

Parallidostoma tricornum Ocampo and Colby, a new genus and species of Allidiostomatinae from Peru (Coleoptera: Scarabaeidae)

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Abstract

Parallidostoma tricornum Ocampo and Colby, **new genus and new species**, are described and illustrated. The new genus is placed in the New World scarab subfamily Allidiostomatinae. The known distribution and natural history of the new species are discussed.

Key words: Neotropics, Peru, new genus, new species

Introduction

The subfamily Allidiostomatinae Arrow is a small group of scarab beetles from southern South America. Allidiostomatinae includes one genus, *Allidiostoma* Arrow, and 10 described species (Martínez 1956). Species of *Allidiostoma* are distributed in Argentina, Chile, and Peru. Seven species are endemic to Argentina and two are endemic to Chile. Three species are known from both Argentina and Chile and one species is known from both Chile and Peru.

As part of the revisionary work of Allidiostomatinae conducted by one of us (FCO), we found specimens that correspond to a new genus. The purpose of this paper is to describe the new genus and new species, to provide diagnostic illustrations, and to discuss what is known of the distribution and natural history of the new taxon.

Methods

Definition of Taxonomic Characters and Character Examination

Internal and external morphological characters formed the basis of this work. Specimens were examined using a dissecting microscope (6.5 to 40 X) and fiber-optic lights. For measurements, we used an ocular micrometer. Internal sclerotized structures were dissected after relaxing the specimens in hot water. Heavily sclerotized parts were soaked in a dilute solution (about 15%) of potassium hydroxide and neutralized in a dilute solution (about 15%) of acetic acid. For the holotype, the genitalia were placed in a glycerin-filled vial beneath the specimen.

The following standards were used for characters:

Body length. Measured from the apex of the clypeus to the apex of the elytra.

Puncture density. Defined as dense if punctures are nearly confluent to less than two puncture diameters apart; moderately dense if punctures are between two to six puncture diameters apart; and sparse if punctures are separated by more than six puncture diameters.

Length of setae. Defined as minute if less than 0.2 mm, short if between 0.2–0.5 mm, moderately long if between 0.5–1.0 mm, and long if between 1.0–2.0 mm.

Type of setae. Defined as “hair-like” if slender and erect, “thickened” if slightly thick and erect or partially decumbent, and “spine-like” if broad and thick. Setae are subject to wear and may be abraded.

Color. Determined with specimens that are viewed with magnification and illumination.

Material Examined

The results of this study were based on specimens from the following institutions and collections.

IAZA: Instituto Argentino de Investigaciones de Zonas Aridas, Mendoza, Argentina (F. C. Ocampo).

USNM: United States National Museum of Natural History (phytophagous scarabs currently housed at the University of Nebraska State Museum, Lincoln, NE, USA) (B. C. Ratcliffe).

Parallidiostoma Ocampo & Colby new genus

(Figs. 1–6)

Type species: *Parallidiostoma tricornum* Ocampo & Colby, **here designated**.

Diagnosis. *Parallidiostoma* is distinguished from *Allidiostoma* by the following combination of characters: in *Parallidiostoma* the pronotum is nearly as long as it is wide (ratio 0.95) (in *Allidiostoma* the pronotum is strongly transverse, ratio < 0.76), *Parallidiostoma* lacks a membrane on anterior margin of the pronotum (in *Allidiostoma* the membrane is present), and *Parallidiostoma* has two well-developed horns on the anterior half of the pronotum (only males are known) (in males and females of *Allidiostoma* the pronotum is unarmed).

