

First species of *Laselva* Furth from Brazil (Chrysomelidae: Galerucinae: Alticini)

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Abstract. *Laselva cleidae* sp. nov., the first species of *Laselva* Furth, 2007 found in Brazil is described and illustrated. Species of *Laselva* are compared with those of *Deciplatus* Linzmeier & Konstantinov, 2009 and *Andersonaltica* Linzmeier & Konstantinov, 2012. This is the first species of *Laselva* recorded to South America.

Key-Words. Paraná; Taxonomy; Neotropical Region; New species; Flea beetles.

INTRODUCTION

Alticini (Chrysomelidae: Galerucinae) is a group of highly specialized phytophagous insects with 9,990 valid species assigned in 577 valid genera (Konstantinov, 2016). The subtribe Monoplatina Chapuis, 1875 currently comprises 48 genera, with more than 575 species distributed mainly in the Neotropical region, most of them in South America (Linzmeier & Konstantinov, 2018) with 27 genera and 223 species registered to Brazil (Clark, 1860; Scherer, 1983; CTFB, 2019). *Laselva* Furth, 2007 is a monotypic genus described from Atlantic tropical rainforest of Costa Rica. In this study a discovery of a new species of *Laselva* in Brazil is documented, the first record to South America. This new species is the result of an inventory developed in forest remnants of southwest of state of Paraná, a region highly impacted by agribusiness, whose biological diversity has been insufficiently studied (Oliveira *et al.*, 2019). Nevertheless, the discovery of a new species highlights the importance of forest remnants and studies of their biodiversity.

MATERIAL AND METHODS

Adults were sampled by the Project "Diversidade de Alticini em Fragmentos Florestais no Sudoeste do Paraná" with malaise traps in two forest fragments of Atlantic forest, in a transitional region between Montana and Submontana *Araucaria* mixed Forest. Characters of external morphology and female genitalia were examined,

since only females were collected. Dissecting techniques, measurements and terminology follows Konstantinov (1998). As the specimens were sampled with malaise traps, biological data was not available.

Label descriptions from holotype and paratypes are organized from top to bottom with each label separated by a bar (/). The data of each line for each label is separated by semicolon. All information from each labels is listed verbatim with added details enclosed by square brackets ([]) and, gender and depositories are included between parenthesis.

The specimens will be deposited in Coleção Entomológica Pe. J.S. Moure, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Brazil (DZUP) and Coleção Entomológica do Laboratório de Zoologia, Universidade Federal da Fronteira Sul, *campus* Realeza, Paraná (UFFS-RE).

RESULTS

Laselva cleidae sp. nov. (Figs. 1 A-E, 2 A)

Type material: Holotype, ♀ (DZUP): Labels: Realeza, Paraná, Brasil; 25°47'22.1"S, 53°31'30.4"W, 514 m; 26.X.2017, malaise 4; Rech, T., col./ Holotype *Laselva cleidae* Rech & Linzmeier, 2020 [redlabel]. Paratypes: Planalto, Paraná, Brasil; 25°47'05.4"S, 53°38'43.5"W, 388 m; 28.X.2017, malaise 6; Linzmeier, A.M., col./ Paratype *Laselva cleidae* Rech & Linzmeier, 2020 [yellowla-

Pap. Avulsos Zool., 2020; v.60.special-issue: e202060(s.i.).09

<http://doi.org/10.11606/1807-0205/2020.60.special-issue.09>

<http://www.revistas.usp.br/paz>

<http://www.scielo.br/paz>

Edited by: Sônia A. Casari / Gabriel Biffi

Received: 14/10/2019

Accepted: 17/01/2020

Published: 04/03/2020

ISSN On-Line: 1807-0205

ISSN Printed: 0031-1049

ISNI: 0000-0004-0384-1825

<http://zoobank.org/7B5F707D-D468-4781-82A1-487769D825D2>



bel] (1♀ DZUP). Planalto, Paraná, Brasil; 25°47'05.4"S, 53°38'43.5"W, 388 m; 25.XI.2017, malaise 6; Linzmeier, A.M., col./ Paratype *Laselva cleidae* Rech & Linzmeier, 2020 [yellowlabel] (1♀ DZUP). Realeza, Paraná, Brasil; 25°47'25.5"S, 53°31'31.2"W, 492 m; 18.XI.2016, malaise 5; Oliveira, D.W.G., col./ Paratype *Laselva cleidae* Rech & Linzmeier, 2020 [yellowlabel] (1♀ DZUP). Realeza, Paraná, Brasil; 25°47'22.1"S, 53°31'30.4"W, 514 m; 04.X.2017, malaise 4; Morais & Oliveira, col./ Paratype *Laselva cleidae* Rech & Linzmeier, 2020 [yellowlabel] (1♀ DZUP). Planalto, Paraná, Brasil; 25°47'05.4"S, 53°38'43.5"W, 388 m; 12.XI.2017, malaise 6; Linzmeier, A.M., col./ Paratype *Laselva cleidae* Rech & Linzmeier, 2020 [yellowlabel] (1♀ DZUP). Planalto, Paraná, Brasil; 25°47'06.0"S, 53°38'43.6"W, 395 m; 23.X.2016, malaise 3; Linzmeier, A.M., col./ Paratype *Laselva cleidae* Rech & Linzmeier, 2020 [yellowlabel] (1♀ UFFS-RE). Planalto, Paraná, Brasil; 25°47'05.4"S, 53°38'43.5"W, 388 m; 14.X.2017, malaise 6; Linzmeier, A.M., col./ Paratype *Laselva cleidae* Rech & Linzmeier, 2020 [yellowlabel] (1♀ UFFS-RE).

