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Bidessus of Ethiopia with description of a new species (Coleoptera: Dytiscidae)

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Abstract

Bidessus knapporum sp.n. is described from Ethiopia and a key to species of *Bidessus* recorded from this country is given.

Key words: Coleoptera, Dytiscidae, *Bidessus* of Ethiopia, new species.

Zusammenfassung

Aus Äthiopien wird *Bidessus knapporum* sp.n. beschrieben und ein Bestimmungsschlüssel für die aus diesem Land bekannten *Bidessus*-Arten wird angeführt.

Introduction

The African species of *Bidessus* were last revised by Biström 1985 including five species from Ethiopia: *B. sharpi* Régimbart, *B. complicatus* Sharp, *B. cacozelus* Omer-Cooper, *B. ovoideus* Régimbart, *B. rothschildi* Régimbart and *B. muluensis* Omer-Cooper. After publication of the revision one additional species has been described from Ethiopia, viz. *B. perssoni* Biström & Nilsson (1990). *B. sodalis* Guignot was reported from Ethiopia by Biström (1984) and *B. toumodiensis* Guignot by Biström (1988). A review of the Dytiscidae fauna of Ethiopia was published by Nilsson & Persson (1993). Collections of Dytiscidae in Ethiopia by the senior author in 2006 revealed a new species of *Bidessus* which is described below. At present, with the introduction of a new species here, in all 10 *Bidessus* species have been reported from Ethiopia.

Material

The study material which consists of 17 specimens is deposited in the following institutions and private collections:

CWW	Coll. G. Wewalka, Vienna, Austria
NMW	Naturhistorisches Museum, Vienna, Austria
ZMH	Zoological Museum, Helsinki, Finland

*Contribution to the study of Dytiscidae 81.

***Bidessus knapporum* sp.n.** (Abb. 2)

Type locality: Ethiopia, Shewa Province.

Holotype ♂ (NMW): "Ethiopia, Shewa Prov., 40-60 km N Addis Ababa, 2500 m, 12. 4. 2006, leg. Wewalka (4)". Paratypes: 16 specimens with same data as holotype (CWW, ZMH).

Description

Size: total length of body: 1.65 – 1.90 mm, length of body without head: 1.45 – 1.70 mm, width: 0.90 – 1.00 mm.

Head: black to dark ferrugineous; clypeus evenly rounded; frontally with distinct lateral depressions which are connected medially; between eyes sparsely but distinctly punctured and with a quite strong microreticulation; posterior to cervical line and along clypeal margin impunctate and with very fine microreticulation. Antennae dark ferrugineous, segments 2-4 testaceous.

Pronotum: dark testaceous, black to dark ferrugineous along anterior margin and broadly along posterior margin; lateral margins finely bordered; punctures fine to fairly fine, sparse and irregular, denser along anterior margin and course basally between striae; often shiny without microreticulation, sometimes with fine microsculpture.

Elytra: black to dark ferrugineous with few slightly variable testaceous markings (Fig. 2 and 4) and dark testaceous at lateral margins; punctures fairly course and dense, outside striae distinctly finer; often shiny without microreticulation, sometimes with fine microsculpture; sutural lines fairly distinct except posteriorly where they are absent for a long distance. Striae rather short, fairly strongly impressed. Epipleura dark testaceous, finely punctured.

Ventral side: prothorax dark testaceous, head and rest of ventral side black to dark ferrugineous; head and prothorax almost impunctate, metathorax on each side of midline with a fine row of punctures, metacoxal plates with a few distinct punctures, two basal sternits laterally coarsely punctuate and apex of abdomen with some punctures; head finely microreticulate, rest of ventral side almost lacking microsculpture; metacoxal lines almost straight.

Legs: for- and middle legs brownish to testaceous; femura, apical parts of tibiae and tarsi of hind legs blackish.

Male: penis (Fig. 3a, b); parameres (Fig. 3c).

Female: no distinct external difference to male.

Diagnosis: Diagnosis: *B. knapporum* is especially characterized by exhibiting the following features: (i) Head and elytra dark coloured; elytra provided with minute pale markings. (ii) Body comparatively broad. (iii) Penis from above medially slightly constricted. The new species resembles most *B. ovoideus* but can be distinguished by characters given in the key.

