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Two new species of the Neotropical *Dirocephalus* complex of genera (Coleoptera: Staphylinidae: Osoriinae)

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Abstract

Two new species, *Dirocephalus amazonicus* and *Quadricephalus brevicornis* (Coleoptera: Staphylinidae: Osoriinae), are described. These are the first records of the *Dirocephalus* complex of genera from the Central Amazon basin and the second species of the genus *Quadricephalus* IRMLER, 2005.

Key words: Coleoptera, Staphylinidae, Osoriinae, Central Amazonia, Neotropical Region, new species.

Introduction

In the collections of the Natural History Museum, London I found two new species of the genera *Dirocephalus* SILVESTRI, 1938 and *Quadricephalus* IRMLER, 2005 collected during ecological studies in the Amazonian terra firme forest near Manaus. At present, the dirocephalid complex of six genera is mainly distributed in South America. The most speciose and most widely distributed genus *Dirocephalus* is represented by 11 species, with only one species occurring in Central America (IRMLER 2005). The new records are particularly interesting, because they are the first records of dirocephalid species from the Central Amazon basin and provide the second species of the genus *Quadricephalus,* so far represented by only one species, *Q. obstrusus* IRMLER, 2005, from the Peruvian Amazon area. The new records in Central Amazonia document the occurrence of the dirocephalid complex throughout South America, including the Amazon basin. Thus, more extensive collecting in South America will probably exhibit a much higher number of species. In this study, these two new species are described.

Material, acknowledgements and methods

The material is deposited in the Natural History Museum, London (BMNH) and my own collection (UIC). I thank Dr. R. Booth for his friendly support during my stay in London and the subsequent loan of the specimens for a more detailed study and description. The study was financially supported by the EU-Program SYNTHESIS. I thank SYNTHESIS for funding the study and the organisational support by G. Robinson (BMNH).

The body length of the specimens was measured from the anterior edge of the head to the distal edge of the last abdominal tergite taking into account the intersegments. Length of tagmata was measured along the middle, width at their widest part.

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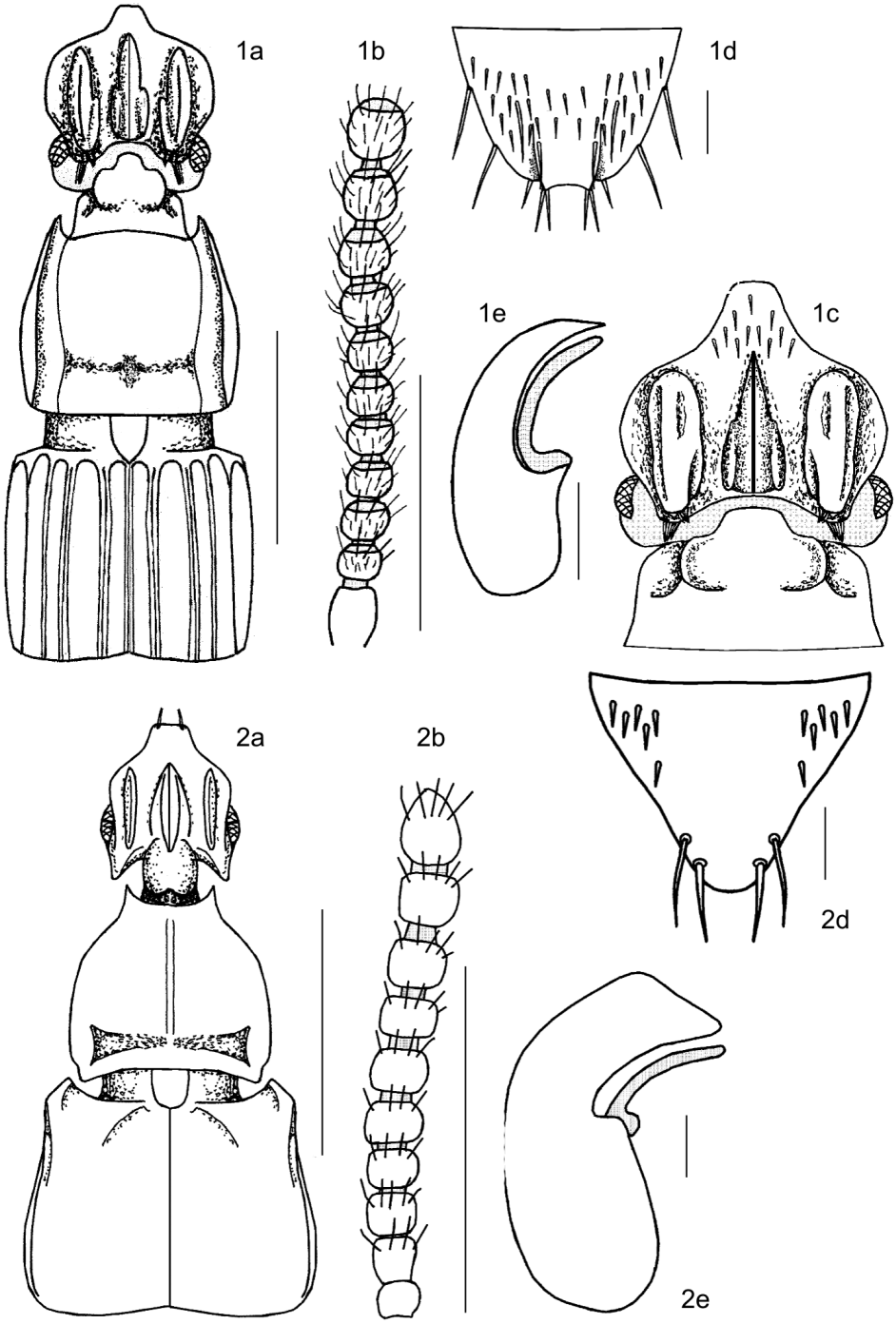

