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New species and new records of Heteroceridae from Peru (Coleoptera: Heteroceridae)

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Abstract

The family Heteroceridae is recorded from Peru for the first time. *Tropicus maxwelli* sp.n. and *T. westerduijni* sp.n. are described and illustrated. *Tropicus bartolozzii* MASCAGNI, 1994, *T. trifidus* SKALICKÝ, 2007 and *Heterocerus steineri* SKALICKÝ, 2006 are reported from Peru for the first time.

Key words: Coleoptera, Heteroceridae, *Tropicus*, taxonomy, new species, new records, Peru.

Introduction

During the study of Heteroceridae from Peru, deposited in the Natural History Museum, London, I identified two new species, which are described herein. Furthermore, I found three species in this collection, which have not been reported from Peru before.

I do not know any previous record of Heteroceridae either from Peru or from adjacent Colombia. During determination of thousands of heterocerids deposited in numerous museums and private collections I never found any representative of the family from these countries, except for those dealt with in the present paper.

From neighbouring Brazilian states six species of heterocerids are known: *Tropicus aratus* MILLER, 1992, *T. braza* MILLER, 1992, *T. infidus* MILLER, 1992, *T. sagittarius* PACHECO, 1964 and *T. vicinus* MILLER, 1992 from Amazonas and *T. carus* PACHECO, 1964 from Acre (BAMEUL 1995, MILLER 1992, PACHECO 1964). I don't know any Heteroceridae from neighbouring Bolivian states (La Paz, Oruro, Panado and Potosi), but eight species occur in Beni: *Heterocerus danielssoni* SKALICKÝ, 2006, *H. steineri* SKALICKÝ, 2006, *Tropicus bartolozzii* MASCAGNI, 1994, *T. bertiae* SKALICKÝ, 2006, *T. deuvei* SKALICKÝ, 2006, *T. huachiensis* SKALICKÝ, 2006, *T. taghavianii* SKALICKÝ, 2006, *T. boukali* SKALICKÝ, 2002 (SKALICKÝ 2006a, b, 2008). Only five species are recorded from Ecuador: *Heterocerus coheni* SKALICKÝ, 2007 and *Tropicus riosensis* SKALICKÝ, 2007 from Los Rios, *T. bartolozzii* MASCAGNI, 1994 from Manabi, *T. cordilleraensis* SKALICKÝ, 2008 and *T. trifidus* SKALICKÝ, 2007 from Napo (MASCAGNI 1994, SKALICKÝ 2007, 2008). These three states (Los Rios, Manabi, Napo) are not bordering Peru.

The following acronyms are used in the text to indicate the depository of the material examined:

BMNH The Natural History Museum, London, United Kingdom
CSU Coll. S. Skalický, Ústí nad Orlicí, Czech Republic
NMW Naturhistorisches Museum Wien, Austria

Separate labels are indicated by double slashes.

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Heterocerus steineri SKALICKÝ, 2006

Material examined: 7 exs. (2 ♂♂, 5 exs. unsexed): "At lights in the city near the amazon. Iquitos, 100m Loreto, Peru, 10/11 may 2004 Leg. R. Westerduijn" // "R. Westerduijn BMNH{E} 2006-3" (BMNH, ♂ CSU).

Distribution: Bolivia (SKALICKÝ 2006b). First record for Peru.

Tropicus bartolozzii MASCAGNI, 1994

Material examined: 33 exs. (♂♂, ♀♀): "PERU, Loreto Iquitos, 100m, 17.vi.2004 at city lights nr Amazon leg. R. Westerduijn BMNH{E} 2006-3" (BMNH, 2 ♂♂: CSU); 17 exs. (♂♂, ♀♀): "PERU, Loreto Iquitos, 100m, vi.2004 at city lights nr Amazon leg. R. Westerduijn BMNH{E} 2006-3" (BMNH); 20 exs. (♂♂, ♀♀): "PERU, Loreto Iquitos, 100m, vii.2004 at city lights nr Amazon leg. R. Westerduijn BMNH{E} 2006-3" (BMNH, 2 ♂♂: CSU); 19 exs. (♂♂, ♀♀): "At lights in the city near the amazon. Iquitos, 100m Loreto, Peru, 10/11 may 2004 Leg. R. Westerduijn" // "R. Westerduijn BMNH{E} 2006-3" (BMNH); 1 ♀: "PERU, Loreto Picouroyacu, 150m, 26.vii.2004 leg. R. Westerduijn BMNH{E} 2006-3" (BMNH).

