

# Redescription of *Cis olivieri* Mellié, 1849 (Coleoptera: Ciidae), with a new synonym and the first records from Brazil

Igor Souza-Gonçalves<sup>1,2,4</sup>; Cristiano Lopes-Andrade<sup>2,5</sup>; Vivian Eliana Sandoval-Gómez<sup>3,6</sup> & Paschoal Coelho Grossi<sup>1,7</sup>

<sup>1</sup> Universidade Federal Rural de Pernambuco, Departamento de Agronomia, Laboratório de Taxonomia de Insetos. Recife, PE, Brasil.

<sup>2</sup> Universidade Federal de Viçosa, Departamento de Biologia Animal, Laboratório de Sistemática e Biologia de Coleoptera. Viçosa, MG, Brasil.

<sup>3</sup> Department of Agriculture and Fisheries, Horticulture and Forestry Science. Brisbane, QLD, Australia.

<sup>4</sup> ORCID: [0000-0002-7447-0764](https://orcid.org/0000-0002-7447-0764). E-mail: [igao\\_bio@yahoo.com.br](mailto:igao_bio@yahoo.com.br)

<sup>5</sup> ORCID: [0000-0001-9652-1369](https://orcid.org/0000-0001-9652-1369). E-mail: [cristiano.lopes@ufv.br](mailto:cristiano.lopes@ufv.br)

<sup>6</sup> ORCID: [0000-0002-9115-8254](https://orcid.org/0000-0002-9115-8254). E-mail: [vivian.sandoval@gmail.com](mailto:vivian.sandoval@gmail.com)

<sup>7</sup> ORCID: [0000-0001-6601-5967](https://orcid.org/0000-0001-6601-5967). E-mail: [paschoal.grossi@gmail.com](mailto:paschoal.grossi@gmail.com)

**Abstract.** *Cis olivieri* Mellié, 1849 is redescribed based on specimens from the type series and additional material from the Northeast and Southeast Regions of Brazil. *Cis lemoulti* Pic, 1923 is proposed as a **junior synonym** of *Cis olivieri*, and lectotypes are designated for both names. This study represents the first report of *Cis olivieri* in Brazil. Images of male and female terminalia, along with a distribution map, are provided.

**Keywords.** Minute tree-fungus beetle; Neotropical region; Taxonomy, Tenebrionoidea.

## INTRODUCTION

The genus *Cis* Latreille, 1797 is the most diverse within Ciidae, with more than 420 species described, representing over half of all species in the family (Lawrence, 2016; Souza-Gonçalves *et al.*, 2018; Borlini & Lopes-Andrade, 2023). In the Neotropical Region (biogeographic regionalisation *sensu* Morrone & Ebach, 2022), there are 72 valid species of *Cis* (Borlini *et al.*, 2018; Borlini & Lopes-Andrade, 2023; Rosa-Oliveira & Lopes-Andrade, 2023; Rosa-Oliveira *et al.*, 2024), with ten species proposed by Mellié (1849) and 17 by Pic (1916a, b, 1917, 1922, 1923, 1930, 1940).

The species described by Mellié and Pic are particularly challenging to identify without examining the type specimens, especially Pic's species due to his anecdotal descriptions. Most of these type-specimens are housed in European museums, which poses another impediment to their recognition by researchers residing outside this continent. Two species among these are notably obscure and not placed in any species-group within the genus: *Cis olivieri* Mellié, 1849, and *Cis lemoulti* Pic, 1923. Both were originally described from specimens collected in French Guiana, with no further records available.

We had the opportunity to examine the type-specimens of these two species and identi-

fied individuals of *C. olivieri* among ciids collected in the Northeast and Southeast Regions of Brazil. Here, we redescribe *C. olivieri*, designate lectotypes for *C. olivieri* and *C. lemoulti*, propose *C. lemoulti* as a junior subjective synonym of *C. olivieri*, and report its presence in Brazil for the first time.

## MATERIAL AND METHODS

Museum acronyms are as follows (curator name in parentheses): **CELC** = Coleção Entomológica do Laboratório de Sistemática e Biologia de Coleoptera da Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil (Cristiano Lopes-Andrade); **CERPE** = Coleção Entomológica da Universidade Federal Rural de Pernambuco, Recife, Pernambuco, Brazil (Paschoal Coelho Grossi); **MNHN** = Muséum national d'Historie naturelle, Paris, France (Thierry Deuve).

Terms for external morphology and male terminalia of ciids follow Lawrence *et al.* (2011), Lawrence (2016), and Lopes-Andrade & Lawrence (2005, 2011), but see also Oliveira *et al.* (2013) for the use of "tegmen". The term "anterocephalic edge" is used in place of "frontoclypeal ridge" to refer to the anterior part of the dorsum of the head, whose constitution is not

