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A Remarkable New *Anomiopus* Westwood from Peru (Coleoptera: Scarabaeidae: Scarabaeinae)

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Abstract. Described and illustrated is a strikingly distinct **new species** of the scarabaeine genus *Anomiopus* Westwood, *A. pishtaco* (Coleoptera: Scarabaeidae), from the Amazonian lowlands of eastern Peru.

Introduction

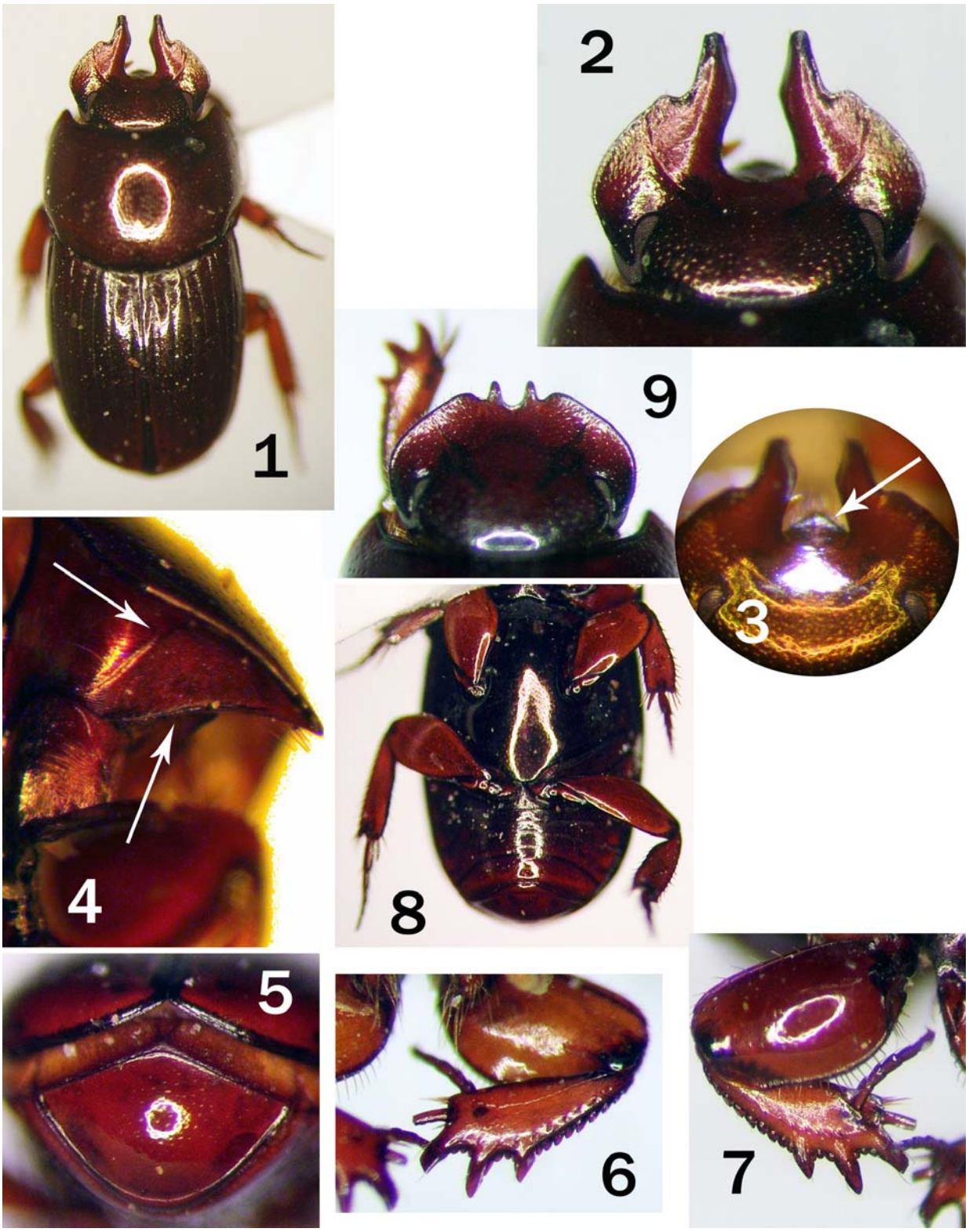
The purpose of this paper is to describe and discuss a remarkable new species of the scarabaeine dung-beetle genus *Anomiopus* Westwood (Coleoptera Scarabaeidae) from the Ucayali region of eastern Peru. It is a contribution to an ongoing study of the Peruvian scarabaeine dung-beetle fauna based at the Museo de Historia Natural de la Universidad Mayor de San Marcos in Lima. *Anomiopus* (once referred to as *Onthocharis* Westwood) comprises approximately 60 species of small, often elongate and somewhat flattened, dichotomiine dung beetles that can superficially resemble certain species of *Dendropaemon* Perty. The Peruvian fauna includes about one dozen described species, but recent fieldwork suggests that there are more. The genus is exclusively Neotropical and collected from a wide variety of habitats, including humid lowland forest, cloud forest, cerrado and grassland from zero to 1200 m elevation (Canhedo 2006). The biology is essentially unknown. Most specimens with precise collecting data were attracted to light traps of various types. Other collecting methods include flight-intercept traps, dung-baited pitfall traps, sweep nets, and direct capture near newly excavated nests of *Acromyrmex* Mayr (Hymenoptera; Formicidae). The general consensus is that at least some species are myrmecophilous. The taxonomy of *Anomiopus* is the subject of a series of recent papers by the late Virgínia Luzia Canhedo (Canhedo 2004a, 2004b, 2006).

