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***PHILHAMMUS AMBOULI* SCHAWALLER AND STEINER (COLEOPTERA:
TENEBRIONIDAE: CNEMEPLATIINI), NEW SPECIES FROM DJIBOUTI**

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ABSTRACT

A new species of *Philhammus* Fairmaire (Coleoptera: Tenebrionidae: Cnemeplatiini) is described from Djibouti, Horn of Africa, and compared to other known species of the genus. Members of this species were collected at ultraviolet lights in low, thorny, desert scrub vegetation and are presumed to inhabit loose, sandy soils. A key to the African and Arabian species of *Philhammus* and a review of literature are provided.

Key Words: taxonomy, darkling beetle, Pimeliinae, Camp Lemonnier, psammophile

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The genus *Philhammus* Fairmaire, 1871 (synonym *Psilachnopus* Reitter, 1901) (Cnemeplatiini Jaquelin du Val, 1861, subfamily Pimeliinae Latreille, 1802) contains at present nine species distributed in the Old World. Kaszab (1938) separated the genera *Cnemeplatia* Costa and *Philhammus* and presented identification keys for the species of both genera. Later, Kaszab (1967) revised again the species of the genus *Philhammus*. Additional species of *Philhammus* from Africa and Central Asia were described by Kaszab (1960, 1962), Ardoin (1976), Ferrer (1995), and Medvedev (1979, 1991, 2005). Schawaller *et al.* (2014) published taxonomic and faunistic remarks about the genus, presented figures of available five species, and added a checklist with distributional data for all species.

Based on the study of *Philhammus* by Schawaller *et al.* (2014), it was apparent that recently collected specimens in Djibouti represented an undescribed species, and we take this opportunity to describe it here. It represents the first record of the genus for Djibouti.

MATERIAL AND METHODS

Three specimens of *Philhammus* were among many insects collected on a biological diversity survey expedition conducted by the Smithsonian Institution at Camp Lemonnier, Djibouti, Horn of Africa, in May 2014. With a focus on documenting the Tenebrionidae occurring on and near the military

base by WES, 25 species were collected during a 20-day period using a combination of techniques, including collecting by hand on the ground (day and night), tending blacklight sheets, and pitfall and other traps. Identification of the tenebrionid specimens is ongoing.

Depositories. Staatliches Museum für Naturkunde, Stuttgart, Germany (SMNS); United States National Museum of Natural History, Smithsonian Institution, Washington, DC, USA (USNM).

RESULTS

***Philhammus ambouli* Schawaller and Steiner,
new species**

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(Figs. 1, 2)

Type Material. Holotype, dissected male (USNM), and one paratype (SMNS) labeled “DJIBOUTI: Djib. Region; Camp Lemonnier, E. end of base in scrub flats, 5 km SSE Djibouti, 11°32'38"N, 43°10'08"E, 2 m.; 13 May 2014 / At black [ultraviolet] light in open *Prosopis* & *Acacia* scrub on dry sandy soil; Colls. W. E. Steiner, S. W. Gotte, et al.” One paratype (USNM) labeled “DJIBOUTI: Arta Region; Ambouli River valley 5.5 km SW Balbala near Chabelley Airfield, 11°31'10"N, 43°04'52"E, 70 m.; 7 May 2014 / At

