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Illustrated overview and identification key to Cameroonian Ceratocanthinae beetles (Coleoptera: Scarabaeoidea: Hybosoridae) with description of four new species

ALBERTO BALLERIO[1], BRUCE D. GILL[2] & VASILY V. GREBENNIKOV[2]

[1]*Viale Venezia 45, I–25123 Brescia, Italy. E-mail: alberto.ballerio.bs@numerica.it*
[2]*Canadian Food Inspection Agency, K.W. Neatby Bldg., 960 Carling Avenue, Ottawa Ontario K1A 0C6 Canada. E-mail: bruce.gill@inspection.gc.ca and vasily.grebennikov@inspection.gc.ca*

Abstract

We summarize present day knowledge on Cameroonian Ceratocanthinae and report new findings made during a month-long collecting trip in 2006. Four forested localities were surveyed: Mt. Oku at 2200–2800 m, Korup National Park at 300 m, Mt. Kupé at 1550 m and Mt. Cameroon at Bakingili village at 250 m. In total we collected 242 specimens representing 14 species, among them nine species new to Cameroon and eight species likely new to science. Four flightless new species are described: *Congomostes hintelmanni* **n. sp.**, *Baloghianestes oribatidiformis* **n. sp.**, *B. korupensis* **n. sp.** and *B. anceps* **n. sp.** Other Ceratocanthinae species presently known from Cameroon are: *Baloghianestes lissoubai* Paulian, 1968, *Callophilharmostes fleutiauxi* (Paulian, 1942), *Carinophilharmostes vadoni* (Paulian, 1937), *Melanophilharmostes burgeoni* (Paulian, 1946), *M. demirei* Paulian, 1977, *M. zicsii* (Paulian, 1968), *Philharmostes* (*Holophilharmostes*) *badius* (Petrovitz, 1967), *Petrovitzostes guineensis* (Petrovitz, 1968), *P. elytratus* (Paulian, 1946), *P. endroedyi* (Paulian, 1974), along with three unnamed species of *Melanophilharmostes* Paulian, 1968 and one unnamed species of *Pseudopterorthochaetes* Paulian, 1977. Twelve Cameroonian Ceratocanthinae species are keyed and all 14 recently collected species are illustrated with habitus images.

Key words: Coleoptera, Hybosoridae, Ceratocanthinae, West Africa, Cameroon, Mt. Oku, Korup National Park, Mt. Kupé, Mt. Cameroon, taxonomy, key, new species, leaf litter sifting

Introduction

Most adult beetles of the scarab subfamily Ceratocanthinae are easily recognized among the endlessly diverse Coleoptera by their ability to roll themselves into a nearly perfect ball (Figs. 3B–D). This is a morphological and behavioural phenomenon paralleled by only a handful of other beetles, such as some Leiodidae (Agathidiinae) and Clambidae. Many Ceratocanthinae adults are further remarkable in having bright, shiny, metallic bodies or being decorated with pronounced dorsal ridges. The last worldwide checklist of Ceratocanthinae by Ocampo and Ballerio (2006) recorded 40 genera and 341 species. Since then, 14 new species and three new genera have been described (Ballerio 2006a, 2008, 2009; Ballerio & Gill 2008; Ochi *et al*. 2005; Gao 2009; Ballerio & Maruyama 2010). Recently Ceratocanthinae has been hypothesised to be a phylogenetic offshoot nested within the more conservative-looking Hybosoridae beetles (Grebennikov *et al*. 2004; Ocampo & Hawks 2006), which, in turn, necessitated demoting the taxon to its current subfamily rank.

Ceratocanthinae beetles are predominantly found in tropical forests with only a few species reaching temperate forested regions of North America, South Africa and the southeastern Palaearctic zone. In Africa, Ceratocanthinae beetles are known from Madagascar, the Guineo-Congolian rainforest block, the Eastern Arc rainforests of Kenya and Tanzania and some isolated forests of southern Africa. Among them, the Guineo-Congolian rainforest block hosts a rich and distinctive fauna of Ceratocanthinae beetles consisting of nine genera and some 30 species, nine of the latter have been previously recorded from the Republic of Cameroon.

Ceratocanthinae beetles are rarely seen in nature or in collections. Believed to be biologically linked with some social insects, these beetles are infrequently collected, but are most common in nests of social insects, such as ter-

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