



A new genus and species of Eumolpinae (Coleoptera: Chrysomelidae) from the western dry forest of Ecuador

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Abstract

Australotymnes jipijapa new genus, new species (type locality: Ecuador) is described. Adults were collected from vegetation during the rainy season in disturbed and converted dry forest in western Ecuador.

Key words: Australotymnes, Eumolpinae, Ecuador

Resumen

Se describen adultos de *Australotymnes jipijapa*, un género nuevo y una especie nueva (localidad tipo: Ecuador). Esta especie fue encontrado en vegetación en bosque seco alterado en el oeste de Ecuador, durante la época lluviosa.

Introduction

During a visit to dry forest in Ecuador's Manabí Province, in the vicinity of the town of Jipijapa, a species of Eumolpinae was encountered that appeared to be a species of *Tymnes* Chapuis, a genus known only from North and northern Central America. Further study showed that although there was a strong resemblance, the Ecuadorian species was not *Tymnes* but an undescribed genus of uncertain affinities, described below. Specimens are deposited in the following institutions: FSCA, Florida State Collection of Arthropods, Gainesville, Florida, USA; MECN, Museo Ecuatoriano de Ciencias Naturales, Quito, Ecuador.

Australotymnes new genus (Figs. 1–8)

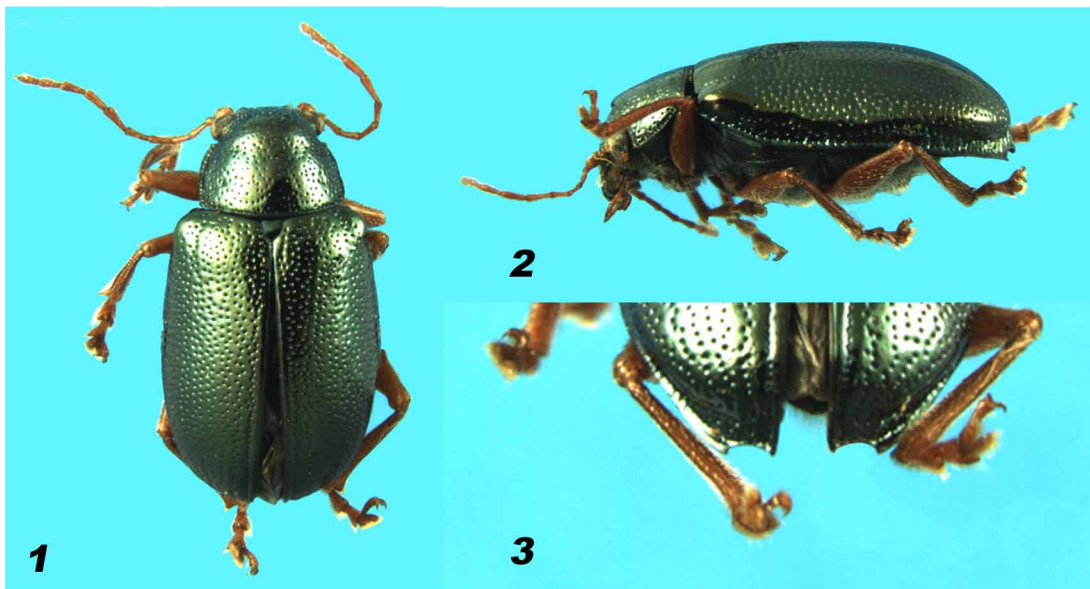
Type species. *Australotymnes jipijapa* n. sp., here designated.

