

***Pseudeburia*, a New South American genus of longhorned beetle (Cerambycidae: Cerambycinae: Bothriospilini)**

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(Received 16 July 2014; accepted 30 March 2015; first published online 29 April 2015)

Based on the terminalia structures, the species *Eburia albolineata* Fisher 1944 is transferred from Eburini (Cerambycoinia) to Bothriospilini (Trachyderoinia) in a new genus: *Pseudeburia* **gen. nov.**

<http://zoobank.org/urn:lsid:zoobank.org:pub:1C803D54-8B84-4800-A91B-04F5EC8DBA8D>

Keywords: Cerambycoinia; Eburini; new genus; Trachyderoinia

The subfamily Cerambycinae is divided into two supertribes: Cerambycoinia and Trachyderoinia, this division was proposed by Fragoso et al. (1987) based on the structure of the terminalia. Lacordaire (1869) subdivided the ‘cerambycides vrais sylvains’ into two sections according to the diameter of the ommatidial lenses (i.e. coarsely and finely faceted eyes). The proposal of Fragoso et al. (1987) is contrary to Lacordaire’s classification; Fragoso et al. (1987) proposed that terminalia differentiation preceded the transformation of the ommatidia, a trend that occurred independently in many groups of Cerambycinae.

The differentiation of terminalia between these two supertribes is as follows: in Cerambycoinia females the ovipositor is elongate (longer than sternites VI and VII together), clearly divided into an anterior and posterior region; in females, sternite VIII is not modified and in males sternite VIII has a long apodeme. The supertribe Trachyderoinia was erected to include the taxa in which females possess purpuriceni-form terminalia, characterized by a short ovipositor (shorter than or equal to sternites VI and VII together), sternite VIII with a brush of differentiated setae and tergite VIII bi- or trilobate; in males sternite VIII is wider than long with a very short or absent apodeme (Fragoso et al. 1987). This Trachyderoinia terminalia pattern has been described in many works: Moura and Galileo (1992), Monné and Napp (2000), Monné (2005b), Monné and Napp (2005), Botero and Monné (2012), and Quintino and Monné (2014).

Trachyderoinia included initially four tribes: Torneutini, Trachyderini, Basipterini and Pyrestini (Fragoso et al. 1987). Monné and Napp (2005) considered Torneutini as paraphyletic and recognized a fifth tribe in Trachyderoinia: Bothriospilini.

Members of the tribe Eburini possess terminalia of the Cerambycoinia pattern and the tribe is therefore placed in this supertribe. Studying material of tribe I

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provided the opportunity to examine the terminalia of many Eburiini genera and all of them present this pattern. I observed that the terminalia of *Eburia albolineata* Fisher 1944 is actually purpuriceniform, necessitating the transfer of this species to Trachyderoinia and its inclusion in a new genus, *Pseudeburia* gen. nov., in the tribe Bothriospilini.

Abbreviations cited in the text: MNRJ, Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; USNM, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA.

Taxonomy

Pseudeburia gen. nov.

Type species

Eburia albolineata Fisher 1944

Description

Frons transverse, short; antennal tubercles slightly projected. Eyes coarsely faceted, deeply emarginated, distance between upper lobes 1.5 times the width of an upper lobe. Mandibles acute, curved at external margin. Genae short, acute at apex. Antennae 11-segmented, filiform, unarmed, in both sexes surpassing elytral apex.

Prothorax rounded at sides, with a short, acute, median-lateral spine. Pronotum with two antemedian tubercles, rounded at top; with a median longitudinal gibbosity, slightly elevated. Procoxal cavity rounded, not angulated at sides. Prosternal process narrow, about one-third as wide as procoxal cavity. Mesosternal process tuberculated, mesocoxal cavities about 1.5 times width of mesosternal process. Prosternal and mesosternal process with lateral projections that fit into notches on coxae.

Scutellum small, rounded at apex. Elytra convex, parallel-sided, elongate, at least three times as long as the width across humeri, with eburneus callosities. Apex truncated, bispinose, external spine longer than inner spine.

Mesotibiae, metatibiae and femora linear, inner apex of mesotibiae and metatibiae with a long and acute spine (longer than pedicel length), mesotarsomere and metatarsomere I 1.5 times longer than mesotarsomere and metatarsomere II.

Urosternites transverse, subequal in width; urosternite V truncate and sinuous at middle.

Etymology

Pseudeburia refers to the great similarity with the genus *Eburia* Lacordaire, 1830 (Eburiini).

