TRACES OF PREDATION/PARASITISM RECORDED IN EOCENE BRACHIOPODS FROM THE CASTLE HAYNE LIMESTONE, NORTH CAROLINA, U.S.A.

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ABSTRACT

The Castle Hayne Limestone (Middle Eocene, North Carolina), noted for its diverse macro-invertebrate fossils, was sampled to assess if early Cenozoic brachiopods from eastern North America record any traces of biotic interactions. Systematic surveys of two North Carolina quarries yielded 494 brachiopods, dominated by one species: *Plicatoria wilmingtonensis* (Lyell and Sowerby, 1845). Despite subtle variations in taphonomy, taxonomy, and drilling patterns, the two sampled quarries are remarkably similar in terms of quantitative and qualitative paleoecological and taphonomic patterns. Ninety-two brachiopod shells (18.6% specimens) contained a single circular hole. Majority of drillholes were singular, perpendicular to shell surface, and drilled from the outside. In addition, ventral valves were drilled slightly more frequently than dorsal ones and larger brachiopods contained more drillholes than smaller ones. However, the size of drillholes did not correlate with the size of brachiopods. The drillholes record "live-live" biotic interactions, which may represent either predatory attacks or parasitic infestations or combination of those two types of interactions. A notable fraction of specimens bears multiple drillholes, which is consistent with either parasitic nature of interactions or frequent failed predatory events. Drilling frequency was high in both quarries (24.5%); this high frequency reinforces other recent reports (from other continents and Cenozoic epochs) that drilling organisms may be a frequent predator or parasite of brachiopod prey or hosts. The number of case studies reporting high frequencies of drilling in brachiopods is still limited and thus insufficient to draw reliable generalizations regarding the causes and consequences of these occasionally intense ecological interactions.

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INTRODUCTION

Drillholes in fossil shells and tests have been long recognized as one of the most informative paleontological records of ecological interactions (e.g., Kitchell 1986; Vermeij 1987; Kelley and Hansen 1993; Huntley and Kowalewski 2007; and references therein). Initially, paleoecologists focused their efforts on drilling patterns in Cenozoic benthic mollusk assemblages (e.g., Taylor et al. 1970; Hoffman et al. 1974; Thomas, 1975; Kitchell et al. 1981; Kelley and Hansen 1993), a topic that has remained popular through today (see compilation by Huntley and Kowalewski, 2007). Fossil brachiopod shells have also been studied for drillholes, but the initial focus was on the Paleozoic (e.g., Ausich and Gurrola 1978; Smith et al. 1985; Baumiller et al., 1999; Brett and Walker 2002; Hoffmeister et al., 2003, 2004; Leighton, 2003). In recent years, there has been an increasing realization that post-Paleozoic brachiopods are also affected by drilling organisms (e.g., Harper et al. 1998; Kowalewski et al. 1998; Harper and Wharton, 2000). Several recent case studies devoted to drilling patterns in Cenozoic and Recent brachiopods have been conducted in various regions of the world (e.g., Baumiller et al., 2003 [Recent, Global], 2006 [Pliocene, Algeria]; Baumiller and Bitner, 2004 [Miocene, Poland]; Delance and Emig, 2004 [Recent, Mediterranean]; Kowalewski et al. 2005 [Recent, Global]; Harper 2005 [Pliocene, United Kingdom]; Simoes et al., 2007 [Recent, Brazil]). However, we lack case studies for many regions (e.g., North America) and time intervals [e.g., Paleogene]. The primary goal of this study is to document traces of predation in fossil assemblages of the Castle Hayne Limestone (Eocene, North Carolina), a unit well known for its abundant and well preserved fauna of rhynchonelliform brachiopods.

The frequency of drilling in brachiopods, especially in the Cenozoic and present-day ecosystems, can be, on occasion, very high (Baumiller et al., 2003, 2006; Baumiller and Bitner,

2004; Delance and Emig, 2004; Kowalewski et al. 2005; Harper 2005), but in many cases drillholes tend to be rare or absent except for a few unusual sites (e.g., Delance and Emig, 2004; Kowalewski et al., 2005; Simoes et al., 2007). It is clear that more case studies are needed to improve geographic and temporal coverage of data and to develop a sufficient database needed for a statistical assessment of this intriguing putative pattern. Whereas this study is not intended to provide a conclusive answer regarding the Cenozoic history of drilling predation on brachiopods, it should provide new quantitative data, useful from both geographic and stratigraphic perspectives.

Drilling patterns in brachiopods is also an interesting theme of research because of the controversies surrounding the importance of predation on brachiopods through time. Brachiopods are usually considered less attractive to predators (Harper, 2005), especially when compared to mollusks (indeed mollusks tend to be drilled at higher frequencies than brachiopods in the same assemblages; Hoffmeister et al. 2004; Simoes et al., 2007). Moreover, some brachiopods may contain spicules in their flesh (Peck, 1993) or may even be poisonous to predators (Thayer, 1985; Thayer and Allmon, 1990; McClintock et al., 1993; Harper, 2005). Also, it is often questioned whether a predator would even consider a brachiopod as a prey item since they have a lower flesh yield than mollusks (Peck, 1993, Harper, 2005). Kowalewski et al. (2005) proposed that drillholes found in brachiopods represent opportunistic attacks or even mistakes by a driller (this hypothesis may explain rare drillholes observed typically in the brachiopod fossil record, but not high frequency drilling observed on occasions). Alternatively, drillholes in brachiopods may be primarily kleptoparasitic, but differentiating between parasitic and predatory drillholes is not an easy task in the fossil record, and many reports on drilling in brachiopods do not provide a clear solution.

The primary goal of this study is to document drilling predation patterns in the Castle Hayne brachiopod assemblages, including frequency of drilling, selectivity (in terms of taxon, size, and site drilled), and the impact of taphonomy on drillhole preservation. Drilling patterns are also compared between two North Carolina quarries where brachiopods occur abundantly. The aim of this study is to contribute new (North America, Eocene) data to the budding literature on drilling patterns in Cenozoic brachiopods.

MATERIALS AND METHODS

Geologic Setting

Two active quarries, the Rocky Point Quarry (at Rocky Point) and the Castle Hayne (formerly known as Ideal Cement) Quarry (at Castle Hayne), located in coastal North Carolina were sampled as a part of this study (Figure 1). The Castle Hayne Limestone is exposed in both quarries, including easily accessible float.

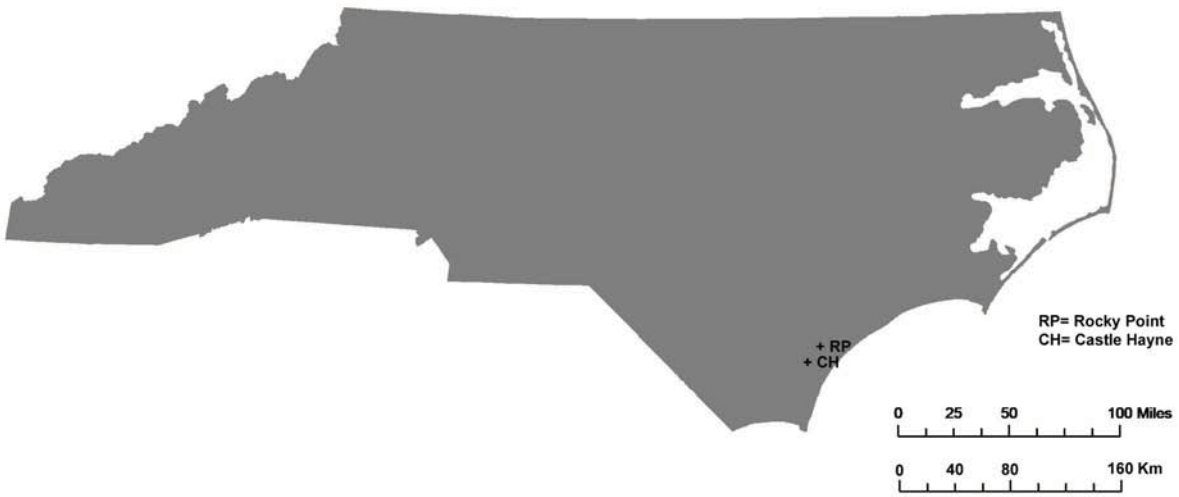

Figure 1. Map of North Carolina showing location of the two sampled quarries: the Rocky Point and the Castle Hayne.

The Middle Eocene Castle Hayne Limestone (Ward et al., 1978; Hazel et al., 1984, Harris et al., 1993; Lagesse and Read, 2006, Coffey and Read, 2007) is dominated by a bryozoan-echinoderm grainstone/packstone. This skeletal rich carbonate facies ranges in thickness from 2 to 15m in outcrop and thickens to more than 200m in the subsurface (Coffey and Read, 2007). Common fossils include bryozoans, echinoderms, brachiopods, foraminifera, crustaceans, and solitary corals. This fossil association suggests that the Castle Hayne Limestone was deposited on a distal inner middle shelf (30 to 100 meters in terms of water depth) in a

subtropical (or warm temperate) climate setting (Coffey and Read, 2007). The quarries sampled in this study, which are located in the updip portion of the basin on structural highs, record late transgressive to highstand systems tracts only.

A type-section of the Castle Hayne Limestone (which is now abandoned/flooded), proposed by Baum et al. (1978), is located 3.7 km northeast of the town of Castle Hayne, North Carolina. Baum et al. (1978) distinguished three different facies in the type section: bryozoan biomicrudite, bryozoan biosparrudite, and phosphate pebble biomicrudite (Kier, 1980). A different type-locality of the Castle Hayne Limestone was proposed by Ward et al. (1978) at the Ideal Cement Company Quarry, now known as the Martin Marietta Castle Hayne Quarry. Ward et al. (1978) divided the Castle Hayne into three members: the New Hanover Member, the Comfort Member, and the Spring Garden Member (Fig. 2; Berggren et al., 1995; Hardenbol et al., 1998). The New Hanover Member is stratigraphically the lowest unit, containing the phosphate pebble biomicrudite of Baum et al. (1978). The Comfort Member includes the bryozoan biomicrudite and bryozoan biosparrudite of Baum et al. (1978) and is the source of the brachiopods, which occur abundantly in the quarry float (Cooper, 1988). The third member, the Spring Garden Member, is considered to be the New Bern Formation by Baum et al. (1978; see also Kier 1980).

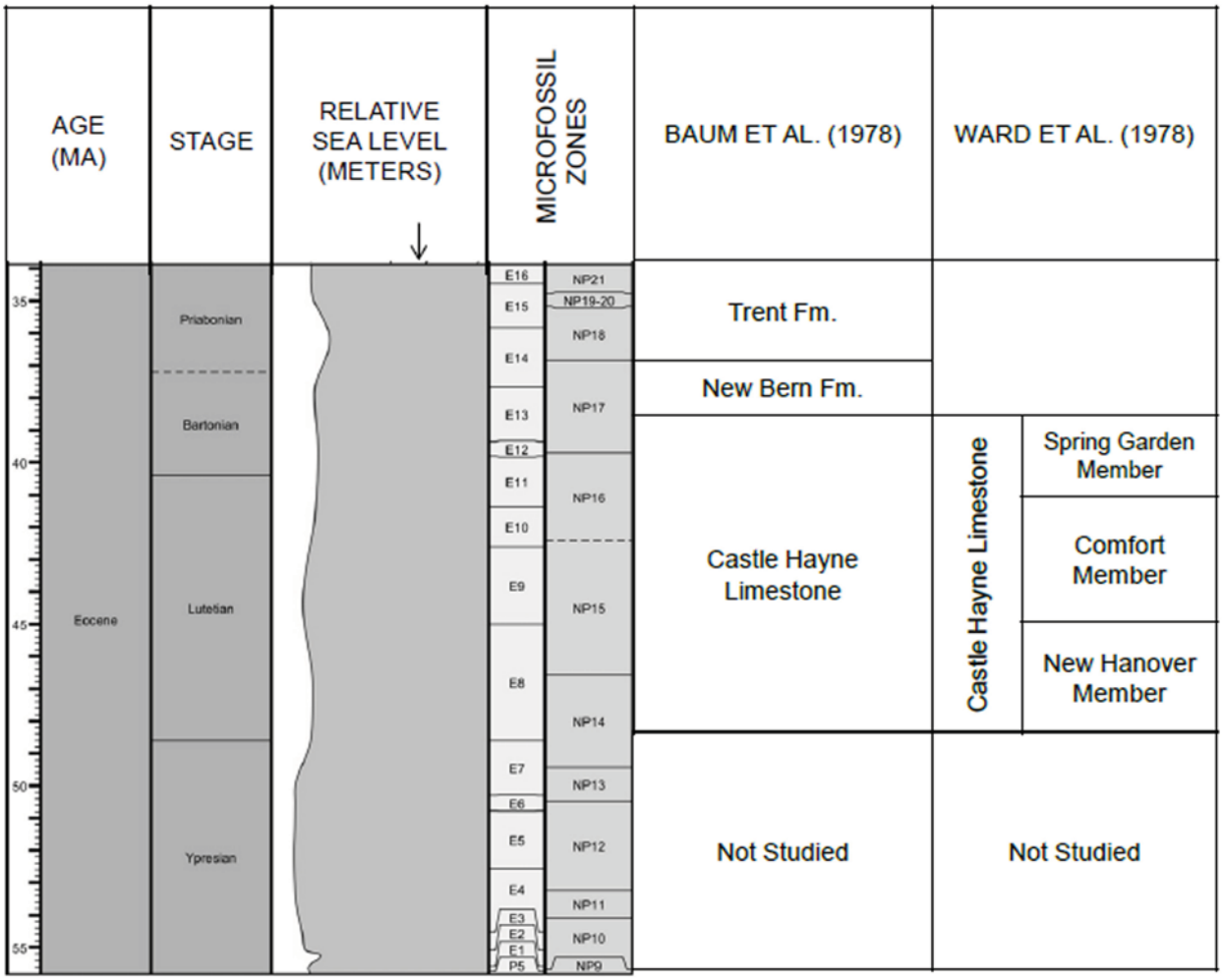

Figure 2. Simplified Eocene regional stratigraphy of the south-eastern North Carolina. Sea level curve is relative to current sea level, marked by the arrow. Microfossil zones are also included.

The Comfort Member is assigned to Middle Eocene by most authors (Ward et al., 1978; Hazel et al., 1984, Harris et al., 1993; Coffey and Read, 2007), but the exact age assignment varies depending on dating methods. There are controversies, especially regarding microfossil zones and Rb/Sr glauconite dates. Using microfossils, Hazel et al. (1984) estimated that the age of the Comfort Member is most likely between 42.1 and 45.4 Ma, even though the Rb/Sr glauconite date is 34.8 ± 1.0 Ma. Considering biostratigraphic age, Gradstein et al. (2004) show the likely age range of the Castle Hayne Limestone is between 48.6 ± 0.2 and 40.4 ± 0.2 million

years old (Lutetian). However, the exact age of the Comfort Member of the Castle Hayne Limestone is of secondary relevance in the case of this study.

Methods

Macroscopically visible brachiopod shells and valves were collected via systematic search of waste heap surfaces in the two quarries. For safety reasons, it was not possible to collect from the quarry walls, but only from the float. Therefore, we were unable to determine the precise stratigraphic position of each collected fossil (although, the Comfort member, can be postulated as the most likely source of the brachiopod material; see above).

Brachiopods were collected from the surface of the float by multiple collectors and placed in labeled bags during three collecting trips: February 13, 2009, May 29, 2009 and July 17, 2009. Each fossil was labeled with a unique specimen number. The brachiopod material is stored and available as a part of the Geobiology Fossil Collections, Department of Geosciences, Virginia Tech.

For each specimen, general sampling information regarding the collection, Quarry (1=Rocky Point and 2=Castle Hayne), date of collection, and the identity of the collector were recorded in an Excel spreadsheet, with each row representing one specimen. In case of specimens with multiple drillholes, two or more rows were used to record the same specimen. In such case, the first entry was coded as “original” (1) and subsequent row(s), with repeated values for most variables, were coded as “duplicate” (0).

Genus and species were determined for each individual based on Cooper (1988) and Timmerman and Chandler (1995). Most of the brachiopod specimens in the sampled material

were identified as *Plicatoria wilmingtonensis* (Lyell and Sowerby, 1845), although a few other brachiopod taxa are also represented.

Length (anterior-posterior maximum distance), width (right-left maximum distance), and height/thickness (ventral-dorsal maximum distance) were recorded with electronic calipers in millimeters (precision +/- 0.01mm). If the specimen was missing material along one of the three axes, that measurement was not attempted and a missing value was recorded.

Each specimen was scored in terms of 5 taphonomic variables (Fig. 3):

1. Shell completeness was scored using five grades (0-4), based on the amount of shell material preserved. The value of "0" was assigned when both valves were preserved completely (Fig. 3A), "1" was assigned when <25% of the shell material was missing (Fig. 3B), "2" was assigned when >25% and <50% was missing (Fig. 3C), "3" was assigned when >50% and <75% of the material was missing (Fig. 3D), and "4" was assigned for specimen missing >75% shell material (Fig. 3E). Thus, the last category includes also specimens with no shell material left (i.e., molds).

2. Mold completeness was recorded as "0" when the mold was complete (a "whole" mold, Fig. 3A-B) and "1" when only part of the mold was preserved (Fig. 3C-E). It is important to note here that specimens with a shell completeness value of 0 (100% of shell material preserved for both valves) have, by definition, a mold completeness value of 0 (a complete shell encases its complete mold, Fig. 3A). It is also possible (although unlikely) for a specimen to have a specimen with a valve completeness value of 4 and a mold completeness value of 0 (i.e., a complete mold with all shell material gone).

3. Articulation is recorded as a “0” for an articulated specimen (both valves present, Fig. 3A-C) and “1” for a non-articulated specimen (only the dorsal or ventral valve present, Fig. 3D-E).

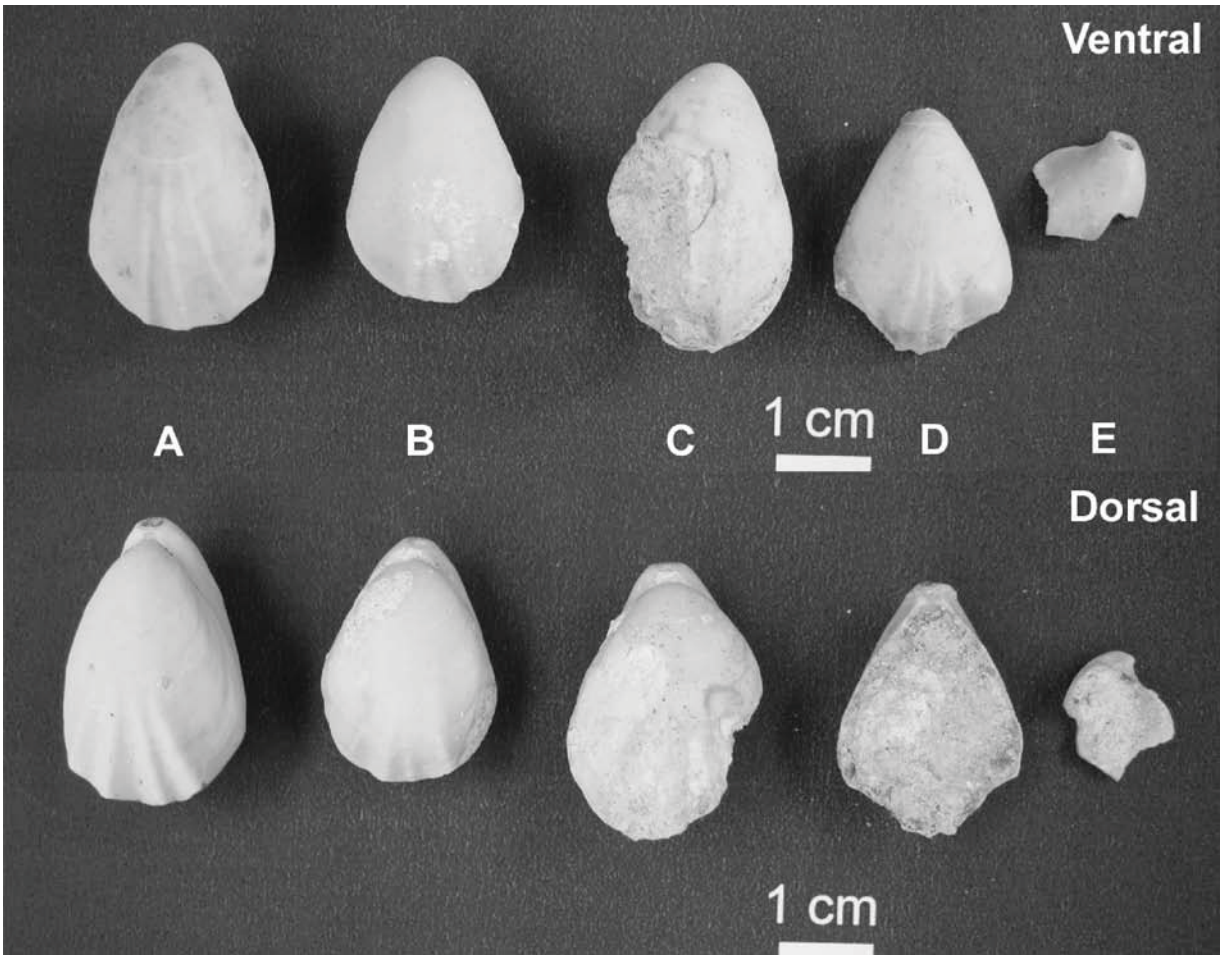

Figure 3. Ventral and dorsal view of *Plicatoria wilmingtonensis* with different taphonomic scores. A) shell completeness=0, mold completeness=0, articulation=0; B) missing a chip of shell off of dorsal valve: shell completeness=1, mold completeness=0, articulation=0; C) shell completeness=2, mold completeness=1, articulation=0; D) shell completeness=3, mold completeness=1, articulation=1; D) shell completeness=4, mold completeness=1, articulation=1.

4. Encrustation by bryozoa, foraminifera, and other epibionts preserved on the outer surface of the specimen was scored using a scale from 0 to 4, based on the visual assessment of the percent area of brachiopod surface covered by encrusters: “0” for no encrustation, “1” for 1-

25% encrusted, “2” for 26-50% encrusted, “3” for 51-75% encrusted, and “4” for 76-100% encrusted.

5. Bioerosion on the outer surface of the specimen, other than drillholes, was also recorded; bioerosion values are “0” for none and “1” for some.

Note that for all taphonomic variables, the least altered preservation state is coded as 0 and the largest integer value represents the most altered fossils. Thus, by adding all scores together a combined measure of taphonomic alteration – the so called “Total Taphonomic Grade” [TTG] (e.g., Kowalewski et al., 1994; Carroll et al., 2003) – can be computed. To ensure equal weight of all variables used to compute TTG, the values for shell completeness and encrustation, which range from 0 to 4, were rescaled (scores 0, 1, 2, 3, and 4 were rescaled to values of 0, 0.25, 0.5, 0.75, and 1, respectively). Values for mold completeness, articulation, and bioerosion were retained. This rescaling protocol ensures that all taphonomic variables varied from 0-1 and had comparable weight when computing the Total Taphonomic Grade.

In addition to taphonomic variables, each specimen was categorized as “0” for articulated shell preserving both valves, “1” for the ventral valve only, and “2” for the dorsal valve only. Note that this variable was not included in the computation of TTG, as it is partly redundant with the “articulation” grade. Also, scores are partly anatomical (1 and 2 denote different shell parts and not different states of preservation) and thus not appropriate for computing TTG.

For drilled specimens, the value of “1” was used to record a singular drillhole and “2” for multiple drillholes, respectively. If no drillhole was observed, a value of “0” was assigned. Drillholes were identified using the following criteria (for more details see Kowalewski, 2002): (1) holes are circular to elliptical in outline; (2) holes are oriented perpendicular to the shell surface; (3) there is usually a single, complete penetration of one valve; and (4) the penetration is

likely to have been done from external side of the shell (the outer opening is wider and more regular). In addition, ecological interpretations of drillholes can be further strengthened statistically by demonstrating that holes are distributed non-randomly across (5) prey's body plan (site selectivity), (6) size classes of the prey (size selectivity), and (7) taxa of prey (prey selectivity).

A few additional variables were recorded for drilled specimens. The valve containing the drillhole was recorded as "1" for ventral, "2" for dorsal and "3" for both (in case of multiple drillings). The numbers of complete and incomplete drillholes per brachiopod were also recorded. Drillhole certainty was also considered for any possible drillhole found, which was especially useful in the early stages of this study: "0" for a hole of non-predatory/parasitic origin, "1" for a hole possibly of predatory/parasitic origin, and "2" for a definite drillhole of predatory/parasitic origin. Qualitative annotation regarding drillhole features and location were included in a separate column. Maximum and minimum outer drillhole (both complete and incomplete) diameters were measured in millimeters by taking pictures with an Olympus DP11-N camera attached to a reflected light microscope and later measured using the computer program SCION. Completeness of the measured drillhole (complete or incomplete), certainty of the measured drillhole (using the above drillhole certainty categories), and other notes on the individual drillholes were recorded.

A reflected light microscope was used to scan each brachiopod for bioerosion, encrustation, and minute drillholes. An FEI company quanta 600 field-emission environmental scanning electron microscope was used in low-vacuum mode to take detailed photomicrographs of some of the drillholes. SAS (Statistical Analysis System version 9) was used for statistical methods, and a significance level of 5% (α=0.05) was assumed for all statistical tests. All SAS

codes used for analysis were written by the authors and provided in Appendix B (data recorded from the brachiopods are provided in Appendices C-F).

RESULTS

A total of 494 brachiopod specimens were collected from both quarries, with 68.8% of brachiopods coming from the Rocky Point Quarry (Table 1). In both quarries, the specimens were dominated by the same species: *Plicatoria wilmingtonensis* (Lyell and Sowerby, 1845) (see Fig. 3, above). This species represented 84.2% of all collected specimens. Other brachiopods include *Terebratulina capillata* (Cooper, 1988) (Fig. 4), *Plicatoria ventricosa* (Cooper, 1988) (Fig. 5), and unidentifiable brachiopods (see Table 1). *Terebratulina capillata* and *Plicatoria ventricosa* are rare in the samples, represented by only a few specimens each: five out of 494 brachiopods are *T. capillata* (1.0%) and only two are *P. ventricosa* (0.4%). On the other hand, unidentifiable brachiopods represent a substantial fraction of specimens: 71 out of 494 brachiopods (14.4%). A high proportion of unidentifiable brachiopods reflects the fact that many specimens are missing a substantial amount of shell and/or mold material making a confident identification impossible.

Table 1. Summary of data. Mean length, width, and height/thickness of species found in both quarries and counts and percentage of specimens for all data and for each quarry separately.