Pap. Avulsos Zool., 2025; v.65: e202565004

<https://doi.org/10.11606/1807-0205/2025.65.004>

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

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

Edited by: Simone Polícena Rosa

Received: 26/09/2024

Accepted: 07/01/2025

Published: 30/01/2025

ISSN On-Line: 1807-0205

ISSN Printed: 0031-1049

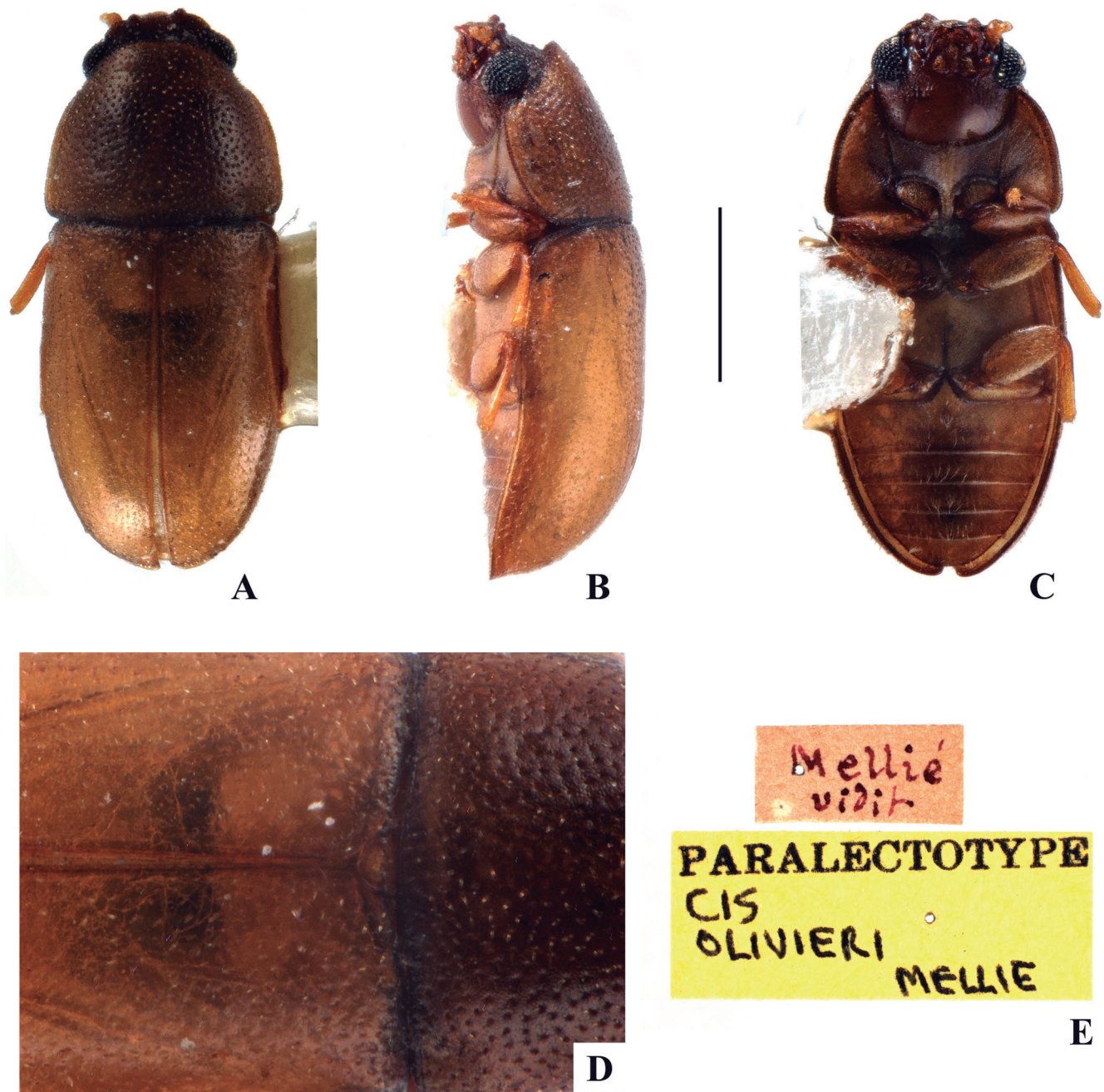
ISNI: [0000-0004-0384-1825](https://orcid.org/0000-0004-0384-1825)



clearly known. The terms “single” and “dual” refer to setae or punctures that fall into one or two size classes, respectively. Both terms are traditionally used in the taxonomy of Ciidae (Rosa-Oliveira & Lopes-Andrade, 2023). The following abbreviations are used for measurements (in mm) and ratios of body and exposed sclerites (based on Souza-Gonçalves *et al.*, 2020): BW (width of the anterior edge of scutellar shield), CL (length of the antennal club), EL (elytral length along the midline), EW (greatest width of elytra), FL (length of antennal funicle, which includes the antennomeres between the pedicel and the first antennomere of the club), GD (greatest depth of body measured in lateral view), GW (greatest diameter of the eye), PL (pronotal

length along midline), PW (greatest pronotal width), SL (length of scutellar shield), TL (total length counted as EL+PL, *i.e.* excluding head). The GD/EW and TL/EW ratios indicate the degree of body convexity and elongation, respectively. The sums and ratios of antenna measurements are based on gross values, while the provided measurements of each antennomere are based on approximate values.

The original type series of *C. lemoulti* and *C. olivieri* were examined, and one male of each was borrowed. The characteristics cited in the redescription are from a male paralectotype of *Cis olivieri* unless otherwise specified. Transcription of labels, dissection, photography, and measurement of specimens follow the methods



**Figure 1.** *Cis olivieri* Mellie, 1849, male paralectotype (A-D) from Cayenne (French Guiana): (A) Dorsal view. (B) Lateral view. (C) Ventral view. (D) Scutellar shield and part of the pronotum and elytra. (E) Labels. Scale bars: 0.5 mm (A-C), 0.2 mm (D).



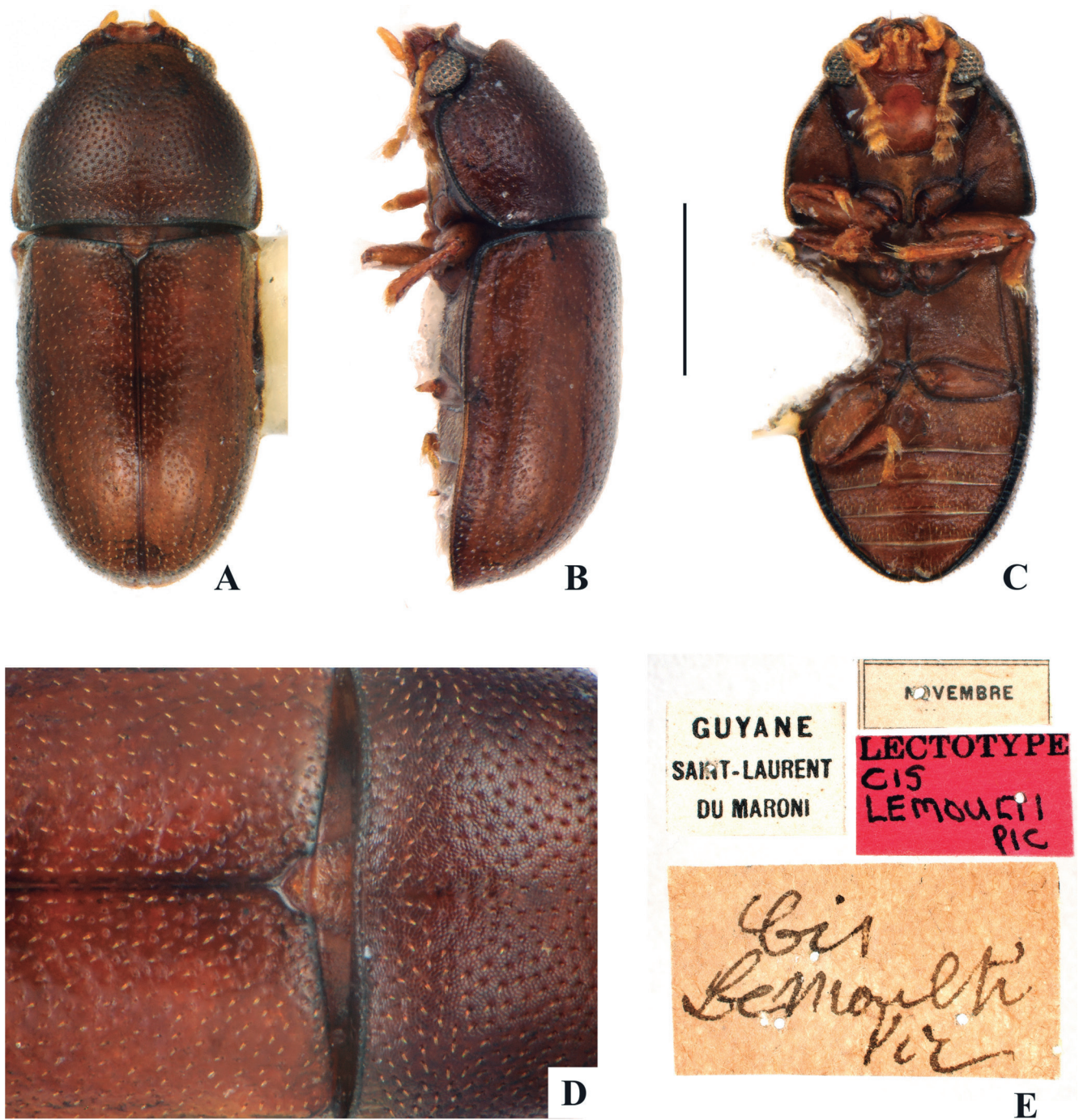
provided by Araujo & Lopes-Andrade (2016). We measured the paralectotype of *C. olivieri*, the lectotype of *C. lemoulti*, and additional material from Brazil. Differences are given in the "Variation" section, along with standard measurements (mean and standard deviation) and ratios. The distribution map (Fig. 7) was created using QGIS 3.34.3-Prizren. The abdominal terminalia of the following specimens were extracted: one male and one female of *C. olivieri* from São Sebastião do Grota (Jequeri, Minas Gerais, Southeast Region of Brazil), and one male from Camaragibe (Pernambuco, Northeast Region of Brazil).