Remarks

Eburia albolineata was described by Fisher (1944) based on a unique female, from Caripito, Venezuela, and placed in the tribe Eburiini (Cerambycoini). The general

appearance and especially the eburneus callosities are typical of Eburiini, but examination of the female holotype, and specimens of the MNRJ, showed that the terminalia of *Pseudeburia albolineata* comb. nov. is purpuriceniform. The differentiation of this type of terminalia is a very complex trend that involves some sternites, not only in the female terminalia but also in the male terminalia and should have evolved only once in Cerambycinae (Fragoso et al. 1987). The eburneus callosities, on the other hand, are a characteristic that occurs in many tribes of Cerambycinae, as for example in Trachyderini, Torneutini, Bothriospilini (Trachyderoinia), Heteropsini and Hesperophanini (Cerambycoinia) and does not occur in all the Eburiini – e.g. *Styliceps sericata* (Pascoe 1859), *Simplexeburia divisa* Martins and Galileo 2010, *Opades costipennis* (Buquet 1844).

The monophyly of Trachyderoinia has never been formally tested, but although their main objective was not that, Monné and Napp (2005) corroborated the proposal of Fragoso et al. (1987) and recognized some characters that define the supertribe: metepisternum with glandular pores; sternites I–V widened and sternite V transverse, sinuous at apex; apophysis of male VIII sternite short, half or less length of sternite; median lobe and internal sac shortened; distal region of female VIII sternite with a brush of differentiated setae; female VIII tergite transverse and bi- or trilobated; ovipositor short, at most as broad as long. As mentioned in the Introduction, there are many works that describe and illustrate the Trachyderoinia terminalia: Moura and Galileo (1992) (figs 1–10), Monné and Napp (2000) (figs 47–72), Monné (2005b) (figs 29–54, 62–80), Monné and Napp (2005) (figs 124–125, 127–132), Botero and Monné (2012) (figs 13–15, 25–27, 38–39, 43–45, 56–58, 72–75, 86–88, 102–105, 116–118, 135–138, 149–151, 168–171, 182–184, 198–201, 212–214), Quintino and Monné (2014) (figs 48–50, 61–63, 74–76, 87–89, 94–97, 102–105, 110–113, 118–121). The terminalia described in these works are in accord with



Figure 1. *Pseudeburia albolineata* comb. nov., female. (A) Holotype; (B) detail of the brush of setae, posterior view; (C) sternite VIII (brush of setae); (D) tergite VIII.

the proposal of Monné and Napp (2005) and with the terminalia described in *Pseudeburia* gen. nov. (Figures 1B–D).

In Trachyderoinia only two tribes have eyes coarsely faceted, Torneutini and Bothriospilini. Bothriospilini is characterized by the antennae elongate in both sexes, prothorax with lateral projections, procoxal cavities rounded at sides, mesosternal process with lateral projections, mesofemora and metafemora spinose at apex and hind legs twice as long as forelegs (Monné and Napp 2005). All of these characteristics are present in *Pseudeburia* gen. nov.

Beyond *Pseudeburia* gen. nov., in Bothriospilini only three genera have eburneus callosities: *Bothriospila* Aurivillius 1923, *Taygayba* Martins and Galileo 1998 and *Timbaraba* Monné and Napp 2005. *Bothriospila* differs from the other genera because its eburneus callosities are irregular and clothed with short pubescence (Monné and Napp 2005). *Pseudeburia* gen. nov. differs from *Taygayba* by having the sides of the prothorax armed with an acute spine, by the spinose elytral apices and the inner apices of the mesofemora and metafemora with a long spine. In *Taygayba* the sides of the prothorax, apices of elytra, and the inner apices of the mesofemora and metafemora are unarmed. *Pseudeburia* gen. nov. differs from *Timbaraba* by having the inner apical spine of the mesofemora and metafemora well developed (longer than pedicel length). In *Timbaraba* the inner apical spine of the mesofemora and metafemora are moderately short (shorter than pedicel length).

***Pseudeburia albolineata* (Fisher 1944) comb. nov.**
(Figure 1A–D)

Eburia albolineata Fisher 1944: 4, Zajciw 1960: 93, Martins 1999: 232, Monné 2005a: 141, Galileo, Martins and Moyses 2008: 16.
Eburia (*Eburia*) *albolineata*; Martins 1997: 80.

Geographical distribution

Venezuela.

Specimens examined

VENEZUELA, *Monagas*: Caripito, female, 16.V.1942 (Holotype, USNM); female, 14.IV.1948, F. Fernandez leg. (MNRJ); *Aragua*: El Limón, male, 19.V.1976, F. Fernandez leg. [‘luz de mercúrio’] (MNRJ); two females, 20.IV.1978, F. Fernandez leg. [‘luz de mercúrio’] (MNRJ); female, VI.1981 (MNRJ); Maracay, male, 31.V.1966, F. Fernandez leg. (MNRJ); *Guárico*: Parapara, male and three females, 14.IV.1948, F. Fernandez leg. (MNRJ).