Body elongate oval, dorsally convex (Figs. 1–2). Head with frons and clypeus coarsely punctate. Eyes oval, shallowly and broadly emarginate at antennal insertion; ocular sulci absent. Antenna with scape elongate oval, pedicel subglobose, shorter than scape, distinctly shorter than antennomere 1; flagellum filiform, each antennomere slightly wider at apex, elongate; antennomeres 3–6 with scattered appressed setae, antennomeres 7–11 densely pubescent, with whorl of long erect setae at apex of antennomeres 3–10; antennomere spindle-shaped. Mandibles with outer margin with sharp bend, lateral surface rugose and setose, apical teeth broad, pointed. Maxillary palpi with apical segment tapered. Prothorax distinctly wider than long; pronotum moderately convex, with posterior margin subequal to anterior margin, anterior angles almost square, posterior angles subacute; all angles with a seta-bearing puncture; basal marginal bead present; lateral margin narrow and evenly rounded, with widest part of pronotum just behind middle. Prosternum longitudinally slightly inclined behind coxae, transversely flat; with anterior margin recessed for reception of gular area of head; posterior margin of intercoxal process truncate. Lateral wings of prosternum recessed for reception of gular area of head, with anterior margin weakly convex. Hypomeron weakly concave. Mesosternum subequal in width to prosternum, flat between coxae; metasternum convex, swollen anterior to hind coxae; metepisternum gradually narrowed posteriorly. Legs sparsely covered with short prostrate setae; all surfaces alutaceous. Femora strongly swollen in middle;

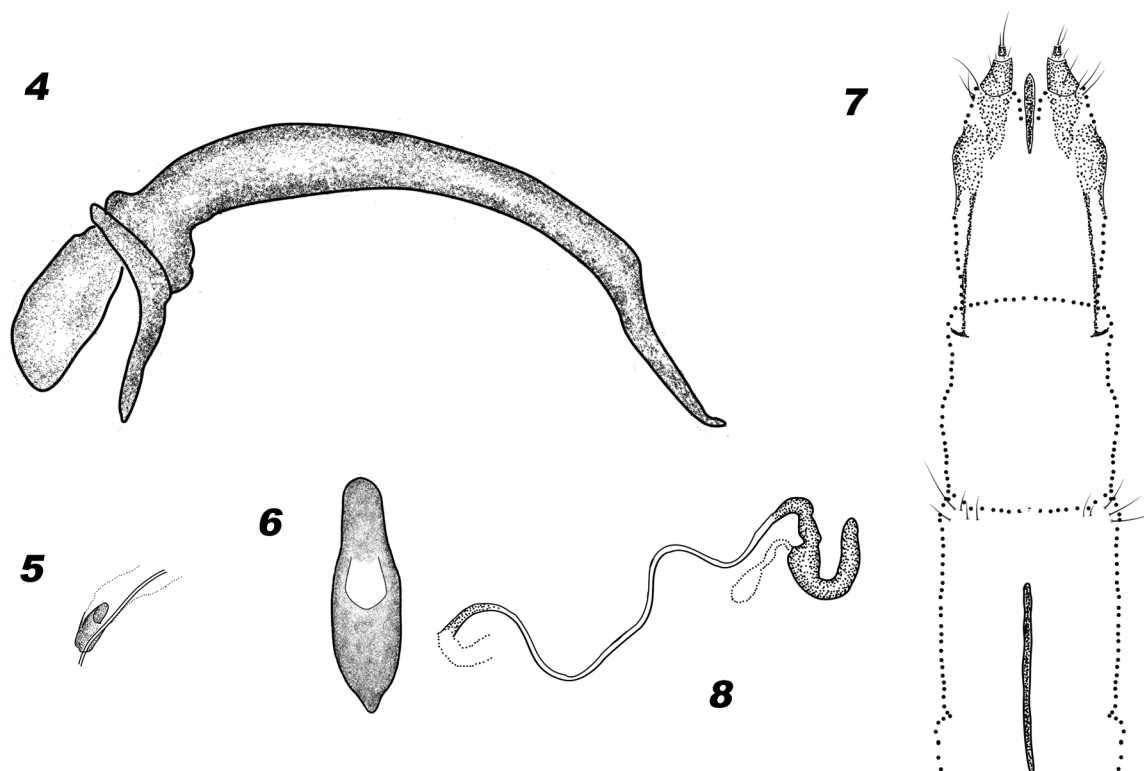
tibiae bicarinate, slightly sulcate between carinae, with seta increasing in length toward apex; protibiae widened in apical third and spatulate at apex; middle and hind tibiae gradually widened apically. Tarsi densely and uniformly pilose beneath; basal and second tarsomeres subequal in length, third tarsomere shorter than second, deeply bilobed; terminal tarsomere distinctly surpassing apex of third tarsomere; claws divergent, appendiculate. Elytra with humeri prominent, rounded; basal calli obsolete, postbasal depression lacking, sides subparallel, convergent apices moderately declivous, epipluron narrow, acutely raised, slanted, tapering evenly from base to apex. Scutellum U-shaped, with base subequal to length; surface smooth. Abdomen with all segments subequal in length; pygidium with a longitudinal groove, surface and lateral margins smooth. Male genitalia (Fig. 4–6): basal hood of median lobe weakly constricted at point of attachment, basal fenestra lacking, basal spurs weakly developed. Female Genitalia (Fig. 7–8): Segments VIII–XI forming moderately long ovipositor, basal apodeme of sternum VIII long and narrow, tapered at the ends, tergum VIII with very weakly sclerotized diagonal bands, paraprocts developed into long thin rods. Spermatheca (Fig. 8) Receptacle narrower than pump, duct lightly sclerotized, relatively short.