Distribution: Paraguay, Ecuador (SKALICKÝ 2008). First record for Peru.

Tropicus maxwelli sp.n.

TYPE MATERIAL: **Holotype** ♂ (BMNH): "PERU, Loreto Iquitos, 100m, 17.vi.2004 at city lights nr Amazon leg. R. Westerduijn BMNH{E} 2006-3". **Allotype** ♀ (BMNH): "At lights in the city near the amazon. Iquitos, 100m Loreto, Peru, 10/11 may 2004 Leg. R. Westerduijn" // "R. Westerduijn BMNH{E} 2006-3". **Paratypes**: 3 ♂♂, 3 ♀♀ (BMNH, 1 ♂: CSU, 1 ♀: NMW), same data as allotype.

DESCRIPTION: Holotype ♂: Total length 2.70 mm (incl. labrum); elytra 1.55 mm long, 1.00 mm wide across shoulders. Ground colour evenly brown to black, elytra and pronotum without pattern. Legs, antennae and ventral side brown. Labrum (Fig. 1) almost square, apex serrate; surface finely granular, without larger intermixed punctures; setae fine, adjacent with intermixed longer erect setae. Mandibles (Fig. 2) short, dentate, dorsal subapical tooth short, rounded, process of dorsal ridge developed only as very short simple spine. Prostheca with series of teeth. Clypeus oblong; finely granular, setae short, semierect. Head finely granular, with long erect setae above eyes. Antennae 9-segmented, with 6-segmented club. Pronotum 1.60 times as wide as long, slightly wider than base of elytra; pronotal base completely rimmed. Surface of pronotum finely granular without longer punctures, setae sparse, short, adjacent, longer setae absent. Scutellum triangular. Elytra without longitudinal furrows, without scutellar depressions, humeral depressions shallow, extending obliquely almost to elytral midlength. Surface of elytra very finely granular with intermixed coarse granules approximately 1.3 times as large as eye facets; setae short, semierect, yellowish and sparse. Epipleural ridge absent. Metaventrite without post-mesocoxal ridge. Mesoventrite neither spinose nor tuberculate in front of each mesocoxa. Transverse ridge of mesoventrite U-shaped. Post-metacoxal line absent. Stridulatory arch marked with sparse striae. Protibia with nine stout spines, meso- and metatibia with uncertain number of thin spines. Spiculum gastrale 0.55 mm long; Y-shaped as in Fig. 3, posterior arms ending in semisclerotized spine. Aedeagus 0.55 mm long, very simple, consisting only of median plate with partially inflexed lateral margins, without other sclerotized structures. Shape as in Figs. 4–5.

Allotype ♀: Total length 2.60 mm (incl. labrum); elytra 1.55 mm long, 1.00 mm wide across shoulders. Mandibles without dorsal process (spine) on dental lobe. Externally similar to male.

DIFFERENTIAL DIAGNOSIS: Due to the shape of its aedeagus and spiculum gastrale, *T. maxwelli* belongs to the *T. minutus* group sensu PACHECO (1964). All important external characters, such as mandibles without process on dorsal ridge, dark elytra without pattern, pubescence and punctures of pronotum and elytra as well as the shape of the elytral depressions,

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place it near *T. sagittarius* described from Brazil (Manaos). These two species can be distinguished by the morphology of the male genitalia. PACHECO (1964) placed *T. sagittarius* in none of his species groups, but he stated that it is nearest to the *T. minutus* group. PACHECO (1964) based his groups mainly on the morphology of the male genitalia and the spiculum gastrale. The median plate of the aedeagus in *T. sagittarius* is tubular and contains additional sclerotized structures of uncertain homology (it is not an internal sac). The median plate in *T. maxwelli* is plate-like with partly inflexed lateral margins, lacking any additional structures (compare Figs. 1–5, and PACHECO 1964: Figs. 415–422).

VARIABILITY: Colour in some paratypes brown. No other substantial variability observed in the type series.

ETYMOLOGY: This species is dedicated to Maxwell V.L. Barclay, head curator of Coleoptera in BMNH.

Tropicus trifidus SKALICKÝ, 2007

Material examined: 1 ♀: "PERU, Loreto Iquitos, 100m, 17.vi.2004 at city lights nr Amazon leg. R. Westerduijn BMNH{E} 2006-3" (BMNH); 1 ♂, 2 ♀♀: "At lights in the city near the amazon. Iquitos, 100m Loreto, Peru, 10/11 may 2004 Leg. R. Westerduijn" // "R. Westerduijn BMNH{E} 2006-3" (BMNH).