Species	Mean Length (mm) (number measured)	Mean Width (mm) (number measured)	Mean Height/ Thickness (mm) (number measured)	Number Specimens (% of total brachiopods)	Number in Rocky Point Quarry (% of taxa)	Number in Castle Hayne Quarry (% of taxa)
Plicatoria wilmingtonensis	25.5 (n=299)	18.3 (n=331)	13.9 (n=318)	416 (84.2%)	276 (66.4%)	140 (33.7%)
Terebratulina capillata	11.0 (n=4)	8.8 (n=4)	5.5 (n=3)	5 (1.0%)	1 (20%)	4 (80%)
Plicatoria ventricosa	N/A (n=0)	16.1 (n=2)	15.5 (n=2)	2 (0.4%)	2 (100%)	0 (0%)
Unidentified Brachiopod	20.4 (n=43)	15.1 (n=49)	10.2 (n=59)	71 (14.4%)	61 (85.9%)	10 (14.1%)
All Brachiopods				494	340 (68.8%)	154 (31.2%)

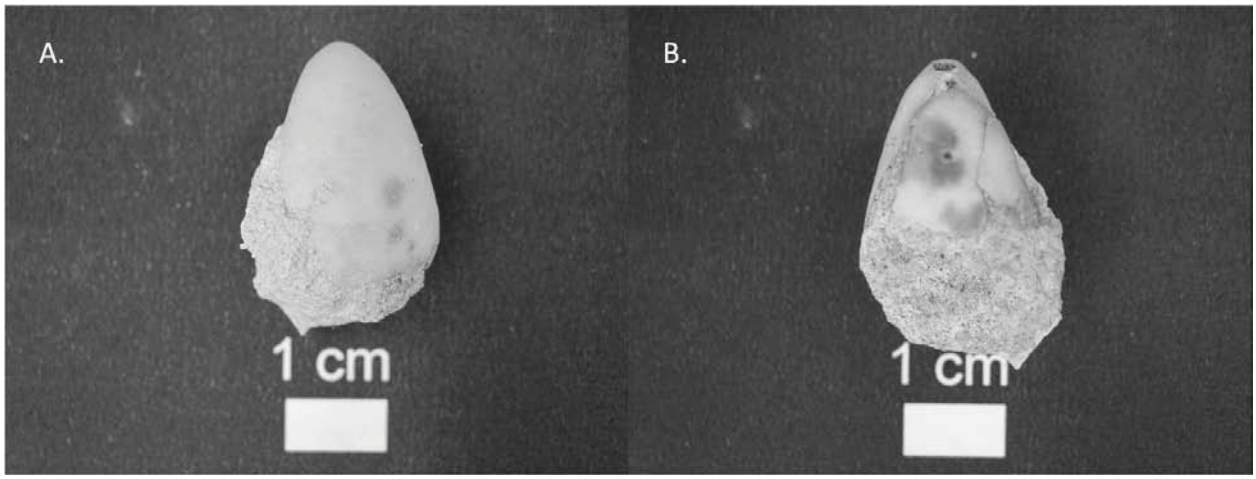

Figure 4. Ventral (A.) and dorsal (B.) view of *Plicatoria ventricosa*.

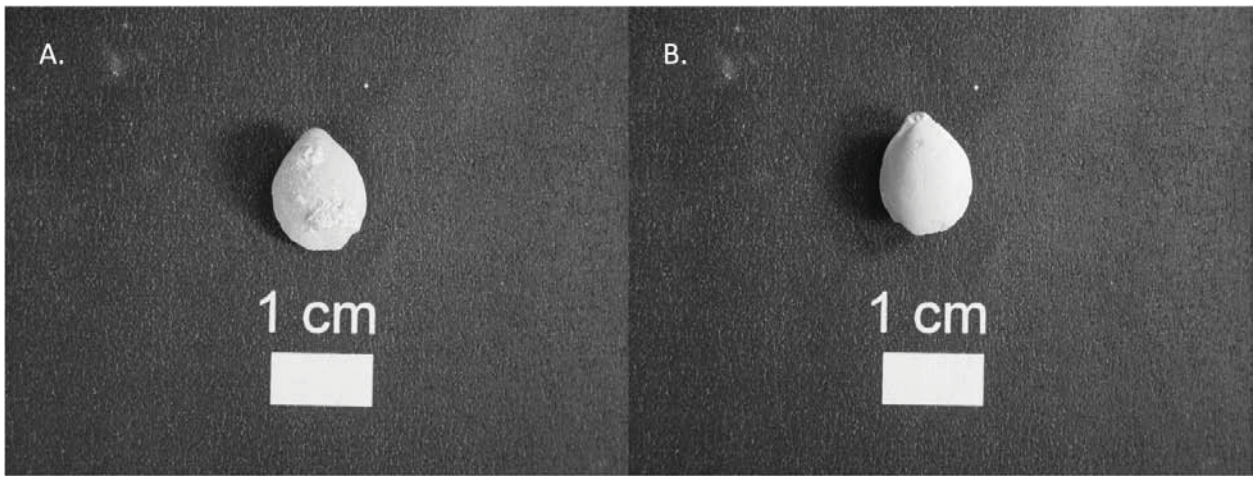

Figure 5. Ventral (A.) and dorsal (B.) view of *Terebratulina capillata*.

More specimens were collected from the Rocky Point Quarry (Table 1) than from the Castle Hayne Quarry; this may be due to the fact that the combined duration of all collecting surveys carried out in this project may have varied slightly between the two quarries. Also, more specimens of *Plicatoria wilmingtonensis* came from the Rocky Point Quarry (66.4%; see Table 1). Most of the unidentified brachiopods came from the Rocky Point Quarry as well (85.9%). *Terebratulina capillata* was found in both quarries (4 at Castle Hayne and 1 at Rocky Point), and

Plicatoria ventricosa was only collected from the Rocky Point Quarry. The two quarries differ significantly in proportion of unidentified specimens (G=9.94, *p*=0.002).

Specimens of *Plicatoria wilmingtonensis* average 25.5mm in shell length and vary in size from 9.0 to 43.8 mm (Table 2). The shell dimensions are tightly correlated and follow a single allometric trajectory (Fig. 6), as would be expected for a single species. The mean length of *P. wilmingtonensis* is slightly higher for the Rocky Point Quarry specimens (26.1 mm) than for the Castle Hayne Quarry specimens (24.4 mm). However, the observed differences in central tendency and overall shape of the size-frequency distributions are not significant statistically (Wilcoxon two-sample test, Z=1.54, *p*=0.12; Kolmogorov-Smirnov test, D=0.12, *p*=0.28; see Table 2). Unidentifiable brachiopods are, on average, slightly smaller than *Plicatoria wilmingtonensis* (mean length=20.4 mm), but the two quarries do not differ significantly from one another in terms of shell length of unidentifiable specimens (Z=0.06, *p*=0.95; Table 2). *Terebratulina capillata* is the smallest brachiopod in this study, with a mean length of 11.0 mm, whereas lengths for *Plicatoria ventricosa* could not be estimated due to low completeness of specimens.

Table 2. Length of *Plicatoria wilmingtonensis* by quarry, including two-sample Wilcoxon test with normal approximation and two-sample Kolmogorov-Smirnov test.

Species	Quarry	Number brachiopods (with measurable length)	Mean Length (mm)	Length Range (mm)	Wilcoxon	Kolmogorov-Smirnov
Plicatoria wilmingtonensis	Rocky Point	206	26.1	12.7-43.8	Z=-1.54; *p*=0.12	D=0.12; *p*=0.28
	Castle Hayne	93	24.4	9.0-37.1		
Unidentified Brachiopod	Rocky Point	38	20.3	10.4-31.2	Z=0.06; *p*=0.95	D=0.37; *p*=0.57
	Castle Hayne	5	20.6	11.22-28.81		

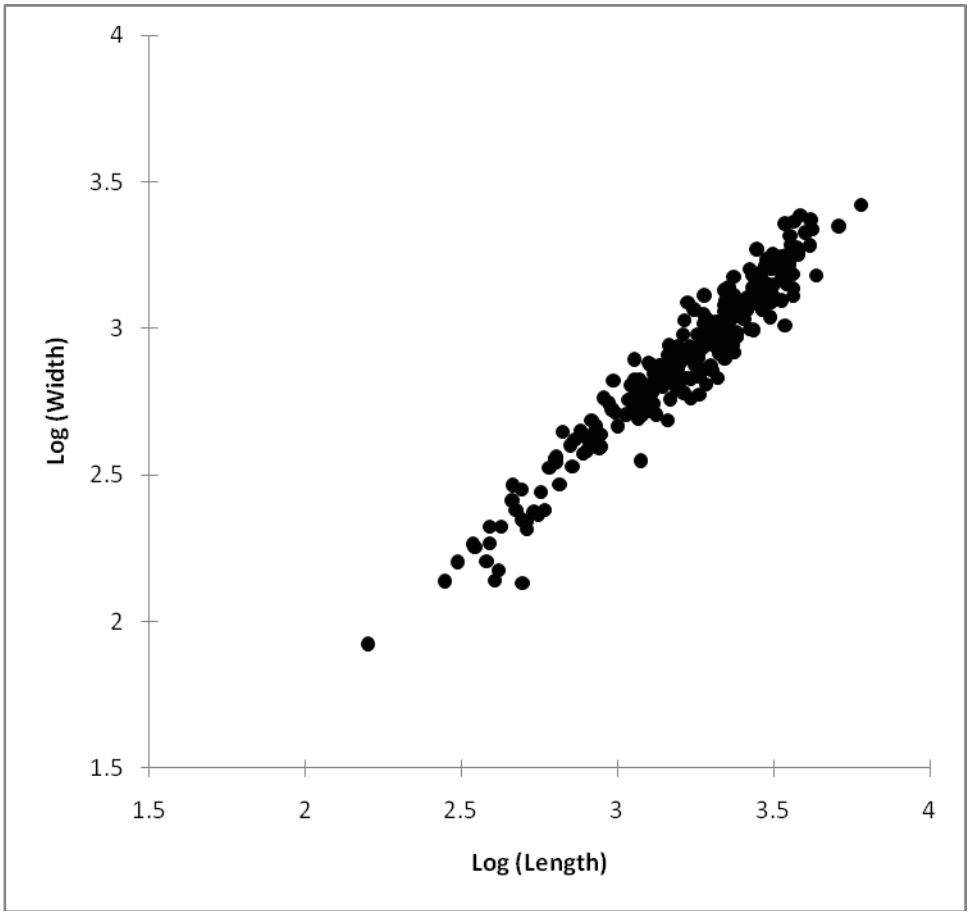

Figure 6. A scatter plot of log-transformed shell dimensions (length vs. width) of *Plicatoria wilmingtonensis*.

Because of the overwhelming dominance of *P. wilmingtonensis*, most of the analyses presented below were carried out for three different data groupings: (1) all brachiopods, (2) *P. wilmingtonensis*, and (3) all other specimens, excluding *P. wilmingtonensis*.

Taphonomy

Specimen values for Total Taphonomic Grade [TTG] ranged from 0.25 to 4.5 (i.e., none of the specimens were perfectly preserved [TTG=0] or completely altered [TTG=5]). Bioerosion and encrustation were noticed on almost all specimens, while shell completeness and mold

completeness varied greatly from specimen to specimen. Most specimens were articulated even if not complete.

Compared to the Castle Hayne Quarry, the Rocky Point Quarry has a slightly wider range of TTG scores for both *Plicatoria wilmingtonensis* and all brachiopods (Fig. 7), but this may be due to the larger sample size when compared to the other quarry. However, even though the Rocky Point Quarry specimens display a wider range of values, their mean TTG is lower than in the Castle Hayne Quarry for both *P. wilmingtonensis* and all brachiopods (Table 3). The difference in the TTG scores at each quarry for *Plicatoria wilmingtonensis* and for all brachiopods is statistically significant using a Wilcoxon two-sample test ($p < 0.01$ in both cases). The shape of frequency distributions of the TTG for *P. wilmingtonensis* differs significantly between the two quarries (Kolmogorov-Smirnov, D=0.16, p=0.01; Fig. 7) as well.

Table 3. Mean Total Taphonomic Grade for all brachiopods and *Plicatoria wilmingtonensis* in the Rocky Point and Castle Hayne Quarries.

Data Group	Quarry	Number Brachiopods	Mean Total Taphonomic Grade	Range of Total Taphonomic Grade	Wilcoxon	Kolmogorov-Smirnov
All Brachiopods	Rocky Point	340	2.3	0.25-4.5	Z=2.92; p=0.0036	D=0.125; p=0.07
	Castle Hayne	154	2.6	1.25-4.25		
Plicatoria wilmingtonensis	Rocky Point	276	2.3	0.25-4.5	Z=3.25; p=.0012	D=0.16; p=0.01
	Castle Hayne	140	2.6	1.25-4.25		

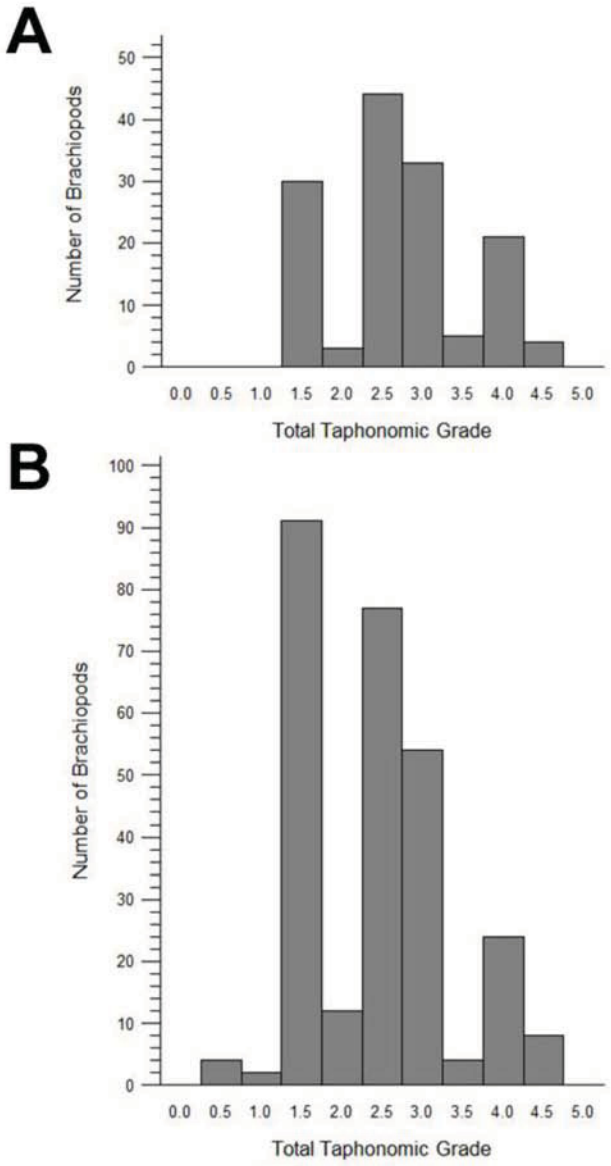

Figure 7. Frequency distributions of Total Taphonomic Grades for *Plicatoria wilmingtonensis* for the (A) Castle Hayne Quarry and the (B) Rocky Point Quarry.

About half of *Plicatoria wilmingtonensis* has a shell completeness variable of "1", meaning that these specimens are missing 1-25% of their shell material (Fig. 8A). Most of the molds were incomplete as well (Fig. 8B). Almost all of the specimens had some encrusters on them (1-25% encrustation; Fig. 8C), and some form of bioerosion (Fig. 8D). Although not

directly related to the theme of this manuscript, it is noteworthy that brachiopod attachment scars *Podichnus* Bromley and Surlyk (1973) were not found on any of the brachiopods (other bioerosion traces, including foraminiferan attachment scars were observed). The absence of *Podichnus* undermines the previously proposed hypothesis that *Plicatoria wilmingtonensis* lived in gregarious clusters (Cooper 1988). This suggested mode of life was used to explain varying levels of plications observed in *Plicatoria wilmingtonensis* (a consequence of stunted growth from living "clumped together"; Cooper, 1988).

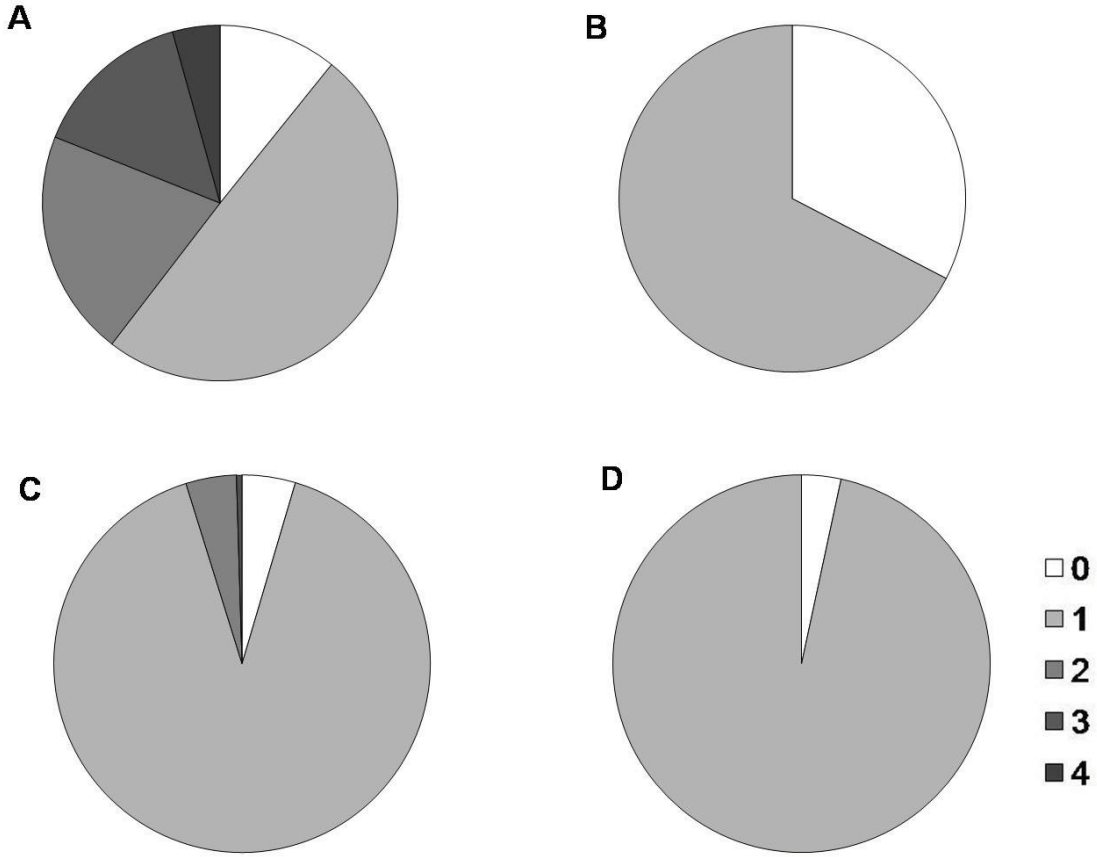

Figure 8. Pie-charts of taphonomic scores for shell completeness (A), mold completeness (B), encrustation (C), and bioerosion (D) in *Plicatoria wilmingtonensis*.

10.6% of identified specimens have a shell completeness value of 0, while only 1.4% of unidentified specimens have a complete shell (Table 4). Also, more of the unidentified brachiopods have a shell completeness value of 2 (26-50% shell missing) (see Table 4). Identified specimens also tend to have more complete molds than unidentified specimens. Interestingly, bioerosion is found more often on identified specimens, and there were no brachiopods found that were completely encrusted (although 0.5% of identified specimens have more than half of their shell encrusted).

Table 4. Individual taphonomic variables for identified and unidentified specimens.

Taphonomic Variable	Taphonomic Value	Unidentified		Identified	
		Number	Percent of Variable	Number	Percent of Variable
Shell Completeness	0	1	1.4%	45	10.6%
	1	37	52.1%	210	49.5%
	2	21	29.6%	87	20.5%
	3	9	12.7%	64	15.1%
	4	3	4.2%	18	4.2%
Mold Completeness	0	10	14.1%	138	32.5%
	1	61	85.9%	286	67.5%
Encrustation	0	6	8.45%	19	4.5%
	1	63	88.7%	384	90.6%
	2	2	2.8%	18	4.2%
	3	0	0%	2	0.5%
	4	0	0%	0	0%
Bioerosion	0	11	15.5%	16	3.8%
	1	60	84.5%	408	96.2%

Drillholes

Drillholes range from circular (Fig. 9A-B) to elliptical (Fig. 9C-F) in outline. They all appear to have been drilled from the outside of the shell and are oriented perpendicular to the shell surface. In vertical cross-section, drillhole morphology varies from cylindrical to conical (Fig. 9). Circular to subcircular drillholes with cylindrical cross-sections dominate (Fig. 9A-C),

whereas highly elliptical, conical holes (Fig. 9, E-F) are found only rarely. Edge drilling and repaired drillholes were not observed.

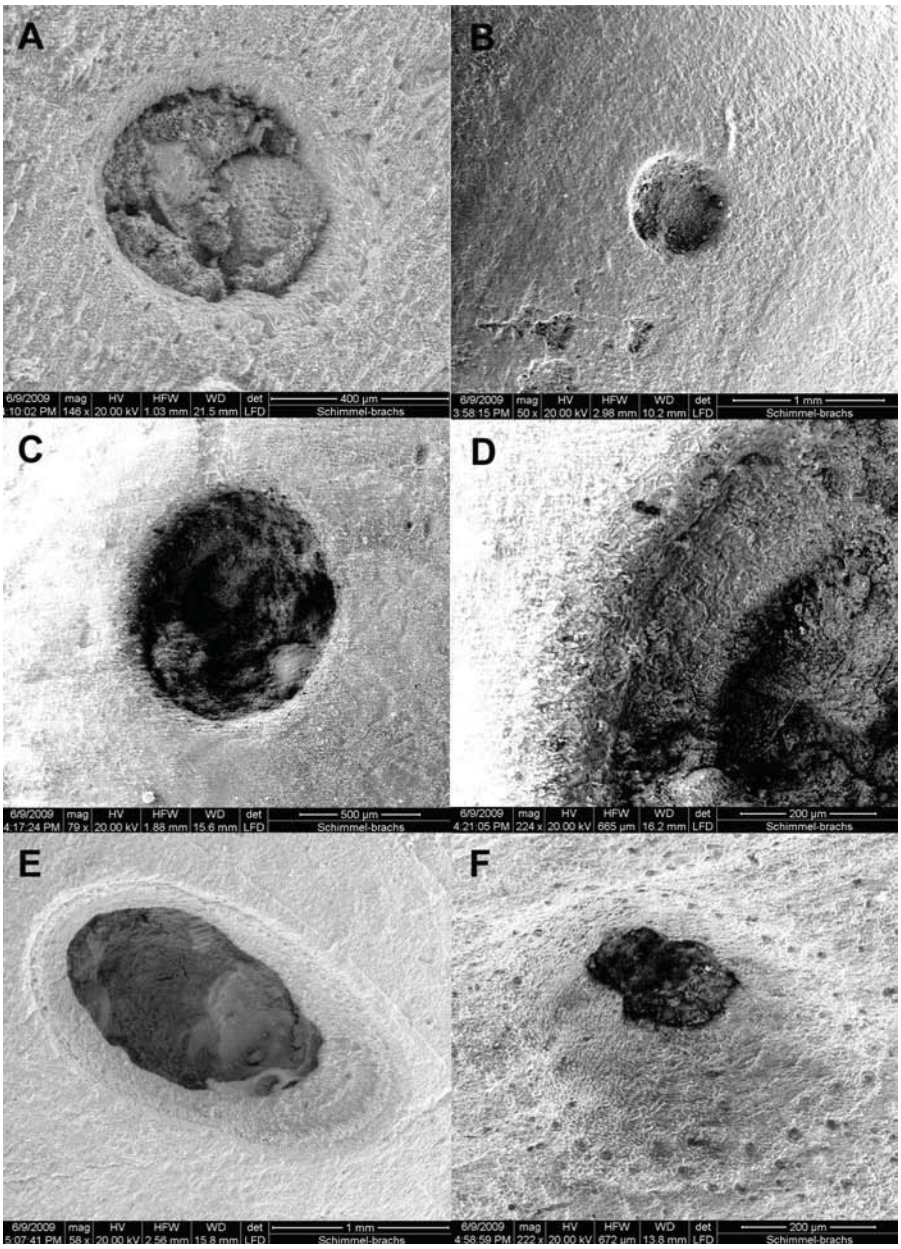

Figure 9. ESEM photomicrographs of drillholes found in *Plicatoria wilmingtonensis*. The brightness effect is an electron charging artifact, and perception is from an angle. A) A complete drillhole that is infilled with sediment; B) incomplete drillhole; C) a slightly countersunk complete drillhole that has been infilled with sediment; D) close-up of the upper left corner of the drillhole in C to show detail of countersunk edge; E) large elliptical drillhole with countersunk edge and irregular inner opening; and F) a much smaller cone-shaped drillhole with an irregular inner opening.

Drilling frequency for all brachiopod specimens analyzed in this study is 24.5% (121 out of 494 brachiopods have at least one drillhole; see Table 5). Frequency of drilling is 24.5% (102 out of 416 specimens are drilled) for *P. wilmingtonensis* and 24.4% (19 out of 78 specimens drilled) for all other brachiopods. This difference in drilling frequency between *P. wilmingtonensis* and all other brachiopods is not significant (Likelihood Ratio Chi-Square Test: $G = 0.009$, $p = 0.98$).

Table 5. Drilling frequencies for the Rocky Point Quarry and the Castle Hayne Quarry for all brachiopods, *Plicatoria wilmingtonensis*, and all other brachiopods. Drilling frequencies per valve are also reported. Likelihood ratio Chi-Square test statistics are reported with corresponding *p*-values to test for differences in frequencies between the two quarries or the two valves.

Data Grouping	Quarry/Valve	Undrilled	Drilled	Total Brachiopods	Drilling Frequency	
All Brachiopods	Total	373	121	494	24.5%	
	Rocky Point	248	92	340	27.1%	G=4.01; *p*=0.045
	Castle Hayne	125	29	154	18.8%	
	Ventral	356	74	430	17.2%	G=2.42; *p*=0.12
	Dorsal	339	52	392	13.3%	
Plicatoria wilmingtonensis	Total	314	102	416	24.5%	
	Rocky Point	200	76	276	27.5%	G=4.17; *p*=0.041
	Castle Hayne	114	26	140	18.6%	
	Ventral	299	65	364	17.9%	G=3.46; *p*=0.06
	Dorsal	287	42	329	12.8%	
All Other Brachiopods	Total	59	19	78	24.4%	
	Rocky Point	48	16	64	25.0%	G=0.08; *p*=0.778
	Castle Hayne	11	3	14	21.4%	

Drilled specimens are significantly more frequent ($G = 4.01$, $p = 0.045$) in the Rocky Point Quarry (92 out of 340 brachiopods drilled; 27.1%) than in the Castle Hayne Quarry (29 out of 154 specimens drilled; 18.8%) (see Table 5 for additional details). Similarly, significant difference ($G = 4.17$, $p = 0.041$) is observed when data are restricted for *P. wilmingtonensis*

(27.5% for Rocky Point vs. 18.6% for Castle Hayne). The drilling frequency for all other brachiopods is also higher for the Rocky Point Quarry (25%) and lower for the Castle Hayne Quarry (21.4%), but this difference is not significant ($G = 0.08$, $p = 0.78$). Note that the two significant p values are both only slightly smaller than the assumed significance level $\alpha = 0.05$, and cease to be significant when Bonferroni correction is applied ($\alpha = 0.05/3$), although that correction is likely to be overly conservative given that the three performed tests are highly dependent.