## RESULTS

**Family Ciidae Leach in Samouelle (1819)**  
**Subfamily Ciinae Leach in Samouelle (1819)**  
**Tribe Ciini Leach in Samouelle (1819)**  
*Cis olivieri* Mellié, 1849  
**(Figs. 1A-D; 2A-D; 3A-D; 4A-G; 5A-E; 6A-F; 7)**

*Cis olivieri* Mellié, 1849: 259, pl. 2, fig. 16. Type locality: "Cayenne" (French Guiana).

*Cis lemoulti* Pic, 1923: 12, **new junior synonym**. Type-locality: "Guyane Fr." (French Guiana)



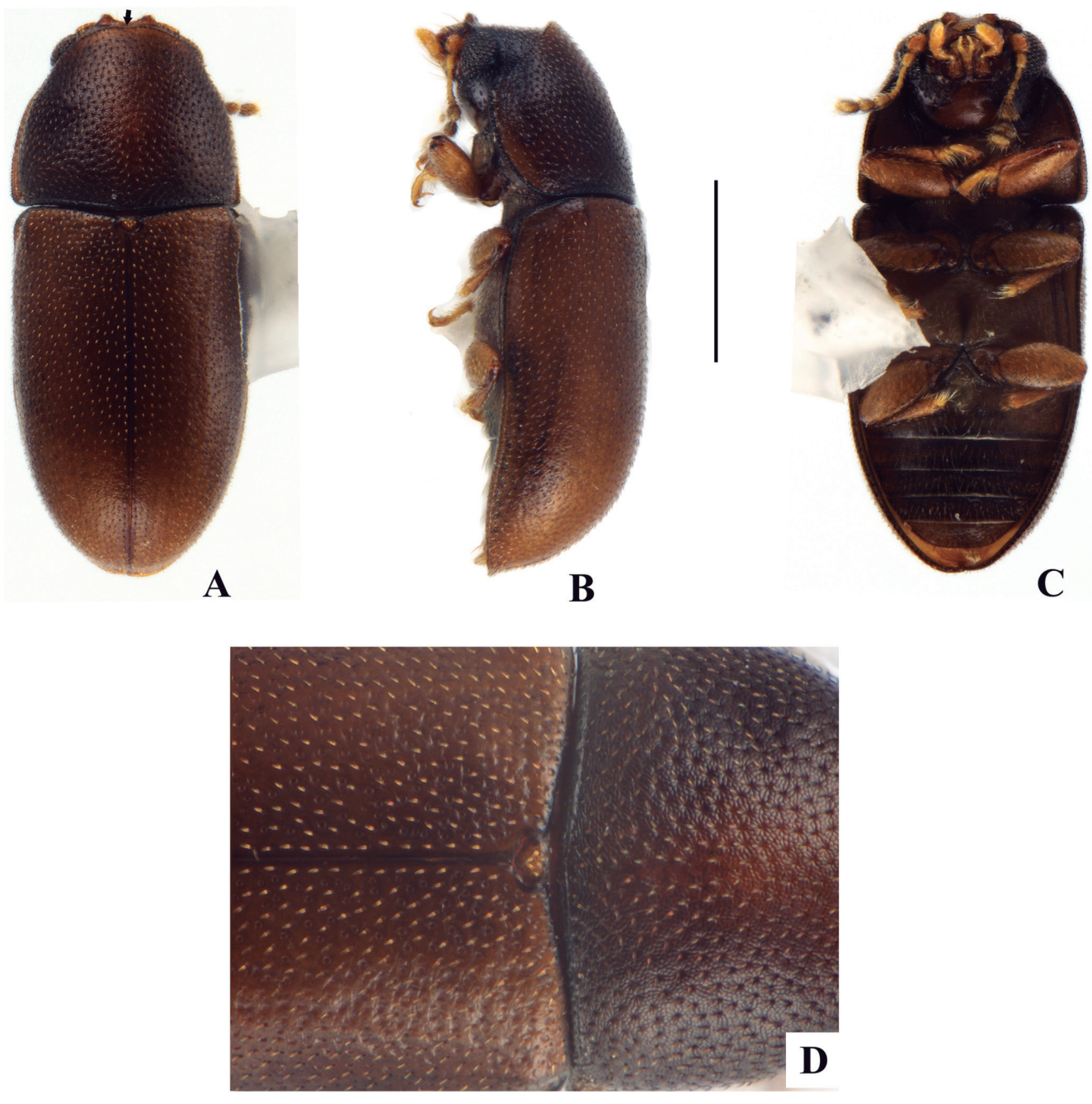
**Figure 2.** *Cis lemoulti* Pic, 1923, male lectotype (A-D) from Saint-Laurent du Maroni (French Guiana): (A) Dorsal view. (B) Lateral view. (C) Ventral view. (D) Scutellar shield and part of the pronotum and elytra. (E) Labels. Scale bars: 0.5 mm (A-C), 0.2 mm (D).



