . 1 0.5 1 0 11-2-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2210 11 2 Astarte_ 5 b r 1.8 2.0 0 0 1 1 0 0 2 1 0 . 1 0.5 1 0 11-2-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2211 11 2 Astarte_ 6 b r 2.0 2.1 0 0 1 1 0 0 2 1 0 . 1 0.5 1 0 11-2-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2212 11 2 Astarte_ 7 b l 4.9 5.1 0 0 1 1 0 0 2 1 0 . 1 0.5 1 0 11-2-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2213 11 2 Astarte_ 8 b r 2.6 2.7 1 0 1 2 2 0 5 1 0 . 1 0.5 1 0 11-2-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2214 11 2 Astarte_ 9 b r 1.7 2.8 1 0 1 2 2 0 5 1 0 . 1 0.5 1 0 11-2-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2215 11 2 Astarte_ 10 b r 3.2 3.4 0 0 1 1 0 0 2 1 0 . 1 0.5 1 0 11-2-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2216 11 2 Astarte_ 11 b r 5.1 5.3 0 0 1 1 1 0 3 1 0 . 1 0.5 1 0 11-2-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2217 11 2 Astarte_ 12 b r 5.9 6.3 0 0 1 1 1 0 3 1 0 . 1 0.5 1 0 11-2-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2218 11 2 Astarte_ 13 b r 6.1 7.0 0 0 1 1 1 0 3 1 0 . 1 0.5 1 0 11-2-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2219 11 3 Varicorb 1 b r 3.8 4.3 0 0 1 3 1 1 6 1 0 . 1 0.5 1 0 11-3-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2220 11 4 Yoldiell 1 b b 2.0 3.4 0 0 0 3 1 0 4 0 0 1 1 1.0 1 1 11-4-1 . . . . . . . . . . . . . . . . . . . . . . 1 0.1 3 . . . . . . . . . . 0 0 1
2221 11 4 Yoldiell 2 b b 1.6 2.7 0 0 0 1 1 0 2 1 0 . 1 1.0 1 0 114-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2222 11 4 Yoldiell 3 b l 1.7 2.3 0 0 0 1 1 0 2 1 0 . 1 0.5 1 0 11-4-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2223 11 4 Yoldiell 4 b r 1.8 2.3 0 0 1 2 0 0 3 1 0 . 1 0.5 1 0 11-4-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2224 11 4 Yoldiell 5 b l 1.6 2.2 0 0 1 1 1 0 3 1 0 . 1 0.5 1 0 11-4-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2225 11 4 Yoldiell 6 b l 2.2 3.8 0 0 0 1 1 0 2 1 0 . 1 0.5 1 0 11-4-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2226 11 4 Yoldiell 7 b r 1.5 2.5 0 0 1 3 1 0 5 1 0 . 1 0.5 1 0 11-4-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2227 11 4 Yoldiell 8 b r 2.1 3.2 0 0 0 1 1 0 2 1 0 . 1 0.5 1 0 11-4-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2228 11 4 Yoldiell 9 b r 2.2 3.2 0 0 0 2 1 0 3 1 0 . 1 0.5 1 0 11-4-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2229 11 4 Yoldiell 10 b b 1.7 2.6 0 0 0 1 1 0 2 1 0 . 1 1.0 1 0 11-4-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2230 11 4 Yoldiell 11 b l 2.1 3.1 0 0 1 1 0 0 2 1 0 . 1 0.5 1 0 11-4-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2231 11 4 Yoldiell 12 b l 1.8 2.4 0 0 1 2 0 0 3 1 0 . 1 0.5 1 0 11-4-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2232 11 4 Yoldiell 13 b r 2.1 3.4 0 0 0 1 1 0 2 1 0 . 1 0.5 1 0 11-4-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2233 11 4 Yoldiell 14 b r 2.1 3.3 0 0 0 3 1 0 4 1 0 . 1 0.5 1 0 11-4-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2234 11 4 Yoldiell 15 b l 1.8 2.4 0 0 0 2 1 0 3 1 0 . 1 0.5 1 0 11-4-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2235 11 4 Yoldiell 16 b r 1.3 1.8 0 0 0 1 0 0 1 1 0 . 1 0.5 1 0 11-4-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2236 11 5 Yoldiell 1 b b 1.8 2.2 0 0 1 3 1 0 5 1 0 . 1 1.0 1 0 11-5-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2237 11 6 Limopsis 1 b l 3.8 3.7 0 0 1 2 1 0 4 1 0 . 1 0.5 1 0 11-6-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2238 11 6 Limopsis 2 b l 2.3 2.7 0 0 2 3 1 0 6 1 0 . 1 0.5 1 0 11-6-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2239 11 6 Limopsis 3 b l 2.5 2.5 0 0 2 3 1 0 6 1 0 . 1 0.5 1 0 11-6-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2240 11 6 Limopsis 4 b l 3.0 2.8 0 0 1 3 1 0 5 1 0 . 1 0.5 1 0 11-6-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2241 11 6 Limopsis 5 b r 5.1 5.1 0 0 1 1 1 0 3 1 0 . 1 0.5 1 0 11-6-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2242 11 6 Limopsis 6 b r 6.3 6.1 0 0 1 1 1 0 3 1 0 . 1 0.5 1 0 11-6-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2243 11 6 Limopsis 7 b r 4.5 4.1 0 0 1 1 1 0 3 1 0 . 1 0.5 1 0 11-6-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2244 11 6 Limopsis 8 b l 2.2 2.2 0 0 2 3 1 0 6 0 0 1 1 0.5 1 1 11-6-8 1 0.6 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2245 11 7 Limopsis 1 b l 3.3 3.2 0 0 1 1 0 0 2 1 0 . 1 0.5 1 0 11-7-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2246 11 7 Limopsis 2 b l 1.5 1.5 0 0 1 1 1 0 3 1 0 . 1 0.5 1 0 11-7-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2247 11 8 Lyrothph 1 g 5.1 . 0 0 1 2 1 0 4 0 0 1 1 1.0 1 1 11-8-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2248 11 8 Lyrothph 2 g 3.1 . 0 0 1 1 1 0 3 1 0 . 1 1.0 1 0 11-8-2 1 0.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2249 11 9 Ringicul 1 g 4.8 . 0 0 0 3 0 0 3 1 0 . 1 1.0 1 0 11-9-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
2250  11   9  Ringicul   2  g     4.0   .  0  0  0  2  0  0  2  1  0  .  1  1.0  1   0  11-9-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2251  11   9  Ringicul   3  g     4.0   .  0  0  1  3  0  0  4  1  0  .  1  1.0  1   0  11-9-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2252  11  10  Bittum_s   1  g     3.2   .  1  0  1  1  2  0  4  0  0  1  1  1.0  1   1  11-10-1   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
2253  11  10  Bittum_s   2  g     1.4   .  1  0  1  1  2  0  4  1  0  .  1  1.0  1   0  11-10-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2254  11  11  Hinia_sp   1  g     2.2   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2255  11  11  Hinia_sp   2  g     2.1   .  0  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2256  11  11  Hinia_sp   3  g     2.0   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2257  11  11  Hinia_sp   4  g     3.1   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-11-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2258  11  11  Hinia_sp   5  g     2.9   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-11-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2259  11  11  Hinia_sp   6  g     3.5   .  0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  11-11-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2260  11  11  Hinia_sp   7  g     2.0   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2261  11  11  Hinia_sp   8  g     2.1   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2262  11  11  Hinia_sp   9  g     2.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2263  11  11  Hinia_sp  10  g     1.8   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2264  11  11  Hinia_sp  11  g     2.2   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2265  11  11  Hinia_sp  12  g     1.7   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2266  11  11  Hinia_sp  13  g     1.7   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2267  11  11  Hinia_sp  14  g     1.9   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2268  11  11  Hinia_sp  15  g     6.1   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-15  1  0.2  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
2269  11  11  Hinia_sp  16  g     2.2   .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  11-11-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2270  11  11  Hinia_sp  17  g     2.1   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2271  11  11  Hinia_sp  18  g     2.3   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2272  11  11  Hinia_sp  19  g     2.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2273  11  11  Hinia_sp  20  g     1.9   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2274  11  11  Hinia_sp  21  g     2.0   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2275  11  11  Hinia_sp  22  g     2.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2276  11  11  Hinia_sp  23  g     1.7   .  0  0  0  3  1  0  4  1  0  .  1  1.0  1   0  11-11-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2277  11  11  Hinia_sp  24  g     1.5   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2278  11  11  Hinia_sp  25  g     1.7   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2279  11  11  Hinia_sp  26  g     2.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2280  11  11  Hinia_sp  27  g     1.8   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2281  11  11  Hinia_sp  28  g     2.2   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2282  11  11  Hinia_sp  29  g     2.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2283  11  11  Hinia_sp  30  g     1.8   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2284  11  11  Hinia_sp  31  g     1.8   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2285  11  11  Hinia_sp  32  g     1.3   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2286  11  11  Hinia_sp  33  g     1.9   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2287  11  11  Hinia_sp  34  g     1.1   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2288  11  11  Hinia_sp  35  g     2.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2289  11  11  Hinia_sp  36  g     1.8   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2290  11  11  Hinia_sp  37  g     2.2   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2291  11  11  Hinia_sp  38  g     2.4   .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  11-11-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2292  11  11  Hinia_sp  39  g     2.0   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2293  11  11  Hinia_sp  40  g     2.2   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2294  11  11  Hinia_sp  41  g     2.5   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-11-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2295  11  11  Hinia_sp  42  g     1.8   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
```

```
2296  11  11  Hinia_sp  43  g      2.1   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2297  11  11  Hinia_sp  44  g      2.3   .  0  0  2  3  1  0  6  1  0  .  1  1.0  1   0  11-11-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2298  11  11  Hinia_sp  45  g      2.8   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-45 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2299  11  11  Hinia_sp  46  g      2.8   .  1  0  1  2  2  0  5  0  0  1  1  1.0  1   1  11-11-46 . . . . . . . . . . . . . . . . . . . . . . . . 1  0.2  4 . . . . . . . . . . . . . . . . 0  0  1
2300  11  11  Hinia_sp  47  g      3.8   .  1  0  1  3  2  0  6  0  0  1  1  1.0  1   1  11-11-47  1  0.2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2301  11  11  Hinia_sp  48  g      2.7   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-48  1  0.5  8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2302  11  11  Hinia_sp  49  g      2.7   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-49  1  0.6  7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2303  11  11  Hinia_sp  50  g      2.6   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-50  1  0.1  7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2304  11  11  Hinia_sp  51  g      3.2   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-51  1  0.2  4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2305  11  11  Hinia_sp  52  g      2.5   .  0  0  1  3  1  0  5  0  0  1  1  1.0  1   1  11-11-52  1  0.2  4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2306  11  11  Hinia_sp  53  g      3.0   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-53  1  0.1  7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2307  11  11  Hinia_sp  54  g      2.6   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-54  1  0.2  8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2308  11  11  Hinia_sp  55  g      5.9   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-5-  1  0.9  7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2309  11  11  Hinia_sp  56  g      2.0   .  0  0  1  2  1  0  4  0  1  2  1  1.0  1   1  11-11-56  2  0.3  4  0.1  7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2310  11  11  Hinia_sp  57  g      2.4   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-11-57  1  0.1  4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2311  11  11  Hinia_sp  58  g      1.6   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-58 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2312  11  11  Hinia_sp  59  g      1.9   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-59 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2313  11  11  Hinia_sp  60  g      2.4   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-60 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2314  11  11  Hinia_sp  61  g      3.6   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-61 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2315  11  11  Hinia_sp  62  g      5.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-62 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2316  11  11  Hinia_sp  63  g      4.7   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-63 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2317  11  11  Hinia_sp  64  g      2.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-64 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2318  11  11  Hinia_sp  65  g      1.9   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-65 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2319  11  11  Hinia_sp  66  g      2.7   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-66 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2320  11  11  Hinia_sp  67  g      2.6   .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  11-11-67 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2321  11  11  Hinia_sp  68  g      2.3   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  11-11-68 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2322  11  11  Hinia_sp  69  g      2.1   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-69 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2323  11  11  Hinia_sp  70  g      3.5   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-70 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2324  11  11  Hinia_sp  71  g      2.1   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-71 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2325  11  11  Hinia_sp  72  g      3.2   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-72 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2326  11  11  Hinia_sp  73  g      1.8   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-73 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2327  11  11  Hinia_sp  74  g      4.5   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  11-11-74 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2328  11  11  Hinia_sp  75  g      3.2   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-11-75 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2329  11  11  Hinia_sp  76  g      4.9   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-11-76 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2330  11  11  Hinia_sp  77  g      5.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-11-77 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2331  11  12  Hinia_sp   1  g     3.5   .  0  0  0  1  0  0  1  1  0  .  1  1.0  1   0  11-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2332  11  13  Euspira_   1  g     1.8   .  0  0  0  2  1  1  4  1  0  .  1  1.0  1   0  11-13-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2333  11  13  Euspira_   2  g     3.1   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-13-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2334  11  13  Euspira_   3  g     3.5   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-13-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2335  11  13  Euspira_   4  g     2.8   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-13-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2336  11  13  Euspira_   5  g     1.8   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-13-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2337  11  13  Euspira_   6  g     1.1   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-13-6   1  0.4  1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2338  11  13  Euspira_   7  g     1.1   .  1  0  2  3  2  0  7  0  0  1  1  1.0  1   1  11-13-7   1  0.5  1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2339  11  13  Euspira_   8  g     2.1   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-13-8   1  0.4  1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2340  11  13  Euspira_   9  g     1.0   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-13-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2341  11  13  Euspira_  10  g      1.6   .  0  0  1  3  1  1  6  1  0  .  1  1.0  1   0  11-13-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
2342  11  13  Euspira_  11  g    1.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-13-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2343  11  13  Euspira_  12  g    1.0  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-13-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2344  11  13  Euspira_  13  g    1.8  .  0  0  0  2  1  1  4  1  0  .  1  1.0  1   0  11-13-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2345  11  13  Euspira_  14  g    1.1  .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  11-13-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2346  11  13  Euspira_  15  g    1.0  .  0  0  2  3  1  0  6  1  0  .  1  1.0  1   0  11-13-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2347  11  13  Euspira_  16  g    1.5  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-13-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2348  11  13  Euspira_  17  g    1.2  .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-13-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2349  11  13  Euspira_  18  g    1.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-13-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2350  11  13  Euspira_  19  g    1.4  .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  11-13-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2351  11  13  Euspira_  20  g    0.7  .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-13-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2352  11  13  Euspira_  21  g    1.9  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-13-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2353  11  14  Euspira_   1  g    3.5  .  0  0  1  3  1  1  6  1  0  .  1  1.0  1   0  11-14-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2354  11  14  Euspira_   2  g    3.3  .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-14-2   1  1.0  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
2355  11  15  Strioter   1  g    1.5  .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-15-1   1  0.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
2356  11  15  Strioter   2  g    2.1  .  1  0  1  3  2  0  6  0  0  1  1  1.0  1   1  11-15-2   1  0.2  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  1  0  0
2357  11  15  Strioter   3  g    3.2  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-15-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2358  11  15  Strioter   4  g    3.1  .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  11-15-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2359  11  15  Strioter   5  g    2.4  .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-15-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2360  11  15  Strioter   6  g    8.0  .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-15-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2361  11  16  Pyramide   1  g    4.2  .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-16-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2362  11  16  Pyramide   2  g    2.0  .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-16-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2363  11  16  Pyramide   3  g    3.2  .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-16-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2364  11  16  Pyramide   4  g    2.2  .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-16-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2365  11  16  Pyramide   5  g    1.8  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-16-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2366  11  16  Pyramide   6  g    2.6  .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-16-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2367  11  16  Pyramide   7  g    2.9  .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-16-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2368  11  16  Pyramide   8  g    2.4  .  0  0  1  2  1  1  5  1  0  .  1  1.0  1   0  11-16-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2369  11  16  Pyramide   9  g    2.0  .  0  0  1  1  1  1  4  1  0  .  1  1.0  1   0  11-16-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2370  11  16  Pyramide  10  g    2.6  .  0  0  1  2  1  1  5  1  0  .  1  1.0  1   0  11-16-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2371  11  16  Pyramide  11  g    2.0  .  0  0  0  1  1  1  3  1  0  .  1  1.0  1   0  11-16-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2372  11  16  Pyramide  12  g    3.3  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-16-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2373  11  16  Pyramide  13  g    4.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-16-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2374  11  16  Pyramide  14  g    5.0  .  0  0  1  3  0  1  5  1  0  .  1  1.0  1   0  11-16-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2375  11  16  Pyramide  15  g    1.9  .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-16-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2376  11  16  Pyramide  16  g    3.4  .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  11-16-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2377  11  16  Pyramide  17  g    5.5  .  1  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-16-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2378  11  16  Pyramide  18  g    3.3  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-16-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2379  11  16  Pyramide  19  g    2.3  .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-16-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2380  11  16  Pyramide  20  g    3.0  .  1  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-16-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2381  11  16  Pyramide  21  g    4.5  .  1  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-16-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2382  11  16  Pyramide  22  g    4.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-16-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2383  11  17  Conus_an   1  g    8.1  .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-17-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2384  11  17  Conus_an   2  g    7.1  .  1  0  1  3  2  1  7  1  0  .  1  1.0  1   0  11-17-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2385  11  17  Conus_an   3  g    3.3  .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-17-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2386  11  18  Turritel   1  g    4.0  .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-18-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
2387  11  18  Turritel   2  g    1.6  .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-18-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  0  0  0
```

```
2388  11  19  Gemmula_   1  g     10.0   .  0  0  2  3  1  0  6  1  0  .  1  1.0  1   0  11-19-1  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2389  11  19  Gemmula_   2  g      7.9   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-19-2  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2390  11  19  Gemmula_   3  g     10.2   .  0  0  2  2  1  0  5  0  0  1  1  1.0  1   1  11-19-3   1  1.8  8  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2391  11  19  Gemmula_   4  g     11.3   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-19-4   1  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2392  11  20  Gemmula_   1  g      3.6   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-20-1   1  0.4  4  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2393  11  20  Gemmula_   2  g      3.8   .  0  0  1  1  1  0  3  0  0  1  1  1.0  1   1  11-20-2   1  0.3  4  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2394  11  20  Gemmula_   3  g      5.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-20-3  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2395  11  20  Gemmula_   4  g      2.5   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-20-4  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2396  11  20  Gemmula_   5  g      3.0   .  0  0  0  2  1  0  3  1  0  .  1  1.0  1   0  11-20-5  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2397  11  20  Gemmula_   6  g      6.0   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  11-20-6  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2398  11  20  Gemmula_   7  g      2.3   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  11-20-7  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2399  11  20  Gemmula_   8  g      4.2   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  11-20-8  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2400  11  20  Gemmula_   9  g      3.5   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-20-9  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2401  11  20  Gemmula_  10  g      2.9   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-20-10 . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2402  11  21  Babylone   1  g      2.7   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2403  11  21  Babylone   2  g      2.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-21-2  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2404  11  21  Babylone   3  g      1.8   .  0  0  0  1  1  0  2  1  0  .  1  1.0  1   0  11-21-3  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2405  11  21  Babylone   4  g      2.0   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-21-4   1  0.3  4  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2406  11  21  Babylone   5  g      3.3   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-21-5  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2407  11  21  Babylone   6  g      2.3   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-21-6  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2408  11  21  Babylone   7  g      3.1   .  0  0  0  1  0  0  1  1  0  .  1  1.0  1   0  11-21-7  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2409  11  22  Streptod   1  g      2.8   .  0  0  1  2  0  0  3  0  0  1  1  1.0  1   1  11-22-1   1  0.4  7  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2410  11  22  Streptod   2  g      3.6   .  0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  11-22-2  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2411  11  22  Streptod   3  g      3.0   .  0  0  1  1  0  0  2  1  0  .  1  1.0  1   0  11-22-3  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2412  11  22  Streptod   4  g      3.2   .  0  0  1  1  1  0  3  1  0  .  1  1.0  1   0  11-22-4  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2413  11  22  Streptod   5  g      3.3   .  1  0  1  3  2  0  6  1  0  .  1  1.0  1   0  11-22-5  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2414  11  23  Unedogem   1  g      3.8   .  0  0  2  3  1  0  6  0  0  1  1  1.0  1   1  11-23-1   1  0.5  4  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2415  11  23  Unedogem   2  g      2.8   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-23-2  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2416  11  23  Unedogem   3  g      3.6   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-23-3  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2417  11  23  Unedogem   4  g      3.5   .  1  0  1  2  2  0  5  1  0  .  1  1.0  1   0  11-23-4  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2418  11  23  Unedogem   5  g      4.1   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-23-5  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2419  11  23  Unedogem   6  g      5.6   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-23-6  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2420  11  23  Unedogem   7  g      4.1   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-23-7  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2421  11  24  unident.   1  g      2.8   .  0  0  1  2  1  0  4  0  0  1  1  1.0  1   1  11-24-1   1  0.5  7  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2422  11  24  unident.   2  g      2.0   .  0  0  1  3  1  0  5  0  0  1  1  1.0  1   1  11-24-2   1  0.3  4  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2423  11  24  unident.   3  g      2.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-24-3  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2424  11  24  unident.   4  g      2.2   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-24-4  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2425  11  25  Crassisp   1  g     11.8   .  0  0  2  2  1  0  5  0  0  1  1  1.0  1   1  11-25-1   1  0.2  8  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2426  11  26  Cylichna   1  g      4.2   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-26-1  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2427  11  27  Cordieri   1  g      9.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-27-1  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2428  11  28  unident.   1  g      3.0   .  0  0  1  2  1  0  4  1  0  .  1  1.0  1   0  11-28-1  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2429  11  28  unident.   2  g      3.0   .  1  0  1  3  2  0  6  0  0  1  1  1.0  1   1  11-28-2   1  0.6  7  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2430  11  29  unident_   1  g     12.7   .  0  0  1  3  1  0  5  0  0  1  1  1.0  1   1  11-29-1   1  0.8  7  . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
2431  11  30  unident_   1  g      2.1   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-30-1  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2432  11  31  unident_   1  g      0.8   .  0  0  1  3  1  0  5  1  0  .  1  1.0  1   0  11-31-1  . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
2433  12   1  Varicorb   1  b  1   3.5  2.2  0  0  0  3  1  1  5  1  .  .  2  0.5  1   0  12-1-1   . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
```