Acknowledgements

The author is grateful to Steven W. Lingafelter (USNM) for the loan of the holotype of *Eburia albolineata* and for reviewing the English text and to Marcela L. Monné, Miguel A. Monné (MNRJ) and Steven W. Lingafelter for providing helpful comments on the manuscript. Thanks also to anonymous referees for reviewing the manuscript and providing valuable insights

Disclosure statement

No potential conflict of interest was reported by the author.

References

- Aurivillius C. 1923. Neue oder wenig bekannte Coleoptera Longicornia. 19. Arkiv för Zoologi. 15:437–479.
- Botero JP, Monné ML. 2012. Revision of the genus *Andraegoidus* Aurivillius (Insecta, Coleoptera, Cerambycidae). Zootaxa. 3169:1–60.
- Buquet JBL. 1844. [description of] *Chorida costipennis*. In: Guérin-Ménéville FE, editor. Iconographie du regne animal de G. Cuvier. Insectes 7. Paris: Baillière; p. 221.
- Fisher WS. 1944. Cerambycidae (Coleoptera) of Caripito, Venezuela. Zoologica. 29:3–12.
- Fragoso SA, Monné MA, Seabra CAC. 1987. Preliminary considerations on the higher classification of Cerambycinae (Coleoptera, Cerambycidae), with nomenclatural alterations. Rev Brasil Biol. 47:189–202.
- Galileo MHM, Martins UR, Moyses E. 2008. Cerambycidae Sul-Americanos (Coleoptera). Suplemento 2, Vol. 3. São Paulo: Museu de Zoologia, Universidade de São Paulo; p. 3–121.
- Lacordaire JT. 1830. Mémoire sur les habitudes des insectes coléoptères de l'Amérique méridionale. Ann Sci Nat. 21:149–194.
- Lacordaire JT. 1869. Histoire Naturelle des Insectes. Genera des Coléoptères, ou exposé méthodique et critique de tous les genres proposés jusqu'ici dans cet ordre d'insectes. Librairie Encyclopédique de Roret. 9:409 pp. Paris, 8, 552 pp.
- Martins UR. 1997. Contribuições para uma revisão das espécies sul-americanas da tribo Eburini (Coleoptera, Cerambycidae). Rev Brasil Entomol. 41:57–83.
- Martins UR. 1999. Cerambycidae Sul-Americanos (Coleoptera) Taxonomia. São Paulo: Sociedade Brasileira de Entomologia. Tribo Eburini; p. 119–391.
- Martins UR, Galileo MHM. 1998. Novas sinonimias e novos táxons em Cerambycidae (Coleoptera) neotropicais. Rev Bras Entomol. 15:47–58.
- Martins UR, Galileo MHM. 2010. Notas e descrições em Hesperophanini, Eburini, Piezocerini e Trachyderini (Coleoptera, Cerambycidae, Cerambycinae) do Brasil e da Bolívia. Pap Avulsos Zool. 50:587–593.
- Monné MA. 2005a. Catalogue of the Cerambycidae (Coleoptera) of the Neotropical Region. Part I. Subfamily Cerambycinae. Zootaxa. 946:1–765.
- Monné ML. 2005b. Revisão, análise cladística e biogeografia de *Coccoderus* Buquet (Coleoptera, Cerambycidae). Rev Brasil Entomol. 49:369–391.
- Monné ML, Napp DS. 2000. Revisão do gênero *Ceralocyna* (Coleoptera, Cerambycidae, Cerambycinae, Trachyderini, Ancylocerina). Iheringia, Sér Zool. 88:103–137.
- Monné ML, Napp DS. 2005. Cladistic analysis of the tribe Torneutini Thomson (Coleoptera, Cerambycidae, Cerambycinae, Trachyderoinia). Zootaxa. 1062:1–56.
- Moura LA, Galileo MHM. 1992. Genitalia masculina e feminina de *Dorcacerus barbatus* (Olivier, 1790) (Coleoptera, Cerambycidae, Cerambycinae, Trachyderini). Iheringia, Sér Zool. 72:135–139.
- Pascoe FP. 1859. On new genera and species of longicorn Coleoptera, part IV. T. Entomol Soc London 5:12–61.
- Quintino HYS, Monné ML. 2014. Revision of *Trachelissa* Aurivillius, 1912 (Insecta: Coleoptera: Cerambycidae). Zootaxa. 3793:501–537.
- Zajciw D. 1960. Estudos sobre longicórneos neotrópicos II (Coleoptera, Cerambycidae). Rev Brasil Biol. 20:93–98.