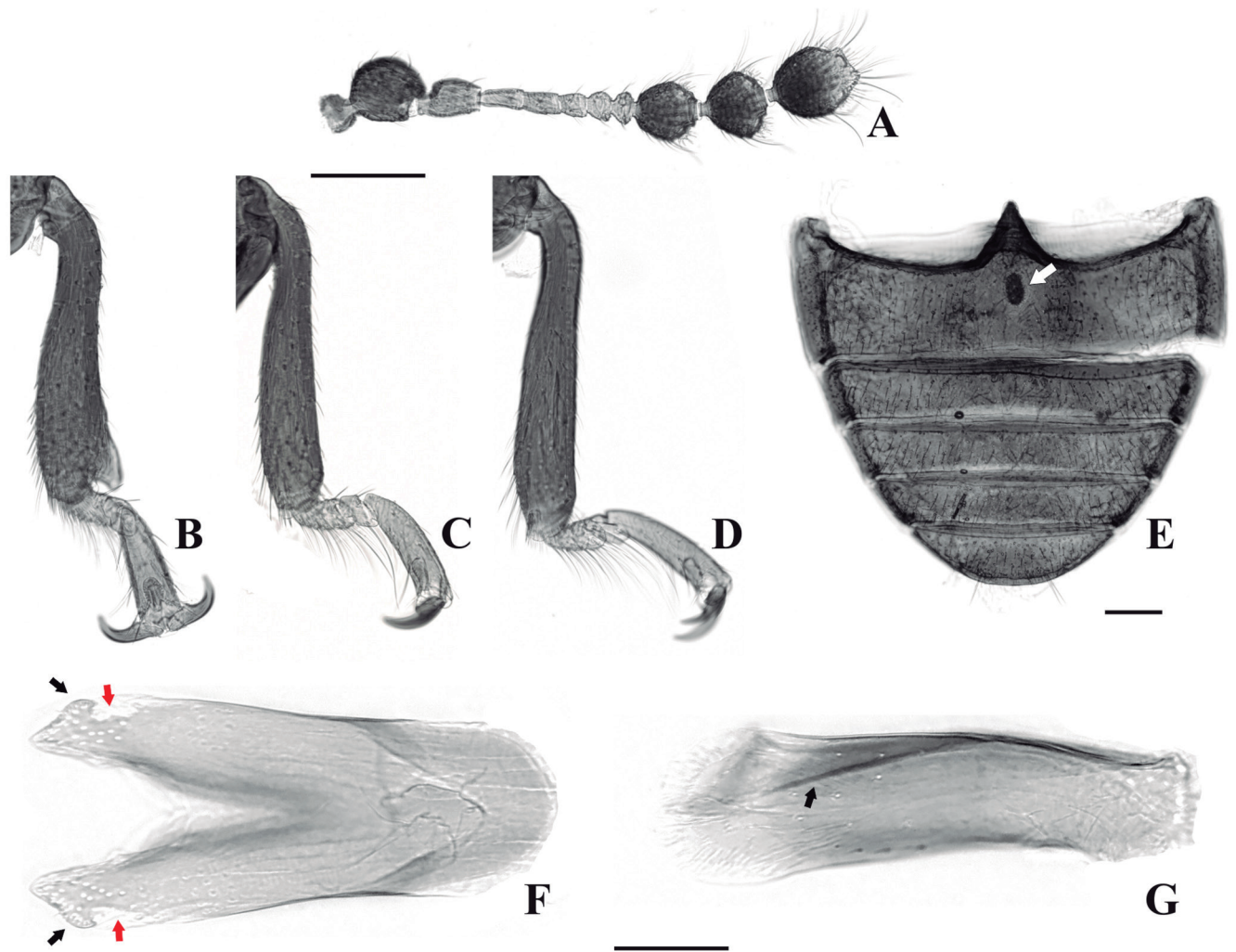
**Type material:** ♂ Lectotype, here designated (MNHN) "Bolete Olivier [handwritten] \ Mellié vidt [handwritten, red ink] \ olivieri – Mel. Cayenne [gray-green paper; handwritten] \ LECTOTYPE [red paper; printed] *Cis olivieri* Mellie [handwritten]"; ♂ and 3 ? sex (MNHN) "Mellié vidit [handwritten, red ink] \ PARALECTOTYPE [yellow paper; printed] *Cis olivieri* Mellie [handwritten]"; ? sex (MNHN) "PARALECTOTYPE [yellow paper; printed] *Cis olivieri* Mellie [handwritten]"; ♂ lectotype of *Cis lemoulti* Pic, 1923, here designated (MNHN) "NOVEMBRE [printed] \ GUYANE, SAINT-LAURENT DU MARONI [printed] \ *Cis lemoulti* Pic [handwritten] \ LECTOTYPE [red paper; printed] *Cis lemoulti* Pic [handwritten]"; ♂ (MNHN) "NOVEMBRE [printed] \ GUYANE, SAINT-LAURENT DU MARONI [print-

ed] \ PARALECTOTYPE [yellow paper; printed] *Cis lemoulti* Pic [handwritten]"; ♀ (MNHN) "DECEMBRE [handwritten] \ GUYANE, SAINT-LAURENT DU MARONI [printed] \ PARALECTOTYPE [yellow paper; printed] *Cis lemoulti* Pic [handwritten]".

**Comparative diagnosis:** Distinguished from other Neotropical *Cis* by the single vestiture of short bristles, dual and confuse elytral punctation (Figs. 1D, 2D, 3D), males with anterocephalic edge slightly produced forward with two small triangular tubercles, and anterior edge of pronotum rounded (Figs. 1A, 2A, 3A, 5A) and slightly emarginate at the middle in the largest specimens (Fig. 3A, arrow). It resembles species in the *comptus* group but



**Figure 3.** *Cis olivieri* Mellie, 1849, male (A-D) from São Sebastião do Grota (Jequeri, Minas Gerais, Brazil): (A) Dorsal view, note the emarginate anterior pronotal edge (arrow). (B) Lateral view. (C) Ventral view. (D) Scutellar shield and part of the pronotum and elytra. Scale bars: 0.5 mm (A-C); 0.2 mm (D).



