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NEW SPECIES OF *IGNELATER* COSTA (COLEOPTERA, ELATERIDAE, PYROPHORINI)

SIMONE POLICENA ROSA

ABSTRACT

Ignelater inaguensis sp. nov. from Bahamas, Great Inagua Island is described, illustrated and compared to other *Ignelater* species. This species is characterized mainly by its elytra, slightly widened from humerus up to the middle or posterior third and the length ratio between elytra and pronotum 2.51-2.71.

KEYWORDS: Agrypninae; Bioluminescence; Click beetles; Firefly; Neotropical region.

INTRODUCTION

The genus *Ignelater* Costa, 1975 comprises nine species of bioluminescent click beetles from the Caribbean region, Colombia and Costa Rica (Costa, 1980; García & Piña, 1998; 2002). The *Ignelater* species are characterized by long antennae, surpassing the pronotal hind angles by 2-3 antennomeres, and a pair of lateral tubercles on dorsal sclerite of the penis, which present different forms and spines depending on the species. The *Ignelater* species differ subtly from each other in antennal length, elytral shape, size of pronotal and abdominal bioluminescent organs, coloration pattern and punctuation. Frequently these characteristics are sufficiently useful only for identifying species groups, the examination of aedeagus being essential in naming species. In the present work the new species *Ignelater inaguensis* sp. nov. from Bahamas, Great Inagua Island, known only through male specimens, is described, illustrated and compared to other *Ignelater* species. Type specimens are deposited in the Florida State Collection of Arthropods, Gainesville (FSCA) and Museu de Zoologia da Universidade de São Paulo, São Paulo (MZUSP).

RESULTS

Ignelater inaguensis sp. nov.

Etymology: Allusive to the type locality, Great Inagua.

Diagnosis: Integument evenly dark-brown, except for the reddish humeral margin; elytra about 2.5 times longer than pronotum, slightly widened from humerus on anterior 1/2-2/3; antennae surpassing pronotal hind angles by 3 antennomeres.

Description: Male (Fig. 1). Body weakly convex (Figs. 1, 2); integument brown with humeral margin reddish; vestiture consisting of fine, short, dense and decumbent yellow setae. Total length: 17.5-21.5 mm; elytra 2.57-2.71 times longer than prothorax; humerus 1.02-1.04 wider than prothorax.

Head: Frons concave, quadrangular (1.0-1.1 times wider than long); frontal carina complete medially; frontoclypeal region steeply declivous to base of labrum. Punctuation fine, dense and umbilicate. Antennae (Fig. 2A) reaching the posterior angle of pronotum

on the antennomere VIII; antennomere III 1.65 times longer than the II; antennomere IV 2.33 times longer than III, antennomeres IV-X serrate gradually decreasing in width (1.91-3.3 longer than wide). Indices of eye prominence 0.51 (ventral) and 0.50 (dorsal). Labrum semicircular, convex, strongly punctate with several long setae. Mandibles with latero-dorsal face coarsely punctate, with several long setae; inner margin with a subapical tooth, having a row of setae mesally at base. Last maxillary and labial palpi securiform.

Prothorax: 1.00-1.03 times longer than wide, margins parallel-sided from base of hind angles up to anterior 1/3, then convergent up to anterior margin. Pronotum slightly convex, with a small tubercle on median posterior margin, punctation fine, dense and umbilicate, spaces between punctures apparently micropunctate, with a pair of luminescent organs suboval, flattened and located laterally, adjacent to the carina of hind angles; visible beneath in the hypomera. Fore angles of pronotum acute, rounded laterally; hind angles narrow and elongate, divergent, unicarinate.



FIGURE 1: *Ignelater inaguensis* sp. nov., holotype male, habitus. A, dorsal; B, lateral. Length: 20.0 mm.