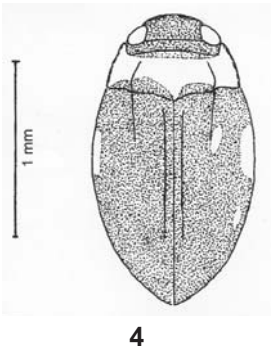
Etymology: This species is dedicated to the family of DI Andreas, Cécile, Noah, Miriam and Emil Knapp, Addis Ababa, Ethiopia.

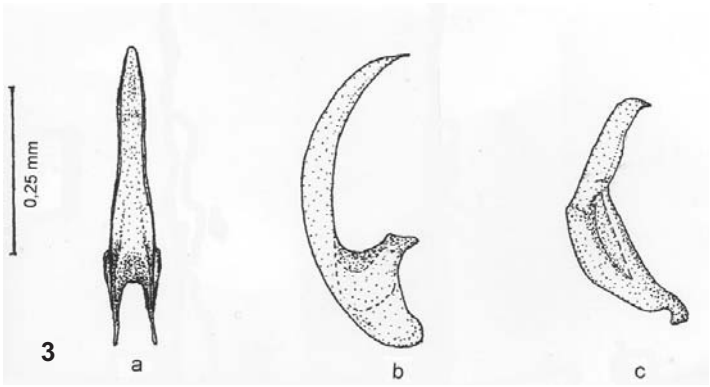
Fig. 1: Ethiopia, Shewa Prov., ca. 60 km N Addis Ababa, 2500 m, photo of type locality of *B. knapporum.* Photograph by Elisabeth Creux.

Fig. 2: photo of *B. knapporum*. Photograph by Dr. H. Schillhammer.

Fig. 3 (a) dorsal view of penis, (b) lateral view of penis, (c) latereal view of paramere of *B. knapporum.*

Figs. 4: body outline and variation of colour patterns of paratypes of *B. knapporum*.





Biology: The specimens have been collected in pools of a small stream in grassland in the highland north of Addis Ababa (Fig. 1).

Distribution: Ethiopia, Shewa Province.

Discussion

Ethiopia is one of the most diverse African countries regarding the genus *Bidessus* and as many other countries of Africa it is still very badly investigated regarding aquatic Coleoptera. Therefor most likely further new species of *Bidessus* will be discovered in this contry.

Key to Ethiopian species of *Bidessus*

(applicable on males; illustrations for comparison, see listed references)

1. Basal stria on elytron long (reaches appr. middle of elytron) . . . . . *B. sharpi*
- Basal stria on elytron distinctly shorter 2
2. Elytron finely microsculptured, mat to submat (some male and female specimens of *B. knapporum* also have elyta with fine microsculpture) . . . . . *B. muluensis*
- Elytron not microsculptured, shiny between punctures 3
3. Pale elytral colour pattern transversely directed (forms three irregular transverse markings) . . . . . *B. complicatus*
- Pale elytral colour pattern with longitudinal direction 4
4. Head unicoloured, pale 5
- Head totally dark or at least posteriorly at pronotum darker than frontally 6
5. Dark longitudinal markings of elytra straight . . . . . *B. sodalis*
- Dark longitudinal markings of elytra somewhat undulate . . . . . *B. toumodiensis*
6. Apex of penis (lateral view) subtruncate, narrows steeply close to extreme apex . . . . . *B. rothschild*
- Apex of penis (lateral view) narrows gradually to extreme apex 7
7. Apex of penis (from above) broad, with a narrow tip 8
- Apex of penis (from above) narrows gradually to tip 9
8. Narrow tip of penis short (about as long as broad) . . . . . *B. cacozelus*
- Narrow tip of penis long (3-4 times longer than broad) . . . . . *B. perssoni*
9. Pale elytral markings generally extensive; penis (from above) narrows evenly to apex . . . . . *B. ovoideus*
- Pale elytral markings reduced to lateral spots (Fig. 4); penis (from above) medially slightly constricted (Fig. 3a) . . . . . *B. knapporum*

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