Etymology. *Austro*, Latin from *australis* meaning south; *tymnes*, from the genus *Tymnes* Chapuis. The latter name is originally from the Greek, as Herodotus mentions several personages named Tymnes (eg. Herodotus 440BCE).

Remarks. This genus can be distinguished from all other Neotropical Eumolpinae by the following combination of characters: 1) pygidium with median groove; 2) prosternum broadly recessed along anterior margin; 3) anterior margin of lateral arms of prosternum straight or weakly concave (i.e. not forming anterior "ocular lobes" as in *Typophorus* or *Paria*); 4) subparallel sides of elytra. *Australotymnes* most closely resembles blue or green species of North American *Tymnes* but can be recognized by the straight or weakly concave lateral arms of the prosternum (these are weakly convex in *Tymnes*), by the more strongly developed lateral margin of the pronotum, the well developed pygidial groove (developed only on the basal half of the pygidium in *Tymnes*) and by the relatively short basal hood and long tubular median lobe of the male genitalia.



FIGURES 1–3. *Australotymnes jipijapa* 1, dorsal view; 2, lateral view; 3, view of apices of elytra.



FIGURES 4–8. *Australotymnes jipijapa* 4, median lobe; 5, apical sclerite; 6, apex of median lobe; 7, ovipositor; 8, spermatheca.

Australotymnes jipijapa Flowers, new species

Holotype male. Length 5.8 mm. Head, pronotum and elytra shining dark green; antennae with segments 1–5 reddish brown, 6–11 piceous. Underside dark blue-green, tip of abdomen brown; legs reddish brown (Figs. 1–2). Head and clypeus rugosely punctate, punctures separated by distance less than the diameter of puncture, surface between punctures alutaceous; apex of clypeus emarginate with long white setae laterally. Frons coarsely punctate, punctures separated by distance less than the diameter of a puncture; surface between punctures alutaceous; antennal calli alutaceous and slightly swollen with several large punctures. Mouthparts dark reddish brown with apex of labrum emarginate, with 4 dorsal setae and short row of lateral setae along outer margin. Prothorax wider than long, $L/W = 0.67$; pronotal disc strongly punctate, with punctures widely spaced on dorsal midline, becoming denser laterally and forming pair of rugose oval areas near posterior angles, surface between punctures smooth, shining with small punctulae. Under surface of thorax smooth. Prosternum with long setae, coarsely punctate, width of intercoxal process 0.6 x diameter of procoxa. Mesosternum flat between coxae, densely punctate with dense white setae; metasternum punctate with dense short white setae; metepisternum with surface wrinkled. Elytra evenly punctate, width across humeri 1.28 x width across pronotum with punctures forming two striae along suture in apical third; interval VIII swollen in apical fourth and above apical declivity; surface between punctures smooth with scattered small punctulae; apices with concave emargination with a small tooth laterally on each side (Fig. 3). Abdomen with dense prostrate setae, surface of segments alutaceous, male sternum VII with lateral margins smooth and a weak median depression. Median lobe elongate, tubular, with apex lanceolate (Fig. 6); basal hood relatively short relative to median lobe, subbasal fenestra obsolete, basal spurs obtuse, scarcely produced. Endophallus not extruded but membraneous with only a small pair of needle-like sclerotized structures near the base. Apical sclerite robust, not twisted (Fig. 5).