Drilled specimens were significantly larger than undrilled specimens. This significant difference was observed for pooled data, for *P. wilmingtonensis*, and for *P. wilmingtonensis* within the Rocky Point Quarry (Table 6; $p<0.01$ in all three cases). The non-random distribution of drilled specimens across brachiopod size classes is also obvious visually (Fig. 10).

Table 6. Mean length of all brachiopods, *Plicatoria wilmingtonensis*, and all other taxa compared between drilled and undrilled specimens. Mean lengths of drilled and undrilled *Plicatoria wilmingtonensis* for the Rocky Point and Castle Hayne Quarries were compared. Tests conducted using a two-sample Wilcoxon test with normal approximation (PROC NPAR1WAY *wilcoxon*; SAS/STAT).

Data Group	Number Undrilled	Number Drilled	Mean Length (mm) (Undrilled)	Mean Length (mm) (Drilled)	Z	*p*-value
All Brachiopods	255	91	24.2	26.3	2.68	0.008
Plicatoria wilmingtonensis	221	78	24.9	27.3	3.08	0.002
All Other Taxa	34	13	19.3	20.2	0.39	0.70
Rocky Point Quarry (*P. wilmingtonensis*)	149	57	25.4	27.7	2.63	0.009
Castle Hayne Quarry (*P. wilmingtonensis*)	72	21	23.8	26.3	1.46	0.15

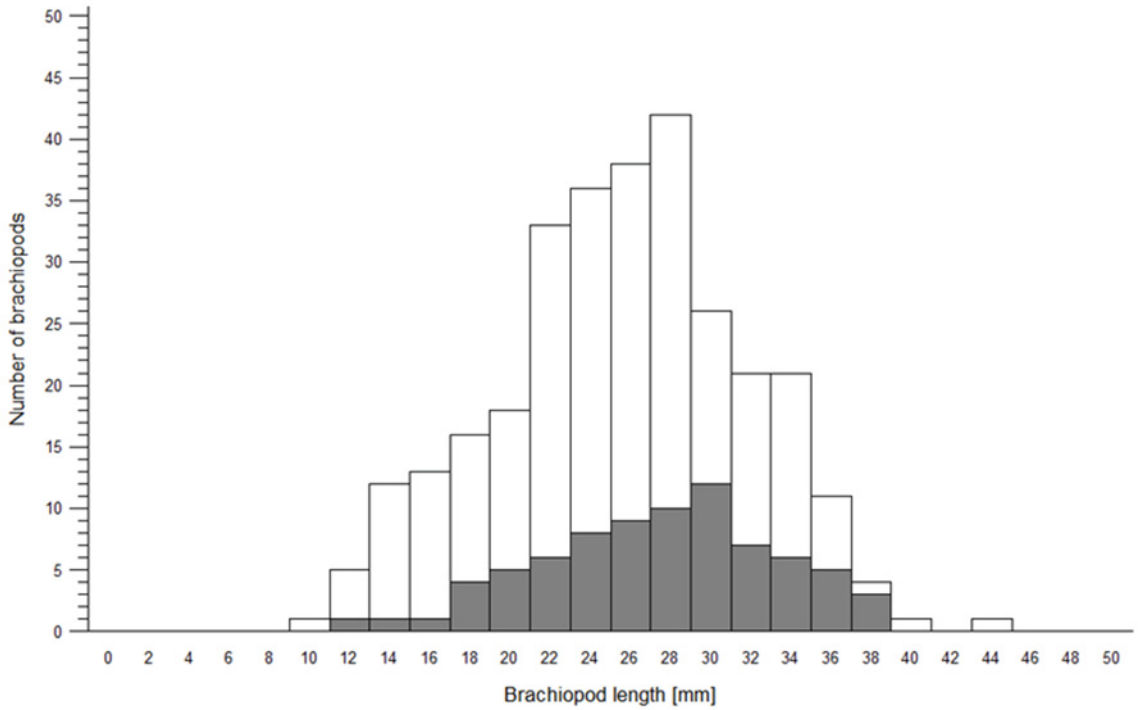

Figure 10. Size-frequency distributions of drilled (grey) and undrilled (white) specimens of *Plicatoria wilmingtonensis* (size estimated by brachiopod length and binned into two-millimeter size classes).

For all brachiopods, the ventral valves were slightly more frequently drilled (17.2%) then the dorsal valves (13.3%; Table 5). A similar pattern was observed for *Plicatoria wilmingtonensis* (ventral valve: 17.9%; dorsal valve: 12.8%). Neither of these differences is statistically significant, though for *P. wilmingtonensis,* the *p* value approaches significant levels.

The mean Total Taphonomic Grade of undrilled *Plicatoria wilmingtonensis* is higher than that observed for drilled specimens (see Table 7). The difference in the mean scores for the TTG for drilled and undrilled *Plicatoria wilmingtonensis* is marginally significant using a Wilcoxon two-sample test (Table 7). The shapes of the distributions of the Total Taphonomic Grade for drilled and undrilled *P. wilmingtonensis* do not differ significantly (Table 7 and Fig. 11).

Table 7. Mean Total Taphonomic Grade for drilled and undrilled *Plicatoria wilmingtonensis* and all brachiopods. Wilcoxon and Kolmogorov-Smirnov test statistics and associated *p* values are reported for each group.

Data Group	Drilled?	Number Brachiopods	Mean Total Taphonomic Grade	Range of Total Taphonomic Grade	Wilcoxon	Kolmogorov-Smirnov
All Brachiopods	Undrilled	373	2.5	0.25-4.5	Z=-1.95; *p*=0.05	D=0.10; *p*=0.30
	Drilled	121	2.3	0.75-4.25		
Plicatoria wilmingtonensis	Undrilled	314	2.5	0.25-4.5	Z=-1.80; *p*=0.07	D=0.11; *p*=0.28
	Drilled	102	2.3	1.25-4.25		

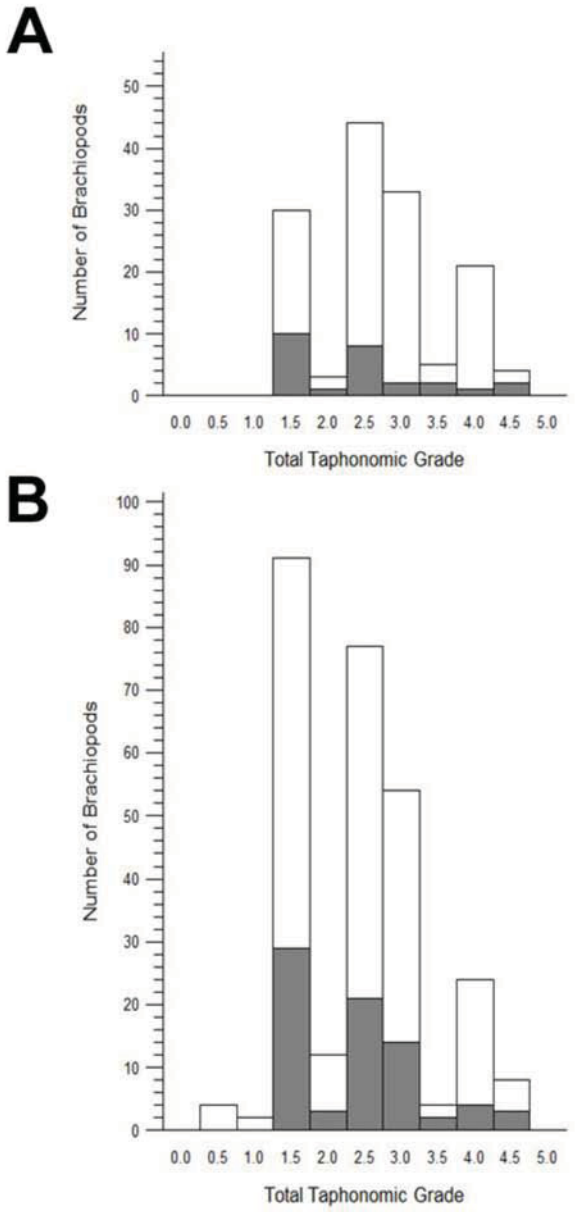

Figure 11. Frequency distributions of Total Taphonomic Grades for drilled (gray) and undrilled (white) specimens of *Plicatoria wilmingtonensis* from the (A) Castle Hayne Quarry and the (B) Rocky Point Quarry.

Drilling frequency estimates drop steadily with decrease in specimen completeness. Thus, complete specimens (completeness score of 0) yield drilling frequency of 26.7% (Table 8). In contrast, for least complete specimens (completeness scores of 3 or 4) drilling frequency

estimates lower to 20.5% (Table 8). This drop in drilling frequency is also observed cumulatively, as increasingly incomplete specimens are added to the data (Table 8).

Table 8. Combined and individual shell completeness values with drilling frequency for *Plicatoria wilmingtonensis*. Completeness categories 3 and 4 were pooled to avoid small sample sizes (only 17 specimens belonged to category 4, making drilling percentage estimates volatile).

Shell Completeness	Drilled	Undrilled	Total	Percent
0	12	33	45	26.7%
1	55	152	207	26.6%
2	19	67	86	22.1%
3 or 4	16	62	78	20.5%
0-1	67	185	252	26.6%
0-2	86	252	338	25.4%
0-4 (all)	102	314	416	24.5%

The mean maximum outer drillhole diameter for complete drillholes in *Plicatoria wilmingtonensis* is 0.68 mm, but drillholes vary widely in diameter: from 0.21 to 2.19 mm (Table 9, Fig. 12). For incomplete drillholes, the mean maximum diameter is 0.63 mm and the range of measured maximum diameters is 0.31 to 1.04 mm. For complete drillholes, drillhole diameter does not correlate significantly with brachiopod shell length (Spearman rank correlation r=0.11; see Table 9, Fig. 13). However, a significant, albeit relatively low, positive correlation is observed for incomplete drillholes (Table 9). For all drillholes in *P. wilmingtonensis* (incomplete and complete), the mean maximum drillhole diameter is 0.68 mm, however no statistically significant correlation with length is observed (Table 9).

Table 9. Maximum and minimum drillhole diameters for complete and incomplete drillholes for *Plicatoria wilmingtonensis*; Spearman rank correlation coefficients and corresponding *p*-values computed for bivariate correlation between a given drillhole diameter variable and the brachiopod shell length.

Complete/Incomplete	Variable	Number Measured	Mean Size (mm)	Range of Sizes (mm)	Spearman Coefficient; *p*-value
Both/Grouped	Drillhole Maximum Diameter	142	0.68	0.21-2.19	0.15; 0.11
	Drillhole Minimum Diameter	142	0.60	0.15-1.65	0.16; 0.09
	Shell Length	109	28.03	12.04-37.97	
Complete	Drillhole Maximum Diameter	95	0.68	0.21-2.19	0.11; 0.37
	Drillhole Minimum Diameter	95	0.62	0.15-1.65	0.10; 0.40
	Shell Length	68	27.21	12.04-37.97	
Incomplete	Drillhole Maximum Diameter	47	0.63	0.31-1.04	0.34; 0.03
	Drillhole Minimum Diameter	47	0.57	0.28-1.01	0.39; 0.01
	Shell Length	41	29.40	21.64-35.45	

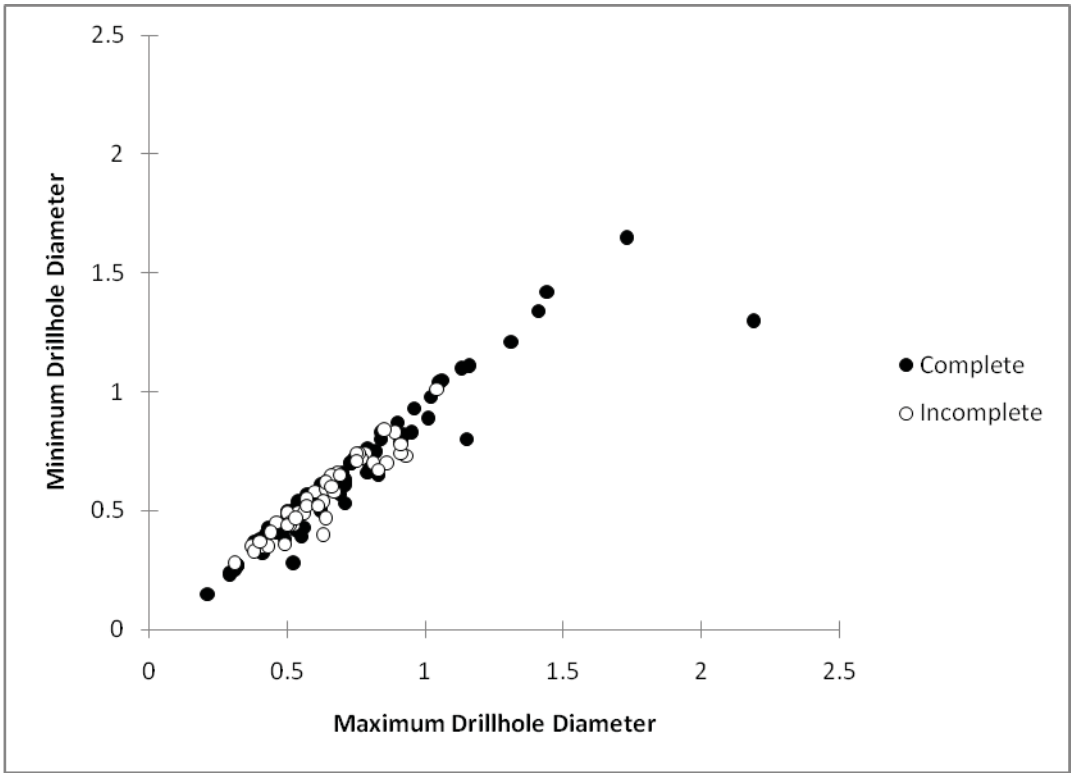

Figure 12. A scatter plot of the maximum outer drillhole diameter plotted against the minimum outer drillhole diameter for *Plicatoria wilmingtonensis*.

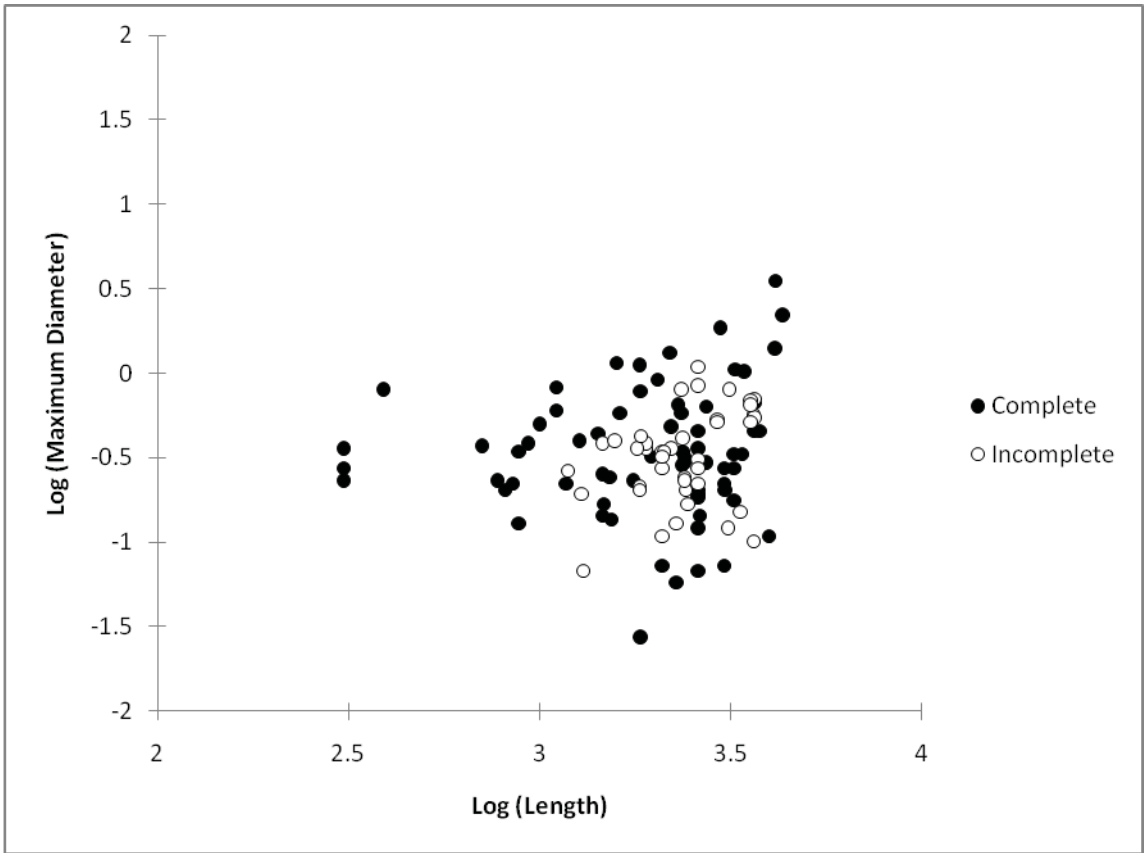

Figure 13. A scatter plot of log-transformed shell length plotted against log-transformed maximum outer drillhole diameter for *Plicatoria wilmingtonensis*.

Both complete and incomplete drillholes were found in brachiopod shells. A few (12) brachiopods have both incomplete and complete drillholes co-occurring on the same specimen. Multiple drillholes occur on a notable proportion of specimens. In the case of *Plicatoria wilmingtonensis*, specimens with single drillholes represent 73.5% of all drilled specimens (Table 10), whereas those with multiple drillholes represent 26.5% of drilled specimens. Twenty-one specimens of *Plicatoria wilmingtonensis* have single incomplete drillholes only and four have multiple incomplete drillholes (Table 10). Fifty-two *P. wilmingtonensis* have only a single complete drillhole, while 10 specimens contain multiple complete drillholes. There are only six

specimens with a single complete and a single incomplete drillhole, and no specimens bear both multiple incomplete and complete drillholes.

Table 10. Number of specimens that are undrilled, have single drillholes, and multiple drillholes for all data groups. Occurrences of complete and incomplete drillholes per specimen are included for *Plicatoria wilmingtonensis*. Note that, for *P. wilmingtonensis*, the numbers do not add up: this is because these numbers do not account for those specimens with multiple complete and single incomplete drillholes occurring on the same specimen, and vice versa.

Data Group	Specimen Group by Drilling	Complete/Incomplete	Number of Specimens	Percent of Specimens	Percent of Drilled Specimens
All Brachiopods	Undrilled	All	373	75.5%	
	Single Drillhole	All	92	18.6%	76.0%
	Multiple Drillholes	All	29	5.9%	24.0%
Plicatoria wilmingtonensis	Undrilled	All	314	75.5%	
	Single Drillhole	All	75	18.0%	73.5%
	Single Drillhole	Complete	52	12.5%	
	Single Drillhole	Incomplete	21	5.0%	
	Multiple Drillholes	All	27	6.5%	26.5%
	Multiple Drillholes	Complete	10	2.4%	
	Multiple Drillholes	Incomplete	4	1.0%	
	Multiple Drillholes	One Complete and One Incomplete	6	1.4%	
	Multiple Drillholes	Multiple Complete and Multiple Incomplete	0	0%	
All Other Taxa	Undrilled		59	75.6%	
	Single Drillhole		17	21.8%	89.5%
	Multiple Drillholes		2	2.6%	10.5%

DISCUSSION

Biological, ecological, and taxonomic interpretation of drillholes in Castle Hayne brachiopods. – Many attributes of drillholes reported here are consistent with live-live interactions (as opposed to post-mortem bioerosion [see Kowalewski, 2002; Kelley and Hansen, 2003; Baumilller et al., 2006]): the drillholes are regular in outline (typically circular to sub-circular), drilled perpendicular to the shell surface, and penetrate only one valve, with the outer, wider openings located on the outer valve surface. In addition, a possible preference for ventral valves, relatively strong size selectivity, and the restriction of failed (incomplete) drillholes to the larger brachiopod size classes, are all suggestive of live-live interactions between brachiopods and some unknown drillers. Species selectivity is difficult to evaluate given that the specimens are overwhelmingly dominated by *P. wilmingtonensis* and unidentified specimens.

The ecological interpretation of drillholes is less unambiguous. Many groups of organisms make drillholes representing live-live interactions, including predators, parasites, and commensal organisms, but none of the above criteria can differentiate drillers with different ecological motivations. It is noteworthy, however, that many specimens bear a single, complete drillhole on one valve, which is consistent with predatory attacks. Also, attachment scars, occasionally observed in the case of parasitic drillings, have not been observed on any of the specimens. On the other hand, many specimens contain multiple drillholes, an attribute often associated with parasitic drillings. For example, Harper and Wharton (2000) found that 12% of the brachiopods from the Warminster Greensand contained multiple drillholes (note that 6.5% of *Plicatoria wilmingtonensis* analyzed here have multiple drillholes) and attributed the occurrence of multiple drillholes to parasites. It is also possible that both parasitic and predatory drillholes are represented in our study. Such mixed motive drillings were proposed previously in several

studies on brachiopods (e.g., Ausich and Gurrola, 1979; Kaplan and Baumiller, 2000) and echinoids (e.g., Gibson and Watson, 1989).

Mixed motive drilling is likely to involve multiple groups of drilling organisms, which, in turn, may result in diverse drillhole morphologies and size. For example, Ausich and Gurrola (1979) noted two distinct types of drillhole morphologies: type A (typically smaller, 0.1-1.6 mm in diameter, cylindrical, and flat-bottomed if complete) attributed to an infaunal parasitic polychaete and type B (typically larger, 1.6-3.2 mm in diameter, parabolic, and either flat-bottomed or with a boss if incomplete) most likely drilled by predatory gastropods. Similarly diverse drillhole morphologies and a wide range of drillhole diameters observed in the Castle Hayne brachiopods may thus represent a similar case of multiple drilling organisms with different ecological motivations (for a comparison of drillhole diameters found by others see Table 11) .

Table 11. Reported drillhole diameters in bivalves and brachiopods.

Source	Mean Drillhole Diameter (mm)	Outer Drillhole Diameter Range (mm)
Harper (2005)	1.7	1.3-2.2
Delance and Emig (2004)	Ventral=1.64; Dorsal=1.51	Ventral=1.08-2.22; Dorsal=1.01-1.90
Harper et al. (1998)		1.0-2.6
Hoffmeister et al. (2003)	0.1	0.03-0.19
Taddei Ruggiero and Annunziata (2002)		3-5
Ausich and Gurrola (1979)		0.2-2.3
Baumiller and Bitner (2004)	Conical=0.52; Cylindrical=0.33	
Simoes et al. (2007)	1.54	Complete=0.4-2.2; Incomplete=0.2-1.0
Leighton (2003)		0.5-1.3
Smith et al. (1985)	1.18	0.20-3.08
Kowalewski et al. (1998)		1.6-3.3
Harper and Wharton (2000)		0.68-2.40

Even more challenging is the interpretation of the actual identity of the drilling organisms responsible for drillholes. Many groups of organisms drill holes of similar shape and size, including gastropods, flatworms, cephalopods, and nematodes (see Kowalewski, 2002, for a detailed list). However, it is difficult to discern which of these may have been abundant in the sampled paleo-environments because some of them leave no skeletal remains and others (gastropods) are preserved as molds because aragonite fossils are not preserved in the Castle Hayne Limestone (identifying a gastropod from a mold may readily lead to misidentification). The most commonly postulated drillers are naticid and muricid gastropods, which include many obligatory drilling species and are known throughout the Cenozoic fossil record. Naticid gastropods may have drilled some of the drillholes, especially those that are conical-shaped in cross-section with a countersunk edge (e.g., Fig. 8C-D) (Carriker and Yochelson, 1968; Martinell and de Porta, 1980) and look very different from those drilled today by cephalopods and flatworms (Delance and Emig, 2004). However, cylindrical holes are often attributed to muricid gastropods (but see discussion in Kowalewski 2002). Moreover, the incomplete drillhole shown in Figure 8B has a flat bottom (rather than bossed), which is also more consistent with drillings made by muricids (Carriker and Yochelson, 1968; Bromley, 1981; Harper et al., 1998). In summary, the majority (perhaps all) of drillholes represent live-live biotic interactions between brachiopods and drilling organisms, but the ecological motivation for drillings and the identity of the driller(s) cannot be assigned with a high degree of certainty (drillholes may represent mixed ecological motives and multiple groups of drillers).

Quantitative interpretations. – Quantitative data obtained from non-bulk specimens collected from quarry float are more likely to be biased and non-representative when compared with bulk samples. They also are likely to represent a time-averaged mixture of specimens

derived from multiple beds. For those reasons, interpretations of such data should be treated with caution. However, several attributes of our data suggest that the results may be of some quantitative value. First, the specimens were collected in a systematic and exhaustive manner and no specimens were discarded (however poorly preserved). This should minimize collecting biases. Moreover, the two quarries do not differ in their relative abundance of *Plicatoria wilmingtonensis*. The size-frequency distributions of brachiopods are also comparable. These taxonomic and biometric similarities are reassuring given that the material was collected from the quarry float. Most likely, the studied specimens represent a homogenized sample of brachiopod-yielding beds quarried at the two sites. These beds represent a condensed set of late transgressive to highstand updip units recording similar range of environmental conditions.

Given the systematic and exhaustive collecting strategy and the taxonomic and biometric similarities of the two sampled quarries, the difference in drilling frequencies and taphonomic scores observed between these two quarries merit consideration. Note that both quarries yielded relatively high drilling frequency estimates. However, the Rocky Point Quarry specimens have a slightly higher (marginally significant) drilling frequency levels than the Castle Hayne Quarry. Substantial variation in drilling frequency across locally sampled sites have been observed in other brachiopod-focused studies, based on bulk samples (e.g., Baumiller and Bitner, 2004; Delance and Emig, 2004; see also Table 12), so this outcome is not necessarily unusual and should not automatically be blamed on the non-bulk nature of the data.

Table 12. Drilling frequencies for brachiopods (and some bivalves). Multiple drilling frequencies from Baumiller and Bitner (2004) represent different localities; for Delance and Emig (2004) the drilling frequencies at most localities was <1%, however the 25.5% was the highest reported.