Diagnosis: *Laselva cleidae* sp. nov., is distinguished from *L. triplehorni* Furth, 2007 by having (*L. triplehorni* in parenthesis) the antennal callus indistinguishable (antennal callus distinct); frontal and anterofrontal carina forming a single triangular structure, with lateral margins raised and slightly bent outward (carina not evident) (Fig. 2); antennomere IV of female smallest (antennomere VI smallest); setae present on anterior and posterior angles of pronotum (only on anterior angles); and metatarsus with visible tarsomere IV smooth (rugose).

Description: Body length: 2.7 mm, width 1.5 mm (Figs. 1A-B). Body dark brown, shiny; seven basal antennomeres and tibiae light brown; venter and femora reddish brown. Dorsum (head, pronotum, elytra) punctured, covered with stout, long and golden pubescence, one seta associated with each puncture.

Head: Hypognathous, slightly convex in lateral view (Fig. 1B). Frons and vertex entirely covered with dense coarse punctures, with golden pubescence. Antennal calli and supraorbital pores indistinguishable. Eyes large, elongated, inner margin straight. Interocular distance subequal to maximum eye length. Frontal and anterofrontal carinae forming a single triangular structure, punctured as vertex, with lateral margins raised and slightly bent outward, merged medially above antennal insertion, forming a short central carina. Supraantennal and frontolateral sulci deep. Labrum notched at middle, with four setiferous pores, lateral margins rounded (Fig. 2A).

Antenna (Fig. 1C) with 11 antennomeres, short, extending to elytral base; all antennomeres bearing long, thickened and black setae; antennomeres I to VII light brown, VIII to XI dark brown and densely covered with short setae; antennomere I longer, cylindrical; antennomere II with half length of antennomere I; antennomere III thinnest; antennomere IV the smallest; antennomeres V and VI similar in length, slightly longer than IV; anten-

nomeres VII to X slightly longer and wider than VI; antennomere XI conical.

Pronotum (Fig. 1D): Dark brown, punctured, pubescent, tegument reticulated, rectangular, 2.3× wider than long; anterior margin straight, posterior margin slightly sinuous; lateral margins subparallel, anterior angles beveled, slightly pointed outward on lateral margins; setiferous pore present, located on lateral margin, with a long seta; posterior angles projected outward, bearing a seta shorter than anterior ones. Antebasal impression absent; pronotal disc slightly raised. Scutellum triangular, pubescent. Prosternal surface rough; prosternal intercoxal process as wide as prosternum, extended and widened posteriorly beyond procoxa, ending in a triangular shape. Procoxal cavity open posteriorly. Mesosternum similar in length of prosternum but slightly wider. Metasternum smooth and pubescent, convex in lateral view, as long as pro- and mesosterna together.

Elytron (Fig. 1A): Dark brown, elytral surface shiny and punctured, with punctures forming nine striae (not counting marginal and short justascutellar striae), each puncture with a golden seta recumbent posteriorly; dark, erect setae inserted on interstitial space; basal and humeral calli well developed; impression between basal and humeral calli ending deeper behind basal callus; epipleura sinuous extending whole length of elytra ending subapically, laterally bent inward.

Legs: Pro- and mesofemora subcylindrical; pro- and mesotibiae parallel in dorsal view, slightly wider towards apex (in lateral view), pubescence sparsely distributed. Pro- and mesotarsi with tarsomere I slightly longer than tarsomere II; tarsomere II as long as tarsomere III; tarsomere III bilobed; visible tarsomere IV slightly longer than tarsomere I. Pro- and mesotarsal claws appendiculate. Metafemur greatly enlarged, about 1.5 times longer than wide, longer than metatibia, pubescent. Metatibia (Fig. 1E) straight in lateral view, slightly curved in dorsal view, extending beyond tarsal insertion, marginate dorsally, with sulcus between the dorsal margins; apex of inner and outer dorsal margins with denticles; metatibial apex bearing a short spur. Metatarsus with tarsomere I longest; tarsomere II half the length of tarsomere I; tarsomere III shortest, not bilobed; visible tarsomere IV slightly shorter than tarsomeres II and III joined, globose, smooth. Metatarsal claws appendiculate.

