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STUDIES ON TIGER BEETLES. CXII. A NEW *CTENOSTOMA* FROM ECUADOR (COLEOPTERA: CICINDELIDAE)

Abstract - A new species of the genus *Ctenostoma* (subgenus *Neoprocephalus*, group *ibidion*), *C. (N.) vairai* n. sp., is described, based on a single female specimen from San Rafael on the eastern slopes of the Ecuadorian Andes (Napo Province).

Key words - Cicindelidae, Tiger Beetles, *Ctenostoma*, new species, Ecuador.

Riassunto - Studi sui Cicindelidi. CXII. Un nuovo *Ctenostoma* dell'Ecuador (Coleoptera, Cicindelidae). Viene descritta una nuova specie di *Ctenostoma* del sottogenere *Neoprocephalus* (gruppo *ibidion*), *C. (N.) vairai* n. sp., sulla base di un unico esemplare femmina raccolto presso San Rafael, sul versante orientale delle Ande Ecuadoriane (provincia Napo).

Parole chiave - Cicindelidae, *Ctenostoma*, Ecuador, specie nuova.

The Neotropical tiger beetle genus *Ctenostoma* is still poorly known. Specimens are seldom collected in the field, usually just by chance when beating the understorey vegetation for other purposes, and consequently they are poorly represented in the entomological collections. The unique ecology of these arboreal tiger beetles accounts for such a rarity, as all *Ctenostoma* apparently occur in the dark mid-strata of tropical vegetation, where they run with great agility on the leaves and smaller branches of trees and shrubs in pursuit of ants, their probably favoured prey. Many species are flightless or only fly rarely. In just a few instances specimens have been collected at lights by night.

The systematics of this intriguing genus was recently reviewed by Naviaux (1998), who recognized eight different subgenera with 107 full species in all, nearly half of which were described by him as new to science. It is probable that many more unknown species are still to be discovered from all over the large geographical range (from southern Mexico to the northern border of Argentina) where the genus is known from. Biogeographically, the genus *Ctenostoma* is one of the most interesting in the world, as its closest relative is the genus *Pogonostoma* Klug, 1834, a Madagascar endemic (with over 80 tree-dwelling species). These two genera, which clearly are to be regarded as old-aged relics of the former Gondwanaland, form together a special tribe (Ctenostomini Ganglbauer, 1892) within the subfamily Collyrinae Csiki, 1906 (Wiesner, 1992).

A young Italian colleague, Mr. Riccardo Vaira (Carrara, Italy), kindly submitted to me for identification a single female specimen which he happened to occasionally collect in the eastern slopes of the Ecuadorian Andes. This specimen turned out to represent a further new species, whose description is given below.

CTENOSTOMA (NEOPROCEPHALUS) VAIRAI n. sp. (fig. 1 a-c)

Holotypus. - 1 female (in Author's collection) from Ecuador, Prov. Napo: Reserva Ecológica Cayambe-Coca, 1 km from the San Rafael waterfall, 1400 m, 13 Feb. 2000, R. Vaira leg..

Derivatio nominis. - This new species is so named in honour of its collector, Mr. Riccardo Vaira (Carrara, Italy), who submitted for identification and generously donated to me the single holotype specimen.

Diagnosis. - A black to pitchy-black species of the subgenus *Neoprocephalus* Naviaux, 1998 (group *ibidion*), with a subparallel cylindrical body shape, a transverse S-shaped median band on elytra, and an elytral macrosculpture constituted by few sparse pitted punctures only.

Description. - Head approximately as wide as long, black, shiny, a bit raised and rounded on vertex, almost fully smooth; longitudinal pre-ocular grooves apparent, well-marked, deeper in front, then progressively diverging and shallower behind, abruptly ending before the hind border of eyes; glabrous, just a row of 5-7 long, fine, erect setae near both eyes. Clypeus black, transverse, glabrous, with four long, fine, erect setae (two in the middle, two at sides). Labrum pitchy black, short, six-haired, sub-triangular in shape, feebly seven-toothed in front (the left half being partially broken in the holotype specimen). Mandibles rather long, arch-shaped, pitchy-black to reddish-brown, with just one inner tooth visible on the left mandible, two on the right one. Palpi and mouth appendages shiny black, the second article of the maxillary palpi broadened in its basal half, notched, with two rows of five dark hairs at sides and three additional whitish finer setae on the outer half. Antennae rather long, reaching approximately the first third of the elytral length; scape pitchy-black, glabrous, with two setigerous puncture near the