Source	Drilling Frequency	Prey/Host	Age	Study Area
Baumiller et al. (2003)	29.1%	*Basiliola beecheri*, brachiopod	Recent	Global
Baumiller et al. (2006)	34.5%	*Megerlia truncata*, brachiopod	Pliocene	Algeria
Baumiller and Bitner (2004)	39.9%; 2.0%; 3.7%	Brachiopods	Miocene	Poland
Baumiller and Bitner (2004)	47.9%; 4.0%;5.3%	*Megathiris detruncata*, brachiopod	Miocene	Poland
Baumiller and Bitner (2004)	28.6%; 0%; 0%	*Megerlia truncata*, brachiopod	Miocene	Poland
Baumiller and Bitner (2004)	23.5%; 0.8%; 3.1%	*Argyrotheca cuneata*, brachiopod	Miocene	Poland
Delance and Emig (2004)	25.5%; <1%	*Gryphus vitreus*, brachiopod	Recent	France (Mediterranean)
Harper (2005)	7.7%	*Apletosia maxima*, brachiopod	Pliocene	United Kingdom
Simoes et al. (2007)	0.4%	Brachiopods	Recent	Brazil
Simoes et al. (2007)	5.6%	Bivalves	Recent	Brazil
Harper et al. (1998)	20.4%	Bivalves	Jurassic	United Kingdom
Hoffmeister et al. (2003)	32.7%	*Cardiarina cordata*, brachiopod	Pennsylvanian	New Mexico, USA
Ausich and Gurrola (1979)	21%	Brachiopods	Mississippian	Indiana, USA
Leighton (2003)	8.1%	*Pholidostrophia*, brachiopod	Devonian	Ohio, USA
Smith et al. (1985)	Up to 44%	Brachiopods	Devonian	New York, USA
Kowalewski et al. (1998)	0.4%	Brachiopods	Jurassic	Hungary
Kowalewski et al. (1998)	2.8%	*Rhapidothyris ?beyrichi*, brachiopod	Jurassic	Hungary
Kowalewski et al. (1998)	2.3%	*Calcirhynchia plicatissima*, brachiopod	Jurassic	Hungary
Harper and Wharton (2000)	31.4%	Brachiopods	Mesozoic	Europe
Hoffmeister et al. (2004)	7.43%	Bivalves	Permian	Texas, USA
Hoffmeister et al. (2004)	1.07%	Brachiopods	Permian	Texas, USA

Some quantitative results are likely to be meaningful even if data are biased and non-representative. For example, the differences in the mean shell length observed between drilled

brachiopods (all brachiopods and *P. wilmingtonensis*) and undrilled brachiopods are unlikely to represent biased collection efforts (drillholes are not readily noticeable when collecting specimens from the float); moreover, such non random distributions of drillholes across size classes of drilled shells are often documented from bulk samples and usually interpreted as size selectivity (i.e., predators or parasites targeting larger brachiopod prey or host). Note that the observed size selectivity is also ambiguous ecologically because it is possible for both predators and parasites to display size selectivity. Predators may select specific size classes or be limited to small prey (size refuge). Similarly, parasites can be size selective (or affect host's growth and thus induce apparent size-selectivity). For example, parasitic capulid gastropods are suggested to stunt their host's growth since they are stealing from the food-gathering tract of the brachiopod (Taddei Ruggiero and Annunziata, 2002) (note that in such case drilled brachiopods would be smaller than undrilled ones). On the other hand, parasites castrating their host can induce gigantism (e.g., Huntley, 2007) and produce the opposite pattern. Previous studies of drillholes in brachiopods vary in outcomes. For example, when studying Cenozoic brachiopods from the Miocene of Europe, Baumiller and Bitner (2004) reported no size selectivity in drillholes. In contrast, Hoffmeister et al. (2003) found extremely strong size selectivity when analyzing drillholes in Carboniferous brachiopods.

In addition to size-selectivity, a weak site selectivity (preferred drilling of ventral valve) may be present (although the observed differences are only marginally significant). Such weak selectivity may reflect a somewhat larger relative size of the ventral valve, or may relate to life position of the brachiopod. For example, Delance and Emig (2004) noted that the ventral valve of *Gryphus vitreus* was drilled significantly more often than the dorsal valve; since this brachiopod is oriented with its ventral valve perpendicular to current and dorsal valve down, the

life position may explain this "valve preference". Ausich and Gurrola (1979), Leighton (2003) and Hoffmeister et al. (2003) also report the ventral valve being drilled more often. On the other hand, Baumiller and Bitner (2004) reported differing valve preferences for two species of brachiopods: *Megerlia truncata* was drilled more often on the ventral valve, and *Megathiris detruncata* was drilled more often on the dorsal valve. If drillholes in *Plicatoria wilmingtonensis* indeed represent multiple drillers with mixed ecological motives, the weak (if any) valve selectivity could be simply a product of mixing drillholes that record different behaviors.

Incomplete drillholes indicate that not all drillers were successful in penetrating brachiopod shells (see also Harper et al. 1998). Interestingly, the restriction of incomplete drillholes to larger specimens may suggest the presence of "size refuge" in brachiopod prey or host. Similar increases in failure rates with increase in prey/host size have been observed in drilled fossil mollusks (e.g., Martinell et al., 2010, and references therein).

Drilling frequencies reported from both quarries are unusually high when compared with typical frequencies reported for brachiopods (see a compilation in Kowalewski et al. 2005). However, such anomalously high frequencies have been reported by previous authors in some Recent and Cenozoic localities (see Table 12). This study shows that such elevated rates also occurred in the Paleogene in North America.

Taphonomy and drillholes. – Whereas drilled brachiopods differ significantly from undrilled once in terms of the Total Taphonomic Grade, the difference is small and thus unlikely to represent any strong taphonomic bias. On the other hand, the fact that the Castle Hayne Quarry has a higher TTG and lower drilling frequency than the Rocky Point Quarry could represent a taphonomic bias. However, this issue cannot be evaluated rigorously with only two quarries available for analysis (an effective sample size of 2). The completeness of specimens is

one taphonomic parameter that clearly (and not surprisingly) biases the estimates of drilling frequencies (Klompmaker, 2009), although we find it reassuring that even highly incomplete specimens provide a reasonably comparable estimates of drilling frequencies (Table 8) to those derived from complete brachiopod shells.

CONCLUSIONS

1. Abundant brachiopod fauna of the Castle Hayne Limestone is dominated by *Plicatoria wilmingtonensis* in both sampled quarries. Although some subtle variations in taphonomy, taxonomy, and drilling patterns can be observed when comparing the two sampled quarries, the patterns are, in general, remarkably similar between the two sampled localities.
2. All brachiopods contain frequent drillholes (24.5% specimens drilled). Based on multiple qualitative and quantitative criteria, the drillholes are interpreted as representing, primarily or exclusively, live-live interactions between some unknown drilling organisms and brachiopods.
3. Drilling organisms appear to be slightly size-selective with a possible preferential drilling of ventral valves. The frequency of multiple and incomplete drillholes is remarkably high, especially when comparing our results with those reported in other case studies of Cenozoic brachiopods. The high frequency of multiple drillholes may reflect the parasitic nature of interactions, although other explanations such as failed predatory attacks cannot be ruled out completely.
4. Whereas larger brachiopods are drilled more frequently than smaller brachiopods, larger brachiopods do not bear larger drillholes. However, incomplete (failed) drillholes are mostly found in larger size classes of brachiopods suggesting the presence of a "size refuge" in brachiopods.
5. The high frequency of drillholes observed here is comparable to highest rates reported in other regions and time intervals. This study reinforces the recent reports that drilling may be, on occasions, an important ecological interaction between brachiopod taxa and

drilling organisms. However, the several case studies of high drilling in brachiopods conducted so far are not sufficient to allow for any generalization regarding the causes for occasional records of intense interactions between drilling organisms and their brachiopod host or prey.

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APPENDIX A: LIST OF FIGURES

All figures included in this study are original works by the author:

Appendix B: SAS codes

Before all analyses (at base of data), the following sorting code was used:

```
proc sort data=brachs;
by genus species;
*proc print data=brachs;
```

Set 1: frequency of drillholes, including single, multiple, incomplete, and complete:

```
*Analysis 1: frequency of single and multiple drillholes per species;
data drill;
set brachs;
if predat=. then delete;
if original=0 then delete;
keep sample genus species original predat;
proc sort data=drill;
by genus species predat;
proc print data=drill;
proc freq data=drill;
by genus species;
tables predat;

*Analysis 2: frequency of complete (and incomplete) drillholes;
data drill2;
set brachs;
if predat=. then delete;
if predat=0 then delete;
if original=0 then delete;
keep sample genus species original predat compdh;
proc sort data=drill2;
by genus species predat compdh;
proc print data=drill2;
proc freq data=drill2;
by genus species;
tables predat*compdh /out=rep1;
proc print data=rep1;

*Analysis 3: frequency of (complete and) incomplete drillholes;
data drill3;
set brachs;
if predat=. then delete;
if predat=0 then delete;
if original=0 then delete;
keep sample genus species original predat incompdh;
proc sort data=drill3;
by genus species predat incompdh;
proc print data=drill3;
proc freq data=drill3;
by genus species;
tables predat*incompdh /out=rep2;
proc print data=rep2;

*Analysis 4: frequency of complete (and incomplete) drillholes with
certainty;
data drill4;
set brachs;
```

```
if predat=. then delete;
if cert=. then delete;
if predat=0 then delete;
if original=0 then delete;
keep sample genus species original predat compdh cert;
proc sort data=drill4;
by genus species cert compdh;
proc print data=drill4;
proc freq data=drill4;
by genus species;
tables cert*compdh /out=rep3;
proc print data=rep3;

*Analysis 5: frequency of complete and incomplete drillholes with certainty;
data drill5;
set brachs;
if predat=. then delete;
if cert=. then delete;
if cert=0 then delete;
if predat=0 then delete;
if original=0 then delete;
keep sample genus species original predat compdh incompdh cert;
proc sort data=drill5;
by genus species cert compdh incompdh;
proc print data=drill5;
proc freq data=drill5;
by genus species;
tables incompdh*compdh /out=rep4;
proc print data=rep4;

*Analysis 6: frequency of complete and incomplete drillholes grouped to
single and multiple;
data drill6;
set brachs;
if compdh=0 then complete=0;
if compdh=1 then complete=1;
if compdh=2 then complete=2;
if compdh=3 then complete=2;
if compdh=4 then complete=2;
if compdh=7 then complete=2;
if incompdh=0 then notcomp=0;
if incompdh=1 then notcomp=1;
if incompdh=2 then notcomp=2;
if incompdh=3 then notcomp=2;
if incompdh=4 then notcomp=2;
if predat=. then delete;
if cert=. then delete;
if cert=0 then delete;
if predat=0 then delete;
if original=0 then delete;
keep sample genus species original predat compdh complete incompdh notcomp
cert;
proc sort data=drill6;
by genus species cert complete notcomp;
proc print data=drill6;
proc freq data=drill6;
by genus species;
```

```
tables notcomp*complete /out=rep5;
proc print data=rep5;

run;
quit;
```

Set 2: testing the difference between the maximum drillhole diameter of single vs. multiple complete drillholes:

```
*Analysis 1: max_diam of single vs. multiple complete drillholes;
data drill;
set brachs;
if predat=. then delete;
if predat=0 then delete;
if compidh=0 then delete;
if compidh=. then delete;
if max_diam=. then delete;
keep predat max_diam compidh;
proc sort data=drill;
by predat;
proc print data=drill;
proc npar1way wilcoxon edf;
class predat;
var max_diam;
proc univariate data=drill;
var max_diam;
by predat;

run;
quit;
```

Set 3: testing the length between drilled vs. undrilled brachiopods:

```
*length for all brachs by pred2;
data alength;
set brachs;
if length=. then delete;
if original=0 then delete;
if predat=0 then pred2=0;
if predat>0 then pred2=1;
keep sample original genus species pred2 length;
*proc print data=alength;
proc sort data=alength;
by pred2;
proc npar1way data=alength wilcoxon edf;
class pred2;
var length;
proc univariate data=alength;
var length;
by pred2;
proc freq data=alength noprint;
by pred2;
tables length/out=rep1;
proc print data=rep1;
```

```
*Length for all other taxa by pred 2;
data plength;
set brachs;
if length=. then delete;
if original=0 then delete;
if species='wilmingtonensis' then delete;
if predat=0 then pred2=0;
if predat>0 then pred2=1;
keep sample original genus species pred2 length;
*proc print data=plength;
proc sort data=plength;
by pred2;
proc npar1way data=plength wilcoxon edf;
class pred2;
var length;
proc univariate data=plength;
var length;
by pred2;
proc freq data=plength noprint;
by pred2;
tables length/out=rep2;
proc print data=rep2;


*length of Plicatoria wilmingtonensis by quarry with pred2;
data length;
set brachs;
if predat=0 then pred2=0;
if predat>0 then pred2=1;
if original=0 then delete;
if genus='Unidentified' then delete;
if genus='Terebratulina' then delete;
if species='ventricosa' then delete;
keep sample original genus species pred2 quarry length;
*proc print data=length;
proc sort data=length;
by quarry pred2;
proc npar1way data=length wilcoxon edf;
class pred2;
var length;
by quarry;
proc sort data=length;
by pred2 quarry;
proc univariate data=length;
var length;
by pred2 quarry;
proc freq data=length noprint;
by quarry;
tables length/out=rep5;
proc print data=rep5;

run;
quit;
```

Set 4: bar chart of drilled and undrilled *Plicatoria wilmingtonensis* by length in 2 mm size bins; also, bar chart of drilled and undrilled ttg by quarry:

```
* Analysis 1: drillhole distribution across PW sizes with length;
data drill;
  set brachs;
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if predat=. then delete;
  if original=0 then delete;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
  keep sample genus species length predat pred2 cert original;

  axis1 minor=(number=50)
       label=(angle=90 h=1.2 color=black 'Number of brachiopods')
       major=(height=2)
       minor=(height=1)
       order=(0 to 50 by 5);

axis2 label=(h=1.2 color=black 'Brachiopod length [mm]')
       order=(0 to 50 by 2);

pattern1 color=grey value=solid;

pattern2 color=white value=solid;

legend1 mode=protect label=none position=(top right inside) down=2
cframe=lightgrey;

proc gchart data=drill;
    vbar length /     subgroup=pred2
                    space=0
                    maxis=axis2
                    noframe
                    patternid=subgroup
                    raxis=axis1
                    legend=legend1
                    width=4
                    midpoints=0 to 50 by 2;

                                      *space=4 - space between the bars
  width=6 - width of the bar
  legend=legend1 - identifies legend statement
  maxis=axis2 - identifies axis statement for the mid-point axis
  raxis=axis2 - identifies axis statement for y axis;

*Taphonomy of drilled Plicatoria wilmingtonensis for one quarry (can change
"if quarry=2 then delete" statement);
data taph;
  set brachs;
  shell_com=valves/4;
  ttg=shell_com+mold+artic+encrust/4+bioero;
  ttg_r=round(ttg);
  if predat=0 then pred2=0;
```

```
  if predat>0 then pred2=1;
  if predat=. then delete;
  if original=0 then delete; * remove duplicate rows for specimens with
multiple
drill holes;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
*if species='wilmingtonensis';
  if quarry='2' then delete;
keep sample genus quarry species length predat pred2 cert ttg ttg_r;

 axis1 minor=(number=50)
       label=(angle=90 h=1.2 color=black 'Number of Brachiopods')
       major=(height=2)
       minor=(height=1)
       order=(0 to 100 by 10);

axis2 label=(h=1.2 color=black 'Total Taphonomic Grade')
       order=(0 to 5 by .5);

pattern1 color=grey value=solid;

pattern2 color=white value=solid;

legend1 mode=protect label=none position=(top right inside) down=2
cframe=lightgrey;

proc gchart data=taph;
    vbar ttg /     subgroup=pred2
                    space=0
                    maxis=axis2
                    noframe
                    patternid=subgroup
                    raxis=axis1
                    legend=legend1
                    width=4
                    midpoints=0 to 5 by .5;

run;
quit;
```

Set 5: Drillhole diameter patterns with length:

```
* Analysis 1.1: drill hole diameter patterns with length;
data drill2;
  set brachs;
  if max_diam>0;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
*if species='wilmingtonensis';
  keep sample genus species length cert max_diam min_diam compidh;
proc sort data=drill2;
  by genus species compidh;
```

```
proc print data=drill2;
proc corr data=drill2 spearman;
  by genus species compidh;
  var max_diam min_diam length;
  with max_diam min_diam length;
proc sort data=drill2;
  by genus species cert;
proc corr data=drill2 spearman;
  by genus species cert;
  var max_diam min_diam length;
  with max_diam min_diam length;

  * Analysis 1.2: drill hole diameter patterns with length and duplicates
out;
data drill3;
  set brachs;
  if max_diam>0;
  if original=0 then delete;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
*if species='wilmingtonensis';
  keep sample genus species length cert max_diam min_diam compidh original;
proc sort data=drill3;
  by genus species compidh;
proc print data=drill3;
proc corr data=drill3 spearman;
  by genus species compidh;
  var max_diam min_diam length;
  with max_diam min_diam length;
proc sort data=drill3;
  by genus species cert;
proc corr data=drill3 spearman;
  by genus species cert;
  var max_diam min_diam length;
  with max_diam min_diam length;

 * Analysis 1.3: drill hole diameter patterns with length, duplicates in, and
cert grouped;
data drill4;
  set brachs;
  if max_diam>0;
  if certi=0 then newcert=0;
  if certi=1 then newcert=1;
  if certi=2 then newcert=1;
  if certi=. then delete;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
*if species='wilmingtonensis';
  keep sample genus species length certi newcert max_diam min_diam compidh;
proc sort data=drill4;
  by genus species compidh;
proc print data=drill4;
proc corr data=drill4 spearman;
  by genus species compidh;
  var max_diam min_diam length;
```

```
  with max_diam min_diam length;
proc sort data=drill4;
  by genus species newcert;
proc corr data=drill4 spearman;
  by genus species newcert;
  var max_diam min_diam length;
  with max_diam min_diam length;

run;
quit;
```

Set 6: testing the drillhole distribution across *Plicatoria wilmingtonensis* with length, width, and thickness/height; also- drillhole frequency by quarry:

```
* Analysis 1.1: drill hole distribution across PW sizes with length;
data drill;
  set brachs;
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if original=0 then delete;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
  keep sample genus species length predat pred2 cert original;
proc freq data=drill noprint;
  by genus species;
  tables predat*length /out=rep1;
  tables pred2*length /out=rep2;
proc print data=rep1;
proc print data=rep2;
proc sort data=drill;
  by pred2;
proc npar1way data=drill wilcoxon edf;
 class pred2;
 var length;

* Analysis 1.2: drill hole distribution across PW sizes with width;
data drill2;
  set brachs;
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if original=0 then delete;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
  keep sample genus species width predat cert pred2 original;
proc freq data=drill2 noprint;
  by genus species;
  tables predat*width /out=rep3;
  tables pred2*width /out=rep4;
proc print data=rep3;
proc print data=rep4;
proc sort data=drill2;
  by pred2;
proc npar1way data=drill2 wilcoxon edf;
```

```
 class pred2;
 var width;

* Analysis 1.3: drill hole distribution across PW sizes with thickness;
data drill3;
  set brachs;
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if original=0 then delete;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
  keep sample genus species thick predat cert pred2 original;
proc freq data=drill3 noprint;
  by genus species;
  tables predat*thick /out=rep5;
  tables pred2*thick /out=rep6;
proc print data=rep5;
proc print data=rep6;
proc sort data=drill3;
  by pred2;
proc npar1way data=drill3 wilcoxon edf;
 class pred2;
 var thick;

* Analysis 2: drill hole frequency - quarry;
data drill5;
  set brachs;
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if original=0 then delete;
  if species='wilmingtonensis' then delete;
  keep sample genus species quarry length predat cert pred2 original;
proc sort data=drill5;
  by genus species quarry;
proc freq data=drill5 noprint;
  by genus species quarry;
  tables pred2 /out=rep8;
proc freq data=drill5;
  by genus species;
  tables quarry*pred2/all out=rep9;
proc freq data=drill5 noprint;
  tables pred2 /out=rep10;
proc freq data=drill5;
  tables quarry*pred2/all out=rep11;
proc print data=rep8;
proc print data=rep9;
proc print data=rep10;
proc print data=rep11;

 run;
 quit;
```

Set 7: Sorting codes:

```
*All brachs;
data sort;
set brachs;
if certi=0 then delete;
if certi=1 then newcert=1;
if certi=2 then newcert=1;
if certi=. then delete;
if max_diam=. then delete;
if min_diam=. then delete;
keep genus species max_diam min_diam certi newcert compidh;
proc sort data=sort;
by genus species compidh;
proc print data=sort;

*All brachs;
data sort2;
set brachs;
if certi=0 then delete;
if certi=1 then newcert=1;
if certi=2 then newcert=1;
if certi=. then delete;
if max_diam=. then delete;
if min_diam=. then delete;
keep genus species max_diam min_diam certi newcert compidh;
proc sort data=sort2;
by compidh;
proc print data=sort2;

*All other brachs;
data sort3;
set brachs;
if certi=0 then delete;
if certi=1 then newcert=1;
if certi=2 then newcert=1;
if certi=. then delete;
if max_diam=. then delete;
if min_diam=. then delete;
if species='wilmingtonensis' then delete;
keep genus species max_diam min_diam certi newcert compidh;
proc sort data=sort3;
by compidh;
proc print data=sort3;

*Plicatoria wilmingtonensis;
data sort4;
set brachs;
if certi=0 then delete;
if certi=1 then newcert=1;
if certi=2 then newcert=1;
if certi=. then delete;
if max_diam=. then delete;
if min_diam=. then delete;
if species='ventricosa' then delete;
if genus='Unidentified' then delete;
if genus='Terebratulina' then delete;
keep genus species max_diam min_diam certi newcert compidh;
proc sort data=sort4;
```

```
by compidh;
proc print data=sort4;

*Length (logged) of Plicatoria wilmingtonensis with max diameter;
data log;
set brachs;
log_len=log(length);
log_max=log(max_diam);
if length=. then delete;
if certi=0 then delete;
if certi=1 then newcert=1;
if certi=2 then newcert=1;
if certi=. then delete;
if max_diam=. then delete;
if species='ventricosa' then delete;
if genus='Unidentified' then delete;
if genus='Terebratulina' then delete;
keep genus species log_len log_max compidh;
proc sort data=log;
by compidh;
proc print data=log;

*Length (logged) vs width (logged) of Plicatoria wilmingtonensis;
data log2;
set brachs;
log_len=log(length);
log_wid=log(width);
if length=. then delete;
if width=. then delete;
if species='ventricosa' then delete;
if genus='Unidentified' then delete;
if genus='Terebratulina' then delete;
keep genus species log_len log_wid;
proc print data=log2;

run;
quit;
```

Set 8: shell and mold completeness, bioerosion and encrustation; difference in taphonomy between drilled and undrilled specimens; drilling frequency sorted with different shell completeness values:

```
*Analysis 1: shell and mold completeness for Plicatoria wilmingtonensis;
data shell;
set brachs;
if original=0 then delete;
if species='ventricosa' then delete;
if genus='Terebratulina' then delete;
if genus='Unidentified' then delete;
keep sample genus species original valves mold artic;
proc print data=shell;
proc sort data=shell;
by artic valves mold;
proc print data=shell;
proc freq data=shell;
by artic;
```

```
tables valves*mold /out=rep1;
proc print data=rep1;

*Analysis 2: Bioerosion and Encrustation for Plicatoria wilmingtonensis;
data encrust;
set brachs;
if original=0 then delete;
if species='ventricosa' then delete;
if genus='Terebratulina' then delete;
if genus='Unidentified' then delete;
keep encrust bioero artic;
proc sort data=encrust;
by artic encrust bioero;
proc print data=encrust;
proc freq data=encrust;
by artic;
tables encrust*bioero /out=rep2;
proc print data=rep2;

*Analysis 3: Taphonomic value range for identified and unidentified
specimens;
data taph;
set brachs;
if original=0 then delete;
if genus='Plicatoria' then id='yes';
if genus='Terebratulina' then id='yes';
if species='ventricosa' then id='yes';
if genus='Unidentified' then id='no';
keep id valves mold encrust bioero;
proc print data=taph;
proc sort data=taph;
by id valves;
proc freq data=taph;
by id;

*Analysis 4: drilling frequency for plicatoria wilmingtonensis with varying
shell completeness values;
data drill;
set brachs;
if original=0 then delete;
if genus='Terebratulina' then delete;
if species='ventricosa' then delete;
if genus='Unidentified' then delete;
if predat=0 then pred2=0;
if predat>0 then pred2=1;
if predat=. then delete;
if valves=. then delete;
keep valves pred2;
proc sort data=drill;
by pred2 valves;
proc npar1way data=drill wilcoxon edf;
class pred2;
var valves;
proc univariate data=drill;
var valves;
by pred2;
proc freq data=drill;
```

```
by pred2;

run;
quit;
```

Set 9: testing the taphonomy of *Plicatoria wilmingtonensis* and all brachiopods:

```
*Taphonomy of Plicatoria wilmingtonensis;
data taph;
  set brachs;
  shell_com=valves/4;
  ttg=shell_com+mold+artic+encrust/4+bioero;
  ttg_r=round(ttg);
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if original=0 then delete; * remove duplicate rows for specimens with
multiple
drill holes;
  if genus='Unidentified' then delete;
  if genus='Terebratulina' then delete;
  if species='ventricosa' then delete;
*if species='wilmingtonensis';
keep sample genus quarry species length predat pred2 cert ttg ttg_r;
proc print data=taph;
*proc plot data=taph;
*  plot ttg*length=pred2;
proc sort data=taph;
by pred2;
proc freq data=taph noprint;
by pred2;
tables ttg_r/out=rep1;
proc print data=rep1;
proc npar1way data=taph wilcoxon edf;
class pred2;
var ttg;
proc univariate data=taph;
var ttg;
by pred2;
proc sort data=taph;
by quarry;
proc npar1way data=taph wilcoxon edf;
class quarry;
var ttg;
proc univariate data=taph;
var ttg;
by quarry;
proc freq data=taph noprint;
by quarry;
tables ttg_r/out=rep2;
proc print data=rep2;

*Taphonomy of all brachiopods;
data taph2;
  set brachs;
  shell_com=valves/4;
```

```
  ttg=shell_com+mold+artic+encrust/4+bioero;
  ttg_r=round(ttg);
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if original=0 then delete; * remove duplicate rows for specimens with
multiple
drill holes;
  *if genus='Unidentified' then delete;
  *if genus='Terebratulina' then delete;
  *if species='ventricosa' then delete;
*if species='wilmingtonensis';
keep sample genus quarry species length predat pred2 cert ttg ttg_r;
proc print data=taph2;
*proc plot data=taph2;
*  plot ttg*length=pred2;
proc sort data=taph2;
by pred2;
proc freq data=taph2 noprint;
by pred2;
tables ttg_r/out=rep3;
proc print data=rep3;
proc npar1way data=taph2 wilcoxon edf;
class pred2;
var ttg;
proc univariate data=taph2;
var ttg;
by pred2;
proc sort data=taph2;
by quarry;
proc npar1way data=taph2 wilcoxon edf;
class quarry;
var ttg;
proc univariate data=taph2;
var ttg;
by quarry;
proc freq data=taph2 noprint;
by quarry;
tables ttg_r/out=rep4;
proc print data=rep4;

run;
quit;
```

Set 10: testing the difference in length of *Plicatoria wilmingtonensis* by quarry and unidentified brachiopods between the quarries:

```
*Analysis 1: length of Plicatoria wilmingtonensis by quarry;
data length;
set brachs;
if original=0 then delete;
if genus='Unidentified' then delete;
if genus='Terebratulina' then delete;
if species='ventricosa' then delete;
keep sample original genus species quarry length;
proc print data=length;
```

```
proc sort data=length;
by quarry;
proc npar1way data=length wilcoxon edf;
class quarry;
var length;
proc univariate data=length;
var length;
by quarry;
proc freq data=length noprint;
by quarry;
tables length/out=rep5;
proc print data=rep5;

*Analysis 2.1: mean size of Unidentified brachiopods between the quarries;
data size;
set brachs;
if length=. then delete;
if quarry=1 then delete;
*if quarry=2 then delete;
if original=0 then delete;
if genus='Plicatoria' then delete;
if genus='Terebratulina' then delete;
keep genus species length quarry;
proc print data=size;
proc univariate data=size;

*Analysis 2.2: mean size of Unidentified brachiopods between the quarries;
data size2;
set brachs;
if length=. then delete;
if original=0 then delete;
if genus='Plicatoria' then delete;
if genus='Terebratulina' then delete;
keep genus species length quarry;
proc sort data=size2;
by quarry;
proc npar1way data=size2 wilcoxon edf;
class quarry;
var length;
proc univariate data=size2;
var length;
by quarry;

run;
quit;
```