```
2434 12  1 Varicorb   2 b r  4.7  3.4 0 0 0 3 1 0 4 1 . . 2 0.5 1  0 12-1-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2435 12  1 Varicorb   3 b r  5.0  3.2 0 0 0 3 1 0 4 1 . . 2 0.5 1  0 12-1-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2436 12  1 Varicorb   4 b l  4.5  3.2 0 0 0 3 1 0 4 1 . . 2 0.5 1  0 12-1-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2437 12  1 Varicorb   5 b r  7.4  4.0 0 0 0 2 0 0 2 1 . . 2 0.5 1  0 12-1-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2438 12  1 Varicorb   6 b l  4.0  2.5 1 0 0 3 2 0 5 1 . . 2 0.5 1  0 12-1-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2439 12  1 Varicorb   7 b r  3.5  2.8 0 0 0 3 0 0 3 1 . . 2 0.5 1  0 12-1-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2440 12  1 Varicorb   8 b r  7.0  5.2 0 0 0 2 0 1 3 1 . . 2 0.5 1  0 12-1-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2441 12  1 Varicorb   9 b l  3.0  2.1 0 0 0 3 1 1 5 1 . . 2 0.5 1  0 12-1-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2442 12  1 Varicorb  10 b r  6.0  4.0 1 0 0 3 2 0 5 1 . . 2 0.5 1  0 12-1-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2443 12  1 Varicorb  11 b r  4.3  2.5 1 0 0 3 2 0 5 1 . . 2 0.5 1  0 12-1-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2444 12  1 Varicorb  12 b r  6.8  5.1 1 0 0 2 2 0 4 1 . . 2 0.5 1  0 12-1-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2445 12  1 Varicorb  13 b l  4.0  2.3 0 0 0 3 1 0 4 1 . . 2 0.5 1  0 12-1-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2446 12  1 Varicorb  14 b r  3.8  2.4 1 0 0 3 1 0 4 1 . . 2 0.5 1  0 12-1-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2447 12  1 Varicorb  15 b r  3.7  2.2 0 0 0 3 1 0 4 1 . . 2 0.5 1  0 12-1-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2448 12  1 Varicorb  16 b r  4.8  3.4 1 0 0 3 2 1 6 1 . . 2 0.5 1  0 12-1-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2449 12  1 Varicorb  17 b r  1.7  1.0 0 0 0 3 0 0 3 1 . . 2 0.5 1  0 12-1-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2450 12  1 Varicorb  18 b l  5.0  3.9 0 0 0 3 1 0 4 1 . . 2 0.5 1  0 12-1-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2451 12  2 Eulima_s   1 g    5.0   .  1 0 0 2 2 0 4 1 . . 2 1.0 1  0 12-2-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2452 12  3 Hinia_in   1 g    8.8   .  0 0 0 1 0 0 1 1 . . 2 1.0 1  0 12-3-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2453 12  4 Euspira_   1 g    5.4   .  0 0 1 1 1 1 4 1 . . 2 1.0 1  0 12-4-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2454 12  4 Euspira_   2 g    1.3   .  0 0 1 0 0 0 1 1 . . 2 1.0 1  0 12-4-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2455 12  4 Euspira_   3 g    0.7   .  1 0 0 1 2 0 3 1 . . 2 1.0 1  0 12-4-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2456 12  4 Euspira_   4 g    1.1   .  0 0 0 0 0 0 0 0 . 1 2 1.0 1  1 12-4-4   1 0.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2457 12  4 Euspira_   5 g    2.1   .  0 0 0 2 1 1 4 1 . . 2 1.0 1  0 12-4-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2458 12  4 Euspira_   6 g    1.0   .  1 0 0 2 2 0 4 0 . 1 2 1.0 1  1 12-4-6   1 0.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2459 12  4 Euspira_   7 g    1.1   .  1 0 0 2 2 0 4 1 . . 2 1.0 1  0 12-4-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2460 12  4 Euspira_   8 g    1.1   .  1 0 1 2 2 0 5 1 . . 2 1.0 1  0 12-4-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2461 12  4 Euspira_   9 g    0.7   .  0 0 0 1 1 0 2 1 . . 2 1.0 1  0 12-4-9   1 0.2 3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2462 12  4 Euspira_  10 g    1.3   .  1 0 0 2 2 0 4 0 . 1 2 1.0 1  1 12-4-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2463 12  4 Euspira_  11 g    1.0   .  1 0 0 2 2 0 4 1 . . 2 1.0 1  0 12-4-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2464 12  4 Euspira_  12 g    1.0   .  1 0 0 2 2 0 4 1 . . 2 1.0 1  0 12-4-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2465 12  4 Euspira_  13 g    1.5   .  1 0 1 3 2 0 6 1 . . 2 1.0 1  0 12-4-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2466 12  4 Euspira_  14 g    2.1   .  1 0 0 3 2 0 5 1 . . 2 1.0 1  0 12-4-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2467 12  4 Euspira_  15 g    1.9   .  0 0 1 2 1 0 4 1 . . 2 1.0 1  0 12-4-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2468 12  4 Euspira_  16 g    2.1   .  0 0 1 2 1 0 4 1 . . 2 1.0 1  0 12-4-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2469 12  4 Euspira_  17 g    2.0   .  0 0 0 1 1 0 2 1 . . 2 1.0 1  0 12-4-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2470 12  5 Hydroba_   1 g    3.0   .  0 0 0 0 0 0 0 1 . . 2 1.0 1  0 12-5-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2471 12  5 Hydroba_   2 g    3.0   .  0 0 0 0 1 0 1 1 . . 2 1.0 1  0 12-5-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2472 12  5 Hydroba_   3 g    1.2   .  1 0 0 2 2 0 4 1 . . 2 1.0 1  0 12-5-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2473 12  6 Strept_s   1 g    1.2   .  0 0 0 1 1 0 2 1 . . 2 1.0 1  0 12-6-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2474 12  6 Strept_s   2 g    2.8   .  0 0 0 1 0 0 1 1 . . 2 1.0 1  0 12-6-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2475 12  6 Strept_s   3 g    2.2   .  0 0 0 1 0 0 1 0 . 1 2 1.0 1  1 12-6-3   1 0.3 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2476 12  6 Strept_s   4 g    2.8   .  0 0 0 1 0 0 1 1 . . 2 1.0 1  0 12-6-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2477 12  6 Strept_s   5 g    2.0   .  1 0 0 1 2 0 3 1 . . 2 1.0 1  0 12-6-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2478 12  6 Strept_s   6 g    1.3   .  0 0 0 1 1 0 2 1 . . 2 1.0 1  0 12-6-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2479 12  6 Strept_s   7 g    2.4   .  0 0 0 1 1 0 2 1 . . 2 1.0 1  0 12-6-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
2480 12  6 Strept_s   8 g     2.2   .  0 0 0 1 0 0 1 1 . . 2 1.0 1  0 12-6-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2481 12  6 Strept_s   9 g     2.0   .  0 0 0 1 1 0 2 1 . . 2 1.0 1  0 12-6-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2482 12  6 Strept_s  10 g     3.1   .  0 0 0 1 1 0 2 0 . 1 2 1.0 1  1 12-6-10  1 0.3 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2483 12  7 unident_   1 g     1.2   .  1 0 0 1 2 0 3 1 . . 2 1.0 1  0 12-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2484 12  7 unident_   2 g     0.5   .  1 0 0 1 2 0 3 1 . . 2 1.0 1  0 12-7-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2485 12  8 unident_   1 g     2.0   .  1 0 0 1 2 0 3 1 . . 2 1.0 1  0 12-8-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2486 12  9 Cancel_s   1 g     2.7   .  1 0 0 1 2 0 3 1 . . 2 1.0 1  0 12-9-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2487 12  9 Cancel_s   2 g     2.1   .  1 0 0 2 2 0 4 1 . . 2 1.0 1  0 12-9-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2488 12  9 Cancel_s   3 g     1.8   .  0 0 0 3 0 0 3 1 . . 2 1.0 1  0 12-9-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2489 12 10 Turitell   1 g     1.2   .  1 0 0 2 2 0 4 1 . . 2 1.0 1  0 12-140-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2490 12 11 Acan_sp.   1 b r   1.2  1.1 0 0 1 0 0 0 1 1 . . 2 0.5 1  0 12-11-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2491 12 11 Sveltia_   2 b l   1.1  1.1 0 0 1 0 0 0 1 1 . . 2 0.5 1  0 12-11-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2492 12 11 Sveltia_   3 b r   1.3  1.2 0 0 0 1 1 0 2 1 . . 2 0.5 1  0 12-11-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2493 12 12 Sveltia_   1 g     1.5   .  0 0 0 1 0 0 1 1 . . 2 1.0 1  0 12-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2494 12 12 Sveltia_   2 g     1.7   .  0 0 0 1 0 0 1 1 . . 2 1.0 1  0 12-12-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2495 12 12 Sveltia_   3 g     1.7   .  0 0 0 1 0 0 1 1 . . 2 1.0 1  0 12-12-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2496 12 13 St_sp.     1 g     1.3   .  1 0 0 2 2 0 4 1 . . 2 1.0 1  0 12-13-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2497 12 14 Mangolia   1 g     2.9   .  0 0 0 2 1 0 3 1 . . 2 1.0 1  0 12-14-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2498 12 15 Unident_   1 g     1.9   .  1 0 0 1 2 0 3 1 . . 2 1.0 1  0 12-15-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2499 12 16 Sveltia_   1 g     3.0   .  0 0 0 1 0 0 1 1 . . 2 1.0 1  0 12-16-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2500 13  1 Hinia_in   1 g     6.5   .  1 0 1 3 2 0 6 0 0 1 2 1.0 2  1 13-1-1   1 1.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2501 13  1 Hinia_in   2 g     8.8   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 13-1-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2502 13  1 Hinia_in   3 g     9.2   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 13-1-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2503 13  1 Hinia_in   4 g     9.2   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 13-1-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2504 13  2 Fasciola   1 g     9.0   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 13-2-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2505 13  2 Fasciola   2 g     9.7   .  0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 13-2-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2506 13  3 Trigonos   1 g     9.6   .  0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 13-3-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2507 13  4 Tudicula   1 g     7.1   .  0 0 2 3 1 0 6 0 0 1 2 1.0 2  1 13-4-1   1 0.7 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2508 13  5 Narona_v   1 g    12.0   .  0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 13-5-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2509 13  6 Lepetell   1 g     6.7   .  0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 13-6-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2510 13  7 Calyptra   1 g     2.8   .  0 0 2 3 1 1 7 1 0 . 2 1.0 2  0 13-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2511 13  7 Calyptra   2 g     4.1   .  0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 13-7-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2512 13  7 Calyptra   3 g     5.2   .  0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 13-7-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2513 13  8 Turritel   1 g    12.2   .  0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 13-8-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2514 13  8 Turritel   2 g    11.7   .  1 0 1 2 2 0 5 1 0 . 2 1.0 2  0 13-8-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2515 13  8 Turritel   3 g    15.1   .  0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 13-8-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2516 13  8 Turritel   4 g    20.9   .  1 0 1 2 2 0 5 1 0 . 2 1.0 2  0 13-8-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2517 13  8 Turritel   5 g    18.1   .  0 0 1 2 0 0 3 1 0 . 2 1.0 2  0 13-8-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2518 13  9 Pirenell   1 g     8.9   .  0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 13-9-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2519 13  9 Pirenell   2 g     6.8   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 13-9-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2520 13  9 Pirenell   3 g     8.4   .  0 0 2 3 1 0 6 0 0 1 2 1.0 2  1 13-9-3   1 1.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2521 13  9 Pirenell   4 g    11.7   .  0 0 1 3 1 0 5 0 0 1 2 1.0 2  1 13-9-4   1 0.8 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2522 13  9 Pirenell   5 g    14.0   .  0 0 2 3 1 0 6 0 1 2 2 1.0 2  1 13-9-5   2 0.8 7 0.5 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2523 13  9 Pirenell   6 g    11.3   .  0 0 1 2 1 0 4 0 1 2 2 1.0 2  1 13-9-6   2 1.3 7 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2524 13 10 Hinia_sp   1 g     9.0   .  0 0 1 1 1 0 3 0 0 1 2 1.0 2  1 13-10-1  1 1.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2525 13 10 Hinia_sp   2 g     7.0   .  0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 13-10-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
2526  13  11  Phrontis   1  g      7.1   .  0  0  2  3  1  0  6  1  0  .  2  1.0  2   0  13-11-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2527  13  11  Phrontis   2  g      6.1   .  0  0  2  3  0  0  5  1  0  .  2  1.0  2   0  13-11-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2528  13  11  Phrontis   3  g      5.9   .  0  0  2  3  0  0  5  1  0  .  2  1.0  2   0  13-11-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2529  13  11  Phrontis   4  g      6.3   .  0  0  2  3  0  0  5  1  0  .  2  1.0  2   0  13-11-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2530  13  11  Phrontis   5  g      7.0   .  0  0  2  3  0  0  5  1  0  .  2  1.0  2   0  13-11-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2531  13  11  Phrontis   6  g      7.2   .  0  0  2  2  0  0  4  1  0  .  2  1.0  2   0  13-11-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2532  13  11  Phrontis   7  g      6.2   .  0  0  2  3  1  0  6  0  0  1  2  1.0  2   1  13-11-7   1  0.9  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2533  13  11  Phrontis   8  g      8.0   .  0  0  2  3  1  0  6  0  1  2  2  1.0  2   1  13-11-8   2  1.0  7  0.6  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2534  13  12  Turritel   1  g     19.1   .  0  0  1  2  1  1  5  1  0  .  2  1.0  2   0  13-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2535  13  12  Turritel   2  g     18.2   .  0  0  2  2  1  0  5  1  0  .  2  1.0  2   0  13-12-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2536  13  12  Turritel   3  g     30.1   .  0  0  2  2  1  0  5  1  0  .  2  1.0  2   0  13-12-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2537  13  12  Turritel   4  g     23.8   .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  13-12-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2538  13  12  Turritel   5  g     24.9   .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  13-12-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2539  13  12  Turritel   6  g     28.0   .  0  0  1  3  0  0  4  1  0  .  2  1.0  2   0  13-12-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2540  13  13  Natica_m   1  g      8.2   .  0  0  2  2  1  0  5  1  0  .  2  1.0  2   0  13-13-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2541  13  14  Crepidul   1  g      8.8   .  0  0  2  2  1  1  6  1  0  .  2  1.0  2   0  13-14-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2542  13  15  Hinia_sp   1  g      6.4   .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  13-15-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2543  13  16  Amyclina   1  g      7.3   .  0  0  1  3  1  1  6  0  0  1  2  1.0  2   1  13-16-1   1  1.2  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3  1  0  0
2544  13  17  Parvicar   1  b  r   7.1   7.5  0  0  2  2  1  0  5  1  0  .  2  0.5  2   0  13-17-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2545  13  17  Parvicar   2  b  r   8.3   8.6  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-17-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2546  13  17  Parvicar   3  b  l   9.0   8.9  0  0  2  2  1  0  5  1  0  .  2  0.5  2   0  13-17-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2547  13  17  Parvicar   4  b  l   5.1   5.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-17-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2548  13  18  Striarca   1  b  r   5.7   9.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-18-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2549  13  18  Striarca   2  b  r   6.2  13.8  0  0  2  2  1  1  6  1  0  .  2  0.5  2   0  13-18-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2550  13  18  Striarca   3  b  l   6.0   8.8  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-18-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2551  13  18  Striarca   4  b  l   5.3   8.3  0  0  1  3  1  0  5  0  0  1  2  0.5  2   1  13-18-4   1  0.8  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2552  13  19  Clausine   1  b  l   8.2  10.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-19-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2553  13  19  Clausine   2  b  l   5.9   7.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-19-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2554  13  19  Clausine   3  b  l   6.4   8.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-19-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2555  13  20  Nucula_n   1  b  l   7.8   8.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-20-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2556  13  21  Callucin   1  b  l   6.2   6.2  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2557  13  21  Callucin   2  b  l   6.0   6.4  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-21-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2558  13  21  Callucin   3  b  r   6.8   6.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-21-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2559  13  21  Callucin   4  b  r   7.0   7.2  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-21-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2560  13  21  Callucin   5  b  l   7.6   8.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-21-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2561  13  21  Callucin   6  b  l   9.2   9.8  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-21-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2562  13  22  Dosinia_   1  b  r   6.1   6.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-22-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2563  13  22  Dosinia_   2  b  l  10.0   9.8  0  0  2  2  1  0  5  1  0  .  2  0.5  2   0  13-22-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2564  13  22  Dosinia_   3  b  r  10.5  10.2  0  0  2  2  1  0  5  1  0  .  2  0.5  2   0  13-22-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2565  13  22  Dosinia_   4  b  r   7.0   7.0  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-22-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2566  13  23  Caestoco   1  b  r   5.9   8.2  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-23-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2567  13  24  unident.   1  b  l   5.9   8.5  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-24-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2568  13  25  Clausine   1  b  l   5.3   6.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2569  13  25  Clausine   2  b  r   6.1   7.2  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2570  13  25  Clausine   3  b  l   7.0   7.4  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2571  13  25  Clausine   4  b  l   5.2   6.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
2572  13  25  Clausine   5  b  r   6.1   6.8  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  13-25-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2573  13  25  Clausine   6  b  l   6.0   6.3  0  0  2  3  0  0  5  1  0  .  2  0.5  2   0  13-25-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2574  13  25  Clausine   7  b  l   6.0   6.8  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2575  13  25  Clausine   8  b  r   6.3   7.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2576  13  25  Clausine   9  b  r   7.0   7.9  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2577  13  25  Clausine  10  b  r   6.1   6.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2578  13  25  Clausine  11  b  r   8.0   9.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2579  13  25  Clausine  12  b  l   6.5   7.2  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2580  13  25  Clausine  13  b  l   6.1   6.0  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  13-25-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2581  13  25  Clausine  14  b  r   6.8   7.8  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-25-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2582  13  25  Clausine  15  b  l   6.3   7.3  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2583  13  25  Clausine  16  b  r   5.1   6.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2584  13  25  Clausine  17  b  r   5.9   6.5  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2585  13  25  Clausine  18  b  l   6.2   7.2  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-25-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2586  13  25  Clausine  19  b  l   6.6   7.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2587  13  25  Clausine  20  b  r   6.0   7.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2588  13  25  Clausine  21  b  l   7.4   8.2  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2589  13  25  Clausine  22  b  l   7.0   8.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2590  13  25  Clausine  23  b  l   7.7   8.3  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2591  13  25  Clausine  24  b  l   6.4   7.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2592  13  25  Clausine  25  b  l   7.8   8.0  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-25-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2593  13  25  Clausine  26  b  r   8.1   9.2  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2594  13  25  Clausine  27  b  r   7.0   7.2  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2595  13  25  Clausine  28  b  r   8.9  10.1  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-25-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2596  13  25  Clausine  29  b  r   6.6   7.3  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-25-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2597  13  25  Clausine  30  b  r   7.0   7.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2598  13  25  Clausine  31  b  l   7.8   9.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2599  13  25  Clausine  32  b  r   8.8   9.7  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2600  13  25  Clausine  33  b  r   8.3   9.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2601  13  25  Clausine  34  b  r   9.1  10.0  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-25-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2602  13  25  Clausine  35  b  l   7.1   8.0  0  0  1  3  1  0  5  0  0  1  2  0.5  2   1  13-25-35  1  1.8  3  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2603  13  25  Clausine  36  b  l   5.9   6.8  0  0  1  2  1  0  4  0  0  1  2  0.5  2   1  13-25-36  1  0.9  5  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2604  13  25  Clausine  37  b  r  10.3  12.1  0  0  1  2  1  0  4  0  0  1  2  0.5  2   1  13-25-37  1  1.9  2  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2605  13  25  Clausine  38  b  l   5.2   6.1  0  0  1  2  1  0  4  0  0  1  2  0.5  2   1  13-25-38  1  1.0  3  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2606  13  25  Clausine  39  b  r   7.8   8.3  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2607  13  25  Clausine  40  b  r  10.1  11.2  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2608  13  25  Clausine  41  b  r   8.1   9.3  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2609  13  25  Clausine  42  b  l  13.8  14.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2610  13  25  Clausine  43  b  r   8.9  10.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2611  13  25  Clausine  44  b  r  14.7  16.4  0  0  1  2  1  1  5  1  0  .  2  0.5  2   0  13-25-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2612  13  25  Clausine  45  b  l  12.0  14.0  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-25-45 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2613  13  25  Clausine  46  b  r   9.1  10.3  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-46 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2614  13  25  Clausine  47  b  r   9.9  10.9  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-47 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2615  13  25  Clausine  48  b  r  11.2  12.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-25-48 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2616  13  25  Clausine  49  b  l   7.6   8.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-49 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2617  13  25  Clausine  50  b  r  10.9  11.7  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-25-50 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
2618 13 25 Clausine 51 b r 9.9 11.2 0 0 2 2 1 0 5 1 0 . 2 0.5 2 0 13-25-51 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2619 13 25 Clausine 52 b r 10.2 11.9 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-25-52 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2620 13 25 Clausine 53 b r 11.5 12.7 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-25-53 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2621 13 25 Clausine 54 b r 13.1 14.4 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-25-54 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2622 13 26 unident. 1 b r 7.3 7.5 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-26-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2623 13 26 unident. 2 b l 5.6 6.3 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-26-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2624 13 27 Anadara_ 1 b r 6.1 10.2 0 0 1 2 1 0 4 1 0 . 2 0.5 2 0 13-27-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2625 13 27 Anadara_ 2 b r 7.4 12.1 0 0 1 2 1 0 4 1 0 . 2 0.5 2 0 13-27-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2626 13 28 Acanthoc 1 b l 6.2 6.8 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-28-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2627 13 28 Acanthoc 2 b l 9.0 10.1 0 0 2 2 1 0 5 1 0 . 2 0.5 2 0 13-28-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2628 13 28 Acanthoc 3 b l 11.1 12.3 0 0 1 2 1 0 4 1 0 . 2 0.5 2 0 13-28-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2629 13 28 Acanthoc 4 b l 12.6 13.1 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-28-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2630 13 28 Acanthoc 5 b r 13.0 15.2 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-28-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2631 13 29 Timoclea 1 b r 5.0 5.8 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2632 13 29 Timoclea 2 b l 5.2 6.1 0 0 2 3 1 0 6 0 0 1 2 0.5 2 1 13-29-2 1 0.9 2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2633 13 29 Timoclea 3 b l 6.3 7.0 0 0 1 3 0 0 4 0 0 1 2 0.5 2 1 13-29-3 1 1.0 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2634 13 29 Timoclea 4 b r 6.1 6.8 0 0 2 3 0 0 5 0 0 1 2 0.5 2 1 13-29-4 1 1.0 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2635 13 29 Timoclea 5 b l 6.0 6.5 0 0 2 3 0 0 5 0 0 1 2 0.5 2 1 13-29-5 1 1.0 3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2636 13 29 Timoclea 6 b l 6.1 6.7 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2637 13 29 Timoclea 7 b r 4.4 5.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2638 13 29 Timoclea 8 b r 7.8 8.1 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2639 13 29 Timoclea 9 b r 6.8 7.8 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2640 13 29 Timoclea 10 b l 5.8 6.1 0 0 1 2 0 0 3 1 0 . 2 0.5 2 0 13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2641 13 29 Timoclea 11 b l 5.5 6.1 0 0 1 2 0 0 3 1 0 . 2 0.5 2 0 13-29-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2642 13 29 Timoclea 12 b r 5.1 6.1 0 0 0 3 1 0 4 1 0 . 2 0.5 2 0 13-29-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2643 13 29 Timoclea 13 b l 6.5 7.8 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2644 13 29 Timoclea 14 b r 6.2 7.1 0 0 2 3 0 0 5 1 0 . 2 0.5 2 0 13-29-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2645 13 29 Timoclea 15 b r 5.3 6.3 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2646 13 29 Timoclea 16 b r 7.2 7.3 0 0 2 2 1 0 5 1 0 . 2 0.5 2 0 13-29-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2647 13 29 Timoclea 17 b r 5.2 6.0 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2648 13 29 Timoclea 18 b l 9.0 10.1 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2649 13 29 Timoclea 19 b r 6.1 7.1 0 0 2 3 0 0 5 1 0 . 2 0.5 2 0 13-29-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2650 13 29 Timoclea 20 b r 6.2 6.8 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2651 13 29 Timoclea 21 b r 7.3 9.1 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2652 13 29 Timoclea 22 b l 7.7 9.1 0 0 2 3 1 1 7 1 0 . 2 0.5 2 0 13-29-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2653 13 29 Timoclea 23 b l 5.1 5.6 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2654 13 29 Timoclea 24 b l 8.2 10.0 0 0 1 3 1 1 6 1 0 . 2 0.5 2 0 13-29-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2655 13 29 Timoclea 25 b l 8.0 8.3 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2656 13 29 Timoclea 26 b r 8.9 10.8 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2657 13 29 Timoclea 27 b l 6.1 6.8 0 0 1 2 1 0 4 1 0 . 2 0.5 2 0 13-29-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2658 13 29 Timoclea 28 b r 6.8 7.7 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2659 13 29 Timoclea 29 b r 6.6 7.4 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2660 13 29 Timoclea 30 b l 5.8 6.1 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2661 13 29 Timoclea 31 b r 6.0 6.5 0 0 1 2 1 0 4 1 0 . 2 0.5 2 0 13-29-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2662 13 29 Timoclea 32 b r 6.1 6.6 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2663 13 29 Timoclea 33 b r 7.5 8.3 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
2664 13 29 Timoclea 34 b r 7.1 8.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2665 13 29 Timoclea 35 b r 7.2 8.5 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2666 13 29 Timoclea 36 b l 8.1 9.8 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2667 13 29 Timoclea 37 b l 6.2 7.2 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2668 13 29 Timoclea 38 b r 5.4 6.2 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2669 13 29 Timoclea 39 b l 6.0 6.3 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2670 13 29 Timoclea 40 b l 5.7 6.2 0 0 2 3 1 0 6 0 0 1 2 0.5 2 1 13-29-40 1 0.9 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2671 13 29 Timoclea 41 b l 5.9 6.5 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2672 13 29 Timoclea 42 b l 3.8 4.3 0 0 1 2 0 0 3 1 0 . 2 0.5 2 0 13-29-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2673 13 29 Timoclea 43 b l 7.4 8.1 0 0 1 2 1 0 4 1 0 . 2 0.5 2 0 13-29-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2674 13 29 Timoclea 44 b r 6.5 7.5 0 0 2 3 0 0 5 1 0 . 2 0.5 2 0 13-29-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2675 13 29 Timoclea 45 b l 5.2 6.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-45 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2676 13 29 Timoclea 46 b l 7.2 8.0 0 0 1 2 1 0 4 1 0 . 2 0.5 2 0 13-29-46 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2677 13 29 Timoclea 47 b r 7.0 8.3 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-47 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2678 13 29 Timoclea 48 b r 6.8 7.5 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-48 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2679 13 29 Timoclea 49 b r 6.1 7.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-49 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2680 13 29 Timoclea 50 b r 6.2 7.1 0 0 1 2 0 0 3 1 0 . 2 0.5 2 0 13-29-50 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2681 13 29 Timoclea 51 b r 5.8 6.2 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-51 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2682 13 29 Timoclea 52 b r 5.2 6.0 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-52 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2683 13 29 Timoclea 53 b r 5.8 6.8 0 0 2 3 0 0 5 1 0 . 2 0.5 2 0 13-29-53 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2684 13 29 Timoclea 54 b l 6.2 7.1 0 0 2 3 0 0 5 1 0 . 2 0.5 2 0 13-29-54 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2685 13 29 Timoclea 55 b r 7.1 8.1 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-55 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2686 13 29 Timoclea 56 b l 6.3 7.8 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-56 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2687 13 29 Timoclea 57 b l 8.0 8.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-57 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2688 13 29 Timoclea 58 b l 8.2 8.1 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-58 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2689 13 29 Timoclea 59 b l 6.3 7.1 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-59 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2690 13 29 Timoclea 60 b l 6.3 6.8 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-60 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2691 13 29 Timoclea 61 b r 6.1 6.9 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-61 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2692 13 29 Timoclea 62 b l 6.3 7.1 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-62 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2693 13 29 Timoclea 63 b r 5.7 6.2 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-63 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2694 13 29 Timoclea 64 b l 7.0 7.8 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-64 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2695 13 29 Timoclea 65 b l 6.9 7.4 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-65 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2696 13 29 Timoclea 66 b l 6.9 7.5 0 0 2 3 0 0 5 1 0 . 2 0.5 2 0 13-29-66 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2697 13 29 Timoclea 67 b r 7.0 7.7 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-67 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2698 13 29 Timoclea 68 b l 7.7 10.1 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-68 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2699 13 29 Timoclea 69 b l 5.4 6.1 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-69 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2700 13 29 Timoclea 70 b r 6.1 7.0 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-70 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2701 13 29 Timoclea 71 b r 6.0 6.2 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-71 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2702 13 29 Timoclea 72 b r 6.7 7.5 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-72 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2703 13 29 Timoclea 73 b r 6.3 7.2 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-73 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2704 13 29 Timoclea 74 b r 6.0 6.2 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-74 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2705 13 29 Timoclea 75 b r 5.1 6.5 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-75 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2706 13 29 Timoclea 76 b r 5.7 6.4 0 0 1 3 0 0 4 1 0 . 2 0.5 2 0 13-29-76 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2707 13 29 Timoclea 77 b l 5.2 6.3 0 0 1 3 1 0 5 1 0 . 2 0.5 2 0 13-29-77 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2708 13 29 Timoclea 78 b l 6.0 6.5 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-78 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2709 13 29 Timoclea 79 b r 6.8 7.0 0 0 2 3 1 0 6 1 0 . 2 0.5 2 0 13-29-79 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
2710  13  29  Timoclea   80  b  l    8.0   9.5  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  13-29-80 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2711  13  29  Timoclea   81  b  l    7.2   9.0  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-81 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2712  13  29  Timoclea   82  b  r    7.0   8.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-82 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2713  13  29  Timoclea   83  b  l    8.2   9.2  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-83 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2714  13  29  Timoclea   84  b  l    5.1   5.8  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-84 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2715  13  29  Timoclea   85  b  l    5.7   6.6  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-85 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2716  13  29  Timoclea   86  b  l    6.1   6.8  0  0  2  3  0  0  5  1  0  .  2  0.5  2   0  13-29-86 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2717  13  29  Timoclea   87  b  r    6.0   7.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-87 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2718  13  29  Timoclea   88  b  l    6.1   7.0  0  0  2  3  0  0  5  1  0  .  2  0.5  2   0  13-29-88 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2719  13  29  Timoclea   89  b  l    6.2   7.2  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  13-29-89 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2720  13  29  Timoclea   90  b  r    6.2   7.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-90 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2721  13  29  Timoclea   91  b  r    6.8   7.5  0  0  2  3  0  0  5  1  0  .  2  0.5  2   0  13-29-91 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2722  13  29  Timoclea   92  b  r    6.7   7.8  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-92 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2723  13  29  Timoclea   93  b  r    7.0   8.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-93 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2724  13  29  Timoclea   94  b  r    2.3   2.7  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-94 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2725  13  29  Timoclea   95  b  l    5.4   6.7  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-95 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2726  13  29  Timoclea   96  b  l    5.8   7.0  0  0  2  3  1  0  5  1  0  .  2  0.5  2   0  13-29-96 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2727  13  29  Timoclea   97  b  l    5.8   6.8  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-97 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2728  13  29  Timoclea   98  b  r    5.9   6.4  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-98 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2729  13  29  Timoclea   99  b  r    5.9   6.8  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-99 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2730  13  29  Timoclea  100  b  l    6.0   7.5  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2731  13  29  Timoclea  101  b  l    7.1   7.9  0  0  2  3  0  0  5  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2732  13  29  Timoclea  102  b  l    8.0   8.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2733  13  29  Timoclea  103  b  l    8.6  10.1  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2734  13  29  Timoclea  104  b  r    5.1   6.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2735  13  29  Timoclea  105  b  l    5.9   6.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2736  13  29  Timoclea  106  b  l    6.0   6.8  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2737  13  29  Timoclea  107  b  r    6.2   7.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2738  13  29  Timoclea  108  b  l    6.8   8.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2739  13  29  Timoclea  109  b  r    6.4   7.2  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2740  13  29  Timoclea  110  b  l    8.1   9.0  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  13-29-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2741  13  29  Timoclea  111  b  l    7.3   8.3  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-29-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2742  13  30  unident.    1  b  r    8.1  12.8  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-30-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2743  13  31  Spisula_    1  b  l    9.9  14.0  0  0  2  3  1  0  6  0  0  1  2  0.5  2   1  13-31-1   1  1.3  2  . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2744  13  31  Spisula_    2  b  l    5.8   8.2  0  0  3  3  1  0  7  1  0  .  2  0.5  2   0  13-31-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2745  13  31  Spisula_    3  b  l    5.1   6.9  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-31-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2746  13  31  Spisula_    4  b  r    6.0   8.9  0  0  3  3  1  1  8  1  0  .  2  0.5  2   0  13-31-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2747  13  31  Spisula_    5  b  l    6.3   8.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-31-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2748  13  31  Spisula_    6  b  l    6.5   9.4  0  0  3  3  1  0  7  1  0  .  2  0.5  2   0  13-31-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2749  13  31  Spisula_    7  b  l    6.0   8.6  0  0  3  3  1  0  7  1  0  .  2  0.5  2   0  13-31-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2750  13  31  Spisula_    8  b  l    6.0   8.6  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-31-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2751  13  31  Spisula_    9  b  l    5.0   7.1  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-31-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2752  13  31  Spisula_   10  b  l    5.8   8.5  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-31-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2753  13  31  Spisula_   11  b  l    5.1   8.0  0  0  2  3  0  0  5  1  0  .  2  0.5  2   0  13-31-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2754  13  31  Spisula_   12  b  l    6.0   8.3  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-31-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2755  13  31  Spisula_   13  b  l    6.0   8.5  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  13-31-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
2756  13  31  Spisula_   14  b  r   7.5  11.4  0  0  3  3  1  0  7  1  0  .  2  0.5  2   0  13-31-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2757  13  31  Spisula_   15  b  l   7.1  10.1  0  0  3  3  1  0  7  1  0  .  2  0.5  2   0  13-31-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2758  13  31  Spisula_   16  b  r   8.5  12.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  13-31-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2759  13  32  Chama_sp    1  b  l  10.8   8.9  0  1  1  2  1  0  5  1  0  .  2  0.5  2   0  13-32-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2760  13  33  Hiatella    1  b  l   6.8  13.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  13-33-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2761  13  34  Callista    1  b  r   5.1   7.6  0  0  3  3  1  0  7  1  0  .  2  0.5  2   0  13-34-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2762  13  35  Doanx_in    1  b  r   6.3  12.1  0  0  2  2  1  0  5  1  0  .  2  0.5  2   0  13-35-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2763  13  36  Crassost    1  b  r  13.0   7.3  0  0  0  1  0  0  1  1  0  .  2  0.5  2   0  13-36-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2764  13  36  Crassost    2  b  r  11.2   7.1  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  13-36-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2765  13  36  Crassost    3  b  r  12.3  12.0  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  13-36-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2766  13  36  Crassost    4  b  r  12.1  11.3  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  13-36-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2767  13  36  Crassost    5  b  r  10.1  12.1  0  0  0  1  1  0  2  1  0  .  2  0.5  2   0  13-36-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2768  13  36  Crassost    6  b  r  15.3  15.8  0  0  0  2  1  0  3  1  0  .  2  0.5  2   0  13-36-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2769  13  36  Crassost    7  b  l  12.2   9.5  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  13-36-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2770  13  36  Crassost    8  b  l  13.1  11.6  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  13-36-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2771  13  36  Crassost    9  b  l  10.2  11.9  0  0  0  2  1  0  3  0  0  1  2  0.5  2   1  13-36-9   1  0.5  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2772  13  37  Congeria    1  b  l  15.9   7.9  0  0  3  1  1  0  5  1  0  .  2  0.5  2   0  13-37-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2773  13  37  Congeria    2  b  l  14.5   6.2  0  0  3  3  1  1  8  1  0  .  2  0.5  2   0  13-37-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2774  13  38  Lembulus    1  b  r   5.1  10.0  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  13-38-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2775  13  38  Lembulus    2  b  l   5.1   9.2  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  13-38-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2776  13  39  Chlamys_    1  b  r  10.2   8.5  0  0  0  1  1  0  2  1  0  .  2  0.5  2   0  13-39-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2777  13  39  Chlamys_    2  b  r  11.3   9.0  0  0  0  1  1  0  2  1  0  .  2  0.5  2   0  13-39-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2778  13  40  Pallioll    1  b  r  12.3  11.1  0  0  0  1  1  0  2  1  0  .  2  0.5  2   0  13-40-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2779  14   1  Carditam    1  b  l  11.0  12.1  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  14-1-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2780  14   1  Carditam    2  b  r   4.0   4.3  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-1-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2781  14   2  Crassost    1  b      9.2   9.0  1  1  .  .  .  .  1  1  0  .  2  1.0  2   0  14-2-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2782  14   2  Crassost    2  b  l  10.6   7.2  0  1  1  0  1  0  3  1  0  .  2  0.5  2   0  14-2-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2783  14   2  Crassost    3  b  r  17.8  18.8  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  14-2-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2784  14   3  Cardita_    1  b  r   6.1   8.3  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-3-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2785  14   4  Clausine    1  b  r  13.1  14.9  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  14-4-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2786  14   4  Clausine    2  b  r   3.4   4.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-4-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2787  14   4  Clausine    3  b  l   5.1   6.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-4-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2788  14   5  Plicatul    1  b  r   4.8   3.9  0  0  1  1  1  0  3  0  0  1  2  0.5  2   1  14-5-1    1  0.2  2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2789  14   6  Striarca    1  b  r   2.3   3.8  0  0  0  2  1  0  3  1  0  .  2  0.5  2   0  14-6-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2790  14   6  Striarca    2  b  l   6.2   9.2  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  14-6-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2791  14   6  Striarca    3  b  r   4.8   7.1  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  14-6-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2792  14   6  Striarca    4  b  r   5.0   7.9  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-6-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2793  14   6  Striarca    5  b  r   6.7  10.1  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  14-6-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2794  14   7  Callucin    1  b  l   1.3   1.4  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2795  14   7  Callucin    2  b  l   3.4   3.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-7-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2796  14   7  Callucin    3  b  l   2.1   2.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-7-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2797  14   7  Callucin    4  b  l   2.0   2.0  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-7-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2798  14   8  Lembulus    1  b  l   2.0   3.7  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-8-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2799  14   9  Tivelina    1  b  r   2.3   3.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2800  14   9  Tivelina    2  b  r   1.3   1.6  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2801  14   9  Tivelina    3  b  r   1.8   2.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
2802  14   9  Tivelina    4  b  r   2.1   2.4  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2803  14   9  Tivelina    5  b  l   2.6   3.2  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  14-9-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2804  14   9  Tivelina    6  b  l   1.8   2.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2805  14   9  Tivelina    7  b  r   2.1   2.4  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-9-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2806  14   9  Tivelina    8  b  r   2.1   2.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-9-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2807  14   9  Tivelina    9  b  l   2.3   2.5  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2808  14   9  Tivelina   10  b  l   3.0   3.9  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2809  14   9  Tivelina   11  b  r   2.5   3.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2810  14   9  Tivelina   12  b  r   2.2   3.0  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  14-9-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2811  14   9  Tivelina   13  b  l   2.0   2.3  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-9-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2812  14   9  Tivelina   14  b  r   2.1   2.3  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2813  14   9  Tivelina   15  b  r   1.8   2.3  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-9-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2814  14   9  Tivelina   16  b  r   2.0   2.3  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-9-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2815  14   9  Tivelina   17  b  r   2.0   2.2  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2816  14   9  Tivelina   18  b  r   2.1   2.6  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2817  14   9  Tivelina   19  b  r   2.2   2.7  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-9-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2818  14   9  Tivelina   20  b  l   1.6   1.8  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-9-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2819  14   9  Tivelina   21  b  r   2.3   3.0  0  0  1  1  1  0  3  1  0  .  2  0.5  2   0  14-9-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2820  14   9  Tivelina   22  b  r   2.3   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-9-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2821  14   9  Tivelina   23  b  r   3.2   4.4  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-9-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2822  14   9  Tivelina   24  b  l   2.1   2.5  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  14-9-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2823  14  10  Venus_ra    1  b  r   2.2   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-10-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2824  14  10  Venus_ra    2  b  r   2.2   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-10-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2825  14  10  Venus_ra    3  b  r   2.4   3.3  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  14-10-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2826  14  10  Venus_ra    4  b  r   2.2   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-10-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2827  14  10  Venus_ra    5  b  l   3.1   4.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-10-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2828  14  10  Venus_ra    6  b  l   3.2   4.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-10-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2829  14  10  Venus_ra    7  b  r   3.1   3.8  0  0  2  2  2  1  7  1  0  .  2  0.5  2   0  14-10-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2830  14  10  Venus_ra    8  b  r   3.8   5.2  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  14-10-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2831  14  10  Venus_ra    9  b  l   3.6   5.0  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  14-10-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2832  14  10  Venus_ra   10  b  l   3.5   4.9  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  14-10-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2833  14  10  Venus_ra   11  b  l   4.2   5.8  0  0  2  3  1  0  6  1  0  .  2  0.5  2   0  14-10-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2834  14  10  Venus_ra   12  b  r   4.4   6.1  0  0  1  2  1  1  4  1  0  .  2  0.5  2   0  14-10-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2835  14  10  Venus_ra   13  b  r   5.0   6.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-10-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2836  14  10  Venus_ra   14  b  r   6.1   8.5  0  0  2  2  0  0  4  1  0  .  2  0.5  2   0  14-10-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2837  14  10  Venus_ra   15  b  r   5.7   7.0  1  0  1  3  2  0  6  1  0  .  2  0.5  2   0  14-10-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2838  14  10  Venus_ra   16  b  r   6.3   8.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-10-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2839  14  10  Venus_ra   17  b  r   6.2   9.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-10-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2840  14  10  Venus_ra   18  b  l   8.0  10.9  0  0  2  2  1  0  5  1  0  .  2  0.5  2   0  14-10-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2841  14  11  Clausine    1  b  r   2.8   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-11-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2842  14  11  Clausine    2  b  r   6.2   7.4  0  0  1  3  1  0  5  0  0  1  2  0.5  2   1  14-11-2   1  0.9  2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2843  14  12  Callista    1  b  r   2.0   2.4  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2844  14  13  Callucin    1  b  l   5.3   5.5  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  14-13-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2845  14  14  Ervilia_    1  b  l   2.1   3.0  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  14-14-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2846  14  14  Ervilia_    2  b  l   2.4   3.5  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-14-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2847  14  14  Ervilia_    3  b  r   2.2   3.4  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-14-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
2848  14  14  Ervilia_    4  b  r   3.1   4.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-14-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2849  14  14  Ervilia_    5  b  l   3.9   6.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-14-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2850  14  16  Cyclocar   1  b  r   2.2   2.3  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-16-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2851  14  16  Cyclocar   2  b  r   2.1   2.2  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  14-16-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2852  14  16  Cyclocar   3  b  l   2.8   2.2  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  14-16-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2853  14  16  Cyclocar   4  b  r   3.0   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  14-16-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2854  14  16  Cyclocar   5  b  r   2.0   2.2  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  14-16-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2855  14  17  Varicorb   1  b  r   3.7   5.4  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  14-17-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2856  14  18  Diodora_    1  g      2.0    .  0  0  1  1  1  1  4  1  0  .  2  1.0  2   0  14-18-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2857  14  19  Hydrobia   1  g      2.3    .  0  0  1  1  0  0  2  1  0  .  2  1.0  2   0  14-19-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2858  14  19  Hydrobia   2  g      2.0    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2859  14  19  Hydrobia   3  g      1.2    .  0  0  0  1  1  0  2  1  0  .  2  1.0  2   0  14-19-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2860  14  19  Hydrobia   4  g      0.7    .  0  0  0  1  1  0  2  1  0  .  2  1.0  2   0  14-19-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2861  14  19  Hydrobia   5  g      1.8    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2862  14  19  Hydrobia   6  g      2.3    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2863  14  19  Hydrobia   7  g      2.0    .  0  0  1  1  0  0  2  1  0  .  2  1.0  2   0  14-19-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2864  14  19  Hydrobia   8  g      2.2    .  0  0  1  1  0  0  2  1  0  .  2  1.0  2   0  14-19-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2865  14  19  Hydrobia   9  g      2.7    .  0  0  1  1  0  0  2  1  0  .  2  1.0  2   0  14-19-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2866  14  19  Hydrobia  10  g      1.7    .  0  0  0  1  1  0  2  1  0  .  2  1.0  2   0  14-19-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2867  14  19  Hydrobia  11  g      2.0    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2868  14  19  Hydrobia  12  g      2.7    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2869  14  19  Hydrobia  13  g      2.4    .  0  0  1  1  0  0  2  1  0  .  2  1.0  2   0  14-19-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2870  14  19  Hydrobia  14  g      1.5    .  0  0  1  1  0  0  2  1  0  .  2  1.0  2   0  14-19-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2871  14  19  Hydrobia  15  g      2.3    .  1  0  1  1  2  0  4  1  0  .  2  1.0  2   0  14-19-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2872  14  19  Hydrobia  16  g      2.2    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2873  14  19  Hydrobia  17  g      1.8    .  1  0  0  1  2  0  3  1  0  .  2  1.0  2   0  14-19-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2874  14  19  Hydrobia  18  g      2.2    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2875  14  19  Hydrobia  19  g      2.0    .  1  0  1  1  2  0  4  1  0  .  2  1.0  2   0  14-19-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2876  14  19  Hydrobia  20  g      2.5    .  0  0  1  1  0  0  2  0  0  1  2  1.0  2   1  14-19-20  1  0.8  8  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2877  14  19  Hydrobia  21  g      2.0    .  0  0  1  1  1  0  3  0  0  1  2  1.0  2   1  14-19-21  1  0.6  8  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2878  14  19  Hydrobia  22  g      3.1    .  0  0  1  1  1  0  3  0  0  1  2  1.0  2   1  14-19-22  1  0.5  6  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2879  14  19  Hydrobia  23  g      1.9    .  0  0  1  1  1  0  3  0  1  2  2  1.0  2   1  14-19-23  2  0.3  7  0.2  6  . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2880  14  19  Hydrobia  24  g      2.6    .  0  0  1  1  0  0  2  0  0  1  2  1.0  2   1  14-19-24  1  0.2  4  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
2881  14  19  Hydrobia  25  g      2.8    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2882  14  19  Hydrobia  26  g      2.2    .  0  0  0  1  0  0  1  1  0  .  2  1.0  2   0  14-19-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2883  14  19  Hydrobia  27  g      2.7    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2884  14  19  Hydrobia  28  g      2.5    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2885  14  19  Hydrobia  29  g      3.0    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2886  14  19  Hydrobia  30  g      2.5    .  1  0  1  1  2  0  4  1  0  .  2  1.0  2   0  14-19-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2887  14  19  Hydrobia  31  g      2.0    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2888  14  19  Hydrobia  32  g      1.9    .  0  0  0  1  1  0  2  1  0  .  2  1.0  2   0  14-19-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2889  14  19  Hydrobia  33  g      2.0    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2890  14  19  Hydrobia  34  g      2.3    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2891  14  19  Hydrobia  35  g      2.0    .  1  0  1  1  2  0  4  1  0  .  2  1.0  2   0  14-19-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2892  14  19  Hydrobia  36  g      1.7    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  14-19-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
2893  14  19  Hydrobia  37  g      3.0    .  0  0  1  1  0  1  3  1  0  .  2  1.0  2   0  14-19-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
2894 14 19 Hydrobia 38 g  1.9 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2895 14 19 Hydrobia 39 g  2.1 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2896 14 19 Hydrobia 40 g  2.3 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-19-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2897 14 19 Hydrobia 41 g  2.1 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-19-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2898 14 19 Hydrobia 42 g  2.7 . 0 0 0 1 1 0 2 1 0 . 2 1.0 2 0 14-19-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2899 14 19 Hydrobia 43 g  2.8 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2900 14 19 Hydrobia 44 g  2.0 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2901 14 19 Hydrobia 45 g  2.1 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-19-45 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2902 14 19 Hydrobia 46 g  2.5 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-46 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2903 14 19 Hydrobia 47 g  2.1 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-47 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2904 14 19 Hydrobia 48 g  1.4 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-48 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2905 14 19 Hydrobia 49 g  2.0 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-49 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2906 14 19 Hydrobia 50 g  2.5 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-50 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2907 14 19 Hydrobia 51 g  2.0 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-51 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2908 14 19 Hydrobia 52 g  2.5 . 1 0 1 1 2 0 4 1 0 . 2 1.0 2 0 14-19-52 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2909 14 19 Hydrobia 53 g  2.2 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-19-53 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2910 14 19 Hydrobia 54 g  2.2 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-54 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2911 14 19 Hydrobia 55 g  2.1 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-55 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2912 14 19 Hydrobia 56 g  3.3 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-56 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2913 14 19 Hydrobia 57 g  2.2 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-57 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2914 14 19 Hydrobia 58 g  2.1 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-19-58 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2915 14 19 Hydrobia 59 g  2.0 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-19-59 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2916 14 20 Hydrobia  1 g  3.1 . 0 0 1 1 0 0 2 0 0 1 2 1.0 2 1 14-20-1  . . . . . . . . . . . . . . . . . . . . . .1 0.5 6 . . . . . . . . . . . . 0 0 1
2917 14 20 Hydrobia  2 g  2.5 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-20-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2918 14 20 Hydrobia  3 g  1.5 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-20-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2919 14 20 Hydrobia  4 g  2.1 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-20-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2920 14 20 Hydrobia  5 g  2.8 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-20-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2921 14 20 Hydrobia  6 g  3.0 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-20-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2922 14 20 Hydrobia  7 g  2.7 . 1 0 1 1 2 0 4 1 0 . 2 1.0 2 0 14-20-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2923 14 20 Hydrobia  8 g  4.2 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-20-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2924 14 21 Hydrobia  1 g  2.2 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-21-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2925 14 21 Hydrobia  2 g  2.4 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-21-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2926 14 22 Stenothy  1 g  1.2 . 0 0 1 2 0 0 3 1 0 . 2 1.0 2 0 14-22-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2927 14 23 Chrysall  1 g  1.8 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-23-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2928 14 23 Chrysall  2 g  1.9 . 0 0 1 1 0 0 2 1 0 . 2 1.0 2 0 14-23-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2929 14 24 Turbonil  1 g  5.0 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-24-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2930 14 25 Bittum_s  1 g  4.1 . 0 0 0 1 1 0 2 0 0 1 2 1.0 2 1 14-25-1 1 0.8 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2931 14 26 unident.  1 g  2.5 . 0 0 1 2 1 0 4 0 0 1 2 1.0 2 1 14-26-1 1 0.8 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2932 14 26 unident.  2 g  1.8 . 0 0 0 2 1 0 3 1 0 . 2 1.0 2 0 14-26-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2933 14 27 Balcis_s  1 g  6.0 . 1 0 1 2 2 0 5 0 0 1 2 1.0 2 1 14-27-1 1 0.5 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2934 14 28 Bittum_r  1 g  4.1 . 0 0 1 1 1 0 3 0 0 1 2 1.0 2 1 14-28-1 1 0.8 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2935 14 28 Bittum_r  2 g  2.0 . 0 0 1 3 1 0 5 0 0 1 2 1.0 2 1 14-28-2 1 0.7 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
2936 14 28 Bittum_r  3 g  4.8 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-28-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2937 14 28 Bittum_r  4 g  2.1 . 0 0 1 3 0 0 4 1 0 . 2 1.0 2 0 14-28-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2938 14 28 Bittum_r  5 g  3.3 . 0 0 1 2 1 0 4 1 0 . 2 1.0 2 0 14-28-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
2939 14 28 Bittum_r  6 g  4.5 . 0 0 1 1 1 0 3 1 0 . 2 1.0 2 0 14-28-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
2940 14 28 Bittum_r  7 g   2.5  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 14-28-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2941 14 28 Bittum_r  8 g   3.0  . 1 0 1 1 2 0 4 1 0 . 2 1.0 2  0 14-28-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2942 14 28 Bittum_r  9 g   4.8  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 14-28-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2943 14 28 Bittum_r 10 g    2.3  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 14-28-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2944 14 29 Pirenell  1 g  10.9  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-29-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2945 14 29 Pirenell  2 g   9.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-29-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2946 14 29 Pirenell  3 g  15.6  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-29-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2947 14 29 Pirenell  4 g  13.8  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-29-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2948 14 29 Pirenell  5 g  16.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-29-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2949 14 29 Pirenell  6 g   2.5  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-29-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2950 14 29 Pirenell  7 g   3.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-29-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2951 14 29 Pirenell  8 g   3.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-29-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2952 14 29 Pirenell  9 g   4.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-29-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2953 14 29 Pirenell 10 g   6.6  . 1 0 1 3 2 0 6 1 0 . 2 1.0 2  0 14-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2954 14 29 Pirenell 11 g   7.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-29-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2955 14 29 Pirenell 12 g   7.5  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-29-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2956 14 30 Dorsanum  1 g   8.5  . 0 0 1 2 1 0 4 0 0 1 2 1.0 2  1 14-30-1  1 1.1 7 . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2957 14 30 Dorsanum  2 g  10.8  . 0 0 1 2 1 0 4 0 0 1 2 1.0 2  1 14-30-2  1 1.0 7 . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2958 14 30 Dorsanum  3 g   3.0  . 1 0 1 3 2 0 6 0 0 1 2 1.0 2  1 14-30-3  1 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2959 14 30 Dorsanum  4 g   6.0  . 1 0 1 3 2 0 6 1 0 . 2 1.0 2  0 14-30-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2960 14 30 Dorsanum  5 g   5.0  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-30-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2961 14 30 Dorsanum  6 g   2.5  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-30-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2962 14 30 Dorsanum  7 g   4.2  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-30-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2963 14 30 Dorsanum  8 g  10.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-30-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2964 14 30 Dorsanum  9 g   4.6  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-30-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2965 14 30 Dorsanum 10 g   7.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-30-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2966 14 30 Dorsanum 11 g  10.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-30-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2967 14 30 Dorsanum 12 g  12.5  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-30-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2968 14 30 Dorsanum 13 g   6.7  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-30-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2969 14 30 Dorsanum 14 g  13.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-30-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2970 14 30 Dorsanum 15 g  11.9  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-30-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2971 14 30 Dorsanum 16 g  10.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-30-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2972 14 31 Ellobium  1 g   5.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-31-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2973 14 32 Pseudoli  1 g   1.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 14-32-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2974 14 33 Acteocin  1 g   2.5  . 0 0 1 3 0 0 4 1 0 . 2 1.0 2  0 14-33-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2975 14 33 Acteocin  2 g   2.5  . 0 0 1 3 0 0 4 1 0 . 2 1.0 2  0 14-33-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2976 14 33 Acteocin  3 g   2.2  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-33-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2977 14 33 Acteocin  4 g   2.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-33-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2978 14 33 Acteocin  5 g   1.2  . 0 0 1 3 0 0 4 1 0 . 2 1.0 2  0 14-33-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2979 14 33 Acteocin  6 g   3.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-33-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2980 14 33 Acteocin  7 g   3.2  . 0 0 1 3 0 0 4 1 0 . 2 1.0 2  0 14-33-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2981 14 33 Acteocin  8 g   1.8  . 1 0 1 3 2 0 6 1 0 . 2 1.0 2  0 14-33-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2982 14 33 Acteocin  9 g   3.2  . 0 0 1 3 1 0 5 0 0 1 2 1.0 2  1 14-33-9  1 0.7 7 . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
2983 14 33 Acteocin 10 g   2.2  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-33-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2984 14 33 Acteocin 11 g   1.8  . 0 0 1 3 0 0 4 1 0 . 2 1.0 2  0 14-33-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
2985 14 33 Acteocin 12 g   2.2  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 14-33-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