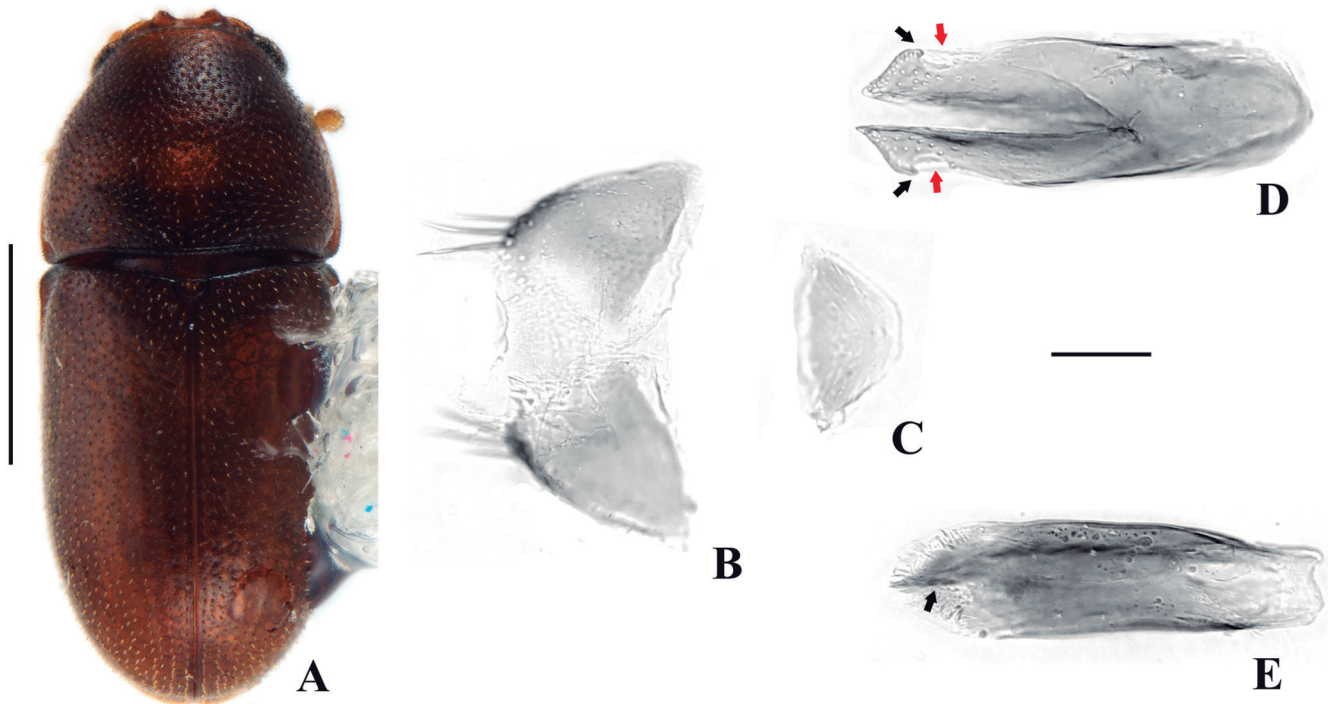
**Figure 4.** *Cis olivieri* Mellié, 1849, antenna, tibiae, abdominal ventrites and aedeagus of a male (A-F) from São Sebastião do Grota (Jequeri, Minas Gerais, Brazil): (A) Left antenna. (B) Left protibia. (C) Left mesotibia. (D) Left metatibia. (E) Abdominal ventrites, note the sex patch (arrow). (F) Tegmen, note the angulations at the apex (black arrows) and the excavations before angulations (red arrows). (G) Penis, note the acute sclerotization at the ventral portion (black arrow). Scale bars: 0.1 mm (A-E); 0.05 mm (F-G).

those species are distinguished by the distinct seriate elytral vestiture and punctuation. Among the described *Cis* species of continental America, its general body form, as well as the shape of tegmen and penis, resembles *Cis stereophilus* Lawrence, 1971 and *Cis tristis* Mellié, 1849. *Cis stereophilus* differs from *C. olivieri* in having single and subseriate elytral punctuation, vestiture of stout, blunt yellowish bristles, and males with circular sex patch anterad of center. *Cis tristis* can be distinguished by the denser pronotal and elytral punctuation, vestiture of stout, blunt colorless bristles, and males with anterocephalic edge with four teeth and anterior edge of pronotum with six very small sharp protuberances. In *Cis krausi* Dalla Torre, 1911 the elytra are yellowish with black markings, with subseriate punctuation and vestiture of colorless bristles. *Cis subtilis* Mellié, 1849, has a similar body form but differs in having vestiture of stout, colorless bristles and males lack an abdominal sex patch.

**Redescription, adult male, paralectotype** (Fig. 1A-C): Apparently not fully pigmented, lacking both antennae, all palpi, right protibia, and all tarsi. Measurements in mm: TL 1.50, PL 0.55, PW 0.70, EL 0.95, EW 0.70, GD 0.48. Ra-

tios: PL/PW 0.79, EL/EW 1.36, EL/PL 1.73, GD/EW 0.68, TL/EW 2.14. Body elongate, convex, subparallel-sided, dorsum and venter reddish pale brown; dorsal vestiture single, consisting of short suberect bristles easily visible in high magnification (100×); ventral vestiture of fine decumbent setae, easily discernible in high magnification (100×). Head with the anteriormost portion visible from above; dorsum narrowly concave; dorsal punctuation single; anterocephalic edge slightly produced forward, slightly elevated upward, with two small triangular tubercles separated from each other by less than two basal tubercle-widths. Antennae (Fig. 4A, left antenna of a male from São Sebastião do Grota) with ten antennomeres, length of antennomeres as follows (in mm): 0.07, 0.05, 0.04, 0.03, 0.02, 0.02, 0.02, 0.05, 0.05, 0.07 (FL 0.13 mm, CL 0.17 mm, CL/FL 1.31). Eyes coarsely faceted, each with about 70 ommatidia; GW 0.15 mm. Gula 0.54× as wide as head. Pronotum coarsely, deeply punctate; punctures of one size, separated from each other by 1-2 puncture-widths; interspaces, markedly microreticulate; vestiture single, consisting of short suberect yellowish bristle (~0.01 mm); anterior edge rounded; lateral carinae barely crenulate, not explanate and visible for most of their lengths when seen from above;





**Figure 5.** *Cis olivieri* Mellie, 1849, male (A) from Camaragibe (Pernambuco, Brazil) and aedeagus of another male from the same locality (B-E): (A) Dorsal view. (B) Sternite VIII. (C) Basal piece. (D) Tegmen, note the angulations at the apex (black arrows) and the excavations before angulations (red arrows). (E) Penis, note the acute sclerotization at the ventral portion (black arrow). Scale bars: 0.5 mm (A); 0.05 mm (B-E).