Set 11: frequency of drilled and undrilled valves:

```
*Analysis 1: comparison of drilled an undrilled valves for all brachiopods;
data valve;
set brachs;
if valvedr=. then valvedri=0;
if valvedr=1 then valvedri=1;
if valvedr=2 then valvedri=2;
if valvedr=3 then valvedri=3;
```

```
if original=0 then delete; *throws out duplicates;
keep partpres valvedri predat;
proc sort data=valve;
by predat partpres valvedri ;
proc print data=valve;
proc freq data=valve;
by predat;
tables partpres*valvedri /out=rep1;
proc print data=rep1;

*Analysis 2: comparison of drilled and undrilled valves for Plicatoria
wilmingtonensis;
data valve2;
set brachs;
if valvedr=. then valvedri=0;
if valvedr=1 then valvedri=1;
if valvedr=2 then valvedri=2;
if valvedr=3 then valvedri=3;
if original=0 then delete;
if genus='Terebratulina' then delete;
if species='ventricosa' then delete;
if genus='Unidentified' then delete;
keep partpres valvedri predat;
proc sort data=valve2;
by predat partpres valvedri ;
proc print data=valve2;
proc freq data=valve2;
by predat;
tables partpres*valvedri /out=rep2;
proc print data=rep2;

run;
quit;
```

Set 12: drillhole frequency per quarry:

```
* Analysis 1: drill hole frequency - quarry;
data drill;
  set brachs;
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if original=0 then delete;
  keep sample genus species quarry length predat cert pred2 original;
proc sort data=drill;
  by genus species quarry;
proc freq data=drill noprint;
  by genus species quarry;
  tables pred2 /out=rep1;
proc freq data=drill;
  by genus species;
  tables quarry*pred2/all out=rep2;
proc freq data=drill noprint;
  tables pred2 /out=rep3;
proc freq data=drill;
  tables quarry*pred2/all out=rep4;
```

```
proc print data=rep1;
proc print data=rep2;
proc print data=rep3;
proc print data=rep4;

*Analysis 2.1: predation equal in both quarries?;
data drill2;
  set brachs;
  if predat=0 then pred2=0;
  if predat>0 then pred2=1;
  if quarry='.' then delete;
  if original=0 then delete;
  keep sample genus species length predat cert pred2 quarry original;
proc sort data=drill2;
by genus species quarry;
proc freq data=drill2;
  by genus species;
  tables quarry*pred2/ all out=rep5;
proc print data=rep5;

run;
quit;
```

Set 13: Likelihood ratio chi-squared test (this one is for unidentified brachiopods per quarry, but also did for valve preference):

```
data weight;
      do a=1 to 2;
      do b=1 to 2;
      input wt @@;
      output;
      end;
      end;
      cards;
61 340 10 154
      ;
      run;
proc print data=weight;
      run;



proc freq data=weight;
      weight wt;
      tables a*b /exact;
      run;

quit;
```

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-313	1	Plicatoria	ventricosa	.	15.31	15.00
MKS-CH-RP-328	1	Plicatoria	ventricosa	.	16.90	16.03
MKS-CH-RP-209	1	Plicatoria	wilmingtonensis	33.96	23.94	19.67
MKS-CH-RP-210	1	Plicatoria	wilmingtonensis	29.70	21.01	19.57
MKS-CH-RP-211	1	Plicatoria	wilmingtonensis	34.55	23.34	19.65
MKS-CH-RP-212	1	Plicatoria	wilmingtonensis	28.33	19.78	14.82
MKS-CH-RP-213	1	Plicatoria	wilmingtonensis	29.37	.	.
MKS-CH-RP-214	1	Plicatoria	wilmingtonensis	34.79	24.99	21.12
MKS-CH-RP-215	1	Plicatoria	wilmingtonensis	22.52	15.55	11.59
MKS-CH-RP-216	1	Plicatoria	wilmingtonensis	35.24	22.41	20.21
MKS-CH-RP-217	1	Plicatoria	wilmingtonensis	23.17	16.66	12.28
MKS-CH-RP-218	1	Plicatoria	wilmingtonensis	.	21.78	.
MKS-CH-RP-219	1	Plicatoria	wilmingtonensis	35.19	24.19	21.43
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	30.40	22.35	18.14
MKS-CH-RP-221	1	Plicatoria	wilmingtonensis	35.75	26.20	21.08

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-222	1	Plicatoria	wilmingtonensis	23.76	15.79	12.68
MKS-CH-RP-224	1	Plicatoria	wilmingtonensis	32.56	25.44	17.41
MKS-CH-RP-225	1	Plicatoria	wilmingtonensis	25.04	16.95	12.85
MKS-CH-RP-226	1	Plicatoria	wilmingtonensis	19.21	15.85	9.19
MKS-CH-RP-227	1	Plicatoria	wilmingtonensis	24.92	18.28	14.13
MKS-CH-RP-228	1	Plicatoria	wilmingtonensis	.	22.96	.
MKS-CH-RP-229	1	Plicatoria	wilmingtonensis	27.10	20.35	16.48
MKS-CH-RP-230	1	Plicatoria	wilmingtonensis	27.06	17.53	16.61
MKS-CH-RP-231	1	Plicatoria	wilmingtonensis	21.64	15.55	11.36
MKS-CH-RP-232	1	Plicatoria	wilmingtonensis	21.30	16.15	11.65
MKS-CH-RP-234	1	Plicatoria	wilmingtonensis	29.62	20.91	19.34
MKS-CH-RP-235	1	Plicatoria	wilmingtonensis	28.65	23.16	16.61
MKS-CH-RP-236	1	Plicatoria	wilmingtonensis	.	17.21	.
MKS-CH-RP-238	1	Plicatoria	wilmingtonensis	27.78	19.15	14.03
MKS-CH-RP-239	1	Plicatoria	wilmingtonensis	24.32	16.88	13.06

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-240	1	Plicatoria	wilmingtonensis	30.57	22.06	.
MKS-CH-RP-241	1	Plicatoria	wilmingtonensis	23.56	17.04	11.65
MKS-CH-RP-242	1	Plicatoria	wilmingtonensis	20.97	15.73	10.57
MKS-CH-RP-244	1	Plicatoria	wilmingtonensis	23.57	14.66	.
MKS-CH-RP-246	1	Plicatoria	wilmingtonensis	32.11	22.77	20.85
MKS-CH-RP-247	1	Plicatoria	wilmingtonensis	24.27	16.34	.
MKS-CH-RP-251	1	Plicatoria	wilmingtonensis	27.06	17.67	15.30
MKS-CH-RP-252	1	Plicatoria	wilmingtonensis	25.83	17.95	12.64
MKS-CH-RP-253	1	Plicatoria	wilmingtonensis	30.96	24.06	16.92
MKS-CH-RP-254	1	Plicatoria	wilmingtonensis	23.33	17.32	10.81
MKS-CH-RP-258	1	Plicatoria	wilmingtonensis	25.13	21.97	15.67
MKS-CH-RP-265	1	Plicatoria	wilmingtonensis	24.81	16.13	.
MKS-CH-RP-267	1	Plicatoria	wilmingtonensis	25.41	16.91	.
MKS-CH-RP-274	1	Plicatoria	wilmingtonensis	22.58	17.22	11.22
MKS-CH-RP-275	1	Plicatoria	wilmingtonensis	19.03	13.43	9.25

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-276	1	Plicatoria	wilmingtonensis	15.00	10.39	8.19
MKS-CH-RP-278	1	Plicatoria	wilmingtonensis	40.81	28.48	23.66
MKS-CH-RP-279	1	Plicatoria	wilmingtonensis	29.22	18.52	18.47
MKS-CH-RP-280	1	Plicatoria	wilmingtonensis	33.55	.	18.46
MKS-CH-RP-281	1	Plicatoria	wilmingtonensis	27.91	.	18.69
MKS-CH-RP-282	1	Plicatoria	wilmingtonensis	28.29	18.13	16.29
MKS-CH-RP-283	1	Plicatoria	wilmingtonensis	32.23	24.88	21.23
MKS-CH-RP-284	1	Plicatoria	wilmingtonensis	35.72	26.15	18.65
MKS-CH-RP-285	1	Plicatoria	wilmingtonensis	36.06	29.58	22.10
MKS-CH-RP-286	1	Plicatoria	wilmingtonensis	.	.	19.64
MKS-CH-RP-288	1	Plicatoria	wilmingtonensis	33.19	23.33	21.58
MKS-CH-RP-289	1	Plicatoria	wilmingtonensis	26.26	18.87	.
MKS-CH-RP-290	1	Plicatoria	wilmingtonensis	27.69	20.28	13.99
MKS-CH-RP-291	1	Plicatoria	wilmingtonensis	25.99	18.18	15.04
MKS-CH-RP-292	1	Plicatoria	wilmingtonensis	31.79	23.81	22.83

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-293	1	Plicatoria	wilmingtonensis	33.89	25.69	.
MKS-CH-RP-294	1	Plicatoria	wilmingtonensis	27.14	19.91	15.35
MKS-CH-RP-295	1	Plicatoria	wilmingtonensis	28.25	22.90	16.44
MKS-CH-RP-296	1	Plicatoria	wilmingtonensis	22.96	16.51	11.71
MKS-CH-RP-297	1	Plicatoria	wilmingtonensis	.	24.94	.
MKS-CH-RP-298	1	Plicatoria	wilmingtonensis	.	18.68	.
MKS-CH-RP-299	1	Plicatoria	wilmingtonensis	24.35	17.51	14.31
MKS-CH-RP-302	1	Plicatoria	wilmingtonensis	26.66	16.61	13.43
MKS-CH-RP-303	1	Plicatoria	wilmingtonensis	30.44	22.17	.
MKS-CH-RP-306	1	Plicatoria	wilmingtonensis	.	22.61	19.29
MKS-CH-RP-308	1	Plicatoria	wilmingtonensis	43.84	30.61	27.87
MKS-CH-RP-309	1	Plicatoria	wilmingtonensis	28.44	22.08	16.61
MKS-CH-RP-310	1	Plicatoria	wilmingtonensis	26.55	17.47	12.69
MKS-CH-RP-311	1	Plicatoria	wilmingtonensis	34.08	25.10	.
MKS-CH-RP-312	1	Plicatoria	wilmingtonensis	33.39	25.25	19.94

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-315	1	Plicatoria	wilmingtonensis	.	14.90	11.41
MKS-CH-RP-316	1	Plicatoria	wilmingtonensis	21.30	16.02	.
MKS-CH-RP-318	1	Plicatoria	wilmingtonensis	26.52	22.48	13.24
MKS-CH-RP-319	1	Plicatoria	wilmingtonensis	33.96	24.44	17.28
MKS-CH-RP-320	1	Plicatoria	wilmingtonensis	27.78	18.44	15.97
MKS-CH-RP-324	1	Plicatoria	wilmingtonensis	.	19.39	.
MKS-CH-RP-325	1	Plicatoria	wilmingtonensis	.	18.48	15.13
MKS-CH-RP-327	1	Plicatoria	wilmingtonensis	18.00	13.11	9.34
MKS-CH-RP-329	1	Plicatoria	wilmingtonensis	27.59	20.07	16.87
MKS-CH-RP-332	1	Plicatoria	wilmingtonensis	.	.	29.11
MKS-CH-RP-333	1	Plicatoria	wilmingtonensis	27.41	18.97	15.52
MKS-CH-RP-334	1	Plicatoria	wilmingtonensis	37.97	24.07	19.48
MKS-CH-RP-335	1	Plicatoria	wilmingtonensis	27.23	19.66	14.44
MKS-CH-RP-336	1	Plicatoria	wilmingtonensis	24.14	17.84	12.04
MKS-CH-RP-337	1	Plicatoria	wilmingtonensis	24.60	17.85	13.54

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-338	1	Plicatoria	wilmingtonensis	35.25	23.02	21.90
MKS-CH-RP-339	1	Plicatoria	wilmingtonensis	27.75	19.09	17.36
MKS-CH-RP-340	1	Plicatoria	wilmingtonensis	25.69	17.74	15.76
MKS-CH-RP-341	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-343	1	Plicatoria	wilmingtonensis	.	.	18.81
MKS-CH-RP-344	1	Plicatoria	wilmingtonensis	27.82	20.50	19.17
MKS-CH-RP-345	1	Plicatoria	wilmingtonensis	27.64	20.53	18.01
MKS-CH-RP-346	1	Plicatoria	wilmingtonensis	23.69	18.96	11.89
MKS-CH-RP-347	1	Plicatoria	wilmingtonensis	.	22.89	.
MKS-CH-RP-348	1	Plicatoria	wilmingtonensis	28.64	19.96	16.94
MKS-CH-RP-349	1	Plicatoria	wilmingtonensis	25.28	18.89	12.90
MKS-CH-RP-352	1	Plicatoria	wilmingtonensis	21.54	16.21	.
MKS-CH-RP-354	1	Plicatoria	wilmingtonensis	22.16	17.86	10.49
MKS-CH-RP-355	1	Plicatoria	wilmingtonensis	23.57	18.35	10.73
MKS-CH-RP-356	1	Plicatoria	wilmingtonensis	23.52	17.63	11.03

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-357	1	Plicatoria	wilmingtonensis	29.14	22.48	15.22
MKS-CH-RP-358	1	Plicatoria	wilmingtonensis	32.01	24.48	21.70
MKS-CH-RP-359	1	Plicatoria	wilmingtonensis	26.14	.	13.29
MKS-CH-RP-360	1	Plicatoria	wilmingtonensis	25.65	18.25	13.94
MKS-CH-RP-361	1	Plicatoria	wilmingtonensis	32.64	23.34	19.85
MKS-CH-RP-362	1	Plicatoria	wilmingtonensis	.	20.44	.
MKS-CH-RP-363	1	Plicatoria	wilmingtonensis	.	.	16.55
MKS-CH-RP-364	1	Plicatoria	wilmingtonensis	33.97	22.08	18.20
MKS-CH-RP-365	1	Plicatoria	wilmingtonensis	.	16.97	.
MKS-CH-RP-366	1	Plicatoria	wilmingtonensis	25.45	18.25	13.15
MKS-CH-RP-369	1	Plicatoria	wilmingtonensis	32.76	20.89	18.58
MKS-CH-RP-371	1	Plicatoria	wilmingtonensis	21.48	14.74	11.41
MKS-CH-RP-372	1	Plicatoria	wilmingtonensis	31.58	21.77	18.42
MKS-CH-RP-373	1	Plicatoria	wilmingtonensis	17.52	13.76	8.89
MKS-CH-RP-375	1	Plicatoria	wilmingtonensis	23.68	17.42	11.38

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-376	1	Plicatoria	wilmingtonensis	.	15.93	9.83
MKS-CH-RP-377	1	Plicatoria	wilmingtonensis	.	15.21	11.08
MKS-CH-RP-380	1	Plicatoria	wilmingtonensis	15.91	10.82	11.55
MKS-CH-RP-381	1	Plicatoria	wilmingtonensis	.	.	12.07
MKS-CH-RP-382	1	Plicatoria	wilmingtonensis	25.60	18.22	12.61
MKS-CH-RP-383	1	Plicatoria	wilmingtonensis	33.16	.	20.65
MKS-CH-RP-384	1	Plicatoria	wilmingtonensis	26.56	20.04	13.20
MKS-CH-RP-386	1	Plicatoria	wilmingtonensis	24.46	16.61	13.75
MKS-CH-RP-387	1	Plicatoria	wilmingtonensis	22.12	15.18	11.62
MKS-CH-RP-388	1	Plicatoria	wilmingtonensis	.	22.22	.
MKS-CH-RP-389	1	Plicatoria	wilmingtonensis	27.72	.	15.50
MKS-CH-RP-390	1	Plicatoria	wilmingtonensis	33.00	22.48	21.43
MKS-CH-RP-391	1	Plicatoria	wilmingtonensis	21.73	14.94	9.55
MKS-CH-RP-392	1	Plicatoria	wilmingtonensis	.	16.66	11.20
MKS-CH-RP-393	1	Plicatoria	wilmingtonensis	26.10	16.02	14.75

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-394	1	Plicatoria	wilmingtonensis	15.59	10.64	7.91
MKS-CH-RP-395	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-397	1	Plicatoria	wilmingtonensis	16.48	12.71	7.86
MKS-CH-RP-398	1	Plicatoria	wilmingtonensis	15.01	10.12	.
MKS-CH-RP-401	1	Plicatoria	wilmingtonensis	.	.	10.60
MKS-CH-RP-403	1	Plicatoria	wilmingtonensis	24.13	17.90	11.51
MKS-CH-RP-431	1	Plicatoria	wilmingtonensis	30.66	24.57	16.16
MKS-CH-RP-432	1	Plicatoria	wilmingtonensis	24.36	18.93	11.94
MKS-CH-RP-433	1	Plicatoria	wilmingtonensis	25.93	19.69	13.64
MKS-CH-RP-434	1	Plicatoria	wilmingtonensis	.	20.26	14.39
MKS-CH-RP-435	1	Plicatoria	wilmingtonensis	33.05	25.90	20.46
MKS-CH-RP-436	1	Plicatoria	wilmingtonensis	.	.	13.36
MKS-CH-RP-437	1	Plicatoria	wilmingtonensis	25.82	.	12.78
MKS-CH-RP-438	1	Plicatoria	wilmingtonensis	19.92	15.07	9.67
MKS-CH-RP-439	1	Plicatoria	wilmingtonensis	26.21	19.36	.

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-440	1	Plicatoria	wilmingtonensis	29.40	19.80	14.68
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	.	24.40	17.53
MKS-CH-RP-442	1	Plicatoria	wilmingtonensis	22.72	16.74	10.64
MKS-CH-RP-443	1	Plicatoria	wilmingtonensis	25.71	18.26	.
MKS-CH-RP-444	1	Plicatoria	wilmingtonensis	32.36	23.39	18.84
MKS-CH-RP-445	1	Plicatoria	wilmingtonensis	18.62	14.05	9.89
MKS-CH-RP-446	1	Plicatoria	wilmingtonensis	.	13.47	10.42
MKS-CH-RP-447	1	Plicatoria	wilmingtonensis	.	15.42	.
MKS-CH-RP-448	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-449	1	Plicatoria	wilmingtonensis	37.22	26.65	21.76
MKS-CH-RP-450	1	Plicatoria	wilmingtonensis	26.63	19.22	.
MKS-CH-RP-451	1	Plicatoria	wilmingtonensis	23.28	17.43	11.40
MKS-CH-RP-452	1	Plicatoria	wilmingtonensis	.	.	17.94
MKS-CH-RP-453	1	Plicatoria	wilmingtonensis	34.90	25.50	24.22
MKS-CH-RP-454	1	Plicatoria	wilmingtonensis	13.34	10.20	7.52

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-455	1	Plicatoria	wilmingtonensis	17.86	14.18	8.53
MKS-CH-RP-456	1	Plicatoria	wilmingtonensis	18.22	13.25	8.45
MKS-CH-RP-457	1	Plicatoria	wilmingtonensis	31.93	21.40	15.05
MKS-CH-RP-458	1	Plicatoria	wilmingtonensis	.	.	11.41
MKS-CH-RP-459	1	Plicatoria	wilmingtonensis	33.40	.	22.84
MKS-CH-RP-460	1	Plicatoria	wilmingtonensis	25.64	21.44	.
MKS-CH-RP-461	1	Plicatoria	wilmingtonensis	34.32	28.70	19.06
MKS-CH-RP-462	1	Plicatoria	wilmingtonensis	22.75	16.98	10.03
MKS-CH-RP-463	1	Plicatoria	wilmingtonensis	24.87	20.64	.
MKS-CH-RP-464	1	Plicatoria	wilmingtonensis	22.29	15.94	11.00
MKS-CH-RP-466	1	Plicatoria	wilmingtonensis	16.68	11.79	8.37
MKS-CH-RP-467	1	Plicatoria	wilmingtonensis	26.12	17.04	13.16
MKS-CH-RP-468	1	Plicatoria	wilmingtonensis	25.35	18.24	.
MKS-CH-RP-469	1	Plicatoria	wilmingtonensis	28.03	.	12.90
MKS-CH-RP-470	1	Plicatoria	wilmingtonensis	29.10	22.24	15.84

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-471	1	Plicatoria	wilmingtonensis	32.92	21.98	16.75
MKS-CH-RP-472	1	Plicatoria	wilmingtonensis	24.57	16.86	11.71
MKS-CH-RP-473	1	Plicatoria	wilmingtonensis	26.44	21.10	14.73
MKS-CH-RP-474	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-475	1	Plicatoria	wilmingtonensis	.	.	12.70
MKS-CH-RP-476	1	Plicatoria	wilmingtonensis	27.16	17.43	.
MKS-CH-RP-477	1	Plicatoria	wilmingtonensis	22.15	15.92	11.79
MKS-CH-RP-478	1	Plicatoria	wilmingtonensis	.	.	11.97
MKS-CH-RP-479	1	Plicatoria	wilmingtonensis	12.65	9.63	6.28
MKS-CH-RP-480	1	Plicatoria	wilmingtonensis	24.36	.	.
MKS-CH-RP-481	1	Plicatoria	wilmingtonensis	35.35	28.94	23.18
MKS-CH-RP-482	1	Plicatoria	wilmingtonensis	20.65	14.96	.
MKS-CH-RP-483	1	Plicatoria	wilmingtonensis	23.05	16.79	11.23
MKS-CH-RP-484	1	Plicatoria	wilmingtonensis	.	16.87	11.70
MKS-CH-RP-485	1	Plicatoria	wilmingtonensis	28.09	.	15.94

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-486	1	Plicatoria	wilmingtonensis	.	14.09	9.15
MKS-CH-RP-488	1	Plicatoria	wilmingtonensis	32.01	21.63	17.03
MKS-CH-RP-489	1	Plicatoria	wilmingtonensis	.	.	12.54
MKS-CH-RP-490	1	Plicatoria	wilmingtonensis	.	19.52	12.39
MKS-CH-RP-491	1	Plicatoria	wilmingtonensis	34.02	23.68	17.67
MKS-CH-RP-492	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-493	1	Plicatoria	wilmingtonensis	21.18	15.49	9.67
MKS-CH-RP-494	1	Plicatoria	wilmingtonensis	.	.	12.56
MKS-CH-RP-495	1	Plicatoria	wilmingtonensis	.	13.84	9.50
MKS-CH-RP-496	1	Plicatoria	wilmingtonensis	16.86	14.11	.
MKS-CH-RP-497	1	Plicatoria	wilmingtonensis	.	17.61	10.45
MKS-CH-RP-498	1	Plicatoria	wilmingtonensis	.	15.54	10.10
MKS-CH-RP-499	1	Plicatoria	wilmingtonensis	17.28	13.48	8.32
MKS-CH-RP-500	1	Plicatoria	wilmingtonensis	.	.	12.52
MKS-CH-RP-501	1	Plicatoria	wilmingtonensis	21.53	16.89	9.75

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-502	1	Plicatoria	wilmingtonensis	16.14	12.49	7.19
MKS-CH-RP-503	1	Plicatoria	wilmingtonensis	21.18	16.90	10.80
MKS-CH-RP-504	1	Plicatoria	wilmingtonensis	22.06	.	11.36
MKS-CH-RP-505	1	Plicatoria	wilmingtonensis	31.37	26.31	18.49
MKS-CH-RP-506	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-507	1	Plicatoria	wilmingtonensis	30.64	20.04	18.45
MKS-CH-RP-508	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-509	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-510	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-860	1	Plicatoria	wilmingtonensis	15.35	10.73	7.65
MKS-CH-RP-938	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-951	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-1236	1	Plicatoria	wilmingtonensis	19.52	15.58	9.10
MKS-CH-RP-1237	1	Plicatoria	wilmingtonensis	.	16.84	10.96
MKS-CH-RP-1238	1	Plicatoria	wilmingtonensis	29.13	23.93	14.83

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-1239	1	Plicatoria	wilmingtonensis	.	16.45	9.23
MKS-CH-RP-1240	1	Plicatoria	wilmingtonensis	29.51	21.60	15.10
MKS-CH-RP-1241	1	Plicatoria	wilmingtonensis	29.17	21.87	17.49
MKS-CH-RP-1242	1	Plicatoria	wilmingtonensis	18.48	14.68	8.86
MKS-CH-RP-1243	1	Plicatoria	wilmingtonensis	24.42	18.79	15.08
MKS-CH-RP-1244	1	Plicatoria	wilmingtonensis	18.72	13.90	8.45
MKS-CH-RP-1246	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-1247	1	Plicatoria	wilmingtonensis	19.60	.	8.75
MKS-CH-RP-1248	1	Plicatoria	wilmingtonensis	20.98	16.55	8.96
MKS-CH-RP-1249	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-1250	1	Plicatoria	wilmingtonensis	.	17.21	.
MKS-CH-RP-1251	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-1252	1	Plicatoria	wilmingtonensis	35.69	26.45	22.45
MKS-CH-RP-1253	1	Plicatoria	wilmingtonensis	.	19.07	.
MKS-CH-RP-1254	1	Plicatoria	wilmingtonensis	18.37	13.40	10.66

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-1255	1	Plicatoria	wilmingtonensis	.	.	14.42
MKS-CH-RP-1256	1	Plicatoria	wilmingtonensis	19.81	16.81	10.37
MKS-CH-RP-1257	1	Plicatoria	wilmingtonensis	24.78	19.68	12.75
MKS-CH-RP-1258	1	Plicatoria	wilmingtonensis	25.64	18.75	15.12
MKS-CH-RP-1259	1	Plicatoria	wilmingtonensis	36.67	27.87	19.56
MKS-CH-RP-1260	1	Plicatoria	wilmingtonensis	27.09	19.58	13.48
MKS-CH-RP-1261	1	Plicatoria	wilmingtonensis	30.78	22.10	.
MKS-CH-RP-1262	1	Plicatoria	wilmingtonensis	16.42	12.88	7.40
MKS-CH-RP-1263	1	Plicatoria	wilmingtonensis	23.85	16.77	12.27
MKS-CH-RP-1264	1	Plicatoria	wilmingtonensis	.	13.00	8.33
MKS-CH-RP-1265	1	Plicatoria	wilmingtonensis	22.31	17.76	10.51
MKS-CH-RP-1266	1	Plicatoria	wilmingtonensis	14.37	11.76	6.93
MKS-CH-RP-1267	1	Plicatoria	wilmingtonensis	18.94	13.37	9.73
MKS-CH-RP-1268	1	Plicatoria	wilmingtonensis	20.08	.	9.73
MKS-CH-RP-1269	1	Plicatoria	wilmingtonensis	21.14	15.81	10.44

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-1270	1	Plicatoria	wilmingtonensis	.	14.31	8.79
MKS-CH-RP-1271	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-1272	1	Plicatoria	wilmingtonensis	13.84	10.22	6.99
MKS-CH-RP-1273	1	Plicatoria	wilmingtonensis	26.69	20.77	15.32
MKS-CH-RP-1274	1	Plicatoria	wilmingtonensis	.	17.52	11.73
MKS-CH-RP-1275	1	Plicatoria	wilmingtonensis	18.79	14.03	9.51
MKS-CH-RP-1276	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-1277	1	Plicatoria	wilmingtonensis	25.97	18.21	12.59
MKS-CH-RP-1278	1	Plicatoria	wilmingtonensis	21.64	12.78	11.06
MKS-CH-RP-1279	1	Plicatoria	wilmingtonensis	19.72	15.23	9.62
MKS-CH-RP-1280	1	Plicatoria	wilmingtonensis	34.15	25.50	21.18
MKS-CH-RP-1281	1	Plicatoria	wilmingtonensis	13.19	9.08	7.26
MKS-CH-RP-1282	1	Plicatoria	wilmingtonensis	.	22.62	19.35
MKS-CH-RP-1283	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-1284	1	Plicatoria	wilmingtonensis	37.49	28.17	25.54

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-1285	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-RP-1286	1	Plicatoria	wilmingtonensis	21.16	15.25	10.68
MKS-CH-RP-1287	1	Plicatoria	wilmingtonensis	23.17	16.97	11.37
MKS-CH-RP-1288	1	Plicatoria	wilmingtonensis	.	14.47	9.68
MKS-CH-RP-1289	1	Plicatoria	wilmingtonensis	24.03	18.37	13.68
MKS-CH-RP-1290	1	Plicatoria	wilmingtonensis	.	13.96	8.30
MKS-CH-RP-1291	1	Plicatoria	wilmingtonensis	.	11.15	7.90
MKS-CH-RP-1292	1	Plicatoria	wilmingtonensis	23.24	.	.
MKS-CH-RP-1294	1	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-20	2	Plicatoria	wilmingtonensis	35.01	26.72	22.26
MKS-CH-IC-21	2	Plicatoria	wilmingtonensis	34.32	20.28	19.89
MKS-CH-IC-68	2	Plicatoria	wilmingtonensis	31.33	22.21	18.47
MKS-CH-IC-105	2	Plicatoria	wilmingtonensis	22.43	16.16	11.99
MKS-CH-IC-106	2	Plicatoria	wilmingtonensis	26.50	20.42	.
MKS-CH-IC-132	2	Plicatoria	wilmingtonensis	34.90	27.55	20.34

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-136	2	Plicatoria	wilmingtonensis	30.99	23.08	15.86
MKS-CH-IC-140	2	Plicatoria	wilmingtonensis	23.97	18.71	15.68
MKS-CH-IC-143	2	Plicatoria	wilmingtonensis	32.35	25.42	19.25
MKS-CH-IC-150	2	Plicatoria	wilmingtonensis	28.87	19.46	16.38
MKS-CH-IC-151	2	Plicatoria	wilmingtonensis	28.72	18.76	13.95
MKS-CH-IC-153	2	Plicatoria	wilmingtonensis	34.47	25.77	19.95
MKS-CH-IC-158	2	Plicatoria	wilmingtonensis	21.19	18.08	.
MKS-CH-IC-163	2	Plicatoria	wilmingtonensis	29.05	18.98	.
MKS-CH-IC-164	2	Plicatoria	wilmingtonensis	26.90	19.18	.
MKS-CH-IC-167	2	Plicatoria	wilmingtonensis	26.14	17.08	15.19
MKS-CH-IC-171	2	Plicatoria	wilmingtonensis	16.47	12.86	9.21
MKS-CH-IC-173	2	Plicatoria	wilmingtonensis	20.80	15.73	.
MKS-CH-IC-174	2	Plicatoria	wilmingtonensis	19.03	13.98	11.52
MKS-CH-IC-175	2	Plicatoria	wilmingtonensis	14.77	11.58	6.15
MKS-CH-IC-176	2	Plicatoria	wilmingtonensis	.	.	.

