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A new species of *Eremotylus* Forster, 1869 (Hymenoptera: Ichneumonidae) from Peru, with a key to the Neotropical species

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The genus *Eremotylus* Forster currently comprises 16 described species, two of them occurring in the Neotropical region. The genus is recorded for the first time in Peru and *Eremotylus pukayana* **sp. nov.** is described. A key for the Neotropical

species is also presented.

Key words: Ichneumonoidea, taxonomy, parasitoids, wasps

The Ophioninae fauna from Peru is still poorly known. Currently there are nine genera and 50 species in the country (Alvarado 2014, Alvarado 2016, Rodríguez-Berrío *et al.* 2009, Sánchez *et al.* 2014).

Eremotylus is a predominantly Holarctic ophionine genus, with peak diversity in semi-arid habitats (Gauld, 1988). Sixteen species are known but only two of them occur in the Neotropical region, *E. tropicus* Gauld 1988 from Mexico and *E. vitripennis* (Townes 1971) from Argentina (Gauld 1980, 1988).

The present work records *Eremotylus* for the first time in Peru, provide a description of a new species, and develops a key to the Neotropical species of the genus.

Material and methods

Morphological terminology and the style of descriptions follow that of Alvarado (2014), except for including the length ratio of flagellomeres 2–4. Biometric ratios used in descriptions are as follows: clypeus measured in frontal view; face maximum width/maximum height measured in frontal view, at the level of the toruli; antennomeres measured in lateral view, maximum width measured at distal end. Measurements were taken with an ocular micrometer.

Photomicrographs were prepared using a Canon EOS T3 digital camera attached to an Infinity K-2 long-distance microscopic lens.

Studied specimens will be deposited at the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru (MUSM).

Systematics

Diagnosis. *Eremotylus* can be distinguished from all other genera of Ophioninae by the combination of the following characters: (1) occipital carina more or less complete, (2) fore wing with Rs+2r proximally thickened and curved; *Im-cu* sinuous or arcuate, without ramellus; discosubmarginal cell with a glabrous area anteriorly, (3) fore tibial spur with membranous flange behind comb, and (4) second metasomal laterotergite folded under (Gauld 1980, 1985, 1987; Gauld & Lanfranco 1987).

Comments. Little is known about their biology, with no host records for the Neotropical species. The European species, *E. curvinervis* (Kriechbaumer, 1878), parasitizes the noctuid moth *Dryobotodes eremita* (Fabricius, 1775) (Seyrig 1926).

Key to Neotropical species

- 1. Metasoma pale green; scutellum without lateral longitudinal carinae *E. vitripennis* (Townes 1971)

Eremotylus pukayana sp. nov.

Diagnosis. This species can be distinguished from the other Neotropical species by the following combination of features: (1) lateral ocellus separated from compound eye by about $0.3 \times$ maximum ocellar diameter (vs. continuous to the compound eyes), (2) mesopleuron dark brown or black (vs. orange-brown in *E. tropicus* and green in *E. vitripennis*), and (3) posterior transverse carina of mesosternum complete (vs. present only laterally in *E. tropicus*).

Material examined: *Holotype* ♀ "PERÚ. LL. Otuzco 7°42'56.7"S/ 78°45'52.68"W 2114m 15–25.iv.2019 T. Neyra" (MUSM).

Paratype ♀ "PERÚ: AR. Caylloma, Tapay, 15.59369°S/ 71.94807° W 2300 m, 17. iii. 2018, trampa de luz, E. Olanda, H. Quispe, A. Aspur y S. Chambi" (MUSM). 45+ flagellomeres (antennae broken)

Description of female holotype. Fore wing length 12.6 mm.

Head: Mandibles stout, long, weakly tapered and with upper tooth slightly longer; outer mandibular surface with a distinct proximal concavity; face coarsely punctate and weakly polished, $0.5 \times$ as long as wide; clypeus in frontal view 2.9× as broad as long, apically slightly protuberant and with margin thin; malar space $0.3 \times$ as long as basal mandibular width; lateral ocellus (Fig. B) separated from compound eye by about $0.4 \times$ maximum ocellar diameter; distance between ocelli $0.5 \times$ maximum ocellar diameter; occipital carina complete, ventrally joining hypostomal carina at distance from base of mandible of $0.5 \times$ as long as basal mandibular width; antenna with 50 flagellomeres, second to fourth flagellomeres; 2.2:1.9:1.8× as long as wide, central flagellomeres $1.1 \times$ as long as wide.

Mesosoma: Notaulus distinct near anterior scutal margin; scutellum lateral longitudinal carinae $0.5 \times$ as long as scutellum length; mesopleuron coarsely and rather sparsely punctate, epicnemial carina present laterally, between epicnemial carina and pronotum striate; posterior transverse carina of mesosternum complete; metapleuron weakly convex and coarsely and sparsely punctate; propodeum with anterior transverse carina present (faint laterally), posterior transverse carina present and well define, longitudinal carinae only distinguishable behind posterior transverse carina; fore wing with *cu-a* proximal to the base of *Rs&M* by about $0.1 \times$ as its own length; hind wing with 7 hamuli on *R*1, first abscisa of *Rs* strongly curved.

Metasoma: Tergite II $4.4 \times$ as long as posteriorly deep; thyridia elliptical, separated from anterior margin by about $1.2 \times$ it is own length; tergite III $1.3 \times$ as long as posteriorly deep.

Colour: Orange-brown species with frons, propleuron, mesopleuron (except for a transversal stripe and subalar prominence orange-brown), pronotum dorsally and laterodistally, scuto-scutellar groove, metanotum, metapleuron, propodeum laterally and distally, and metasomal tergites V–VIII dark brown; wings weakly infuscate with brown veins.

Variation: The paratype (fore wing length 11.1 mm) presents some variation in the coloration in relation to the holotype, it differs in having the vertex, occiput, malar space (Fig. C), and propleuron dark brown (Fig. E); scuto-scutellar groove, mesopleuron (Fig. D), metapleuron, and propodeum blackish, and metasomal sternites V–VII (centrally and distally off-yellow) black.

Male. Unknown.

Comments. The specimens herein described was collected in two semi-arid localities (Fig. F shows the paratype collection site) in the western slopes of the Peruvian Andes, between 2100 and 2300 m. Both specimens were collected during the rainy season but in subsequent years. In Arequipa survey that included 16 localities ranging from sea level to 4300 m and dry and rainy seasons, 254 Ophioninae individuals were collected (200 *Alophophion*, 6 *Enicospilus* Stephens, and 47 *Ophion* Fabricius) with only one *Eremotylus*; suggesting that the species may be rare, with small populations and/or highly seasonal.

Etymology. The species epithet "*pukayana*" is formed by two Quechua words *puka*, that means red, and *yana*, that means black, in relation to the color of the species. It is treated as a noun in apposition.



FIGURE 1. Details of *Eremotylus pukayana* **sp. nov.** (female), Fig. A holotype and Figs B–E, paratype **A.** Habitus in lateral view (scale bar = 1 mm). **B.** Dorsal view of head **C.** Facial view of head **D.** Lateral view of mesosoma **E.** Propodeum **F.** Photograph of the habitat in which the new species was captured (photograph taken by Evelyn Olanda).

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