2986	14	33	Acteocin	13	g	3.0	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-33-13				0	0	0
2987	14	33	Acteocin	14	g	2.8	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-33-14				0	0	0
2988	14	33	Acteocin	15	g	1.8	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-33-15				0	0	0
2989	14	34	Agathato	1	g	6.6	.	0	0	0	2	0	0	2	1	0	.	2	1.0	2	0	14-34-1				0	0	0
2990	14	35	Cerithop	1	g	2.5	.	0	0	1	1	1	0	3	1	0	.	2	1.0	2	0	14-35-1				0	0	0
2991	14	35	Cerithop	2	g	3.3	.	0	0	1	1	1	0	3	1	0	.	2	1.0	2	0	14-35-2				0	0	0
2992	14	36	Eupleura	1	g	3.7	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	14-36-1				0	0	0
2993	14	36	Eupleura	2	g	13.5	.	0	0	1	2	1	1	5	1	0	.	2	1.0	2	0	14-36-2				0	0	0
2994	14	37	Crassisp	1	g	13.7	.	0	0	1	3	1	0	5	0	0	1	2	1.0	2	1	14-37-1	1	1.3	7	1	0	0
2995	14	38	Neritina	1	g	1.3	.	0	0	1	3	1	0	5	0	0	1	2	1.0	2	1	14-38-1	1	0.9	5	1	0	0
2996	14	38	Neritina	2	g	2.0	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	14-38-2				0	0	0
2997	14	38	Neritina	3	g	1.1	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-3				0	0	0
2998	14	38	Neritina	4	g	1.8	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-4				0	0	0
2999	14	38	Neritina	5	g	2.5	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-5				0	0	0
3000	14	38	Neritina	6	g	3.1	.	0	0	0	1	1	0	2	1	0	.	2	1.0	2	0	14-38-6				0	0	0
3001	14	38	Neritina	7	g	2.3	.	1	0	1	3	2	0	6	1	0	.	2	1.0	2	0	14-38-7				0	0	0
3002	14	38	Neritina	8	g	1.3	.	0	0	0	3	1	0	4	1	0	.	2	1.0	2	0	14-38-8				0	0	0
3003	14	38	Neritina	9	g	2.2	.	0	0	2	3	1	0	6	1	0	.	2	1.0	2	0	14-38-9				0	0	0
3004	14	38	Neritina	10	g	2.3	.	0	0	1	0	1	0	2	1	0	.	2	1.0	2	0	14-38-10				0	0	0
3005	14	38	Neritina	11	g	2.5	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-11				0	0	0
3006	14	38	Neritina	12	g	2.1	.	1	0	1	3	2	0	6	1	0	.	2	1.0	2	0	14-38-12				0	0	0
3007	14	38	Neritina	13	g	4.1	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-13				0	0	0
3008	14	38	Neritina	14	g	4.8	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	14-38-14				0	0	0
3009	14	38	Neritina	15	g	5.1	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-15				0	0	0
3010	14	38	Neritina	16	g	2.5	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-16				0	0	0
3011	14	38	Neritina	17	g	2.0	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-17				0	0	0
3012	14	38	Neritina	18	g	2.3	.	0	0	0	2	1	0	3	1	0	.	2	1.0	2	0	14-38-18				0	0	0
3013	14	38	Neritina	19	g	3.8	.	0	0	1	3	1	0	5	1	0	.	2	1.0	2	0	14-38-19				0	0	0
3014	14	39	Neritina	1	g	4.8	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	14-39-1				0	0	0
3015	15	1	Hydrobia	1	g	1.3	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-1-1				0	0	0
3016	15	1	Hydrobia	2	g	2.6	.	0	0	1	2	0	0	3	1	0	.	2	1.0	2	0	15-1-2				0	0	0
3017	15	1	Hydrobia	3	g	1.4	.	0	0	0	2	1	0	3	1	0	.	2	1.0	2	0	15-1-3				0	0	0
3018	15	2	Hydrobia	1	g	1.8	.	0	0	1	1	1	0	3	1	0	.	2	1.0	2	0	15-2-1				0	0	0
3019	15	2	Hydrobia	2	g	1.6	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-2				0	0	0
3020	15	2	Hydrobia	3	g	2.0	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-3				0	0	0
3021	15	2	Hydrobia	4	g	1.4	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-4				0	0	0
3022	15	2	Hydrobia	5	g	1.5	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-5				0	0	0
3023	15	2	Hydrobia	6	g	1.8	.	0	0	1	1	1	0	3	1	0	.	2	1.0	2	0	15-2-6				0	0	0
3024	15	2	Hydrobia	7	g	2.1	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-7				0	0	0
3025	15	2	Hydrobia	8	g	1.7	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-8				0	0	0
3026	15	2	Hydrobia	9	g	2.0	.	0	0	1	1	1	0	3	1	0	.	2	1.0	2	0	15-2-9				0	0	0
3027	15	2	Hydrobia	10	g	2.3	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-10				0	0	0
3028	15	2	Hydrobia	11	g	2.0	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-11				0	0	0
3029	15	2	Hydrobia	12	g	1.5	.	0	0	0	1	1	0	2	1	0	.	2	1.0	2	0	5-2-12				0	0	0
3030	15	2	Hydrobia	13	g	2.0	.	0	0	1	2	1	0	4	1	0	.	2	1.0	2	0	15-2-13				0	0	0
3031	15	2	Hydrobia	14	g	1.2	.	0	0	1	2	0	0	3	1	0	.	2	1.0	2	0	15-2-14				0	0	0

```
3032 15  2 Hydrobia  15 g     2.1  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 15-2-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3033 15  2 Hydrobia  16 g     1.6  . 0 0 1 2 0 0 3 1 0 . 2 1.0 2  0 15-2-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3034 15  2 Hydrobia  17 g     2.4  . 0 0 1 2 0 0 3 1 0 . 2 1.0 2  0 15-2-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3035 15  2 Hydrobia  18 g     1.7  . 1 0 1 2 2 0 5 1 0 . 2 1.0 2  0 15-2-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3036 15  2 Hydrobia  19 g     1.9  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 15-2-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3037 15  2 Hydrobia  20 g     2.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3038 15  2 Hydrobia  21 g     1.8  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 15-2-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3039 15  2 Hydrobia  22 g     2.0  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3040 15  2 Hydrobia  23 g     1.7  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3041 15  2 Hydrobia  24 g     2.1  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 15-2-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3042 15  2 Hydrobia  25 g     2.3  . 0 0 1 1 0 0 2 1 0 . 2 1.0 2  0 15-2-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3043 15  2 Hydrobia  26 g     2.4  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3044 15  2 Hydrobia  27 g     2.6  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3045 15  2 Hydrobia  28 g     1.9  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3046 15  2 Hydrobia  29 g     2.6  . 0 0 1 2 0 0 3 1 0 . 2 1.0 2  0 15-2-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3047 15  2 Hydrobia  30 g     1.4  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3048 15  2 Hydrobia  31 g     2.0  . 0 0 1 2 1 0 4 0 0 1 2 1.0 2  1 15-2-31  1 0.3 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3049 15  2 Hydrobia  32 g     2.3  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 15-2-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3050 15  2 Hydrobia  33 g     2.4  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 15-2-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3051 15  2 Hydrobia  34 g     1.5  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3052 15  2 Hydrobia  35 g     2.4  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3053 15  2 Hydrobia  36 g     1.7  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3054 15  2 Hydrobia  37 g     2.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3055 15  2 Hydrobia  38 g     2.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-2-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3056 15  2 Hydrobia  39 g     2.4  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 15-2-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3057 15  3 Acteocin   1 g    2.5  . 0 0 1 3 1 0 5 1 0 1 2 1.0 2  0 15-3-1   1 0.5 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3058 15  3 Acteocin   2 g    2.0  . 0 0 1 3 1 0 5 0 0 1 2 1.0 2  1 15-3-2   1 0.2 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3059 15  3 Acteocin   3 g    2.2  . 0 0 1 2 1 0 4 0 0 1 2 1.0 2  1 15-3-3   1 0.5 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3060 15  3 Acteocin   4 g    2.0  . 0 0 1 3 1 0 5 0 0 1 2 1.0 2  1 15-3-4   1 0.4 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3061 15  3 Acteocin   5 g    2.1  . 0 0 1 3 1 0 5 0 0 1 2 1.0 2  1 15-3-5   1 0.6 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3062 15  3 Acteocin   6 g    2.1  . 0 0 1 3 1 0 5 0 0 1 2 1.0 2  1 15-3-6   1 0.5 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3063 15  3 Acteocin   7 g    1.6  . 0 0 1 3 1 0 5 0 0 1 2 1.0 2  1 15-3-7   1 0.3 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3064 15  3 Acteocin   8 g    2.1  . 0 0 1 3 1 0 5 0 0 . 2 1.0 2  1 15-3-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3065 15  3 Acteocin   9 g    2.3  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-3-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3066 15  3 Acteocin  10 g     2.3  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-3-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3067 15  3 Acteocin  11 g     1.8  . 0 0 0 3 1 0 4 1 0 . 2 1.0 2  0 15-3-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3068 15  3 Acteocin  12 g     2.1  . 0 0 0 3 1 0 4 1 0 . 2 1.0 2  0 15-3-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3069 15  3 Acteocin  13 g     1.8  . 0 0 0 3 1 0 4 1 0 . 2 1.0 2  0 15-3-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3070 15  3 Acteocin  14 g     1.7  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-3-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3071 15  3 Acteocin  15 g     2.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-3-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3072 15  3 Acteocin  16 g     2.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-3-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3073 15  3 Acteocin  17 g     2.0  . 0 0 1 1 0 0 2 1 0 . 2 1.0 2  0 15-3-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3074 15  3 Acteocin  18 g     2.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-3-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3075 15  3 Acteocin  19 g     3.8  . 0 0 1 1 0 0 2 1 0 . 2 1.0 2  0 15-3-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3076 15  3 Acteocin  20 g     2.3  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-3-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3077 15  4 Dorsanum   1 g     5.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-4-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
3078  15   4  Dorsanum   2  g      5.0    .  1  0  1  2  2  0  5  1  0  .  2  1.0  2   0  15-4-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3079  15   4  Dorsanum   3  g      4.2    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-4-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3080  15   4  Dorsanum   4  g      6.1    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-4-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3081  15   4  Dorsanum   5  g      7.2    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-4-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3082  15   4  Dorsanum   6  g      8.5    .  0  0  1  3  1  1  6  1  0  .  2  1.0  2   0  15-4-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3083  15   4  Dorsanum   7  g      9.0    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-4-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3084  15   4  Dorsanum   8  g     10.2    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-4-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3085  15   4  Dorsanum   9  g      8.8    .  1  0  1  3  2  0  6  1  0  .  2  1.0  2   0  15-4-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3086  15   4  Dorsanum  10  g     11.1    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-4-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3087  15   4  Dorsanum  11  g     10.3    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-4-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3088  15   4  Dorsanum  12  g     13.2    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-4-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3089  15   4  Dorsanum  13  g     15.9    .  0  0  1  1  1  0  3  1  0  .  2  1.0  2   0  15-4-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3090  15   4  Dorsanum  14  g     13.8    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-4-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3091  15   5  Neritina   1  g      2.1    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-5-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3092  15   5  Neritina   2  g      1.9    .  0  0  1  3  1  0  5  0  0  1  2  1.0  2   1  15-5-2   1  0.5  3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
3093  15   6  Pseudoli   1  g      0.9    .  0  0  0  1  0  0  1  1  0  .  2  1.0  2   0  15-6-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3094  15   6  Pseudoli   2  g      1.0    .  0  0  0  1  1  0  2  1  0  .  2  1.0  2   0  15-6-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3095  15   6  Pseudoli   3  g      1.1    .  0  0  1  1  0  0  2  1  0  .  2  1.0  2   0  15-6-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3096  15   6  Pseudoli   4  g      1.0    .  0  0  1  1  0  0  2  1  0  .  2  1.0  2   0  15-6-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3097  15   7  Tornus_s   1  g      0.7    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3098  15   8  Chrysall   1  g      2.0    .  0  0  1  3  0  0  4  1  0  .  2  1.0  2   0  15-8-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3099  15   9  Pirenell   1  g     13.1    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-9-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3100  15   9  Pirenell   2  g      8.9    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-9-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3101  15   9  Pirenell   3  g      4.2    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-9-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3102  15   9  Pirenell   4  g     12.3    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-9-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3103  15   9  Pirenell   5  g     12.1    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-9-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3104  15   9  Pirenell   6  g     17.4    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-9-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3105  15   9  Pirenell   7  g     19.2    .  0  0  1  2  1  0  4  0  0  1  2  1.0  2   1  15-9-7   1  1.5  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
3106  15   9  Pirenell   8  g     14.1    .  0  0  1  3  1  0  5  0  0  1  2  1.0  2   1  15-9-8   1  2.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
3107  15  10  unident.   1  b  r   2.8  2.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-10-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3108  15  10  unident.   2  b  l   2.0  2.0  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-10-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3109  15  10  unident.   3  b  r   2.1  2.3  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-10-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3110  15  10  unident.   4  b  r   1.5  1.7  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-10-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3111  15  10  unident.   5  b  r   1.5  1.6  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-10-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3112  15  10  unident.   6  b  l   2.1  2.1  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-10-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3113  15  10  unident.   7  b  l   1.2  1.3  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-10-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3114  15  10  unident.   8  b  l   2.0  2.0  0  0  1  3  0  1  5  0  0  1  2  0.5  2   1  15-10-8  1  0.5  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
3115  15  11  Bittum_r   1  g      2.0    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-11-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3116  15  11  Bittum_r   2  g      2.2    .  0  0  1  2  1  0  4  0  0  1  2  1.0  2   1  15-11-2  1  0.5  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
3117  15  11  Bittum_r   3  g      2.1    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-11-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3118  15  11  Bittum_r   4  g      3.5    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-11-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3119  15  11  Bittum_r   5  g      2.2    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  15-11-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3120  15  11  Bittum_r   6  g      2.1    .  0  0  1  2  1  0  4  1  0  .  2  1.0  2   0  15-11-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3121  15  12  Tornus_b   1  g      1.9    .  0  0  0  2  1  0  3  1  0  .  2  1.0  2   0  15-12-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3122  15  12  Tornus_b   2  g      1.0    .  0  0  0  3  1  0  4  1  0  .  2  1.0  2   0  15-12-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3123  15  13  Phrontis   1  g      3.7    .  0  0  1  3  1  0  5  0  0  1  2  1.0  2   1  15-13-1  1  0.7  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . .2  1  0  0
```

```
3124 15 14 Hinia_sp   1 g     5.1   .  0 0 1 2 1 1 5 0 0 1 2 1.0 2  1 15-14-1  1 1.0 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3125 15 15 Leptotel   1 g     1.2   .  0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-15-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3126 15 16 Hydrobia   1 g     2.7   .  0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 15-16-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3127 15 17 Cerithiu   1 g     4.5   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-17-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3128 15 18 Alvania_   1 g     3.3   .  0 0 1 2 0 0 3 1 0 . 2 1.0 2  0 15-18-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3129 15 18 Alvania_   2 g     2.1   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-18-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3130 15 19 Sandberg   1 g     3.1   .  0 0 1 2 1 1 5 1 0 . 2 1.0 2  0 15-19-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3131 15 20 Niso_aca   1 g     3.3   .  0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-20-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3132 15 21 Crassisp   1 g    10.0   .  0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 15-21-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3133 15 22 Hinia_sp   1 g    12.3   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-22-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3134 15 22 Hinia_sp   2 g     9.4   .  0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 15-22-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3135 15 23 unident.   1 g     9.9   .  0 0 1 3 1 0 5 0 0 1 2 1.0 2  1 15-23-1  1 0.6 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3136 15 24 Crassost   1 b l  20.0 15.0 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-24-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3137 15 24 Crassost   2 b l  11.7 12.6 1 0 1 3 2 0 6 1 0 . 2 0.5 2  0 15-24-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3138 15 26 Clausine   1 b r   4.5  4.7 0 0 0 2 1 0 3 1 0 . 2 0.5 2  0 15-26-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3139 15 27 Striarca   1 b l   3.1  4.8 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3140 15 27 Striarca   2 b l   2.0  3.1 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3141 15 27 Striarca   3 b l   3.0  4.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-27-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3142 15 27 Striarca   4 b l   3.3  5.1 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-27-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3143 15 27 Striarca   5 b r   3.1  5.0 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3144 15 27 Striarca   6 b r   4.6  6.0 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3145 15 27 Striarca   7 b l   4.0  6.1 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3146 15 27 Striarca   8 b r   4.2  6.3 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3147 15 27 Striarca   9 b r   4.1  6.1 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3148 15 27 Striarca  10 b r   3.8  6.0 0 0 2 2 1 0 5 1 0 . 2 0.5 2  0 15-27-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3149 15 27 Striarca  11 b r   4.1  6.2 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3150 15 27 Striarca  12 b l   4.1  6.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-27-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3151 15 27 Striarca  13 b r   5.0  6.0 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3152 15 27 Striarca  14 b r   6.0 10.0 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3153 15 27 Striarca  15 b r   6.0  8.9 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3154 15 27 Striarca  16 b r   6.1  7.3 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3155 15 27 Striarca  17 b r   5.0  7.0 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-27-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3156 15 28 Lembulus   1 b r   1.6  3.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-28-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3157 15 29 Tivelina   1 b l   1.9  2.3 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-29-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3158 15 29 Tivelina   2 b r   1.7  2.1 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-29-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3159 15 29 Tivelina   3 b l   1.3  1.5 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-29-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3160 15 29 Tivelina   4 b r   2.1  2.4 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-29-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3161 15 29 Tivelina   5 b r   3.0  3.3 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-29-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3162 15 29 Tivelina   6 b r   2.5  3.2 0 0 0 2 0 0 2 1 0 . 2 0.5 2  0 15-29-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3163 15 29 Tivelina   7 b r   2.1  2.4 0 0 1 3 0 0 4 1 0 . 2 0.5 2  0 15-29-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3164 15 29 Tivelina   8 b r   3.0  4.1 0 0 1 2 0 0 3 1 0 . 2 0.5 2  0 15-29-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3165 15 29 Tivelina   9 b r   2.3  3.2 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-29-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3166 15 29 Tivelina  10 b l   2.3  3.0 0 0 0 2 0 0 2 1 0 . 2 0.5 2  0 15-29-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3167 15 29 Tivelina  11 b r   1.9  2.3 0 0 1 3 0 0 4 1 0 . 2 0.5 2  0 15-29-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3168 15 29 Tivelina  12 b r   2.2  3.0 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-29-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3169 15 29 Tivelina  13 b l   2.1  2.9 0 0 1 3 0 0 4 1 0 . 2 0.5 2  0 15-29-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
3170  15  29  Tivelina  14  b  l   2.2   2.7  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-29-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3171  15  29  Tivelina  15  b  l   1.9   2.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-29-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3172  15  29  Tivelina  16  b  l   1.7   2.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-29-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3173  15  29  Tivelina  17  b  r   2.9   3.8  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-29-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3174  15  29  Tivelina  18  b  r   4.8   6.2  0  0  2  2  0  0  4  1  0  .  2  0.5  2   0  15-29-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3175  15  29  Tivelina  19  b  r   5.0   6.5  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-29-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3176  15  29  Tivelina  20  b  r   4.2   5.8  0  0  1  2  1  0  4  0  1  2  2  0.5  2   1  15-29-20  1  1.0  2  . . . . . . . . . . . . . . . . . . . 1  0.7  5  . . . . . . . . . . . 1  0  1
3177  15  29  Tivelina  21  b  l   4.1   5.9  0  0  1  3  1  0  5  0  0  1  2  0.5  2   1  15-29-21  1  0.7  3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3178  15  30  Venus_ra   1  b  l   2.1   3.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-30-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3179  15  30  Venus_ra   2  b  r   1.8   2.0  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-30-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3180  15  30  Venus_ra   3  b  l   2.1   2.8  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-30-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3181  15  30  Venus_ra   4  b  l   6.1   8.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-30-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3182  15  30  Venus_ra   5  b  l   3.6   4.3  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-30-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3183  15  30  Venus_ra   6  b  l   2.2   2.7  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-30-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3184  15  30  Venus_ra   7  b  l   5.0   7.1  0  0  2  2  1  0  5  0  0  1  2  0.5  2   1  15-30-7   1  1.1  2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3185  15  30  Venus_ra   8  b  r   7.3   8.9  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-30-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3186  15  30  Venus_ra   9  b  l   3.1   4.2  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  15-30-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3187  15  30  Venus_ra  10  b  l   2.9   3.9  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  15-30-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3188  15  30  Venus_ra  11  b  r   3.0   4.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-30-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3189  15  30  Venus_ra  12  b  l   4.8   6.3  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  15-30-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3190  15  30  Venus_ra  13  b  r   3.2   4.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-30-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3191  15  30  Venus_ra  14  b  l   4.0   5.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-30-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3192  15  30  Venus_ra  15  b  l   7.2  10.1  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  15-30-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3193  15  30  Venus_ra  16  b  r   9.3  13.0  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  15-30-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3194  15  30  Venus_ra  17  b  l   8.2  11.4  0  0  0  2  0  0  2  1  0  .  2  0.5  2   0  15-30-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3195  15  30  Venus_ra  18  b  r   7.0   9.5  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  15-30-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3196  15  30  Venus_ra  19  b  l   8.2  11.5  0  0  2  3  0  0  5  1  0  .  2  0.5  2   0  15-30-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3197  15  30  Venus_ra  20  b  r   7.1  10.8  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-30-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3198  15  30  Venus_ra  21  b  l   8.3  12.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-30-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3199  15  30  Venus_ra  22  b  l  10.1  13.1  0  0  2  3  0  0  5  1  0  .  2  0.5  2   0  15-30-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3200  15  30  Venus_ra  23  b  l  10.0  14.5  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-30-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3201  15  31  Clausine   1  b  l   8.8  11.1  0  0  0  2  1  0  3  1  0  .  2  0.5  2   0  15-31-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3202  15  31  Clausine   2  b  l   7.1   7.5  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-31-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3203  15  32  Callucin   1  b  r   2.3   2.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-32-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3204  15  32  Callucin   2  b  r   2.7   2.3  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-32-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3205  15  32  Callucin   3  b  l   1.7   2.0  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-32-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3206  15  32  Callucin   4  b  l   1.4   1.5  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-32-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3207  15  32  Callucin   5  b  r   2.0   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3208  15  32  Callucin   6  b  l   2.1   2.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3209  15  32  Callucin   7  b  r   2.0   2.1  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-32-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3210  15  32  Callucin   8  b  r   1.9   1.8  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-32-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3211  15  32  Callucin   9  b  l   1.9   1.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3212  15  32  Callucin  10  b  l   1.8   1.9  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-32-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3213  15  32  Callucin  11  b  r   2.2   2.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3214  15  32  Callucin  12  b  r   2.2   2.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3215  15  32  Callucin  13  b  l   1.8   1.7  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
3216  15  32  Callucin  14  b  l   3.3   3.0  0  0  1  3  1  0  5  0  0  1  2  0.5  2   1  15-32-14  1  0.6  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3217  15  32  Callucin  15  b  r   2.2   2.0  0  0  0  3  1  0  4  0  0  1  2  0.5  2   1  15-32-15  1  0.6  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3218  15  32  Callucin  16  b  l   3.0   2.6  0  0  1  3  0  0  4  0  0  1  2  0.5  2   1  15-32-16  1  0.5  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3219  15  32  Callucin  17  b  r   1.8   1.7  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-32-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3220  15  32  Callucin  18  b  l   2.0   2.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-32-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3221  15  32  Callucin  19  b  r   2.1   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3222  15  32  Callucin  20  b  r   2.1   2.1  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-32-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3223  15  32  Callucin  21  b  r   1.8   1.9  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-32-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3224  15  32  Callucin  22  b  l   1.8   1.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3225  15  32  Callucin  23  b  r   2.1   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3226  15  32  Callucin  24  b  l   2.1   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3227  15  32  Callucin  25  b  l   1.4   1.6  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  15-32-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3228  15  32  Callucin  26  b  l   2.1   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3229  15  32  Callucin  27  b  r   2.0   2.0  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-32-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3230  15  32  Callucin  28  b  r   2.1   2.0  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-32-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3231  15  32  Callucin  29  b  l   2.9   2.5  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3232  15  32  Callucin  30  b  l   2.3   2.1  0  0  1  3  0  1  5  1  0  .  2  0.5  2   0  15-32-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3233  15  32  Callucin  31  b  l   2.1   2.0  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-32-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3234  15  32  Callucin  32  b  r   3.2   3.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3235  15  32  Callucin  33  b  l   3.1   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3236  15  32  Callucin  34  b  r   1.8   1.8  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-32-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3237  15  32  Callucin  35  b  r   1.3   1.3  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3238  15  32  Callucin  36  b  r   1.5   2.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3239  15  32  Callucin  37  b  l   3.1   3.0  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-32-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3240  15  32  Callucin  38  b  r   4.0   4.0  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-32-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3241  15  32  Callucin  39  b  l   3.7   3.8  0  0  0  3  1  1  5  1  0  .  2  0.5  2   0  15-32-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3242  15  32  Callucin  40  b  l   3.1   3.1  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-32-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3243  15  32  Callucin  41  b  l   2.1   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-32-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3244  15  32  Callucin  42  b  r   2.0   1.9  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-32-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3245  15  32  Callucin  43  b  l   3.0   2.9  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  15-32-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3246  15  32  Callucin  44  b  r   2.1   2.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-32-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3247  15  33  Cyclocar   1  b  l   5.0   5.8  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-33-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3248  15  33  Cyclocar   2  b  l   4.1   4.3  0  0  2  2  0  0  4  1  0  .  2  0.5  2   0  15-33-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3249  15  33  Cyclocar   3  b  r   3.1   3.2  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-33-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3250  15  33  Cyclocar   4  b  r   3.2   3.0  0  0  0  2  0  0  2  1  0  .  2  0.5  2   0  15-33-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3251  15  33  Cyclocar   5  b  l   3.0   3.2  0  0  0  2  0  0  2  1  0  .  2  0.5  2   0  15-33-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3252  15  33  Cyclocar   6  b  l   2.3   2.5  0  0  1  3  0  0  4  0  0  1  2  0.5  2   1  15-33-6   1  0.3  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3253  15  33  Cyclocar   7  b  r   2.0   1.8  0  0  0  2  0  0  2  1  0  .  2  0.5  2   0  15-33-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3254  15  33  Cyclocar   8  b  l   2.3   2.3  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  15-33-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3255  15  33  Cyclocar   9  b  r   2.1   2.1  0  0  1  3  1  0  5  5  0  .  2  0.5  2  -4  15-33-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3256  15  33  Cyclocar  10  b  r   3.0   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  15-33-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3257  15  33  Cyclocar  11  b  l   2.1   2.3  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  15-33-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3258  15  34  Varicorb   1  b  r   3.1   4.3  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  15-34-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3259  15  35  Anadara_   1  b  r   3.6   4.8  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-35-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3260  15  35  Anadara_   2  b  r   1.3   2.1  0  0  1  2  1  0  4  1  0  .  2  0.5  2   0  15-35-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3261  15  37  Nucula_m   1  b  l   2.3   2.7  0  0  0  3  0  0  3  1  0  .  2  0.5  2   0  15-37-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
3262 15 37 Nucula_m  2 b l  1.5  1.7 0 0 1 3 1 0 5 1 0 . 2 0.5 2  0 15-37-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3263 15 37 Nucula_m  3 b r  2.1  2.1 0 0 1 3 0 0 4 1 0 . 2 0.5 2  0 15-37-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3264 15 37 Nucula_m  4 b l  2.1  2.0 0 0 0 3 0 0 3 1 0 . 2 0.5 2  0 15-37-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3265 15 38 Acanthoc  1 b l 11.0 13.1 0 0 1 2 0 0 3 1 0 . 2 0.5 2  0 15-38-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3266 15 38 Acanthoc  2 b l  8.8 10.0 0 0 0 2 0 0 2 1 0 . 2 0.5 2  0 15-38-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3267 15 38 Acanthoc  3 b r 13.7 14.2 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-38-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3268 15 38 Acanthoc  4 b r 10.0 11.0 0 0 0 2 1 0 3 1 0 . 2 0.5 2  0 15-38-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3269 15 38 Acanthoc  5 b r  5.1  5.7 0 0 1 2 1 0 4 1 0 . 2 0.5 2  0 15-38-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3270 16  1 Ringicul  1 g     5.6  . 1 0 2 3 2 0 7 1 0 . 2 1.0 2  0 16-1-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3271 16  2 Eulima_s  1 g     8.3  . 1 0 1 2 2 0 5 1 0 . 2 1.0 2  0 16-2-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3272 16  3 Tricola_  1 g     2.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 16-3-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3273 16  4 Euspira_  1 g     2.5  . 0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 16-4-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3274 16  4 Euspira_  2 g     2.8  . 0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 16-4-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3275 16  4 Euspira_  3 g     2.8  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-4-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3276 16  4 Euspira_  4 g     2.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-4-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3277 16  4 Euspira_  5 g     1.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-4-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3278 16  4 Euspira_  6 g     2.2  . 0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 16-4-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3279 16  4 Euspira_  7 g     2.0  . 1 0 1 3 2 0 6 1 0 . 2 1.0 2  0 16-4-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3280 16  4 Euspira_  8 g     4.1  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 16-4-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3281 16  4 Euspira_  9 g     5.2  . 0 0 1 2 1 1 5 1 0 . 2 1.0 2  0 16-4-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3282 16  4 Euspira_ 10 g     5.2  . 0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 16-4-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3283 16  4 Euspira_ 11 g     3.9  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 16-4-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3284 16  5 Tectonat  1 g     2.1  . 0 0 2 3 1 0 6 1 0 . 2 1.0 2  0 16-5-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3285 16  6 Gibbula_  1 g     3.1  . 0 0 1 2 1 1 5 1 0 . 2 1.0 2  0 16-6-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3286 16  7 Odostomi  1 g     2.0  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-7-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3287 16  7 Odostomi  2 g     3.1  . 0 0 1 2 0 0 3 0 0 1 2 1.0 2  1 16-7-2  1 0.4 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3288 16  8 Alaba_co  1 g     2.7  . 1 0 1 2 2 0 5 1 0 . 2 1.0 2  0 16-8-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3289 16  9 unident.  1 g     1.5  . 1 0 1 3 2 0 6 1 0 . 2 1.0 2  0 16-9-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3290 16 10 Alvania_  1 g     3.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-10-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3291 16 11 Rissoa_t  1 g     2.3  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 16-11-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3292 16 11 Rissoa_t  2 g     2.5  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 16-11-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3293 16 11 Rissoa_t  3 g     2.8  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 16-11-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3294 16 11 Rissoa_t  4 g     3.4  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-11-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3295 16 11 Rissoa_t  5 g     2.5  . 1 0 1 3 2 0 6 1 0 . 2 1.0 2  0 16-11-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3296 16 11 Rissoa_t  6 g     2.7  . 0 0 1 3 1 0 5 1 0 . 2 1.0 2  0 16-11-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3297 16 12 Epitoniu  1 g     5.2  . 1 0 0 2 2 0 4 1 0 . 2 1.0 2  0 16-12-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3298 16 12 Epitoniu  2 g     4.6  . 0 0 0 1 0 0 1 1 0 . 2 1.0 2  0 16-12-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3299 16 13 Bittum_r  1 g     4.2  . 1 0 1 1 2 0 4 1 0 . 2 1.0 2  0 16-13-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3300 16 13 Bittum_r  2 g     5.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-13-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3301 16 13 Bittum_r  3 g     3.0  . 1 0 1 2 2 0 5 1 0 . 2 1.0 2  0 16-13-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3302 16 13 Bittum_r  4 g     4.6  . 0 0 1 1 1 0 3 1 0 . 2 1.0 2  0 16-13-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3303 16 13 Bittum_r  5 g     5.1  . 0 0 1 1 1 0 3 0 0 1 2 1.0 2  1 16-13-5  1 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3304 16 13 Bittum_r  6 g     2.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-13-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3305 16 14 Babylone  1 g     3.9  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-14-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3306 16 15 Turritel  1 g     5.0  . 0 0 1 2 1 0 4 1 0 . 2 1.0 2  0 16-15-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3307 16 16 Turbonil  1 g     3.8  . 1 0 1 2 2 0 5 1 0 . 2 1.0 2  0 16-16-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
3308  16  16  Turbonil    2  g       4.9    .  1  0  1  2  2  0  5  1  0  .  2  1.0  2   0  16-16-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3309  16  18  Ervilia_    1  b  r    2.3   3.5  0  0  1  2  0  0  3  0  0  1  2  0.5  2   1  16-18-1   1  0.3  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3310  16  18  Ervilia_    2  b  r    3.0   4.2  0  0  1  3  1  0  5  0  0  1  2  0.5  2   1  16-18-2  . . . . . . . . . . . . . . . . . . . 1  0.1  2  . . . . . . . . . . . 0  0  1
3311  16  18  Ervilia_    3  b  r    3.8   5.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-18-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3312  16  18  Ervilia_    4  b  l    4.3   5.8  1  0  1  3  2  0  6  1  0  .  2  0.5  2   0  16-18-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3313  16  18  Ervilia_    5  b  l    3.9   5.5  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-18-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3314  16  18  Ervilia_    6  b  r    2.9   4.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-18-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3315  16  18  Ervilia_    7  b  r    2.7   4.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-18-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3316  16  18  Ervilia_    8  b  r    3.9   5.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-18-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3317  16  18  Ervilia_    9  b  r    2.3   3.3  0  0  1  2  0  0  3  1  0  .  2  0.5  2   0  16-18-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3318  16  18  Ervilia_   10  b  r    3.6   5.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-18-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3319  16  18  Ervilia_   11  b  l    3.3   4.6  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-18-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3320  16  18  Ervilia_   12  b  r    2.1   3.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-18-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3321  16  19  Varicorb    1  b  b    2.8   3.7  0  0  1  3  0  0  4  1  0  .  2  1.0  2   0  16-19-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3322  16  19  Varicorb    2  b  b    2.2   3.0  0  0  1  3  1  1  6  1  0  .  2  1.0  2   0  16-19-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3323  16  19  Varicorb    3  b  b    3.9   5.6  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  16-19-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3324  16  19  Varicorb    4  b  r    4.0   5.1  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  16-19-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3325  16  19  Varicorb    5  b  l    3.3   4.5  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3326  16  19  Varicorb    6  b  r    2.8   4.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3327  16  19  Varicorb    7  b  l    3.1   4.0  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  16-19-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3328  16  19  Varicorb    8  b  l    3.0   4.1  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  16-19-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3329  16  19  Varicorb    9  b  l    3.0   4.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3330  16  19  Varicorb   10  b  b    2.1   3.1  0  0  1  3  0  0  4  0  0  1  2  1.0  2   1  16-19-10  1  0.2  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3331  16  19  Varicorb   11  b  b    4.3   6.1  0  0  1  3  1  1  6  0  0  1  2  1.0  2   1  16-19-11  1  1.0  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . 2  1  0  0
3332  16  19  Varicorb   12  b  b    3.8   5.2  0  0  1  3  1  0  5  0  0  1  2  1.0  2   1  16-19-12  1  0.7  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3333  16  19  Varicorb   13  b  r    3.5   4.9  0  0  1  3  0  0  4  0  0  1  2  0.5  2   1  16-19-13  1  1.0  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3334  16  19  Varicorb   14  b  l    3.5   5.7  0  0  1  3  0  0  4  0  0  1  2  0.5  2   1  16-19-14  1  1.0  6  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  .  1  0  0
3335  16  19  Varicorb   15  b  l    2.2   3.9  0  0  0  3  1  0  4  0  0  1  2  0.5  2   1  16-19-15  1  0.9  2  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  .  1  0  0
3336  16  19  Varicorb   16  b  l    3.7   5.0  0  0  1  3  1  0  5  0  0  1  2  0.5  2   1  16-19-16  1  1.0  9  . . . . . . . . . . . . . . . . . . . . . . . . . . 1  .  1  0  0
3337  16  19  Varicorb   17  b  r    4.1   4.2  0  0  1  3  0  0  4  0  0  1  2  0.5  2   1  16-19-17  1  0.6  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3338  16  19  Varicorb   18  b  l    2.3   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3339  16  19  Varicorb   19  b  l    2.8   3.4  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-19-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3340  16  19  Varicorb   20  b  r    3.3   5.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3341  16  19  Varicorb   21  b  l    3.0   3.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3342  16  19  Varicorb   22  b  l    2.5   3.9  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-19-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3343  16  19  Varicorb   23  b  l    2.8   4.1  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  16-19-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3344  16  19  Varicorb   24  b  r    2.5   3.0  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  16-19-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3345  16  19  Varicorb   25  b  l    4.0   5.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3346  16  19  Varicorb   26  b  r    4.2   5.9  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  16-19-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3347  16  19  Varicorb   27  b  l    3.8   5.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3348  16  19  Varicorb   28  b  r    3.2   4.9  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-19-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3349  16  19  Varicorb   29  b  l    2.3   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3350  16  19  Varicorb   30  b  l    3.0   4.0  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-19-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3351  16  19  Varicorb   31  b  r    3.8   5.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-19-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3352  16  19  Varicorb   32  b  r    5.2   6.8  0  0  1  2  1  1  5  1  0  .  2  0.5  2   0  16-19-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3353  16  19  Varicorb   33  b  l    2.9   4.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
3354  16  19  Varicorb  34  b  l   3.1   4.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3355  16  19  Varicorb  35  b  l   2.7   3.8  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3356  16  19  Varicorb  36  b  l   3.8   5.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3357  16  19  Varicorb  37  b  l   2.8   4.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3358  16  19  Varicorb  38  b  l   3.0   4.1  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-19-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3359  16  19  Varicorb  39  b  r   2.9   4.1  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  16-19-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3360  16  19  Varicorb  40  b  l   4.2   5.3  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-19-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3361  16  19  Varicorb  41  b  l   3.3   5.0  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-19-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3362  16  19  Varicorb  42  b  l   3.1   4.7  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  16-19-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3363  16  19  Varicorb  43  b  r   2.4   3.9  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3364  16  19  Varicorb  44  b  r   3.3   4.6  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-44 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3365  16  19  Varicorb  45  b  r   3.3   4.5  0  0  0  3  1  0  4  1  0  .  2  0.5  2   0  16-19-45 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3366  16  19  Varicorb  46  b  l   3.0   4.3  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-46 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3367  16  19  Varicorb  47  b  r   5.2   7.5  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-47 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3368  16  19  Varicorb  48  b  l   4.9   6.2  0  0  1  3  1  1  6  1  0  .  2  0.5  2   0  16-19-48 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3369  16  19  Varicorb  49  b  r   6.0   7.5  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-49 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3370  16  19  Varicorb  50  b  r   5.9   7.0  0  0  1  2  1  1  5  1  0  .  2  0.5  2   0  16-19-50 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3371  16  19  Varicorb  51  b  r   5.6   6.8  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-51 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3372  16  19  Varicorb  52  b  r   4.2   6.1  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-19-52 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3373  16  20  Spaniodo   1  b  l   1.8   1.9  0  0  0  3  1  1  5  1  0  .  2  0.5  2   0  16-20-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3374  16  21  Sacella_   1  b  b   3.1   5.0  0  0  0  3  1  1  5  0  0  1  2  1.0  2   1  16-21-1   1  1.3  5  . . . . . . . . . . . . . . . . . . . . . . . . . . .2  1  0  0
3375  16  21  Sacella_   2  b  b   2.3   4.1  0  0  0  3  1  1  5  1  0  .  2  1.0  2   0  16-21-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3376  16  21  Sacella_   3  b  l   2.5   4.7  0  0  0  3  1  1  5  1  0  .  2  0.5  2   0  16-21-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3377  16  23  Anomia_s   1  b  r   5.1   6.2  0  0  0  2  1  1  4  1  0  .  2  0.5  2   0  16-23-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3378  16  23  Anomia_s   2  b  r   4.0   5.0  0  0  0  2  1  1  4  1  0  .  2  0.5  2   0  16-23-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3379  16  24  Callucin   1  b  l   3.0   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-24-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3380  16  24  Callucin   2  b  r   2.8   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-24-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3381  16  24  Callucin   3  b  r   3.0   3.2  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-24-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3382  16  24  Callucin   4  b  r   2.7   2.5  0  0  1  3  0  0  4  1  0  .  2  0.5  2   0  16-24-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3383  16  24  Callucin   5  b  l   3.0   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  2   0  16-24-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3384  16  24  Callucin   6  b  l   5.2   5.2  0  0  1  3  0  1  5  1  0  .  2  0.5  2   0  16-24-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3385  16  24  Callucin   7  b  r   3.0   3.1  0  0  1  3  1  0  5  0  0  1  2  0.5  2   1  16-24-7   1  0.4  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3386  16  24  Callucin   8  b  l   2.2   2.2  0  0  1  3  0  0  4  0  0  1  2  0.5  2   1  16-24-8   1  0.2  6  . . . . . . . . . . . . . . . . . . . . . . . . . .1  .  1  0  0
3387  16  25  Syrnola_   1  g       3.1    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  16-25-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3388  16  26  Rissoa_s   1  g       2.2    .  0  0  1  3  1  0  5  1  0  .  2  1.0  2   0  16-26-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3389  16  26  Rissoa_s   2  g       3.0    .  0  0  1  3  1  1  6  0  0  1  2  1.0  2   1  16-26-2   1  0.6  6  . . . . . . . . . . . . . . . . . . . . . . . . . . .3  1  0  0
3390  17   1  Crassost   1  b  l  20.0  26.1  0  1  0  1  1  0  3  1  0  .  2  0.5  1   0  17-1-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3391  17   1  Crassost   2  b  r  10.2   9.5  0  0  0  1  0  0  1  1  0  .  2  0.5  1   0  17-1-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3392  17   2  Anadara_   1  b  l  19.9  13.1  0  0  1  1  0  0  2  1  0  .  2  0.5  1   0  17-2-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3393  17   2  Anadara_   2  b  l  16.4  10.3  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  17-2-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3394  17   2  Anadara_   3  b  r   4.9   3.2  0  0  0  1  0  0  1  1  0  .  2  0.5  1   0  17-2-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3395  17   2  Anadara_   4  b      1.5   1.5  0  0  0  1  0  0  1  1  0  .  2  1.0  1   0  17-2-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3396  17   2  Anadara_   5  b  l   3.1   2.3  0  0  0  2  1  0  3  1  0  .  2  0.5  1   0  17-2-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3397  17   2  Anadara_   6  b  l   4.9   3.3  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-2-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3398  17   2  Anadara_   7  b  r   5.0   3.5  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  17-2-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3399  17   2  Anadara_   8  b  l   7.3   5.1  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-2-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
```

```
3400  17  2  Anadara_   9  b  l   5.7   4.1  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-2-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3401  17  2  Anadara_  10  b  l   8.2   5.0  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-2-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3402  17  2  Anadara_  11  b  r   6.9   4.3  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  17-2-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3403  17  2  Anadara_  12  b  l   5.0   3.7  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-2-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3404  17  2  Anadara_  13  b  l   4.9   3.7  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  17-2-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3405  17  2  Anadara_  14  b  l   5.0   3.9  0  0  1  2  1  1  5  1  0  .  2  0.5  1   0  17-2-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3406  17  2  Anadara_  15  b  l   3.3   2.3  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-2-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3407  17  3  Varicorb   1  b  l   3.4   2.9  0  0  0  1  1  0  2  1  0  .  2  0.5  1   0  17-3-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3408  17  3  Varicorb   2  b  r   4.1   3.3  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3409  17  3  Varicorb   3  b  r   4.8   3.6  0  0  0  3  1  0  4  1  0  .  2  0.5  1   0  17-3-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3410  17  3  Varicorb   4  b  r   4.0   3.1  0  0  0  3  1  0  4  1  0  .  2  0.5  1   0  17-3-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3411  17  3  Varicorb   5  b  r   3.6   2.9  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-3-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3412  17  3  Varicorb   6  b  r   3.6   2.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3413  17  3  Varicorb   7  b  l   4.1   3.3  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3414  17  3  Varicorb   8  b  l   4.1   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3415  17  3  Varicorb   9  b  r   5.0   4.0  0  0  0  2  1  0  3  1  0  .  2  0.5  1   0  17-3-9  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3416  17  3  Varicorb  10  b  l   3.5   3.0  1  0  1  3  2  0  6  1  0  .  2  0.5  1   0  17-3-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3417  17  3  Varicorb  11  b  r   4.2   3.2  0  0  1  3  1  1  6  1  0  .  2  0.5  1   0  17-3-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3418  17  3  Varicorb  12  b  r   4.5   3.8  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-3-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3419  17  3  Varicorb  13  b  r   4.1   3.2  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  17-3-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3420  17  3  Varicorb  14  b  r   6.2   4.8  0  0  1  3  0  0  4  0  0  1  2  0.5  1   1  17-3-14   1  1.0  5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3421  17  3  Varicorb  15  b  r   4.4   3.7  0  0  1  2  0  0  3  0  0  1  2  0.5  1   1  17-3-15   1  0.6  6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3422  17  3  Varicorb  16  b  r   4.4   3.6  0  0  1  2  1  0  4  0  0  1  2  0.5  1   1  17-3-16   1  0.6  4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3423  17  3  Varicorb  17  b  r   2.9   2.1  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  17-3-17   1  0.3  6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3424  17  3  Varicorb  18  b  r   3.4   2.7  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3425  17  3  Varicorb  19  b  r   3.9   3.1  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  17-3-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3426  17  3  Varicorb  20  b  r   5.2   4.0  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  17-3-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3427  17  3  Varicorb  21  b  r   3.2   2.4  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3428  17  3  Varicorb  22  b  r   4.1   2.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3429  17  3  Varicorb  23  b  r   4.5   3.5  0  0  2  3  1  0  6  1  0  .  2  0.5  1   0  17-3-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3430  17  3  Varicorb  24  b  r   3.6   2.5  0  0  1  3  1  1  6  1  0  .  2  0.5  1   0  17-3-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3431  17  3  Varicorb  25  b  r   5.5   4.4  0  0  0  3  1  0  4  1  0  .  2  0.5  1   0  17-3-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3432  17  3  Varicorb  26  b  r   5.3   4.3  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3433  17  3  Varicorb  27  b  r   3.0   2.1  0  0  2  3  1  0  6  1  0  .  2  0.5  1   0  17-3-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3434  17  3  Varicorb  28  b  r   4.5   4.6  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3435  17  3  Varicorb  29  b  r   4.3   3.2  0  0  1  3  0  1  5  1  0  .  2  0.5  1   0  17-3-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3436  17  3  Varicorb  30  b  r   4.1   3.3  0  0  2  2  1  0  5  1  0  .  2  0.5  1   0  17-3-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3437  17  3  Varicorb  31  b  r   4.0   3.2  0  0  2  3  1  0  6  1  0  .  2  0.5  1   0  17-3-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3438  17  3  Varicorb  32  b  r   3.2   2.6  0  0  0  3  1  0  4  1  0  .  2  0.5  1   0  17-3-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3439  17  3  Varicorb  33  b  r   5.1   4.2  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3440  17  3  Varicorb  34  b  r   3.8   3.1  0  0  0  3  1  0  4  1  0  .  2  0.5  1   0  17-3-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3441  17  3  Varicorb  35  b  r   4.1   3.8  1  0  1  3  2  0  6  1  0  .  2  0.5  1   0  17-3-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3442  17  3  Varicorb  36  b  r   3.8   2.9  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3443  17  3  Varicorb  37  b  r   4.7   4.0  0  0  0  2  1  0  3  1  0  .  2  0.5  1   0  17-3-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3444  17  3  Varicorb  38  b  r   3.3   2.9  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3445  17  3  Varicorb  39  b  r   5.2   4.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  17-3-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
3446 17 3 Varicorb 40 b r 4.6 3.5 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-3-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3447 17 3 Varicorb 41 b r 3.3 2.8 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-3-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3448 17 3 Varicorb 42 b r 4.2 3.3 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-3-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3449 17 3 Varicorb 43 b r 3.5 2.7 0 0 1 2 1 0 4 1 0 . 2 0.5 1 0 17-3-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3450 17 4 Palliolu 1 b l 7.2 8.1 0 0 0 2 1 0 3 1 0 . 2 0.5 1 0 17-4-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3451 17 4 Palliolu 2 b r 3.5 4.7 0 0 0 2 1 0 3 0 0 1 2 0.5 1 1 17-4-2 1 0.6 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3452 17 5 Cyclocar 1 b l 2.4 2.2 1 0 0 1 2 0 3 1 0 . 2 0.5 1 0 17-5-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3453 17 6 Callusin 1 b l 2.9 2.6 0 0 1 3 1 0 5 0 0 1 2 0.5 1 1 17-6-1 1 0.8 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3454 17 6 Callusin 2 b l 3.1 3.1 0 0 0 3 1 0 4 0 0 1 2 0.5 1 1 17-6-2 1 0.3 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3455 17 6 Callusin 3 b l 4.0 3.8 0 0 1 3 1 0 5 0 0 1 2 0.5 1 1 17-6-3 1 0.6 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3456 17 6 Callusin 4 b l 2.7 2.7 0 0 1 3 0 0 4 0 0 1 2 0.5 1 1 17-6-4 1 0.6 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3457 17 6 Callusin 5 b r 2.9 2.8 1 0 0 3 2 0 5 0 0 1 2 0.5 1 1 17-6-5 1 0.4 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3458 17 6 Callusin 6 b r 2.6 2.5 0 0 0 3 0 0 3 0 0 1 2 0.5 1 1 17-6-6 1 0.5 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3459 17 6 Callusin 7 b l 4.0 4.2 0 0 1 3 0 0 4 1 0 . 2 0.5 1 0 17-6-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3460 17 6 Callusin 8 b r 2.3 2.1 0 0 1 3 0 0 4 0 0 1 2 0.5 1 1 17-6-8 1 0.2 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3461 17 6 Callusin 9 b r 2.8 2.9 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-6-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3462 17 6 Callusin 10 b r 4.5 4.1 0 0 1 2 1 1 5 1 0 . 2 0.5 1 0 17-6-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3463 17 6 Callusin 11 b r 1.8 1.5 0 0 0 3 0 0 3 1 0 . 2 0.5 1 0 17-6-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3464 17 6 Callusin 12 b r 4.7 4.9 0 0 0 2 1 0 3 1 0 . 2 0.5 1 0 17-6-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3465 17 6 Callusin 13 b r 2.8 2.7 0 0 1 2 0 0 3 1 0 . 2 0.5 1 0 17-6-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3466 17 6 Callusin 14 b l 2.0 1.8 0 0 0 3 1 0 4 1 0 . 2 0.5 1 0 17-6-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3467 17 6 Callusin 15 b r 1.8 1.8 0 0 0 3 1 0 4 1 0 . 2 0.5 1 0 17-6-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3468 17 6 Callusin 16 b r 4.0 3.7 0 0 0 2 1 0 3 1 0 . 2 0.5 1 0 17-6-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3469 17 6 Callusin 17 b r 2.1 2.3 0 0 0 3 1 0 4 1 0 . 2 0.5 1 0 17-6-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3470 17 6 Callusin 18 b r 2.3 2.3 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-6-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3471 17 6 Callusin 19 b l 2.8 3.0 0 0 1 3 0 0 4 1 0 . 2 0.5 1 0 17-6-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3472 17 6 Callusin 20 b r 5.1 5.1 0 0 2 2 1 0 5 1 0 . 2 0.5 1 0 17-6-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3473 17 6 Callusin 21 b l 3.6 3.6 0 0 1 3 1 1 6 1 0 . 2 0.5 1 0 17-6-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3474 17 6 Callusin 22 b r 2.0 2.1 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-6-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3475 17 6 Callusin 23 b l 2.4 2.3 0 0 0 3 0 0 3 1 0 . 2 0.5 1 0 17-6-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3476 17 6 Callusin 24 b l 2.5 2.6 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-6-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3477 17 6 Callusin 25 b l 2.2 2.3 0 0 1 3 0 0 4 1 0 . 2 0.5 1 0 17-6-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3478 17 6 Callusin 26 b l 4.0 4.0 0 0 0 2 1 0 3 1 0 . 2 0.5 1 0 17-6-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3479 17 6 Callusin 27 b l 3.0 3.1 0 0 1 2 1 0 4 1 0 . 2 0.5 1 0 17-6-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3480 17 6 Callusin 28 b l 6.1 6.8 0 0 0 3 1 0 4 1 0 . 2 0.5 1 0 17-6-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3481 17 6 Callusin 29 b r 2.3 2.5 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-6-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3482 17 6 Callusin 30 b r 2.0 1.9 0 0 1 2 0 0 3 1 0 . 2 0.5 1 0 17-6-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3483 17 6 Callusin 31 b r 3.0 3.0 0 0 1 2 1 0 4 1 0 . 2 0.5 1 0 17-6-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3484 17 6 Callusin 32 b r 2.0 2.1 0 0 1 2 1 0 4 1 0 . 2 0.5 1 0 17-6-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3485 17 6 Callusin 33 b r 2.1 2.2 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-6-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3486 17 6 Callusin 34 b r 2.2 2.3 0 0 1 3 0 0 4 1 0 . 2 0.5 1 0 17-6-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3487 17 6 Callusin 35 b r 3.1 3.0 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-6-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3488 17 6 Callusin 36 b l 2.3 2.2 0 0 1 3 1 0 5 1 0 . 2 0.5 1 0 17-6-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3489 17 6 Callusin 37 b l 3.0 3.0 0 0 1 3 0 0 4 0 0 1 2 0.5 1 1 17-6-37 1 0.5 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3490 17 6 Callusin 38 b l 4.0 4.2 1 0 0 2 2 0 4 0 0 1 2 0.5 1 1 17-6-38 1 0.8 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3491 17 6 Callusin 39 b r 3.1 3.1 0 0 0 3 1 0 4 0 0 1 2 0.5 1 1 17-6-39 1 0.5 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
```

```
3492  17   6  Callusin   40  b  l    2.6   2.5  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-40  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3493  17   6  Callusin   41  b  r    2.3   2.3  0  0  0  3  2  1  6  1  0  .  2  0.5  1    0  17-6-41  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3494  17   6  Callusin   42  b  r    2.0   2.1  0  0  1  2  1  0  4  1  0  .  2  0.5  1    0  17-6-42  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3495  17   6  Callusin   43  b  l    2.6   2.5  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-43  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3496  17   6  Callusin   44  b  l    2.3   2.2  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-44  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3497  17   6  Callusin   45  b  r    1.6   1.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-45  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3498  17   6  Callusin   46  b  l    3.1   3.2  0  0  1  3  0  0  4  1  0  .  2  0.5  1    0  17-6-46  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3499  17   6  Callusin   47  b  l    2.6   2.3  0  0  0  3  0  0  3  1  0  .  2  0.5  1    0  17-6-47  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3500  17   6  Callusin   48  b  r    2.7   2.9  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-48  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3501  17   6  Callusin   49  b  r    2.5   2.7  0  0  1  2  1  0  4  1  0  .  2  0.5  1    0  17-6-49  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3502  17   6  Callusin   50  b  r    2.9   2.5  1  0  1  3  2  0  6  1  0  .  2  0.5  1    0  17-6-50  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3503  17   6  Callusin   51  b  l    1.8   1.9  1  0  1  3  2  0  6  1  0  .  2  0.5  1    0  17-6-51  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3504  17   6  Callusin   52  b  r    1.7   2.1  1  0  0  3  2  0  5  1  0  .  2  0.5  1    0  17-6-52  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3505  17   6  Callusin   53  b  r    3.1   3.3  0  0  1  3  0  0  4  1  0  .  2  0.5  1    0  17-6-53  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3506  17   6  Callusin   54  b  l    1.7   1.7  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-54  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3507  17   6  Callusin   55  b  r    2.1   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-55  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3508  17   6  Callusin   56  b  r    2.8   2.4  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-56  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3509  17   6  Callusin   57  b  l    3.0   3.2  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-57  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3510  17   6  Callusin   58  b  l    2.2   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-58  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3511  17   6  Callusin   59  b  r    3.3   3.3  0  0  0  3  0  0  3  1  0  .  2  0.5  1    0  17-6-59  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3512  17   6  Callusin   60  b  l    2.6   2.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-60  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3513  17   6  Callusin   61  b  l    3.0   2.9  0  0  0  3  1  1  5  1  0  .  2  0.5  1    0  17-6-61  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3514  17   6  Callusin   62  b  r    2.4   2.7  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-62  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3515  17   6  Callusin   63  b  r    2.0   2.0  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-63  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3516  17   6  Callusin   64  b  r    4.8   4.8  0  0  1  2  1  0  4  1  0  .  2  0.5  1    0  17-6-64  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3517  17   6  Callusin   65  b  r    3.6   3.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-65  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3518  17   6  Callusin   66  b  r    2.1   2.3  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-66  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3519  17   6  Callusin   67  b  l    3.0   3.2  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-67  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3520  17   6  Callusin   68  b  l    2.0   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-68  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3521  17   6  Callusin   69  b  l    2.8   2.8  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-69  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3522  17   6  Callusin   70  b  l    3.1   3.2  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-70  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3523  17   6  Callusin   71  b  r    1.7   1.8  0  0  1  3  0  0  4  1  0  .  2  0.5  1    0  17-6-71  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3524  17   6  Callusin   72  b  r    2.8   2.6  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-72  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3525  17   6  Callusin   73  b  r    2.1   2.1  0  0  0  3  1  0  4  0  0  1  2  0.5  1    1  17-6-73   1  0.5  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3526  17   6  Callusin   74  b  l    3.2   3.1  0  0  1  3  0  0  4  1  0  .  2  0.5  1    0  17-6-74  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3527  17   6  Callusin   75  b  r    3.1   3.0  1  0  0  3  2  0  5  1  0  .  2  0.5  1    0  17-6-75  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3528  17   6  Callusin   76  b  r    2.5   2.7  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-76  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3529  17   6  Callusin   77  b  r    2.1   2.1  0  0  1  3  1  1  6  1  0  .  2  0.5  1    0  17-6-77  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3530  17   6  Callusin   78  b  l    2.0   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-78  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3531  17   6  Callusin   79  b  r    3.7   3.3  0  0  1  2  1  0  4  1  0  .  2  0.5  1    0  17-6-79  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3532  17   6  Callusin   80  b  l    3.0   3.0  1  0  1  3  2  0  6  1  0  .  2  0.5  1    0  17-6-80  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3533  17   6  Callusin   81  b  r    2.5   2.3  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-81  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3534  17   6  Callusin   82  b  l    2.1   2.2  0  0  0  3  1  0  4  1  0  .  2  0.5  1    0  17-6-82  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3535  17   6  Callusin   83  b  r    2.2   2.2  0  0  1  3  1  0  5  1  0  .  2  0.5  1    0  17-6-83  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3536  17   7  Clausine    1  b  l    5.6   6.0  1  0  0  2  2  0  4  1  0  .  2  0.5  1    0  17-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3537  17   7  Clausine    2  b  l    3.2   2.8  1  0  0  2  2  0  4  1  0  .  2  0.5  1    0  17-7-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
3538 17  8 Plagioca   1 b r  2.0  2.0 0 0 0 2 1 0 3 1 0 . 2 0.5 1  0 17-8-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3539 17  8 Plagioca   2 b r  1.8  2.0 0 0 0 2 1 0 3 1 0 . 2 0.5 1  0 17-8-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3540 17  8 Plagioca   3 b r  2.4  2.1 1 0 0 3 1 0 4 1 0 . 2 0.5 1  0 17-8-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3541 17  8 Plagioca   4 b l  2.1  2.0 0 0 0 2 1 0 3 1 0 . 2 0.5 1  0 17-8-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3542 17  9 Acanthoc   1 b l  6.8  6.1 0 0 1 2 1 0 4 1 0 . 2 0.5 1  0 17-9-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3543 17 10 Gouldia_   1 b r  3.0  2.8 0 0 0 3 1 0 4 1 0 . 2 0.5 1  0 17-10-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3544 17 10 Gouldia_   2 b l  5.2  5.0 0 0 1 2 1 0 4 1 0 . 2 0.5 1  0 17-10-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3545 17 10 Gouldia_   3 b l  6.2  5.8 0 0 1 2 1 0 4 1 0 . 2 0.5 1  0 17-10-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3546 17 10 Gouldia_   4 b l  6.0  5.2 0 0 2 2 1 0 5 1 0 . 2 0.5 1  0 17-10-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3547 17 10 Gouldia_   5 b l  3.0  2.9 0 0 1 2 0 0 3 1 0 . 2 0.5 1  0 17-10-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3548 17 10 Gouldia_   6 b l  2.6  2.4 0 0 1 3 1 0 5 1 0 . 2 0.5 1  0 17-10-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3549 17 10 Gouldia_   7 b r  2.6  2.4 0 0 0 3 1 1 5 1 0 . 2 0.5 1  0 17-10-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3550 17 10 Gouldia_   8 b l  2.9  2.6 1 0 1 3 2 0 6 1 0 . 2 0.5 1  0 17-10-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3551 17 10 Gouldia_   9 b l  2.3  2.1 0 0 1 3 1 0 5 0 0 1 2 0.5 1  1 17-10-9  1 0.1 7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3552 17 11 Nucula_m   1 b r  5.1  4.9 0 0 1 3 0 0 4 1 0 . 2 0.5 1  0 17-11-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3553 17 12 Callucin   1 b r  2.9  2.7 0 0 1 2 1 0 4 1 0 . 2 0.5 1  0 17-12-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3554 17 13 Parvicar   1 b r  2.7  2.6 0 0 0 1 1 0 2 1 0 . 2 0.5 1  0 17-13-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3555 17 14 Venerida   1 b r  3.0  2.1 0 0 1 3 1 1 6 1 0 . 2 0.5 1  0 17-14-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3556 17 15 Conus_me   1 g     25.0   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 17-15-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3557 17 16 Euspira_   1 g      2.8   .  0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-16-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3558 17 16 Euspira_   2 g      5.0   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 17-16-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3559 17 17 Strotete   1 g     11.5   .  0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-17-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3560 17 17 Strotete   2 g      8.2   .  1 0 0 3 2 0 5 1 0 . 2 1.0 1  0 17-17-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3561 17 17 Strotete   3 g      7.2   .  0 0 0 3 1 0 4 1 0 . 2 1.0 1  0 17-17-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3562 17 17 Strotete   4 g      6.7   .  0 0 0 3 1 0 4 1 0 . 2 1.0 1  0 17-17-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3563 17 18 Conus_du   1 g      7.1   .  0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 17-18-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3564 17 19 Ringicul   1 g      5.8   .  0 0 1 3 0 0 4 1 0 . 2 1.0 1  0 17-19-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3565 17 20 Bittum_r   1 g      3.9   .  0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-20-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3566 17 20 Bittum_r   2 g      2.5   .  0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 17-20-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3567 17 20 Bittum_r   3 g      3.0   .  1 0 0 3 2 0 5 1 0 . 2 1.0 1  0 17-20-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3568 17 20 Bittum_r   4 g      2.5   .  0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-20-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3569 17 20 Bittum_r   5 g      4.5   .  0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 17-20-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3570 17 21 Tecton._   1 g      2.6   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 17-21-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3571 17 21 Tecton._   2 g      2.8   .  0 0 1 1 0 0 2 1 0 . 2 1.0 1  0 17-21-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3572 17 22 Gibbula_   1 g      5.0   .  0 0 1 1 0 0 2 1 0 . 2 1.0 1  0 17-22-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3573 17 22 Gibbula_   2 g      5.0   .  0 0 1 2 0 1 4 1 0 . 2 1.0 1  0 17-22-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3574 17 22 Gibbula_   3 g      2.0   .  1 0 1 1 2 0 4 1 0 . 2 1.0 1  0 17-22-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3575 17 22 Gibbula_   4 g      2.3   .  0 0 1 1 1 0 3 1 0 . 2 1.0 1  0 17-22-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3576 17 22 Gibbula_   5 g      5.0   .  0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 17-22-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3577 17 22 Gibbula_   6 g      2.0   .  0 0 1 2 0 0 3 1 0 . 2 1.0 1  0 17-22-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3578 17 22 Gibbula_   7 g      2.3   .  0 0 0 1 1 0 2 0 0 1 2 1.0 1  1 17-22-7  1 1.0 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3579 17 22 Gibbula_   8 g      3.0   .  0 0 0 2 1 0 3 0 0 1 2 1.0 1  1 17-22-8  1 1.0 7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3580 17 22 Gibbula_   9 g      5.2   .  0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-22-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3581 17 22 Gibbula_  10 g      4.2   .  1 0 0 1 2 0 3 1 0 . 2 1.0 1  0 17-22-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3582 17 22 Gibbula_  11 g      3.6   .  0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-22-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3583 17 22 Gibbula_  12 g      3.0   .  0 0 0 2 1 0 3 0 0 1 2 1.0 1  1 17-22-12 1 1.1 8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
```

```
3584 17 22 Gibbula_  13 g     2.7  . 0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-22-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3585 17 22 Gibbula_  14 g     4.1  . 0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-22-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3586 17 22 Gibbula_  15 g     4.4  . 0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-22-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3587 17 22 Gibbula_  16 g     3.1  . 1 0 0 2 2 0 4 1 0 . 2 1.0 1  0 17-22-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3588 17 22 Gibbula_  17 g     3.2  . 1 0 0 2 2 0 4 1 0 . 2 1.0 1  0 17-22-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3589 17 22 Gibbula_  18 g     2.3  . 1 0 0 2 2 0 4 1 0 . 2 1.0 1  0 17-22-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3590 17 22 Gibbula_  19 g     5.0  . 0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 17-22-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3591 17 22 Gibbula_  20 g     6.0  . 0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-22-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3592 17 22 Gibbula_  21 g     0.1  . 1 0 0 2 2 0 4 1 0 . 2 1.0 1  0 17-22-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3593 17 22 Gibbula_  22 g     3.8  . 0 0 1 2 0 0 3 1 0 . 2 1.0 1  0 17-22-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3594 17 22 Gibbula_  23 g     3.1  . 0 0 0 2 0 0 2 1 0 . 2 1.0 1  0 17-22-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3595 17 22 Gibbula_  24 g     2.8  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 17-22-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3596 17 23 Neritina  1 g    1.0  . 1 0 1 2 2 1 6 1 0 . 2 1.0 1  0 17-23-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3597 17 24 Hinia_sp  1 g     5.0  . 0 0 1 2 0 0 3 1 0 . 2 1.0 1  0 17-24-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3598 17 24 Hinia_sp  2 g     5.0  . 0 0 0 2 0 0 2 0 0 1 2 1.0 1  1 17-24-2  1 0.9 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3599 17 25 Turritel  1 g    8.0  . 0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-25-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3600 17 25 Turritel  2 g    9.1  . 0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-25-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3601 17 25 Turritel  3 g    2.4  . 0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-25-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3602 17 25 Turritel  4 g    8.5  . 0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-25-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3603 17 25 Turritel  5 g   26.0  . 0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-25-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3604 17 26 Mangelia  1 g     4.2  . 0 0 0 1 1 0 2 0 0 1 2 1.0 1  1 17-26-1  1 0.8 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3605 17 26 Mangelia  2 g     5.8  . 0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-26-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3606 17 27 Mibrella  1 g    7.1  . 0 0 1 3 1 0 5 0 0 1 2 1.0 1  1 17-27-1  1 1.0 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3607 17 28 Bittum_s  1 g     5.2  . 0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-28-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3608 17 28 Bittum_s  2 g     5.0  . 0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 17-28-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3609 17 28 Bittum_s  3 g     5.0  . 0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 17-28-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3610 17 28 Bittum_s  4 g     3.0  . 1 0 0 2 2 0 4 1 0 . 2 1.0 1  0 17-28-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3611 17 29 Hinia_in  1 g    5.6  . 0 0 0 2 0 0 2 1 0 . 2 1.0 1  0 17-29-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3612 17 30 Urosalpi  1 g    8.3  . 1 0 0 2 2 0 4 1 0 . 2 1.0 1  0 17-30-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3613 17 31 Asthenot  1 g     5.3  . 0 0 0 2 0 0 2 1 0 . 2 1.0 1  0 17-31-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3614 17 32 Uromitra  1 g     2.8  . 0 0 1 1 1 0 3 1 0 . 2 1.0 1  0 17-32-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3615 17 33 Alvania_  1 g     3.1  . 0 0 1 1 0 0 2 1 0 . 2 1.0 1  0 17-33-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3616 17 34 Rissoa_t  1 g    3.0  . 0 0 0 2 0 0 2 1 0 . 2 1.0 1  0 17-34-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3617 17 34 Rissoa_t  2 g    2.6  . 0 0 0 2 0 0 2 0 0 1 2 1.0 1  1 17-34-2  1 0.2 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3618 17 35 Rissoina  1 g    4.0  . 0 0 0 3 1 0 4 0 0 1 2 1.0 1  1 17-35-1  1 0.8 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3619 18  1 Gouldia_  1 b l  3.1  3.2 0 0 1 3 0 0 4 0 0 1 2 0.5 1  1 18-1-1   1 0.5 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3620 18  1 Gouldia_  2 b r  2.9  3.1 0 0 1 3 1 0 5 0 0 1 2 0.5 1  1 18-1-2   1 0.3 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3621 18  1 Gouldia_  3 b r  3.5  3.7 0 0 1 3 1 0 5 0 0 1 2 0.5 1  1 18-1-3   1 0.3 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3622 18  1 Gouldia_  4 b l  3.9  4.2 0 0 1 3 1 1 6 0 0 1 2 0.5 1  1 18-1-4   1 0.4 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2 1 0 0
3623 18  1 Gouldia_  5 b r  1.2  1.3 0 0 0 3 1 0 4 1 0 . 2 0.5 1  0 18-1-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3624 18  1 Gouldia_  6 b l  1.1  1.3 1 0 1 3 2 0 6 1 0 . 2 0.5 1  0 18-1-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3625 18  1 Gouldia_  7 b l  2.0  2.1 0 0 1 3 1 0 5 1 0 . 2 0.5 1  0 18-1-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3626 18  1 Gouldia_  8 b l  2.4  2.5 0 0 1 3 0 0 4 1 0 . 2 0.5 1  0 18-1-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3627 18  1 Gouldia_  9 b l  3.0  3.2 0 0 1 3 0 0 4 1 0 . 2 0.5 1  0 18-1-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3628 18  1 Gouldia_ 10 b r  2.8  2.5 0 0 1 3 1 0 5 1 0 . 2 0.5 1  0 18-1-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3629 18  1 Gouldia_ 11 b l  2.9  3.2 0 0 1 3 1 0 5 1 0 . 2 0.5 1  0 18-1-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
```

```
3630  18   1  Gouldia_   12  b  r    2.8   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-1-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3631  18   1  Gouldia_   13  b  r    2.7   2.9  0  0  2  3  1  0  6  1  0  .  2  0.5  1   0  18-1-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3632  18   1  Gouldia_   14  b  l    3.1   3.3  0  0  2  3  1  0  6  1  0  .  2  0.5  1   0  18-1-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3633  18   1  Gouldia_   15  b  r    3.4   4.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-1-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3634  18   1  Gouldia_   16  b  r    3.3   3.7  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-1-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3635  18   1  Gouldia_   17  b  r    3.0   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-1-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3636  18   1  Gouldia_   18  b  r    4.1   4.9  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  18-1-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3637  18   1  Gouldia_   19  b  r    3.0   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-1-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3638  18   1  Gouldia_   20  b  l    5.1   5.5  0  0  2  3  1  0  6  1  0  .  2  0.5  1   0  18-1-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3639  18   1  Gouldia_   21  b  r    2.2   2.2  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-1-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3640  18   1  Gouldia_   22  b  r    4.1   4.6  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  18-1-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3641  18   1  Gouldia_   23  b  r    5.3   5.9  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  18-1-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3642  18   1  Gouldia_   24  b  l    5.9   6.2  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-1-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3643  18   1  Gouldia_   25  b  l    5.2   5.8  0  0  2  3  1  0  6  1  0  .  2  0.5  1   0  18-1-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3644  18   1  Gouldia_   26  b  l    5.9   6.4  0  0  1  2  1  1  5  0  0  1  2  0.5  1   1  18-1-26   1  0.8  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3  1  0  0
3645  18   2  Varicorb    1  b  l    3.1   4.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-2-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3646  18   2  Varicorb    2  b  r    2.0   2.8  0  0  0  3  1  0  4  1  0  .  2  0.5  1   0  18-2-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3647  18   2  Varicorb    3  b  l    3.2   4.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-2-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3648  18   2  Varicorb    4  b  l    2.1   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-2-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3649  18   2  Varicorb    5  b  r    3.8   4.3  0  0  2  3  1  0  6  1  0  .  2  0.5  1   0  18-2-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3650  18   2  Varicorb    6  b  r    2.4   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-2-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3651  18   2  Varicorb    7  b  r    4.0   5.0  0  0  1  2  0  0  3  0  0  1  2  0.5  1   1  18-2-7    1  0.3  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3652  18   2  Varicorb    8  b  r    4.1   5.1  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-2-8    1  0.6  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3653  18   3  Callucin    1  b  r    1.9   2.0  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-1    1  0.2  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3654  18   3  Callucin    2  b  l    2.8   3.0  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-2    1  0.5  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3655  18   3  Callucin    3  b  r    3.0   2.8  0  0  1  2  1  0  4  0  0  1  2  0.5  1   1  18-3-3    1  0.5  7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3656  18   3  Callucin    4  b  r    2.7   2.9  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-4    1  0.3  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3657  18   3  Callucin    5  b  r    3.2   3.3  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-5    1  0.6  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3658  18   3  Callucin    6  b  l    2.3   2.4  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-6    1  0.3  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3659  18   3  Callucin    7  b  l    1.7   1.8  0  0  1  3  0  0  4  0  0  1  2  0.5  1   1  18-3-7    1  0.2  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3660  18   3  Callucin    8  b  r    2.2   2.2  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-8    1  0.4  1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3661  18   3  Callucin    9  b  l    2.8   2.8  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-9    1  0.5  5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3662  18   3  Callucin   10  b  r    3.3   3.2  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-10   1  0.5  6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3663  18   3  Callucin   11  b  r    3.1   2.9  0  0  1  3  1  0  5  0  0  1  2  0.5  1   1  18-3-11   1  0.4  4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1  0  0
3664  18   3  Callucin   12  b  r    1.3   1.7  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-12  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3665  18   3  Callucin   13  b  l    1.2   1.2  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-13  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3666  18   3  Callucin   14  b  l    2.1   2.5  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-14  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3667  18   3  Callucin   15  b  r    2.2   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-15  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3668  18   3  Callucin   16  b  l    1.3   1.5  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-16  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3669  18   3  Callucin   17  b  l    2.1   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-17  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3670  18   3  Callucin   18  b  l    1.9   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-18  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3671  18   3  Callucin   19  b  r    2.0   2.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-19  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3672  18   3  Callucin   20  b  l    2.1   2.3  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-20  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3673  18   3  Callucin   21  b  r    2.7   2.4  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-21  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3674  18   3  Callucin   22  b  r    2.1   2.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-22  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
3675  18   3  Callucin   23  b  r    2.1   2.0  0  0  1  3  2  0  6  1  0  .  2  0.5  1   0  18-3-23  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0  0  0
```

```
3676  18  3  Callucin  24  b  r   1.9   1.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-24  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3677  18  3  Callucin  25  b  r   2.6   2.7  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  18-3-25  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3678  18  3  Callucin  26  b  l   2.4   2.5  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-26  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3679  18  3  Callucin  27  b  r   2.8   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-27  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3680  18  3  Callucin  28  b  r   2.7   2.7  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-28  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3681  18  3  Callucin  29  b  r   2.5   2.6  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  18-3-29  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3682  18  3  Callucin  30  b  r   2.0   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-30  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3683  18  3  Callucin  31  b  r   2.2   2.2  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-31  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3684  18  3  Callucin  32  b  l   2.3   2.2  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-32  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3685  18  3  Callucin  33  b  r   2.4   2.5  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-33  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3686  18  3  Callucin  34  b  l   2.4   2.5  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-34  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3687  18  3  Callucin  35  b  r   3.7   3.7  1  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-35  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3688  18  3  Callucin  36  b  l   2.5   2.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-36  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3689  18  3  Callucin  37  b  r   2.7   2.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-37  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3690  18  3  Callucin  38  b  r   2.9   2.9  0  0  0  3  1  0  4  1  0  .  2  0.5  1   0  18-3-38  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3691  18  3  Callucin  39  b  l   3.1   3.2  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-39  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3692  18  3  Callucin  40  b  l   3.0   2.9  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-40  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3693  18  3  Callucin  41  b  r   2.6   2.8  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-41  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3694  18  3  Callucin  42  b  r   3.0   2.9  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-42  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3695  18  3  Callucin  43  b  r   3.0   3.2  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-43  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3696  18  3  Callucin  44  b  r   2.9   3.0  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-44  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3697  18  3  Callucin  45  b  r   2.8   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-45  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3698  18  3  Callucin  46  b  l   4.0   4.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-46  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3699  18  3  Callucin  47  b  l   2.7   3.0  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-47  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3700  18  3  Callucin  48  b  l   4.1   3.9  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-48  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3701  18  3  Callucin  49  b  r   2.7   2.8  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-49  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3702  18  3  Callucin  50  b  r   3.0   3.1  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-50  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3703  18  3  Callucin  51  b  l   3.0   3.0  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-3-51  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3704  18  3  Callucin  52  b  r   2.3   2.2  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-3-52  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3705  18  4  Cyclocar   1  b  l   1.5   1.5  0  0  0  2  0  0  2  1  0  .  2  0.5  1   0  18-4-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3706  18  4  Cyclocar   2  b  l   6.5   6.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-4-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3707  18  4  Cyclocar   3  b  r   3.6   3.6  0  0  1  3  0  0  4  1  0  .  2  0.5  1   0  18-4-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3708  18  5  Plagioca   1  b  r   1.8   2.1  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  18-5-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3709  18  5  Plagioca   2  b  l   1.2   1.3  0  0  1  2  1  0  4  1  0  .  2  0.5  1   0  18-5-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3710  18  5  Plagioca   3  b  r   2.0   2.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-5-3   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3711  18  5  Plagioca   4  b  l   1.7   1.7  0  0  0  2  1  0  3  1  0  .  2  0.5  1   0  18-5-4   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3712  18  5  Plagioca   5  b  l   2.2   2.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-5-5   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3713  18  5  Plagioca   6  b  l   2.4   2.9  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  18-5-6   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3714  18  5  Plagioca   7  b  r   3.0   3.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-5-7   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3715  18  5  Plagioca   8  b  l   3.1   3.6  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-5-8   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3716  18  5  Plagioca   9  b  l   3.0   3.0  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-5-9   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3717  18  5  Plagioca  10  b  l   3.8   4.0  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  18-5-10  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3718  18  5  Plagioca  11  b  r   5.0   5.1  0  0  1  2  0  0  3  1  0  .  2  0.5  1   0  18-5-11  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3719  18  6  Angulus_   1  b  r   2.5   3.4  1  0  0  3  2  1  6  1  0  .  2  0.5  1   0  18-6-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3720  18  7  Gylcymer   1  b  l   5.1   5.2  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-7-1   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3721  18  7  Gylcymer   2  b  l  14.0  14.7  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-7-2   . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
3722 18  7 Gylcymer  3 b l   4.1   4.7 0 0 2 3 1 0 6 1 0 . 2 0.5 1  0 18-7-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3723 18  8 Nucula_m  1 b r   6.0   6.9 0 0 1 3 1 0 5 1 0 . 2 0.5 1  0 18-8-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3724 18  9 Anadara_  1 b l   2.9   4.1 0 0 1 2 1 0 4 0 0 1 2 0.5 1  1 18-9-1   1 0.9 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3725 18  9 Anadara_  2 b l   3.0   7.5 0 0 1 3 1 0 5 1 0 . 2 0.5 1  0 18-9-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3726 18  9 Anadara_  3 b l   3.0   7.0 0 0 1 2 1 0 4 1 0 . 2 0.5 1  0 18-9-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3727 18  9 Anadara_  4 b l   7.0   9.2 0 0 1 2 1 0 4 1 0 . 2 0.5 1  0 18-9-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3728 18  9 Anadara_  5 b l  13.2  16.9 0 0 1 2 0 0 3 1 0 . 2 0.5 1  0 18-9-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3729 18 10 Carycorb  1 b l   1.8   2.5 0 0 1 3 1 0 5 1 0 . 2 0.5 1  0 18-10-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3730 18 10 Carycorb  2 b r   2.3   3.8 0 0 1 3 1 0 5 1 0 . 2 0.5 1  0 18-10-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3731 18 10 Carycorb  3 b l   8.3  14.0 0 0 1 2 0 0 3 1 0 . 2 0.5 1  0 18-10-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3732 18 11 Crassost  1 b l  11.0  10.0 0 1 0 2 0 0 3 0 0 1 2 0.5 1  1 18-11-1  1 1.0 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3733 18 11 Crassost  2 b l  11.7  10.8 0 1 0 2 1 0 4 1 0 . 2 0.5 1  0 18-11-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3734 18 11 Crassost  3 b l  13.0  14.9 0 0 0 3 1 1 5 1 0 . 2 0.5 1  0 18-11-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3735 18 11 Crassost  4 b l  19.6  15.7 0 1 0 3 1 1 6 1 0 . 2 0.5 1  0 18-11-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3736 18 11 Crassost  5 b r   4.4   3.9 0 1 0 3 1 0 5 1 0 . 2 0.5 1  0 18-11-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3737 18 11 Crassost  6 b r   5.1   5.0 0 0 0 2 1 0 3 1 0 . 2 0.5 1  0 18-11-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3738 18 12 Mangelia  1 g     6.4   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-12-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3739 18 12 Mangelia  2 g     4.5   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-12-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3740 18 13 Bittum_r  1 g     2.9   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3741 18 13 Bittum_r  2 g     3.2   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3742 18 13 Bittum_r  3 g     2.0   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3743 18 13 Bittum_r  4 g     1.8   .  1 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3744 18 13 Bittum_r  5 g     1.9   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3745 18 13 Bittum_r  6 g     1.6   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3746 18 13 Bittum_r  7 g     4.0   .  0 0 1 2 0 0 3 1 0 . 2 1.0 1  0 18-13-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3747 18 13 Bittum_r  8 g     4.1   .  0 0 1 1 0 0 2 0 0 1 2 1.0 1  1 18-13-8  1 0.6 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3748 18 13 Bittum_r  9 g     4.2   .  0 0 1 3 1 0 5 0 0 1 2 1.0 1  1 18-13-9  1 0.6 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3749 18 13 Bittum_r 10 g     2.0   .  0 0 1 3 1 0 5 0 0 1 2 1.0 1  1 18-13-10 1 0.3 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3750 18 13 Bittum_r 11 g     1.7   .  0 0 1 3 1 0 5 0 0 1 2 1.0 1  1 18-13-11 1 0.4 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3751 18 13 Bittum_r 12 g     3.2   .  0 0 1 3 1 0 5 0 1 2 2 1.0 1  1 18-13-12 2 0.3 6 0.3 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3752 18 13 Bittum_r 13 g     2.6   .  0 0 1 2 1 0 4 0 0 1 2 1.0 1  1 18-13-13 1 0.7 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3753 18 13 Bittum_r 14 g     3.0   .  0 0 1 2 1 0 4 0 0 1 2 1.0 1  1 18-13-14 1 0.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3754 18 13 Bittum_r 15 g     2.2   .  0 0 1 2 1 0 4 0 0 1 2 1.0 1  1 18-13-15 1 0.3 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3755 18 13 Bittum_r 16 g     3.8   .  0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 18-13-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3756 18 13 Bittum_r 17 g     2.3   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3757 18 13 Bittum_r 18 g     1.9   .  0 0 1 2 1 1 5 1 0 . 2 1.0 1  0 18-13-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3758 18 13 Bittum_r 19 g     1.8   .  1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-13-19 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3759 18 13 Bittum_r 20 g     1.8   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-20 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3760 18 13 Bittum_r 21 g     2.0   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-21 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3761 18 13 Bittum_r 22 g     1.6   .  1 0 1 3 2 0 6 1 0 . 2 1.0 1  0 18-13-22 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3762 18 13 Bittum_r 23 g     2.2   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-23 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3763 18 13 Bittum_r 24 g     2.1   .  1 0 1 3 2 0 6 1 0 . 2 1.0 1  0 18-13-24 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3764 18 13 Bittum_r 25 g     2.1   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-25 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3765 18 13 Bittum_r 26 g     2.0   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-26 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3766 18 13 Bittum_r 27 g     2.8   .  0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-27 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3767 18 13 Bittum_r 28 g     1.2   .  0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 18-13-28 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
```

```
3768 18 13 Bittum_r 29 g   1.8  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-13-29 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3769 18 13 Bittum_r 30 g   2.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-13-30 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3770 18 13 Bittum_r 31 g   2.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-13-31 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3771 18 13 Bittum_r 32 g   4.0  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-32 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3772 18 13 Bittum_r 33 g   1.8  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-13-33 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3773 18 13 Bittum_r 34 g   2.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-34 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3774 18 13 Bittum_r 35 g   3.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-35 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3775 18 13 Bittum_r 36 g   3.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-13-36 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3776 18 13 Bittum_r 37 g   1.7  . 1 0 1 3 2 0 6 1 0 . 2 1.0 1  0 18-13-37 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3777 18 13 Bittum_r 38 g   3.1  . 1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-13-38 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3778 18 13 Bittum_r 39 g   4.8  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-39 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3779 18 13 Bittum_r 40 g   2.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-40 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3780 18 13 Bittum_r 41 g   2.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-41 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3781 18 13 Bittum_r 42 g   2.5  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-42 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3782 18 13 Bittum_r 43 g   7.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-13-43 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3783 18 14 Bittum_s  1 g   2.2  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-14-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3784 18 14 Bittum_s  2 g   4.0  . 1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-14-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3785 18 14 Bittum_s  3 g   5.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-14-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3786 18 14 Bittum_s  4 g   4.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-14-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3787 18 14 Bittum_s  5 g   5.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-14-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3788 18 14 Bittum_s  6 g   4.0  . 0 0 1 2 1 0 4 0 0 1 2 1.0 1  1 18-14-6  1 0.5 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3789 18 14 Bittum_s  7 g   4.1  . 0 0 1 2 1 0 4 0 0 1 2 1.0 1  1 18-14-7  1 0.5 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3790 18 14 Bittum_s  8 g   1.8  . 0 0 1 2 1 0 4 0 0 1 2 1.0 1  1 18-14-8  1 0.2 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3791 18 15 Sandberg  1 g   1.8  . 0 0 0 1 0 0 1 0 0 1 2 1.0 1  1 18-15-1  1 0.6 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3792 18 15 Sandberg  2 g   2.1  . 0 0 1 3 0 0 4 0 0 1 2 1.0 1  1 18-15-2  1 0.9 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3793 18 15 Sandberg  3 g   2.1  . 0 0 1 3 0 0 4 0 0 1 2 1.0 1  1 18-15-3  1 0.3 8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3794 18 15 Sandberg  4 g   1.6  . 0 0 1 3 1 0 5 0 0 1 2 1.0 1  1 18-15-4  1 0.3 6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3795 18 15 Sandberg  5 g   2.2  . 0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 18-15-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3796 18 16 Clavatul  1 g  8.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-16-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3797 18 17 Alaba_co  1 g   1.5  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-17-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3798 18 17 Alaba_co  2 g   4.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-17-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3799 18 17 Alaba_co  3 g   6.0  . 0 0 1 3 1 1 6 1 0 . 2 1.0 1  0 18-17-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3800 18 17 Alaba_co  4 g   2.8  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-17-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3801 18 17 Alaba_co  5 g   6.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-17-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3802 18 18 Mangelia  1 g   5.0  . 1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-18-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3803 18 19 Cerithiu  1 g  4.8  . 0 0 1 2 0 0 3 0 0 1 2 1.0 1  1 18-19-1  1 0.3 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3804 18 20 Rissoa_t  1 g  1.2  . 1 0 1 3 2 0 6 1 0 . 2 1.0 1  0 18-20-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3805 18 20 Rissoa_t  2 g  2.8  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-20-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3806 18 20 Rissoa_t  3 g  2.6  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-20-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3807 18 20 Rissoa_t  4 g  3.7  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-20-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3808 18 20 Rissoa_t  5 g  2.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-20-5  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3809 18 20 Rissoa_t  6 g  3.1  . 1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-20-6  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3810 18 20 Rissoa_t  7 g  3.0  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-20-7  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3811 18 20 Rissoa_t  8 g  2.5  . 0 0 1 3 0 0 4 1 0 . 2 1.0 1  0 18-20-8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0 0 0
3812 18 20 Rissoa_t  9 g  2.7  . 0 0 1 3 0 0 4 0 0 1 2 1.0 1  1 18-20-9  1 0.4 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
3813 18 20 Rissoa_t 10 g   3.2  . 0 0 1 3 1 0 5 0 0 1 2 1.0 1  1 18-20-10 1 1.0 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 0 0
```

```
3814 18 21 Turbonil  1 g    3.1  . 1 0 2 3 2 0 7 1 0 . 2 1.0 1  0 18-21-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3815 18 22 Kleinell  1 g    3.3  . 0 0 1 2 0 0 3 1 0 . 2 1.0 1  0 18-22-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3816 18 23 Cylichna  1 g    1.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-23-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3817 18 24 Mangelia  1 g    4.3  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-24-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3818 18 25 Asthenot  1 g    4.9  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-25-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3819 18 26 Phrontis  1 g    5.2  . 0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 18-26-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3820 18 27 Turritel  1 g    9.1  . 1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-27-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3821 18 27 Turritel  2 g    6.5  . 1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-27-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3822 18 27 Turritel  3 g    7.1  . 1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-27-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3823 18 27 Turritel  4 g    4.0  . 1 0 1 2 2 0 5 0 1 2 2 1.0 1  1 18-27-4  2 0.3 7 0.2 4 . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3824 18 28 Hinia_sp  1 g    5.0  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-28-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3825 18 28 Hinia_sp  2 g    2.4  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-28-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3826 18 29 Cylichna  1 g    7.1  . 0 0 2 3 1 0 6 1 0 . 2 1.0 1  0 18-29-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3827 18 30 Gibbula_  1 g    4.6  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-30-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3828 18 30 Gibbula_  2 g    3.0  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-30-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3829 18 30 Gibbula_  3 g    2.0  . 1 0 1 3 2 0 6 1 0 . 2 1.0 1  0 18-30-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3830 18 30 Gibbula_  4 g    2.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-30-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3831 18 30 Gibbula_  5 g    4.3  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-30-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3832 18 30 Gibbula_  6 g    4.0  . 1 0 1 2 2 0 5 1 0 . 2 1.0 1  0 18-30-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3833 18 30 Gibbula_  7 g    1.1  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-30-7 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3834 18 30 Gibbula_  8 g    1.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-30-8 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3835 18 30 Gibbula_  9 g    3.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-30-9 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3836 18 30 Gibbula_  10 g   2.8  . 1 0 1 3 2 0 6 1 0 . 2 1.0 1  0 18-30-10 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3837 18 30 Gibbula_  11 g   6.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-30-11 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3838 18 30 Gibbula_  12 g   3.1  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-30-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3839 18 30 Gibbula_  13 g   4.2  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-30-13 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3840 18 30 Gibbula_  14 g   4.4  . 0 0 1 2 1 0 4 1 0 . 2 1.0 1  0 18-30-14 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3841 18 30 Gibbula_  15 g   4.6  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-30-15 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3842 18 30 Gibbula_  16 g   4.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-30-16 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3843 18 30 Gibbula_  17 g   4.2  . 1 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-30-17 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3844 18 30 Gibbula_  18 g   4.0  . 0 0 1 3 2 0 6 1 0 . 2 1.0 1  0 18-30-18 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3845 18 30 Gibbula_  19 g   2.2  . 0 0 1 2 1 0 4 0 0 1 2 1.0 1  1 18-30-19 1 0.3 6 . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3846 18 30 Gibbula_  20 g   1.7  . 0 0 1 3 1 0 5 0 0 1 2 1.0 1  1 18-30-20 1 0.2 7 . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3847 18 31 Alvania_  1 g    2.7  . 0 0 0 1 1 0 2 1 0 . 2 1.0 1  0 18-31-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3848 18 32 Cancella  1 g    6.1  . 0 0 0 2 1 0 3 1 0 . 2 1.0 1  0 18-32-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3849 18 33 Tricola_  1 g    3.0  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-33-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3850 18 33 Tricola_  2 g    2.8  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-33-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3851 18 35 Neritina  1 g    1.0  . 0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 18-35-1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3852 18 35 Neritina  2 g    1.9  . 0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 18-35-2 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3853 18 35 Neritina  3 g    1.2  . 0 0 1 3 1 0 5 1 0 . 2 1.0 1  0 18-35-3 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3854 18 35 Neritina  4 g    1.4  . 0 0 1 1 0 0 2 1 0 . 2 1.0 1  0 18-35-4 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3855 18 35 Neritina  5 g    1.8  . 0 0 0 1 0 0 1 1 0 . 2 1.0 1  0 18-35-5 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3856 18 35 Neritina  6 g    1.1  . 0 0 0 2 0 0 2 0 0 1 2 1.0 1  1 18-35-6 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0 0 0
3857 18 35 Neritina  7 g    1.3  . 0 0 1 2 0 0 3 0 0 1 2 1.0 1  1 18-35-7  1 0.4 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3858 18 35 Neritina  8 g    1.3  . 0 0 1 2 0 0 3 0 0 1 2 1.0 1  1 18-35-8  1 0.6 7 . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
3859 18 36 Euspira_  1 g    2.0  . 0 0 1 3 1 0 5 0 0 1 2 1.0 1  1 18-36-1  1 0.8 5 . . . . . . . . . . . . . . . . . . . . . . . . . . . .1 0 0
```

```
3860  18  36  Euspira_    2  g      0.9    .  0  0  1  2  1  0  4  1  0  .  2  1.0  1   0  18-36-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3861  18  36  Euspira_    3  g      1.9    .  0  0  1  2  1  0  4  1  0  .  2  1.0  1   0  18-36-3  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3862  18  36  Euspira_    4  g      4.9    .  0  0  1  2  1  0  4  1  0  .  2  1.0  1   0  18-36-4  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3863  18  38  Conus_du    1  g      8.0    .  0  0  1  3  1  0  5  1  0  .  2  1.0  1   0  18-38-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3864  18  38  Conus_du    2  g      3.1    .  0  0  1  3  1  0  5  1  0  .  2  1.0  1   0  18-38-2  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3865  18  39  Conus_vi    1  g     12.1    .  0  0  1  2  1  0  4  1  0  .  2  1.0  1   0  18-39-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3866  18  40  Perrona_    1  g     23.6    .  0  0  1  3  1  0  5  1  0  .  2  1.0  1   0  18-40-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3867  18  41  Strombus    1  g     18.2    .  0  0  1  3  1  0  5  1  0  .  2  1.0  1   0  18-41-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3868  18  42  Teretia_    1  g      3.2    .  0  0  0  2  1  0  3  0  0  1  2  1.0  1   1  18-42-1   1  1.1  8  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1  0  0
3869  18  44  Linga_co    1  b  l   5.1   5.3  0  0  0  2  1  0  3  1  0  .  2  0.5  1   0  18-44-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3870  18  45  Ervilia_    1  b  l   3.2   5.1  0  0  1  3  1  0  5  1  0  .  2  0.5  1   0  18-45-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
3871  18  46  Mangelia    1  g      4.2    .  0  0  0  2  1  0  3  1  0  .  2  1.0  1   0  18-46-1  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .0  0  0
```

