

Description of *Coctilelater minimus* sp. nov. (Coleoptera, Elateridae, Agrypninae)

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ABSTRACT. Description of *Coctilelater minimus* sp. nov. (Coleoptera, Elateridae, Agrypninae). *Coctilelater minimus* from Brazil (Pará) is described and illustrated. This new species is mainly characterized by small size and coloration pattern.

KEYWORDS. Amazonian Forest; bioluminescence; Brazil; click beetles; Neotropical Region.

RESUMO. Descrição de *Coctilelater minimus* sp. nov. (Coleoptera, Elateridae, Agrypninae). *Coctilelater minimus* sp. nov., coletado no Brasil (Pará) é descrita e ilustrada. Essa espécie é caracterizada principalmente pelo pequeno tamanho e pela coloração geral do corpo.

PALAVRAS-CHAVE. Bioluminescência; Brasil; Floresta Amazônica; Região Neotropical; vaga-lume.

The Neotropical genus *Coctilelater* was described by Costa (1975) to include two species, *C. corymbitoides* (Candèze, 1900) and *C. sanguinicollis* (Candèze, 1878), which were described in *Pyrophorus* Billberg, 1820, a genus which comprised all bioluminescent Agrypninae. *Coctilelater* was included in the tribe Heligmini Costa, 1975 (pre-occupied name, replaced by Cleidecostini Johnson, 2002) with several other species closely related to bioluminescent agrypnines, but without bioluminescent organs. In a cladistic analysis of the Pyrophorini (Rosa, 2007) *Coctilelater* is among the descendants of the most recent ancestor of Pyrophorini and the absence of bioluminescent organs is due to the loss of this character. In fact, at least *C. corymbitoides* has a pair of yellow nebulous spots on the pronotal posterior margin similar to the bioluminescent organs of some Pyrophorini. However, until now, there is not any report of the luminescent emission capability in that species.

Coctilelater species are mainly characterized by small size (6.0–12.9 mm), subserrate antennae, small eyes and mandibles without subapical tooth. The purpose of this work is to describe *Coctilelater minimus* sp. nov., from Brazil (Pará). The types are deposited in the Museu Paraense Emílio Goeldi (MPEG) and Museu de Zoologia da Universidade de São Paulo (MZSP).

Coctilelater minimus sp. nov.

(Figs. 1–9)

Etymology. Latin: *minimus* = the smallest; in reference to the relative size of the species.

Description. Male (Fig. 1). Body narrow, parallel-sided, weakly convex, densely covered with fine, short, dense and semidecumbent yellowish setae. Integument bright, head, antennae and prosternum dark brown to black; pronotum, hypomera and epipleurae yellow; elytra and legs light brown, ventral pterothorax and abdomen light brown slightly darker

than elytra. Total length: 6.0–6.8 mm; elytra 3.4 times longer than prothorax; humerus 1.0–1.1 wider than prothorax.

Head. Frons concave, rectangular (1.3 times wider than long) with punctation strong, dense and umbilicate. Frontal carina complete, weak; frontoclypeal region steeply declivous to base of labrum, 5 times wider than long. Antennae with 11 antennomeres, weakly serrate from antennomere IV, surpassing the hind angles of pronotum on the antennomere XI; antennomere III 0.8 times as long as the II; antennomere IV 2.2 times longer than III. Eyes small, Indices of eye prominence ca. 0.32 (ventral) and 0.24 (dorsal). Mouthparts directed antero-ventrally. Labrum strongly sclerotized, semielliptical, strongly punctate with long setae. Mandibles with latero-dorsal face coarsely punctate, with long setae; inner margin without a subapical tooth and base with a row of short setae. Maxillary palpi 4-segmented, last segment securiform. Labial palpi 3-segmented, last segment securiform.

Prothorax (Fig. 2). 1.1 times as wide as long, parallel-sided, lateral margins entirely carinate. Pronotum slightly convex; homogeneously punctate, punctation of medium size, dense. Fore angles of pronotum acute; hind angles flat, elongate, slightly divergent, weakly unicarinate. **Hypomera** (Fig. 2) glabrous on the posterior third; anterior 2/3 densely pilose with punctation of medium size, dense and umbilicate; posterior margin with two small spines. Notosternal suture straight. **Prosternum** (Fig. 2) elongate, produced forwards to form “chin piece”; homogeneously punctate, punctation of medium size, dense and umbilicate. Prosternal process with a weak subapical tooth. The length of the subsequent area to the tooth corresponds to 10% of the total length of the process.