Description. Coleoptera: Scarabaeidae: Allidiostomatinae. Color reddish brown. Form: Body convex oval, length 8.2–8.3 mm. Pygidium not exposed beyond apices of elytra. *Head* (Figs. 1–3): Surface punctate. Frons convex, armed with median horn. Frontoclypeal suture evident. Eye canthus setigerous; setae moderate in length, thick. Base of declivous anterior edge of clypeus with fringe of short, slender setae. Labrum slightly protruding beyond clypeal anterior margin, small, rounded. Mandibles developed, protruding beyond clypeus and labrum. Maxillary palps with 4 palpomeres. Labium ventrally setose, setae long, slender; labial palps with 3 palpomeres. Antenna with 9 antennomeres, club with 3 small, tomentose antennomeres. *Pronotum* (Figs 1–3): Surface punctate. Lateral margin weakly serrulate, setigerous; setae moderate to long, inserted in troughs of serrulations. All margins beaded except basal margin on external sides. Disc with deep fovea and horns. Fovea impunctate to punctate; punctures sparse to dense, small to large. Anterior margin of pronotum lacking membrane. *Scutellum*: Subtriangular, apex slightly rounded. *Elytra* (Fig. 1): Convex. Surface smooth; with 10 punctate striae, punctures size variable. Lateral margin smooth, setose; setae long. *Venter*: Prosternal surface smooth, not setigerous; prosternum setigerous at base and apex, smooth otherwise. Posterior prosternal process long, columnar, slender, setigerous; setae moderately long. Anterior prosternal process produced into rounded, setigerous knob; setae moderate to long. Abdominal sternites narrowed medially, setigerous. *Pygidium*: Not exposed beyond elytra, surface densely punctate. In lateral view, surface nearly flat. *Legs* (Fig. 1): Profemur with fringe of long cleaning setae on anterior surface. Protibia with 3 lateral teeth. Mesotibiae and metatibiae with two transversal carinae, carinae setose; setae thick, moderately long. Tarsal claws simple. *Male genitalia* (Fig. 4): Symmetrical; parameres longer than phalobase, slender.

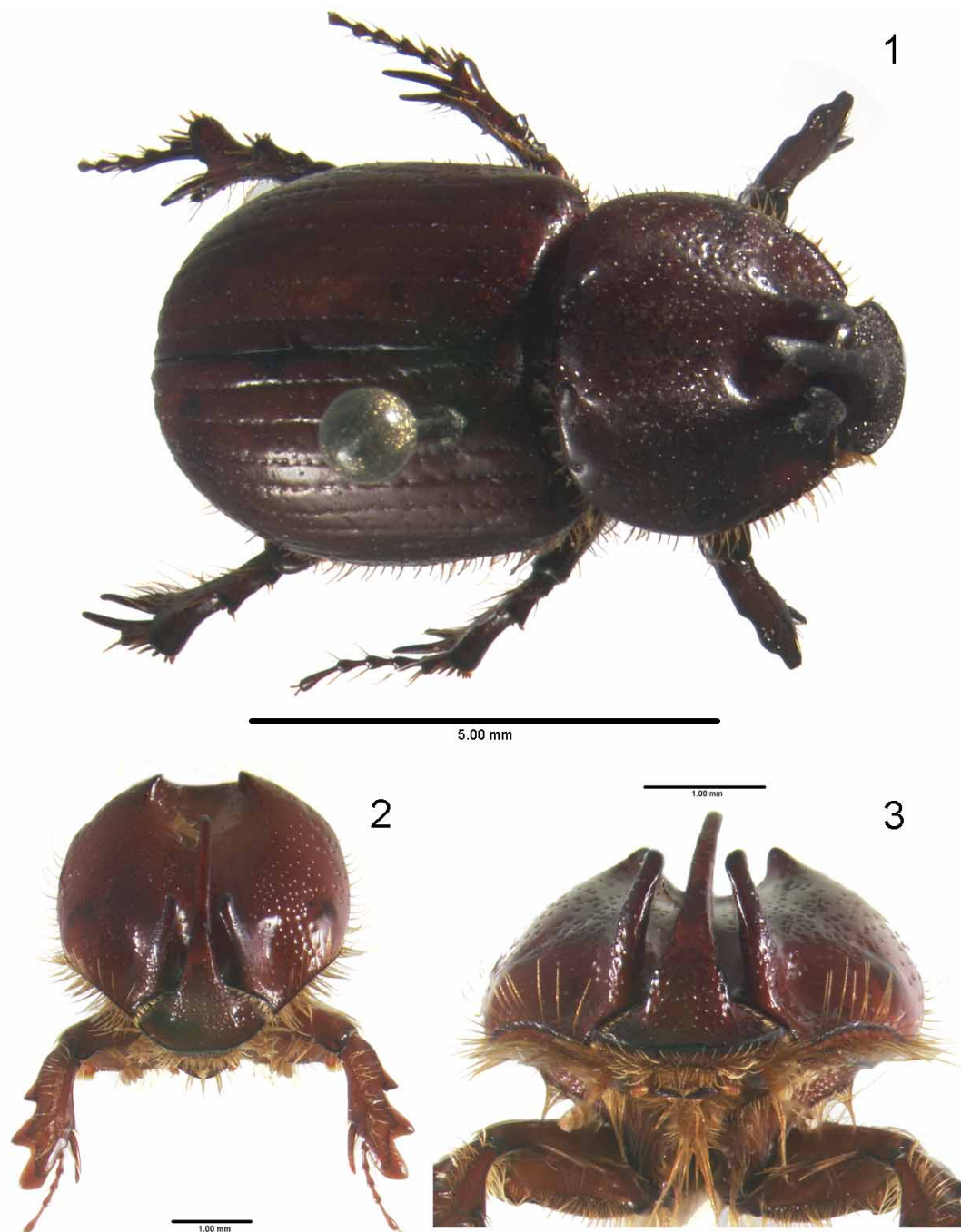
Etymology. From the Latin *par-* meaning similar, in reference to the similarity and close relationship of the genera *Parallidiostoma* and *Allidiostoma*. The genus is neuter in gender.