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-177	2	Plicatoria	wilmingtonensis	23.41	17.74	13.24
MKS-CH-IC-178	2	Plicatoria	wilmingtonensis	30.12	20.75	17.30
MKS-CH-IC-199	2	Plicatoria	wilmingtonensis	29.47	19.51	15.84
MKS-CH-IC-207	2	Plicatoria	wilmingtonensis	18.75	14.40	10.29
MKS-CH-IC-408	2	Plicatoria	wilmingtonensis	31.10	23.09	20.83
MKS-CH-IC-409	2	Plicatoria	wilmingtonensis	32.59	22.16	.
MKS-CH-IC-410	2	Plicatoria	wilmingtonensis	22.33	16.43	.
MKS-CH-IC-411	2	Plicatoria	wilmingtonensis	27.24	20.52	16.67
MKS-CH-IC-412	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-413	2	Plicatoria	wilmingtonensis	22.38	15.34	.
MKS-CH-IC-414	2	Plicatoria	wilmingtonensis	20.99	15.83	10.83
MKS-CH-IC-415	2	Plicatoria	wilmingtonensis	.	19.66	14.61
MKS-CH-IC-416	2	Plicatoria	wilmingtonensis	25.40	15.82	12.09
MKS-CH-IC-417	2	Plicatoria	wilmingtonensis	26.48	18.83	.
MKS-CH-IC-418	2	Plicatoria	wilmingtonensis	28.73	21.61	16.72

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-419	2	Plicatoria	wilmingtonensis	29.95	20.94	18.96
MKS-CH-IC-420	2	Plicatoria	wilmingtonensis	31.08	19.97	16.66
MKS-CH-IC-422	2	Plicatoria	wilmingtonensis	19.40	.	9.14
MKS-CH-IC-423	2	Plicatoria	wilmingtonensis	23.07	17.67	10.95
MKS-CH-IC-424	2	Plicatoria	wilmingtonensis	20.26	.	10.50
MKS-CH-IC-425	2	Plicatoria	wilmingtonensis	18.31	.	11.87
MKS-CH-IC-426	2	Plicatoria	wilmingtonensis	22.46	16.15	11.59
MKS-CH-IC-428	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-429	2	Plicatoria	wilmingtonensis	.	.	10.24
MKS-CH-IC-747	2	Plicatoria	wilmingtonensis	.	17.90	.
MKS-CH-IC-796	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1138	2	Plicatoria	wilmingtonensis	28.30	21.30	16.49
MKS-CH-IC-1139	2	Plicatoria	wilmingtonensis	17.87	.	9.93
MKS-CH-IC-1140	2	Plicatoria	wilmingtonensis	27.58	19.74	15.21
MKS-CH-IC-1141	2	Plicatoria	wilmingtonensis	28.31	21.78	15.90

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-1142	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1143	2	Plicatoria	wilmingtonensis	.	15.65	9.89
MKS-CH-IC-1144	2	Plicatoria	wilmingtonensis	13.57	8.50	7.55
MKS-CH-IC-1145	2	Plicatoria	wilmingtonensis	.	17.43	.
MKS-CH-IC-1146	2	Plicatoria	wilmingtonensis	18.21	13.81	8.54
MKS-CH-IC-1147	2	Plicatoria	wilmingtonensis	.	10.29	6.13
MKS-CH-IC-1148	2	Plicatoria	wilmingtonensis	29.34	21.78	19.80
MKS-CH-IC-1149	2	Plicatoria	wilmingtonensis	22.24	16.54	13.70
MKS-CH-IC-1150	2	Plicatoria	wilmingtonensis	.	16.89	16.11
MKS-CH-IC-1151	2	Plicatoria	wilmingtonensis	.	15.95	13.30
MKS-CH-IC-1152	2	Plicatoria	wilmingtonensis	26.85	20.42	16.47
MKS-CH-IC-1153	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1154	2	Plicatoria	wilmingtonensis	17.37	12.55	.
MKS-CH-IC-1155	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1156	2	Plicatoria	wilmingtonensis	.	.	.

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-1157	2	Plicatoria	wilmingtonensis	11.55	8.48	.
MKS-CH-IC-1159	2	Plicatoria	wilmingtonensis	.	.	8.38
MKS-CH-IC-1160	2	Plicatoria	wilmingtonensis	.	7.64	4.63
MKS-CH-IC-1161	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1162	2	Plicatoria	wilmingtonensis	.	10.42	6.70
MKS-CH-IC-1163	2	Plicatoria	wilmingtonensis	12.72	9.51	.
MKS-CH-IC-1164	2	Plicatoria	wilmingtonensis	9.03	6.84	4.79
MKS-CH-IC-1166	2	Plicatoria	wilmingtonensis	.	.	16.29
MKS-CH-IC-1167	2	Plicatoria	wilmingtonensis	26.94	19.89	15.35
MKS-CH-IC-1168	2	Plicatoria	wilmingtonensis	28.36	20.51	.
MKS-CH-IC-1169	2	Plicatoria	wilmingtonensis	30.41	21.36	17.58
MKS-CH-IC-1170	2	Plicatoria	wilmingtonensis	29.03	19.86	14.44
MKS-CH-IC-1172	2	Plicatoria	wilmingtonensis	13.71	8.80	7.13
MKS-CH-IC-1173	2	Plicatoria	wilmingtonensis	16.50	12.95	7.67
MKS-CH-IC-1174	2	Plicatoria	wilmingtonensis	.	13.37	9.43

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-1175	2	Plicatoria	wilmingtonensis	.	19.27	.
MKS-CH-IC-1176	2	Plicatoria	wilmingtonensis	.	.	14.46
MKS-CH-IC-1177	2	Plicatoria	wilmingtonensis	.	14.92	.
MKS-CH-IC-1178	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1179	2	Plicatoria	wilmingtonensis	22.96	17.67	.
MKS-CH-IC-1180	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1181	2	Plicatoria	wilmingtonensis	35.88	25.87	20.71
MKS-CH-IC-1182	2	Plicatoria	wilmingtonensis	13.34	9.65	6.95
MKS-CH-IC-1183	2	Plicatoria	wilmingtonensis	19.77	15.19	8.32
MKS-CH-IC-1184	2	Plicatoria	wilmingtonensis	27.61	19.57	15.53
MKS-CH-IC-1185	2	Plicatoria	wilmingtonensis	28.86	20.70	19.75
MKS-CH-IC-1186	2	Plicatoria	wilmingtonensis	31.98	21.40	17.33
MKS-CH-IC-1187	2	Plicatoria	wilmingtonensis	21.44	15.66	11.79
MKS-CH-IC-1188	2	Plicatoria	wilmingtonensis	.	19.00	13.93
MKS-CH-IC-1189	2	Plicatoria	wilmingtonensis	26.15	18.61	15.66

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-1190	2	Plicatoria	wilmingtonensis	29.04	21.32	17.73
MKS-CH-IC-1191	2	Plicatoria	wilmingtonensis	.	14.53	12.42
MKS-CH-IC-1192	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1193	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1194	2	Plicatoria	wilmingtonensis	27.29	.	.
MKS-CH-IC-1195	2	Plicatoria	wilmingtonensis	14.50	10.81	6.92
MKS-CH-IC-1196	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1197	2	Plicatoria	wilmingtonensis	12.04	9.06	6.00
MKS-CH-IC-1198	2	Plicatoria	wilmingtonensis	.	.	13.80
MKS-CH-IC-1199	2	Plicatoria	wilmingtonensis	27.81	19.56	12.05
MKS-CH-IC-1200	2	Plicatoria	wilmingtonensis	27.69	16.95	14.83
MKS-CH-IC-1201	2	Plicatoria	wilmingtonensis	26.74	19.61	13.59
MKS-CH-IC-1202	2	Plicatoria	wilmingtonensis	24.62	.	.
MKS-CH-IC-1203	2	Plicatoria	wilmingtonensis	14.79	10.46	8.19
MKS-CH-IC-1204	2	Plicatoria	wilmingtonensis	12.03	.	.

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-1205	2	Plicatoria	wilmingtonensis	.	8.98	.
MKS-CH-IC-1206	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1207	2	Plicatoria	wilmingtonensis	.	.	9.89
MKS-CH-IC-1208	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1209	2	Plicatoria	wilmingtonensis	37.27	29.10	27.31
MKS-CH-IC-1210	2	Plicatoria	wilmingtonensis	32.92	24.61	21.29
MKS-CH-IC-1211	2	Plicatoria	wilmingtonensis	24.60	.	11.78
MKS-CH-IC-1212	2	Plicatoria	wilmingtonensis	27.70	19.39	15.40
MKS-CH-IC-1213	2	Plicatoria	wilmingtonensis	.	21.44	14.40
MKS-CH-IC-1215	2	Plicatoria	wilmingtonensis	.	20.74	16.22
MKS-CH-IC-1216	2	Plicatoria	wilmingtonensis	27.35	20.27	19.11
MKS-CH-IC-1217	2	Plicatoria	wilmingtonensis	28.78	21.53	18.13
MKS-CH-IC-1218	2	Plicatoria	wilmingtonensis	21.78	15.12	10.77
MKS-CH-IC-1219	2	Plicatoria	wilmingtonensis	31.70	23.54	18.40
MKS-CH-IC-1220	2	Plicatoria	wilmingtonensis	.	.	17.04

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-1221	2	Plicatoria	wilmingtonensis	15.73	11.48	7.51
MKS-CH-IC-1222	2	Plicatoria	wilmingtonensis	27.93	.	.
MKS-CH-IC-1223	2	Plicatoria	wilmingtonensis	.	.	12.95
MKS-CH-IC-1224	2	Plicatoria	wilmingtonensis	23.21	16.43	11.39
MKS-CH-IC-1225	2	Plicatoria	wilmingtonensis	20.11	14.38	9.35
MKS-CH-IC-1226	2	Plicatoria	wilmingtonensis	22.72	14.98	11.71
MKS-CH-IC-1227	2	Plicatoria	wilmingtonensis	.	.	5.40
MKS-CH-IC-1229	2	Plicatoria	wilmingtonensis	.	13.81	8.91
MKS-CH-IC-1230	2	Plicatoria	wilmingtonensis	14.81	8.43	7.36
MKS-CH-IC-1231	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1232	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1233	2	Plicatoria	wilmingtonensis	.	.	.
MKS-CH-IC-1234	2	Plicatoria	wilmingtonensis	.	14.34	11.08
MKS-CH-IC-1235	2	Plicatoria	wilmingtonensis	14.33	11.17	6.31
MKS-CH-RP-1293	1	Terebratulina	capillata	10.74	8.91	4.78

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-IC-40	2	Terebratulina	capillata	9.30	7.83	.
MKS-CH-IC-1158	2	Terebratulina	capillata	12.06	9.40	6.41
MKS-CH-IC-1165	2	Terebratulina	capillata	.	.	.
MKS-CH-IC-1171	2	Terebratulina	capillata	11.92	8.99	5.25
MKS-CH-RP-223	1	Unidentified	Brachiopod	20.35	14.21	9.27
MKS-CH-RP-233	1	Unidentified	Brachiopod	19.59	13.93	8.87
MKS-CH-RP-237	1	Unidentified	Brachiopod	10.36	9.10	.
MKS-CH-RP-243	1	Unidentified	Brachiopod	24.93	18.28	12.04
MKS-CH-RP-245	1	Unidentified	Brachiopod	22.18	13.01	10.58
MKS-CH-RP-248	1	Unidentified	Brachiopod	20.17	14.84	8.73
MKS-CH-RP-249	1	Unidentified	Brachiopod	24.67	15.69	12.30
MKS-CH-RP-250	1	Unidentified	Brachiopod	22.51	17.23	10.03
MKS-CH-RP-255	1	Unidentified	Brachiopod	22.60	15.97	11.23
MKS-CH-RP-256	1	Unidentified	Brachiopod	.	.	.
MKS-CH-RP-257	1	Unidentified	Brachiopod	.	14.36	8.84

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-259	1	Unidentified	Brachiopod	21.33	15.82	.
MKS-CH-RP-260	1	Unidentified	Brachiopod	18.29	13.24	8.70
MKS-CH-RP-261	1	Unidentified	Brachiopod	26.14	19.54	14.36
MKS-CH-RP-262	1	Unidentified	Brachiopod	.	.	11.15
MKS-CH-RP-263	1	Unidentified	Brachiopod	.	.	8.64
MKS-CH-RP-264	1	Unidentified	Brachiopod	25.11	20.02	12.04
MKS-CH-RP-266	1	Unidentified	Brachiopod	.	.	.
MKS-CH-RP-268	1	Unidentified	Brachiopod	12.77	9.55	.
MKS-CH-RP-269	1	Unidentified	Brachiopod	.	.	9.95
MKS-CH-RP-270	1	Unidentified	Brachiopod	.	.	10.95
MKS-CH-RP-271	1	Unidentified	Brachiopod	22.30	16.42	10.22
MKS-CH-RP-272	1	Unidentified	Brachiopod	.	.	8.37
MKS-CH-RP-273	1	Unidentified	Brachiopod	16.11	12.00	7.88
MKS-CH-RP-277	1	Unidentified	Brachiopod	.	10.80	6.67
MKS-CH-RP-287	1	Unidentified	Brachiopod	22.48	16.80	10.50

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-300	1	Unidentified	Brachiopod	20.93	16.10	9.75
MKS-CH-RP-301	1	Unidentified	Brachiopod	20.21	13.92	10.02
MKS-CH-RP-304	1	Unidentified	Brachiopod	.	9.57	7.18
MKS-CH-RP-305	1	Unidentified	Brachiopod	24.22	.	13.14
MKS-CH-RP-307	1	Unidentified	Brachiopod	25.00	17.78	11.02
MKS-CH-RP-314	1	Unidentified	Brachiopod	.	.	11.21
MKS-CH-RP-317	1	Unidentified	Brachiopod	24.10	19.42	12.06
MKS-CH-RP-321	1	Unidentified	Brachiopod	23.94	17.04	12.50
MKS-CH-RP-322	1	Unidentified	Brachiopod	24.44	16.73	12.02
MKS-CH-RP-323	1	Unidentified	Brachiopod	31.20	21.27	14.69
MKS-CH-RP-326	1	Unidentified	Brachiopod	14.90	.	6.77
MKS-CH-RP-330	1	Unidentified	Brachiopod	.	.	11.30
MKS-CH-RP-331	1	Unidentified	Brachiopod	.	16.41	9.41
MKS-CH-RP-342	1	Unidentified	Brachiopod	.	.	10.94
MKS-CH-RP-350	1	Unidentified	Brachiopod	19.27	15.41	9.09

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-351	1	Unidentified	Brachiopod	20.39	15.00	9.24
MKS-CH-RP-353	1	Unidentified	Brachiopod	.	.	.
MKS-CH-RP-367	1	Unidentified	Brachiopod	.	14.78	10.10
MKS-CH-RP-368	1	Unidentified	Brachiopod	18.74	16.03	9.02
MKS-CH-RP-370	1	Unidentified	Brachiopod	21.38	14.99	10.82
MKS-CH-RP-374	1	Unidentified	Brachiopod	17.44	11.53	8.04
MKS-CH-RP-378	1	Unidentified	Brachiopod	.	.	6.77
MKS-CH-RP-379	1	Unidentified	Brachiopod	15.93	13.14	6.86
MKS-CH-RP-385	1	Unidentified	Brachiopod	.	17.88	13.97
MKS-CH-RP-396	1	Unidentified	Brachiopod	.	.	15.13
MKS-CH-RP-399	1	Unidentified	Brachiopod	14.69	.	7.33
MKS-CH-RP-400	1	Unidentified	Brachiopod	26.11	19.29	11.54
MKS-CH-RP-402	1	Unidentified	Brachiopod	16.83	13.23	.
MKS-CH-RP-404	1	Unidentified	Brachiopod	.	15.64	9.95
MKS-CH-RP-405	1	Unidentified	Brachiopod	10.74	8.73	5.05

Appendix C: Size Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Length (mm)	Width (mm)	Height/ Thickness (mm)
MKS-CH-RP-406	1	Unidentified	Brachiopod	.	13.47	7.70
MKS-CH-RP-407	1	Unidentified	Brachiopod	.	.	7.90
MKS-CH-RP-465	1	Unidentified	Brachiopod	.	.	9.66
MKS-CH-RP-487	1	Unidentified	Brachiopod	16.54	14.86	.
MKS-CH-RP-1245	1	Unidentified	Brachiopod	12.77	11.59	9.81
MKS-CH-IC-11	2	Unidentified	Brachiopod	28.81	.	.
MKS-CH-IC-37	2	Unidentified	Brachiopod	28.04	20.78	17.99
MKS-CH-IC-41	2	Unidentified	Brachiopod	17.23	13.34	9.01
MKS-CH-IC-44	2	Unidentified	Brachiopod	.	17.90	.
MKS-CH-IC-45	2	Unidentified	Brachiopod	.	.	.
MKS-CH-IC-421	2	Unidentified	Brachiopod	.	.	11.50
MKS-CH-IC-427	2	Unidentified	Brachiopod	11.22	9.42	5.24
MKS-CH-IC-430	2	Unidentified	Brachiopod	.	.	.
MKS-CH-IC-1214	2	Unidentified	Brachiopod	.	19.94	17.12
MKS-CH-IC-1228	2	Unidentified	Brachiopod	17.94	12.79	9.47

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-313	1	Plicatoria	ventricosa	3	1	2	1	1	0	0
MKS-CH-RP-328	1	Plicatoria	ventricosa	2	1	0	0	1	0	1
MKS-CH-RP-209	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-210	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-211	1	Plicatoria	wilmingtonensis	1	0	0	0	2	0	1
MKS-CH-RP-212	1	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1
MKS-CH-RP-213	1	Plicatoria	wilmingtonensis	2	1	0	0	1	2	1
MKS-CH-RP-214	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-215	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-216	1	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1
MKS-CH-RP-217	1	Plicatoria	wilmingtonensis	2	0	0	0	1	0	1
MKS-CH-RP-218	1	Plicatoria	wilmingtonensis	3	1	2	1	0	0	0
MKS-CH-RP-219	1	Plicatoria	wilmingtonensis	2	1	0	0	1	2	1
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-221	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	0
MKS-CH-RP-222	1	Plicatoria	wilmingtonensis	1	1	0	0	0	1	1
MKS-CH-RP-224	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	0
MKS-CH-RP-225	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-226	1	Plicatoria	wilmingtonensis	2	1	0	0	0	0	0
MKS-CH-RP-227	1	Plicatoria	wilmingtonensis	3	1	0	0	0	0	0
MKS-CH-RP-228	1	Plicatoria	wilmingtonensis	3	1	1	1	1	1	1
MKS-CH-RP-229	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-230	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-231	1	Plicatoria	wilmingtonensis	2	1	0	0	1	1	1
MKS-CH-RP-232	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-234	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-235	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-236	1	Plicatoria	wilmingtonensis	2	0	1	1	1	1	0