anterior corners rounded, barely produced forward; posterior corners broadly rounded. Scutellar shield triangular, with few punctures, apparently glabrous; BW 0.13 mm; SL 0.06 mm. Elytra punctuation finer and shallower than that of pronotum, confuse, distinctly dual; macropunctures about 2× as large as micropunctures, separated from each other by 1-2 macropuncture-widths; interspaces, rugose and shiny; vestiture single, consisting of short suberect yellowish bristle (~0.01 mm) arising from micropunctures. Metathoracic wings developed (in dissected specimens from São Sebastião do Grota and Camaragibe), apparently functional. Hypomera punctuation coarse, shallow; each puncture bearing one fine decumbent seta; interspaces, markedly microreticulate. Prosternum in front of coxae tumid; interspaces, markedly microreticulate. Prosternal process subparallel-sided, apex rounded, 1.28× as long as prosternum at midline. Protibiae (Fig. 4B, left protibia of a male from São Sebastião do Grota) maximum width about one-third its length, expanded at apex, outer apical angle with a stout tooth; outer edge slightly sinuous and devoid of spines. Meso- and metatibiae (Fig. 4C-D, left meso- and metatibia of a male from São Sebastião do Grota), with slender spines in apical edge; outer edge sinuous, devoid of spines. Metaventrite punctuation coarse, shallow; interspaces, markedly microreticulate; discrimen about half the length of metaventrite at the midline. Abdominal ventrites (Fig. 4E) punctures coarse, shallow, sparse, each with one slender decumbent yellowish seta; interspaces, markedly microreticulate; length of ventrites (in mm, from base to apex at longitudinal midline) as follows: 0.23, 0.09, 0.08, 0.08, 0.07; first abdominal ventrite with oval, margined, setose sex patch (Fig. 4E, arrow) at the center, with a transverse diameter of 0.04 mm. Male terminalia

(Figs. 4F-G, 5B-E of males from São Sebastião do Grota and Camaragibe respectively): sternite VIII (Fig. 5B) posterior edge almost straight, with long setae on subrounded corners; lateral edges diverging; anterior edge concave and subacute medially. Tegmen (Figs. 4F, 5D) 3.10× as long as wide, widest at middle; apex with angulations on each side (Figs. 4F, 5D, black arrows) and excavations before angulations (Figs. 4F, 5D, red arrows); apical portion with an emargination half as long as the tegmen; lateral edges subparallel-sided; basal portion subrounded. Basal piece (Fig. 5C) subtriangular, 0.60× as long as wide. Penis (Figs. 4G, 5E) elongate, as long as tegmen, 3.70× as long as wide; lateral edges subparallel-sided, converging near apex to form a pleated membrane; ventral portion with acute sclerotization (Figs. 4G, 5E black arrow); basal portion rounded.

**Adult females** (Fig. 6A-F): Like males, but without cephalic tubercles or emargination on the anterior pronotal edge, and without protibial tooth and abdominal sex patch. Female terminalia (Fig. 6E-F, in specimen from São Sebastião do Grota): spiculum ventrale (Fig. 6E) 1.04× as long as ovipositor (Fig. 6F); ovipositor 3.79× as long as wide; paraprocts (Fig. 6F) 1.08× as long as gonocoxites; gonocoxites (Fig. 6F) 1.70× as long as their combined widths, each with narrowly rounded apex, with two ventral lobes, basal lobe shorter than apical lobe; each gonostylus (Fig. 6F, the right one lost) 0.21× as long as respective gonocoxite, 5.36× as long as wide.

**Variation:** Adult males, measurements in mm (n = 14, including the paralectotype): TL 1.40-1.65 (1.49 ± 0.11), PL 0.48-0.63 (0.56 ± 0.04), PW 0.60-0.75 (0.68 ± 0.05),

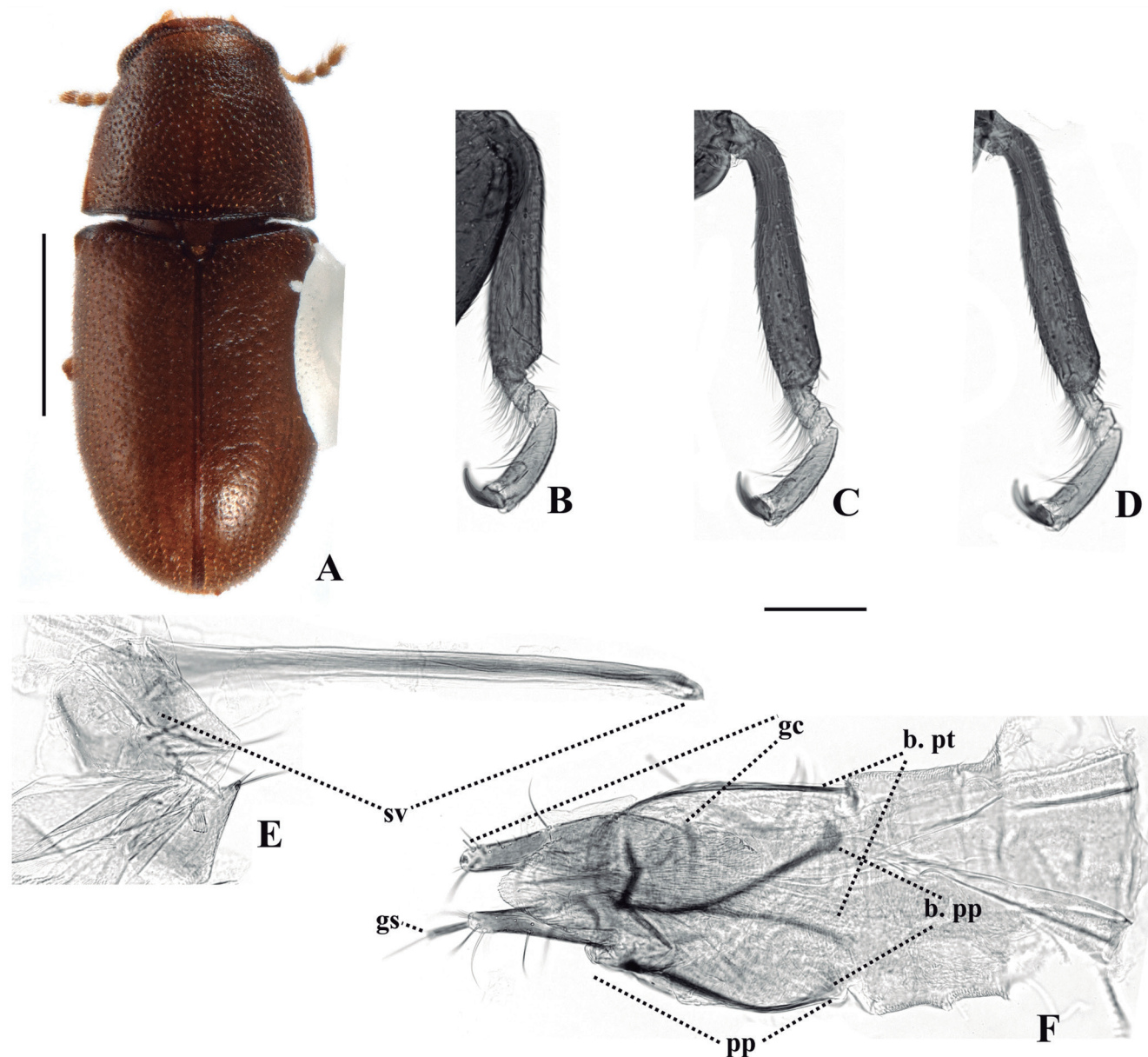
EL 0.75-1.05 ( $0.93 \pm 0.08$ ), EW 0.65-0.80 ( $0.71 \pm 0.05$ ), GD 0.48-0.58 ( $0.51 \pm 0.03$ ), PL/PW 0.77-0.92 ( $0.83 \pm 0.04$ ), EL/EW 1.15-1.37 ( $1.31 \pm 0.06$ ), EL/PL 1.46-1.85 ( $1.66 \pm 0.12$ ), GD/EW 0.68-0.78 ( $0.73 \pm 0.03$ ), TL/EW 1.88-2.19 ( $2.10 \pm 0.08$ ). In the largest males, the anterior edge of pronotum is rounded and slightly emarginate at the middle (Fig. 5A). Adult females, measurements in mm (n = 10): TL 1.43-1.65 ( $1.53 \pm 0.07$ ), PL 0.53-0.63 ( $0.57 \pm 0.03$ ), PW 0.63-0.73 ( $0.66 \pm 0.03$ ), EL 0.90-1.05 ( $0.96 \pm 0.05$ ), EW 0.68-0.78 ( $0.73 \pm 0.03$ ), GD 0.50-0.58 ( $0.54 \pm 0.03$ ), PL/PW 0.81-0.88 ( $0.85 \pm 0.03$ ), EL/EW 1.23-1.40 ( $1.33 \pm 0.06$ ), EL/PL 1.61-1.91 ( $1.70 \pm 0.09$ ), GD/EW 0.69-0.79 ( $0.75 \pm 0.03$ ), TL/EW 1.97-2.19 ( $2.10 \pm 0.08$ ).