Distribution (Fig. 5). The only known species of this genus is from Cuzco, Peru.

Parallidiostoma tricornum Ocampo & Colby new species

(Figs. 1–6)

Diagnosis. *Parallidiostoma tricornum* is distinguished from other species in the Allidiostomatinae by the characters listed in the generic diagnosis (males). Females are unknown for this species. Male genitalia are also diagnostic (Fig. 4).



FIGURES 1–3. *Parallidiostoma tricornum* Ocampo and Colby, new genus and species, dorsal view of the holotype, fronto-dorsal and frontal views of the paratype.

Description. Holotype. Length 8.2 mm, width 4.5 mm. Color reddish brown. *Head* (Figs. 1–3): Surface punctate; punctures large, dense. Frons bearing a large horn, horn base half as wide as head; horn curved, surface punctate at base. Frontoclypeal suture evident. Clypeus broadly rounded. Eyes slightly visible on

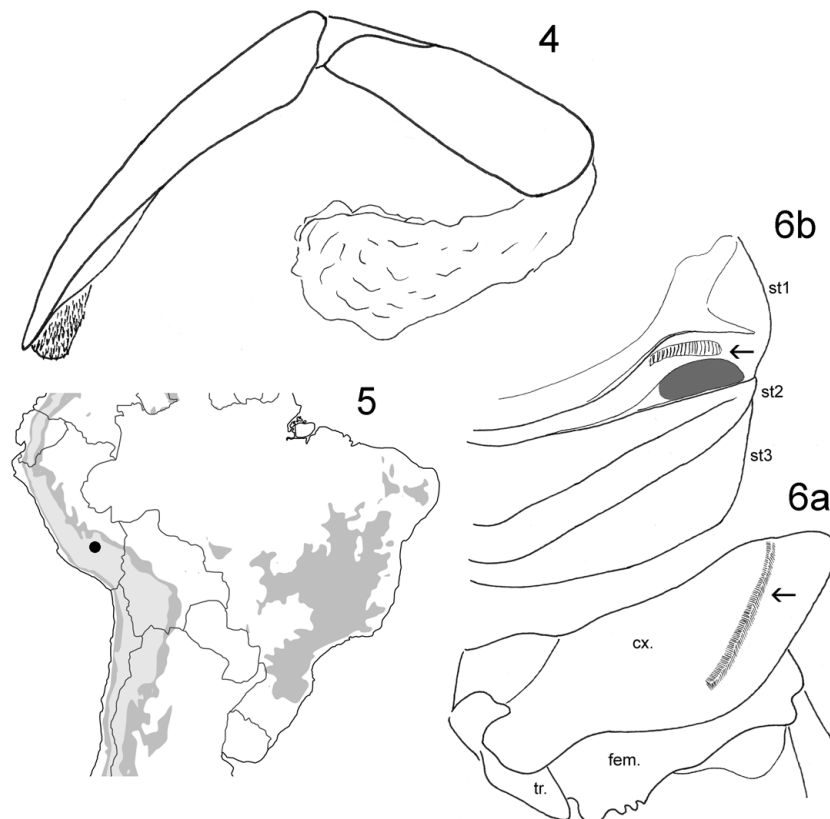
dorsal view. *Pronotum* (Figs. 1–3): Surface punctate, punctures moderate in size, moderately dense to sparse. Each pronotal anterior angle with a large horn; horns slightly convergent on each other; each horn with 1 fovea on outer edge. Area between horns with deep median fovea, fovea extending posteriorly; basal half of pronotum with 1 large tubercle on each side in center near basal margin, on either side of central fovea. Fovea impunctate to sparsely punctate. *Elytra* (Fig. 1): with 10 well-defined punctate striae. Pseudoepipleura poorly developed. *Venter* (Fig. 4): Proepisternum with longitudinal carina; carina setigerous; setae long, slender. Mesoepiesternum and metaepiesternum punctate; setae, moderate in length. Metasternum smooth medially, sparsely punctate on sides. *Pygidium*: surface punctate, setigerous; setae tawny, moderate in length. *Legs*: Protibia tridentate; teeth well developed. Protibial spur well developed, curved. Tarsi with tarsomeres 1–4 subequal in length, tarsomere 5 longer than tarsomere 4. Tarsal claws simple, shorter than tarsomere 5. Mesotibia and metatibia with strongly expanded at apex, with 2 spurs; spurs longer than tarsomeres 1 and 2 combined, curved. Metatarsus folds between metatibial spurs. *Male genitalia* (Fig. 4): Parameres longer than phallobase, slender, curved.

