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The first representative of *Cryptocephalus* subgen. *Burlinius*
 LOPATIN from tropical Africa
 (Chrysomelidae: Cryptocephalinae)

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ABSTRACT. A new species of the subgenus *Burlinius* LOPATIN from Ethiopia is described. This is the first representative of the subgenus from tropical Africa. The new species is compared with *Cryptocephalus borowieci* and *C. heinigi*.

Key words: entomology, taxonomy, new species, Coleoptera, Chrysomelidae, Cryptocephalinae, *Cryptocephalus*, Afrotropical Region.

INTRODUCTION

In the subgenus *Burlinius* LOPATIN, 1965 of *Cryptocephalus* GEOFFROY, 1762, a total of 127 species were described. These species are distributed in the Palaearctic Region, ranging from the Atlantic Islands, Morocco and Portugal in the west via Turkey and Kazakhstan to the Far East and China. Equal numbers of species were described from Asia (51) and Europe (50), Northern Africa is comparatively species-rich with 26 species (SCHÖLLER & LOPATIN unpubl. data). The subgenus was never revised, but recently WARCHAŁOWSKI (1999) presented a synopsis of the west Palaearctic fauna including a determination key. In the collections of the Museum für Naturkunde der Humboldt-Universität, Berlin, Germany, the first representative of *Burlinius* from tropical Africa was discovered which is described in this publication.

MATERIAL AND METHODS

Dried adults were dissected, the abdomen was separated in water, the contents were soaked in cold diluted KOH for several hours and then washed in water.

Letter codes used: MESC = Matthias SCHÖLLER oersonal collection, Berlin, Germany; MNHB = Museum für Naturkunde der Humboldt-Universität, Berlin, Germany; MZHF = Zoological Museum, University of Helsinki, Finland. The description refers to the holotype if not indicated otherwise.

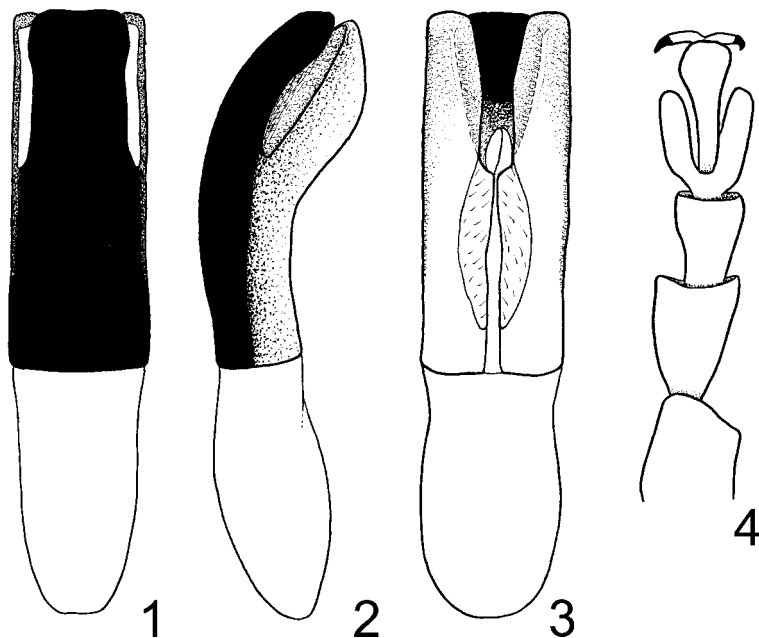
***Cryptocephalus meridiobrunneus* n. sp.**

TYPE MATERIAL

Locus typicus: Ethiopia, Simien Mountains, east of Debark, Sankaber Camp, 3245m, (13°13'N, 38°02'E).

Labelling: Holotypus (male, MNHB): / Äthiopien, 15. Jan. 1996, Simien Mountains, östl. Debark, Sankaber Camp, 13°13'N, 38°02'E, leg. J. DECKERT, 3245m [blue] / (my label) Holotypus *Cryptocephalus meridiobrunneus* MIHI, det. Matthias SCHÖLLER [red] /.