Figs. 1–2: 1) *Dirocephalus amazonicus*; 2) *Quadricephalus brevicornis*; fore body (a), antenna (b), head (c), last abdominal tergite (d), aedeagus (e); scale bars: 0.5 mm (a, b), 0.1 mm (c, d).

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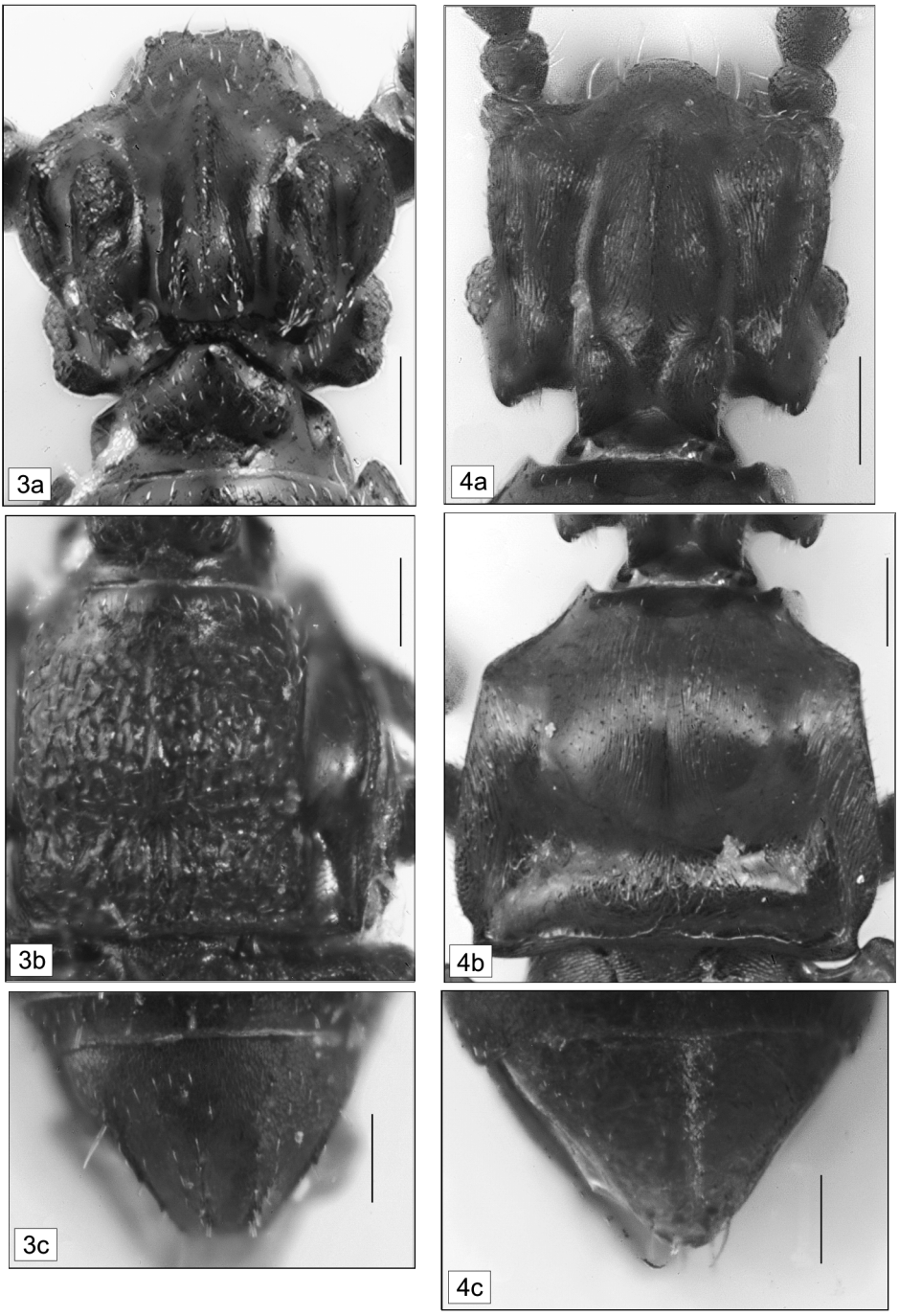