Paratype. The single paratype specimen (male) does not differ from the holotype except slightly in length (8.3 mm).

Female. The female of this species is unknown.

Type material. Holotype male at IAZA labeled: “Limantambo/An/Cuz; 13°29'43”S / 72°27'50”O / 28.09.2002 / 2700m / A. Bustamante N.” (typed) “*Parallidiostoma / tricornum / Ocampo & Colby / HOLOTYPE*” (handwritten). One paratype at USNM labeled: “PERU: Cuzco / 15 km SW Limantambo / 24 Feb. 1979 / W. E. Steiner.” (typed); “*Parallidiostoma / tricornum / Ocampo & Colby / PARATYPE*” (handwritten).

Distribution (Fig. 5). Peru, Cuzco, Limantambo (80 km W Cuzco). These specimens were collected at 2700 m, in a dry montane forest.



FIGURES 4–6. *Parallidiostoma tricornum* Ocampo and Colby, male genitalia (4); distribution (5); matacoxa (cx) (6a) and abdominal sternites 1–3 (st1–st3), showing the stridulatory organ (arrows) (tr: metatrochanter, fem: metafemur) (6b).

Natural history. Little is known about the natural history of *P. tricornum* (and allidiostomatines in general), with the exception that they are attracted to lights. The larva of this species is unknown. Some allidiostomatines are known to stridulate using the transverse, striated surface of the outer half of the hind coxa (Fig. 6a) against a ridge in the first abdominal sternite, which also has a concavity that presumably acts as a sound amplifier (Arrow 1904) (Fig. 6b). This structure is found in *Allidiostoma* and *Parallidiostoma*.

Temporal distribution. February (1); September (1).

Remarks. The paratype specimen is damaged. The head, pronotum with prolegs, and elytra are mounted on a card, while the rest of the specimen is preserved in two glycerin filled vials, pinned beneath the card. The genitalia are missing.

Acknowledgments

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