**Other specimens examined:** 8 ♂♂ (7 CELC, one dissected and mounted at the card; 1 CERPE) and 6 ♀♀ (5 CELC,

one dissected and mounted at the card; 1 CERPE) "BRASIL: Jequeri São Sebastião do Grota 08.v.2010 leg. V.E. Sandoval [printed]"; 6 ♂♂ (3 CELC, one dissected and mounted at the card; 3 CERPE) and 5 ♀♀ (2 CELC; 3 CERPE) "BRASIL: PE, Camaragibe, Aldeia, -7.933°S, -35.035°W, 146 m, 14-16.xi.2020, em fungo, P.C. Grossi leg". All additionally labeled "/*Cis olivieri* Mellié, 1849, I. Souza-Gonçalves & C. Lopes-Andrade det. 2024 [printed]"

**Host fungus:** Unknown.

**Distribution:** Neotropical. Known from Cayenne and Saint-Laurent du Maroni (French Guiana), Jequeri (state of Minas Gerais, Southeast Region of Brazil), and Camaragibe (state of Pernambuco, Northeast Region of Brazil) (Fig. 7).



**Figure 6.** *Cis olivieri* Mellié, 1849, female (A) from São Sebastião do Grota (Jequeri, Minas Gerais, Brazil), and tibia (B-D) and terminalia (E-F) of a female from the same locality: (A) Dorsal view. (B) Left protibia. (C) Left mesotibia. (D) Left metatibia. (E) Spiculum ventrale (sv) at anterior portion of sternite VIII. (F) Ovipositor, showing gonostylus (gs, the right one lost), gonocoxites (gc), paraprocts (pp), baculi of paraprocts (b. pp), baculi of proctiger (b. pt). Scale bars: 0.5 mm (A); 0.1 mm (B-F).



**Figure 7.** Known geographic distribution of *Cis olivieri* Mellie, 1849.

## DISCUSSION

Mellie (1849) mentioned examining seven individuals, but only six were found in the MNHN collection. He did not designate a primary type, necessitating the designation of a lectotype here. Pic (1923) did not specify the number of individuals examined, but three were located in the MNHN collection, making it necessary to designate a lectotype in this case as well. We did not observe any diagnostic morphological differences between the individuals originally named *C. olivieri* and *C. lemoulti*. The lighter coloration of the *C. olivieri* specimens in the type series is due to their teneral state. Therefore, we synonymize these two species here. The first records of *C. olivieri* in Brazil are from localities within the Atlantic Forest biome, while the original records of the species are from the Amazon Rainforest biome in French Guiana. The two localities where the species occurs in Brazil are separated by more than 1,600 km, but they exhibit the same diagnostic characteristics, including identical morphology of the male genitalia (Figs. 4F-G, 5D-E). Additionally, the new locality record in Northeast Brazil is located at the Pernambuco Endemism Center (PEC), north of the São Francisco River, and is considered the most degraded area of the Atlantic Forest and the one where the conservation efforts are of high-priority (Tabarelli

et al., 2005). The number of collections of this species in the Atlantic Forest is low, despite this being the most thoroughly sampled biome for Ciidae beetles in Brazil to date.

**AUTHORS' CONTRIBUTIONS:** ISG, CLA: Conceptualization, Writing – original draft, Visualization, Investigation; ISG, CLA, VESG: Methodology; CLA, PCG: Funding acquisition; ISG, CLA, VESG, PCG: Writing – review & editing. All authors actively participated in the discussion of the results, they reviewed and approved the final version of the paper.

**CONFLICT OF INTEREST:** Authors declare there are no conflicts of interest.

**FUNDING INFORMATION:** Financial support was provided by Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq; research grant 3004339/2022-9 to C.L.A.; research grant 312917/2022-8 and PROTAX 441841/2020-1 to P.C.G.), Fundação de Amparo à Ciência e Tecnologia do Estado de Pernambuco (FACEPE; postdoctoral fellowship BFP-0113-2.04/23 to I.S.G.; APQ-0066-2.04/23 to P.C.G.), Fundação de Amparo à Pesquisa do Estado de Minas Gerais (FAPEMIG), Museum of Comparative Zoology – Harvard University (MCZ: Ernst Mayr grant in animal systematics to V.E.S.) and Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES; finance code 001).

**ACKNOWLEDGMENTS:** We are indebted to Stéphane Boucher who generously helped V.E.S. to search, separate, and photograph type material of Ciidae, and Thierry Deuve, Azadeh Taghavian, and Antoine Mantilleri for lending specimens of the MNHN. We also thank John F. Lawrence (CSIRO) for providing notes on the types of Ciidae that allowed us to locate these specimens more easily in museums.