Figs. 3–4: 3) *Dirocephalus amazonicus*; 4) *Quadricephalus brevicornis*; surface of head (a), pronotum (b), last abdominal tergite (c); scale bars: 0.1 mm.

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Dirocephalus amazonicus sp.n.

Holotype ♂: Brazil: Amazonas: Manaus, INPA/Smithsonian Res. 2 (2°25'S, 59°50'W), Mar. 1994, leg. R. Didham, collected in leaf litter of terra firme forest by Winkler method (# 327 /9; BMNH). **Paratypes**: 2 ♂♂, 6 ♀♀: same data as holotype, but four specimens dated Jan. 1994, three dated Feb. 1994, and one specimen dated May 1994 (BMNH); 2 ♀♀: Brazil: Amazonas, Manaus, Reserva Ducke, 26 km NE, March 1995 and Aug. 1995, leg. M.G.V. Barbosa, Plot B, leaf litter 3.4 and 3.5 (BMNH, UIC).

DESCRIPTION (Figs. 1a–e, 3a–c): Length: 2.3 mm. Colour: brown, antennae black. Head: 0.47 mm long, 0.40 mm wide; fore head deeply divided from neck; widest at base of antennae; deeply emarginate to widely prominent clypeus forming a quadrate plate; eyes small; temples nearly as long as eyes; disc with one longitudinal central carina and a broader carina laterally on each side; lateral carinae at their posterior edge with a group of short yellow setae (might be glanduliferous); beneath this group of setae another group of longer glanduliferous setae; surface of fore head shiny in furrows between three carinae, surface of carinae with weak microsculpture, less shiny; clypeus with sparse short yellow setae; neck divided into a tri-lobed central part and a lateral lobe on each side; neck without glanduliferous group of setae; surface of neck moderately shiny. Antennae distinctly longer than head and pronotum combined; antennomeres globular and not differing in shape, length and width; antennomeres 2–11 covered by long yellow setae. Pronotum: 0.40 mm long, 0.55 mm wide; widest in posterior half, narrowest at anterior angles; anterior angles widely prominent forming a strong tooth; a wide furrow expanding from anterior angles to posterior angles with shiny surface; disc forming a longitudinal, parallel-sided, rectangular space with coriaceous ground sculpture; surface matt; in posterior third with an indistinct transverse depressed line expanded to lateral furrow by a distinct deepening. Elytra: 0.50 mm long, 0.73 mm wide; widest in anterior third; continuously narrowed to distinctly developed shoulders forming a nearly rectangular angle; disc with four stripes, each formed by a complex of three fine lines; surface with fine longitudinal microsculpture; surface moderately shiny. Abdomen short; smoothly narrowed from base to more or less acute last segment; first two visible tergites with larger and denser setae than following tergites; last tergite with short parallel carinae posteriorly and a smooth emargination in between.