Anomiopus pishtaco, new species

(Fig. 1-8)

Type Series. Holotype (sex unknown) - **Peru**: Región Ucayali, Prov. Coronel Portillo, Callería (8°18'43" S 73°40'57" W) 224 m, March 2012, M. Vilchez col. Paratype (sex unknown) - **Peru**: Región Ucayali, Prov. Coronel Portillo (8°26'09" S 73°42'35" W) 227 m, 15-17 October 2012, B. Medina col. The paratype is in three pieces (head, prothorax and pterothorax + abdomen), each pointed and labeled on a separate pin. Both holotype and paratype are deposited in the collection of the Departamento de Entomología, Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos (Lima, Peru).

Description. Holotype (sex unknown): *Color* - Head and pronotum dark shining reddish brown, elytra dark shining brown. *Head*: Clypeus (Fig. 2) grossly excised medially for nearly entire length, emargination broadly rounded posteriorly, angulate on each side and extended anteriorly as blunt, wedge-shaped clypeal teeth; posterior edge of emargination separated by fine suture from ventrally directed, triangular sclerite (Fig. 3, arrow) here interpreted as labrum (see Comments below). Frontoclypeal sutures (Fig. 2, arrow) strongly arched anteriorly, together forming a semicircle; surface of head poste-



Figures 1–8. *Anomiopus pishtaco* new species, holotype. **1)** Habitus, dorsal view. **2)** Head, dorsal view. **3)** Head, partial dorsal view (arrow indicates labrum). **4)** Prothorax, ventrolateral view (upper arrow indicates transverse propleural carina; lower arrow indicates pleurosternal carina). **5)** Abdomen, caudal view. **6)** Left proleg, anterior view. **7)** Same, posterior view. **8)** Pterothorax and abdomen, ventral view. **Figure 9**. *Anomiopus smaragdinus* (Westwood), dorsal view of head.

rior to (and including) emargination strongly concave. Clypeus lacking distinct puncturing; parietals (genae) roughened by coarse punctures; frons smooth with moderate puncturing, punctures separated by at least two puncture diameters. Frons completely margined posteriorly by fine carina. *Prothorax*: Pronotum evenly, broadly convex, completely punctate, punctures separated by at least two puncture diameters, becoming larger and more clearly umbilicate on disk. Circumnotal ridge effaced along posterior margin, otherwise sharp and distinct. Anterolateral angles acute (Fig. 1). Transverse propleural carina (Fig. 4, upper arrow) present and complete, extending from middle of coxal margin to near lateral margin where it bends abruptly and extends anteriorly to merge into circumnotal ridge; pleural surface posterior to transverse carina smooth, anterior to carina finely transversely striate. *Pterothorax*: Upper portion of metasternum, mesepimeron, metasternum and adjacent surfaces of meso- and metacoxae very finely reticulate. *Elytra*: Striae obscure, indicated by narrow grooves separated by convex interstriae; seventh stria evident only medially, basal and apical thirds effaced. *Legs*: Protibia (Fig. 6–7) tridentate; teeth collectively occupying less than one-half length, narrow, acute, separated by small denticles that continue along lateral margin from third tooth to base; protarsus inserted subapically on posterior (ventral) surface, longer than one-half of tibia along inner margin, claws small, only slightly curved. Profemur globose, strong carina marking both upper and lower margins. Protibial spur acute, almost straight. Meso- and metatibiae (Fig. 8) scarcely widened apically; tarsomeres elongate, scarcely widened apically; claws small, almost straight. *Pygidium*: Very large (Fig. 5), strongly convex, its greatest width amounts to about three-fourths of combined elytral apices; dorsal margin strongly margined and angulate medially, received by upwardly curved apical elytral margins. *Body length* (including head): ~ 4 mm. (Paratype does not differ from holotype in any significant detail.)

