

A new species and new records of *Amerohelea* from Peru (Diptera: Ceratopogonidae)

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Una nueva especie y nuevos registros de *Amerohelea* de Perú (Diptera: Ceratopogonidae)

RESUMEN. Una especie nueva del género *Amerohelea* Grogan & Wirth (Diptera: Ceratopogonidae), *Amerohelea robusta* **sp. nov.**, recolectada a la luz en un área del Amazonas de Perú, es descrita y fotografiada. Esta nueva especie, conocida sólo por machos, es comparada con *Amerohelea xerophila* Gaddi, Spinelli & Grogan de zonas áridas de Argentina. Esta última especie difiere principalmente por la porción distal de los parameros más corta, el edeago en forma de Y con el brazo basal recurvado más de 90°, y los ojos anchamente separados. Además, *Amerohelea fasciata* Grogan & Wirth y *Amerohelea galindoi* Grogan & Wirth se citan por primera vez para Perú.

PALABRAS CLAVE. Amazonas. *Amerohelea robusta*. Mosquitas predadoras. Palpomyiini.

ABSTRACT. A new species of the genus *Amerohelea* Grogan & Wirth (Diptera: Ceratopogonidae), *Amerohelea robusta* **sp. nov.**, collected at light in the Amazon area of Peru is described and photographed. This new species, known only by males, is compared with *Amerohelea xerophila* Gaddi, Spinelli & Grogan from arid zones of Argentina. The later species mainly differs by the distinctly shorter distal portion of parameres, the Y-shaped aedeagus with basal arm recurved more than 90°, and the eyes broadly separated. Besides, *Amerohelea fasciata* Grogan & Wirth and *Amerohelea galindoi* Grogan & Wirth are firstly recorded from Peru.

KEYWORDS. Amazon. *Amerohelea robusta*. Palpomyiini. Predaceous midges.

INTRODUCTION

The predaceous midge genus *Amerohelea* was originally described by Grogan & Wirth (1981). It is placed in the tribe Palpomyiini, and the females differ from other members of the tribe in having only a single spermatheca and a single pair of abdominal tergal apodemes that arise near the lateral margins of segment 7, and males with parameres that are fused only on their extreme anteromedial portion and cerci with 1-2 stout apical setae (Borkent et al., 2009).

The genus was originally described by Grogan & Wirth (1981) for 11 Neotropical species, mentioning two

extending northward in the Nearctic region: *A. fasciata* Grogan & Wirth, also present in Sonora, Mexico, and *A. frontispina* (Turner) reaching California, Arizona and Texas in the USA; subsequently, two species were described by Gaddi et al. (2011) from Argentina, *A. paranaensis* Gaddi, Spinelli & Grogan and *A. xerophila* Gaddi, Spinelli & Grogan, bringing thus to 13 the total number of species currently known.

The study of the entomological collection of the Museo de La Plata (MLPA) revealed the presence of one unnamed species of *Amerohelea* collected in the Amazon area of Peru, which is herein described and photographed.

MATERIAL AND METHODS

Specimens were collected at light in Kirigueti (11° 38' 13" S, 73° 07' 07.9" W), a locality situated in the province of Cuzco in Peruvian Amazonia. They were preserved in ethanol 70%, and subsequently cleared in a solution of phenol crystals dissolved in 100 % ethanol, then dissected and mounted onto microscope slides in a mixture of the phenol-ethanol solution and Canada balsam using the methods described by Wirth & Marston (1968). Specimens were examined and measured with a Leica DM 1000 compound microscope at 40-400X. Photographs were taken with a Micrometrics SE Premium digital camera attached to a Nikon Eclipse E200 microscope. Terms for structures follow those used in the chapter of Ceratopogonidae in the Manual of Central America Diptera (Borkent et al., 2009), and special terms on *Amerohelea* follow Gaddi et al. (2011). Types of the new species are housed in the División Entomología of the MLPA.

RESULTS

Amerohelea robusta sp. nov.

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Type material. HOLOTYPE male, labelled "Peru, Cuzco, Kirigueti, 11° 38' 13" S, 73° 07' 07.9" W, VII.2004, J. Williams, at light". Paratype male, same data as holotype.

Diagnosis. The only *Amerohelea* with males almost uniformly dark brown; forefemur with 3 ventral spines; parameres fused for a very short distance proximally, with distal portions very stout and closely approximated to the tip; aedeagus V-shaped, with lateral arms slender nearly straight, heavily sclerotized, bluntly fused subapically; tip cap-like.

Description of male.