Allotype Female. Body elongate oval; length 6.9 mm; head, pronotum, elytra, and underside piceous with metallic green reflex; antennae reddish brown; legs piceous with bluish reflex. Prothorax distinctly wider than long, $L/W = 0.52$, pronotum as in male but with disc more evenly punctate, lacking rugose area near posterior angles; prosternum with width of intercoxal process 0.6 x diameter of procoxa. Legs similar in form to male but basal tarsomere of fore- and

middle legs not expanded. Elytral punctation and apical emargination as in male. Abdomen with surface of segments alutaceous and strongly punctate, covered with yellowish-white setae, sternum VII with apical margin weakly emarginate, and with numerous long lateral and apical setae. Abdominal segments VIII–XI forming moderately elongate ovipositor (Fig. 7) Sternum VII with long setae along apical margin laterally; baculum weakly sclerotized, subequal to gonocoxae; gonocoxae slender, with long setae in apical half, coxostyli small with long apical setae. Spermatheca as in Fig. 8.

Etymology. This species is named for the town of Jipijapa (pronounced HEE-PEE-HA-PA) in Manabí Province, Ecuador, the nearest town to where the holotype of this species was found. The name is a noun in apposition.

Specimens examined

(4 ♂♂, 10 ♀♀) Male HOLOTYPE labeled ECUADOR, Manabí, Sancan–Membrillal rd. 14 km NW Jipijapa, 4–feb–2008, R.W. Flowers, N. Mero. (MECN). Female ALLOTYPE labelled ECUADOR, Manabí, La Pila, roadside vegetation, 4–II–2008, R.W. Flowers, N. Mero. PARATYPES: 3 ♂♂, 8 ♀♀ (1 ♂, 2 ♀♀ MECN, remainder FSCA), same data as Allotype.

Discussion

The affinities of *Australotymnes* to other Neotropical Eumolpinae are uncertain. The combination of a complete pygidial groove and recessed anterior margin of the prosternum are found in several other genera, but the majority of these are oval in overall shape, or at least have markedly rounded sides of the elytra. The subparallel form of *Australotymnes* resembles *Thysanomerus* and *Prionodera* but these two genera lack grooves on the pygidium. The aedeagus of *Australotymnes* is intermediate between the two Divisions proposed by Flowers (1999) but resembles that of *Glyptosceloides dentatus* Askevold & Flowers: the base of the basal hood is constricted (as in Division II), but the subbasal fenestra is lacking (as in Division I), the basal hood lacks distinct apodemes, and the basal spurs are very weakly developed (they are well developed in Division II and lacking in Division I). Based on its external resemblance to *Tymnes*, and its internal resemblance to *Glyptosceloides* in the males, *Australotymnes* would seem to fall in the section Edusites Chapuis (Chapuis 1874), to which both the other genera have been assigned. The phenotypic contradictions among the genera included in this section, noted here and in Askevold and Flowers (1994), indicate that Edusites should be regarded as no more than an informal grouping until Neotropical eumolpinae genera are better understood.

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References

- Askevold, I.S. & Flowers, R.W. (1994) *Glyptosceloides dentatus*, a genus and species of Eumolpinae new to Chile (Coleoptera: Chrysomelidae). *Revista Chilena de Entomología* 21, 69–76
- Chapuis, F. (1874) *Histoire naturelle des Insectes: Genera des Coléoptères*. Vol. 10: Famille des Phytophages. Paris iv+455pp.
- Flowers, R.W. (1999) Internal structure and phylogenetic importance of male genitalia in the Eumolpinae. In M.L. Cox (Ed.), *Advances in Chrysomelidae Biology* 1, Backhuys, Leiden, pp. 71–93.
- Herodotus (440BCE) *Terpsichore* translated by George Rawlinson. Greek-Texts.com & Greece Http Ltd. Available from: <http://www.greektexts.com/index.html>. accessed 14–X–2008.