Etymology. The species name *pishtaco* (from Quechua "*pistay*"; masculine noun in apposition) refers to an Andean mythological bogeyman said to terrorize indigenous communities often brandishing a dagger, here a metaphor for the formidable clypeal teeth of the new species.

Comments. This new species will key to *Anomiopus* with little difficulty in Vaz-de-Mello et al. (2011). In her revision of the genus, Canhedo (2006) recognized the virescens, the smaragdinus and the cuprarius species groups. *Anomiopus pishtaco* is assignable to the latter group on the basis of two characters: lack of a subapical tubercle on the lateral margin of the metatibia; and the presence of a complete transverse propleural carina (Fig. 4, upper arrow). It is immediately distinguished from other known species of *Anomiopus* by the grotesque shape of the head (Fig. 1–2). The clypeal shape of its congeners, while variable, is always similar to that depicted in Figure 9. Both holotype and paratype were collected in human-feces-baited pitfall traps in evergreen forest about 95 km east of Pucallpa; the collecting sites are separated by about 15 km.

The following emendation of Canhedo's (2006) key to species groups will separate *A. pishtaco* from its known congeners:

1. Lateral margin of metatibia simple, not interrupted by teeth or carina **2**
— Metatibia with one or more transverse teeth on lateral margin .... **virescens group** (see Canhedo 2004b, 2006)

2. Transverse propleural carina complete, reaching lateral margin and turning anteriorly to border episternum). Apices of metatarsomeres 1–4 transversally truncated..... (cuprarius group) **3**
— Transverse propleural carina semicomplete (reaching lateral margin but not turning anteriorly to border episternum) or incomplete (not reaching lateral margin). At least basal (often all) metatarsomere emarginate or obliquely truncate apically .... **smaragdinus group** (see Canhedo 2004b, 2006)

3. Clypeus deeply excised medially and medial teeth prolonged anteriorly as a pair of knife-like processes (Fig. 1); labrum exposed as triangular sclerite at base of clypeal emargination (Fig. 3, arrow)..... ***Anomiopus pishtaco*, new species**
— Clypeal emargination small, medial teeth not prolonged; labrum not exposed .... **cuprarius group** (remaining species, see Canhedo 2006: 359)

The extreme emargination of the clypeus, which reaches the labro-clypeal suture, has had the consequence of exposing the upper surface of the labrum, which in dung beetles is usually tilted upward beneath and against the lower surface of the clypeus. What we here interpret as the labrum appears in Figure 3 (arrow) as an obtusely angulate sclerite separated from the clypeus by a faint suture. A similar modification occurs in the Afrotropical deltochiline genus *Dicranocara* Frolov and Scholtz. *Dicranocara* species (Frolov and Scholtz 2003, and Deschodt and Scholtz, 2007) inhabit the Namib Desert, where they utilize rock hyrax middens as refugial habitats. They possess a similarly deeply emarginate clypeus and exposed labrum, along with specializations of the other mouthparts interpreted as adaptations for manipulating hard food.

So as not to risk extensive damage to either type specimen, we have elected not to attempt dissection of genitalia to determine their sex or to examine details of mouthpart structure. Canhedo's (2006) indicators of sexual dimorphism are generally imprecise and not definitive for the specimens of *A. pishtaco* at our disposal.

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