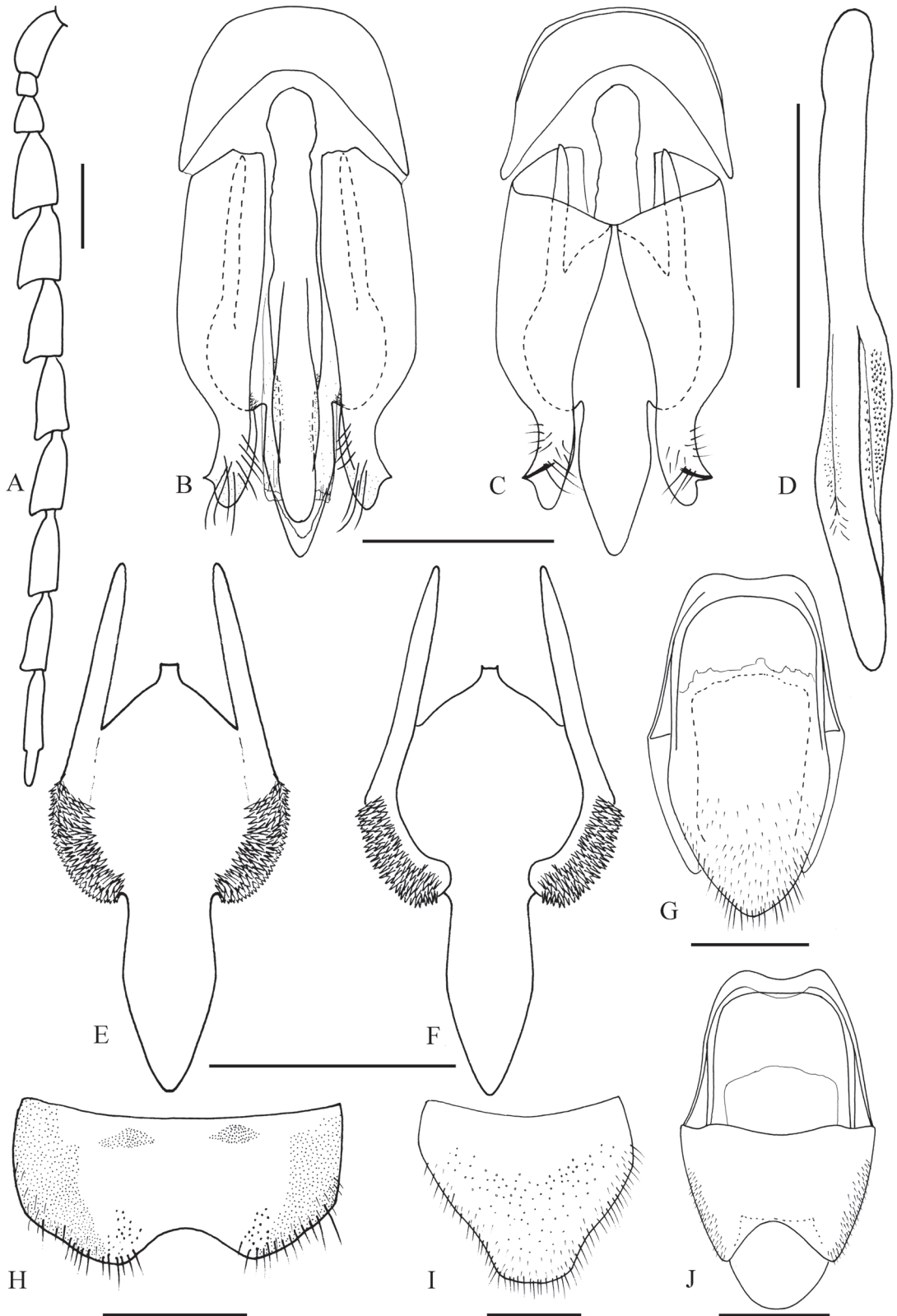


FIGURE 2: *Ignelater inaguensis* sp. nov. A, antenna; B, C, aedeagus (ventral, dorsal); D, ventral sclerite of penis (lateroventral); E, F, dorsal sclerite of penis (dorsal, ventral); G, sternite IX; H, sternite VIII; I, tergite VIII; J, tergites IX and X. Scale = 1 mm.