DIAGNOSIS: The species resembles *D. mirabilis* IRMLER, 2005 in the number of glanduliferous setae. In both species only one group of glanduliferous setae are found at the posterior edge of the fore head, whereas the counterparts at the anterior edge of the neck are absent. In contrast to *D. mirabilis* the central lobe of the neck is tri-lobed, whereas it is formed by only one large margined lobe in *D. mirabilis*. Furthermore, the two parallel carinae on the last abdominal tergites of *D. amazonicus* are not found in *D. mirabilis*. The ground sculpture of the pronotal disc is very similar in both species. The aedeagus provides no specific characters.

ETYMOLOGY: The species name "*amazonicus*" is derived from the Brazilian state Amazonas, where the species was collected.

Quadricephalus brevicornis sp.n.

Holotype ♂: Brazil: Amazonas: Manaus, INPA/Smithsonian Res. 2 (2°25'S, 59°50'W), Apr. 1994, leg. R. Didham (#532/5), collected in leaf litter of terra firme forest by Winkler method (BNHM). **Paratypes**: 1 ♂, 3 ♀♀: same data as holotype, dated Jan. and Feb. 1994 (# 64/6, 161/7, 169/3, 233/1) (BMNH, UIC).

DESCRIPTION (Figs. 2a–e, 4a–c): Length: 2.4 mm. Colour: reddish; head brown; antennae black. Head: 0.30 mm long, 0.40 mm; widest directly behind eyes; eyes small; temples twice as long as eyes; fore head in front of eyes slightly widened; abruptly narrowed by a deep emargination to distinctly prominent clypeus; temples behind eyes continuously narrowed to acutely prominent posterior angles; disc of fore-head with three carinae: a central higher carina

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and two less distinctly developed carinae laterally; central carina continued to a pair of thick prominences forming dorsal part of neck; disc with dense longitudinal microsculpture; surface matt; in lateral aspect head bordered dorsally by a sharp margin; eyes located at front edge of a longitudinal carina separating head laterally into a dorsal and ventral part; surface polished. Antennae one third shorter than head and pronotum combined; antennomeres thick, equally shaped; 1.5 times as wide as long. Pronotum: 0.47 mm long, 0.55 mm wide; widest just in front of posterior angles; narrowest at acute anterior angles; from anterior angles distinctly widened posteriorly in anterior third; there forming an obtuse angle; then only slightly widened; just in front of posterior angles with a small emargination; posterior angles rectangular; a deep transverse depression in posterior third forming a more or less triangular depression on each side of middle; disc with weak longitudinal microsculpture; surface slightly shiny; laterally with a broad space of deeper microsculpture; surface matt; between central and lateral matt space a more shiny area. Elytra: 0.70 mm long; 0.80 mm wide; widest near posterior third; large prominent shoulders with a depression at their inner side; near scutellum a diagonal short line; with longitudinal microsculpture; surface only slightly shiny. Abdomen only with very short yellow setae; at apex of last tergite four larger setae.

DIAGNOSIS: This species is placed in the genus *Quadricephalus* due to the shape of the prosternum that is similarly carinate as in *Q. obstrusus* IRMLER, 2005 and the characteristic prominent shoulders that are unique in the dirocephalid relatives. However, compared to *Q. obstrusus,* the new species is characterised by the short and thick antennae and the different shape of the central carina of the head. In *Q. obstrusus*, the antennae are longer than head and pronotum combined with antennomeres much longer than wide, whereas the antennae in *Q. brevicornis* are shorter than head and pronotum combined with antennomeres wider than long. The central carina is shaped simply in *Q. obstrusus*, but divided into two thick lobes in *Q. brevicornis*. Furthermore, the pronotum is relatively slender and longer than wide in *Q. obstrusus*, but wider than long in *Q. brevicornis*.

ETYMOLOGY: The specific epithet is a combination of the Latin adjective “brevis” (short) and the noun “cornu” (horn, antenna) and refers to the short and thick antennae of the species.

Zusammenfassung

Zwei neue Arten, *Dirocephalus amazonicus* und *Quadricephalus brevicornis*, werden beschrieben. Es sind die ersten Nachweise von Arten des *Dirocephalus*-Komplexes aus Zentral Amazonien und die zweite Art der Gattung *Quadricephalus* IRMLER, 2005.

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