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-238	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-239	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-240	1	Plicatoria	wilmingtonensis	3	1	1	1	1	1	1
MKS-CH-RP-241	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-242	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	0
MKS-CH-RP-244	1	Plicatoria	wilmingtonensis	2	1	1	1	1	0	1
MKS-CH-RP-246	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-247	1	Plicatoria	wilmingtonensis	2	1	2	1	1	1	0
MKS-CH-RP-251	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	0
MKS-CH-RP-252	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	0
MKS-CH-RP-253	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-254	1	Plicatoria	wilmingtonensis	2	1	0	0	0	0	0
MKS-CH-RP-258	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-265	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-267	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-RP-274	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-275	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-276	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-278	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-279	1	Plicatoria	wilmingtonensis	1	1	0	0	1	2	1
MKS-CH-RP-280	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-281	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-282	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-283	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-284	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-285	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-286	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-288	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-289	1	Plicatoria	wilmingtonensis	2	1	1	1	1	0	1
MKS-CH-RP-290	1	Plicatoria	wilmingtonensis	2	0	0	0	1	2	1
MKS-CH-RP-291	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-292	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-293	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-294	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-295	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-296	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-297	1	Plicatoria	wilmingtonensis	3	1	.	1	2	1	1
MKS-CH-RP-298	1	Plicatoria	wilmingtonensis	3	1	2	1	0	0	1
MKS-CH-RP-299	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-302	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-303	1	Plicatoria	wilmingtonensis	3	1	2	1	1	2	1
MKS-CH-RP-306	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-308	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-309	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-310	1	Plicatoria	wilmingtonensis	0	0	0	0	1	2	1
MKS-CH-RP-311	1	Plicatoria	wilmingtonensis	2	1	0	0	2	0	1
MKS-CH-RP-312	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-315	1	Plicatoria	wilmingtonensis	2	1	0	0	1	1	1
MKS-CH-RP-316	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-318	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-319	1	Plicatoria	wilmingtonensis	2	1	0	0	1	1	1
MKS-CH-RP-320	1	Plicatoria	wilmingtonensis	1	1	0	0	2	0	1
MKS-CH-RP-324	1	Plicatoria	wilmingtonensis	3	1	2	1	2	1	1
MKS-CH-RP-325	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-327	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-329	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-332	1	Plicatoria	wilmingtonensis	2	1	0	0	2	0	1
MKS-CH-RP-333	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-334	1	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1
MKS-CH-RP-335	1	Plicatoria	wilmingtonensis	2	1	0	0	0	1	1
MKS-CH-RP-336	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-337	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-338	1	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1
MKS-CH-RP-339	1	Plicatoria	wilmingtonensis	1	0	0	0	2	0	1
MKS-CH-RP-340	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-341	1	Plicatoria	wilmingtonensis	4	1	.	1	2	0	1
MKS-CH-RP-343	1	Plicatoria	wilmingtonensis	4	1	0	0	.	.	1
MKS-CH-RP-344	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-345	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-346	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-347	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-348	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-349	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-352	1	Plicatoria	wilmingtonensis	2	1	1	1	1	0	1
MKS-CH-RP-354	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-355	1	Plicatoria	wilmingtonensis	2	0	0	0	1	0	0
MKS-CH-RP-356	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	0
MKS-CH-RP-357	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-358	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-359	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-360	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-361	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-362	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-RP-363	1	Plicatoria	wilmingtonensis	3	1	0	0	0	1	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-364	1	Plicatoria	wilmingtonensis	3	0	0	0	1	0	1
MKS-CH-RP-365	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-366	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-369	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-371	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-372	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-RP-373	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-375	1	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1
MKS-CH-RP-376	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	0
MKS-CH-RP-377	1	Plicatoria	wilmingtonensis	3	1	0	0	3	1	1
MKS-CH-RP-380	1	Plicatoria	wilmingtonensis	4	1	0	0	1	1	1
MKS-CH-RP-381	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-382	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-RP-383	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-384	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-386	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-387	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-388	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-RP-389	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-390	1	Plicatoria	wilmingtonensis	2	0	0	0	1	1	1
MKS-CH-RP-391	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-392	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-393	1	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1
MKS-CH-RP-394	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-395	1	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-RP-397	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-398	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-401	1	Plicatoria	wilmingtonensis	4	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-403	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-431	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-432	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-433	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-434	1	Plicatoria	wilmingtonensis	2	1	0	0	1	1	1
MKS-CH-RP-435	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-436	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-RP-437	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-438	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-439	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-440	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	1	1	0	0	1	2	1
MKS-CH-RP-442	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-443	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-444	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-445	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-446	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-447	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-448	1	Plicatoria	wilmingtonensis	3	1	1	1	1	2	1
MKS-CH-RP-449	1	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1
MKS-CH-RP-450	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-451	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-452	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-453	1	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1
MKS-CH-RP-454	1	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1
MKS-CH-RP-455	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-456	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-457	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-458	1	Plicatoria	wilmingtonensis	2	1	0	0	2	0	1
MKS-CH-RP-459	1	Plicatoria	wilmingtonensis	2	1	0	0	1	2	1
MKS-CH-RP-460	1	Plicatoria	wilmingtonensis	2	1	1	1	1	0	1
MKS-CH-RP-461	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-462	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-463	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-464	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-466	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-467	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-468	1	Plicatoria	wilmingtonensis	2	1	1	1	1	0	1
MKS-CH-RP-469	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-470	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-471	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-472	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-473	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-474	1	Plicatoria	wilmingtonensis	3	1	.	1	1	0	1
MKS-CH-RP-475	1	Plicatoria	wilmingtonensis	3	1	0	0	1	1	1
MKS-CH-RP-476	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-477	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-478	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-479	1	Plicatoria	wilmingtonensis	0	0	0	0	0	0	1
MKS-CH-RP-480	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-481	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-482	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-483	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-484	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-485	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-486	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-488	1	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1
MKS-CH-RP-489	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-490	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-491	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-492	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-493	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-494	1	Plicatoria	wilmingtonensis	2	1	0	0	1	1	1
MKS-CH-RP-495	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-496	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-497	1	Plicatoria	wilmingtonensis	2	0	0	0	1	0	1
MKS-CH-RP-498	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-499	1	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1
MKS-CH-RP-500	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-501	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-502	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-503	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-504	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-505	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-506	1	Plicatoria	wilmingtonensis	3	1	2	1	2	0	1
MKS-CH-RP-507	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-508	1	Plicatoria	wilmingtonensis	4	1	0	0	1	0	1
MKS-CH-RP-509	1	Plicatoria	wilmingtonensis	4	1	1	1	1	1	1
MKS-CH-RP-510	1	Plicatoria	wilmingtonensis	4	1	.	1	1	0	1
MKS-CH-RP-860	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-938	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-RP-951	1	Plicatoria	wilmingtonensis	3	1	0	0	1	1	1
MKS-CH-RP-1236	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-1237	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-1238	1	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1
MKS-CH-RP-1239	1	Plicatoria	wilmingtonensis	2	1	0	0	1	2	1
MKS-CH-RP-1240	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-1241	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-1242	1	Plicatoria	wilmingtonensis	1	1	0	0	0	0	1
MKS-CH-RP-1243	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-1244	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1246	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-RP-1247	1	Plicatoria	wilmingtonensis	1	1	0	0	2	0	1
MKS-CH-RP-1248	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-1249	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-RP-1250	1	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-RP-1251	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-RP-1252	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-1253	1	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-RP-1254	1	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-RP-1255	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-1256	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-1257	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-1258	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-1259	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-1260	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1261	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-RP-1262	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1263	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-1264	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-RP-1265	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1266	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-1267	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-1268	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1269	1	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1
MKS-CH-RP-1270	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1271	1	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-RP-1272	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-1273	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-1274	1	Plicatoria	wilmingtonensis	2	1	0	0	1	1	1
MKS-CH-RP-1275	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1276	1	Plicatoria	wilmingtonensis	4	1	.	1	1	0	1
MKS-CH-RP-1277	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-1278	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1279	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1280	1	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-1281	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-1282	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-1283	1	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-RP-1284	1	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-RP-1285	1	Plicatoria	wilmingtonensis	4	1	1	1	1	0	1
MKS-CH-RP-1286	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1287	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1288	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1289	1	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-RP-1290	1	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-RP-1291	1	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-RP-1292	1	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1294	1	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-IC-20	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-21	2	Plicatoria	wilmingtonensis	1	0	0	0	2	0	1
MKS-CH-IC-68	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-105	2	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1
MKS-CH-IC-106	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-132	2	Plicatoria	wilmingtonensis	1	0	0	0	3	0	1
MKS-CH-IC-136	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-140	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-143	2	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-IC-150	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-151	2	Plicatoria	wilmingtonensis	1	1	0	0	1	2	1
MKS-CH-IC-153	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-158	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-163	2	Plicatoria	wilmingtonensis	3	1	1	1	2	0	1
MKS-CH-IC-164	2	Plicatoria	wilmingtonensis	3	1	1	1	1	1	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-167	2	Plicatoria	wilmingtonensis	2	0	0	0	1	1	1
MKS-CH-IC-171	2	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-IC-173	2	Plicatoria	wilmingtonensis	1	1	0	0	2	0	1
MKS-CH-IC-174	2	Plicatoria	wilmingtonensis	1	1	0	0	1	2	1
MKS-CH-IC-175	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-176	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-177	2	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-IC-178	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-199	2	Plicatoria	wilmingtonensis	0	0	0	0	1	1	1
MKS-CH-IC-207	2	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-IC-408	2	Plicatoria	wilmingtonensis	2	1	0	0	1	2	1
MKS-CH-IC-409	2	Plicatoria	wilmingtonensis	2	1	1	1	0	2	1
MKS-CH-IC-410	2	Plicatoria	wilmingtonensis	1	1	0	0	2	0	1
MKS-CH-IC-411	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-412	2	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-IC-413	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-414	2	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-IC-415	2	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-IC-416	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-417	2	Plicatoria	wilmingtonensis	1	1	1	1	1	0	1
MKS-CH-IC-418	2	Plicatoria	wilmingtonensis	1	0	0	0	0	0	1
MKS-CH-IC-419	2	Plicatoria	wilmingtonensis	1	1	0	0	2	0	1
MKS-CH-IC-420	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-422	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-423	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-424	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-425	2	Plicatoria	wilmingtonensis	2	1	0	0	0	0	1
MKS-CH-IC-426	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-428	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-429	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-747	2	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-IC-796	2	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-IC-1138	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-1139	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1140	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1141	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-1142	2	Plicatoria	wilmingtonensis	4	1	2	1	1	1	1
MKS-CH-IC-1143	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1144	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1145	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1146	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-1147	2	Plicatoria	wilmingtonensis	4	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-1148	2	Plicatoria	wilmingtonensis	2	1	0	0	1	1	1
MKS-CH-IC-1149	2	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-IC-1150	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1151	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1152	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1153	2	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-IC-1154	2	Plicatoria	wilmingtonensis	2	1	1	1	2	0	1
MKS-CH-IC-1155	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-1156	2	Plicatoria	wilmingtonensis	4	1	2	1	0	0	1
MKS-CH-IC-1157	2	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-IC-1159	2	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-IC-1160	2	Plicatoria	wilmingtonensis	1	1	0	0	0	0	1
MKS-CH-IC-1161	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1162	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-1163	2	Plicatoria	wilmingtonensis	2	1	1	1	1	0	1
MKS-CH-IC-1164	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1166	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1167	2	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-IC-1168	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1169	2	Plicatoria	wilmingtonensis	1	1	0	0	1	2	1
MKS-CH-IC-1170	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1172	2	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-IC-1173	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1174	2	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-IC-1175	2	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-IC-1176	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1177	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1178	2	Plicatoria	wilmingtonensis	4	1	1	1	1	1	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-1179	2	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-IC-1180	2	Plicatoria	wilmingtonensis	4	1	.	1	1	0	1
MKS-CH-IC-1181	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1182	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1183	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1184	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1185	2	Plicatoria	wilmingtonensis	0	0	0	0	1	2	1
MKS-CH-IC-1186	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1187	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1188	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1189	2	Plicatoria	wilmingtonensis	1	1	0	0	1	2	1
MKS-CH-IC-1190	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-1191	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1192	2	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-1193	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-1194	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1195	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-1196	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-1197	2	Plicatoria	wilmingtonensis	0	0	0	0	1	2	1
MKS-CH-IC-1198	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1199	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1200	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1201	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1202	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-1203	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-1204	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-1205	2	Plicatoria	wilmingtonensis	3	1	2	1	1	0	1
MKS-CH-IC-1206	2	Plicatoria	wilmingtonensis	4	1	0	0	1	1	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-1207	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1208	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-1209	2	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-IC-1210	2	Plicatoria	wilmingtonensis	1	1	0	0	1	1	1
MKS-CH-IC-1211	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1212	2	Plicatoria	wilmingtonensis	1	0	0	0	1	2	1
MKS-CH-IC-1213	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1215	2	Plicatoria	wilmingtonensis	2	1	0	0	0	0	1
MKS-CH-IC-1216	2	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-IC-1217	2	Plicatoria	wilmingtonensis	1	0	0	0	1	0	1
MKS-CH-IC-1218	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1219	2	Plicatoria	wilmingtonensis	1	1	0	0	0	0	1
MKS-CH-IC-1220	2	Plicatoria	wilmingtonensis	4	1	0	0	0	0	1
MKS-CH-IC-1221	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-1222	2	Plicatoria	wilmingtonensis	2	1	0	0	2	0	1
MKS-CH-IC-1223	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1224	2	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-IC-1225	2	Plicatoria	wilmingtonensis	1	0	0	0	1	1	1
MKS-CH-IC-1226	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1227	2	Plicatoria	wilmingtonensis	3	1	0	0	1	0	1
MKS-CH-IC-1229	2	Plicatoria	wilmingtonensis	2	1	0	0	1	0	1
MKS-CH-IC-1230	2	Plicatoria	wilmingtonensis	0	0	0	0	1	0	1
MKS-CH-IC-1231	2	Plicatoria	wilmingtonensis	3	1	1	1	1	0	1
MKS-CH-IC-1232	2	Plicatoria	wilmingtonensis	4	1	0	0	1	0	1
MKS-CH-IC-1233	2	Plicatoria	wilmingtonensis	4	1	0	0	0	0	1
MKS-CH-IC-1234	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-IC-1235	2	Plicatoria	wilmingtonensis	1	1	0	0	1	0	1
MKS-CH-RP-1293	1	Terebratulina	capillata	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-40	2	Terebratulina	capillata	3	0	2	1	1	0	0
MKS-CH-IC-1158	2	Terebratulina	capillata	1	1	0	0	1	0	1
MKS-CH-IC-1165	2	Terebratulina	capillata	3	1	1	1	1	1	1
MKS-CH-IC-1171	2	Terebratulina	capillata	1	0	0	0	1	1	1
MKS-CH-RP-223	1	Unidentified	Brachiopod	1	0	0	0	1	2	1
MKS-CH-RP-233	1	Unidentified	Brachiopod	1	1	0	0	1	1	0
MKS-CH-RP-237	1	Unidentified	Brachiopod	3	1	1	1	1	0	0
MKS-CH-RP-243	1	Unidentified	Brachiopod	1	0	0	0	1	1	1
MKS-CH-RP-245	1	Unidentified	Brachiopod	1	1	0	0	1	0	0
MKS-CH-RP-248	1	Unidentified	Brachiopod	2	0	0	0	1	1	0
MKS-CH-RP-249	1	Unidentified	Brachiopod	1	1	0	0	1	0	0
MKS-CH-RP-250	1	Unidentified	Brachiopod	2	0	0	0	1	0	0
MKS-CH-RP-255	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-256	1	Unidentified	Brachiopod	3	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-257	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-259	1	Unidentified	Brachiopod	2	1	0	0	1	1	1
MKS-CH-RP-260	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-261	1	Unidentified	Brachiopod	1	1	0	0	1	1	1
MKS-CH-RP-262	1	Unidentified	Brachiopod	3	1	0	0	1	1	1
MKS-CH-RP-263	1	Unidentified	Brachiopod	3	1	0	0	1	0	1
MKS-CH-RP-264	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-266	1	Unidentified	Brachiopod	4	1	1	1	1	0	1
MKS-CH-RP-268	1	Unidentified	Brachiopod	2	1	0	0	0	0	1
MKS-CH-RP-269	1	Unidentified	Brachiopod	2	1	0	0	1	1	1
MKS-CH-RP-270	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-271	1	Unidentified	Brachiopod	1	0	0	0	1	0	1
MKS-CH-RP-272	1	Unidentified	Brachiopod	4	1	0	0	1	0	1
MKS-CH-RP-273	1	Unidentified	Brachiopod	1	1	0	0	1	1	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-277	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-287	1	Unidentified	Brachiopod	2	0	0	0	1	0	1
MKS-CH-RP-300	1	Unidentified	Brachiopod	1	1	0	0	1	1	1
MKS-CH-RP-301	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-304	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-305	1	Unidentified	Brachiopod	3	1	0	0	1	1	1
MKS-CH-RP-307	1	Unidentified	Brachiopod	1	1	0	0	0	0	1
MKS-CH-RP-314	1	Unidentified	Brachiopod	2	1	0	0	2	0	1
MKS-CH-RP-317	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-321	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-322	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-323	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-326	1	Unidentified	Brachiopod	1	1	0	0	1	0	0
MKS-CH-RP-330	1	Unidentified	Brachiopod	2	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-331	1	Unidentified	Brachiopod	1	1	0	0	0	0	1
MKS-CH-RP-342	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-350	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-351	1	Unidentified	Brachiopod	1	1	0	0	1	1	1
MKS-CH-RP-353	1	Unidentified	Brachiopod	4	1	1	1	1	0	1
MKS-CH-RP-367	1	Unidentified	Brachiopod	1	1	0	0	1	2	1
MKS-CH-RP-368	1	Unidentified	Brachiopod	1	1	0	0	0	1	1
MKS-CH-RP-370	1	Unidentified	Brachiopod	1	0	0	0	1	0	1
MKS-CH-RP-374	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-378	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-379	1	Unidentified	Brachiopod	1	1	0	0	1	0	0
MKS-CH-RP-385	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-396	1	Unidentified	Brachiopod	2	1	0	0	1	1	1
MKS-CH-RP-399	1	Unidentified	Brachiopod	1	1	0	0	1	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-RP-400	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-RP-402	1	Unidentified	Brachiopod	2	1	1	1	1	0	1
MKS-CH-RP-404	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-405	1	Unidentified	Brachiopod	2	1	0	0	1	0	0
MKS-CH-RP-406	1	Unidentified	Brachiopod	1	1	0	0	1	1	1
MKS-CH-RP-407	1	Unidentified	Brachiopod	2	1	0	0	1	0	1
MKS-CH-RP-465	1	Unidentified	Brachiopod	3	1	0	0	1	0	0
MKS-CH-RP-487	1	Unidentified	Brachiopod	1	0	0	0	1	0	1
MKS-CH-RP-1245	1	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-IC-11	2	Unidentified	Brachiopod	3	1	1	1	1	0	1
MKS-CH-IC-37	2	Unidentified	Brachiopod	1	0	0	0	1	0	1
MKS-CH-IC-41	2	Unidentified	Brachiopod	1	1	0	0	0	0	0
MKS-CH-IC-44	2	Unidentified	Brachiopod	3	1	1	1	2	0	1
MKS-CH-IC-45	2	Unidentified	Brachiopod	2	1	0	0	0	0	1

Appendix D: Taphonomic Data

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Valves: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100% missing	Mold: 0- whole, 1-partial	Valves present: 0- both, 1- pedicle, 2- brachial	Articulation: 0- articulated, 2- not articulated	Encrustation: 0- none, 1- <1-25%, 2- 25-50%, 3- 50-75%, 4- 75-100%	Predation: 0- no drill, 1- single drill, 2- multiple drills	Bioerosion: 0- no, 1- yes
MKS-CH-IC-421	2	Unidentified	Brachiopod	0	0	0	0	1	0	1
MKS-CH-IC-427	2	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-IC-430	2	Unidentified	Brachiopod	3	1	1	1	1	0	1
MKS-CH-IC-1214	2	Unidentified	Brachiopod	1	1	0	0	1	0	1
MKS-CH-IC-1228	2	Unidentified	Brachiopod	1	1	0	0	1	1	1

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-313	1	1	Plicatoria	ventricosa	0	.	.	.	.
MKS-CH-RP-328	1	1	Plicatoria	ventricosa	0	.	.	.	.
MKS-CH-RP-209	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-210	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-211	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-214	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-217	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-218	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-221	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-224	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-225	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-226	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-227	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-229	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-230	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-232	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-235	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-238	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-239	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-241	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-242	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-244	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-246	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-251	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-252	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-253	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-254	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-258	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-265	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-267	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-274	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-275	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-276	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-278	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-280	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-281	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-282	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-285	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-286	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-288	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-289	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-291	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-292	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-293	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-294	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-296	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-298	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-299	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-302	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-306	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-308	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-309	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-311	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-312	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-316	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-318	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-320	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-325	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-329	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-332	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-336	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-337	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-339	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-341	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-345	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-346	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-347	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-348	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-349	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-352	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-354	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-355	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-356	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-359	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-360	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-362	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-364	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-366	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-369	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-371	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-372	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-373	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-376	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-381	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-382	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-383	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-384	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-387	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-388	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-389	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-391	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-392	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-394	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-395	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-397	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-398	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-401	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-431	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-432	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-435	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-436	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-437	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-438	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-440	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-442	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-443	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-444	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-445	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-446	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-447	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-450	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-451	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-452	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-455	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-456	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-457	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-458	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-460	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-462	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-463	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-466	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-468	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-469	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-470	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-471	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-473	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-474	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-476	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-477	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-478	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-479	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-480	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-481	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-482	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-483	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-484	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-485	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-486	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-490	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-491	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-492	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-493	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-495	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-496	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-497	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-498	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-500	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-502	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-503	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-504	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-505	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-506	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-507	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-508	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-510	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-860	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-938	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1237	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1240	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1242	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1243	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1244	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1246	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1247	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1249	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1250	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1251	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1252	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1253	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-1255	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1256	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1258	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1260	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1261	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1262	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1263	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1264	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1265	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1266	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1267	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1268	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1270	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-1271	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1272	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1273	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1275	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1276	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1277	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1278	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1279	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1281	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1282	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1283	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1284	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1285	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-1286	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1287	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1288	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1289	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1291	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1292	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-1294	1	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-RP-215	1	1	Plicatoria	wilmingtonensis	1	2	0	1	2
MKS-CH-RP-222	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-228	1	1	Plicatoria	wilmingtonensis	1	1	0	1	1
MKS-CH-RP-231	1	1	Plicatoria	wilmingtonensis	1	2	0	1	2
MKS-CH-RP-234	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-236	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-240	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-247	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-283	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-283	1	0	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-284	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-295	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-295	1	0	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-297	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-315	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-315	1	0	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-319	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-324	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-324	1	0	Plicatoria	wilmingtonensis	1	2	1	0	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-327	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-333	1	1	Plicatoria	wilmingtonensis	1	2	1	0	0
MKS-CH-RP-334	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-335	1	1	Plicatoria	wilmingtonensis	1	1	0	1	0
MKS-CH-RP-340	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-340	1	0	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-344	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-357	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-358	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-361	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-363	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-365	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-377	1	1	Plicatoria	wilmingtonensis	1	1	1	0	1

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-380	1	1	Plicatoria	wilmingtonensis	1	1	1	0	0
MKS-CH-RP-386	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-390	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-390	1	0	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-403	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-433	1	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-RP-434	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-439	1	1	Plicatoria	wilmingtonensis	1	1	0	1	1
MKS-CH-RP-449	1	1	Plicatoria	wilmingtonensis	1	2	1	0	1
MKS-CH-RP-454	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-461	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-464	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-467	1	1	Plicatoria	wilmingtonensis	1	2	0	1	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-472	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-472	1	0	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-475	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-488	1	1	Plicatoria	wilmingtonensis	1	2	0	1	2
MKS-CH-RP-489	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-494	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-499	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-501	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-509	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-951	1	1	Plicatoria	wilmingtonensis	1	.	1	0	2
MKS-CH-RP-1236	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-1238	1	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-RP-1241	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-1248	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-1254	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-1257	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-1259	1	1	Plicatoria	wilmingtonensis	1	1	1	0	1
MKS-CH-RP-1274	1	1	Plicatoria	wilmingtonensis	1	2	1	0	1
MKS-CH-RP-1280	1	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-RP-1290	1	1	Plicatoria	wilmingtonensis	1	2	0	1	2
MKS-CH-RP-212	1	1	Plicatoria	wilmingtonensis	2	1	1	1	2
MKS-CH-RP-212	1	0	Plicatoria	wilmingtonensis	2	1	1	1	2
MKS-CH-RP-212	1	0	Plicatoria	wilmingtonensis	2	1	1	1	2
MKS-CH-RP-213	1	1	Plicatoria	wilmingtonensis	2	1	2	1	2
MKS-CH-RP-213	1	0	Plicatoria	wilmingtonensis	2	1	2	1	2
MKS-CH-RP-213	1	0	Plicatoria	wilmingtonensis	2	1	2	1	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-216	1	1	Plicatoria	wilmingtonensis	2	2	1	1	2
MKS-CH-RP-216	1	0	Plicatoria	wilmingtonensis	2	2	1	1	2
MKS-CH-RP-216	1	0	Plicatoria	wilmingtonensis	2	2	1	1	2
MKS-CH-RP-219	1	1	Plicatoria	wilmingtonensis	2	1	0	2	2
MKS-CH-RP-219	1	0	Plicatoria	wilmingtonensis	2	1	0	2	2
MKS-CH-RP-220	1	1	Plicatoria	wilmingtonensis	2	1	1	4	2
MKS-CH-RP-220	1	0	Plicatoria	wilmingtonensis	2	1	1	4	2
MKS-CH-RP-220	1	0	Plicatoria	wilmingtonensis	2	1	1	4	2
MKS-CH-RP-220	1	0	Plicatoria	wilmingtonensis	2	1	1	4	2
MKS-CH-RP-220	1	0	Plicatoria	wilmingtonensis	2	1	1	4	2
MKS-CH-RP-220	1	0	Plicatoria	wilmingtonensis	2	1	1	4	2
MKS-CH-RP-220	1	0	Plicatoria	wilmingtonensis	2	1	1	4	2
MKS-CH-RP-279	1	1	Plicatoria	wilmingtonensis	2	1	2	1	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-279	1	0	Plicatoria	wilmingtonensis	2	1	2	1	2
MKS-CH-RP-279	1	0	Plicatoria	wilmingtonensis	2	1	2	1	2
MKS-CH-RP-280	1	0	Plicatoria	wilmingtonensis	2	1	2	1	2
MKS-CH-RP-290	1	1	Plicatoria	wilmingtonensis	2	2	0	3	2
MKS-CH-RP-290	1	0	Plicatoria	wilmingtonensis	2	2	0	3	2
MKS-CH-RP-290	1	0	Plicatoria	wilmingtonensis	2	2	0	3	2
MKS-CH-RP-303	1	1	Plicatoria	wilmingtonensis	2	2	4	1	2
MKS-CH-RP-303	1	0	Plicatoria	wilmingtonensis	2	2	4	1	2
MKS-CH-RP-303	1	0	Plicatoria	wilmingtonensis	2	2	4	1	2
MKS-CH-RP-303	1	0	Plicatoria	wilmingtonensis	2	2	4	1	2
MKS-CH-RP-303	1	0	Plicatoria	wilmingtonensis	2	2	4	1	2
MKS-CH-RP-303	1	0	Plicatoria	wilmingtonensis	2	2	4	1	2
MKS-CH-RP-303	1	0	Plicatoria	wilmingtonensis	2	2	4	1	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-310	1	1	Plicatoria	wilmingtonensis	2	3	0	2	2
MKS-CH-RP-310	1	0	Plicatoria	wilmingtonensis	2	3	0	2	2
MKS-CH-RP-338	1	1	Plicatoria	wilmingtonensis	2	3	1	1	2
MKS-CH-RP-338	1	0	Plicatoria	wilmingtonensis	2	3	1	1	2
MKS-CH-RP-375	1	1	Plicatoria	wilmingtonensis	2	1	2	1	1
MKS-CH-RP-375	1	0	Plicatoria	wilmingtonensis	2	1	2	1	1
MKS-CH-RP-375	1	0	Plicatoria	wilmingtonensis	2	1	2	1	1
MKS-CH-RP-393	1	1	Plicatoria	wilmingtonensis	2	1	1	1	2
MKS-CH-RP-393	1	0	Plicatoria	wilmingtonensis	2	1	1	1	2
MKS-CH-RP-441	1	1	Plicatoria	wilmingtonensis	2	3	7	0	2
MKS-CH-RP-441	1	0	Plicatoria	wilmingtonensis	2	3	7	0	2
MKS-CH-RP-441	1	0	Plicatoria	wilmingtonensis	2	3	7	0	2
MKS-CH-RP-441	1	0	Plicatoria	wilmingtonensis	2	3	7	0	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-441	1	0	Plicatoria	wilmingtonensis	2	3	7	0	2
MKS-CH-RP-441	1	0	Plicatoria	wilmingtonensis	2	3	7	0	2
MKS-CH-RP-441	1	0	Plicatoria	wilmingtonensis	2	3	7	0	2
MKS-CH-RP-441	1	0	Plicatoria	wilmingtonensis	2	3	7	0	2
MKS-CH-RP-448	1	1	Plicatoria	wilmingtonensis	2	1	1	2	2
MKS-CH-RP-448	1	0	Plicatoria	wilmingtonensis	2	1	1	2	2
MKS-CH-RP-448	1	0	Plicatoria	wilmingtonensis	2	1	1	2	2
MKS-CH-RP-448	1	0	Plicatoria	wilmingtonensis	2	1	1	2	2
MKS-CH-RP-453	1	1	Plicatoria	wilmingtonensis	2	3	0	3	2
MKS-CH-RP-453	1	0	Plicatoria	wilmingtonensis	2	3	0	3	2
MKS-CH-RP-453	1	0	Plicatoria	wilmingtonensis	2	3	0	3	2
MKS-CH-RP-459	1	1	Plicatoria	wilmingtonensis	2	2	3	0	1
MKS-CH-RP-459	1	0	Plicatoria	wilmingtonensis	2	2	3	0	1