Head (Fig. 1a). Brown. Eyes bare, separated by the distance of the diameter of 2.5 ommatidia, character well seen in the paratype (Fig. 1b), appearing V-shaped in the holotype by distortion (Fig. 1a, c). Frontoclypeus with 9 pairs of slender setae. Antenna with pale scape, devoid of setae; pedicel dark brown; flagellum (Fig. 1d) entirely brown, flagellomeres 2-9 vasiform, 2-4 slightly wider than 5-9, flagellomere 10 1.4 × longer than 9, flagellomeres 11-13 more elongated; plume weakly developed; antennal ratio 1.14. Palpus (Fig. 1a) pale brown; segment 3 with a few scattered capitate sensilla on mesal surface of proximal portion; palpal ratio 2.43 (2.36-2.50, n= 2). **Thorax** (Fig. 1e). Dark brown. Scutum with very small anterior spine and 2 prealar setae. Scutellum with 3 stout setae. Legs (Fig. 1e) dark brown, except tarsi of fore and midlegs paler; forefemur with 3 ventral spines; hind tibial comb with 5 stout setae; hind tarsal ratio 2.43 (2.26-2.60, n= 2); ventral palisade setae absent on tarsomere 1 of

foreleg, in one row on tarsomere 1 of midleg and tarsomere 2 of hind leg, in two rows on tarsomere 1 of hind leg; fourth tarsomeres cordiform; tarsomeres 5 unarmed, claws small, of equal size and length, tips bifid. Wing (Fig. 1f) with membrane slightly infuscated; anterior veins brown, posterior veins paler; 2nd radial cell 1.84 (1.68-2.00, n= 2) × longer than 1st; anal lobe poorly developed; wing length 1.24 (1.20-1.28, n= 2) mm, wide 0.35 (0.34-0.36, n= 2) mm; costal ratio 1.71 (n= 2). Halter dark brown. **Abdomen.** Brown. Genitalia as in Fig. 1g. Tergite 9 extending a short distance beyond apex of gonocoxite, tapering gradually distally to a broadly rounded apex; cercus well developed with one apical and one subapical stout setae. Sternite 9 3 × wider than long; base curved; posteromedial excavation shallow, broad. Gonocoxite 2.10 × longer than mesal wide, with slender, sharply pointed anteromesal tubercle; gonostylus nearly straight, 0.85 the length of gonocoxite, slightly tapering, apex broad, curved mesally, tip slightly pointed. Parameres (Fig. 1h) fused for a very short distance proximally; basal arms short, directed laterally; distal portions very stout, closely approximated to the tip, apices curved mesally, tip blunt. Aedeagus (Fig. 1i) V-shaped, with ventral surface smooth; basal arch extending 0.44 of total length; basal arms short, slender, directed anterolaterally, very shortly recurved; lateral arms slender, nearly straight, heavily sclerotized, bluntly fused subapically; tip cap-like.

Female. Unknown.

Distribution. Known only from the type locality.

Derivation of specific epithet. A reference to the stout, robust parameres.

Taxonomic discussion. Of the 13 known species of *Amerohelea*, only the males of seven species are already described. Of these, the genitalia of *A. xerophila* Gaddi, Spinelli & Grogan from arid zones of Argentina, is similar to this new species by virtue of the presence of stout, robust distal portion of parameres. However, the parameres of *A. xerophila* are distinctly shorter with the basal arms stout and recurved more than 90°, the aedeagus is shorter and Y-shaped, the eyes are broadly separated by diameter of 4-6 ommatidia, and the fore and midfemora and tibiae are paler. With regard to the species known only by females, this new species is similar to *A. nelsoni* Grogan & Wirth from Brazilian Amazonia, but in the later species the legs are distinctly paler with only the hind leg darker.

Amerohelea fasciata Grogan & Wirth

Amerohelea fasciata Grogan & Wirth, 1981: 1283 (male, female; Mexico to Panama); Borkent & Wirth, 1997: 124 (in World catalog); Borkent & Spinelli, 2000: 59 (in catalog south to the USA); Borkent & Spinelli, 2007: 92 (in Neotropical catalog); Borkent & Dominiak, 2020: 197 (in World catalog).