Paratypes: (1 female, MNHB; 1 male, MESC): / Äthiopien, 15. Jan. 1996, Simien Mountains, östl. Debark, Sankaber Camp, 13°13'N, 38°02'E, leg. J. DECKERT, 3245m [blue] / (my label) Paratypus *Cryptocephalus meridiobrunneus* MIHI, det. Matthias SCHÖLLER [red] /.



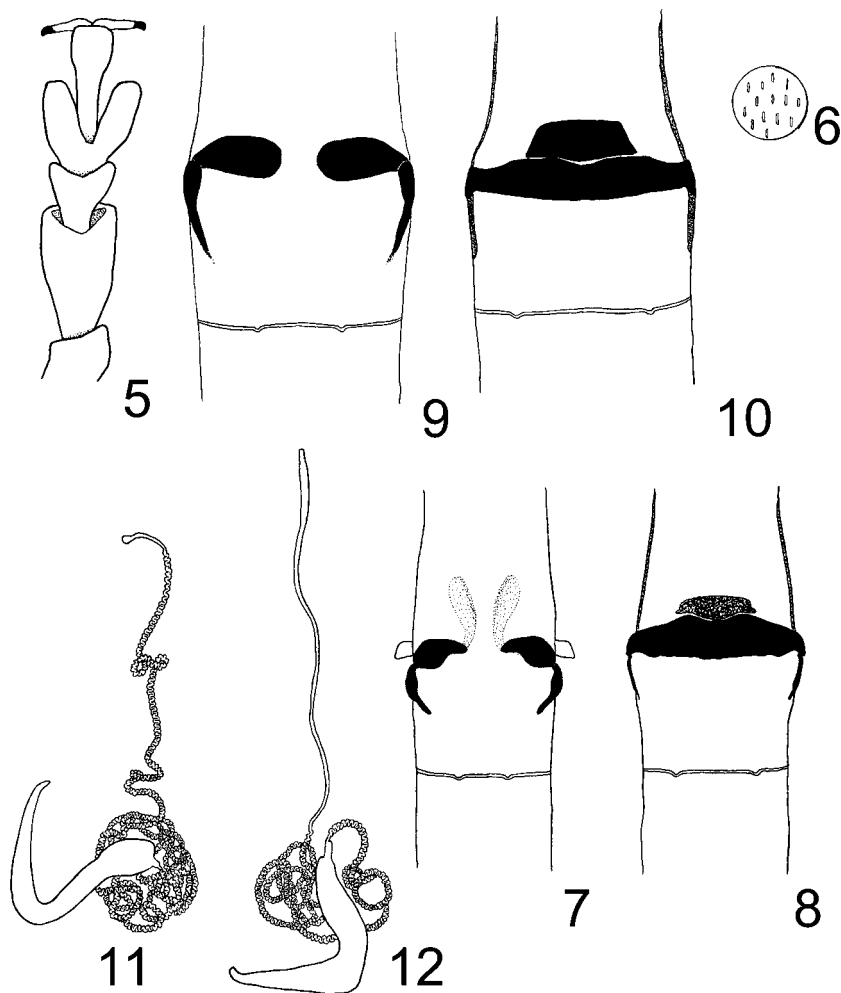
1-5. *Cryptocephalus meridiobrunneus* n.sp.: 1-3 - aedeagus (1 - dorsal, 2 - lateral, 3 - ventral), 4 - male fore tarsus

DIAGNOSIS

A large brownish- yellow species. It may be distinguished from the similar *Cryptocephalus borowieci* by its size and the shape of the spermathecal duct.

DESCRIPTION

Habitus: Cylindrical, size [mm]: length of holotype 2.85, paratype male 2.75, paratype female 3.07, width of elytra at humeri in holotype 1.40, paratype male 1.35, paratype female 1.5, length of pronotum in holotype and paratype male 0.75, paratype female 0.80, width of pronotum in holotype and paratype male 1.20, paratype female 1.30.



5-8, 11. *C. meridiobrunneus* n.sp., 9,10,12. *C. borowieci*: 5 - female fore tarsus, 6 - detail puncturation of pronotum, 7-10 - Kotpresse (7, 9 - dorsal, 8, 10 - ventral), 11, 12 - spermathecal duct and spermatheca

Head: Punctuation coarse but sparse, yellow with frons and a longitudinal stripe brown. Maxillary and labial palpi brown, labrum yellow. Antennal segments 6-11 blackish brown, segments 1-5 light brown.