Distribution: Ecuador (SKALICKÝ 2007). First record for Peru.

Tropicus westerduijni sp.n.

TYPE MATERIAL: **Holotype** ♂ (BMNH): "PERU, Loreto Iquitos, 100m, 17.vi.2004 at city lights nr Amazon leg. R. Westerduijn BMNH{E} 2006-3". **Allotype** ♀ (BMNH): same data as holotype. **Paratypes**: 32 ♂♂, 11 ♀♀ (BMNH, 1 ♂: CSU, 2 ♂♂, 2 ♀♀: NMW), same data as holotype; 14 ♂♂, 6 ♀♀ (BMNH, 2 ♂♂: CSU): "PERU, Loreto Iquitos, 100m, vi.2004 at city lights nr Amazon leg. R. Westerduijn BMNH{E} 2006-3"; 4 ♂♂, 8 ♀♀ (BMNH): "PERU, Loreto Iquitos, 100m, vii.2004 at city lights nr Amazon leg. R. Westerduijn BMNH{E} 2006-3"; 4 ♂♂, 5 ♀♀ (BMNH): "At lights in the city near the amazon. Iquitos, 100m Loreto, Peru, 10/11 may 2004 Leg. R. Westerduijn" // "R. Westerduijn BMNH{E} 2006-3".

DESCRIPTION: Holotype ♂: Total length 2.40 mm (incl. labrum); elytra 1.30 mm long, 0.85 mm wide across shoulders. Ground colour evenly brown to black, elytra and pronotum without pattern. Legs, antennae and ventral side brown. Labrum (Fig. 6) wider than long, front margin pointed and serrate; surface finely granular, without larger intermixed punctures; setae fine, adjacent. Mandibles (Fig. 7) short, dentate, dorsal subapical tooth rounded, process of dorsal ridge well developed. Prostheca with series of teeth. Clypeus without pair of anterior horns, margin oblong; finely granular, setae short, semierect. Head finely granular with long erect setae above eyes. Antennae 9-segmented, with 6-segmented club. Pronotum 1.6 times as wide as long; as wide as base of elytra; pronotal base completely rimmed. Surface of pronotum finely granular without longer punctures, setae sparse, short, adjacent, intermixed with longer setae. Scutellum triangular, pointed. Elytra without longitudinal furrows, without scutellar depressions, humeral depressions well developed, extending obliquely almost to the midlength of elytra. Surface of elytra microgranular with intermixed coarser granules, punctures approximately 1.2 times as large as eye facets; setae short, uniformly semierect, white, without longer setae. Epipleural ridge absent. Metaventrite without post-mesocoxal ridge. Mesoventrite neither spinose nor tuberculate in front of each mesocoxa. Transverse ridge of mesoventrite U-shaped. Post-metacoxal line absent. Stridulatory arch marked with striae. Protibia with nine stout spines, meso- and metatibia with uncertain number of thin spines. Spiculum gastrale 0.50 mm long; Y-shaped as in Fig. 8. Aedeagus 0.50 mm long, shape as in Figs. 9–11.