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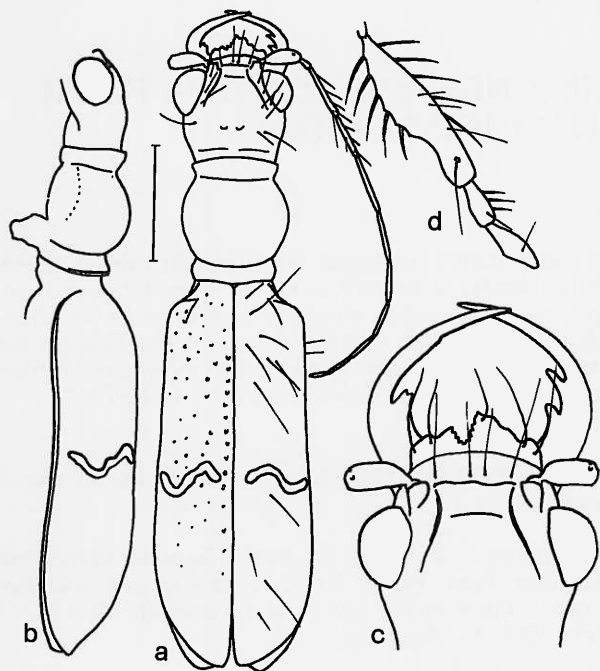


Fig. 1. - *Ctenostoma (Neoprocephalus) vairai* n. sp., holotype (female) from San Rafael, Napo, Ecuador: a. habitus, b. lateral view, c. head, d. maxillary palpi. Scale-segment: 2 mm.

tip; joints 2-4 reddish-brown, with some fine obliquely-directed hairs at sides; antennomeres 5-11 black, progressively narrower towards the apex, evenly covered by a very short, fine, whitish pubescence.

Pronotum black, longer than wide, fully smooth and glabrous; front and hind lobes equally wide, the middle lobe very globose, sub-spherical, with the notopleural sutures fully effaced, not visible.

Elytra black to pitchy-black, slightly rufescent along the suture, the apical part, and the hind half of epipleura; elongate, sub-parallel sided, wider than the pronotum, with well-marked shoulders, widely emarginate before apex, to form a sort of doubled flattened elytral margin below. Surface mostly smooth, with some sparse roundish pitted punctures in the front part of elytra and along the suture, the punctures becoming fewer and shallower before the back slope of elytra, which is fully smooth; a few (6-7) long, very fine, erect sensorial setae in the front third of elytra, one more in the middle, 2-3 additional ones in the apical third. Elytral markings consisting of a narrow, whitish, S-shaped, trans-

versal band, which crosses each elytron from the lateral margin to a short distance from the suture.

Trochanters pitchy-black, femora slightly rufescent, club-shaped, tibiae and tarsi rufescent to pitchy-black; scattered long sensory setae on femora and tibiae, some additional spiniform hairs on apex of tibiae and on tarsi. Male unknown.

Length: 10.5 mm (without the labrum).

Remarks. - *C. (N.) vairai* n. sp. is clearly a close relative of *C. (N.) ibidion* Dohrn, 1880, a northernmore species which is known to occur from Costa Rica to Venezuela. *C. (N.) vairai* n. sp. can be easily distinguished from the latter species by the darker colour, the sparser elytral puncturation, the clearly doubled apical margins of elytra, and the narrower, S-shaped, more transverse, whitish middle band. All other *Neoprocephalus* species which are presently known to occur in Ecuador are either immaculated (*brunneum* Naviaux, 1998, *cassolai* Naviaux, 1998, *immaculatum* W. Horn, 1924) or have a large apical spot on elytra in addition to the middle band (*johnsoni* Naviaux, 1998). It is noteworthy that from the very same locality of San Rafael, Napo, a larger species [*Ctenostoma (Procephalus) arnaudi* Naviaux, 1998] was also recently described.

In comparison with the small size of the country, the tiger beetle fauna of Ecuador is the richest one in South America (km²/species ratio: 3116). Pearson & Cassola (1992) firstly assessed a total of 74 species (19 of which endemic to the country), but due to subsequent research Pearson *et al.* (1999) raised such a total to 86 species (32 of which considered to be endemic to the country), and Cassola & Pearson (2000) to 89 species (with 27 Ecuadorian endemics). My present reckoning accounts for 91 species in all (27 or 29.3% of which are endemic).

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