Abdomen: Shiny, pubescent, with five visible ventrites. Female genitalia similar to *L. triplehorni*.

Etymology: The specific epithet is in honor of Dr. Cleide Costa, on the occasion of her 80th birthday, for dedicating her career to the study of Coleoptera.

Geographical distribution: Southwest Paraná, Brazil.

Remarks: Species of *Laselva* and *Andersonaltica* Linzmeier & Konstantinov, 2012 share the shiny elytral

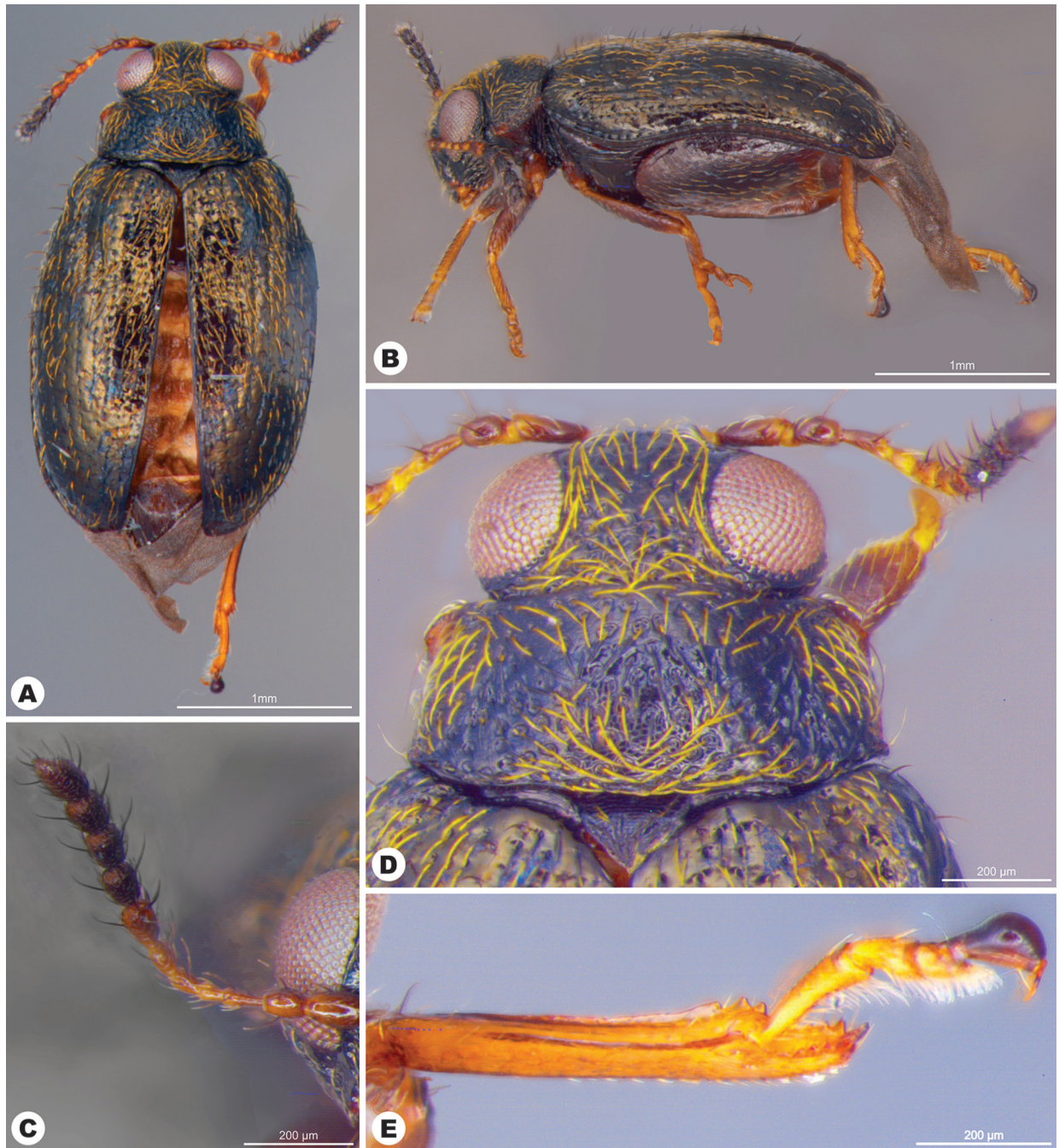


Figure 1. *Laselva cleidae* sp. nov. Holotype female: (A) dorsal habitus; (B) lateral habitus; (C) antenna; (D) pronotum; (E) metatibia and tarsus.