Scutellum pentagonal and abruptly elevated above the level of mesoscutum. **Mesoventrite** (Fig. 3) slightly sloping up posteriorly, with anterior articulating surfaces grooved and divided in two parts, one ventral and the other dorsal, the last visible beyond the ventral part; ventral part curved, sloping down outwards. **Mesoventral cavity** deep, approximately 2.4



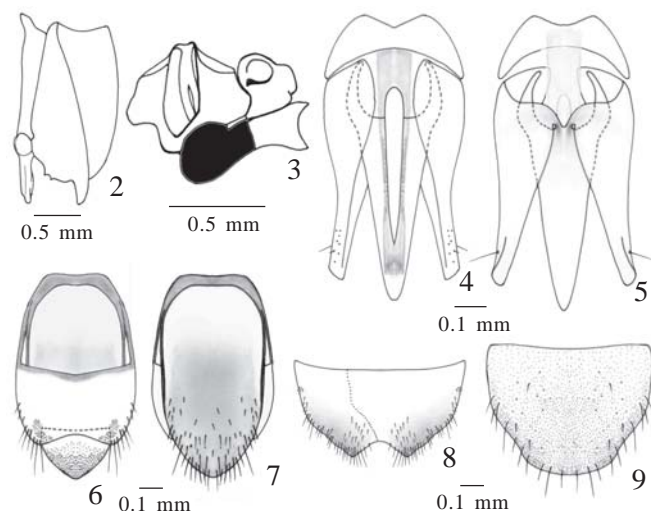
Fig. 1. *Coctilelater minimus* sp. nov. Dorsal habitus of male, total length 6.8 mm.

times longer than mesocoxal diameter with borders parallel-sided convergent between mesocoxae. Floor of mesoventral cavity with a median, short and narrow groove densely lined with short, golden setae above an elongated, narrow and shiny median band. **Mesepisternum** (Fig. 3) with a circular depression on the anterior margin, which is carinate posteriorly. Mesocoxal cavities slightly transverse, oblique, closed by mesepimeron and mesepisternum; mesotrochantin exposed. **Metaventricle** finely punctate, punctation moderately dense and umbilicate, denser on lateral margins; discrimen long. Metacoxal plates well developed, slightly oblique, gradually narrowed outwards.

Elytra. Striae with a row of strong and dense punctation; interstices flat, finely and densely punctate; parallel-sided up to apical third then tapering to apices conjointly rounded.

Abdomen gradually tapering apicad; punctation fine, moderately dense, larger and denser on lateral margins and on last ventrite. First abdominal sternite entirely membranous. Tergite VIII (Fig. 9) evenly sclerotized, densely covered with microsetae, with a few long and stout setae on latero-distal and distal margins. Sternite VIII (Fig. 8) partially membranous; transverse, proximal margin straight, posterior margin notched at middle, with short setae latero-posteriorly. Sternite IX and tergite X fused basally; sternite IX (Fig. 7) elongate, acute at apex; apex with elongate stout setae. Tergites IX and X (Fig. 6) partially fused, tergite IX with anterior margin straight, posterior margin bilobate with several microsetae and a few elongate stout setae latero-posteriorly; tergite X covered with microsetae.

Legs narrow and pilose. Femur and tibia compressed laterally, tibial apex with two small and subequal spurs and a row of spiniform setae on outer and inner margins; tarsomeres simple, ventrally densely pilose. Tarsal claws simple, with one strong elongate setae arising from the outer flat portion and a few ones finer and shorter on lateral and dorsal surfaces; empodium slightly sclerotized with two strong setae.



Figs. 2–9. *Coctilelater minimus* sp. nov. 2, prothorax (lateral); 3, mesothorax (latero-ventral); 4, 5, aedeagus (ventral, dorsal); 6, tergite IX and X; 7, sternite IX; 8, sternite VIII; 9, tergite VIII.

Aedeagus (Figs. 4, 5). Phallobase wider than long with anterior margin emarginated at middle, connected to parameres by a transparent membrane. Parameres with apex obliquely truncate with latero-dorsal carina, with short setae ventrally and one elongate seta dorsally; dorsal median bases articulated to dorsal sclerite of penis through a median process notched at middle. Penis with dorsal and ventral sclerites; dorsal sclerite with strongly curved basal struts 0.25 as long as its total length; lateral margins almost straight, tapering to apex; ventral sclerite well developed, tapering to apex.

Holotype (male). BRAZIL. Pará: Serra Norte, N1- Floresta, 31.X – 2.XI.1985, J. Dias coll., malayse trap (MPEG). **Paratypes.** BRAZIL. Pará: Serra Norte, N1- Floresta, 31.X – 2.XI.1985, F. F. Ramos coll., malayse trap, 1 male (MPEG); same locality, M1-Mata, 25 – 28 .X.1985, W. França coll., malayse trap, 1 male (MZSP).

Taxonomic discussion. Females of *Coctilelater minimus* sp. nov. are unknown. This species is similar and sympatric to *C. sanguinicollis*; both are narrow and parallel-sided. However, *C. minimus* is the smallest species and can be distinguished from the other ones of the genus by the color pattern of body, the longer antennae and the flatter weakly carinate posterior angles of the pronotum.

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