Thorax: Pronotum light brown, two large diffuse spots brown, surface of pronotum shining, longitudinal punctures well visible (Fig. 6), lateral margins not simultaneously visible from above; scutellum yellow with black margins, elytra close to scutellum not elevated; elytra glabrous, light brown, anterior margin dark brown; scutellar row not attaining mid of elytra, punctures in nine regular rows, rows five and six shortened, punctures dark brown at base; legs yellow, fore tibiae simple (Fig. 4), tarsi brown, claws simple.

Venter: Abdomen and pygidium dark brown, punctuation coarse, covered with white setae, prosternum, mesothorax and posterior margin of metathorax yellow.

Female (Figs. 5, 7, 8, 11): spermatheca simple, hook-shaped, straight part of spermathecal duct very short, spiral part close to spermatheca wound up into a compact ball (Fig. 11), ventrally bent part of dorsal sclerite of kotpresse as long as basal part of dorsal sclerite, dorsal sclerotized area present (Fig. 7), ventral sclerotized area weakly sclerotized (Fig. 8), dorsal and ventral sclerotization of the lateral fold strong.

Male (Figs 1-4): Aedeagus: 1.1 mm long, dorsal process broad, dorsal process surpassing ventral processes (Fig. 1, 2), no thorn-shaped cones visible, area setulifera large (Fig. 3).

Variability: Pronotum brown with the anterior margin and posterior angles light brown (paratype female).

ETYMOLOGY

Meridio- from “*meridionalis*” (south) refers to the fact that the species is the southernmost distributed representative known to date, and “*brunneus*” (brown) from the brown colour of the body.

DISCUSSION

Using the key of WARCHAŁOWSKI (1999), *C. meridiobrunneus* keys out to *C. heinigi* WARCHAŁOWSKI, 1999. In the original description of *C. heinigi*, WARCHAŁOWSKI pointed out that this species might be a variety of *C. borowieci* WARCHAŁOWSKI, 1999. The characters of the aedeagus, spermathecal duct and kotpresse confirm the close relationship of *C. meridiobrunneus* and *C. borowieci*. The dorsal process of the aedeagus is of the same shape as in *C. heinigi* and *C. borowieci* (see WARCHAŁOWSKI 1999), but larger. The endophallus was not studied, because the dissection is destructive and only two males were available for study. The spermatheca and kotpresse were compared with those of a female of *C. borowieci* from Algeria, Tlemcen, 1. 5. 1973, leg. R. LINNAVUORI (MZHF). As in *C. borowieci*, the spiral part of the spermathecal duct is wound up into a ball, which is denser in *C. meridiobrunneus*. The straight part of the spermathecal

duct is much longer in *C. borowieci* (Fig. 12). As in *C. meridiobrunneus*, the ventrally bent part of dorsal sclerite of the kotpresse of *C. borowieci* is as long as the basal part of dorsal sclerite (Fig. 9), and the dorsal and ventral sclerotization of the lateral fold is strong. Contrary to *C. meridiobrunneus*, the dorsal sclerotized area is absent and the ventral sclerotized area is strongly sclerotized (Fig. 10).

So far, the subgenus *Burlinius* was not recorded from the Afrotropical region. On the other hand, subgeneric classification was not considered for Afrotropical *Cryptocephalus* spp. yet. However, among thousands of specimens of *Cryptocephalus* from all parts of Africa examined, no specimen of *Burlinius* was discovered (SCHÖLLER unpubl. data). It is most probable that *C. meridiobrunneus* is a Palaearctic element of the fauna of Ethiopia. Geographically, the northern and southern borderline of the tropics is 23.5°N and 23.5°S, and specifically in Africa parallel to 20°N and 23.5°S. However, the climatic and ecological situation is more complex. The coastline of Africa north of the equator is characterised by an arid, subtropical climate (WALTER & BRECKLE 1984). Close to the oceans, winter rain occurs which is not normal for this type of climate, but for the Mediterranean climate. Many species of *Burlinius* occur in areas with a Mediterranean climate, including *C. borowieci*. I suggest that *Burlinius* spp. are a relict or spread along the eastern coast of Africa and became established in the wetter and cooler highlands of Ethiopia.

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