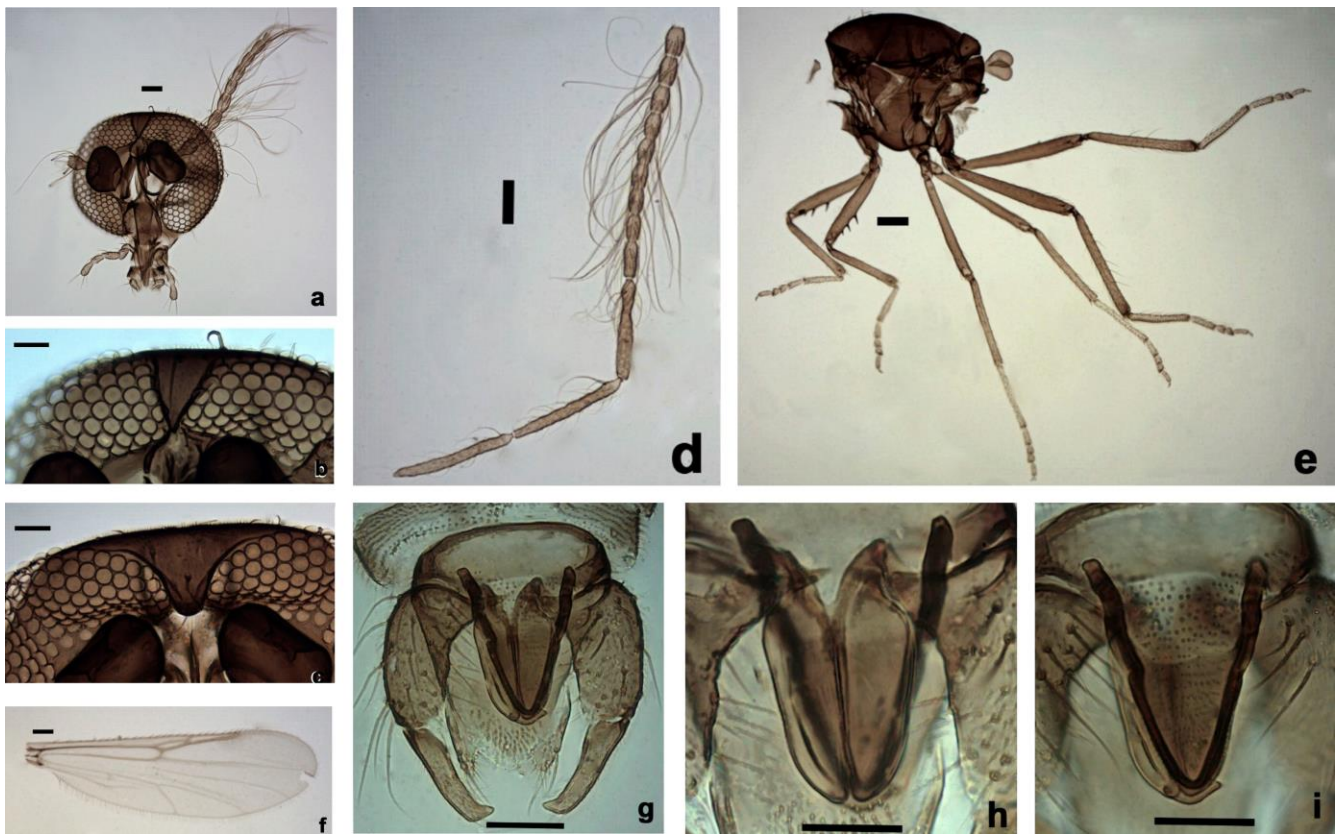


Fig. 1. *Amerohelea robusta* sp. nov. male. a, c-i. holotype. b. paratype. a. head, with flagellomeres 1-8. b-c. eyes separation. d. flagellomeres 2-12. e. thorax. f. wing. g. genitalia. h. detail of parameres. i. detail of aedeagus. Scale bars: 0.05 mm.

Specimens examined. Peru, Cuzco, Pagoreni, 11° 42' 21.9" S, 72° 54' 21.9" W, VII-2004, J. Williams, 3 females, at light (MLPA). First record from Peru.

Distribution. Mexico to Panama and Peru.

***Amerohelea galindoi* Grogan & Wirth**

Amerohelea galindoi Grogan & Wirth, 1981: 1294 (male, female; Panama, Colombia, Venezuela); Borkent & Wirth, 1997: 124 (in World catalog); Borkent & Spinelli, 2000: 59 (in catalog south to the USA); Spinelli, 2000: 70 (Argentina record); Borkent & Spinelli, 2007: 92 (in Neotropical catalog); Grogan et al., 2013: 11 (Guadeloupe); Borkent & Dominiak, 2020: 197 (in World catalog); Spinelli et al., 2023: 61 (in Argentina catalog).

Specimens examined. Peru, Cuzco, Pagoreni, 11° 42' 21.9" S, 72° 54' 21.9" W, VII-2004, J. Williams, 1 female, at light; Peru, Cuzco, Kirigueti, 11° 38' 13" S, 73° 07' 07.9" W, VII-2004, J. Williams, 2 females, at light (MLPA). First records from Peru.

Distribution. Panama, Colombia, Venezuela, Guadeloupe, Peru, northern Argentina.

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