Hypomera almost entirely pilose, except for a small elliptical area near hind angles, with punctation fine, dense and umbilicate; posterior margin sinuate, with a small spine directed posteromedially. Pronotosternal suture straight, divergent anteriorly. Prosternum elongate, produced forward covering mouth up to base of mentum, strongly and densely punctate in the medium longitudinal area; punctation smaller, denser in the lateral and anterior margins. Prosternal process straight with apical tooth. Scutellum pentagonal and abruptly elevated above the level of mesoscutum. Mesoventrite sloped posteriorly *ca.* 30° above the anterior region. Mesepisternum with a circular posteriorly carinate depression on the anterior margin. Metaventrite finely punctate, punctation moderately dense and umbilicate, denser on lateral margins. Tibiae with two small and subequal spurs and a row of spiniform setae on dorsal and ventral margins; tarsomeres simple, densely pilose on ventral face. Elytra. Sides slightly widened posteriorly from humerus on anterior 1/2-2/3, apices divergent; striae weakly impressed, interstices flat, rough, finely and densely punctate.

Abdomen: Punctation fine, dense and umbilicate, denser on lateral margins and on last ventrite posteriorly. First abdominal sternite with a pair of sclerotized lamellae, with a small luminescent organ 3 times longer than wide, occupying *ca.* 0.03 of the sternite width. Tergite VIII (Fig. 2I) evenly sclerotized, V-shaped, almost straight at base, constricted near the truncate apex, clothed with fine and short setae, longer on posterior and laterodistal margins. Sternite VIII (Fig. 2H) transversal, partially membranous; posterior margin emarginated at middle, with long setae posterolaterally. Sternite IX (Fig. 2G) bisinuate at base, tapered to apex from posterior third, covered with fine setae, longer at posterior margin. Tergite IX (Fig. 2J) with anterior margin sinuose, posterior margin bilobate with several short setae lateroposteriorly; tergite X (Fig. 2J) semioval, glabrous.

Aedeagus (Figs. 2B-2F): Phallobase inverted C-shaped, tapered laterally. Parameres with apex membranous and rounded, with laterodorsal oblique carina produced forming a lateral spine, bearing several elongate setae ventrally and short setae dorsally; articulated to dorsal sclerite of penis through a median penis process. Dorsal sclerite of penis (Figs. 2E, 2F) with lateral elongate and rounded tubercles covered with short spines dorsally and ventrally; spines directed dorso-medially; posterior region with half width of tuberculate area, apex triangular. Basal struts 0.32 as long

as the total length of penis. Ventral sclerite of penis (Fig. 2D) slightly wider than the third width of the dorsal sclerite with lateral folders pleat-like, covered by minuscule spines.

Distribution: BAHAMAS. Great Inagua.

Type material: Holotype. [BAHAMAS. Great Inagua Island, North Coast Road N21.10813 W73.60196, 13-07-2007, Thomas, Turnbow & Smith], [black-light trap in mature mangrove forest] (FSCA). Paratypes. Same labels of holotype, 3 males (FSCA); same labels, 1 male (MZUSP).

DISCUSSION

Ignelater inaguensis sp. nov. is distinguishable from other species of the genus by the shape of elytra, which are widened up to the middle or to posterior third, while in other *Ignelater* they are gradually narrowed from the humerus up to apex. It is further distinguishable by the length ratio between pronotum and elytra (E/P) ranging from 2.57-2.71. Only *I. caudatus* (Champion, 1895), from Costa Rica, has E/P 2.71, but they differ about the antenna, which is longer in *I. inaguensis* sp. nov., pronotal tubercle, absent in *I. caudatus*, and the shape of elytra (Costa, 1980). The aedeagi of *I. caudatus* (Costa, 1975: fig. 53) and *P. inaguensis* sp. nov. are very similar, but in the latter the tubercle of the penis is relatively longer and more prominent. The aedeagus of *I. inaguensis* sp. nov. is also similar to the aedeagus of *I. luminosus* (Illiger, 1807), but in *I. inaguensis* the tubercle is rounded and the ventral sclerite bears minuscule spines, while in *I. luminosus* the tubercle is sinuose and the ventral sclerite lacks spines; furthermore, the paramere apex is narrower in *I. inaguensis* sp. nov.

RESUMO

Ignelater inaguensis sp. nov. de Bahamas, Ilha Great Inagua, é descrita, ilustrada e comparada às outras espécies de *Ignelater*. Essa espécie é caracterizada principalmente pelos élitros levemente alargados do úmero até aproximadamente a metade ou o terço posterior e pela proporção entre os comprimentos do élitro e do pronoto entre 2,51-2,71.

PALAVRAS-CHAVE: Agrypninae; Bioluminescência; Região neotropical; Vaga-lumes.

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