Appendix B: Permian of West Texas database

Explanation of data elements

location: sample locality, see Cooper and Grant, 1972 for details
formation: formation sample came from
number: number of specimens inspected
taxa: number of genera inspected (usually number/20)
DI: drilling intensity (number of drilled specimens/total number of specimens)
highest DI: highest drilling intensity in a genus
taxon: which genus displayed the highest drilling intensity
% taxa drilled: number of genera that display drill holes

brachiopods

location	formation	number	# taxa	DI	highest DI	taxon	% taxa drilled
725f	Bell Canyon	60	3	1.7	5	Hustedia	33.3
728p	Bell Canyon	120	6	1.7	10	Composita	16.7
702	Cathdral Mtn	340	17	3.2	15		29.4
702b	Cathdral Mtn	300	15	4.7	35	Martinia	53.5
702un	Cathdral Mtn	240	12	1.6	10		16.6
703b	Cathdral Mtn	80	4	1.3	5	Nudauris	25
721u	Cathdral Mtn	220	11	4.5	20	Composita	45.4
724j	Cathdral Mtn	40	2	0	NA	NA	0
726o	Cathdral Mtn	220	11	0	NA	NA	0
701q	Gaptank	89	5	0	NA	NA	0
705k	Lenox Hills	60	3	0	NA	NA	0
701	Neal Ranch	120	6	1.7	5		33.3
701d	Neal Ranch	180	9	0.6	5	Hustedia	11.1
702c	Road Canyon	340	17	0.6	5		11.7
707e	Road Canyon	220	11	2.3	10		45.4
719x	Road Canyon	140	7	0	NA	NA	0
726za	Road Canyon	40	2	12.5	25	Composita	50
707a	Skinner Ranch	40	2	0	NA	NA	0
707ha	Skinner Ranch	120	6	0	NA	NA	0
708e	Skinner Ranch	60	3	0	NA	NA	0
714y	Skinner Ranch	100	5	0	NA	NA	0
722h	Skinner Ranch	180	9	0	NA	NA	0
723l	Skinner Ranch	40	2	0	NA	NA	0
733j	Skinner Ranch	120	6	0	NA	NA	0
706	Word	560	28	0.9	10	Costispinifera	14.3
706b	Word	340	17	0.3	5	Megousia	5.8
706c	Word	320	16	0.9	10	Liosotella	12.5
706d	Word	120	6	0	NA	NA	0
706e	Word	460	23	0.2	5	Paucispinifera	4.3
714o	Word	180	9	0.6	5	Dyoros	11.1
715i	Word	460	23	0.2	5	Glossothyropsis	4.3
719z	Word	480	24	0.4	5		8.3
723t	Word	220	11	1.4	10	Paucispinifera	18.2
724u	Word	160	8	0.6	5	Cyclacantharia	12.5
727j	Word	360	18	0	NA	NA	0
742b	Word	160	8	1.3	5		25

bivalves

702	Cathdral Mtn	108	3	3.7	10	?	33.3
721u	Cathdral Mtn	160	4	3.1	12.5	Streblopteria	25
707e	Road Canyon	95	3	3.2	5	?	66.6
722g	Road Canyon	40	1	25	25	?	100
726d	Road Canyon	96	4	1	4.5	Eocamptonectes	25
706e	Word	40	1	0	NA	NA	0

Appendix C: Pennsylvanian of New Mexico database

Explanation of data elements

number: number of specimen.
length: length of specimen in millimeters, measured from tip of beak to furthest point on either lobe.
width: width of specimen in millimeters, measured at point of maximum width.
hole: diameter of drill hole in millimeters.
comments.: any addition notation that was deemed necessary.

These data fields are used for all datasets from the Magdalena Formation, 4 for *Cardiarina cordata*, 2 for *Oligothyrina alleni* and 1 for *Coledium bowsheri*.

Pennsylvanian brachiopod data - Smithsonian collections
specimens not
drilled
Cardiarina cordata, Magdalena Formation, Sacramento Mountains, Otero Co. NM

number	length	width	hole loc	comments
1	1.3	1.1		
2	1.1	1.1		
3	1.5	1.3		
4	1.7	1.2		
5	1.8	1.3		
6	1.6	1.2		
7	1.8	1.2		
8	1.8	1.5		
9	1.6	1.6		
10	1.5	1.5		
11	1.8	1.6		
12	1.3	1.3		
13	1.8	1.4		
14	1.6	1.3		
15	1.5	1.9		
16	1.3	1.3		
17	1.8	1.8		
18	1.5	1.3		
19	1.5	1.2		
20	1.5	1.2		
21	1.8	1.6		
22	1.4	1		
23	1.8	1.6		
24	1.7	1.4		
25	1.8	1.6		
26	1.6	1.3		
27	1.1	1.1		
28	1.4	1.2		
29	1.6	1.3		
30	1.9	1.8		
31	1.2	1.2		
32	1.6	1.4		
33	1.8	1.6		
34	1.4	1.5		
35	1.5	1.3		
36	1.5	1.3		
37	1.4	1.1		
38	1.5	1.3		
39	1.9	1.7		
40	1.5	1.2		
41	1.8	1.3		

42	1.7	1.3	
43	1.5	1.5	
44	1.5	1.3	
45	1.9	1.5	
46	1.4	1.2	
47	1.7	1.4	
48	1.2	1.7	
49	1.5	1.6	
50	1.7	1.5	
51	1.5	1.3	
52	1.5	1.3	
53	1.5	1.2	
54	1.5	1.6	
55	1.6	1.4	
56	1.9	1.7	
57	1.9	1.7	
58	1.7	1.5	
59	1.3	1.1	
60	1.6	1.3	
61	1.8	1.5	
62	1.3	1.2	
63	1.5	1.3	
64	1.3	1.3	
65	1.2	1.1	
66	1.7	1.4	
67	1.6	1.7	beak broken
68	1.7	1.6	
69	1.5	1.3	
70	1.5	1.3	
71	1.5	1.2	
72	1.5	1.3	
73	1.7	1.4	
74	1.7	1.5	
75	1.5	1.3	
76	1.9	1.8	
77	1.3	1.2	
78	1.5	1.3	
79	1.5	1.2	
80	1.7	1.4	
81	1.3	1.1	
82	1.2	1.2	beak broken
83	1.6	1.3	
84	1.2	1.2	
85	1.5	1.3	
86	1.4	1.1	
87	2	1.8	

88	1.8	1.5	
89	1.3	1.1	
90	1.3	1.4	beak broken
91	1.2	1.1	
92	1.3	1.3	
93	1.5	1.3	
94	1.2	1.1	
95	1.7	1.4	
96	1.2	1.2	
97	1.5	1.3	
98	1.6	1.3	
99	1.2	1.2	
100	1.6	1.5	
101	1.2	1.1	
102	1.5	1.4	
103	1.8	1.5	
104	1.3	1.2	
105	1.5	1.3	
106	1.2	1.1	beak broken
107	1.4	1.2	
108	1.5	1.3	
109	1	1	beak broken, rounded
110	1.6	1.3	
111	1.9	1.6	
112	1.5	1.3	
113	1.4	1.3	
114	1.5	1.3	
115	1.8	1.3	
116	1.5	1.4	
117	1.9	1.5	
118	1.4	1.2	
119	1.4	1.2	
120	1.3	1.3	
121	1.7	1.3	
122	1.9	1.6	
123	1.5	1.2	
124	1.9	1.6	
125	1.4	1.2	
126	1.7	1.8	
127	1.6	1.3	
128	1.8	1.6	
129	1.6	1.3	
130	1.8	1.4	
131	1.4	1.3	
132	1.5	1	broken, missing right lobe
133	1.5	1.3	

134	1.6	1.5	
135	1.9	1.6	
136	1.5	1.3	
137	1.6	1.6	
138	1.7	1.2	
139	1.5	1.3	
140	1.5	1.9	
141	1.7	1.5	
142	1.8	1.2	
143	1.8	1.4	
144	1.4	1.3	
145	1.9	1.4	
146	1.8	1.4	
147	1.7	1.2	
148	1.8	1.3	
149	1.3	1.3	
150	1.9	1.6	
15	1.4	1.3	
152	1.4	1.3	
153	1.5	1.2	
154	1.5	1.1	
155	1.3	1.2	
156	1.4	1.3	
157	1.3	1.3	
158	1.8	1.7	
159	1.9	1.8	
160	1.4	1.2	
161	1.6	1.2	
162	1.3	1.6	beak broken
163	1.6	1.5	
164	1	1.4	beak broken
165	1.2	1.2	
166	1.3	1.1	
167	1.5	1.3	
168	1.2	1.3	
169	2	1.8	
170	2	1.8	
171	1.7	1.5	
172	1.5	1.3	
173	1.5	1.1	
174	1.3	1.2	
175	1.4	1.3	
176	1.5	1.3	
177	1.8	1.5	
178	1.1	1.2	beak broken
179	1.9	1.7	

180	1.6	1.5	
181	1.5	1.3	
182	1.4	1.3	
183	1.7	1.5	
184	1.4	1.3	
185	1.8	1.6	
186	1.3	1.3	
187	1.7	1.2	
188	1.9	1.8	
189	1.9	1.7	
190	1.8	1.2	
191	1.8	1.7	
192	1.7	1.7	beak broken
193	1.5	1.8	
194	1.7	1.7	
195	1.8	1.5	
196	1.3	1.2	
197	1.6	1.3	
198	1.5	1.8	
199	1.3	1.3	
200	1.2	1.2	
201	1.7	1.2	
202	1.7	1.3	
203	1.8	1.5	
204	1.5	1.3	
205	1.9	1.5	
206	1.3	1.9	
207	1.5	1.6	
208	1.3	1.3	
209	1.6	1.3	
210	1.2	1.2	beak broken
211	1.1	1.3	beak broken
212	1.3	1.2	
213	1.9	1.5	
214	1.8	1.6	
215	1.3	1.2	
216	1.5	1.3	
217	1.5	1.3	
218	1.7	1.7	
219	1.9	1.7	
220	1.7	1.9	
221	1.2	1.1	
222	1.3	1.3	
223	1.3	1.1	
224	1.6	1.4	
225	1.5	1.3	

226	1.5	1.2	
227	1.2	1.6	beak broken
228	1.6	1.4	
229	1.5	1.3	
230	1.9	1.7	
231	1.3	1.2	
232	1.7	1.4	
233	1.6	1.3	
234	1.3	1.3	
235	1.8	1.4	
236	1.5	1.6	
237	1.6	1.4	
238	1.4	1.2	
239	1.3	1.3	
240	1.3	1.3	
241	1.6	0.9	broken, missing right lobe
242	1.5	1.3	
243	1.4	1.4	beak broken
244	1.4	1.2	
245	1.5	1.2	
246	1.1	1.1	
247	1.9	1.6	
248	1.6	1.7	
249	1.4	1.3	
250	1.4	1.3	
251	1.8	1.3	
252	1.8	1.2	
253	1.6	1.6	
254	1.4	1.8	
255	1.4	1.3	
256	1.6	1.3	
257	1.6	1.3	
258	1.8	1.8	beak broken
259	1.1	1.1	
260	1.5	1.3	
261	1.1	1	
262	1.2	1	
263	1.7	1.3	
264	1.4	1.5	
265	1.5	1.4	
266	1.1	1.1	
267	1.5	1.3	
268	1.1	1.1	
269	1.2	1.3	
	1.5	1.4	average dimensions

Pennsylvanian brachiopod data - Smithsonian collections
drilled specimens, hole in brachial valve
Cardiarina cordata, Magdalena Formation, Sacramento Mountains, Otero Co. NM

number	length	width	hole	comments
1	1	1	0.09	
2	1.5	1.5	0.08	
3	1.1	1.1	0.14	
4	1.1	1.1	0.08	
5	1.4	1.3	0.14	
6	1.5	1.3	0.13	
7	1.5	1.5	0.09	
8	1.9	1.6	0.12	
9	1.3	1.3	0.14	
10	1.5	1.3	0.1	
11	1.7	1.4	0.09	
12	1.3	1.2	0.08	
13	1.9	1.5	0.17	
14	1.3	1	0.09	
15	1.2	1.2	0.13	
16	1.5	1.3	0.13	
17	1.5	1.3	0.14	
18	1.3	1.4	0.07	
19	1.7	1.3	0.13	
20	1.3	1.1	0.07	
21	1.5	1.3	0.13	
22	1.3	1.2	0.1	
23	1.6	1.5	0.13	
24	1.3	1.1	0.11	
25	1.1	1	0.09	
26	1.6	1.3	0.12	
27	1.2	1.2	0.08	
28	1.3	1.7	0.13	
29	1.5	1.3	0.09	
30	1.1	1.1	0.04	
31	1.5	1.3	0.04	
32	1	1.3	0.09	
33	1.3	1.2	0.07	
34	1.5	1.3	0.08	
35	1.5	1.3	0.15	
36	1.2	1.1	0.09	
37	1.8	1.7	0.11	
38	1.5	1.3	0.14	
39	1.8	1.6	0.09	
40	1.6	1.5	0.12	
41	1.9	1.5	0.13	

42	1.7	1.5	0.11	
43	1.1	1.2	0.03	
	1.43	1.31	0.10	average dimensions

Pennsylvanian brachiopod data - Smithsonian collections
drilled specimens, hole in pedicle valve
Cardiarina cordata, Magdalena Formation, Sacramento Mountains, Otero Co. NM

number	length	width	hole	comments
1	1.1	1.3	0.1	beak broken
2	1.8	1.9	0.12	
3	1.5	1.3	0.1	
4	1.7	1.2	0.13	good to photo
5	1.5	1.3	0.12	
6	1.3	1.6	0.07	
7	1.8	1.8	0.11	
8	1.3	1.1	0.14	
9	1.6	1.4	0.06	
10	1.5	1.3	0.04	
11	1.5	1.3	0.13	
12	1.5	1.1	0.07	
13	1.4	1.3	0.13	
14	1.7	1.5	0.05	
15	1.7	1.4	0.1	good to photo
16	1.5	1.3	0.09	good to photo
17	1.4	1.3	0.05	
18	1.3	1.1	0.12	
19	1.4	1.2	0.08	
20	1.1	1	0.07	
21	1.5	1.3	0.12	
22	1.5	1.2	0.12	
23	1.7	1.1	0.09	broken, missing left lobe
24	1.3	1.3	0.04	beak broken
25	1.2	1.1	0.04	
26	1.5	1.3	0.7	
27	1.9	1.5	0.1	
28	1.3	1.1	0.05	
29	1.4	1.2	0.08	
30	1.6	1.3	0.5	
31	1	1	0.04	rounded
32	1.5	1.5	0.11	good to photo
33	1.5	1.5	0.09	good to photo
34	1.6	1.2	0.05	
35	1	1.1	0.07	
36	1.5	1.2	0.08	
37	1.5	1.3	0.12	

38	1.4	1.5	0.07	
39	1.5	1.2	0.09	
40	1.4	1.1	0.19	
41	1.8	1.4	0.11	photo, multiple drilled
42	1.3	1.3	0.08	
43	1.7	1.2	0.09	
44	1.5	1.3	0.09	
45	1.5	1.3	0.09	
46	1.3	1.1	0.09	
47	1.6	1.3	0.11	broken, missing right lobe
48	1.3	1.1	0.08	
49	1.8	1.3	0.13	
50	1.8	1.5	0.04	
51	1.2	1.3	0.14	beak broken
52	1.3	0.3	0.08	
53	1.5	1.2	0.08	
54	1.9	1.4	0.12	
55	1.8	1.3	0.11	
56	1.5	1.4	0.08	
57	1.5	1.1	0.08	
58	1.5	1.2	0.09	
59	1.8	1.7	0.08	
60	1.7	1.3	0.04	
61	1.1	1.1	0.06	
62	1.6	1.7	0.09	
63	1.3	1.3	0.05	
64	1.6	1.5	0.03	
65	1.6	1.4	0.09	broken, missing part of right lobe
66	1.2	1.4	0.09	beak broken
67	1.8	1.6	0.05	
68	1.6	1.9	0.07	
69	1.3	1.3	0.09	
70	1.3	1.5	0.08	
71	1.5	1.5	0.08	
72	1.8	1.5	0.08	
73	1.5	1.3	0.13	
74	1.3	1.3	0.09	
75	1.7	1.7	0.08	
76	1.7	1.7	0.06	
77	1.4	1.4	0.08	beak broken
78	1.6	1.6	0.09	
79	2	2	0.08	
80	1.9	1.6	0.09	
81	1.9	1.5	0.07	photo, two drills
82	1.3	1.1	0.03	
83	1.1	1.1	0.12	

84	1.1	1.3	0.09	beak broken
85	1.2	1.2	0.09	
86	1.5	1.3	0.12	
	1.5	1.3	0.1	average dimensions

Pennsylvanian brachiopod data - Smithsonian collections
drilled specimens, hole in both valves
Cardiarina cordata, Magdalena Formation, Sacramento Mountains, Otero Co. NM

number	length	width	hole	comments
1	1.7	1.3		both mounted with specimens with pedicle drills
2	1.8	1.8		

Pennsylvanian brachiopod data - Smithsonian collections
specimens not
drilled
Oligothyrina alleni, Magdalena Formation, Sacramento Mountains, Otero Co. NM

number	length	width	hole loc	comments
1	4	3.2		
2	5	4.5		
3	4	3.2		
4	4.2	4		
5	4.3	4		
6	3.6	2.8		
7	4.2	3.8		
8	4.5	3.9		
9	4.9	4		
10	4	3.5		
11	4.5	3.9		
12	4.3	3.2		
13	3.5	3		
14	4.6	3.9		
15	3.9	3.1		
16	4	3.2		
17	4.3	3.9		
18	3.4	2.9		
19	4.1	3.2		
20	4	3.5		
21	4	2.9		
22	3.7	3.1		broken, width too short
23	3.8	3.5		
24	4.1	3.6		
25	4.1	3.5		
26	4.2	3.6		
27	4.4	3.6		
28	4.4	3.8		

29	4.5	3.1	broken, width too short
30	3.7	2.9	
31	3.5	2.6	
32	4	3.2	
33	4.6	4.1	
34	3.9	3.3	
35	4	3.5	
36	4.4	3.9	
37	4	3.2	
38	4.4	3.7	
39	5.1	4.1	
40	4.3	3.6	
41	4	3.1	
42	4	3.3	
43	4.1	2.4	
44	3.1	3.5	
45	5	4	
46	4.2	3.6	
47	5.1	4.1	
48	2.9	2.1	
49	4.9	4.2	
50	4	3.1	
51	3.1	2.7	
52	4	3.3	
53	4.5	3.6	
54	3.8	3	
55	4	3	
56	4	3.1	
57	4	3.2	
58	5	4.1	
59	4.5	3.3	
60	4.1	3.6	
61	4	3.2	
62	4	3.1	
63	4.2	3.4	
64	4.2	3.2	
65	4	3.7	
66	5.1	4.5	
67	4.1	3.2	
68	4.7	4	
69	4.5	3.5	
70	3.9	3	broken, width too short
71	4.2	3.8	
72	4.1	3.5	
73	3.1	1.8	broken, width too short
74	5.8	4.6	

75	4.1	3.4		
76	3.7	3		
77	4	3.5		
78	4.9	4.3		
79	4	3.1		
80	4.8	3.6		
81	4.8	3.9		
82	4	3.2		
83	4	3.1		
84	4.2	3.6		
85	3.8	3.2		
86	4	3.2		
87	4.2	3.8		
88	3.9	3.1		
	4.2	3.4		average dimensions

Pennsylvanian brachiopod data - Smithsonian collections
drilled specimens, hole in pedicle valve
Oligothyrina alleni, Magdalena Formation, Sacramento Mountains, Otero Co. NM

number	length	width	hole loc	comments
1	3.8	3		

Pennsylvanian brachiopod data - Smithsonian collections
specimens not
drilled
Coledium bowsheri, Magdalena Formation, Sacramento Mountains, Otero Co. NM

number	length	width	hole loc	comments
1	7.1	7.6		
2	8.4	9.1		
3	7.9	8.1		
4	7.9	8.8		
5	7	9		length too short - broken
6	5.8	5.8		
7	7.8	8		
8	6.2	6.4		both questionable, badly rounded
9	8.8	10.1		
10	7	8.1		
11	7	6.9		width questionable, broken
12	7	8.1		questionable, broken
13	7.5	8.5		
14	7.7	8.9		
15	6.9	7.2		
16	6.5	7.1		
17	6.9	7.6		
18	6.2	7		questionable, broken