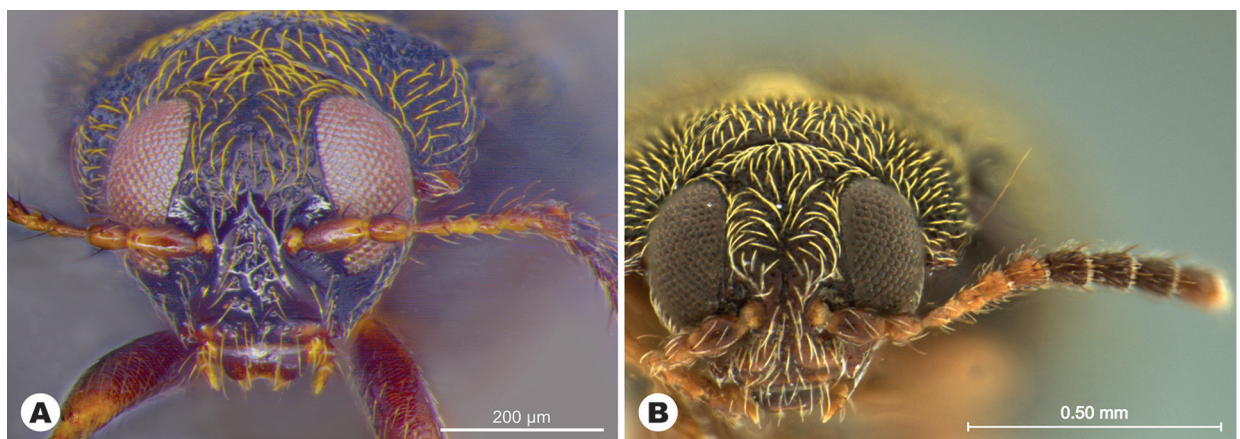


Figure 2. Head, frontal: (A) *Laselva cleidae* sp. nov.; (B) *Laselva triplehorni* Furth, 2007.

surface, punctures forming nine striae, and absence of pronotal antebasal transverse impression. They are differentiated by having (*Andersonaltica* in parenthesis) antennal calli indistinguishable (antennal calli small, generally nearly indistinguishable), antenna filiform (antenna forming a tight club), humeral calli well developed (humeral calli absent or poorly developed), posterior wings present (apterous) and procoxal cavities open posteriorly (procoxal cavities closed posteriorly).

Among the Monoplatina genera, *Laselva* species are very similar to those of *Deciplatus* Linzmeier & Konstantinov, 2009. They share similar body size, proportions of pronotum, pubescence on elytra, procoxal cavity opened posteriorly and metatarsus inserted subapically. These genera can be easily differentiated by the number of antennomers, 11 in *Laselva* and 10 in *Deciplatus*. Surprisingly, some of the main features that separate *L. cleidae* sp. nov., from *L. triplehorni*, such as the shape of the anterofrontal and frontal carina and the antennal callus indistinguishable, besides the female genitalia, are very similar among *L. cleidae* sp. nov., and *Deciplatus* species. The female genitalia of *L. triplehorni* and *L. cleidae* sp. nov., are identical, not being an important character to differentiate them. In a recent study, Furth (2019) pointed out that he could not use the male and female genitalia to separate two *Cerichrestus* Clark, 1860 species because he did not find enough morphological differences. This genus also belongs to Monoplatina and, as mentioned in Furth's paper, other researcher had the same experience studying this group. Apparently, in Monoplatina male and female genitalia do not provide informative taxonomic characters.

Since Chapuis (1875), procoxal cavities, whether opened or closed, have been suggested as a character to separate Oedyonichina (opened posteriorly) from Monoplatina (closed posteriorly). Besides, other characteristics used to define Monoplatina are punctured-striate elytra and the globosely swollen visible on tarsomere IV of metatarsus (Scherer, 1983; Linzmeier & Konstantinov, 2012), this last characteristic also shared with Oedyonichina species. However, *Laselva* and *Deciplatus* have the procoxal cavities opened posteriorly and were included in Monoplatina by Furth (2007) and Linzmeier & Konstantinov (2009). Currently, it is unclear if this character changed in some Monoplatina genera or if these two genera do not belong to this taxon. As Monoplatina is very diverse, poorly studied and no phylogenetic studies exist, this issue, as well as evolutionary history of Monoplatina, may be resolved based on a comprehensive phylogenetic study.

ACKNOWLEDGMENTS

We are grateful to Dr. D. Furth and Dr. A.S. Konstantinov (U.S. National Museum of Natural History) for the access to images of paratypes of *L. triplehorni* and suggestions on manuscript; to Taxonline – Rede Paranaense de Coleções Biológicas (Universidade Federal do Paraná) for the images of the new species; the first author was supported by Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) (Nº 88882.457426/2019-01).

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