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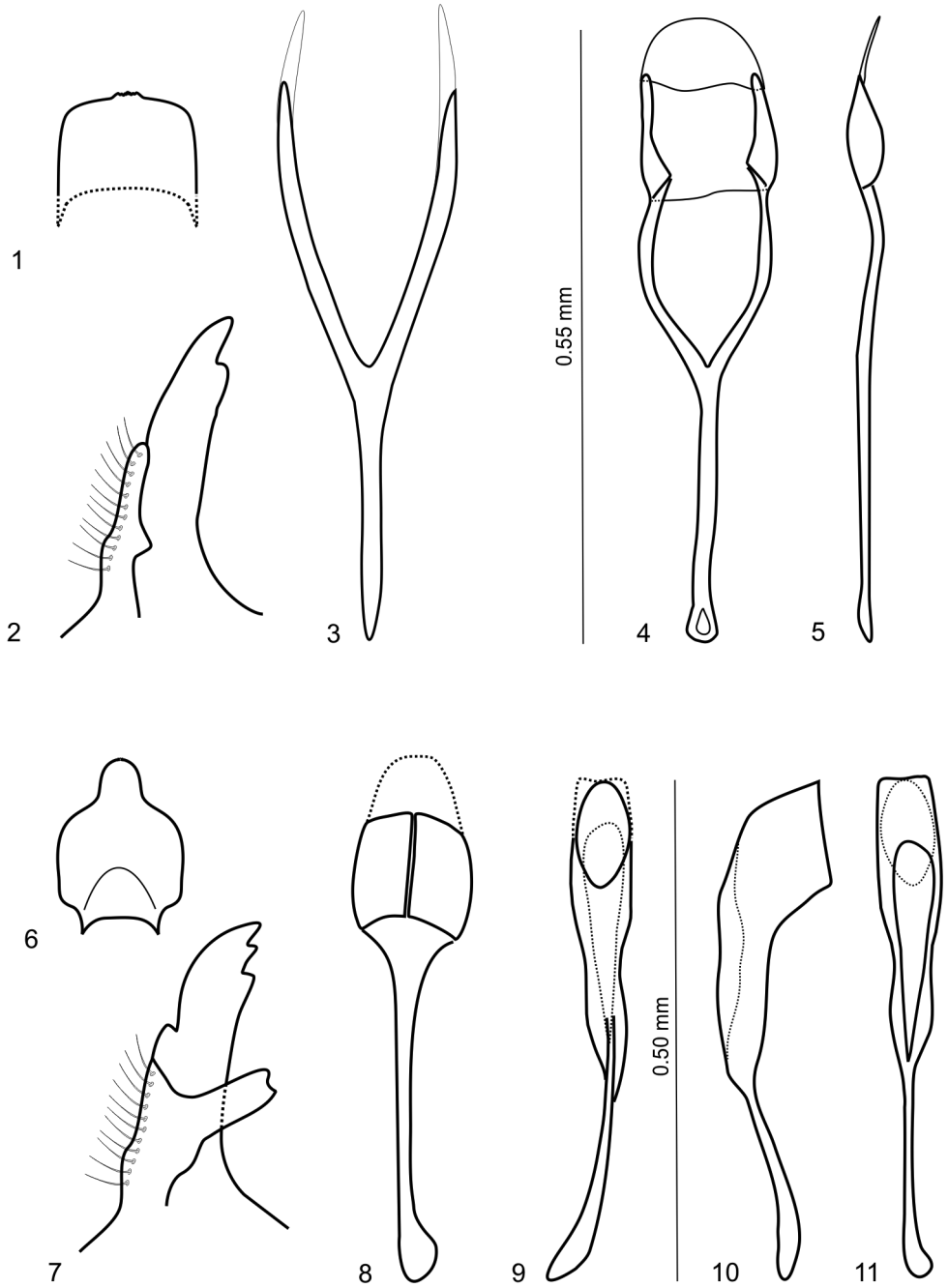

Figs. 1–5: *Tropicus maxwelli*; 1) labrum, dorsal view; 2) left mandible, dorsal view; 3) spiculum gastrale dorsal, view; 4) aedeagus, dorsal view; 5) aedeagus, lateral view. Figs. 1–2 not to scale.

Figs. 6–11: *Tropicus westerduijni*; 6) labrum, dorsal view; 7) left mandible, dorsal view; 8) spiculum gastrale, dorsal view; 9) aedeagus, dorsal view; 10) aedeagus, lateral view; 11) aedeagus, posterior view. Figs. 6–7 not to scale.

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Allotype ♀: Total length 2.65 mm (incl. labrum); elytra 1.60 mm long, 1.00 mm wide across shoulders. Mandibles without dorsal process on dental lobe. Ground colour brown, legs and antennae pale brown. Externally similar to male.

DIFFERENTIAL DIAGNOSIS: According to the shape of its aedeagus and spiculum gastrale, *T. westerduijni* cannot be placed in any of the groups proposed by PACHECO (1964), but it should be placed near the *T. pusillus* group. The morphology of the aedeagus and the spiculum gastrale of *T. westerduijni* are similar to *T. infidus* from Brazil (Amazonas and Para), from which the new species can be distinguished by the shape of the male mandibles, body colour (evenly light red-brown elytra with darker pronotum in *T. infidus*) and by the morphology of the male genitalia (compare Figs. 6–11, and MILLER 1992: Figs. 12, 23–25).

VARIABILITY: Size: length 3.5–4.3 mm (both sexes). Colour in some paratypes brown. No other substantial variability observed in the type series.

ETYMOLOGY: This species is dedicated to R. Westerduijn, who collected the type specimens.

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