19	7	7.9	
20	7.4	9.2	
21	4.4	4.8	
22	7	7.2	
23	5.7	6	
24	6.8	7.1	
25	7.5	8.2	
26	7.6	7.2	width questinable, broken
27	7	7.1	width questinable, broken
28	7.8	7.4	width questinable, broken
29	6.5	7.2	
30	6.4	7.3	
31	6.3	6.8	questionable, broken
32	6.8	7.9	
33	8.8	10	
34	6.4	7.2	
35	7.4	8.3	
36	5.7	6	
37	5.9	6.3	
38	7.2	7.2	
39	6.6	7.1	
40	6.8	6.2	questionable, broken
41	7.8	8.3	
42	6.8	8.2	
43	8	8.6	
44	7.2	7.8	
45	8.8	9.1	
46	6.8	8.2	
47	6.6	7.3	
48	4.2	3.9	
49	8.2	9	
50	6.4	7	
51	7	8.2	
52	7	7.5	
53	5	5	
54	6.9	7.8	
55	7	7.9	
56	5.1	4.9	
57	4.8	4	
58	7.8	8.1	
59	5	5.1	
60	7.1	7.9	
61	7.2	7	
62	7	8.1	
63	7.1	8.2	
64	7	7.9	

65	7.8	8.2	
66	6	7.1	
67	6.5	7.3	
68	6.1	7.2	
69	7.2	7.8	
70	7.8	9	
71	5.4	6.2	
72	6.2	5.5	
73	7.6	9	maybe drilled, extreme recrystallization
	6.9	7.5	average dimensions

Appendix D: *Composita* master database

Explanation of data elements

sample number: sequential number that refers to each tray of specimens; it is possible for one location to have more than one tray
Period: age of the specimens
North American Stage: stratigraphic position for North American specimens
International Stage: stratigraphic position for all other specimens
Formation: name of the formation the specimens came from, any formation name in bold type is one that I could not locate in the USGS lexicon or any of the primary literature.
Country or State: country or state where the specimens were collected
locality: city, county, or other location information for the specimens
site details: any further geographic information regarding the collection site
lithology: rock type of the formation (gathered from lexicons and published descriptions of the formation)
number of specimens: number of specimens in the tray
number of drill holes: number of specimens that display at least one definite drill hole
number possible drill holes: number of specimens that display questionable drill holes
multiply drilled specimens: number of specimens that display at least two definite drill holes

Sample Number	Period	North American Stage	International Stage	Formation	Country or State	Locality	Site Details	Lithology	Number of specimens	Number of drillholes	Number possible drillholes	Multiply drilled specimens
1	Devonian		Famennian	Percha	New Mexico	Sierra	0.6 mi. N65E of Wilson Ranch	shale	92	0	0	0
2	Devonian		Famennian	Percha	New Mexico	Sierra	0.6 mi. N65E of Wilson Ranch	shale	9	0	0	0
3	Devonian		Famennian	Percha	New Mexico	Sierra	Wilson Ranch	shale	1	0	0	0
4	Devonian		Famennian	Percha	New Mexico	Santa Rita	4.6 mi. east of Martinez hotel	shale	10	0	0	0
5	Devonian		Famennian	Percha	New Mexico	Hillsboro/Lake Valley	Wilson's ranch, between the two towns listed	shale	26	0	0	0
6	Devonian		Famennian	Percha	New Mexico	Santa Rita	3.25 mi. east	shale	6	0	0	0
7	Devonian		Famennian	Percha	New Mexico	Bear Mtn., Grant Co.	300 ft. above road	shale	1	0	0	0
8	Devonian		Famennian	Percha	New Mexico	Grant Co.	1 mi. SE of Bear Mtn.	shale	1	0	0	0
9	Devonian		Famennian	Percha	New Mexico	Kingston	1 mi. west	shale	6	0	0	0
10	Devonian		Famennian	Percha	New Mexico	Georgetown	on hairpin bend	shale	4	0	0	0
11	Devonian		Famennian	Percha	New Mexico	Santa Rita	.25-.5 mi. N of NM Hwy 180, 3-4 mi. east of city	shale	37	0	0	0
12	Devonian		Famennian	Percha	New Mexico	Santa Rita	4 miles east	shale	104	0	2	0
13	Devonian		Famennian	Percha	New Mexico	Santa Rita	3 miles east	shale	64	0	2	0
14	Devonian		Famennian	Percha	New Mexico	Sierra?	Wilson Ranch	shale	42	2	0	0
15	Devonian		Famennian	Percha	New Mexico	Santa Rita	3.5 mi. east	shale	121	1	0	0
16	Devonian		Famennian	Percha	New Mexico	Sierra?	Wilson Ranch	shale	40	0	0	0
17	Devonian		Famennian	Percha	New Mexico	Santa Rita	5 mi. east	shale	102	0	1	0
18	Devonian		Famennian	Percha	New Mexico	Santa Rita	4.6 mi. east	shale	2	0	0	0
19	Devonian		Famennian	Percha	New Mexico	Sierra?	Wilson Ranch 0.4 mi. SSE	shale	1	0	0	0
20	Devonian		Famennian	Percha	New Mexico	509 C	see American Bulletins of paleontology 315, 1982	shale	13	0	0	0
21	Devonian		Famennian	Percha	New Mexico	Hillsboro	2.5 mi. S75E	shale	2	0	0	0
22	Devonian		Famennian	Percha	New Mexico	Sierra Co.	0.6 mi. N of Wilson Ranch	shale	2	0	0	0
23	Devonian		Famennian	Percha	New Mexico	Santa Rita	4 mi. east on NM 180	shale	1	0	0	0
24	Devonian		Famennian	Percha	New Mexico	Georgetown		shale	1	0	0	0
25	Devonian		Famennian	Percha	New Mexico	Silver City	6 mi. N of Bear Mtn.	shale	1	0	0	0
26	Devonian		Famennian	Percha	New Mexico	Santa Rita	5.9 mi. NE	shale	7	0	0	0
27	Devonian		Famennian	Percha	New Mexico	Sierra Co.	0.4 mi. SSE of Wilson Ranch	shale	6	0	0	0
28	Devonian		Famennian	Percha	New Mexico	Santa Rita		shale	4	0	0	0
29	Devonian		Famennian	Percha	New Mexico	Santa Rita		shale	8	0	0	0
30	Devonian		Famennian	Percha	New Mexico	Sierra?	Wilson Ranch	shale	40	0	0	0
31	Devonian		Famennian	Percha	New Mexico	Sierra Co.	Wilson Ranch	shale	132	1	0	0
32	Devonian		Famennian	Percha	New Mexico	Sierra Co.	0.7 mi. N60E of Wilson Ranch	shale	129	2	0	0
33	Mississippian				Kentucky	Caldwell Co.	5 mi. east of Princeton		6	0	0	0
34	Mississippian				Illinois	Pofie Co.			21	0	0	0
35	Mississippian	Meramecian		Moorefield	Oklahoma		Spring Creek Member Muskogee topo, 19-15N-20E	limestone	10	0	0	0
36	Mississippian				Kentucky	Scottsburg	3 mi. east		18	0	0	0
37	Mississippian				Kentucky	Caldwell Co.	1 mi. west of Montgomery Switch		18	0	0	0
38	Mississippian				Illinois	Chester			3	0	0	0
39	Mississippian				Illinois	Chester	Page Co.		1	0	0	0
40	Mississippian				England	Avon Section, Bristol			2	0	0	0
41	Mississippian				Oklahoma	Fort Gibson	1 mi. s		30	0	0	0
42	Mississippian				England	Welton, Staffordshire			1	0	0	0
43	Mississippian		Visean	Windsor Grp.	Nova Scotia		Johnstown Quarry		7	0	1	0
44	Mississippian		Visean	Windsor Grp.	Nova Scotia	Windsor			21	0	0	0
45	Mississippian				England	Aston Hill Failand, Bristol	Durnford's Quarry		7	0	0	0
46	Mississippian			Maxner	Nova Scotia	Windsor		limestone	33	0	0	0

47	Mississippian			Oklahoma	Mayes Co.			44	1	0	0
48	Mississippian			Arkansas	Habberton	2 mi. north		31	0	0	0
49	Mississippian			Kentucky	Marion	Moore's Hill, 3.5 mi. west		48	1	0	0
50	Mississippian	Meramecian	Moorefield	Oklahoma	Fort Gibson	7.5 mi. east, 1 mi. south	limestone	49	0	0	0
51	Mississippian			Nova Scotia	Windsor			21	0	0	0
52	Mississippian	Meramecian	Moorefield	Oklahoma		Spring Creek Member Muskogee topo, 19-15N-20E	limestone	4	0	0	0
53	Mississippian			Kentucky	Sample			28	0	0	0
54	Mississippian			Alabama	Huntsville			40	0	2	0
55	Mississippian			Illinois	Chester			10	1	0	0
56	Mississippian			Illinois	Red Bud	3.5 mi. north, bridge at Prairie du Long Creek		35	3	0	0
57	Mississippian			Oklahoma	Muskogee Co.			2	0	0	0
58	Mississippian			Oklahoma	Muskogee Co.			2	0	0	0
59	Mississippian			Oklahoma	Muskogee Co.			1	0	0	0
60	Mississippian			Oklahoma	Muskogee Co.			1	0	0	0
61	Mississippian			Oklahoma		.25 mi. north of SE corner 20-15N-20E, Hulbert Quad		1	0	0	0
62	Mississippian			Oklahoma	Muskogee Co.			1	0	0	0
63	Mississippian			Illinois	LaSalle			4	0	0	0
64	Mississippian			Illinois	Preston	Thompson's Creek, near Preston, Randolph Co.		6	0	0	0
65	Mississippian			Kentucky	Princeton	5 mi. NW		1	0	0	0
66	Mississippian			Kentucky	Kirk	1mi S		2	0	0	0
67	Mississippian		Lyropore	Illinois	Chester		shale	4	0	0	0
68	Mississippian			Iowa	Ottumwa			7	0	0	0
69	Mississippian			Oklahoma	Segouya Co.	Ten Killer Ferry Reservoir		4	0	0	0
70	Mississippian			Kentucky	Smithland			8	0	0	0
71	Mississippian			Kentucky	Caldwell Co.			4	0	0	0
72	Mississippian			Illinois	Randolph Co.			2	0	0	0
73	Mississippian			Illinois	Red Bud	3.25 mi N		1	0	0	0
74	Mississippian			Kentucky		Pate's location 68		6	0	0	0
75	Mississippian			Illinois		between Sparta and Chester		1	0	0	0
76	Mississippian			Kentucky	Princeton	4.5 mi E		2	0	0	0
77	Mississippian			Oklahoma	Bayou Menard			16	0	0	0
78	Mississippian			Oklahoma	Cherokee Co.			17	0	0	0
79	Mississippian			Kentucky	Litchfield			11	0	0	0
80	Mississippian			Alabama	Riverton			1	0	0	0
81	Mississippian			Kentucky	New Bethel			2	0	0	0
82	Mississippian			Kentucky	Stephensport			6	0	0	0
83	Mississippian			Kentucky	Sample			15	0	0	0
84	Mississippian			Oklahoma	Fort Gibson	7.5 mi. E		76	0	0	0
85	Mississippian			Oklahoma	Muskogee Co.			1	0	0	0
86	Mississippian			Oklahoma	Cherokee Co.			6	0	0	0
87	Mississippian			Kentucky	Crittenden Co.			3	0	0	0
88	Mississippian			Kentucky	Christian Co.			3	0	0	0
89	Mississippian			Kentucky	Cerulean Springs	near		2	0	0	0
90	Mississippian			Kentucky	Princeton	near		2	0	0	0
91	Mississippian			Kentucky	Smithland			11	0	0	0
92	Mississippian			Illinois	Kaskaskia	10 mi N		2	0	0	0
93	Mississippian			Kentucky	Caldwell Co.	1 mi W of Montgomery Switch		1	0	0	0
94	Mississippian			Kentucky	Christian Co.	near Caldwell Co. line		4	0	0	0
95	Mississippian			Kentucky	Smithland			1	0	0	0
96	Mississippian			Kentucky	Princeton			3	0	0	0
97	Mississippian			Kentucky	Marion	6 mi S		8	0	0	0

98	Mississippian			Mexico	Bisani, Sonora			2	0	0	0
99	Mississippian			USSR	Bely, Smolensk	from the museum of the mining school, St. Petersburg		3	0	0	0
100	Mississippian			Nova Scotia	Windsor			6	0	0	0
101	Mississippian			England	Welton, Staffordshire			1	0	0	0
102	Mississippian			Georgia	Chatooga Co.			1	0	0	0
103	Mississippian			North Wales	Llangollen			5	0	0	0
104	Mississippian				Corrieburn campsite	Is this the same as Corriburn Scotland?		4	0	0	0
105	Mississippian			Scotland	Kilsyth			2	0	0	0
106	Mississippian			Iowa	Marshall Co.			7	0	0	0
107	Mississippian			Scotland	Glasgow			3	0	0	0
108	Mississippian			Scotland	Lugton, Ayershire			1	0	0	0
109	Mississippian			USSR	Tarus	no clue where this is in today's geography		2	0	0	0
110	Mississippian			Iowa	Marion Co.			8	0	0	0
111	Mississippian			Oklahoma	Cherokee Co.			1	0	0	0
112	Mississippian			Missouri	Louisiana			7	0	0	0
113	Mississippian			England	Westmoreland	Ashfell edge, Ravenstonedale		3	2	0	0
114	Mississippian			England	Ashfell			2	0	0	0
115	Mississippian			England	Balladoola	Isle of Man		3	0	0	0
116	Mississippian			Scotland	Corrieburn			1	0	0	0
117	Mississippian	Visean		Russia	Kirghiz Steppe			3	0	0	0
118	Mississippian			Oklahoma	Adair	3.3 mi E		16	0	0	0
119	Mississippian			Oklahoma	Adair	0.75 mi S, 3.75 mi E		59	2	0	0
120	Mississippian			Oklahoma	Adair	0.75 mi S, 3.75 mi E		48	1	0	0
121	Mississippian	Chesterian	Floyd	Georgia	Rome	N of Rome, E of Hwy 27	shale	1	0	0	0
122	Mississippian	Osagean/Meramecian	Ft. Payne			location unknown		1	0	0	0
123	Mississippian			Indiana	Spergen Hill			11	0	0	0
124	Mississippian			Arizona	Cochise Co.	Blue Mountain in Chirichua Mountains		20	0	0	0
125	Mississippian	Meramecian	Pella	Iowa	Pella	4.5 mi S	shale	111	0	0	0
126	Mississippian	Meramecian	Pella	Iowa	Pella	4 mi S	shale	60	0	0	0
127	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	1 mi N	limestone	40	1	1	0
128	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	1 mi E	shale	166	0	1	0
129	Mississippian	Meramecian	Pella	Iowa	Pella	2 mi S	shale	265	1	4	2
130	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	1 mi N	limestone	109	0	1	0
131	Mississippian	Meramecian	Moorefield	Oklahoma	Hulbert Co.	0.6 mi S of Hwy 10	shale	10	0	0	0
132	Mississippian	Meramecian	Moorefield	Oklahoma	Cherokee Co.		shale	3	0	0	0
133	Mississippian	Meramecian	Moorefield	Oklahoma	Cherokee Co.		shale	1	0	0	0
134	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	2.25 mi S	shale	7	0	0	0
135	Mississippian	Chesterian	Pope Grp.	Illinois	Chester			2	0	0	0
136	Mississippian	Chesterian	Pitkin	Oklahoma	Fort Gibson		limestone	1	0	0	0
137	Mississippian			Kentucky	Birdsville			9	0	0	0
138	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	2.25 mi S	shale	108	1	0	0
139	Mississippian	Chesterian	Pope Grp.	Kentucky	Marion	RR cut at Marion		17	0	0	0
140	Mississippian	Chesterian	Pope Grp.	Kentucky	Pierce			4	0	0	0
141	Mississippian	Chesterian	Pope Grp.	Kentucky	Marion			16	0	1	0
142	Mississippian	Meramecian	St. Genevieve	Iowa	Pella		limestone	7	0	0	0
143	Mississippian	Meramecian	Salem	Indiana	Lanesville	2 mi W	limestone	10	1	1	0
144	Mississippian	Chesterian	Pope Grp.	Kentucky	Christian Co.			1	0	0	0
145	Mississippian			Illinois				8	1	0	0
146	Mississippian	Meramecian	St. Genevieve	Illinois	Rosiclare		limestone	5	0	0	0
147	Mississippian	Meramecian	St. Genevieve	Kentucky	Princeton	1 mi W	limestone	3	0	0	0
148	Mississippian			Kentucky	Caldwell Co.	2 mi NW of Rufus Post office		6	0	0	0

149	Mississippian	Chesterian	Maxville	Ohio	Fultonham		limestone	10	0	0	0
150	Mississippian	Meramecian	Ohara	Kentucky	Guston		limestone	40	0	0	0
151	Mississippian	Chesterian	Pope Grp.	Kentucky	Meade Co.			7	0	0	0
152	Mississippian	Meramecian	St. Genevieve	Kentucky	Princeton		limestone	13	0	0	0
153	Mississippian		Birdsville	Kentucky	Corley Knob			12	0	0	0
154	Mississippian	Meramecian	St. Louis	Tennessee	Clarksville		limestone	1	0	0	0
155	Mississippian	Meramecian	St. Genevieve	Illinois	Waterloo		limestone	11	0	0	0
156	Mississippian	Chesterian	Pope Grp.	Kentucky	Payneville			11	0	0	0
157	Mississippian			Indiana	Spergen Hill			3	0	0	0
158	Mississippian	Chesterian	Floyd	Georgia	Floyd Co.	Berry School Quarry	shale	1	0	0	0
159	Mississippian	Chesterian	Glen Dean	Kentucky	Christian Co.		limestone	8	0	0	0
160	Mississippian	Meramecian	St. Genevieve	Kentucky	Triggs Co.	between Cerulean Springs and Caldwell	limestone	43	1	0	0
161	Mississippian	Meramecian	St. Louis	Indiana	Floyd Co.		limestone	28	1	0	0
162	Mississippian	Meramecian	St. Genevieve	Kentucky	Princeton		limestone	27	1	0	0
163	Mississippian	Meramecian	St. Genevieve	Kentucky	Princeton	1-2 mi NM	limestone	12	0	0	0
164	Mississippian	Chesterian	Pope Grp.	Kentucky	Sample	on L&N RR		53	0	0	0
165	Mississippian	Chesterian	Pope Grp.	Indiana	Evansville			78	0	0	0
166	Mississippian	Chesterian	Chester	Kentucky	Caldwell Co.	Montgomery Switch	limestone	20	0	0	0
167	Mississippian	Meramecian	St. Louis	Iowa	Pella		limestone	8	0	0	0
168	Mississippian	Meramecian	St. Genevieve	Kentucky	Marion	3.5 mi NW	limestone	6	0	0	0
169	Mississippian	Chesterian	Pope Grp.	Kentucky	Scottsburg	2 mi E		22	3	0	0
170	Mississippian			Indiana	Spergen Hill			21	1	0	0
171	Mississippian	Chesterian	Pope Grp.	Indiana	Evansville			6	0	0	0
172	Mississippian	Osagean	Keokuk	Iowa	Lee Co.		limestone	9	0	0	0
173	Mississippian	Chesterian	Chester	Kentucky	Crittenden Co.	Mill Creek	limestone	5	0	0	0
174	Mississippian	Meramecian	Warsaw	Indiana	Spergen		limestone	9	0	1	0
175	Mississippian	Chesterian	Pope Grp.	Kentucky	Crittenden Co.	Ohio Valley RR		22	0	0	0
176	Mississippian	Meramecian	St. Louis	Iowa	Marion Co.		limestone	9	0	0	0
177	Mississippian	Osagean	Burlington	Missouri	New Bloomfield		limestone	2	0	0	0
178	Mississippian	Meramecian	Pella	Iowa	Pella		shale	5	0	0	0
179	Mississippian	Meramecian	Salem	Indiana	Spergen Hill		limestone	2	0	0	0
180	Mississippian	Meramecian	Salem	Indiana	Spergen Hill		limestone	7	0	0	0
181	Mississippian	Meramecian	St. Genevieve	Kentucky	Marion	6 mi S (Cardin's cross roads)	limestone	13	0	0	0
182	Mississippian			Missouri	Joplin			2	0	0	0
183	Mississippian			Kentucky	Princeton	McElf quarry, 3.5 mi from Princeton		3	0	0	0
184	Mississippian	Meramecian	Warsaw	Tennessee	Clarksville			8	1	1	0
185	Mississippian	Chesterian	Pope Grp.	Kentucky	Christian Co.			18	0	0	0
186	Mississippian	Meramecian	Warsaw	Kentucky	Calesburg	2 mi S		12	0	0	0
187	Mississippian	Chesterian	Paintcreek	Kentucky	Caldwell Co.	0.1 mi N of Sand Lick Road	shale	13	0	0	0
188	Mississippian			Kentucky	Princeton	1 mi W at Loves Station		11	0	0	0
189	Mississippian	Chesterian	Pope Grp.	Kentucky	Scottsburg	4 mi E		9	0	0	0
190	Mississippian	Meramecian	Pella	Iowa	Ottumwa		shale	10	0	0	0
191	Mississippian	Meramecian	St Genevieve	Kentucky	Cerulean Springs		limestone	11	0	0	0
192	Mississippian	Meramecian	St Louis	Kentucky	Triggs Co.	Cerulean Springs	limestone	2	0	0	0
193	Mississippian	Meramecian	Warsaw	Illinois	Waterloo	2 mi W	limestone	111	0	0	0
194	Mississippian	Chesterian	Pope Grp.	Kentucky	Scottsburg	2 mi S of lamb's cut		2	0	0	0
195	Mississippian	Meramecian	St Louis	Tennessee	Parkers Gap		limestone	1	0	0	0
196	Mississippian		Windsor	Nova Scotia	Windsor			32	0	0	0
197	Mississippian	Chesterian	Chester	Kentucky	Sample		limestone	1	0	0	0
198	Mississippian		Windsor	Nova Scotia	Windsor	subzone B		4	0	0	0
199	Mississippian	Meramecian	St Louis	Kentucky	Princeton	McElpatrick's quarry	limestone	32	0	0	0

200	Mississippian		Visean		Poland	Gatezice	Holy Cross Mountains		52	0	0
201	Mississippian				Kentucky	Beweleyville	1.5 mi SE		5	0	0
202	Mississippian	Chesterian		Gasper	Kentucky	Scottsburg	2 mi E	limestone	2	0	0
203	Mississippian	Meramecian		Ohara	Kentucky	Sample	1 mi E	limestone	6	0	0
204	Mississippian	Meramecian		Ohara	Kentucky	Sample	1 mi E	limestone	2	0	0
205	Mississippian				Kentucky	Kings Landing	top of Fredonia Quarry		1	0	0
206	Mississippian	Meramecian		Ohara	Kentucky	Sample	1.5 mi E	limestone	38	0	0
207	Mississippian	Meramecian		Ohara	Kentucky	Cave Springs	.75 mi SW	limestone	13	2	0
208	Mississippian	Chesterian		Glen Dean	Kentucky	Cloverport		limestone	5	0	0
209	Mississippian	Chesterian		Pope Grp.	Kentucky	Cloverport			32	0	0
210	Mississippian				Kentucky	Beweleyville	2 mi E		16	0	0
211	Pennsylvanian	Morrowan		Bloyd	Oklahoma	Bragg	Green Leaf Lake spillway		64	0	0
212	Mississippian				Indiana	Corydon	NW corner		2	0	0
213	Mississippian	Chesterian		Hindsville	Oklahoma	Venita	ENE	limestone	13	0	0
214	Mississippian	Chesterian		Pope Grp.	Iowa	Pella			167	0	0
215	Mississippian	Chesterian		Pope Grp.	Kentucky	McGowan			3	0	0
216	Mississippian	Meramecian		Ohara	Kentucky	Sample	1 mi E	limestone	4	0	0
217	Mississippian	Chesterian		Glen Dean	Kentucky	Breckenridge Co.		limestone	1	0	0
218	Mississippian	Chesterian		Paintcreek	Illinois	Red Bud		shale	2	0	0
219	Mississippian	Meramecian		Ohara	Kentucky	Sample	1.5 mi E	limestone	1	0	0
220	Mississippian	Chesterian		Pitkin	Arkansas	Greenland	3 mi S	limestone	3	0	0
221	Mississippian	Chesterian		Bangor	Tennessee	Cookeville	10 mi E	limestone	10	0	0
222	Mississippian	Chesterian		Fayetteville	Arkansas	Fayetteville	Weddington Mountain	sandstone	1	0	0
223	Mississippian	Chesterian		Glen Dean	Missouri	Red Rock	1 mi SE (Perry Co.)	limestone	42	0	0
224	Mississippian	Chesterian		Batesville	Arkansas	Fayetteville	1.75 mi N of U of Arkansas campus	sandstone	3	0	0
225	Mississippian	Chesterian		Pope Grp.	Kentucky	Marion	2 mi S		327	0	1
226	Mississippian	Meramecian		St Genevieve	Kentucky	Princeton	Hollinsworth's Mill	limestone	22	0	0
227	Mississippian	Meramecian		St Genevieve	Kentucky	Princeton	near	limestone	8	1	0
228	Mississippian	Chesterian		Pope Grp.	Illinois	Baldwin	2 mi W		39	1	0
229	Mississippian	Meramecian		St Louis	Indiana	Moorsville		limestone	2	0	0
230	Mississippian				Missouri	St Louis			2	0	0
231	Mississippian	Chesterian		Pope Grp.	Illinois	Anna	2 mi N		6	0	0
232	Mississippian	Meramecian		St Genevieve	Kentucky	Princeton	4 mi SW	limestone	1	0	0
233	Mississippian	Chesterian		Fayetteville	Oklahoma	Venita	2.5 mi N	shale	3	0	0
234	Mississippian	Chesterian		Pope Grp.	Kentucky	Breckenridge Co.		limestone	4	0	0
235	Mississippian	Meramecian		Salem	Indiana	Spergen Hill		limestone	5	0	0
236	Mississippian				Iowa	Pella			2	0	0
237	Mississippian	Chesterian		Fayetteville	Oklahoma	Muskogee Co.	0.5 mi S of Glendale School	shale	4	0	0
238	Mississippian	Chesterian		Pope Grp.	Illinois	Brewersville	1.5 mi S		11	0	0
239	Mississippian	Chesterian		Pope Grp.	Illinois	Baldwin	W of town		3	0	0
240	Mississippian				Nevada	Eureka District	W base of foothills of Diamond peak		6	0	0
241	Mississippian	Meramecian		Boone	Arkansas	Batesville	6-7 mi W	limestone	1	0	0
242	Mississippian				Missouri	Booneville			4	0	0
243	Mississippian	Meramecian		Moorefield	Arkansas	Batesville	2 mi W	shale	1	0	0
244	Mississippian	Chesterian		Pope Grp.	Kentucky	Princeton	5 mi E		7	2	0
245	Mississippian				Kentucky	Brandenburg	0.5 mi W		1	0	0
246	Mississippian	Chesterian		Pope Grp.	Illinois	Red Bud	3.5 mi N		11	0	0
247	Mississippian	Chesterian		Greenbriar	Pennsylvania	Waynesburg	Uniontown Quarry	limestone	1	0	0
248	Mississippian	Meramecian		Ohara	Kentucky	Guston	Peters Hill, SE of town	limestone	17	0	1
249	Mississippian	Chesterian		Pitkin	Arkansas	West Fork	0.5 mi W	limestone	22	0	0
250	Mississippian	Chesterian		Fayetteville	Oklahoma	Adair	2.25 mi S		13	0	0

251	Mississippian		Visean		Ireland	Fermanagh Co.	2 mi W of Derrygonelly		4	0	0
252	Mississippian	Chesterian		Fayetteville	Arkansas	Elkins	0.5 mi S	shale	4	0	0
253	Mississippian	Meramecian		Salem	Indiana	Lanesville	2 mi W	limestone	3	0	0
254	Mississippian	Chesterian		Glen Dean	Kentucky	Mattingly		limestone	1	0	0
255	Mississippian	Meramecian		Salem	Indiana	Lanesville	2 mi W	limestone	8	0	0
256	Mississippian	Chesterian		Pope Grp.	Kentucky	Stephensport			6	0	0
257	Mississippian				China	Schechwan			1	0	0
258	Mississippian	Chesterian		Fayetteville	Oklahoma	Fort Gibson	4 mi SE	shale	9	0	0
259	Mississippian	Chesterian		Fayetteville	Oklahoma	Fort Gibson	3.5 mi SE	shale	7	0	0
260	Mississippian		Visean		Poland	Gatezice	Holy Cross Mountains		3	0	0
261	Mississippian	Chesterian		Menard	Kentucky	Thompson	Green Berry	limestone	2	0	0
262	Mississippian	Meramecian		Ohara	Kentucky	Sample	1.5 mi E	limestone	1	0	0
263	Mississippian	Chesterian		Fayetteville	Oklahoma	Fort Gibson	6.5 mi E	shale	55	0	0
264	Mississippian	Chesterian		Fayetteville	Oklahoma	Habberton	2 mi N	shale	74	0	0
265	Mississippian	Chesterian		Greenbriar	Maryland	Oakland		limestone	15	0	0
266	Mississippian	Chesterian		Pope Grp.	Illinois	Randolph Co.	Piller's Creek, 10 mi from Sparta and Chester		3	0	0
267	Mississippian	Chesterian		Fayetteville	Oklahoma	Fort Gibson	8 mi E	shale	13	0	0
268	Mississippian			Windsor	Oklahoma	Windsor		limestone	3	0	0
269	Mississippian	Osagean		Burlington	Iowa	Marshall Co.	Quarry	limestone	21	0	0
270	Mississippian	Chesterian		Fayetteville	Oklahoma	Adair	2.25 mi S	shale	13	0	0
271	Mississippian	Chesterian		Fayetteville	Oklahoma	Muskogee Co.	0.1 mi S of Glendale School	limestone	9	0	0
272	Mississippian	Chesterian		Fayetteville	Oklahoma	Adair	3 mi E	shale	33	2	0
273	Mississippian	Meramecian		Moorefield	Oklahoma	Fort Gibson	1 mi S	shale	24	0	0
274	Mississippian	Chesterian		Fayetteville	Oklahoma	Adair	1 mi S	shale	80	1	0
275	Mississippian	Osagean		Keokuk	Kentucky	Haydens	1 mi S	limestone	5	0	0
276	Mississippian	Chesterian		Pope Grp.	Kentucky	Marion	5 mi E		1	0	0
277	Mississippian	Chesterian		Pope Grp.	Kentucky	Sample			16	0	0
278	Mississippian	Chesterian		Fayetteville	Oklahoma	Qualls	1.5 mi E	shale	67	0	1
279	Mississippian	Meramecian		Salem	Indiana	Crandall	0.75 mi S	limestone	2	1	0
280	Mississippian	Chesterian		Gasper	Tennessee	Parkers Gap	1.5 mi Se (state may be wrong, not noted on card)	limestone	3	0	0
281	Mississippian	Chesterian		Fayetteville	Oklahoma	Adair	2 mi S	shale	3	0	0
282	Mississippian	Chesterian		Fayetteville	Oklahoma	Adair	0.75 mi S	shale	8	0	0
283	Mississippian			**Windsor**	Alabama	Tescumbia			12	0	0
284	Mississippian				Nova Scotia	Stewiacke			1	0	0
285	Mississippian	Meramecian		St Louis	West Virginia		RR tunnel between Ft. Spring and Roncaverste?	limestone	1	0	0
286	Mississippian				Tennessee	Wiringham			2	0	0
287	Mississippian	Chesterian		Fayetteville	Arkansas	Mt Judea	0.9 mi SE	shale	6	0	0
288	Mississippian				Missouri	Webster Grove			4	1	0
289	Mississippian				Indiana	Crandall	Lost River Chert		1	0	0
290	Mississippian	Meramecian		Warsaw	Missouri	Kirkwood Co.	cut on US 66 (Watson's Road)	limestone	1	0	0
291	Mississippian	Meramecian		Pella	Iowa	Pella		shale	10	0	0
292	Mississippian	Chesterian		Fayetteville	Oklahoma	Bayou Menard	0.5 mi S	shale	36	0	0
293	Mississippian	Chesterian		Chester	Kentucky	Caldwell Co.		limestone	4	0	0
294	Mississippian	Chesterian		Pope Grp.	Kentucky	Caldwell Co.	northern part		1	0	0
295	Mississippian	Chesterian		Pope Grp.	Illinois	Kaskaskia	10 mi N		8	0	0
296	Mississippian	Chesterian		Fayetteville	Arkansas	Wyman	0.5 mi S	shale	3	0	0
297	Mississippian	Meramecian		Moorefield	Oklahoma	Fort Gibson	3.2 mi SE	shale	1	0	0
298	Mississippian	Meramecian		Moorefield	Arkansas	Batesville	2 mi W	limestone	3	0	0
299	Mississippian	Meramecian		Ohara	Kentucky	Milford		limestone	9	0	0
300	Mississippian	Chesterian		Paintcreek	Illinois	Red Bud		shale	16	2	0
301	Mississippian	Chesterian		Pope Grp.	Kentucky	Pickering Hill	E slope		18	3	0

302	Mississippian	Chesterian	Glen Dean	Illinois	Chester		limestone	6	1	0
303	Mississippian	Chesterian	Menard	Kentucky	Claxton	0.5 mi W of Claxtin P.O.	limestone	10	0	0
304	Mississippian	Chesterian	Glen Dean	Kentucky		between Cloverport and Mattingly	limestone	35	0	0
305	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	1.5 mi N and 1.5 mi E	limestone	697	2	0
306	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	3 mi NE	limestone	181	1	0
307	Mississippian	Chesterian	Menard	Kentucky	Marion	Quarry	limestone	9	0	0
308	Mississippian	Chesterian	Fayetteville	Oklahoma	Fort Gibson	3.5 mi E	shale	39	0	0
309	Mississippian			Nova Scotia	Windsor	Lower Carboniferous		331	0	0
310	Mississippian	Chesterian	Fayetteville	Oklahoma	Cherokee Co.		shale	2	0	0
311	Mississippian	Chesterian	Pope Grp.	West Virginia	Monongalia Co.			6	0	0
312	Mississippian	Chesterian	Vienna	Kentucky	Scottsburg	Walche's RR cut between Scottsburg and Claxton	limestone	34	0	0
313	Mississippian					glass vial, no location data available		3	0	0
314	Mississippian	Meramecian	Warsaw	Kentucky	Colesburg	2 mi S	limestone	4	0	0
315	Mississippian					11256 - glass vial with only this as identification		6	0	0
316	Mississippian	Chesterian	Pope Grp.	Kentucky	Sample			4	0	0
317	Mississippian	Meramecian	Warsaw	Kentucky	Tionga Springs		limestone	12	0	0
318	Mississippian			Indiana	Spergen Hill			18	0	0
319	Mississippian	Chesterian	Fayetteville	Arkansas	Habberton	2.4 mi W	shale	24	0	0
320	Mississippian				Martins Lake			1	0	0
321	Mississippian			New Mexico	Lake Valley			1	0	0
322	Mississippian	Chesterian	Surprise Canyon	Arizona	Grand Canyon	Cove Canyon		1	0	0
323	Mississippian			Utah	Unita Mountain			1	0	0
324	Mississippian	Meramecian	Warsaw	Kentucky	Stithton		limestone	1	0	0
325	Mississippian	Chesterian	Pope Grp.	Kentucky	Sample			12	0	0
326	Mississippian			England	Kitby Stephen	Westmoreland (3 mi Quarry)		3	0	0
327	Mississippian	Meramecian	Ohara	Kentucky	Sample	1 mi E	limestone	6	0	0
328	Mississippian	Chesterian	Amsden	Wyoming	Lander		limestone	21	0	0
329	Mississippian	Chesterian	Amsden	Wyoming	Lander		limestone	9	0	0
330	Mississippian			Wyoming	Lander	Upper Mississippian		9	0	0
331	Mississippian	Chesterian	Amsden	Wyoming	Lander	Enterprise ditch	limestone	18	0	0
332	Mississippian	Chesterian	Amsden	Wyoming	Lander		limestone	2	0	0
333	Mississippian	Chesterian	Amsden	Wyoming	Lander	Enterprise ditch	limestone	3	0	0
334	Mississippian	Chesterian	Golconda	Illinois	Dongola	St Highway 146	sh and ls	13	0	0
335	Mississippian	Chesterian	Pope Grp.	Kentucky	New Bethel			3	0	0
336	Mississippian			West Virginia	Monongalia Co.			8	0	0
337	Mississippian			Missouri	Boonville			14	0	1
338	Mississippian	Chesterian	Fayetteville	Illinois	Muskogee Co.		shale	15	0	0
339	Mississippian	Chesterian	Kincaid	Kentucky	Caldwell Co.	between Scottsburg and Claxton on RR	limestone	7	0	0
340	Mississippian			Nevada	Peoquop Mountain			3	0	0
341	Mississippian					Longitude 111038', Latitude 40022'		4	0	0
342	Mississippian			Pennsylvania				6	0	0
343	Mississippian	Chesterian	Pope Grp.	Kentucky	Marion	RR cut at Marion		10	0	0
344	Mississippian	Osagean	Burlington	Iowa	Marshall Co.		limestone	4	0	0
345	Mississippian	Chesterian	Menard	Kentucky	Caldwell Co.	between Claxton and Scottsburg stations	limestone	3	0	0
346	Mississippian	Meramecian	Moorefield	Oklahoma	Muskogee Co.	SE of Bayou Menard bridge	limestone	12	0	0
347	Mississippian		**Chatauquan**	Pennsylvania	Union City			3	0	0
348	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains		limestone	2	0	0
349	Mississippian	Kinderhookian	Caballero	New Mexico	Alamogordo	ENE	limestone	10	0	0
350	Mississippian			Oklahoma	Muskogee			1	0	0
351	Mississippian	Kinderhookian	Chouteau	Missouri	Brown's Station	2.5 mi N		3	0	0
352	Mississippian	Chesterian	Renault	Indiana	Abydel		limestone	5	0	0

353	Mississippian	Chesterian	Renault	Indiana	Orleans		limestone	7	0	0
354	Mississippian	Kinderhookian	Chouteau	Missouri	Providence	0.25-0.5 mi S		1	0	0
355	Mississippian	Chesterian	Pope Grp.	Kentucky	Sample	RR 0.5 mi E		46	0	0
356	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	1 mi NNE, west pit of Quarry	limestone	10	0	0
357	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	1 mi NNE, west pit of Quarry	limestone	153	2	0
358	Mississippian	Chesterian	Renault	Indiana	Bethel Church		limestone	5	0	0
359	Mississippian	Chesterian	Kaskaskia	Indiana	Dover Hill		limestone	6	0	0
360	Mississippian	Chesterian	Pride Mountain	Alabama	Alsobrook Bridge		limestone	3	0	0
361	Mississippian	Chesterian	Pride Mountain	Alabama	Periwinkle Creek		shale	5	0	0
362	Mississippian	Chesterian	Pride Mountain	Mississippi	Southward Bridge		shale	18	0	0
363	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	is it Gilmore or Gilmore City???	limestone	112	0	0
364	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains		limestone	2	0	0
365	Mississippian	Kinderhookian	Caballero	New Mexico	Alamogordo	Alamo Canyon	limestone	5	0	0
366	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains		limestone	4	0	0
367	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	0.5 mi E of Mule Canyou	limestone	1	0	0
368	Mississippian	Kinderhookian	Caballero	New Mexico	Alamogordo	Alamo Canyon	limestone	1	0	0
369	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	SW Ortega peak	limestone	1	0	0
370	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Arsente	limestone	3	0	0
371	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	SW Ortega peak	limestone	5	0	0
372	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	E side Alamo Peak	limestone	11	0	0
373	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Southside, Indian Wells Canyon	limestone	7	0	0
374	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	E side Alamo Peak	limestone	8	1	0
375	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Marble Canyon	limestone	1	0	0
376	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Southside Marble Canyon	limestone	1	0	0
377	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Alamo Canyon	limestone	7	0	0
378	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	2nd canyon S of Indian Wells Canyon	limestone	6	0	0
379	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains		limestone	3	0	0
380	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	saddle between Marble Canyon & second side canyon	limestone	1	0	0
381	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Pig Canyon	limestone	2	0	0
382	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Indian Wells canyon	limestone	1	0	0
383	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Marble Canyon	limestone	2	0	0
384	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Alamo Peak	limestone	10	0	0
385	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Marble Canyon	limestone	11	0	0
386	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Pig Canyon	limestone	1	0	0
387	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Dead Man Canyon	limestone	3	0	0
388	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	E side Alamo Peak	limestone	2	0	0
389	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Dead Man Canyon	limestone	1	0	0
390	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Alamo Canyon	limestone	1	0	0
391	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	2nd canyon S of Indian Wells Canyon	limestone	1	0	0
392	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Arsente Canyon	limestone	6	0	0
393	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	3rd canyon S of Indian Wells Canyon	limestone	2	0	0
394	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Arsente Canyon	limestone	1	0	0
395	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Marble Canyon	limestone	2	0	0
396	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	SW of Ortega peak	limestone	1	0	0
397	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Southside Indian Wells Canyon	limestone	35	0	0
398	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Alamo Peak	limestone	12	0	0
399	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	probably from Apache Peak	limestone	1	0	0
400	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Indian Wells canyon	limestone	7	0	0
401	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Indian Wells canyon	limestone	8	0	0
402	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	2nd canyon S of Indian Wells Canyon	limestone	11	0	0
403	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	E side Alamo Peak	limestone	1	0	0

404	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Marble Canyon	limestone	1	0	0
405	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	near Alamo Canyon	limestone	11	0	0
406	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	1st canyon N of Pig Canyon	limestone	1	0	0
407	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	saddle between Marble Canyon & second side canyon	limestone	2	0	0
408	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	SW Ortega peak	limestone	1	0	0
409	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	E side of Ortega Peak	limestone	2	0	0
410	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Pig Canyon	limestone	1	0	0
411	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	2nd canyon S of Indian Wells Canyon	limestone	2	0	0
412	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Indian Wells canyon	limestone	1	0	0
413	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Alamo Peak	limestone	1	0	0
414	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Alamo Peak	limestone	3	0	0
415	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	SW of Ortega peak	limestone	1	0	0
416	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Southside Marble Canyon	limestone	5	0	0
417	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	0.25 mi up Alamo Canyon	limestone	8	0	0
418	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mountains	Dead Man Canyon	limestone	6	0	0
419	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayetteville	3 mi SW on Kessler Mountain	limestone	3	0	0
420	Pennsylvanian	Morrowan	Bloyd	Arkansas	Woolsey		limestone	1	0	0
421	Pennsylvanian	Morrowan		Nevada	Diamond District			9	0	0
422	Pennsylvanian			Colorado	USGS 2364			1	0	0
423	Pennsylvanian			Oklahoma	Cherokee Co.			1	0	0
424	Pennsylvanian	Morrowan	Bloyd	Oklahoma	Muskogee Co.		limestone	3	0	0
425	Pennsylvanian			Wales	Penwyllt Station	Quarry opposite		14	0	0
426	Pennsylvanian	Morrowan	Bloyd	Oklahoma	Winslow Co.	SE of Woolsey	limestone	6	0	0
427	Pennsylvanian	Morrowan	Bloyd	Oklahoma	Muskogee Co.		limestone	4	0	0
428	Pennsylvanian	Morrowan	Bloyd	Arkansas	Woolsey		limestone	2	0	0
429	Pennsylvanian	Morrowan	Bloyd	Arkansas	Woolsey		limestone	6	0	0
430	Pennsylvanian			Nebraska	South Bend	2 mi NW		5	0	0
431	Pennsylvanian			Nebraska	Nebraska City	20 mi W		9	0	0
432	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayetteville	3 mi SW on Kessler Mountain	limestone	8	0	0
433	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayetteville	2 mi NE	limestone	14	0	0
434	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayetteville	2 mi NE, Huntsville Road	limestone	2	0	0
435	Pennsylvanian			Missouri	Kansas City	coal measures		96	0	0
436	Pennsylvanian	Virgilian	Cisco Group	Texas	Graham			7	0	0
437	Pennsylvanian			Nebraska	Bellevue			20	0	0
438	Pennsylvanian	Morrowan	Magdalena	New Mexico	Pecos		limestone	8	0	0
439	Pennsylvanian			Iowa		southern		12	0	0
440	Pennsylvanian			Kansas	Manhattan	2 mi NM		12	0	0
441	Pennsylvanian			West Virginia	Monongalia Co.			30	0	0
442	Pennsylvanian			Nebraska	Bellevue			51	0	1
443	Pennsylvanian			Missouri	St. Joseph	upper coal measures		9	0	0
444	Pennsylvanian		**Bird Spring**	Nevada	Clark Co.			16	0	0
445	Pennsylvanian			Illinois	LaSalle	coal measures		4	0	0
446	Pennsylvanian			Illinois	Saville	lower coal measures		1	0	0
447	Pennsylvanian			Illinois	LaSalle	coal measures		22	0	0
448	Pennsylvanian			Nebraska	State Line			4	0	0
449	Pennsylvanian			Iowa	Winterset			24	0	0
450	Pennsylvanian			Kansas	Manhattan			25	0	0
451	Pennsylvanian		**Aubrey**	Utah	Echo Park			23	0	0
452	Pennsylvanian			Indiana	Cloverland			3	0	0
453	Pennsylvanian		**Aubrey**	Utah		junction of Grand and Greene Rivers		4	0	0
454	Pennsylvanian			Missouri	Lexington	between Lexington and Clinton		2	0	0

455	Pennsylvanian			Kansas	Little Rock Creek			6	0	0
456	Pennsylvanian			Kansas	Levenworth			5	0	0
457	Pennsylvanian			Missouri	Holt Co.			25	0	0
458	Pennsylvanian			Illinois	Caseyville			6	0	0
459	Pennsylvanian			Illinois		SW1/4,NW1/4,Sec1,T8N,R6E, quad unknown		13	0	0
460	Pennsylvanian			New Mexico	Albaquerque	13 mi E		23	0	0
461	Pennsylvanian			Illinois	LaSalle	coal measures		6	0	0
462	Pennsylvanian			Illinois	LaSalle	coal measures		11	0	0
463	Pennsylvanian			Nebraska	Pawnee Co.			4	0	0
464	Pennsylvanian			Kansas	Indian Creek			22	0	0
465	Pennsylvanian			Iowa	Winterset			29	0	0
466	Pennsylvanian			Illinois	LaSalle	coal measures		30	0	0
467	Pennsylvanian			Illinois	Springfield	coal measures		11	0	0
468	Pennsylvanian			Missouri	Booneville	coal measures		5	0	0
469	Pennsylvanian			Nebraska	Nebraska City			23	0	0
470	Pennsylvanian	Virgilian	Cisco Group	Texas	Graham			42	1	1
471	Pennsylvanian			Kansas	Fort Leavenworth			17	0	0
472	Pennsylvanian			Nebraska	Louisville			11	0	0
473	Pennsylvanian			Missouri	Mill Creek	Holt Co.		16	0	0
474	Pennsylvanian			Kansas	Howard			8	0	0
475	Pennsylvanian			Indiana	Vigo Co.			8	0	0
476	Pennsylvanian			Illinois	LaSalle			20	0	0
477	Pennsylvanian			Illinois	LaSalle	coal measures		7	1	0
478	Pennsylvanian			Kentucky	Crittenden Co.			3	0	0
479	Pennsylvanian			Illinois	LaSalle			3	0	0
480	Pennsylvanian			Illinois	LaSalle			2	0	0
481	Pennsylvanian			Nebraska	Aspenwall			1	0	0
482	Pennsylvanian			Missouri	Kansas City			9	0	0
483	Pennsylvanian			Illinois	LaSalle	coal measures		373	0	1
484	Pennsylvanian			Nebraska	Rockford			10	0	0
485	Pennsylvanian			Utah	Carson			2	0	0
486	Pennsylvanian			Iowa	Stennett			7	0	0
487	Pennsylvanian			Kansas	South Cottonwood Creek			2	0	0
488	Pennsylvanian			Nebraska	Bennett Mills	2 mi below		2	0	0
489	Pennsylvanian			West Virginia	Monongalia Co.			5	0	0
490	Pennsylvanian			Kansas	Big Blue River			4	0	0
491	Pennsylvanian			Kansas	Mission Creek			6	0	0
492	Pennsylvanian			Pennsylvania	Blossburg			1	0	0
493	Pennsylvanian			Nebraska	Omaha			5	0	0
494	Pennsylvanian			Nebraska	Platte River			6	0	0
495	Pennsylvanian			Missouri	Chariton Co.			2	0	0
496	Pennsylvanian			Iowa	Winterset			6	0	0
497	Pennsylvanian			Illinois	LaSalle			12	0	0
498	Pennsylvanian			Kentucky	Balltown	upper coal measures		12	0	1
499	Pennsylvanian			Iowa	Winterset	coal measures		13	0	0
500	Pennsylvanian			Nevada	White Pine District	Mokomoka Ridge		20	0	0
501	Pennsylvanian			Missouri	Kansas City	coal measures		22	0	0
502	Pennsylvanian	Virgilian	Graham	Texas	Gunsight	1.2 mi S	shale	10	0	0
503	Pennsylvanian			Kentucky	Dawson Springs	2.5 mi W, coal measures		2	0	0
504	Pennsylvanian	Atokan	Pottsville	Ohio	Scioto Co.		limestone	4	0	0
505	Pennsylvanian	Desmoinesian	Boggy	Oklahoma	Ada		shale	1	0	0