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-459	1	0	Plicatoria	wilmingtonensis	2	2	3	0	1
MKS-CH-RP-459	1	0	Plicatoria	wilmingtonensis	2	2	3	0	1
MKS-CH-RP-459	1	0	Plicatoria	wilmingtonensis	2	2	3	0	1
MKS-CH-RP-1239	1	1	Plicatoria	wilmingtonensis	2	1	1	0	2
MKS-CH-RP-1239	1	0	Plicatoria	wilmingtonensis	2	1	1	0	2
MKS-CH-RP-1269	1	1	Plicatoria	wilmingtonensis	2	1	2	0	1
MKS-CH-RP-1269	1	0	Plicatoria	wilmingtonensis	2	1	2	0	1
MKS-CH-RP-343	1	1	Plicatoria	wilmingtonensis	.	.	.	.	.
MKS-CH-RP-1293	1	1	Terebratulina	capillata	0	.	.	.	.
MKS-CH-RP-237	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-245	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-249	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-250	1	1	Unidentified	Brachiopod	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-255	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-256	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-257	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-260	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-263	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-264	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-266	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-268	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-270	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-271	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-272	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-277	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-287	1	1	Unidentified	Brachiopod	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-301	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-304	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-307	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-314	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-317	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-321	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-322	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-323	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-326	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-330	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-331	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-342	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-350	1	1	Unidentified	Brachiopod	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-353	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-370	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-374	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-378	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-379	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-385	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-399	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-400	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-402	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-404	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-405	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-407	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-465	1	1	Unidentified	Brachiopod	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-487	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-1245	1	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-RP-233	1	1	Unidentified	Brachiopod	1	2	1	0	2
MKS-CH-RP-233	1	0	Unidentified	Brachiopod	1	2	1	0	2
MKS-CH-RP-243	1	1	Unidentified	Brachiopod	1	1	1	0	2
MKS-CH-RP-248	1	1	Unidentified	Brachiopod	1	1	0	1	2
MKS-CH-RP-259	1	1	Unidentified	Brachiopod	1	1	1	0	2
MKS-CH-RP-261	1	1	Unidentified	Brachiopod	1	2	0	1	2
MKS-CH-RP-262	1	1	Unidentified	Brachiopod	1	1	1	0	2
MKS-CH-RP-269	1	1	Unidentified	Brachiopod	1	2	1	0	2
MKS-CH-RP-273	1	1	Unidentified	Brachiopod	1	1	0	1	2
MKS-CH-RP-300	1	1	Unidentified	Brachiopod	1	1	1	0	2
MKS-CH-RP-305	1	1	Unidentified	Brachiopod	1	2	1	0	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-RP-351	1	1	Unidentified	Brachiopod	1	2	1	0	2
MKS-CH-RP-368	1	1	Unidentified	Brachiopod	1	2	1	0	2
MKS-CH-RP-368	1	0	Unidentified	Brachiopod	1	2	1	0	2
MKS-CH-RP-396	1	1	Unidentified	Brachiopod	1	1	1	0	2
MKS-CH-RP-396	1	0	Unidentified	Brachiopod	1	1	1	0	2
MKS-CH-RP-406	1	1	Unidentified	Brachiopod	1	2	1	0	2
MKS-CH-RP-223	1	1	Unidentified	Brachiopod	2	2	2	0	2
MKS-CH-RP-223	1	0	Unidentified	Brachiopod	2	2	2	0	2
MKS-CH-RP-367	1	1	Unidentified	Brachiopod	2	1	1	1	2
MKS-CH-RP-367	1	0	Unidentified	Brachiopod	2	1	1	1	2
MKS-CH-IC-20	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-21	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-68	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-106	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-132	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-136	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-140	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-143	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-150	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-153	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-158	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-163	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-171	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-173	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-175	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-176	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-178	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-410	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-411	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-412	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-413	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-416	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-417	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-418	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-419	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-420	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-422	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-423	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-424	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-425	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-426	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-428	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-429	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-747	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-796	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1138	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1139	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1140	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1141	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1143	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1144	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1145	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-1146	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1147	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1149	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1150	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1151	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1152	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1153	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1154	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1155	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1156	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1157	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1159	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1160	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-1161	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1162	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1163	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1164	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1166	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1167	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1168	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1170	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1172	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1173	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1175	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1176	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1177	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-1179	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1180	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1181	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1182	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1183	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1184	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1186	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1187	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1188	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1190	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1191	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1192	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1193	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-1194	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1195	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1196	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1198	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1199	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1200	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1201	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1202	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1203	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1204	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1205	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1207	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1208	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-1211	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1213	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1215	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1217	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1218	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1219	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1220	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1221	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1222	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1223	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1224	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1226	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1227	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-1229	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1230	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1231	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1232	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1233	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1234	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-1235	2	1	Plicatoria	wilmingtonensis	0	.	.	.	.
MKS-CH-IC-105	2	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-IC-164	2	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-IC-167	2	1	Plicatoria	wilmingtonensis	1	2	1	0	1
MKS-CH-IC-177	2	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-IC-199	2	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-IC-207	2	1	Plicatoria	wilmingtonensis	1	1	1	0	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-414	2	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-IC-414	2	0	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-IC-415	2	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-IC-1142	2	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-IC-1148	2	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-IC-1174	2	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-IC-1178	2	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-IC-1206	2	1	Plicatoria	wilmingtonensis	1	2	0	1	2
MKS-CH-IC-1209	2	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-IC-1210	2	1	Plicatoria	wilmingtonensis	1	1	0	1	2
MKS-CH-IC-1216	2	1	Plicatoria	wilmingtonensis	1	1	1	0	2
MKS-CH-IC-1225	2	1	Plicatoria	wilmingtonensis	1	2	1	0	2
MKS-CH-IC-151	2	1	Plicatoria	wilmingtonensis	2	3	1	1	1

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-151	2	0	Plicatoria	wilmingtonensis	2	3	1	1	1
MKS-CH-IC-174	2	1	Plicatoria	wilmingtonensis	2	1	2	0	2
MKS-CH-IC-174	2	0	Plicatoria	wilmingtonensis	2	1	2	0	2
MKS-CH-IC-408	2	1	Plicatoria	wilmingtonensis	2	1	2	0	2
MKS-CH-IC-408	2	0	Plicatoria	wilmingtonensis	2	1	2	0	2
MKS-CH-IC-408	2	0	Plicatoria	wilmingtonensis	2	1	2	0	2
MKS-CH-IC-409	2	1	Plicatoria	wilmingtonensis	2	1	3	0	2
MKS-CH-IC-409	2	0	Plicatoria	wilmingtonensis	2	1	3	0	2
MKS-CH-IC-409	2	0	Plicatoria	wilmingtonensis	2	1	3	0	2
MKS-CH-IC-1169	2	1	Plicatoria	wilmingtonensis	2	3	2	0	2
MKS-CH-IC-1169	2	0	Plicatoria	wilmingtonensis	2	3	2	0	2
MKS-CH-IC-1185	2	1	Plicatoria	wilmingtonensis	2	1	2	0	2
MKS-CH-IC-1185	2	0	Plicatoria	wilmingtonensis	2	1	2	0	2

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-1189	2	1	Plicatoria	wilmingtonensis	2	1	2	0	1
MKS-CH-IC-1189	2	0	Plicatoria	wilmingtonensis	2	1	2	0	1
MKS-CH-IC-1197	2	1	Plicatoria	wilmingtonensis	2	1	3	0	2
MKS-CH-IC-1197	2	0	Plicatoria	wilmingtonensis	2	1	3	0	2
MKS-CH-IC-1197	2	0	Plicatoria	wilmingtonensis	2	1	3	0	2
MKS-CH-IC-1212	2	1	Plicatoria	wilmingtonensis	2	2	1	1	2
MKS-CH-IC-1212	2	0	Plicatoria	wilmingtonensis	2	2	1	1	2
MKS-CH-IC-40	2	1	Terebratulina	capillata	0	.	.	.	.
MKS-CH-IC-1158	2	1	Terebratulina	capillata	0	.	.	.	.
MKS-CH-IC-1165	2	1	Terebratulina	capillata	1	1	1	0	2
MKS-CH-IC-1171	2	1	Terebratulina	capillata	1	2	1	0	2
MKS-CH-IC-11	2	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-IC-37	2	1	Unidentified	Brachiopod	0	.	.	.	.

Appendix E: Predation

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	1: Original, 0: Duplicate	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Valve drilled: 1- pedicle, 2- brachial, 3- both	Complete drillholes	Incomplete drillholes	Drill hole certainty: 0- probably not, 1- probable, 2- definite
MKS-CH-IC-41	2	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-IC-44	2	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-IC-45	2	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-IC-421	2	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-IC-427	2	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-IC-430	2	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-IC-1214	2	1	Unidentified	Brachiopod	0	.	.	.	.
MKS-CH-IC-1228	2	1	Unidentified	Brachiopod	1	2	1	0	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-215	1	Plicatoria	wilmingtonensis	1	0.31	0.28	0	1	2
MKS-CH-RP-222	1	Plicatoria	wilmingtonensis	1	0.46	0.41	1	0	2
MKS-CH-RP-228	1	Plicatoria	wilmingtonensis	1	0.50	0.49	0	1	2
MKS-CH-RP-231	1	Plicatoria	wilmingtonensis	1	0.56	0.49	0	1	2
MKS-CH-RP-234	1	Plicatoria	wilmingtonensis	1	0.46	0.45	0	1	2
MKS-CH-RP-236	1	Plicatoria	wilmingtonensis	1	0.62	0.61	1	0	2
MKS-CH-RP-240	1	Plicatoria	wilmingtonensis	1	0.43	0.43	1	0	2
MKS-CH-RP-247	1	Plicatoria	wilmingtonensis	1	0.42	0.40	1	0	2
MKS-CH-RP-283	1	Plicatoria	wilmingtonensis	1	1.31	1.21	1	0	2
MKS-CH-RP-283	1	Plicatoria	wilmingtonensis	1	0.87	0.72	.	.	.
MKS-CH-RP-284	1	Plicatoria	wilmingtonensis	1	0.71	0.63	1	0	2
MKS-CH-RP-295	1	Plicatoria	wilmingtonensis	1	1.13	1.10	1	0	2
MKS-CH-RP-295	1	Plicatoria	wilmingtonensis	1	0.88	0.85	.	.	.

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-297	1	Plicatoria	wilmingtonensis	1	0.29	0.24	1	0	2
MKS-CH-RP-315	1	Plicatoria	wilmingtonensis	1	0.95	0.83	1	0	2
MKS-CH-RP-315	1	Plicatoria	wilmingtonensis	1	0.54	0.53	.	.	.
MKS-CH-RP-319	1	Plicatoria	wilmingtonensis	1	0.44	0.41	0	1	2
MKS-CH-RP-324	1	Plicatoria	wilmingtonensis	1	2.19	1.30	1	0	2
MKS-CH-RP-324	1	Plicatoria	wilmingtonensis	1	1.52	0.82	.	.	.
MKS-CH-RP-327	1	Plicatoria	wilmingtonensis	1	0.53	0.42	1	0	2
MKS-CH-RP-334	1	Plicatoria	wilmingtonensis	1	1.41	1.34	1	0	2
MKS-CH-RP-340	1	Plicatoria	wilmingtonensis	1	0.53	0.51	1	0	2
MKS-CH-RP-340	1	Plicatoria	wilmingtonensis	1	0.32	0.30	.	.	.
MKS-CH-RP-344	1	Plicatoria	wilmingtonensis	1	0.63	0.54	0	1	2
MKS-CH-RP-357	1	Plicatoria	wilmingtonensis	1	0.91	0.74	0	1	2
MKS-CH-RP-358	1	Plicatoria	wilmingtonensis	1	0.76	0.74	0	1	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-361	1	Plicatoria	wilmingtonensis	1	0.50	0.50	1	0	2
MKS-CH-RP-363	1	Plicatoria	wilmingtonensis	1	0.57	0.53	1	0	2
MKS-CH-RP-365	1	Plicatoria	wilmingtonensis	1	0.89	0.83	0	1	2
MKS-CH-RP-377	1	Plicatoria	wilmingtonensis	1	0.43	0.42	1	0	2
MKS-CH-RP-386	1	Plicatoria	wilmingtonensis	1	0.67	0.58	0	1	2
MKS-CH-RP-390	1	Plicatoria	wilmingtonensis	1	0.91	0.78	0	1	2
MKS-CH-RP-390	1	Plicatoria	wilmingtonensis	1	0.66	0.59	.	.	.
MKS-CH-RP-403	1	Plicatoria	wilmingtonensis	1	0.54	0.54	1	0	2
MKS-CH-RP-433	1	Plicatoria	wilmingtonensis	1	0.64	0.62	0	1	2
MKS-CH-RP-434	1	Plicatoria	wilmingtonensis	1	0.69	0.65	1	0	2
MKS-CH-RP-439	1	Plicatoria	wilmingtonensis	1	0.69	0.65	0	1	2
MKS-CH-RP-449	1	Plicatoria	wilmingtonensis	1	1.16	1.11	1	0	1
MKS-CH-RP-454	1	Plicatoria	wilmingtonensis	1	0.91	0.79	1	0	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-461	1	Plicatoria	wilmingtonensis	1	1.01	0.89	1	0	2
MKS-CH-RP-464	1	Plicatoria	wilmingtonensis	1	0.67	0.65	1	0	2
MKS-CH-RP-467	1	Plicatoria	wilmingtonensis	1	0.50	0.44	0	1	2
MKS-CH-RP-472	1	Plicatoria	wilmingtonensis	1	1.06	1.05	1	0	2
MKS-CH-RP-472	1	Plicatoria	wilmingtonensis	1	0.81	0.80	.	.	.
MKS-CH-RP-475	1	Plicatoria	wilmingtonensis	1	0.66	0.60	1	0	2
MKS-CH-RP-488	1	Plicatoria	wilmingtonensis	1	0.75	0.71	0	1	2
MKS-CH-RP-489	1	Plicatoria	wilmingtonensis	1	0.73	0.70	1	0	2
MKS-CH-RP-494	1	Plicatoria	wilmingtonensis	1	0.63	0.58	1	0	2
MKS-CH-RP-499	1	Plicatoria	wilmingtonensis	1	0.65	0.61	1	0	2
MKS-CH-RP-501	1	Plicatoria	wilmingtonensis	1	0.52	0.46	1	0	2
MKS-CH-RP-509	1	Plicatoria	wilmingtonensis	1	0.50	0.47	1	0	2
MKS-CH-RP-951	1	Plicatoria	wilmingtonensis	1	0.58	0.57	1	0	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-1236	1	Plicatoria	wilmingtonensis	1	0.66	0.60	1	0	2
MKS-CH-RP-1238	1	Plicatoria	wilmingtonensis	1	0.79	0.76	1	0	2
MKS-CH-RP-1241	1	Plicatoria	wilmingtonensis	1	0.58	0.55	1	0	2
MKS-CH-RP-1248	1	Plicatoria	wilmingtonensis	1	0.80	0.68	1	0	2
MKS-CH-RP-1254	1	Plicatoria	wilmingtonensis	1	0.50	0.47	1	0	2
MKS-CH-RP-1257	1	Plicatoria	wilmingtonensis	1	0.79	0.66	1	0	2
MKS-CH-RP-1259	1	Plicatoria	wilmingtonensis	1	0.38	0.37	1	0	1
MKS-CH-RP-1274	1	Plicatoria	wilmingtonensis	1	1.15	0.80	1	0	1
MKS-CH-RP-1280	1	Plicatoria	wilmingtonensis	1	0.62	0.50	1	0	2
MKS-CH-RP-1290	1	Plicatoria	wilmingtonensis	1	0.66	0.60	0	1	2
MKS-CH-RP-212	1	Plicatoria	wilmingtonensis	2	0.73	0.70	1	0	2
MKS-CH-RP-212	1	Plicatoria	wilmingtonensis	2	0.52	0.51	.	.	.
MKS-CH-RP-212	1	Plicatoria	wilmingtonensis	2	0.64	0.47	0	1	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-213	1	Plicatoria	wilmingtonensis	2	0.54	0.49	0	1	2
MKS-CH-RP-213	1	Plicatoria	wilmingtonensis	2	0.59	0.55	1	0	2
MKS-CH-RP-213	1	Plicatoria	wilmingtonensis	2	0.61	0.56	1	0	2
MKS-CH-RP-216	1	Plicatoria	wilmingtonensis	2	0.86	0.70	0	1	2
MKS-CH-RP-216	1	Plicatoria	wilmingtonensis	2	0.71	0.53	1	0	2
MKS-CH-RP-216	1	Plicatoria	wilmingtonensis	2	0.38	0.35	.	.	.
MKS-CH-RP-219	1	Plicatoria	wilmingtonensis	2	0.78	0.74	0	1	2
MKS-CH-RP-219	1	Plicatoria	wilmingtonensis	2	0.37	0.35	0	1	2
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	2	0.52	0.44	0	1	2
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	2	0.71	0.61	1	0	2
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	2	0.93	0.73	0	1	2
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	2	1.04	1.01	0	1	2
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	2	0.71	0.65	.	.	.

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	2	0.60	0.58	0	1	2
MKS-CH-RP-220	1	Plicatoria	wilmingtonensis	2	0.32	0.30	.	.	.
MKS-CH-RP-279	1	Plicatoria	wilmingtonensis	2	0.90	0.70	.	.	0
MKS-CH-RP-279	1	Plicatoria	wilmingtonensis	2	0.63	0.58	1	0	2
MKS-CH-RP-279	1	Plicatoria	wilmingtonensis	2	0.68	0.66	0	1	2
MKS-CH-RP-280	1	Plicatoria	wilmingtonensis	2	1.02	0.98	1	0	2
MKS-CH-RP-290	1	Plicatoria	wilmingtonensis	2	0.63	0.40	0	1	2
MKS-CH-RP-290	1	Plicatoria	wilmingtonensis	2	0.57	0.55	0	1	2
MKS-CH-RP-290	1	Plicatoria	wilmingtonensis	2	0.38	0.33	0	1	2
MKS-CH-RP-303	1	Plicatoria	wilmingtonensis	2	0.31	0.25	1	0	2
MKS-CH-RP-303	1	Plicatoria	wilmingtonensis	2	0.40	0.38	1	0	2
MKS-CH-RP-303	1	Plicatoria	wilmingtonensis	2	0.48	0.43	1	0	2
MKS-CH-RP-303	1	Plicatoria	wilmingtonensis	2	0.50	0.49	1	0	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-303	1	Plicatoria	wilmingtonensis	2	0.57	0.52	0	1	2
MKS-CH-RP-310	1	Plicatoria	wilmingtonensis	2	0.64	0.59	0	1	2
MKS-CH-RP-310	1	Plicatoria	wilmingtonensis	2	0.66	0.60	0	1	2
MKS-CH-RP-338	1	Plicatoria	wilmingtonensis	2	0.84	0.83	1	0	2
MKS-CH-RP-338	1	Plicatoria	wilmingtonensis	2	0.77	0.72	0	1	2
MKS-CH-RP-375	1	Plicatoria	wilmingtonensis	2	0.66	0.65	0	1	2
MKS-CH-RP-375	1	Plicatoria	wilmingtonensis	2	0.55	0.39	1	0	1
MKS-CH-RP-375	1	Plicatoria	wilmingtonensis	2	0.43	0.41	1	0	1
MKS-CH-RP-393	1	Plicatoria	wilmingtonensis	2	0.51	0.45	0	1	2
MKS-CH-RP-393	1	Plicatoria	wilmingtonensis	2	1.05	1.04	1	0	2
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	2	0.69	0.57	1	0	1
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	2	0.71	0.62	1	0	2
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	2	0.84	0.80	1	0	1

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	2	0.74	0.71	1	0	2
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	2	0.62	0.51	1	0	1
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	2	1.44	1.42	1	0	2
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	2	0.89	0.76	.	.	.
MKS-CH-RP-441	1	Plicatoria	wilmingtonensis	2	0.55	0.43	1	0	2
MKS-CH-RP-448	1	Plicatoria	wilmingtonensis	2	0.51	0.44	0	1	2
MKS-CH-RP-448	1	Plicatoria	wilmingtonensis	2	0.81	0.70	0	1	2
MKS-CH-RP-448	1	Plicatoria	wilmingtonensis	2	0.48	0.42	.	.	.
MKS-CH-RP-448	1	Plicatoria	wilmingtonensis	2	0.50	0.47	1	0	2
MKS-CH-RP-453	1	Plicatoria	wilmingtonensis	2	0.85	0.84	0	1	2
MKS-CH-RP-453	1	Plicatoria	wilmingtonensis	2	0.75	0.74	0	1	2
MKS-CH-RP-453	1	Plicatoria	wilmingtonensis	2	0.83	0.67	0	1	2
MKS-CH-RP-459	1	Plicatoria	wilmingtonensis	2	0.62	0.58	1	0	1

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-459	1	Plicatoria	wilmingtonensis	2	0.57	0.57	1	0	1
MKS-CH-RP-459	1	Plicatoria	wilmingtonensis	2	0.47	0.43	1	0	2
MKS-CH-RP-459	1	Plicatoria	wilmingtonensis	2	0.23	0.21	.	.	.
MKS-CH-RP-1239	1	Plicatoria	wilmingtonensis	2	0.56	0.43	1	0	2
MKS-CH-RP-1239	1	Plicatoria	wilmingtonensis	2	0.59	0.55	1	0	2
MKS-CH-RP-1269	1	Plicatoria	wilmingtonensis	2	.	.	1	0	1
MKS-CH-RP-1269	1	Plicatoria	wilmingtonensis	2	.	.	1	0	1
MKS-CH-RP-233	1	Unidentified	Brachiopod	1	0.67	0.64	1	0	2
MKS-CH-RP-233	1	Unidentified	Brachiopod	1	0.46	0.44	.	.	.
MKS-CH-RP-243	1	Unidentified	Brachiopod	1	0.46	0.39	1	0	2
MKS-CH-RP-248	1	Unidentified	Brachiopod	1	0.40	0.35	0	1	2
MKS-CH-RP-259	1	Unidentified	Brachiopod	1	0.46	0.44	1	0	2
MKS-CH-RP-261	1	Unidentified	Brachiopod	1	0.67	0.66	0	1	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-262	1	Unidentified	Brachiopod	1	0.71	0.60	1	0	2
MKS-CH-RP-269	1	Unidentified	Brachiopod	1	0.62	0.54	1	0	2
MKS-CH-RP-273	1	Unidentified	Brachiopod	1	0.26	0.24	0	1	2
MKS-CH-RP-300	1	Unidentified	Brachiopod	1	0.29	0.28	1	0	2
MKS-CH-RP-305	1	Unidentified	Brachiopod	1	0.82	0.82	1	0	2
MKS-CH-RP-351	1	Unidentified	Brachiopod	1	0.69	0.62	1	0	2
MKS-CH-RP-368	1	Unidentified	Brachiopod	1	0.67	0.63	1	0	2
MKS-CH-RP-368	1	Unidentified	Brachiopod	1	0.47	0.45	.	.	.
MKS-CH-RP-396	1	Unidentified	Brachiopod	1	1.02	0.87	1	0	2
MKS-CH-RP-396	1	Unidentified	Brachiopod	1	0.70	0.59	.	.	.
MKS-CH-RP-406	1	Unidentified	Brachiopod	1	0.55	0.54	1	0	2
MKS-CH-RP-223	1	Unidentified	Brachiopod	2	0.61	0.55	1	0	2
MKS-CH-RP-223	1	Unidentified	Brachiopod	2	0.63	0.50	1	0	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-RP-367	1	Unidentified	Brachiopod	2	0.42	0.42	1	0	2
MKS-CH-RP-367	1	Unidentified	Brachiopod	2	0.28	0.28	0	1	2
MKS-CH-IC-105	2	Plicatoria	wilmingtonensis	1	0.49	0.36	0	1	2
MKS-CH-IC-164	2	Plicatoria	wilmingtonensis	1	0.61	0.52	1	0	2
MKS-CH-IC-177	2	Plicatoria	wilmingtonensis	1	0.70	0.66	1	0	2
MKS-CH-IC-199	2	Plicatoria	wilmingtonensis	1	0.50	0.44	0	1	2
MKS-CH-IC-207	2	Plicatoria	wilmingtonensis	1	0.52	0.48	1	0	2
MKS-CH-IC-414	2	Plicatoria	wilmingtonensis	1	0.92	0.82	1	0	2
MKS-CH-IC-414	2	Plicatoria	wilmingtonensis	1	0.68	0.67	.	.	.
MKS-CH-IC-415	2	Plicatoria	wilmingtonensis	1	0.48	0.41	1	0	2
MKS-CH-IC-1142	2	Plicatoria	wilmingtonensis	1	0.47	0.42	1	0	2
MKS-CH-IC-1148	2	Plicatoria	wilmingtonensis	1	0.53	0.47	0	1	2
MKS-CH-IC-1174	2	Plicatoria	wilmingtonensis	1	0.60	0.57	1	0	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-IC-1178	2	Plicatoria	wilmingtonensis	1	0.49	0.38	1	0	2
MKS-CH-IC-1206	2	Plicatoria	wilmingtonensis	1	0.43	0.35	0	1	2
MKS-CH-IC-1209	2	Plicatoria	wilmingtonensis	1	1.73	1.65	1	0	2
MKS-CH-IC-1210	2	Plicatoria	wilmingtonensis	1	0.40	0.37	0	1	2
MKS-CH-IC-1216	2	Plicatoria	wilmingtonensis	1	0.96	0.93	1	0	2
MKS-CH-IC-1225	2	Plicatoria	wilmingtonensis	1	0.74	0.72	1	0	2
MKS-CH-IC-151	2	Plicatoria	wilmingtonensis	2	0.41	0.35	0	1	2
MKS-CH-IC-151	2	Plicatoria	wilmingtonensis	2	0.29	0.23	1	0	2
MKS-CH-IC-174	2	Plicatoria	wilmingtonensis	2	0.63	0.60	1	0	2
MKS-CH-IC-174	2	Plicatoria	wilmingtonensis	2	0.41	0.32	1	0	2
MKS-CH-IC-408	2	Plicatoria	wilmingtonensis	2	0.82	0.75	1	0	2
MKS-CH-IC-408	2	Plicatoria	wilmingtonensis	2	0.61	0.57	.	.	.
MKS-CH-IC-408	2	Plicatoria	wilmingtonensis	2	0.59	0.57	1	0	2

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-IC-409	2	Plicatoria	wilmingtonensis	2	0.53	0.57	1	0	2
MKS-CH-IC-409	2	Plicatoria	wilmingtonensis	2	0.28	0.52	1	0	2
MKS-CH-IC-409	2	Plicatoria	wilmingtonensis	2	0.32	0.27	1	0	2
MKS-CH-IC-1169	2	Plicatoria	wilmingtonensis	2	0.64	0.62	1	0	2
MKS-CH-IC-1169	2	Plicatoria	wilmingtonensis	2	0.49	0.45	1	0	1
MKS-CH-IC-1185	2	Plicatoria	wilmingtonensis	2	0.83	0.65	1	0	2
MKS-CH-IC-1189	2	Plicatoria	wilmingtonensis	2	0.90	0.87	1	0	1
MKS-CH-IC-1189	2	Plicatoria	wilmingtonensis	2	0.21	0.15	1	0	1
MKS-CH-IC-1197	2	Plicatoria	wilmingtonensis	2	0.64	0.61	1	0	2
MKS-CH-IC-1197	2	Plicatoria	wilmingtonensis	2	0.57	0.55	1	0	2
MKS-CH-IC-1197	2	Plicatoria	wilmingtonensis	2	0.53	0.46	1	0	1
MKS-CH-IC-1212	2	Plicatoria	wilmingtonensis	2	0.32	0.27	1	0	2
MKS-CH-IC-1212	2	Plicatoria	wilmingtonensis	2	0.61	0.52	0	1	1

Appendix F: Drillhole Diameter

Sample	Quarry: 1: Rocky Point, 2: Castle Hayne	Genus	Species	Predation: 0- no drill, 1- single drill, 2- multiple drills	Max drillhole length (mm)	Min. drillhole length (mm)	Complete	Incomplete	Certainty
MKS-CH-IC-1165	2	Terebratulina	capillata	1	0.32	0.30	1	0	2
MKS-CH-IC-1171	2	Terebratulina	capillata	1	0.66	0.63	1	0	2
MKS-CH-IC-1228	2	Unidentified	Brachiopod	1	0.68	0.59	1	0	2