## REFERENCES

- Araujo, L.S. & Lopes-Andrade, C. 2016. A new species of *Falsocis* (Coleoptera: Ciidae) from the Atlantic Forest biome with new geographic records and an updated identification key for the species of the genus. *Zoologia*, 33(1): e20150173. <https://doi.org/10.1590/S1984-4689zool-20150173>
- Borlini, P.V. & Lopes-Andrade, C. 2023. Two new Neotropical species of *Cis tricornis* species-group (Coleoptera: Ciidae). *Zootaxa*, 5277(3): 565-572. <https://doi.org/10.11646/zootaxa.5277.3.8>
- Borlini, P.V.; Lopes-Andrade, C. & Araujo, L.S. 2018. *Cis pallidus* Mellié, 1849: redescription, new synonym, geographic distribution, and host fungi records. *ZooKeys*, 762: 117-129. <https://doi.org/10.3897/zookeys.762.23433>
- Dalla Torre, K.W. von. 1911. Pars. 30. Cioidae. In: Junk, W. & Schenkling, S. (Eds.). *Coleopterorum Catalogus*. Berlin, W. Junk. p. 1-32. [https://doi.org/10.1007/978-94-011-9697-0\\_1](https://doi.org/10.1007/978-94-011-9697-0_1)
- Latreille, P.A. 1797. *Précis des caractères génériques des insectes, disposés dans un ordre naturel*. Paris, Bordeaux, <https://doi.org/10.5962/bhl.title.58411>
- Lawrence, J.F. 1971. Revision of the North American Ciidae (Coleoptera). *Bulletin of the Museum of Comparative Zoology*, 142: 419-522.
- Lawrence, J.F. 2016. The Australian Ciidae (Coleoptera: Tenebrionoidea): A Preliminary Revision. *Zootaxa*, 4198(1): 1-208. <https://doi.org/10.11646/zootaxa.4198.1.1>
- Lawrence, J.F.; Ślipiński, A.; Seago, A.E.; Thayer, M.K.; Newton, A.F. & Marvaldi, A.E. 2011. Phylogeny of the Coleoptera based on morphological characters of adults and larvae. *Annales Zoologici*, 61: 1-217. <https://doi.org/10.3161/000345411X576725>
- Lopes-Andrade, C. & Lawrence, J.F. 2005. *Phellinocis*, a new genus of Neotropical Ciidae (Coleoptera: Tenebrionoidea). *Zootaxa*, 1034: 43-60. <https://doi.org/10.11646/zootaxa.1034.1.3>
- Lopes-Andrade, C. & Lawrence, J.F. 2011. Synopsis of *Falsocis* Pic (Coleoptera: Ciidae), new species, new records and an identification key. *ZooKeys*, 145: 59-78. <https://doi.org/10.3897/zookeys.145.1895>
- Mellié, J. 1849. Monographie de l'ancien genre *Cis* des auteurs. *Annales de la Société Entomologique de France*, 6: 205-274; 313-396, pls. 9-12.
- Morrone, J.J. & Ebach, M.C. 2022. Toward a terrestrial biogeographical regionalisation of the world: historical notes, characterisation and area nomenclature. *Australian Systematic Botanic*, 35(3): 187-224. <https://doi.org/10.1071/SB22002>
- Oliveira, E.H.; Lopes-Andrade, C. & Lawrence, J.F. 2013. Review of the Neotropical Ciidae (Insecta: Coleoptera) in the *Cis taurus* species-group. *Arthropod Systematics & Phylogeny*, 71(3): 181-210. <https://doi.org/10.3897/asp.71.e31777>
- Pic, M. 1916a. Diagnoses Spécifiques. *Mélanges exotico-entomologiques*, 17: 8-20.
- Pic, M. 1916b. Diagnoses génériques et spécifiques. *Mélanges exotico-entomologiques*, 18: 1-20.
- Pic, M. 1917. Descriptions abrégées diverses. *Mélanges exotico-entomologiques*, 26: 1-24.
- Pic, M. 1922. Nouveautés diverses. *Mélanges exotico-entomologiques*, 35: 1-32.
- Pic, M. 1923. Coléoptères exotiques en partie nouveaux. *L'Échange, Revue Linnéenne, Moulins*, 39: 4; 7-8; 11-12; 15-16.
- Pic, M. 1930. Coléoptères nouveaux de la République Argentine. *Bulletin de la Société entomologique de France*, 55: 175-179.
- Pic, M. 1940. Diagnoses de Coléoptères exotiques. *L'Échange, Revue Linnéenne, Moulins*, 56: 10-12; 13-16.
- Rosa-Oliveira, A. & Lopes-Andrade, C. 2023. *Cis occamy* sp. nov., the first representative of the *Cis bilamellatus* species-group (Coleoptera, Ciidae) in the Neotropical region. *Zootaxa*, 5323(2): 268-274. <https://doi.org/10.11646/zootaxa.5323.2.6>
- Rosa-Oliveira, A.; Borlini, P.V. & Lopes-Andrade, C. 2024. A new species of *Cis* Latreille (Coleoptera: Ciidae) widespread in Brazil but with similarities to the African fauna. *Zootaxa*, 5538(4): 381-390. <https://doi.org/10.11646/zootaxa.5538.4.6>
- Samouelle, G. 1819. *The entomologist's useful compendium; or an introduction to the knowledge of British insects, comprising the best means of obtaining and preserving them, and a description of the apparatus generally used; together with the genera of Linné, and the modern method of arranging the classes Crustacea, Myriapoda, spiders, mites and insects, from their affinities and structure, according to the views of Dr. Leach. Also an explanation of the terms used in entomology; a calendar of times of appearance and usual situations of near 3,000 species of British insects; with instructions for collecting and fitting up objects for the microscope. Illustrated with twelve plates*. Thomas Boys, London, 496 pp. + 12 pls.
- Souza-Gonçalves, I.; Lopes-Andrade, C. & Lawrence, J.F. 2020. Three new species of *Hadreule* Thomson (Coleoptera: Ciidae) from the Southern Hemisphere with an identification key to world species. *Austral Entomology*, 59(1): 74-87. <https://doi.org/10.1111/aen.12442>
- Souza-Gonçalves, I.; Orsetti, A. & Lopes-Andrade, C. 2018. Synopsis of *Cis* Latreille (Coleoptera: Ciidae) from southern Africa. *Insects*, 9(184): 1-49. <https://doi.org/10.3390/insects9040184>
- Tabarelli, M.; Pinto, L.P.; Silva, J.M.C.; Hirota, M.M. & Bedê, L.C. 2005. Desafios e oportunidades para a conservação da biodiversidade na Mata Atlântica brasileira. *Megadiversidade*, 1(1): 132-138.