506	Pennsylvanian			Iowa	Stuart	upper coal measures		3	0	0
507	Pennsylvanian			Illinois	LaSalle	upper coal measures		3	0	0
508	Pennsylvanian	Virgilian	Coal Creek	Kansas	Topeka		limestone	5	0	0
509	Pennsylvanian	Desmoinesian	Pawnee	Missouri	Clayton		limestone	3	0	0
510	Pennsylvanian			Illinois		coal measures		10	0	0
511	Pennsylvanian					Long Valley - is this a city or a physical feature?		7	0	0
512	Pennsylvanian			Illinois	Clair & LaSalle Co.	coal measures		11	0	0
513	Pennsylvanian	Morrowan	Magdalena	New Mexico	Battle Ship Rock	Jemez Springs	limestone	8	0	0
514	Pennsylvanian			Kansas	Miami Co.			3	0	0
515	Pennsylvanian			Missouri	Springfield	coal measures		2	0	0
516	Pennsylvanian			Kentucky	Crittenden Co.	coal measures		1	0	0
517	Pennsylvanian			Missouri	St. Joseph			32	0	1
518	Pennsylvanian			Arizona	Camp Apache	Mariposa Co.		28	0	1
519	Pennsylvanian			New Mexico	Jemez			12	0	0
520	Pennsylvanian	Morrowan	Magdalena	New Mexico	Sandia Mountains	Tijeras Canyon	limestone	4	0	0
521	Pennsylvanian			Iowa	Red Oak			11	0	0
522	Pennsylvanian			Missouri	Kansas City			10	0	0
523	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.5 mi E	shale	5	0	0
524	Pennsylvanian			Texas	Gunsight			7	0	0
525	Pennsylvanian			Nevada	Diamond Mountains	RR canyon		2	0	0
526	Pennsylvanian			Iowa	Stennett			5	0	0
527	Pennsylvanian			Kansas	Elk Co.	upper coal measures		7	0	0
528	Pennsylvanian			Iowa	Winterset			5	0	0
529	Pennsylvanian			Kentucky	Green River	coal measures		21	0	0
530	Pennsylvanian					Long 115015', Lat 400		8	0	0
531	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.5 mi SE	shale	8	0	0
532	Pennsylvanian			Texas	Jacksboro	3.5 mi E		46	5	1
533	Pennsylvanian			New Mexico	Santa Fe	100 mi SW (Jemez Springs)		83	2	1
534	Pennsylvanian			New Mexico	Santa Fe	100 mi SW (Jemez Springs)		191	0	1
535	Pennsylvanian			Illinois	LaSalle	coal measures		173	0	0
536	Pennsylvanian	Morrowan	Magdalena	New Mexico	Estamcia Valley	Wilcox Dome	limestone	4	0	0
537	Pennsylvanian	Virgilian	Plattsmouth	Nebraska	Union	Snyderville Quarry	limestone	1	0	0
538	Pennsylvanian			Missouri	Kansas City			2	0	0
539	Pennsylvanian	Missourian	Keechi Creek	Texas	Mineral Wells	6 mi NNW	shale	1	0	0
540	Pennsylvanian			New Mexico	Santa Fe			45	0	0
541	Pennsylvanian	Missourian	Dennis	Iowa	Winterset		limestone	1	0	0
542	Pennsylvanian	Missourian	Brad	Texas	Chica	6 mi W		3	0	0
543	Pennsylvanian	Morrowan	Magdalena	New Mexico	Jemez Springs	Rolands Ranch	limestone	6	0	0
544	Pennsylvanian			Pennsylvania	Worthington			21	0	0
545	Pennsylvanian			Illinois	LaSalle	coal measures		34	0	0
546	Pennsylvanian			Bolivia				13	0	0
547	Pennsylvanian			New Mexico	Jemez Mountains			1	0	0
548	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	3.5 mi E		23	0	0
549	Pennsylvanian			Colorado		SW		1	0	0
550	Pennsylvanian			Colorado	USGS 2267			7	0	0
551	Pennsylvanian			Texas	Jacksboro	3 mi S		4	0	0
552	Pennsylvanian			Texas	Jacksboro	3.5 mi E		1	0	0
553	Pennsylvanian			Colorado	USGS 2293			2	0	0
554	Pennsylvanian			Nevada	Eureka District			13	0	0
555	Pennsylvanian			Missouri	Henry Co.	coal measures		17	0	0
556	Pennsylvanian			New Mexico	Taos			21	0	0

557	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Ardmore		shale	6	0	0
558	Pennsylvanian			New Mexico	Pecos	coal measures		14	0	0
559	Pennsylvanian			Nevada	Ruby Valley Range			5	0	0
560	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3 mi N, Mineral Wells Stone Company	limestone	182	0	0
561	Pennsylvanian	Morrowan	Magdalena	New Mexico	Pecos		limestone	5	0	0
562	Pennsylvanian		**Aubrey**	Kentucky	Willard			4	0	0
563	Pennsylvanian			Utah	Canab Canyon			9	0	0
564	Pennsylvanian			Missouri	Pleasant Hill			4	0	0
565	Pennsylvanian					Long Valley - west side		4	0	0
566	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3 mi N, Mineral Wells Stone Company	limestone	26	0	0
567	Pennsylvanian			Nevada	Egan Range	Mahogany Mountain		2	0	0
568	Pennsylvanian			Arizona	Serapi Co.	Cataract Creek		10	0	0
569	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3 mi N, Mineral Wells Stone Company	limestone	2	0	0
570	Pennsylvanian			Bolivia	Yaurichambi			14	0	0
571	Pennsylvanian	Morrowan	Morrow	Oklahoma	Muskogee Co.			1	0	0
572	Pennsylvanian			Nebraska	Omaha	2 mi S		3	0	0
573	Pennsylvanian			Texas	Jacksboro	3.5 mi E at Riley Ranch, 0.5 mi N of Riley house		2	0	0
574	Pennsylvanian		Fayetteville	Arkansas	Wyman	0.5 mi S		8	0	0
575	Pennsylvanian			New Mexico	Coyote Creek			18	0	0
576	Pennsylvanian			Brazil	Itaituba			8	0	0
577	Pennsylvanian			Colorado	USGS 2196	see Girty 1903, USGS PP 16		2	0	0
578	Pennsylvanian			Colorado	USGS 2274	see Girty 1903, USGS PP 16		5	0	0
579	Pennsylvanian			Colorado	USGS 2239	see Girty 1903, USGS PP 16		8	0	0
580	Pennsylvanian			Colorado	USGS 2240	see Girty 1903, USGS PP 16		1	0	0
581	Pennsylvanian			Colorado	USGS 2323	see Girty 1903, USGS PP 16		2	0	0
582	Pennsylvanian			Colorado	USGS 2303	see Girty 1903, USGS PP 16		1	0	0
583	Pennsylvanian			Colorado	USGS 2201	see Girty 1903, USGS PP 16		1	0	0
584	Pennsylvanian			Colorado	USGS 2214	see Girty 1903, USGS PP 16		5	0	0
585	Pennsylvanian			Colorado	USGS 2254	see Girty 1903, USGS PP 16		2	0	0
586	Pennsylvanian			Colorado	USGS 2309	see Girty 1903, USGS PP 16		2	0	0
587	Pennsylvanian			Colorado	USGS 2246	see Girty 1903, USGS PP 16		1	0	0
588	Pennsylvanian			Colorado	USGS 2211	see Girty 1903, USGS PP 16		13	0	0
589	Pennsylvanian			Colorado	USGS 2275	see Girty 1903, USGS PP 16		5	0	0
590	Pennsylvanian			Colorado	USGS 2195	see Girty 1903, USGS PP 16		6	0	0
591	Pennsylvanian			Colorado	USGS 2196	see Girty 1903, USGS PP 16		2	0	0
592	Pennsylvanian			Colorado	USGS 2262	see Girty 1903, USGS PP 16		6	0	0
593	Pennsylvanian			Colorado	USGS 2196	see Girty 1903, USGS PP 16		4	0	0
594	Pennsylvanian			Colorado	USGS 2245	see Girty 1903, USGS PP 16		8	0	0
595	Pennsylvanian			Colorado	USGS 2220	see Girty 1903, USGS PP 16		1	0	0
596	Pennsylvanian			Colorado	USGS 2280	see Girty 1903, USGS PP 16		10	0	0
597	Pennsylvanian			Colorado	USGS 2229	see Girty 1903, USGS PP 16		11	0	0
598	Pennsylvanian			Colorado	USGS 2204	see Girty 1903, USGS PP 16		3	0	0
599	Pennsylvanian			Colorado	Rock Creek, Lake Co.	maybe the same as USGS 2244 or 2245		3	0	0
600	Pennsylvanian			Colorado	USGS 2324	see Girty 1903, USGS PP 16		4	0	0
601	Pennsylvanian			Colorado	USGS 2231	see Girty 1903, USGS PP 16		6	0	0
602	Pennsylvanian			Colorado	USGS 2216	see Girty 1903, USGS PP 16		11	0	0
603	Pennsylvanian			Colorado	USGS 2297	see Girty 1903, USGS PP 16		1	0	0
604	Pennsylvanian			Colorado	USGS 2233	see Girty 1903, USGS PP 16		3	0	0
605	Pennsylvanian			Colorado	USGS 2245	see Girty 1903, USGS PP 16		3	0	0
606	Pennsylvanian			Colorado	USGS 2195	see Girty 1903, USGS PP 16		2	0	0
607	Pennsylvanian			Colorado	USGS 2196b	see Girty 1903, USGS PP 16		12	0	0

608	Pennsylvanian			Colorado	USGS 2263	see Girty 1903, USGS PP 16		2	0	0
609	Pennsylvanian			Colorado	USGS 2248	see Girty 1903, USGS PP 16		1	0	0
610	Pennsylvanian			Colorado	USGS 2209	see Girty 1903, USGS PP 16		1	0	0
611	Pennsylvanian			Colorado	USGS 2331	see Girty 1903, USGS PP 16		1	0	0
612	Pennsylvanian			Colorado	USGS 2306	see Girty 1903, USGS PP 16		1	0	0
613	Pennsylvanian			Colorado	USGS 2319	see Girty 1903, USGS PP 16		1	0	0
614	Pennsylvanian			Colorado	USGS 2298	see Girty 1903, USGS PP 16		2	0	0
615	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.6 mi SE		1	0	0
616	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3.5 mi N		309	3	0
617	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3.5 mi NW		246	1	2
618	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3.5 mi NW		292	1	0
619	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3-3.6 mi SE		33	1	0
620	Pennsylvanian	Desmoinesian	Grindstone Creek	Texas	Palo Pinto Co.			6	0	0
621	Pennsylvanian				7771	USGS green number		1	0	0
622	Pennsylvanian		Redesdale	England	Redesdale, Northumberland			6	0	0
623	Pennsylvanian			Ohio	Hamden			1	0	0
624	Pennsylvanian			Missouri	Kansas City			32	0	0
625	Pennsylvanian			Bolivia	Lake Titicaca			2	0	0
626	Pennsylvanian	Virgilian	Herington	Oklahoma	Kay Co.			4	0	0
627	Pennsylvanian			Illinois	Belleville			13	0	0
628	Pennsylvanian			Colorado	USGS 2249			1	0	0
629	Pennsylvanian			Colorado	USGS 2242			9	0	0
630	Pennsylvanian			Colorado	USGS 2291			5	0	0
631	Pennsylvanian			Colorado	USGS 2273			2	0	0
632	Pennsylvanian			Colorado	USGS 2213			4	0	0
633	Pennsylvanian			Colorado	USGS 2342			3	0	0
634	Pennsylvanian		Red Eagle	Oklahoma	Burbank	0.5 mi NE, Quarry on US 60		57	0	0
635	Pennsylvanian		Red Eagle	Oklahoma	Burbank	0.5 mi NE, Quarry		33	0	0
636	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	5 mi NE, Gunter Place	shale	11	0	0
637	Pennsylvanian	Desmoinesian	Mingus	Texas	Millsap	6 mi SW, Goen farm	shale	2	0	0
638	Pennsylvanian	Missourian	Captain Creek	Kansas	Johnson Co.		limestone	2	0	0
639	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro			1	0	0
640	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	upper bed 10, Cooper location 700a	limestone	9	0	0
641	Pennsylvanian		Red Eagle	Oklahoma	Burbank	0.5 mi NE, Quarry		41	0	0
642	Pennsylvanian	Missourian	Plattsburg	Kansas	Ottumwa	Ross Quarry	limestone	36	0	0
643	Pennsylvanian	Virgilian	Coal Creek	Kansas	Oskaloosa	8 mi N	limestone	6	0	0
644	Pennsylvanian	Morrowan	Morrow	Texas	San Saba Co.	2 mi N340E of Maxwell Crossing of San Saba River		13	0	0
645	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	4.25 mi SE, 0.6 mi S of TX 199	shale	3	0	0
646	Pennsylvanian		Dockra	Scotland	Lugton, Ayershire	Lugton Quarry	limestone	2	0	0
647	Pennsylvanian			Texas	Salesville	3.5 mi NW, in a rock crusher pit		5	0	0
648	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Ardmore	Lake Murray, S of Ardmore	shale	1	0	0
649	Pennsylvanian			New Mexico	Otero Co.			4	0	0
650	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Ardmore	3.75 mi N at Mt. Washington School	shale	9	0	0
651	Pennsylvanian		McLeansboro	Illinois	Millstadt	2.5 mi N, 0.8 mi E		23	0	0
652	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3 mi N, Mineral Wells Stone Company	limestone	52	0	0
653	Pennsylvanian			Bolivia	Aromo	Colquencha, Dept. La Paz Province		4	0	0
654	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.5 mi E	shale	13	0	0
655	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.2 mi E	shale	32	1	0
656	Pennsylvanian			Colorado	Archuleta Co.	W side of Horse Mountain, San Juan National Forest		7	0	0
657	Pennsylvanian	Missourian	Captain Creek	Kansas	Eudora	1 mi E, 1 mi N	limestone	1	0	0
658	Permian	Wolfcampian	Beattie	Kansas	Hooser	1.75 mi SSW	shale	8	0	0

659	Pennsylvanian		**Bird Springs**	Nevada	Clark Co.		limestone	2	0	0	
660	Pennsylvanian	Missourian	Cherryvale	Iowa	Winterset	0.8 mi N of Hogback covered bridge over North River	shale	11	0	0	
661	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	5 mi NE, Gunter Place, S of TX 24	shale	11	0	0	
662	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	5 mi NE, Gunter Place, S of TX 24	shale	59	3	1	
663	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	upper bed 10, Cooper location 700a	limestone	7	0	0	
664	Pennsylvanian			Arizona	Apache Co.	USGS orange number 7018		18	0	0	
665	Pennsylvanian	Missourian	Ranger	Texas	Chico	6 mi W on TX 24	limestone	13	0	0	
666	Pennsylvanian	Virgilian	Graham	Texas	Gunsight	1.2 mi S	shale	16	1	0	1
667	Pennsylvanian		Des Moines	New Mexico	Derry Hills			3	0	0	
668	Pennsylvanian	Virgilian	Oread	Kansas	Malvern	1 mi N, WPA Quarry	limestone	1	0	0	
669	Pennsylvanian	Missourian	Plattsburg	Kansas	Bonner Springs	cement plant	limestone	1	0	0	
670	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Johnston Co.	Daube Ranch, 32-3S-4E	shale	2	0	0	
671	Pennsylvanian		Red Eagle	Oklahoma	Pawnee			1	0	0	
672	Pennsylvanian			Texas	Rochelle	45 mi E, 3.75 mi N, 406 ft. N of Meyers house		1	0	0	
673	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Baum	Weathering Ranch, NE of Baum	shale	2	0	0	
674	Pennsylvanian	Missourian	Plattsburg	Kansas	Bonner Springs		limestone	1	0	0	
675	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Johnston Co.	Daube Ranch, 32-3S-4E	shale	3	0	0	
676	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Johnston Co.		shale	2	0	0	
677	Pennsylvanian	Virgilian	Wabaunsee	Oklahoma	Pawnee	2 mi SE	shale	3	0	0	
678	Pennsylvanian	Virgilian	Coal Creek	Kansas	Okaloosa	8 mi N	limestone	7	0	0	
679	Pennsylvanian	Virgilian	Oread	Missouri	St. Joseph	2 mi N of aviation field		10	0	0	
680	Permian	Wolfcampian	Foraker	Oklahoma	Fairfax	2.5 mi NW		12	0	0	
681	Pennsylvanian	Missourian	Wyandotte	Kansas	Bonner Springs	cement plant	limestone	1	0	0	
682	Pennsylvanian	Virgilian	Wood Siding	Oklahoma	Fairfax	3.6 mi E	limestone	8	0	0	
683	Pennsylvanian		Red Eagle	Oklahoma	Burbank	0.5 mi NE on US 60		73	0	0	
684	Pennsylvanian	Virgilian	Graham	Texas	Graham	1 mi NW	shale	2	0	0	
685	Pennsylvanian			Texas	Conutillo	10 mi N in Franklin Mountains		3	0	0	
686	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	1.5 mi E	limestone	3	0	0	
687	Pennsylvanian			New Mexico	Jemenez Springs			3	0	0	
688	Pennsylvanian	Desmoinesian	Hermosa	Colorado	Durango Quad	near mouth of Hermosa Creek		3	0	0	
689	Pennsylvanian	Missourian	Dewey	Oklahoma	Dewey	Dewey Cement Quarry	limestone	17	0	0	
690	Pennsylvanian			Missouri	St. Joseph			11	0	0	
691	Pennsylvanian			Indiana	Brazil			16	0	0	
692	Pennsylvanian		Vanport	Ohio	Jackson Co.	mine dump, Bloomfield Township		2	0	0	
693	Pennsylvanian	Morrowan	Morrow	Oklahoma	Fort Gibson	2.5 mi N, Keough quarry		2	0	0	
694	Pennsylvanian	Virgilian	Oread	Kansas	Lecompton	A.T.& S.F. Quarry W of depot		2	0	0	
695	Pennsylvanian			Missouri	Kansas City			3	0	0	
696	Pennsylvanian	Missourian	Keechi Creek	Texas	Mineral Wells	6 mi NNW; 0.25 mi W, 0.5 mi N of Union Hill School	shale	3	0	0	
697	Pennsylvanian	Morrowan	Morrow	Oklahoma	Fort Gibson	2.5 mi N		7	0	0	
698	Pennsylvanian	Desmoinesian	Boggy	Oklahoma	Pontotoc Co.			1	0	0	
699	Pennsylvanian	Virgilian	Cisco Group	Texas	Graham			2	0	0	
700	Pennsylvanian			Nebraska	Black Hills			1	0	0	
701	Pennsylvanian	Desmoinesian	Checkerboard	Kansas	Coffeyville	brick pit, N edge of town		4	0	0	
702	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	3.5 mi E		5	0	0	
703	Pennsylvanian			Kentucky	Willard	E of town		1	0	0	
704	Pennsylvanian	Desmoinesian	Mineral Wells	Texas	Jacksboro	NW; on TX 148 5.7 mi N of TX 199	limestone	7	0	0	
705	Pennsylvanian	Missourian	Drum	Kansas	Independence	1 mi SE	limestone	3	0	0	
706	Pennsylvanian		Red Eagle	Oklahoma	Fairfax	2 mi W	limestone	1	0	0	
707	Pennsylvanian			Texas	Vinton	8 mi SW in Franklin Mountains		3	0	0	
708	Pennsylvanian		High Peak	Texas	Hueco Tanks	High Peak, 3 mi NE		2	0	0	
709	Pennsylvanian	Morrowan	Bloyd	Arkansas	Brentwood	2 mi NW		3	0	0	

710	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayetteville	S of town		3	0	0
711	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayetteville	2.5 mi NE on Goshen Road		6	0	0
712	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayetteville	3 mi SW at Kessler Mountain		14	0	0
713	Pennsylvanian			Texas	Canutillo	10 mi N in Franklin Mountains		4	0	0
714	Pennsylvanian			Texas	Vinton	8 mi SW in Franklin Mountains		3	0	0
715	Pennsylvanian			Texas	Hueco Tanks	High Peak, 3 mi NE		3	0	0
716	Pennsylvanian			Texas	El Paso	8 mi SW in Franklin Mountains, opposite White Spur		2	0	0
717	Pennsylvanian			New Mexico	Berino	7.5 mi N in Franklin Mountains		2	0	0
718	Pennsylvanian			New Mexico	Berino	7.5 mi N in Franklin Mountains		2	0	0
719	Pennsylvanian	Morrowan	Morrow	Oklahoma	Muskogee Co.			64	0	0
720	Pennsylvanian	Virgilian	Oread	Kansas	Perry	3 mi E	limestone	218	0	0
721	Pennsylvanian		McLeansboro	Illinois	Millstadt			53	0	0
722	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3 mi N		223	0	0
723	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	1.8 mi N	limestone	32	0	0
724	Pennsylvanian		Kanawaba	Kansas	Osage Co.		shale	41	0	0
725	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	23 mi N; Cooper location 700, middle of King's bed 10	limestone	88	0	1
726	Pennsylvanian		Bond	Illinois	LaSalle	1.1 mi E	limestone	779	1	0
727	Permian	Wolfcampian	Pueblo	Texas	Santa Anna	2.4 mi E	limestone	48	0	0
728	Pennsylvanian		Bond	Illinois	LaSalle		limestone	266	0	0
729	Pennsylvanian	Virgilian	Southbend	Texas	Berwick	1.5 mi SW	shale	3	0	1
730	Pennsylvanian		McLeansboro	Illinois	Millstadt	2.5 mi NNW		5	0	0
731	Pennsylvanian	Virgilian	Cass	Indiana	South Bend	2 mi NW		4	0	0
732	Pennsylvanian			Kansas	Junction City	6 mi S		4	0	0
733	Pennsylvanian	Virgilian	Topeka	Kansas	Howard	1 mi S	limestone	5	0	0
734	Permian		Fort Riley	Kansas	Junction City	5.2 mi SW	limestone	1	0	0
735	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.1 mi SE	shale	1	0	0
736	Pennsylvanian	Virgilian	Graham	Texas	Gunsight		shale	8	1	0
737	Pennsylvanian	Virgilian	Graham	Texas	Fife	E of town		1	0	0
738	Pennsylvanian	Virgilian	Graham	Texas	Gunsight	1.2 mi S	shale	9	0	0
739	Pennsylvanian	Virgilian	Necessity	Texas	Jack Co.			1	0	0
740	Pennsylvanian			Texas	Jacksboro	7-8 mi ENE		2	0	0
741	Pennsylvanian			Texas	Fife			3	0	0
742	Pennsylvanian	Desmoinesian	Millsap Lake	Texas	Mineral Wells			1	0	0
743	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	3.2 mi E	shale	4	0	0
744	Pennsylvanian	Missourian	Wyandotte	Kansas	Banner Springs		limestone	2	0	0
745	Pennsylvanian	Desmoinesian	Boggy	Oklahoma	Pontotoc Co.			1	0	0
746	Pennsylvanian	Missourian	Ranger	Texas	Cardiff	7 mi E	limestone	3	0	0
747	Permian		Fort Riley	Kansas	Geary Co.		limestone	1	0	0
748	Pennsylvanian	Missourian	Ranger	Texas	Finis	0.6 mi N	limestone	14	0	0
749	Pennsylvanian			Nevada	White Pine Co.			15	0	0
750	Pennsylvanian			Nebraska	Nebawka	2 mi NW		8	0	0
751	Pennsylvanian	Desmoinesian	Senora	Oklahoma	Okmulgee			3	0	0
752	Pennsylvanian	Virgilian	Topeka	Kansas	Tonoway	1.5 mi SE	limestone	6	0	0
753	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	7-8 mi ENE, 10-15 feet below Jacksboro LS		5	1	0
754	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	3.5 mi E		3	0	0
755	Pennsylvanian	Virgilian	Graham	Texas	Eastland		shale	4	0	0
756	Pennsylvanian	Virgilian	Oread	Kansas	Lecompton			1	0	0
757	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.2 mi ENE	shale	5	0	0
758	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	5 mi NE		5	0	0
759	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro		shale	6	1	0
760	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.2 mi E	shale	3	0	0

761	Pennsylvanian	Virgilian	Thrifty	Texas	Berwick		limestone	4	0	0
762	Pennsylvanian	Virgilian	Coal Creek	Kansas	Shawnee Co.		limestone	4	0	0
763	Pennsylvanian	Virgilian	Topeka	Kansas	Tonoway Co.		limestone	3	0	0
764	Pennsylvanian	Virgilian	Topeka	Kansas	Tonoway		limestone	3	0	0
765	Pennsylvanian		McLeansboro	Illinois	Millstadt	0.8 mi E		27	0	0
766	Pennsylvanian	Desmoinesian	Brannon Bridge	Texas	Brock	2.5 mi W	limestone	7	0	0
767	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	1.5 mi N	limestone	16	0	0
768	Pennsylvanian	Virgilian	Thrifty	Texas	Jack Co.		limestone	5	0	0
769	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	7-8 mi ENE, 10-15 feet below Jacksboro LS		10	1	0
770	Pennsylvanian	Missourian	Plattsburg	Kansas	Ottawa		limestone	6	0	0
771	Pennsylvanian	Atokan	Marble Falls	Texas	Richland Springs	6.6 mi S	limestone	18	0	0
772	Pennsylvanian		Amsden	Wyoming	Lander	S of Amsden Hill		83	0	0
773	Pennsylvanian		Amsden	Wyoming	Lander	S of Amsden Hill		88	0	0
774	Pennsylvanian	Morrowan	Amsden	Wyoming	Lander	S of Amsden Hill, Horseshoe Shale Member	shale	32	0	0
775	Pennsylvanian		Amsden	Wyoming	Lander	S of Cherry Creek		102	0	0
776	Pennsylvanian		Amsden	Wyoming	Lander	S of Cherry Creek		9	0	0
777	Pennsylvanian		Amsden	Wyoming	Lander	S of Amsden Hill		9	0	0
778	Pennsylvanian	Desmoinesian	Thurman	Iowa	Winterset	11 mi W, Quarry off Hwy 92	sandstone	46	0	0
779	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	1 mi N	sandstone	44	0	0
780	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	2 mi N	sandstone	35	0	0
781	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Plattsmouth	1 mi S, quarry	sandstone	34	0	1
782	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	1 mi N	sandstone	35	0	0
783	Pennsylvanian		Amsden	Wyoming	Lander	S of Cherry Creek		1	0	0
784	Pennsylvanian	Morrowan	Amsden	Wyoming	Lander	S of Cherry Creek, Horseshoe Shale Member	shale	25	0	0
785	Pennsylvanian	Desmoinesian	Des Moines	Illinois	Peoria Co.	Old Stone Church Road, 1 mi N of IL 116		3	0	0
786	Pennsylvanian	Desmoinesian	Worland	Iowa	Stuart	2 mi N	limestone	5	0	0
787	Pennsylvanian	Missourian	Hertha	Iowa	Peru	1.5 mi E	limestone	5	0	0
788	Pennsylvanian	Desmoinesian	Thurman	Iowa	Stanzel	2 mi E	sandstone	10	0	0
789	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Plattsmouth	1 mi S, quarry	sandstone	64	0	0
790	Pennsylvanian		Naco	Arizona	Gila co.	Beta Member, near Kohl ranch		6	0	0
791	Pennsylvanian				Black Hills			3	0	0
792	Pennsylvanian		Delaware Mtn Grp	Texas	Culberson Co.	? Word formation		4	0	0
793	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	1 mi S and 1 mi W	limestone	308	0	0
794	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	1 mi N, Tobin's Quarry	sandstone	337	0	0
795	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	1 mi N, Tobin's Quarry	sandstone	302	0	0
796	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	2 mi N, Ace Hill Quarry	sandstone	443	1	1
797	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	3.5 mi NW	limestone	7	0	0
798	Pennsylvanian	Missourian	Ladore	Texas	Labette Co.		shale	1	0	0
799	Pennsylvanian	Missourian	Dennis	Kansas	Neosho Co.		limestone	5	0	0
800	Pennsylvanian	Virgilian	Lecompton	Kansas	Douglas Co.	Beil Member	limestone	4	0	0
801	Pennsylvanian	Missourian	Dennis	Kansas	Neosho Co.		limestone	2	0	0
802	Pennsylvanian			Kansas	Douglas Co.	Beil Member		2	0	0
803	Pennsylvanian	Missourian	Graford	Texas	Palo Pinto Co.	Signal Peak	shale	1	0	0
804	Pennsylvanian	Virgilian	Thrifty	Texas	Jacksboro	10 mi N	limestone	1	0	0
805	Pennsylvanian	Missourian	Graford	Texas	Bridgeport	2 mi S	shale	1	0	0
806	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	3.5 mi E	shale	4	2	0
807	Pennsylvanian	Virgilian	Graham	Texas	Jacksboro	5 mi E		1	0	0
808	Pennsylvanian	Missourian	Hog Creek	Texas	Wise Co.		shale	3	0	0
809	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	5 mi NE	shale	30	1	0
810	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	5 mi NE	shale	73	3	0
811	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	3 mi E	shale	37	1	0

812	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	3.5 mi E	shale	27	1	0
813	Pennsylvanian	Missourian	Ranger	Texas	Chico	6 mi W	limestone	61	0	0
814	Pennsylvanian	Missourian	Brush Creek	Pennsylvania	Allegheny Co.		limestone	3	0	0
815	Pennsylvanian	Desmoinesian	Des Moines	New Mexico	Mud Springs Mountains			6	0	0
816	Pennsylvanian	Virgilian	Graham	Texas	Grosvenor	5 mi ESE	shale	23	0	0
817	Pennsylvanian	Atokan	Lake Murray	Oklahoma	Love Co.	on Pumpkin Creek		144	0	0
818	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	5 mi NE	shale	65	3	1
819	Pennsylvanian		Red Eagle	Oklahoma	Burbank	0.5 mi E		75	0	0
820	Permian	Wolfcampian	Pueblo	Texas	Santa Anna	2.4 mi E	limestone	117	0	0
821	Pennsylvanian					USGS 49341		1	0	0
822	Pennsylvanian			New Mexico	Sacramento Mountains	Fresnal Reefs		2	0	0
823	Pennsylvanian			Indiana	Stanton			4	0	0
824	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville			1	0	0
825	Pennsylvanian	Morrowan	Magdalena	New Mexico	Otero Co.			1	0	0
826	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	3.5 mi E	shale	13	0	0
827	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro		shale	75	4	0
828	Pennsylvanian	Virgilian	Jacksboro	Texas	Jack Co.		shale	4	0	0
829	Pennsylvanian	Desmoinesian	Mineral Wells	Texas	Eastland Co.			1	0	0
830	Pennsylvanian	Virgilian	Graham	Texas	Palo Pinto Co.	Renfro locality 48	shale	1	0	0
831	Pennsylvanian	Missourian	Graford	Texas	Jack Co.	Renfro locality 37		1	0	0
832	Pennsylvanian	Virgilian	Harpersville	Texas	Coleman Co.			3	0	0
833	Pennsylvanian	Desmoinesian	Millsap lake	Texas	Parker Co.			2	0	0
834	Pennsylvanian			Brazil	Itaituba			6	0	0
835	Pennsylvanian			Brazil	Itaituba			3	1	0
836	Pennsylvanian	Missourian	Coffeyville	Oklahoma	Lenapah		limestone	6	0	0
837	Pennsylvanian		Red Eagle	Oklahoma	Burbank	0.5 mi NE		44	1	0
838	Pennsylvanian	Missourian	Salesville	Texas	Palo Pinto Co.	Renfro locality 3		32	0	0
839	Pennsylvanian	Morrowan	Magdalena	New Mexico	Otero Co.	Bowsher 3302		100	2	2
840	Pennsylvanian	Atokan	Atoka	New Mexico	Los Alamos			23	0	0
841	Permian	Wolfcampian	Pueblo	Texas	Santa Anna			33	0	0
842	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	5 mi NE		5	0	0
843	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	6 mi NE		7	0	0
844	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	NW		15	0	0
845	Pennsylvanian			Missouri	Kansas City			2	0	0
846	Pennsylvanian			Nevada	Pioche	35 mi N, Top Grass Mountain		5	0	0
847	Pennsylvanian					USGS 11531		3	0	0
848	Pennsylvanian			Utah	Red Point			4	0	0
849	Pennsylvanian			Texas	Jacksboro	3.5 mi S		4	0	0
850	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.		shale	148	0	0
851	Pennsylvanian			Ohio	Cambridge	near		1	0	0
852	Pennsylvanian			Nevada	White Pine District	Mokomoke Ridge		1	0	0
853	Pennsylvanian			Nebraska	Plattsmouth	coal measures		26	0	0
854	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	100 yards E of NW corner, 29-3S-2E	shale	44	0	0
855	Pennsylvanian	Missourian	Wyandotte	Kansas	Bonner Springs	1.2 mi E, Lone Star Cement Quarry	limestone	10	0	0
856	Pennsylvanian	Virgilian	Topeka	Kansas	Tonovay	1.5 mi SE	limestone	9	0	0
857	Pennsylvanian			New Mexico	Santa Fe	Quarry 0.4 mi N300W of Manderfield School		15	0	0
858	Pennsylvanian	Virgilian	Oread	Kansas	Michigan Valley	1 mi S and 1 mi E		24	0	0
859	Pennsylvanian			Illinois	Belleville	about 4 mi W		4	0	0
860	Pennsylvanian	Virgilian	Graham	Texas	Brown Co.		shale	20	0	0
861	Pennsylvanian			Ohio	Tuscarawa Co.	coal measures		6	0	0
862	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	5 mi NE, cemetary on Gunter Farm	shale	5	0	0

863	Pennsylvanian	Missourian		Dewey	Oklahoma	Dewey	Dewey Portland Cement Company	limestone	15	0	0
864	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Oil Creek	0.28 mi S	shale	30	0	0
865	Pennsylvanian	Desmoinesian		Hermosa	Utah	Lisbon Valley			6	0	0
866	Permian	Wolfcampian		Pueblo	Texas	Camp Colorado	1 mi S		8	0	0
867	Pennsylvanian				Oklahoma	Copon	1.5 mi E, shale above Torpedo Sandstone	shale	6	0	0
868	Pennsylvanian				New Mexico	Santa Fe	1.15 mi E, lowest bed in quarry (in 1956)		17	0	0
869	Pennsylvanian	Desmoinesian		Lenapah	Oklahoma	Lenapah	N of town, E side of US 169	limestone	133	0	0
870	Pennsylvanian	Desmoinesian		Oologah	Oklahoma	Owasso	2 mi E	limestone	172	17	0
871	Pennsylvanian	Missourian		Barnsdsall	Oklahoma	Bartlesville	4.5 mi NW	limestone	1	0	0
872	Pennsylvanian	Desmoinesian		Oologah	Oklahoma	Tulsa	Garnett Stone Quarry in NE Tulsa	limestone	2	0	0
873	Pennsylvanian				Missouri	casa Co.			6	0	0
874	Permian	Wolfcampian		Hughes Creek	Nebraska	Dawson	5 mi S	limestone	6	0	0
875	Pennsylvanian			Stull	Kansas	Malvern			3	0	0
876	Pennsylvanian	Missourian		Francis	Oklahoma	Ada	end of E 10th street, east central campus	shale	3	0	0
877	Pennsylvanian			Lonsdale	Illinois	Cramer	S of town		43	0	1
878	Pennsylvanian	Desmoinesian		Deese	Oklahoma	Love Co.	0.3 mi S of entrance to lodge	limestone	7	0	0
879	Pennsylvanian	Virgilian		Howard	Kansas	Howard	1 mi S	limestone	2	0	0
880	Pennsylvanian	Virgilian		Gaptank	Texas	Marathon	23.5 mi NE, lower bed 10 of King	limestone	51	0	0
881	Pennsylvanian	Morrowan		Morrow	Oklahoma	Muskogee Co.	outlet to Green Leaf Lake		1	0	0
882	Pennsylvanian				Ohio	Jefferson Co.			8	0	0
883	Pennsylvanian	Virgilian		Jacksboro	Texas	Jacksboro	Gunter Farm, 0.5 mi S of Tx 24	shale	13	0	0
884	Pennsylvanian	Virgilian		Jacksboro	Texas	Jacksboro	0.75 mi N of city limite, quarry on TX 24		1	0	0
885	Permian	Wolfcampian		Foraker	Oklahoma	Fairfax	2 mi NW		5	0	0
886	Pennsylvanian	Virgilian		Jacksboro	Texas	Jacksboro	3.5 mi E		12	0	0
887	Pennsylvanian	Virgilian		Wood Siding	Oklahoma	Fairfax	2.5 mi E	limestone	5	0	0
888	Pennsylvanian	Morrowan		Magdalena	New Mexico	Miguel Co.			2	0	0
889	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Carter Co.		shale	9	0	0
890	Permian	Wolfcampian		Stine	Nebraska	Syracuse	2.25 mi W	shale	29	0	0
891	Permian	Wolfcampian		Foraker	Oklahoma	Fairfax	2 mi NW		19	0	0
892	Pennsylvanian	Virgilian		Jacksboro	Texas	Jacksboro	7-8 mi ENE		20	1	0
893	Permian	Wolfcampian		Pueblo	Texas	Santa Anna	2.4 mi E		26	0	0
894	Pennsylvanian	Virgilian		Kanwaka	Nebraska	Cass Co.	Synderville Quarry	shale	54	0	0
895	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Carter Co.		shale	19	0	0
896	Pennsylvanian	Morrowan		Morrow	Oklahoma	Muskogee Co.	outlet to Green Leaf Lake		32	0	0
897	Pennsylvanian	Virgilian		Topeka	Kansas	Greenwood Co.	1.1 mi on US 54 E of junction with KS 99	limestone	33	0	0
898	Pennsylvanian	Missourian		Stanton	Nebraska	Louisville	NW of town		72	0	0
899	Pennsylvanian	Missourian		Conemaugh	Ohio	Jefferson Co.	1851 below Pittsburgh #8 coal		75	0	0
900	Pennsylvanian			Red Eagle	Oklahoma	Burbank	0.5 mi E, quarry on S side of US 60		43	0	0
901	Pennsylvanian	Virgilian		Lecompton	Kansas	Big Springs	3.5 mi N and 0.5 mi W on Santa Fe RR	limestone	246	0	0
902	Pennsylvanian				New Mexico	Canoncito			109	0	0
903	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn		shale	118	0	0
904	Permian	Wolfcampian		Beattie	Kansas	Grand Summit		shale	28	0	0
905	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	1.2 mi on RR NE	shale	45	0	0
906	Permian	Wolfcampian		Beattie	Kansas	Dexter	0.75 mi SW on Co. Road 14	shale	19	0	0
907	Permian		Uralian		Bolivia	Capineta	vicinity of Apillipampa		108	0	1
908	Permian				Texas	Canutillo			4	0	0
909	Permian	Wolfcampian		Beattie	Kansas	Cambridge	6.3 mi E	shale	18	0	0
910	Permian				Arizona	Kaibab Plateau			3	0	0
911	Permian	Wolfcampian		Hueco	Texas	El Paso Co.	Powwow Canyon, Hueco Mountains		10	0	0
912	Permian	Wolfcampian		Hueco	Texas	El Paso Co.	Powwow Canyon, Hueco Mountains		8	0	0
913	Permian	Leonardian		Collythara	Australia	Northwest District	0.5 mi W of Collythara Springs		3	0	0

914	Permian				China	Szechuan	Foster Site, Shin Kai Shih		3	0	0
915	Permian	Wolfcampian		Speiser	Kansas	Dexter	3.7 mi S	shale	5	0	0
916	Permian	Wolfcampian		Foraker	Oklahoma	Fairfax	2 mi W		6	0	0
917	Permian	Guadalupian		Park City	Wyoming	Fremont Co.	head of Bull Lake	limestone	1	0	0
918	Permian	Wolfcampian		Beattie	Kansas	Grenola	4 mi W	shale	17	0	0
919	Permian	Wolfcampian		Hueco	Texas	El Paso Co.	Powwow Canyon, Hueco Mountains		41	3	1
920	Permian	Wolfcampian		Beattie	Kansas	Cambridge	1 mi N of US 160 E of Cambridge	shale	9	0	0
921	Permian	Wolfcampian		Hueco	Texas	Van Horn	3 mi NW		3	0	0
922	Permian	Wolfcampian		Putnam	Texas	Santa Anna	3.25 mi NW	limestone	80	0	0
923	Permian	Wolfcampian		Putnam	Texas	Coleman	SW of Coleman, NW of Coleman Junction	limestone	4	0	0
924	Permian				Bolivia	Carangas			4	0	0
925	Permian	Wolfcampian		Hueco	Texas	El Paso Co.	Powwow Canyon, Hueco Mountains		50	0	0
926	Permian	Wolfcampian		Moran	Texas	Moran	5 mi SE on US 283, shale above limestone	shale	7	0	0
927	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	0.7 mi NE shale on limestoen on top		18	0	0
928	Permian	Wolfcampian		Moran	Texas	Moran	5.2 mi SE on US 283		11	0	0
929	Permian		Uralian		Bolivia	Capineta	S of Apillipampa		108	0	0
930	Permian	Wolfcampian		Wreford	Kansas	Strong City	near Crushed Hill	limestone	3	0	0
931	Permian	Leonardian		Hess	Texas	Marathon	11 mi N	limestone	1	0	0
932	Permian	Wolfcampian		Beattie	Kansas	Grand Summit		shale	2	0	0
933	Permian	Wolfcampian		Hueco	Texas	El Paso Co.	Powwow Canyon, Hueco Mountains		15	0	0
934	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	1 mi E, side of RR	shale	18	0	0
935	Permian	Wolfcampian		Fort Riley	Oklahoma	Kay Co.		limestone	35	0	0
936	Permian	Wolfcampian		Barneston	Kansas	Silverdale	5 mi SE, Oketo Shale	shale	14	0	0
937	Permian	Wolfcampian			Texas	Albany			1	0	0
938	Permian	Wolfcampian		Beattie	Kansas	Cowley Co.	US Hwy 161, Beattie Limestone, Florena Shale		1	0	0
939	Permian	Wolfcampian			Texas	Albany			1	0	0
940	Permian	Wolfcampian		Speiser	Kansas	Dexter	3.1 mi S	shale	2	0	0
941	Permian				Texas	Moran	basal Permian		12	0	0
942	Permian	Guadalupian		Park City	Wyoming	Fremont Co.	head of Bull Lake	shale	9	0	0
943	Permian	Wolfcampian		Beattie	Kansas	Cowley	0.1-0.2 mi W	shale	20	0	0
944	Permian	Wolfcampian		Pueblo	Texas	Rockwood	9 mi SW	shale	25	0	0
945	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	0.6-1.3 mi NE	shale	23	0	0
946	Permian				Texas	Diablo Mountains			12	0	0
947	Permian				Malaya		Loong Fatt Mining Company		66	0	0
948	Permian	Wolfcampian		Elmdale	Kansas	Greenwood Co.		shale	1	0	0
949	Permian				Timor	Tuni on Eno			13	1	0
950	Permian				Timor	Basleo			8	0	0
951	Permian	Guadalupian		San Andres	New Mexico	Dunken			2	0	0
952	Permian			Copacabana	Bolivia	Capinota Province			6	0	0
953	Permian			Copacabana	Bolivia	Capinota Province			19	0	0
954	Permian			Copacabana	Bolivia	Quillacolla Province			4	0	0
955	Permian				Nebraska	Black Hills			6	0	0
956	Permian			Copacabana	Bolivia	Los Andes Province			205	2	1
957	Permian			Copacabana	Bolivia	Capinota Province			68	1	0
958	Permian			Copacabana	Bolivia	Los Andes Province			94	1	0
959	Permian			Copacabana	Bolivia	Characas Province			24	1	0
960	Permian	Guadalupian		Phosphoria	Utah	Confusion Range			4	1	0
961	Permian				Bolivia	Zudanez Province			8	0	0
962	Permian				Kansas	Winfield			2	0	0
963	Permian				Kansas	Grand Summit			9	0	0
964	Permian	Wolfcampian		Garrison	Kansas	Sallyards	1.5 mi W		1	0	0

965	Permian				Kansas	Arkansas City			2	0	0	
966	Permian	Wolfcampian		Luta	Kansas	Winfield		limestone	5	0	0	
967	Permian	Wolfcampian		Beattie	Kansas	Grand Summit		limestone	6	0	0	
968	Permian				England	Sunderland			1	0	0	
969	Permian				Kansas	Arkansas City			4	0	0	
970	Permian				Kansas	Elk Co.			3	0	0	
971	Permian			Copacabana	Bolivia	Zudanez Province			3	0	0	
972	Permian			Copacabana	Bolivia	Orcoma			3	0	0	
973	Permian	Wolfcampian		Hughes Creek	Nebraska	Lancaster Co.			2	0	0	
974	Permian				Kansas	Cottonwood Creek			5	0	0	
975	Permian				Texas		Cooper locality 719		15	0	0	
976	Permian		Uralian		Bolivia	Capinota Province			54	0	0	
								Total	20566	126	46	
								Dev	1015	6	5	0.59
								Miss	6616	47	18	0.71
								Penn	11485	63	20	0.55
								Perm	1450	10	3	0.69
									20566	126	46	0.61

Appendix E: *Composita* size database

Explanation of data elements

sample number: sequential number that refers to each measured specimen
Period: age of the specimens
North American Stage: stratigraphic position for North American specimens
International Stage: stratigraphic position for all other specimens
Formation: name of the formation the specimens came from
Country or State: country or state where the specimens were collected
locality: city, county, or other location information for the specimens
lithology: rock type of the formation (gathered from lexicons and published descriptions of the formation)
length: anterior-posterior length of specimen in millimeters
width: maximum width of specimen in millimeters
type: ontogenetic stage of specimen, 1=juvenile, 2=adult

Sample Number	Period	North American Stage	International Stage	Formation	Country or State	Locality	Lithology	length	Width	Type
1	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	10.8	10.6	2
2	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	16.5	19.5	2
3	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	16.1	17.2	2
4	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	15.8	17	2
5	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	16.9	18.1	2
6	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	15.8	18.5	2
7	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	19	17.4	2
8	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	16.6	17.9	2
9	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	17.7	21.1	2
10	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	22.5	25.2	2
11	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	18.3	19.1	2
12	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	16.1	16.9	2
13	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	21	20.9	2
14	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	17.9	16.8	2
15	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	20.9	20.2	2
16	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	16.8	17.4	2
17	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	12.2	11.1	1
18	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	11.8	12.4	1
19	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	15.1	17.1	2
20	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	24.7	25.6	2
21	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	15.5	13.9	2
22	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	20	21.3	2
23	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	16.2	15	2
24	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	17.2	16.2	2
25	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	7.3	8	1
26	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	15.6	16.9	2
27	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	14.1	13.5	2
28	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	17	16.2	2
29	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	20.6	22.7	2
30	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	15.7	15.5	2
31	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	11.3	12.5	2
32	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	12.6	11.3	2
33	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	18.4	16.3	2
34	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	16.5	14.5	2

35	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	12.2	12.1	2
36	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	19.9	20.5	2
37	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	16.7	15.7	2
38	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	12.7	11.4	2
39	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	19.4	20.7	2
40	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	14.8	17.2	2
41	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	23.4	24.3	2
42	Devonian		Famennian	Percha	New Mexico	Lake Valley	shale	20.1	20.5	2
43	Devonian		Famennian	Percha	New Mexico	Lake Valley	shale	19.3	21.7	2
44	Devonian		Famennian	Percha	New Mexico	Hillsboro	shale	18.5	17.8	2
45	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	19.1	17.5	2
46	Devonian		Famennian	Percha	New Mexico	Sierra Co.	shale	16.7	17	2
47	Devonian		Famennian	Percha	New Mexico	Silver City	shale	18.3	19.2	2
48	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	26.3	26.9	2
49	Devonian		Famennian	Percha	New Mexico	Box	shale	6.2	6	1
50	Devonian		Famennian	Percha	New Mexico	Santa Rita	shale	15.8	16	2
51	Mississippian	Meramecian		Moorefield	Oklahoma	Ft. Gibson	shale	29	30.2	2
52	Mississippian	Meramecian		Moorefield	Oklahoma	Ft. Gibson	shale	26.7	26.5	2
53	Mississippian	Meramecian		Moorefield	Oklahoma	Ft. Gibson	shale	25.7	24.4	2
54	Mississippian		Visean	Windsor	Canada	Winsor, NS		14.9	14.5	2
55	Mississippian		Visean	Windsor	Canada	Winsor, NS		15.6	14.6	2
56	Mississippian		Visean	Windsor	Canada	Winsor, NS		14	13.1	2
57	Mississippian		Visean	Windsor	Canada	Winsor, NS		15.8	17.4	2
58	Mississippian		Visean	Windsor	Canada	Winsor, NS		11.9	12.3	2
59	Mississippian		Visean	Windsor	Canada	Winsor, NS		13.7	12	2
60	Mississippian		Visean	Windsor	Canada	Winsor, NS		12.5	11.1	1
61	Mississippian	Meramecian		Moorefield	Oklahoma	Ft. Gibson	shale	23.7	21.5	2
62	Mississippian	Meramecian		Moorefield	Oklahoma	Ft. Gibson	shale	24.1	22.7	2
63	Mississippian	Meramecian		Moorefield	Oklahoma	Ft. Gibson	shale	25.1	24.7	2
64	Mississippian	Meramecian		Moorefield	Oklahoma	Ft. Gibson	shale	20	20.2	2
65	Mississippian	Meramecian		Moorefield	Oklahoma	Ft. Gibson	shale	12.6	12.2	1
66	Mississippian				Oklahoma	Adair		22.6	22.7	2
67	Mississippian				Oklahoma	Adair		22.2	25.8	2
68	Mississippian				Oklahoma	Adair		22.6	22.9	2
69	Mississippian				Oklahoma	Adair		20.5	22	2
70	Mississippian				Oklahoma	Adair		22.5	23	2
71	Mississippian				Kentucky	Marion		19.3	20.6	2

72	Mississippian			Kentucky	Marion		16.6	13.3	2
73	Mississippian			Kentucky	Marion		20.1	19.4	2
74	Mississippian			Kentucky	Marion		19.8	14.5	2
75	Mississippian			Kentucky	Marion		15.2	15.8	2
76	Mississippian			Illinois	Red Bud		15.6	16.4	2
77	Mississippian			Illinois	Red Bud		15.2	14.8	2
78	Mississippian			Illinois	Red Bud		22.6	23.3	2
79	Mississippian			Illinois	Red Bud		15.1	17.2	2
80	Mississippian			Illinois	Pope Co.		25	24.9	2
81	Mississippian			Illinois	Pope Co.		26	24.1	2
82	Mississippian			Illinois	Pope Co.		23.2	24.3	2
83	Mississippian			Illinois	Pope Co.		11.8	11.9	2
84	Mississippian			Illinois	Pope Co.		13	13.9	2
85	Mississippian			Oklahoma	Ft. Gibson		24.6	22.8	2
86	Mississippian			Oklahoma	Ft. Gibson		27.8	26.2	2
87	Mississippian			Oklahoma	Ft. Gibson		26.3	27.5	2
88	Mississippian			Oklahoma	Ft. Gibson		23	24	2
89	Mississippian			Oklahoma	Ft. Gibson		21.3	23.6	2
90	Mississippian			Oklahoma	Ft. Gibson		9	8.6	1
91	Mississippian			Oklahoma	Adair		16.9	15.6	2
92	Mississippian			Oklahoma	Adair		10	8.3	1
93	Mississippian			Oklahoma	Adair		15.5	11.9	1
94	Mississippian			Oklahoma	Adair		16.1	16.8	1
95	Mississippian			Indiana	Spergen Hill		7.8	7.1	2
96	Mississippian			Arizona	Cochise Co.		5.9	4.8	1
97	Mississippian	Meramecian	Pella	Iowa	Pella	shale	17.5	18.1	2
98	Mississippian	Meramecian	Pella	Iowa	Pella	shale	17.3	17.2	2
99	Mississippian	Meramecian	Pella	Iowa	Pella	shale	15.4	14.3	2
100	Mississippian	Meramecian	Pella	Iowa	Pella	shale	14.3	13.6	2
101	Mississippian	Meramecian	Pella	Iowa	Pella	shale	10.7	10.9	1
102	Mississippian	Meramecian	Pella	Iowa	Pella	shale	16.3	16.1	2
103	Mississippian	Meramecian	Pella	Iowa	Pella	shale	14.2	13.9	2
104	Mississippian	Meramecian	Pella	Iowa	Pella	shale	8.5	8.7	1
105	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	limestone	24	21.7	1
106	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	limestone	23.5	20.1	1
107	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	shale	13.3	12.7	2
108	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	shale	18.4	16	2

109	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	shale	11.2	9.3	1
110	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	shale	17.1	14.3	2
111	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	shale	8.1	8	1
112	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	shale	18.1	18.6	2
113	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	shale	14.7	10.6	2
114	Mississippian	Meramecian	Pella	Iowa	Oskaloosa	shale	14	12	2
115	Mississippian	Meramecian	Pella	Iowa	Pella	shale	10	11.9	2
116	Mississippian	Meramecian	Pella	Iowa	Pella	shale	17.8	19	2
117	Mississippian	Meramecian	Pella	Iowa	Pella	shale	16.9	16.3	2
118	Mississippian	Meramecian	Pella	Iowa	Pella	shale	20.5	21.2	2
119	Mississippian	Meramecian	Pella	Iowa	Pella	shale	9.9	10.4	1
120	Mississippian	Meramecian	Pella	Iowa	Pella	shale	17.3	16	2
121	Mississippian	Meramecian	Pella	Iowa	Pella	shale	8.5	7.4	1
122	Mississippian	Meramecian	Pella	Iowa	Pella	shale	12.5	12.3	2
123	Mississippian	Meramecian	Pella	Iowa	Pella	shale	19.8	18.2	2
124	Mississippian	Meramecian	Pella	Iowa	Pella	shale	14.5	13.7	2
125	Mississippian	Meramecian	Pella	Iowa	Pella	shale	14.8	15.1	2
126	Mississippian	Meramecian	Pella	Iowa	Pella	shale	12.4	9.5	2
127	Mississippian	Meramecian	Pella	Iowa	Pella	shale	15.9	16.2	2
128	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	limestone	19.6	17.8	1
129	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	limestone	26.2	27.3	2
130	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	limestone	12.5	11.9	1
131	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	limestone	22.2	20.3	2
132	Mississippian	Chesterian	Hindsville	Oklahoma	Venita	limestone	29.4	28	2
133	Mississippian	Meramecian	Moorefield	Oklahoma	Cherokee Co.	shale	20.7	23	1
134	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	22.2	24.8	2
135	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	21.4	25.9	2
136	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	11	8.9	1
137	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	22.2	26	2
138	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	20	22	2
139	Mississippian	Chesterian	Chester	Kentucky	Marion	limestone	14.4	12.4	2
140	Mississippian	Meramecian	Salem	Indiana	Lanesville	limestone	13.8	14	2
141	Mississippian			Kentucky	Caldwell Co.		14	15.5	2
142	Mississippian	Meramecian	OHara	Kentucky	Guston	limestone	16.1	13.7	2
143	Mississippian	Meramecian	OHara	Kentucky	Guston	limestone	9.4	9.3	1
144	Mississippian	Meramecian	St. Genevieve	Kentucky	Princeton	limestone	12.7	10.1	2
145	Mississippian	Meramecian	St. Genevieve	Illinois	Waterloo	limestone	11.3	12.1	1

146	Mississippian	Chesterian		Glen Dean	Kentucky	Christian Co.	limestone	8.1	8.1	1
147	Mississippian	Meramecian		St. Genevieve	Kentucky	Trigg Co.	limestone	16.3	14.1	2
148	Mississippian	Meramecian		St. Genevieve	Kentucky	Trigg Co.	limestone	5	4.8	1
149	Mississippian	Chesterian		Floyd	Indiana	Floyd Co.	shale	21.7	18.6	2
150	Mississippian	Meramecian		St. Genevieve	Kentucky	Princeton	limestone	4.1	3.2	1
151	Mississippian	Chesterian		Chester	Kentucky	Sample	limestone	4.2	4.5	1
152	Mississippian	Chesterian		Chester	Kentucky	Sample	limestone	7.5	6	1
153	Mississippian	Chesterian		Chester	Kentucky	Sample	limestone	17.8	19.1	2
154	Mississippian	Chesterian		Chester	Indiana	Evansville	limestone	27.9	26.6	2
155	Mississippian	Chesterian		Chester	Indiana	Evansville	limestone	21.1	19.2	2
156	Mississippian	Chesterian		Chester	Indiana	Evansville	limestone	10.5	10.1	1
157	Mississippian	Chesterian		Chester	Indiana	Evansville	limestone	8.1	7.5	1
158	Mississippian	Chesterian		Chester	Kentucky	Caldwell Co.	limestone	28.7	26.7	2
159	Mississippian	Chesterian		Chester	Kentucky	Scottsburg	limestone	17.3	14.5	2
160	Mississippian	Chesterian		Chester	Kentucky	Scottsburg	limestone	13	10.6	2
161	Mississippian				Indiana	Spergen Hill		12.5	13.2	2
162	Mississippian				Indiana	Spergen Hill		6.5	6.6	1
163	Mississippian	Chesterian		Chester	Kentucky	Crittendon	limestone	16.8	14.6	2
164	Mississippian	Meramecian		St. Genevieve	Kentucky	Marion	limestone	13.3	11.7	1
165	Mississippian	Chesterian		Chester	Kentucky	Christian Co.	limestone	3.8	3.2	1
166	Mississippian	Chesterian		Paint Creek	Kentucky	Caldwell Co.	shale	15.1	15.3	2
167	Mississippian	Chesterian		Chester	Kentucky	Scottsburg	limestone	8.3	8.1	1
168	Mississippian	Meramecian		St. Genevieve	Kentucky	Cerulean Springs	limestone	12.4	11.4	2
169	Mississippian		Visean	Windsor	Canada	Windsor NS		13.6	11.7	1
170	Mississippian		Visean	Windsor	Canada	Windsor NS		8.5	8.2	1
171	Mississippian	Meramecian		Warsaw	Illinois	Waterloo	limestone	11.6	10.5	1
172	Mississippian	Meramecian		Warsaw	Illinois	Waterloo	limestone	8.3	7.8	1
173	Mississippian	Meramecian		Warsaw	Illinois	Waterloo	limestone	3.7	3.7	1
174	Mississippian	Meramecian		Warsaw	Illinois	Waterloo	limestone	4	3.6	1
175	Mississippian	Meramecian		Warsaw	Illinois	Waterloo	limestone	2.2	2.1	1
176	Mississippian	Chesterian		Hindsville	Oklahoma	Venita	limestone	21.2	21.9	2
177	Mississippian			Bloyd	Oklahoma	Braggs		5.3	4.6	1
178	Mississippian				Kentucky	Bewleyville		14	15.2	2
179	Mississippian	Chesterian		Chester	Kentucky	Cloverport	limestone	19.9	18.7	2
180	Mississippian	Chesterian		Chester	Kentucky	Cloverport	limestone	21.7	23.4	2
181	Mississippian	Meramecian		OHara	Kentucky	Cave Springs	limestone	15.4	14.4	2
182	Mississippian	Meramecian		OHara	Kentucky	Cave Springs	limestone	12.7	14.2	1

183	Mississippian	Meramecian		OHara	Kentucky	Sample	limestone	12.6	10.4	1
184	Mississippian		Visean		Poland	Gatezice		10.5	12.8	1
185	Mississippian		Visean		Poland	Gatezice		20.6	21.6	2
186	Mississippian			Pitkin	Arkansas	Westfork	limestone	18.1	16.7	1
187	Mississippian	Chesterian		Chester	Illinois	Anna	limestone	11.5	11.2	1
188	Mississippian	Chesterian		Pope Group	Iowa	Pella		18.6	17.3	2
189	Mississippian	Chesterian		Pope Group	Iowa	Pella		12.1	9.7	1
190	Mississippian	Chesterian		Pope Group	Iowa	Pella		11.5	8.7	1
191	Mississippian	Chesterian		Pope Group	Iowa	Pella		18.6	19.1	2
192	Mississippian	Chesterian		Pope Group	Iowa	Pella		17.3	15.6	2
193	Mississippian	Chesterian		Pope Group	Iowa	Pella		7.4	8.1	1
194	Mississippian	Chesterian		Pope Group	Iowa	Pella		18.4	18	2
195	Mississippian	Chesterian		Pope Group	Iowa	Pella		13.1	10.3	1
196	Mississippian	Chesterian		Pope Group	Kentucky	Marion		19.4	17.2	2
197	Mississippian	Chesterian		Pope Group	Kentucky	Marion		11.1	9.6	1
198	Mississippian	Chesterian		Pope Group	Kentucky	Marion		7.4	7	1
199	Mississippian	Chesterian		Pope Group	Kentucky	Marion		5.1	5.4	1
200	Mississippian	Chesterian		Pope Group	Kentucky	Marion		7.4	7.4	1
201	Mississippian	Chesterian		Pope Group	Kentucky	Marion		7.3	8.2	1
202	Mississippian	Chesterian		Pope Group	Kentucky	Marion		12.5	11.1	2
203	Mississippian	Chesterian		Pope Group	Kentucky	Marion		6.8	6.4	1
204	Mississippian	Chesterian		Pope Group	Kentucky	Marion		7.2	6.6	1
205	Mississippian	Chesterian		Pope Group	Kentucky	Marion		2.6	3.4	1
206	Mississippian	Chesterian		Pope Group	Kentucky	Marion		7.4	7.36	1
207	Mississippian	Chesterian		Pope Group	Kentucky	Marion		7.4	7.3	1
208	Mississippian	Chesterian		Pope Group	Kentucky	Marion		4.3	4	1
209	Mississippian	Chesterian		Pope Group	Kentucky	Marion		5.4	5.1	1
210	Mississippian	Chesterian		Pope Group	Kentucky	Marion		5.9	5.8	1
211	Mississippian	Chesterian		Fayetteville	Arkansas	Habberton	shale	12.7	15.2	2
212	Mississippian	Chesterian		Fayetteville	Arkansas	Habberton	shale	16.5	14.3	2
213	Mississippian	Chesterian		Fayetteville	Arkansas	Habberton	shale	14.3	12.3	2
214	Mississippian	Chesterian		Fayetteville	Arkansas	Habberton	shale	12	9.8	1
215	Mississippian	Chesterian		Fayetteville	Arkansas	Habberton	shale	9.2	8.4	1
216	Mississippian	Chesterian		Fayetteville	Oklahoma	Adair	shale	24.6	25.4	2
217	Mississippian	Chesterian		Greenbriar	Maryland	Oakland	limestone	18.6	18	2
218	Mississippian	Chesterian		Greenbriar	Maryland	Oakland	limestone	19.6	18.9	2
219	Mississippian	Chesterian		Fayetteville	Oklahoma	Adair	shale	16.9	17.4	2

220	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	18.9	15.9	2
221	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	16.5	13.9	2
222	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	8.2	6.4	1
223	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	8.5	6	1
224	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	6.9	5.3	1
225	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	6.1	4.9	1
226	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	7.2	7.9	1
227	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	28.4	28.4	2
228	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	12.5	12.1	1
229	Mississippian	Chesterian	Paint Creek	Illinois	Red Bud	shale	11.6	10.8	1
230	Mississippian	Chesterian	Paint Creek	Illinois	Red Bud	shale	16.3	14.2	2
231	Mississippian	Chesterian	Paint Creek	Illinois	Red Bud	shale	15.4	13.2	2
232	Mississippian	Chesterian	Chester	Kentucky	Pickering Hill	limestone	15.5	15.3	2
233	Mississippian	Chesterian	Chester	Kentucky	Pickering Hill	limestone	18	16.6	2
234	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	17.7	16.9	2
235	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	18.9	16.9	2
236	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	18.6	14.8	2
237	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	18.6	15	2
238	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	19	15.8	2
239	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	14.1	13.8	2
240	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	13.6	13.3	2
241	Mississippian	Chesterian	Fayetteville	Oklahoma	Adair	shale	13.2	11.5	2
242	Mississippian	Chesterian	Chester	Kentucky	Sample	limestone	10.4	10.3	1
243	Mississippian	Chesterian	Chester	Kentucky	Sample	limestone	10.8	8.8	1
244	Mississippian	Chesterian	Chester	Kentucky	Sample	limestone	10.2	8.6	1
245	Mississippian	Chesterian	Chester	Kentucky	Sample	limestone	9	7.7	1
246	Mississippian		Windsor	Alabama	Tuscumbia		11.1	12.1	2
247	Mississippian		Windsor	Alabama	Tuscumbia		17.2	16.1	2
248	Mississippian	Chesterian	Chester	Illinois	Kaskaskia	limestone	14.2	13.7	2
249	Mississippian	Chesterian	Chester	Illinois	Kaskaskia	limestone	11.4	10.6	2
250	Mississippian	Chesterian	Fayetteville	Oklahoma	Bayou Menard	shale	15.7	15.8	2
251	Mississippian	Chesterian	Fayetteville	Oklahoma	Bayou Menard	shale	15.3	17.6	2
252	Mississippian	Chesterian	Fayetteville	Oklahoma	Bayou Menard	shale	14.1	14.8	1
253	Mississippian	Meramecian	Pella	Iowa	Pella	shale	19.4	20	2
254	Mississippian	Meramecian	Pella	Iowa	Pella	shale	19.6	19.9	2
255	Mississippian	Chesterian	Fayetteville	Oklahoma	Qualls	shale	18.3	19.8	2
256	Mississippian	Chesterian	Fayetteville	Oklahoma	Qualls	shale	17.6	18.7	2

257	Mississippian	Chesterian	Fayetteville	Oklahoma	Qualls	shale	18.6	19.9	2
258	Mississippian	Chesterian	Fayetteville	Oklahoma	Qualls	shale	17.4	19.3	2
259	Mississippian	Meramecian	Moorefield	Arkansas	Batesville	limestone	23.3	20.9	1
260	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	11.5	12.4	1
261	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	12.2	13	1
262	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	11.9	10.3	1
263	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.3	18.1	2
264	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	18.4	19.2	2
265	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.5	16.1	1
266	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.4	21.2	2
267	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17	16.5	2
268	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.4	19.4	2
269	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	20.1	20.7	2
270	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	20	21.6	2
271	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	18.7	20.9	2
272	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.9	17.6	2
273	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.1	16.9	2
274	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	13.1	11.8	1
275	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	18.1	15.4	2
276	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.2	15.9	2
277	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	14.4	15.9	2
278	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	18.5	20.7	2
279	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.5	16.7	2
280	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	11.5	12.8	2
281	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	14.8	12.7	1
282	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	20.3	20.8	2
283	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	14.5	18.4	2
284	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	15.8	15.7	2
285	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	19.3	19.2	2
286	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.3	18	2
287	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	19.1	17.4	2
288	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.7	17.7	2
289	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.3	15.7	1
290	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.6	16.5	2
291	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.5	15.2	2
292	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.7	17.4	2
293	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	14.6	15.2	2

294	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17	17.5	2
295	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	18.2	18	2
296	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.9	18.3	2
297	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	15.7	14.7	2
298	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.6	16.8	2
299	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.8	18	2
300	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.5	18.1	2
301	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.7	17.9	2
302	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.5	17.7	2
303	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	17.8	16.9	2
304	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	16.1	18.2	2
305	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	11.4	12.1	2
306	Mississippian	Chesterian	Hindsville	Oklahoma	Qualls	limestone	15.3	14.9	2
307	Mississippian			Canada	Windsor NS		8.3	7.5	1
308	Mississippian			Canada	Windsor NS		12.3	10.5	1
309	Mississippian			Canada	Windsor NS		14	11.7	1
310	Mississippian			Canada	Windsor NS		9.2	7.8	1
311	Mississippian			Canada	Windsor NS		7.5	5.6	1
312	Mississippian			Canada	Windsor NS		11.5	10.7	1
313	Mississippian			Canada	Windsor NS		10	8.6	1
314	Mississippian			Canada	Windsor NS		11.6	9.6	1
315	Mississippian			Canada	Windsor NS		9.3	8.9	1
316	Mississippian			Canada	Windsor NS		8.1	7.1	1
317	Mississippian			Canada	Windsor NS		14.9	12.2	1
318	Mississippian			Canada	Windsor NS		12.3	11.7	1
319	Mississippian			Canada	Windsor NS		12	11.9	1
320	Mississippian			Canada	Windsor NS		9.3	9.1	1
321	Mississippian			Canada	Windsor NS		10.4	9.3	1
322	Mississippian			Canada	Windsor NS		7.5	6.9	1
323	Mississippian			Canada	Windsor NS		7.6	7.1	1
324	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	17.1	18.9	2
325	Mississippian	Chesterian	Fayetteville	Oklahoma	Ft. Gibson	shale	15.6	18.1	2
326	Mississippian		Vienna	Kentucky	Scottsburg	limestone	17.9	20.1	2
327	Mississippian		Vienna	Kentucky	Scottsburg	limestone	16.4	17	2
328	Mississippian	Meramecian	Warsaw	Kentucky	Tionga Springs	limestone	4.2	5.2	1
329	Mississippian			Indiana	Spergen Hill		5.8	6.7	1
330	Mississippian	Chesterian	Fayetteville	Arkansas	Habberton	shale	13.7	12.6	2

331	Mississippian			England	Kitby Stephen		10.3	8.7	1
332	Mississippian	Chesterian	Amsden	Wyoming	Lander	limestone	13.7	14.5	2
333	Mississippian	Chesterian	Amsden	Wyoming	Lander	limestone	15.5	15.3	2
334	Mississippian	Chesterian	Amsden	Wyoming	Lander	limestone	14.5	13.7	2
335	Mississippian	Chesterian	Golconda	Illinois	Dongola	ls and sh	7.5	7.2	1
336	Mississippian			Missouri	Boonville		8.4	9	1
337	Mississippian	Chesterian	Kincaid	Kentucky	Caldwell Co.	limestone	22.7	23.2	2
338	Mississippian	Chesterian	Chester	Kentucky	Marion		5.5	4.4	1
339	Mississippian		Moorefield	Oklahoma	Muskogee	limestone	18.2	18	2
340	Mississippian			Nevada	Peoquop Mtn		16.2	14.3	1
341	Mississippian	Chesterian	Renault	Indiana	Abydel	limestone	11.9	10.2	1
342	Mississippian	Chesterian	Chester	Kentucky	Sample	limestone	9.1	7.7	1
343	Mississippian	Chesterian	Chester	Kentucky	Sample	limestone	11.8	11.6	1
344	Mississippian	Chesterian	Chester	Kentucky	Sample	limestone	10.8	9.4	1
345	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	4.2	3.9	1
346	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	4.5	4.4	1
347	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	2.9	2.5	1
348	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	3.6	3.3	1
349	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	3.1	2.5	1
350	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	4.3	3.8	1
351	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	3.1	2.8	1
352	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	3.6	3.3	1
353	Mississippian	Chesterian	Pride Mountain	Mississippi	Southward Bridge	shale	13.4	12.5	1
354	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	8.3	7.6	1
355	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	9.1	8.7	1
356	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	9.5	8.7	1
357	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	2.9	2.6	1
358	Mississippian	Kinderhookian	Gilmore City	Iowa	Dakota City	limestone	3.4	3.1	1
359	Mississippian	Kinderhookian	Caballero	New Mexico	Alamogordo	limestone	12.5	11.2	1
360	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	11.2	9.4	1
361	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	12	11.3	1
362	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	11.5	9.1	1
363	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	10.4	9.7	1
364	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	10.5	10.7	1
365	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	6.9	6	1
366	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	14.4	15.1	1
367	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	10.3	10.2	1

368	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	11.5	12.4	1
369	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	12.2	13	1
370	Mississippian	Kinderhookian	Caballero	New Mexico	Sacramento Mtns	limestone	11.9	10.3	1
371	Pennsylvanian			Wales	Penwyllt Station		20.7	14.7	1
372	Pennsylvanian			Oklahoma	Muskogee		9.2	8.6	1
373	Pennsylvanian			Nebraska	Nebraska City		25.8	23.4	1
374	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayettville	limestone	12.5	11.4	1
375	Pennsylvanian			Missouri	Kansas City		19.6	16	1
376	Pennsylvanian			Missouri	Kansas City		37.6	34.1	2
377	Pennsylvanian			Missouri	Kansas City		24.5	22.3	2
378	Pennsylvanian			Missouri	Kansas City		17.1	16.1	2
379	Pennsylvanian			Missouri	Kansas City		11.7	12.8	2
380	Pennsylvanian			Nebraska	Bellevue		20.7	19.2	1
381	Pennsylvanian	Morrowan	Magdalena	New Mexico	Pecos	limestone	14.7	14.3	1
382	Pennsylvanian			Kansas	Manhattan		17.2	15.6	2
383	Pennsylvanian			West Virginia	Monogalia		15.9	16.1	2
384	Pennsylvanian			West Virginia	Monogalia		22.3	16.8	2
385	Pennsylvanian			Nebraska	Bellevue		18.1	19.9	2
386	Pennsylvanian			Nebraska	Bellevue		17.6	15.1	1
387	Pennsylvanian		Bird Spring	Nevada	Clark Co.		15.3	16.8	2
388	Pennsylvanian			Illinois	LaSalle		17.7	17.8	1
389	Pennsylvanian			Iowa	Winterset		14.4	13.5	1
390	Pennsylvanian			Kansas	Manhattan		28.2	24.1	2
391	Pennsylvanian		Aubrey	Utah	Echo Park		20.9	15.1	1
392	Pennsylvanian			Kansas	Leavenworth		18	15.2	1
393	Pennsylvanian			Missouri	Holt Co.		15.5	16.5	2
394	Pennsylvanian			New Mexico	Albequerque		18.9	14.2	1
395	Pennsylvanian			New Mexico	Albequerque		7.8	6.2	1
396	Pennsylvanian			Nebraska	Pawnee Co.		11.3	9.7	2
397	Pennsylvanian			Kansas	Indian Creek		23.9	24.3	2
398	Pennsylvanian			Iowa	Winterset		13.7	13	2
399	Pennsylvanian			Illinois	LaSalle		12.1	11.7	1
400	Pennsylvanian			Illinois	LaSalle		9.3	9.2	1
401	Pennsylvanian			Nebraska	Nebraska City		21.8	14.2	1
402	Pennsylvanian			Nebraska	Nebraska City		20	17.9	1
403	Pennsylvanian	Virgilian	Cisco Group	Texas	Graham		22.1	18.2	1
404	Pennsylvanian	Virgilian	Cisco Group	Texas	Graham		20.3	16.8	2

405	Pennsylvanian			Nebraska	Louisville		14.3	12.9	1
406	Pennsylvanian			Missouri	Mill Creek		13.8	13.2	1
407	Pennsylvanian			Indiana	Vigo Co.		19.1	22.9	2
408	Pennsylvanian			Illinois	LaSalle		16.7	15.4	2
409	Pennsylvanian			Missouri	Kansas City		24.3	21.5	2
410	Pennsylvanian			Illinois	LaSalle		13.4	13.4	1
411	Pennsylvanian			Illinois	LaSalle		13.9	14.3	2
412	Pennsylvanian			Illinois	LaSalle		16.6	16.6	2
413	Pennsylvanian			Illinois	LaSalle		10.9	11.4	1
414	Pennsylvanian			Illinois	LaSalle		12.2	11.7	1
415	Pennsylvanian			Illinois	LaSalle		9	9.2	1
416	Pennsylvanian			Illinois	LaSalle		7.3	6.8	1
417	Pennsylvanian			Illinois	LaSalle		7.7	11	2
418	Pennsylvanian			Illinois	LaSalle		9.5	9.2	1
419	Pennsylvanian			Illinois	LaSalle		9.1	8.9	1
420	Pennsylvanian			Illinois	LaSalle		12.4	13	2
421	Pennsylvanian			Illinois	LaSalle		12	12.2	1
422	Pennsylvanian			Illinois	LaSalle		6.1	5.9	1
423	Pennsylvanian			Illinois	LaSalle		16.9	16.1	2
424	Pennsylvanian			Illinois	LaSalle		11.8	12.3	1
425	Pennsylvanian			Illinois	LaSalle		8.6	7.4	1
426	Pennsylvanian			Illinois	LaSalle		10.7	10.1	1
427	Pennsylvanian			Illinois	LaSalle		7.9	8	1
428	Pennsylvanian			Kansas	S. Cottonwood Creek		19.5	17.3	2
429	Pennsylvanian			Nebraska	Omaha		9.5	8.8	1
430	Pennsylvanian			Illinois	LaSalle		17.5	14.2	2
431	Pennsylvanian			Iowa	Winterset		24	22.5	2
432	Pennsylvanian			Nevada	White Pines District		12.1	9.7	1
433	Pennsylvanian			Missouri	Kansas City		15.9	15.7	1
434	Pennsylvanian			Iowa	Stuart		15.9	16	2
435	Pennsylvanian				Long Valley		14.4	11.4	2
436	Pennsylvanian	Morrowan	Magdalena	New Mexico	Battle Ship Rock	limestone	30.1	26.5	2
437	Pennsylvanian			Missouri	St. Joseph		30	29.2	1
438	Pennsylvanian			Arizona	Camp Apache		20.9	16.6	2
439	Pennsylvanian			Arizona	Camp Apache		10.2	10.1	2
440	Pennsylvanian			Iowa	Red Oak		15.2	13.3	1
441	Pennsylvanian			Texas	Gunsight		14.9	15.9	2

442	Pennsylvanian			Kentucky	Green River		14.2	14.1	2
443	Pennsylvanian			Kentucky	Green River		20	19.3	2
444	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	19	18.8	2
445	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	18.5	17.5	2
446	Pennsylvanian			Texas	Jacksboro		16.5	16.1	2
447	Pennsylvanian			New Mexico	Sante Fe		24.4	21.3	2
448	Pennsylvanian			New Mexico	Sante Fe		25.2	24.5	2
449	Pennsylvanian			New Mexico	Sante Fe		26.9	24.4	2
450	Pennsylvanian			New Mexico	Sante Fe		31.1	27	2
451	Pennsylvanian			New Mexico	Sante Fe		31.5	31	2
452	Pennsylvanian			New Mexico	Sante Fe		25.7	23	2
453	Pennsylvanian			New Mexico	Sante Fe		26.9	25.6	2
454	Pennsylvanian			New Mexico	Sante Fe		27.2	22.1	2
455	Pennsylvanian			New Mexico	Sante Fe		28.8	20.3	2
456	Pennsylvanian			New Mexico	Sante Fe		12.1	11.1	1
457	Pennsylvanian			New Mexico	Sante Fe		13.4	13.1	1
458	Pennsylvanian			New Mexico	Sante Fe		12	10.5	1
459	Pennsylvanian			New Mexico	Sante Fe		13.6	12.6	1
460	Pennsylvanian			New Mexico	Sante Fe		12.1	12.1	1
461	Pennsylvanian			Illinois	LaSalle		25	22.6	2
462	Pennsylvanian			Illinois	LaSalle		28.3	26.3	2
463	Pennsylvanian			Illinois	LaSalle		19.7	20.9	2
464	Pennsylvanian			Illinois	LaSalle		19.1	17.3	2
465	Pennsylvanian			Illinois	LaSalle		14.4	13.9	2
466	Pennsylvanian			Illinois	LaSalle		12.8	12.1	1
467	Pennsylvanian			Illinois	LaSalle		8.2	7.7	1
468	Pennsylvanian			Illinois	LaSalle		9.4	9.4	1
469	Pennsylvanian			Missouri	Kansas City		25.3	21.3	2
470	Pennsylvanian			New Mexico	Sante Fe		17.9	16	1
471	Pennsylvanian			New Mexico	Sante Fe		13.7	11.3	1
472	Pennsylvanian			Pennsylvania	Worthington		10.2	9	1
473	Pennsylvanian			Illinois	LaSalle		25.2	24.1	2
474	Pennsylvanian			Illinois	LaSalle		18.9	21.5	2
475	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro		19.3	18.9	2
476	Pennsylvanian			Colorado			15.9	14.4	2
477	Pennsylvanian			Nevada	Eureka District		22.5	23.3	2
478	Pennsylvanian			Missouri	Henry Co.		23.2	20	2

479	Pennsylvanian			New Mexico	Taos		16.8	15.7	1
480	Pennsylvanian			New Mexico	Pecos		22	19.6	2
481	Pennsylvanian			Bolivia			13.8	13.2	2
482	Pennsylvanian			Bolivia			13.8	13.4	2
483	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	30.1	29	2
484	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	30.8	31.2	2
485	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	28.9	30.6	2
486	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	34.9	32	2
487	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	13.5	12.8	1
488	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	10.8	10.3	1
489	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	5.9	6.1	1
490	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	7.1	6.2	1
491	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	7.2	6.3	1
492	Pennsylvanian			Utah	Kanab Canyon		23.7	19.2	1
493	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville		11.1	10.5	1
494	Pennsylvanian			Arizona	Sarapai Co.		10.6	8.7	1
495	Pennsylvanian			Bolivia	Yaurichambi		11.6	11.6	2
496	Pennsylvanian			New Mexico	Coyote Creek		16.3	12.9	1
497	Pennsylvanian			Brazil	Itaituba		22.6	20	2
498	Pennsylvanian			Colorado			29.4	24.2	2
499	Pennsylvanian			Colorado			16.5	16.8	2
500	Pennsylvanian			Colorado			15.4	13.7	1
501	Pennsylvanian			Colorado			14.7	14.5	1
502	Pennsylvanian			Colorado			24.3	22.3	2
503	Pennsylvanian			Colorado			24.2	23.2	2
504	Pennsylvanian			Colorado			18.4	18.7	2
505	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	28.8	28.4	2
506	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	34.6	30.3	2
507	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	28.7	25	2
508	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	23.6	19.6	2
509	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	31.5	27.3	2
510	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	29.6	26.7	2
511	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	28.5	25.7	2
512	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	29	28.4	2
513	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	5.2	5.1	1
514	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	7.3	7.2	1
515	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	13.9	13.3	1

516	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	10.8	9.9	1
517	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	6	5.3	1
518	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	10	9.8	1
519	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	6.1	5.9	1
520	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	30.6	30.6	2
521	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	30.3	29.3	2
522	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	31.2	29.2	2
523	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	23.3	22.3	2
524	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	26.7	26.2	2
525	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	21.3	21	2
526	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	15.2	14.1	2
527	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	18.1	17	2
528	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	18.6	16.5	1
529	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	14.3	13.9	1
530	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	16	15.4	1
531	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	14.8	14.9	1
532	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	31.7	29.5	2
533	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	30.5	30.3	2
534	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	30.2	27.8	2
535	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	29.3	26.8	2
536	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	26.3	24.5	2
537	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	33	32.7	2
538	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	13.5	11.5	2
539	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	10.3	10.4	1
540	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	10.8	10.4	1
541	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	3.4	3.5	1
542	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	12.9	10.2	1
543	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	10.9	10.9	1
544	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	10	9.8	1
545	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	10.3	9.8	1
546	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	5.3	4.7	1
547	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	23.4	22.3	2
548	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	17.2	17	2
549	Pennsylvanian			Missouri	Kansas City		10.4	10.4	1
550	Pennsylvanian			Missouri	Kansas City		11.8	10.7	1
551	Pennsylvanian	Virgilian	Herrington	Oklahoma	Kay Co.		22.2	16.2	2
552	Pennsylvanian			Colorado			15.9	14	2

553	Pennsylvanian		Red Eagle	Oklahoma	Burbank		22.2	17.3	1
554	Pennsylvanian		Red Eagle	Oklahoma	Burbank		24.3	20.5	1
555	Pennsylvanian		Red Eagle	Oklahoma	Burbank		27.1	27.5	2
556	Pennsylvanian		Red Eagle	Oklahoma	Burbank		30	28.3	2
557	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	20.3	22.8	2
558	Pennsylvanian		Red Eagle	Oklahoma	Burbank		16.2	11.7	1
559	Pennsylvanian		Red Eagle	Oklahoma	Burbank		9.9	8.6	1
560	Pennsylvanian	Missourian	Plattsburg	Kansas	Ottumwa	limestone	12	10.8	2
561	Pennsylvanian	Missourian	Plattsburg	Kansas	Ottumwa	limestone	9	8.1	2
562	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	14.8	14.9	2
563	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Ardmore	shale	18.4	18.6	2
564	Pennsylvanian		McLeansboro	Illinois	Millstadt		33.9	31.6	2
565	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	25.2	25.1	2
566	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	29.6	31.6	2
567	Pennsylvanian			Bolivia	Aroomo		9.9	10.2	2
568	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	20.8	21	2
569	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	15.7	14.1	2
570	Permian	Wolfcampian	Beattie	Kansas	Hooser	shale	23.4	21.9	2
571	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	18.4	15.2	1
572	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	13.7	10.8	1
573	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	20.9	20.4	2
574	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	21.8	20.8	2
575	Pennsylvanian			Arizona	Apache Co.		19.7	16.4	2
576	Pennsylvanian	Virgilian	Graham	Texas	Gunsight	shale	20.4	17.9	2
577	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Baum	shale	29.3	26.3	2
578	Pennsylvanian	Virgilian	Oread	Missouri	St. Joseph		21.1	18.1	2
579	Pennsylvanian	Virgilian	Wood Siding	Oklahoma	Fairfax	limestone	16	13.4	2
580	Pennsylvanian		Red Eagle	Oklahoma	Burbank		30.7	29.1	2
581	Pennsylvanian		Red Eagle	Oklahoma	Burbank		6.9	7.3	1
582	Pennsylvanian		Red Eagle	Oklahoma	Burbank		6.1	5.5	1
583	Pennsylvanian		Red Eagle	Oklahoma	Burbank		5.9	5.5	1
584	Pennsylvanian	Missourian	Dewey	Oklahoma	Dewey	limestone	15.9	13.7	2
585	Pennsylvanian			Missouri	St. Joseph		19.8	18.7	1
586	Pennsylvanian	Morrowan	Morrow	Oklahoma	Ft. Gibson		26.6	30.1	2
587	Pennsylvanian			Nebraska	Black Hill		33.4	31	2
588	Pennsylvanian	Missourian	Drum	Kansas	Independence	limestone	20.6	15.9	1
589	Pennsylvanian	Morrowan	Bloyd	Arkansas	Fayetteville		9.5	8.8	1

590	Pennsylvanian			Texas	Hueco Tanks		12	12.2	2
591	Pennsylvanian			Kentucky	Williard		26.4	26.7	2
592	Pennsylvanian	Morrowan	Morrow	Oklahoma	Muskogee		27.2	27	2
593	Pennsylvanian	Morrowan	Morrow	Oklahoma	Muskogee		11.3	11.4	1
594	Pennsylvanian	Morrowan	Morrow	Oklahoma	Muskogee		10	9.7	1
595	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	19.7	15.5	2
596	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	19.4	15	2
597	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	17.8	14	2
598	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	16.4	12.7	2
599	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	13.7	10.8	2
600	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	10.2	9.1	1
601	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	9.2	7.5	1
602	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	9.1	7.9	1
603	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	7	6.3	1
604	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	11.7	9.2	1
605	Pennsylvanian	Virgilian	Oread	Kansas	Perry	limestone	9.8	8.6	1
606	Pennsylvanian		McLeansboro	Illinois	Millstadt		33.4	33.3	2
607	Pennsylvanian		McLeansboro	Illinois	Millstadt		30.6	32.4	2
608	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	33.8	32.8	2
609	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	34.5	38.1	2
610	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	30.2	25.6	2
611	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	34.5	32.8	2
612	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	32.9	31.9	2
613	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	2.9	2.3	1
614	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	12.4	13	1
615	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	3.1	2.7	1
616	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	2.9	2.5	1
617	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	14.5	13.6	1
618	Pennsylvanian	Missourian	Palo Pinto	Texas	Salesville	limestone	14.6	13.9	1
619	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	18.8	19.7	2
620	Pennsylvanian		Lenapah	Oklahoma	Lenapah	limestone	22.8	18.2	2
621	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	limestone	14.2	13	2
622	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	limestone	12.6	12	2
623	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	limestone	13.4	13.3	2
624	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	limestone	12.3	11.5	2
625	Pennsylvanian		Bond	Illinois	Lasalle	limestone	20.8	19.6	2
626	Pennsylvanian		Bond	Illinois	Lasalle	limestone	20.6	18.6	2

627	Pennsylvanian	Bond	Illinois	Lasalle	limestone	20.3	19.2	2
628	Pennsylvanian	Bond	Illinois	Lasalle	limestone	19.3	17.7	2
629	Pennsylvanian	Bond	Illinois	Lasalle	limestone	16	14.9	2
630	Pennsylvanian	Bond	Illinois	Lasalle	limestone	22.3	18.7	2
631	Pennsylvanian	Bond	Illinois	Lasalle	limestone	14.7	14	2
632	Pennsylvanian	Bond	Illinois	Lasalle	limestone	16.9	16.9	2
633	Pennsylvanian	Bond	Illinois	Lasalle	limestone	14.8	14.8	2
634	Pennsylvanian	Bond	Illinois	Lasalle	limestone	15.8	13	2
635	Pennsylvanian	Bond	Illinois	Lasalle	limestone	17.7	18.5	2
636	Pennsylvanian	Bond	Illinois	Lasalle	limestone	17.7	15.3	2
637	Pennsylvanian	Bond	Illinois	Lasalle	limestone	13.5	13	2
638	Pennsylvanian	Bond	Illinois	Lasalle	limestone	17.7	16.5	2
639	Pennsylvanian	Bond	Illinois	Lasalle	limestone	17.7	14.9	2
640	Pennsylvanian	Bond	Illinois	Lasalle	limestone	20.3	18.7	2
641	Pennsylvanian	Bond	Illinois	Lasalle	limestone	14.2	13.9	2
642	Pennsylvanian	Bond	Illinois	Lasalle	limestone	16.5	15.6	2
643	Pennsylvanian	Bond	Illinois	Lasalle	limestone	19.2	18.1	2
644	Pennsylvanian	Bond	Illinois	Lasalle	limestone	14.3	13.3	2
645	Pennsylvanian	Bond	Illinois	Lasalle	limestone	14.2	13.6	2
646	Pennsylvanian	Bond	Illinois	Lasalle	limestone	17.5	17.8	2
647	Pennsylvanian	Bond	Illinois	Lasalle	limestone	16.9	14.1	2
648	Pennsylvanian	Bond	Illinois	Lasalle	limestone	14.1	13	2
649	Pennsylvanian	Bond	Illinois	Lasalle	limestone	7.9	6.8	1
650	Pennsylvanian	Bond	Illinois	Lasalle	limestone	7.8	7.6	1
651	Pennsylvanian	Bond	Illinois	Lasalle	limestone	7.4	6.7	1
652	Pennsylvanian	Bond	Illinois	Lasalle	limestone	5.3	5.1	1
653	Pennsylvanian	Bond	Illinois	Lasalle	limestone	12.5	12.3	1
654	Pennsylvanian	Bond	Illinois	Lasalle	limestone	11.7	11.3	1
655	Pennsylvanian	Bond	Illinois	Lasalle	limestone	15.6	16.5	1
656	Pennsylvanian	Bond	Illinois	Lasalle	limestone	12.1	12.3	1
657	Pennsylvanian	Bond	Illinois	Lasalle	limestone	11.9	11.8	1
658	Pennsylvanian	Bond	Illinois	Lasalle	limestone	9.2	8.8	1
659	Pennsylvanian	Bond	Illinois	Lasalle	limestone	10.3	10.5	1
660	Pennsylvanian	Bond	Illinois	Lasalle	limestone	10	9.4	1
661	Pennsylvanian	Bond	Illinois	Lasalle	limestone	9.4	8.7	1
662	Pennsylvanian	Bond	Illinois	Lasalle	limestone	5.2	4.9	1
663	Pennsylvanian	Bond	Illinois	Lasalle	limestone	6.4	6.9	1

664	Permian	Wolfcampian	Pueblo	Texas	Santa Anna	limestone	21.5	18.4	2
665	Permian	Wolfcampian	Pueblo	Texas	Santa Anna	limestone	23.1	21.7	2
666	Pennsylvanian		Bond	Illinois	Lasalle	limestone	15.2	14.8	2
667	Pennsylvanian		Bond	Illinois	Lasalle	limestone	17.4	15.7	2
668	Pennsylvanian		Bond	Illinois	Lasalle	limestone	24.3	20.7	2
669	Pennsylvanian		Bond	Illinois	Lasalle	limestone	18.4	17.7	2
670	Pennsylvanian		Bond	Illinois	Lasalle	limestone	22.4	19.2	2
671	Pennsylvanian		Bond	Illinois	Lasalle	limestone	16.8	16.6	2
672	Pennsylvanian		Bond	Illinois	Lasalle	limestone	18.3	14.2	2
673	Pennsylvanian		Bond	Illinois	Lasalle	limestone	17.6	16.8	2
674	Pennsylvanian		Bond	Illinois	Lasalle	limestone	15.2	14.3	2
675	Pennsylvanian		Bond	Illinois	Lasalle	limestone	17.4	15.5	2
676	Pennsylvanian		Bond	Illinois	Lasalle	limestone	2.9	3.4	1
677	Pennsylvanian		Bond	Illinois	Lasalle	limestone	4	3.7	1
678	Pennsylvanian		Bond	Illinois	Lasalle	limestone	3.4	3.9	1
679	Pennsylvanian		Bond	Illinois	Lasalle	limestone	3.3	3.1	1
680	Pennsylvanian		Fort Riley	Kansas	Junction City	limestone	14.8	14.7	2
681	Pennsylvanian	Virgilian	Graham	Texas	Gunsight	shale	16.8	16.4	2
682	Pennsylvanian	Missourian	Ranger	Texas	Cardiff	limestone	11.2	9.3	1
683	Pennsylvanian			Nevada	White Pine Co.		18.2	19.2	1
684	Pennsylvanian			Nebraska	Nebawka		15.9	12.5	2
685	Pennsylvanian	Virgilian	Graham	Texas	Eastland	shale	19.9	16.6	2
686	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	21.2	21.7	2
687	Pennsylvanian		McLeansboro	Illinois	Millstadt		23.9	24.7	1
688	Pennsylvanian		McLeansboro	Illinois	Millstadt		11.2	12.8	1
689	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	20	18	2
690	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	17.2	13.6	2
691	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro		18.3	18	2
692	Pennsylvanian	Atokan	Marble Falls	Texas	Richland Springs	limestone	18	19.5	2
693	Pennsylvanian	Virgilian	Graham	Texas	Fife		41.4	36.1	2
694	Pennsylvanian		Amsden	Wyoming	Lander		18.5	18.4	2
695	Pennsylvanian		Amsden	Wyoming	Lander		16.5	15.3	2
696	Pennsylvanian		Amsden	Wyoming	Lander		15.1	13.3	2
697	Pennsylvanian		Amsden	Wyoming	Lander		13.4	13.6	2
698	Pennsylvanian		Amsden	Wyoming	Lander		11.5	12.4	2
699	Pennsylvanian		Amsden	Wyoming	Lander		17.3	15.7	2
700	Pennsylvanian		Amsden	Wyoming	Lander		18.9	16.5	2

701	Pennsylvanian	Morrowan	Amsden	Wyoming	Lander	shale	12.8	12.2	2
702	Pennsylvanian	Morrowan	Amsden	Wyoming	Lander	shale	16.2	16.5	2
703	Pennsylvanian		Amsden	Wyoming	Lander		10.3	13	2
704	Pennsylvanian		Amsden	Wyoming	Lander		11.4	9.8	2
705	Pennsylvanian		Amsden	Wyoming	Lander		9.3	9.7	2
706	Pennsylvanian		Amsden	Wyoming	Lander		8	8.1	2
707	Pennsylvanian		Amsden	Wyoming	Lander		18.8	19.7	2
708	Pennsylvanian		Amsden	Wyoming	Lander		18.9	19.5	2
709	Pennsylvanian	Desmoinesian	Thurman	Iowa	Winterset	sandstone	17.4	16	2
710	Pennsylvanian	Desmoinesian	Thurman	Iowa	Winterset	sandstone	20.5	17.2	2
711	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	26.6	27.2	2
712	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	27.9	28.9	2
713	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	35.8	34.7	2
714	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	21	23.2	2
715	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Plattsmouth	sandstone	25.3	23.3	2
716	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Plattsmouth	sandstone	23	22.6	2
717	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	19.9	20.9	2
718	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	22.9	19.6	2
719	Pennsylvanian	Morrowan	Amsden	Wyoming	Lander	shale	18.4	17.4	2
720	Pennsylvanian	Missourian	Hertha	Iowa	Peru	limestone	16.8	16.3	2
721	Pennsylvanian	Desmoinesian	Thurman	Iowa	Stanzel	sandstone	18.5	14.9	2
722	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Plattsmouth	sandstone	17.3	14.7	2
723	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Plattsmouth	sandstone	16.6	14.2	2
724	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Plattsmouth	sandstone	14.1	11.5	2
725	Pennsylvanian			South Dakota	Black Hills		18.5	16.7	2
726	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	12.2	13.2	2
727	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	13.2	13.5	2
728	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	10.1	8.4	2
729	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	13.4	11.4	2
730	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	14.3	13.5	2
731	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	10.7	9.8	2
732	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	12.2	10.5	2
733	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	10.8	11	2
734	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	10.5	9.7	2
735	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	9.1	10.5	2
736	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	11.7	11.8	2
737	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	11	11.4	1

738	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	9.9	7.1	1
739	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	9.1	8.8	1
740	Pennsylvanian	Desmoinesian	Worland	Iowa	St. Charles	limestone	8.7	8.8	1
741	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	19.8	16.4	2
742	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	14.3	11.3	2
743	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.2	14.2	2
744	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.9	16	2
745	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	17.4	14.3	2
746	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.1	12.8	2
747	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.1	12.6	2
748	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15	12.1	2
749	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	14.6	12.1	2
750	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.5	14.4	2
751	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.9	15.2	2
752	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.1	12.9	2
753	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	17.3	14.7	2
754	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	17.1	13	2
755	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.1	13	2
756	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	11.4	12.4	2
757	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	9.5	8.4	1
758	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.3	13.8	2
759	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	17.3	14.1	2
760	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15	13.6	2
761	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.8	13.6	2
762	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.1	14	2
763	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.4	11.8	2
764	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	13.5	11.2	2
765	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	12.2	11.8	2
766	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	14.9	12.5	2
767	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	13.9	12.7	2
768	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	13.2	11.5	2
769	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	12.5	10.7	2
770	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	12.2	11.4	2
771	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	12.6	11.5	1
772	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	12	11.4	1
773	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	18.1	16.5	2
774	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.8	15.1	2

775	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	23.4	20.9	2
776	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	20.1	18.1	2
777	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	17.4	16.1	2
778	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.3	12.2	2
779	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.8	15.1	2
780	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.4	12.6	2
781	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	11.7	10.3	2
782	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	12	10.4	2
783	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	10.6	9.8	2
784	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	15.5	14.8	2
785	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	16.9	16.6	2
786	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	13.8	10.9	2
787	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	13.8	13.9	2
788	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	12.4	10.1	2
789	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	9.8	9.9	2
790	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	10	9.3	1
791	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	8.7	8	1
792	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	8.2	7.6	1
793	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	7.8	6.5	1
794	Pennsylvanian	Desmoinesian	Thurman	Nebraska	Rock Bluff	sandstone	9.3	9.5	1
795	Pennsylvanian	Virgilian	Lecompton	Kansas	Douglas Co.	limestone	23.3	20.2	2
796	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	20.1	19.4	2
797	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	21.4	19.7	2
798	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	18.8	17.7	2
799	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	23.9	24.3	2
800	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	19.1	18.4	2
801	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	15.2	15.3	2
802	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	17.3	19.6	2
803	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	15.3	17.7	2
804	Pennsylvanian	Missourian	Ranger	Texas	Chico	limestone	24.1	20.4	2
805	Pennsylvanian	Missourian	Ranger	Texas	Chico	limestone	26.8	23.4	2
806	Pennsylvanian	Missourian	Ranger	Texas	Chico	limestone	8.8	7.9	1
807	Pennsylvanian	Missourian	Ranger	Texas	Chico	limestone	12.4	11.3	1
808	Pennsylvanian	Virgilian	Graham	Texas	Grosvenor	shale	26.1	25	2
809	Pennsylvanian	Atokan	Lake Murray	Oklahoma	Love Co.		19.1	19.6	2
810	Pennsylvanian	Atokan	Lake Murray	Oklahoma	Love Co.		13.5	12.3	2
811	Pennsylvanian	Atokan	Lake Murray	Oklahoma	Love Co.		15.8	15.7	2

812	Pennsylvanian	Atokan	Lake Murray	Oklahoma	Love Co.		11.5	10.5	2
813	Pennsylvanian	Atokan	Lake Murray	Oklahoma	Love Co.		16.3	14.4	2
814	Pennsylvanian	Atokan	Lake Murray	Oklahoma	Love Co.		8.8	7.6	2
815	Pennsylvanian	Atokan	Lake Murray	Oklahoma	Love Co.		8.5	7.8	1
816	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	17.2	17.6	2
817	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	22.6	23	2
818	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	16.7	15.8	2
819	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	19.6	17.8	2
820	Pennsylvanian		Red Eagle	Oklahoma	Burbank		11.9	10.4	1
821	Pennsylvanian		Red Eagle	Oklahoma	Burbank		11.5	12.2	1
822	Pennsylvanian		Red Eagle	Oklahoma	Burbank		13.7	12.1	1
823	Permian	Wolfcampian	Pueblo	Texas	Santa Ana	limestone	25.1	23.7	2
824	Permian	Wolfcampian	Pueblo	Texas	Santa Ana	limestone	27.4	23.7	2
825	Permian	Wolfcampian	Pueblo	Texas	Santa Ana	limestone	16.1	12.6	2
826	Permian	Wolfcampian	Pueblo	Texas	Santa Ana	limestone	17.3	15.2	2
827	Permian	Wolfcampian	Pueblo	Texas	Santa Ana	limestone	12.1	10.9	1
828	Permian	Wolfcampian	Pueblo	Texas	Santa Ana	limestone	6.2	6.5	1
829	Pennsylvanian			Indiana	Stanton		20.7	21.5	2
830	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	19.1	18.3	2
831	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	19.5	18.2	2
832	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro		16.6	15.7	2
833	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro		20.2	19.4	2
834	Pennsylvanian	Virgilian	Harpersville	Texas	Coleman Co.		9.3	8.2	1
835	Pennsylvanian		Red Eagle	Oklahoma	Burbank		24.6	21.5	2
836	Pennsylvanian		Red Eagle	Oklahoma	Burbank		12.4	11.7	1
837	Pennsylvanian		Red Eagle	Oklahoma	Burbank		12.6	11.1	1
838	Pennsylvanian	Missourian	Salesville	Texas	Palo Pinto		33.5	32.7	2
839	Pennsylvanian	Morrowan	Magdalena	New Mexico	Otero Co.	limestone	15.4	14.7	2
840	Pennsylvanian	Morrowan	Magdalena	New Mexico	Otero Co.	limestone	5.6	5.1	1
841	Pennsylvanian	Morrowan	Magdalena	New Mexico	Otero Co.	limestone	7.2	6.6	1
842	Pennsylvanian	Morrowan	Magdalena	New Mexico	Otero Co.	limestone	4.4	4	1
843	Pennsylvanian	Morrowan	Magdalena	New Mexico	Otero Co.	limestone	5.1	4.8	1
844	Pennsylvanian	Atokan	Atoka	New Mexico	Los Alamos		11.5	8.8	1
845	Permian	Wolfcampian	Pueblo	Texas	Santa Ana		17.9	17.6	2
846	Permian	Wolfcampian	Pueblo	Texas	Santa Ana		24.9	23.8	2
847	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro		15.2	14.8	2
848	Pennsylvanian			Nevada	Pioche		16.9	24.8	2

849	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	26.8	22.3	2
850	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	23.8	21.5	2
851	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	21	18.6	2
852	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	9.2	9.8	1
853	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	8	8.6	1
854	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	10	10.5	1
855	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	8.3	8.1	1
856	Pennsylvanian			Nebraska	Plattsmouth		15.7	14.9	2
857	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	29.3	28.1	2
858	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	13.8	12.9	2
859	Pennsylvanian	Missourian	Wyandotte	Kansas	Bonner Springs	limestone	21.2	19.8	2
860	Pennsylvanian			New Mexico	Santa Fe		21.5	19.5	2
861	Pennsylvanian	Virgilian	Oread	Kansas	Michigan Valley		13	10.9	1
862	Pennsylvanian	Virgilian	Graham	Texas	Brown Co.	shale	23.1	22	2
863	Pennsylvanian	Virgilian	Finis	Texas	Jacksboro	shale	20	19.3	2
864	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Oil creek	shale	15.6	14.4	2
865	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Oil creek	shale	20.8	19.4	2
866	Pennsylvanian	Desmoinesian	Hermosa	Utah	Lisbon Valley		14.9	12.5	2
867	Pennsylvanian			New Mexico	Santa Fe		13.6	12.1	2
868	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	11.3	11.2	1
869	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	9.9	11	1
870	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	7.7	8	1
871	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	9.7	9.8	1
872	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	10.2	10.3	1
873	Pennsylvanian	Desmoinesian	Lenapah	Oklahoma	Lenapah	limestone	7.8	7	1
874	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	limestone	21.2	19	2
875	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	limestone	25.6	23	2
876	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	limestone	28.5	23.9	2
877	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	limestone	24.6	23.7	2
878	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	limestone	18.3	17	2
879	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	limestone	17.2	16.6	1
880	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	limestone	16.2	14.6	1
881	Pennsylvanian	Desmoinesian	Oologah	Oklahoma	Owasso	limestone	9.4	9.6	1
882	Pennsylvanian	Missourian	Francis	Oklahoma	Ada	shale	26.7	27.2	2
883	Pennsylvanian		Lonsdale	Illinois	Cramer		15.3	15.1	2
884	Pennsylvanian		Lonsdale	Illinois	Cramer		10.4	9.9	2
885	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	limestone	11.1	10.5	2

886	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	limestone	10.9	9.4	2
887	Pennsylvanian	Virgilian	Gaptank	Texas	Marathon	limestone	9.7	8.3	2
888	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	21.8	22.3	2
889	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	16.6	15.5	2
890	Permian	Wolfcampian	Stine	Nebraska	Syracuse	shale	17.5	21.6	2
891	Permian	Wolfcampian	Stine	Nebraska	Syracuse	shale	8.7	7.3	1
892	Permian	Wolfcampian	Foraker	Oklahoma	Fairfax		24.1	22.3	2
893	Pennsylvanian	Virgilian	Jacksboro	Texas	Jacksboro	shale	18.2	17.7	2
894	Permian	Wolfcampian	Pueblo	Texas	Santa Ana		13.3	14.2	1
895	Pennsylvanian	Virgilian	Kanwaka	Nebraska	Cass Co.	shale	28.2	25.2	2
896	Pennsylvanian	Virgilian	Kanwaka	Nebraska	Cass Co.	shale	11.5	10.5	1
897	Pennsylvanian	Virgilian	Kanwaka	Nebraska	Cass Co.	shale	7.9	7.1	1
898	Pennsylvanian	Desmoinesian	Pumpkin Creek	Oklahoma	Carter Co.	shale	22.9	19.1	2
899	Pennsylvanian	Morrowan	Morrow	Oklahoma	Muskogee Co.		23.9	23.2	2
900	Pennsylvanian	Virgilian	Topeka	Kansas	Greenwood Co.	limestone	24.5	22.5	2
901	Pennsylvanian	Virgilian	Topeka	Kansas	Greenwood Co.	limestone	23.9	22.2	2
902	Pennsylvanian	Missourian	Stanton	Nebraska	Louisville		18.9	14.2	2
903	Pennsylvanian	Missourian	Stanton	Nebraska	Louisville		9.4	8.9	1
904	Pennsylvanian	Missourian	Stanton	Nebraska	Louisville		10	10	1
905	Pennsylvanian	Missourian	Conemaugh	Ohio	Jefferson Co.		12.7	11.1	1
906	Pennsylvanian	Missourian	Conemaugh	Ohio	Jefferson Co.		11.4	11.3	1
907	Pennsylvanian	Missourian	Conemaugh	Ohio	Jefferson Co.		14.9	13	1
908	Pennsylvanian	Missourian	Conemaugh	Ohio	Jefferson Co.		11.1	9.8	1
909	Pennsylvanian		Red Eagle	Oklahoma	Burbank		26.8	22.3	2
910	Pennsylvanian		Red Eagle	Oklahoma	Burbank		24.4	21	2
911	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	29.7	28.5	2
912	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	24	21.6	2
913	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	20.5	19.6	2
914	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	20	18.9	2
915	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	26.1	24.5	2
916	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	19.1	16.9	2
917	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	23	17	2
918	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	12.2	11.5	1
919	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	11.6	9.5	1
920	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	6.9	6.2	1
921	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	10.8	11.1	1
922	Pennsylvanian	Virgilian	Lecompton	Kansas	Big Springs	limestone	8	6.6	1

923	Pennsylvanian	Virgilian		Lecompton	Kansas	Big Springs	limestone	9	7.8	1
924	Pennsylvanian				New Mexico	Canoncito		34	34.2	2
925	Pennsylvanian				New Mexico	Canoncito		37	33.5	2
926	Pennsylvanian				New Mexico	Canoncito		31.9	26.2	2
927	Pennsylvanian				New Mexico	Canoncito		13.4	12.4	2
928	Pennsylvanian				New Mexico	Canoncito		14.3	14.3	2
929	Pennsylvanian				New Mexico	Canoncito		15.3	14.9	1
930	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn	shale	24.8	22.2	2
931	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn	shale	17.4	15.7	2
932	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn	shale	18.6	17.4	2
933	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn	shale	14.6	15.5	2
934	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn	shale	21	20	2
935	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn	shale	15.5	12.6	2
936	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn	shale	14.9	15.6	2
937	Pennsylvanian	Desmoinesian		Pumpkin Creek	Oklahoma	Berwyn	shale	15.4	14.1	2
938	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	shale	36.3	30.4	2
939	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	shale	32.1	29.5	2
940	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	shale	14.3	13.5	2
941	Permian	Wolfcampian		Beattie	Kansas	Dexter	shale	38.9	33.5	2
942	Permian		Uralian		Bolivia	Caponita		16.1	14.8	2
943	Permian		Uralian		Bolivia	Caponita		16.7	16.2	2
944	Permian		Uralian		Bolivia	Caponita		14.6	13.6	2
945	Permian		Uralian		Bolivia	Caponita		10.3	9.6	1
946	Permian		Uralian		Bolivia	Caponita		11.6	10.4	1
947	Permian		Uralian		Bolivia	Caponita		8.9	8.4	1
948	Permian	Wolfcampian		Beattie	Kansas	Cambridge	shale	10.4	11.1	1
949	Permian	Wolfcampian		Hueco	Texas	El Paso Co.		11.5	11.6	1
950	Permian	Wolfcampian		Beattie	Oklahoma	Fairfax	shale	22.7	20.5	2
951	Permian	Wolfcampian		Hueco	Texas	El Paso Co.		19.9	17.2	2
952	Permian	Wolfcampian		Hueco	Texas	El Paso Co.		14.5	14.5	2
953	Permian	Wolfcampian		Beattie	Kansas	Cambridge	shale	20.8	19.3	2
954	Permian	Wolfcampian		Putnam	Texas	Santa Ana	limestone	20.2	18	2
955	Permian	Wolfcampian		Putnam	Texas	Santa Ana	limestone	17.1	14.4	2
956	Permian	Wolfcampian		Putnam	Texas	Santa Ana	limestone	14.5	12.3	2
957	Permian	Wolfcampian		Putnam	Texas	Santa Ana	limestone	9	8.7	1
958	Permian	Wolfcampian		Putnam	Texas	Coleman	limestone	23.9	19.7	2
959	Permian	Wolfcampian		Hueco	Texas	El Paso Co.		15.5	13.9	2

960	Permian	Wolfcampian		Hueco	Texas	El Paso Co.		19.9	18.3	2
961	Permian	Wolfcampian		Hueco	Texas	El Paso Co.		15.9	14.3	2
962	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	shale	29.8	26.6	2
963	Permian		Uralian		Bolivia	Caponita		15.5	15.7	2
964	Permian		Uralian		Bolivia	Caponita		12	11.3	2
965	Permian		Uralian		Bolivia	Caponita		15.2	16.6	2
966	Permian		Uralian		Bolivia	Caponita		15.2	13	2
967	Permian		Uralian		Bolivia	Caponita		15.8	15.5	2
968	Permian		Uralian		Bolivia	Caponita		7.5	7.9	1
969	Permian	Wolfcampian		Hueco	Texas	El Paso Co.		11.6	10.3	2
970	Permian	Wolfcampian		Fort Riley	Oklahoma	Kay Co.	limestone	24.6	20.3	2
971	Permian	Wolfcampian		Fort Riley	Oklahoma	Kay Co.	limestone	18.1	16.6	2
972	Permian	Wolfcampian		Barneston	Kansas	Silverdale	shale	22.7	18.9	2
973	Permian	Guadalupian		Park City	Wyoming	Fremont Co.	shale	8	7.8	1
974	Permian	Wolfcampian		Beattie	Kansas	Cowley	shale	32.9	28.5	2
975	Permian	Wolfcampian		Pueblo	Texas	Rockwood	shale	33.7	34.9	2
976	Permian	Wolfcampian		Beattie	Kansas	Grand Summit	shale	35.8	32.3	2
977	Permian				Malaya			6.9	6.7	1
978	Permian				Malaya			4.2	3.5	1
979	Permian				Malaya			6.6	5.3	1
980	Permian				Malaya			5.3	5	1
981	Permian				Timor	Basleo		25.1	26.5	2
982	Permian			Copacabana	Bolivia	Caponita		17.3	18.2	2
983	Permian				Nebraska	Black Hills		9.2	8.2	1
984	Permian			Copacabana	Bolivia	Los Andes		10.7	10.6	2
985	Permian			Copacabana	Bolivia	Los Andes		17.2	15.8	2
986	Permian			Copacabana	Bolivia	Los Andes		14.9	13.4	2
987	Permian			Copacabana	Bolivia	Los Andes		17.7	14.3	2
988	Permian			Copacabana	Bolivia	Los Andes		11.2	9.2	2
989	Permian			Copacabana	Bolivia	Los Andes		11	10.8	2
990	Permian			Copacabana	Bolivia	Los Andes		10.9	10.3	2
991	Permian			Copacabana	Bolivia	Los Andes		10	8.3	1
992	Permian			Copacabana	Bolivia	Los Andes		7.6	6.7	1
993	Permian			Copacabana	Bolivia	Los Andes		9.9	9.3	1
994	Permian			Copacabana	Bolivia	Caponita		17.1	20.2	2
995	Permian			Copacabana	Bolivia	Caponita		19.5	18	2
996	Permian			Copacabana	Bolivia	Caponita		15.6	15	2

997	Permian		Copacabana	Bolivia	Los Andes	11.4	9.7	2
998	Permian		Copacabana	Bolivia	Los Andes	11	9.8	2
999	Permian		Copacabana	Bolivia	Los Andes	16.2	15.2	2
1000	Permian		Copacabana	Bolivia	Los Andes	15.4	13.7	2
1001	Permian		Copacabana	Bolivia	Los Andes	18.2	16.7	2
1002	Permian		Copacabana	Bolivia	Characas	23	24.2	2
1003	Permian			Kansas	Grand Summit	8.9	8.4	1
1004	Permian			Kansas	Arkansas City	22.3	21.8	2
1005	Permian			Texas	C&G loc 719	17.7	16.4	2
1006	Permian	Uralian		Bolivia	Caponita	23.8	23.7	2
1007	Permian	Uralian		Bolivia	Caponita	14.8	12.9	2

Appendix F: *Composita* size database, drilled specimens

Explanation of data elements

disk: refers to when original image was acquired: 3-01-1 indicates that the image was taken in March of 2001, image is on disk 1
Age: age of the specimen
length: anterior posterior length in centimeters
width: maximum width in centimeters
drill hole: drill hole diameter in centimeters

disk	age	length	width	drill hole
3-01-1	Devonian	1.81	1.7	0.11
3-01-1	Devonian	1.86	1.86	0.05
3-01-1	Devonian	2	2.03	0.08
3-01-1	Devonian	2.09	2.06	0.11
3-01-1	Devonian	2.35	2.38	0.03
3-01-2	Devonian	1.54	1.42	0.03
3-01-2	Devonian	1.09	0.99	0.04
3-01-2	Devonian	1.86	2.03	0.18
3-01-2	Devonian	2.05	2.06	0.06
3-01-2	Devonian	2.34	2.59	0.03
3-01-3	Devonian	0.92	0.85	0.03
3-01-3	Mississippian	1.21	1.1	0.03
3-01-3	Mississippian	2.65	2.62	0.16
3-01-4	Mississippian	1.49	1.4	0.11
3-01-4	Mississippian	1.12	0.91	0.04
3-01-4	Mississippian	1.2	1.16	0.2
3-01-5	Mississippian	2.47	2.17	0.03
3-01-5	Mississippian	1.63	1.56	0.08
3-01-5	Mississippian	0.93	0.9	0.03
3-01-5	Mississippian	0.82	0.81	0.03
3-01-6	Mississippian	1.65	1.77	0.09
3-01-6	Mississippian	1.81	1.8	0.05
7-01-14	Mississippian	1.7	1.67	0.11
7-01-14	Mississippian	2.19	1.86	0.07
7-01-14	Mississippian	1.2	1.29	0.06
7-01-14	Mississippian	1.7	1.43	0.07
7-01-15	Mississippian	1.03	0.8	0.04
7-01-15	Mississippian	1.57	1.59	0.1
7-01-15	Mississippian	1.35	1.1	0.03
7-01-15	Mississippian	1.4	1.21	0.02
7-01-15	Mississippian	1.32	1.41	0.03
7-01-16	Mississippian	1.53	1.42	0.03
7-01-16	Mississippian	1.42	1.23	0.03
7-01-17	Mississippian	1.51	1.41	0.05
7-01-17	Mississippian	1.63	1.51	0.13
7-01-17	Mississippian	2	2.16	0.05
7-01-17	Mississippian	1.47	1.08	0.08
7-01-26	Mississippian	2.17	2.41	0.05
7-01-28	Mississippian	1.94	2.03	0.03
7-01-28	Mississippian	1.75	1.68	0.07
7-01-28	Mississippian	1.34	1.42	0.17
7-01-1	Pennsylvanian	1.59	1.56	0.11
7-01-1	Pennsylvanian	3.18	2.87	0.09
7-01-1	Pennsylvanian	0.91	0.85	0.04

7-01-1	Pennsylvanian	2.63	2.4	0.04
7-01-2	Pennsylvanian	2.81	2.26	0.07
7-01-2	Pennsylvanian	2.91	2.75	0.09
7-01-2	Pennsylvanian	2.61	2.25	0.09
7-01-2	Pennsylvanian	2.06	2.08	0.09
7-01-3	Pennsylvanian	1.79	1.58	0.06
7-01-3	Pennsylvanian	2.63	2.14	0.06
7-01-3	Pennsylvanian	2.01	1.61	0.07
7-01-3	Pennsylvanian	2.4	2.31	0.04
7-01-4	Pennsylvanian	2.55	2.55	0.09
7-01-4	Pennsylvanian	2.2	2.14	0.06
7-01-5	Pennsylvanian	2.37	2.15	0.09
7-01-5	Pennsylvanian	1.99	1.92	0.1
7-01-5	Pennsylvanian	2.35	2.19	0.1
7-01-5	Pennsylvanian	2.2	2.45	0.07
7-01-5	Pennsylvanian	1.72	1.61	0.08
7-01-6	Pennsylvanian	2.07	1.93	0.11
7-01-6	Pennsylvanian	1.35	1.2	0.05
7-01-6	Pennsylvanian	2.06	2.01	0.09
7-01-6	Pennsylvanian	2.39	2.3	0.14
7-01-7	Pennsylvanian	2.08	2.26	0.03
7-01-7	Pennsylvanian	1.66	1.66	0.05
7-01-7	Pennsylvanian	1.4	1.35	0.03
7-01-7	Pennsylvanian	1.27	1.06	0.03
7-01-8	Pennsylvanian	2.98	2.48	0.1
7-01-8	Pennsylvanian	3.08	2.16	0.03
7-01-8	Pennsylvanian	2.85	2.82	0.07
7-01-9	Pennsylvanian	1.88	1.88	0.06
7-01-9	Pennsylvanian	2.37	2.08	0.05
7-01-9	Pennsylvanian	3.1	2.95	0.14
7-01-10	Pennsylvanian	2.79	2.74	0.2
7-01-10	Pennsylvanian	1.41	1.24	0.11
7-01-10	Pennsylvanian	2.31	2.42	0.05
7-01-18	Pennsylvanian	2	2.05	0.04
7-01-18	Pennsylvanian	1.91	1.92	0.05
7-01-18	Pennsylvanian	2.45	2.26	0.04
7-01-19	Pennsylvanian	2.31	2.29	0.12
7-01-19	Pennsylvanian	1.8	1.7	0.19
7-01-19	Pennsylvanian	1.89	1.8	0.05
7-01-20	Pennsylvanian	1.21	1.07	0.03
7-01-20	Pennsylvanian	1.08	1	0.04
7-01-20	Pennsylvanian	2.43	2.44	0.1
7-01-20	Pennsylvanian	1.73	1.61	0.09
7-01-20	Pennsylvanian	2.21	2.05	0.1
7-01-21	Pennsylvanian	2.29	2.24	0.1
7-01-21	Pennsylvanian	2.27	2.25	0.06

7-01-21	Pennsylvanian	1.93	1.93	0.08
7-01-21	Pennsylvanian	2.24	1.98	0.1
7-01-21	Pennsylvanian	1.72	1.61	0.09
7-01-22	Pennsylvanian	2.19	2.07	0.03
7-01-22	Pennsylvanian	1.89	1.83	0.13
7-01-22	Pennsylvanian	2.16	1.86	0.07
7-01-23	Pennsylvanian	2.1	1.83	0.03
7-01-23	Pennsylvanian	2.02	1.92	0.09
7-01-23	Pennsylvanian	2.02	1.97	0.03
7-01-23	Pennsylvanian	1.67	1.71	0.03
7-01-23	Pennsylvanian	1.21	1.33	0.03
7-01-24	Pennsylvanian	2.33	2.24	0.1
7-01-24	Pennsylvanian	1.87	1.79	0.05
7-01-24	Pennsylvanian	2.2	2.2	0.05
7-01-24	Pennsylvanian	2.27	2.16	0.04
7-01-25	Pennsylvanian	1.99	1.85	0.04
7-01-25	Pennsylvanian	1.19	1.13	0.03
7-01-25	Pennsylvanian	1.87	1.71	0.15
7-01-25	Pennsylvanian	3.02	2.51	0.04
7-01-25	Pennsylvanian	2.11	2	0.04
7-01-26	Pennsylvanian	1.73	1.63	0.06
7-01-26	Pennsylvanian	2.3	2.44	0.07
7-01-26	Pennsylvanian	2.16	2.4	0.05
7-01-26	Pennsylvanian	2.49	2.42	0.04
7-01-27	Pennsylvanian	2.39	2.33	0.06
7-01-27	Pennsylvanian	2.33	1.56	0.08
7-01-27	Pennsylvanian	2.11	2.07	0.05
7-01-28	Pennsylvanian	1.93	2.07	0.06
7-01-28	Pennsylvanian	1.7	1.45	0.02
7-01-11	Permian	1.76	1.57	0.05
7-01-11	Permian	1.44	1.3	0.03
7-01-11	Permian	1.82	1.7	0.03
7-01-12	Permian	2.02	1.7	0.03
7-01-12	Permian	1.95	1.73	0.05
7-01-12	Permian	2.76	2.45	0.03
7-01-12	Permian	1.2	1.15	0.05
7-01-12	Permian	1.66	1.57	0.06
7-01-13	Permian	1.29	1.41	0.03
7-01-13	Permian	1.22	1.36	0.04
7-01-13	Permian	1.82	1.48	0.05
7-01-13	Permian	2.32	1.93	0.04

Appendix G: *Composita* landmark database

Explanation of data elements

disk: refers to when original image was acquired: 3-01-1 indicates that the image was taken in March of 2001, image is on disk 1
Age: age of the specimen
valve: which valve the drill hole is located, may be brachial, pedicle, or both; brachial (2) indicates two drill holes in the brachial valve
X1: X-coordinate for landmark point 1 (tip of the beak)
Y1: Y-coordinate for landmark point 1 (tip of the beak)
X2: X-coordinate for landmark point 2 (point on commisure opposite beak)
Y2: Y-coordinate for landmark point 2 (point on commisure opposite beak)
X3: X-coordinate for landmark point 3 (maximum curvature left of midline)
Y3: Y-coordinate for landmark point 3 (maximum curvature left of midline)
X4: X-coordinate for landmark point 4 (maximum curvature right of midline)
Y4: Y-coordinate for landmark point 4 (maximum curvature right of midline)
X5: X-coordinate for landmark point 5 (drill hole centroid)
Y5: Y-coordinate for landmark point 5 (drill hole centroid)
note: X,Y coordinates are raw data, not shape coordinates

disk	age	valve	X1	Y1	X2	Y2	X3	Y3	X4	Y4	X5	Y5
3-01-1	Devonian	brachial	5.18	2.24	5.13	4.62	5.49	4.6	4.71	4.57	5.79	3.31
3-01-2	Devonian	brachial	5.7	3.14	5.7	4.21	5.97	4.07	5.29	4.03	5.8	3.43
3-01-1	Devonian	pedicle	5.72	2.48	5.66	4.34	6.01	4.38	5.35	4.38	5.97	3.83
3-01-1	Devonian	pedicle	6.86	3.42	6.82	5.26	7.32	5.28	6.28	5.3	7.37	4.26
3-01-1	Devonian	pedicle	6.67	3.29	6.64	5.34	7.19	5.33	5.97	5.29	6.29	4.19
3-01-1	Devonian	pedicle	7	3.53	7.02	5.7	7.43	5.66	6.49	5.68	6.68	4.64
3-01-2	Devonian	pedicle	6.22	2.97	6.15	4.49	6.59	4.51	5.68	4.47	6.24	3.47
3-01-2	Devonian	pedicle	6	2.94	5.84	4.77	6.42	4.83	5.17	4.75	5.33	4.09
3-01-2	Devonian	pedicle	5.85	2.84	5.81	4.9	6.29	4.92	5.11	4.82	5.71	3.68
3-01-2	Devonian	pedicle	5.88	2.78	5.88	5.14	6.59	5.14	5.05	5.17	6.86	3.84
3-01-3	Devonian	pedicle	6	2.91	6.03	3.82	6.23	3.8	5.73	3.78	6.16	3.7
3-01-4	Mississippian	brachial	5.74	2.91	5.67	4.35	6.14	4.24	5.26	4.24	6.15	3.95
3-01-5	Mississippian	brachial	5.79	3.19	5.78	4.15	6.14	4.03	5.5	4.06	5.63	3.53
3-01-6	Mississippian	brachial	6.33	2.98	6.31	4.83	6.88	4.55	5.69	4.58	6.09	3.34
7-01-15	Mississippian	brachial	5.87	3.68	5.87	4.7	6.12	4.55	5.61	4.55	6.04	4.14
7-01-15	Mississippian	brachial	6.07	4.02	6.07	5.42	6.4	5.23	5.7	5.23	5.97	5.27
7-01-15	Mississippian	brachial	6.3	3.82	6.25	5.26	6.54	5.03	5.87	5.05	6.31	4.38
7-01-15	Mississippian	brachial	6.05	3.47	6.03	4.79	6.47	4.64	5.55	4.62	6.32	4.05
7-01-17	Mississippian	brachial	5.48	3.06	5.5	5.05	5.94	4.78	4.98	4.83	5.25	4.08
7-01-17	Mississippian	brachial	6.6	3.62	6.56	5.03	6.87	4.83	6.24	4.86	6.46	4.59
7-01-26	Mississippian	brachial	6.29	2.67	6.02	4.87	6.68	4.73	5.52	4.75	6.1	3.73
7-01-28	Mississippian	brachial	5.39	2.66	5.37	4.65	5.77	4.39	4.92	4.41	5.59	3.11
3-01-3	Mississippian	pedicle	5.53	2.79	5.47	4.03	5.77	3.89	5.09	3.87	5.06	3.69
3-01-3	Mississippian	pedicle	5.77	2.51	5.69	5.08	6.56	4.87	4.98	4.75	6.52	3.46
3-01-4	Mississippian	pedicle	5.45	2.74	5.28	3.92	5.65	3.8	4.95	3.73	5.38	3.16
3-01-4	Mississippian	pedicle	5.24	2.97	5.26	4.19	5.54	4.13	4.93	4.14	5.16	3.69
3-01-5	Mississippian	pedicle	6.43	2.38	6.35	4.94	6.97	4.7	5.6	4.73	6.02	3.56
3-01-5	Mississippian	pedicle	6.34	3.02	6.27	4.67	6.64	4.5	5.66	4.45	6.5	3.56
3-01-5	Mississippian	pedicle	5.65	2.88	5.64	3.71	5.91	3.75	5.41	3.68	5.92	3.39
3-01-6	Mississippian	pedicle	6.07	2.81	6.04	4.51	6.64	4.59	5.64	4.54	6.3	3.58
7-01-14	Mississippian	pedicle	7.22	3.6	7.25	5.33	7.73	5.16	6.76	5.19	7.52	4.33

7-01-14	Mississippian	pedicle	6.87	3.63	6.73	5.77	7.18	5.58	6.25	5.5	6.17	4.08
7-01-14	Mississippian	pedicle	5.8	3.51	5.77	4.68	6.15	4.7	5.45	4.63	5.42	4.17
7-01-14	Mississippian	pedicle	6.79	3.78	6.79	5.57	7.24	5.36	6.24	5.36	7.31	4.71
7-01-15	Mississippian	pedicle	5.74	3.35	5.71	4.83	6.09	4.85	5.28	4.77	5.72	3.97
7-01-16	Mississippian	pedicle	7.34	3.38	7.33	4.98	7.77	4.84	6.89	4.84	7.13	4.79
7-01-16	Mississippian	pedicle	7.09	4.03	7	5.48	7.38	5.38	6.48	5.28	7.31	4.28
7-01-17	Mississippian	pedicle	6.89	3.93	6.92	5.46	7.34	5.33	6.46	5.31	7.26	4.66
7-01-17	Mississippian	pedicle	6.91	3.3	6.84	4.91	7.27	4.7	6.34	4.7	6.84	4.41
7-01-28	Mississippian	pedicle	5.61	2.72	5.62	4.48	6.04	4.21	5.11	4.28	5.63	4.15
7-01-28	Mississippian	pedicle	6.03	3.21	6.02	4.55	6.41	4.45	5.48	4.42	5.98	4
7-01-9	Pennsylvanian	both	6.47	2.87	6.47	5.32	7.03	5.08	5.89	5.19	5.47	4.42
7-01-1	Pennsylvanian	brachial	5.57	3.11	5.6	4.72	6.02	4.62	5.09	4.65	5.63	4.26
7-01-1	Pennsylvanian	brachial	5.91	2.14	5.91	5.28	6.65	5.12	5.26	5.16	5.16	2.67
7-01-1	Pennsylvanian	brachial	5.41	1.94	5.45	4.51	5.97	4.42	4.94	4.43	5.07	2.7
7-01-3	Pennsylvanian	brachial	5.33	1.5	5.39	4.12	6.03	3.94	4.79	3.97	5.73	2.33
7-01-3	Pennsylvanian	brachial	5.71	1.93	5.6	4	6.1	3.81	5.16	3.89	5.41	2.81
7-01-4	Pennsylvanian	brachial	5.54	1.33	5.58	3.93	6.07	3.88	4.88	3.84	5.99	2.97
7-01-5	Pennsylvanian	brachial	5.36	1.49	5.36	3.86	5.93	3.63	4.82	3.67	5.42	2.68
7-01-5	Pennsylvanian	brachial	5.55	2.89	5.54	4.66	6	4.44	5.1	4.49	5.41	3.62
7-01-6	Pennsylvanian	brachial	5.31	2.86	5.3	4.89	5.74	4.69	4.77	4.7	5.66	4.12
7-01-6	Pennsylvanian	brachial	5.37	2.81	5.37	4.88	5.88	4.79	4.88	4.85	5	3.57
7-01-6	Pennsylvanian	brachial	5.48	2.36	5.48	4.74	5.98	4.61	4.7	4.52	5.67	3.52
7-01-8	Pennsylvanian	brachial	5.84	2.02	5.84	4.94	6.54	4.49	4.94	4.54	6.6	3.08
7-01-8	Pennsylvanian	brachial	5.37	2.06	5.31	5	6.17	4.83	4.31	4.85	5.82	4.51
7-01-9	Pennsylvanian	brachial	5.76	2.8	5.76	4.7	6.37	4.52	5.15	4.58	6.14	4.3
7-01-10	Pennsylvanian	brachial	5.63	3.66	5.73	5.08	6.11	4.94	5.44	5.05	5.63	4.91
7-01-10	Pennsylvanian	brachial	6.16	2.82	6.18	5.15	6.73	4.94	5.55	5.03	5.87	3.69
7-01-18	Pennsylvanian	brachial	6.92	2.82	6.94	5.29	7.44	4.94	6.32	4.94	7.18	3.26
7-01-19	Pennsylvanian	brachial	6.78	3.18	6.75	5.47	7.38	5.15	6.08	5.18	7.25	4.1
7-01-19	Pennsylvanian	brachial	7.96	3.91	7.96	5.74	8.44	5.54	7.31	5.59	8.2	5.31
7-01-19	Pennsylvanian	brachial	7.26	3.72	7.24	5.55	7.76	5.36	6.64	5.4	7.69	4.5
7-01-20	Pennsylvanian	brachial	6.33	3.29	6.33	4.56	6.63	4.46	6.01	4.47	6.57	3.97

7-01-20	Pennsylvanian	brachial	6.89	3.68	6.89	4.86	7.23	4.74	6.6	4.82	6.63	4.58
7-01-20	Pennsylvanian	brachial	6.09	3.04	6.09	4.76	6.51	4.75	5.66	4.75	6.34	4.55
7-01-20	Pennsylvanian	brachial	6.56	3.15	6.59	5.34	6.9	5.13	6.08	5.15	6.39	5.16
7-01-21	Pennsylvanian	brachial	6.11	2.86	6.05	5.13	6.55	4.84	5.44	4.83	6.27	4.09
7-01-21	Pennsylvanian	brachial	6.88	3.17	6.88	5.38	7.32	5.03	6.32	5.17	7.17	4.57
7-01-22	Pennsylvanian	brachial	6.29	2.6	6.28	4.84	6.79	4.62	5.71	4.69	6.13	4.04
7-01-23	Pennsylvanian	brachial	6.73	3.2	6.66	5.27	7.14	5.02	6.27	5.11	6.31	4.25
7-01-23	Pennsylvanian	brachial	6.39	3.22	6.31	5.27	6.77	4.92	5.77	4.94	6.67	4.14
7-01-23	Pennsylvanian	brachial	6.52	3.37	6.52	5.4	7	5.11	6.03	5.15	6.73	4.45
7-01-23	Pennsylvanian	brachial	6.06	3.19	6.07	4.88	6.5	4.63	5.65	4.75	5.38	4.4
7-01-24	Pennsylvanian	brachial	5.05	2.29	5.05	4.59	5.49	4.33	4.44	4.44	5.36	3.42
7-01-24	Pennsylvanian	brachial	6.21	3.17	6.22	5.45	6.86	5.17	5.53	5.22	6.43	4.03
7-01-25	Pennsylvanian	brachial	5.71	2.6	5.72	4.6	6.07	4.47	5.16	4.46	5.87	3.29
7-01-26	Pennsylvanian	brachial	6.16	3.22	6.09	4.97	6.63	4.78	5.63	4.8	6.22	4.05
7-01-26	Pennsylvanian	brachial	6.17	2.97	6.14	5.47	6.78	5.12	5.59	5.16	5.98	4.83
7-01-27	Pennsylvanian	brachial	5.74	2.54	5.77	4.95	6.33	4.59	5.18	4.74	6.66	4.25
7-01-27	Pennsylvanian	brachial	6.43	2.68	6.37	5.1	6.8	4.85	5.85	4.82	6.03	4.08
7-01-27	Pennsylvanian	brachial	6.1	3.03	6.1	5.16	6.59	4.82	5.48	4.84	6.57	3.79
7-01-21	Pennsylvanian	brachial(2)	6.59	2.98	6.55	5.22	7.09	4.86	6.02	4.94	6.75	3.7
7-01-1	Pennsylvanian	pedicle	5.07	3.15	5.07	4.05	5.34	4.03	4.86	4.03	5.18	3.38
7-01-2	Pennsylvanian	pedicle	5.2	1.89	5.23	4.69	5.94	4.56	4.59	4.57	6.03	3.67
7-01-2	Pennsylvanian	pedicle	5.13	1.96	5.09	4.72	5.87	4.79	4.33	4.4	5.18	3.85
7-01-2	Pennsylvanian	pedicle	6.22	2.43	6.22	5.06	6.78	5.02	5.65	5.02	6.73	2.78
7-01-2	Pennsylvanian	pedicle	5.67	2.67	5.61	4.71	6.11	4.7	5.05	4.68	5.02	3.42
7-01-3	Pennsylvanian	pedicle	4.94	2.27	4.89	4.04	5.3	4.01	4.51	4	5.37	3.45
7-01-3	Pennsylvanian	pedicle	5.58	1.72	5.6	4.16	6.28	4.16	5.06	4.16	5.42	2.9
7-01-4	Pennsylvanian	pedicle	5.8	1.8	5.75	4.03	6.28	4.14	5.13	4.14	5.16	2.32
7-01-5	Pennsylvanian	pedicle	6.39	2.05	6.27	4.44	6.98	4.44	5.55	4.38	6.88	3.74
7-01-5	Pennsylvanian	pedicle	4.99	2.15	5.04	4.18	5.6	4.1	4.5	4.14	5.36	2.93
7-01-5	Pennsylvanian	pedicle	5.65	2.45	5.55	4.67	6.2	4.68	4.84	4.67	5.23	3.12
7-01-6	Pennsylvanian	pedicle	5.91	3.4	5.99	4.73	6.36	4.64	5.61	4.64	5.91	4.03
7-01-7	Pennsylvanian	pedicle	5.86	2.94	5.88	5.05	6.7	4.75	5.06	4.73	6.11	4.13

7-01-7	Pennsylvanian	pedicle	6.57	3.25	6.34	4.97	6.75	4.98	5.77	4.9	6.64	4.16
7-01-7	Pennsylvanian	pedicle	5.46	3.04	5.45	4.48	5.81	4.48	5.03	4.45	5.31	3.33
7-01-7	Pennsylvanian	pedicle	4.62	2.83	4.55	4.04	4.82	3.96	4.28	3.96	4.86	3.42
7-01-8	Pennsylvanian	pedicle	5.42	1.66	5.47	4.7	5.94	4.69	4.77	4.77	4.36	3.78
7-01-9	Pennsylvanian	pedicle	6.18	2.32	6.18	5.49	7.11	5.19	5.28	5.35	5.93	4.54
7-01-10	Pennsylvanian	pedicle	5.93	2.39	5.85	5.17	6.8	5	5.15	5.15	7.03	4.58
7-01-18	Pennsylvanian	pedicle	7.39	3.75	7.43	5.79	8.02	5.7	6.88	5.75	6.8	4.96
7-01-18	Pennsylvanian	pedicle	6.03	3.06	6.01	4.94	6.63	4.91	5.45	4.85	6.01	4.22
7-01-20	Pennsylvanian	pedicle	6.45	2.9	6.47	5.31	6.98	5.03	5.79	5.1	7.03	3.87
7-01-21	Pennsylvanian	pedicle	6.56	3.2	6.49	5.22	7.02	5.19	6.03	5.2	6	4.56
7-01-21	Pennsylvanian	pedicle	5.49	3.13	5.49	4.85	5.93	4.79	4.9	4.76	5.66	4.15
7-01-22	Pennsylvanian	pedicle	5.58	2.72	5.58	4.87	6.29	4.86	4.94	4.83	6.13	4.09
7-01-22	Pennsylvanian	pedicle	6.6	3.26	6.48	5.14	7.09	4.89	5.77	4.88	6.74	3.54
7-01-23	Pennsylvanian	pedicle	5.76	3.44	5.7	4.71	6.11	4.63	5.26	4.66	5.57	4.43
7-01-24	Pennsylvanian	pedicle	5.68	2.84	5.69	4.71	6.16	4.6	5.1	4.56	5.31	3.16
7-01-24	Pennsylvanian	pedicle	6.74	3.3	6.68	5.68	7.28	5.64	6.06	5.6	7.32	4.72
7-01-25	Pennsylvanian	pedicle	5.97	3.07	6	4.28	6.37	4.26	5.65	4.26	5.82	3.79
7-01-25	Pennsylvanian	pedicle	6.65	3.16	6.53	5.02	6.94	5.03	6.11	4.98	6.37	4.08
7-01-25	Pennsylvanian	pedicle	6.14	2.3	6.04	5.19	6.82	4.91	5.26	5.05	5.61	4.89
7-01-25	Pennsylvanian	pedicle	6.79	3.18	6.79	5.32	7.38	5.29	6.11	5.41	6.61	4.34
7-01-26	Pennsylvanian	pedicle	6.07	2.84	6.07	5.03	6.82	5.07	5.46	5.07	6.02	3.67
7-01-28	Pennsylvanian	pedicle	5.9	2.53	5.91	4.49	6.46	4.49	5.2	4.43	6.1	3.74
7-01-28	Pennsylvanian	pedicle	7	3.79	7.07	5.48	7.46	5.32	6.59	5.34	7.11	4.7
7-01-26	Pennsylvanian	pedicle(2)	6.26	3.28	6.34	5.4	6.91	5.43	5.55	5.31	7	4.81
7-01-11	Permian	brachial	6.05	2.62	6.06	4.4	6.46	4.16	5.52	4.19	6.03	4.17
7-01-12	Permian	brachial	6.74	2.51	6.67	4.56	7.1	4.38	6.21	4.46	6.54	3.46
7-01-12	Permian	brachial	6.64	2.74	6.61	4.69	7.02	4.44	6.15	4.48	6.98	3.9
7-01-12	Permian	brachial	6.56	2.09	6.53	4.89	7.16	4.49	5.82	4.6	5.49	3.44
7-01-13	Permian	brachial	6.75	2.66	6.66	4.56	7.02	4.34	6.21	4.33	7.02	3.7
7-01-13	Permian	brachial	7	2.47	7.07	4.75	7.65	4.58	6.39	4.67	6.21	3.18
7-01-11	Permian	pedicle	5.53	2.76	5.53	4.2	5.89	4.06	5.14	4.09	5.11	3.87
7-01-11	Permian	pedicle	6.45	3.21	6.41	5.1	7.03	4.95	5.9	5.03	6.28	4.57

7-01-12	Permian	pedicle	6.14	2.67	6.16	3.91	6.55	3.8	5.77	3.83	6.17	3.22
7-01-12	Permian	pedicle	5.97	2.92	5.97	4.59	6.55	4.47	5.44	4.52	5.97	3.44
7-01-13	Permian	pedicle	6.47	2.84	6.45	4.2	6.92	4.06	5.88	4.03	6.08	3.97
7-01-13	Permian	pedicle	6.38	3.11	6.38	4.35	6.83	4.26	5.95	4.32	6.38	3.45

VITA

Alan P. Hoffmeister

Alan Hoffmeister was born on January 4, 1963 in Cincinnati, Ohio. He graduated from Purcell High Scholl in May of 1981 and entered Beloit College in the fall of that year. In May 1986 he was awarded a Bachelor of Science with a major in Geology from Beloit College. In August of 1992 he entered Old Dominion University as a Masters student, and was awarded a Master of Science in Geology in December of 1994. From January 1996 to May 1998 he attended the University of Missouri-Rolla but left the program there before finishing a degree. He started a doctoral program at Virginia Tech in August of 1999 and completed his dissertation in March of 2002.