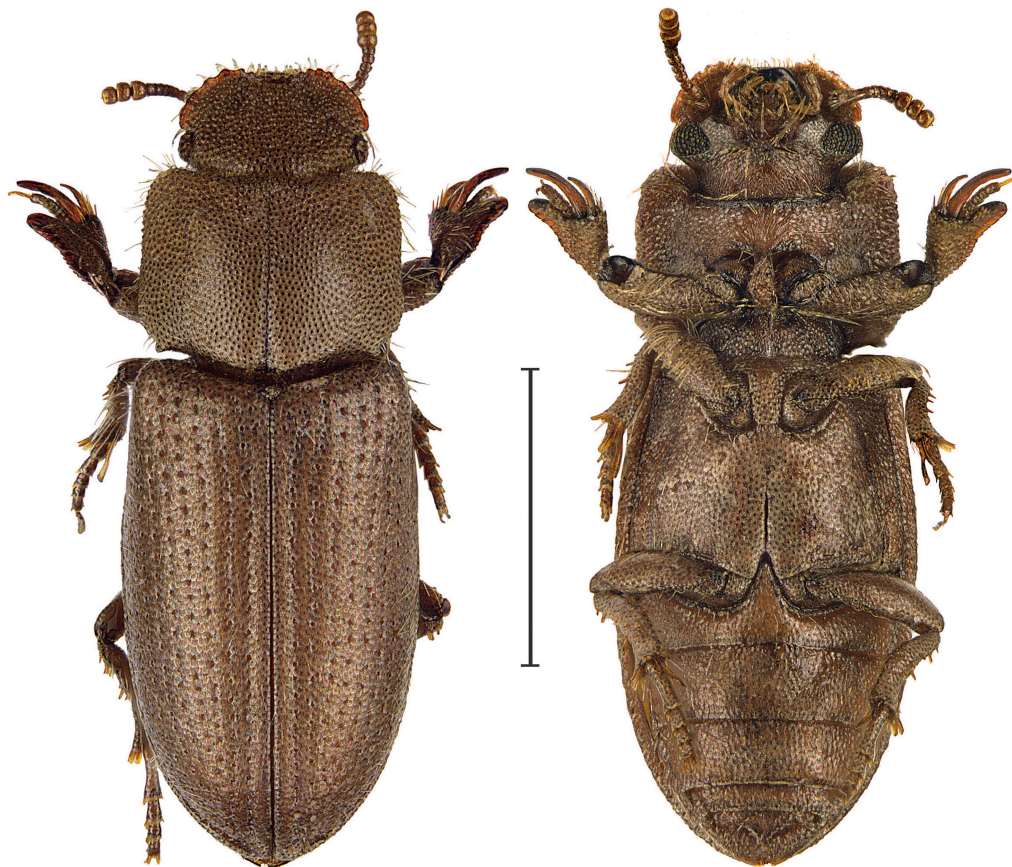


Fig. 1. *Philhammus ambouli*, paratype, dorsal and ventral views. Scale line = 1 mm.

black [ultraviolet] light, rocky edge of drying wadi, sparse *Acacia* scrub; W. E. Steiner, et al.”

Description. Body length 2.3–2.5 mm. Body and all appendages unicolorous yellow-brown, all surfaces dull (Fig. 1). Head evenly covered with dense but nonconfluent granulation; margin of clypeus and genae with equally upturned margins and dentate (altogether about 20 teeth); clypeus with a pair of distinct impressions; genae not surpassing eyes; eyes large, with diameter of about length of last 2 antennomeres combined. Pronotum

subquadrate, lateral margins parallel, anterolateral angles rounded and not protruding, posterolateral angles distinctly dentate; surface with same dense granulation as on head; disc with deep and nearly complete, medial, longitudinal furrow. Elytra 1.4 times longer than wide, with nonstriate rows of punctures; internal row of punctures somewhat impressed, so 1st interval slightly convex, all other intervals completely flat; punctures of rows separated from each other by more than their diameter; surface of elytra smooth, with only traces of granules; microgranules visible along suture. Prosternum not prominent. Epipleura, metasternum, and ventrites with traces of fine granulation. Anterior tibiae very short, nearly as wide as long, broadly triangular with rounded inner apical corner and outer apical angle (burrowing tooth), this polished dorsally; outer margin sinuate; inner apical spur large, as long as tarsus, curved and polished (similarly described and illustrated by Medvedev (2005) for *Philhammus brincki* Ferrer [as *P. triplehorni*]). Aedeagus (Fig. 2) 0.6 mm long, slender, gently curved dorsally; fused parameres parallel-sided along base to middle in



Fig. 2. *Philhammus ambouli*, aedeagus of holotype, lateral and dorsal views. Length 0.6 mm.



Figs. 3–4. Habitat of *Philhammus ambouli*. **3)** Type locality at Camp Lemonnier, Djibouti. Photograph by B. K. Schmidt; **4)** Collecting site at the Ambouli River crossing, Djibouti. Photograph by R. Russell.

dorsal view, gradually narrowing to a rounded apex; basal piece short, half length of parameres.

Diagnosis. *Philhammus ambouli* can be recognized by the shape of the pronotum with parallel sides, distinctly marked posterolateral angles, and nearly complete, medial, longitudinal impression. *Philhammus ferenczi* Kaszab, 1967 from central

Africa is the only other known species of the genus with distinct posterolateral angles of the pronotum, but to a lesser extent. Additionally, in *P. ferenczi* the punctures of the elytral rows are closely spaced, the elytral intervals are slightly convex, and the pronotal medial impression is diminished. *Philhammus aharonii* (Reitter, 1910) from adjacent Egypt,

Sudan, Saudi Arabia, and Israel has completely rounded posterior corners of the pronotum, the median furrow is limited to the basal third of the pronotum, the eyes are smaller, with the genae surpassing the eyes, and the elytra have denser rows of punctures as in *P. ambouli*. For other differences in general habitus, compare figures of other species (Schawaller *et al.* 2014). The aedeagi of most species are unknown, so we cannot determine if the form of the genitalia in *P. ambouli* is distinctive or diagnostic. The aedeagus of a related North American species, *Lepidocnemeplatia sericea* (Horn), has a similar slender form but is not parallel-sided, with the parameres narrowing from the base to the acuminate apex, and the basal piece is nearly as long as the parameres.

Etymology. Used here as a noun in apposition, Ambouli is the Latin-like name for the town near Camp Lemonnier, the type locality south of Djibouti City, and the river valley where one paratype was collected.

KEY TO THE SPECIES OF *PHILHAMMUS* FROM AFRICA AND ARABIA

1. Posterior corners of pronotum prominent ... 2
- 1' Posterior corners of pronotum rounded 3
2. Pronotum with complete, deep, medial, longitudinal furrow (Djibouti)
..... *P. ambouli* Schawaller and Steiner,
new species
- 2'. Pronotum with flat, medial, longitudinal furrow only in posterior part (western and central Africa) *P. ferenczi* Kaszab, 1967
3. Eyes small, diameter not larger than length of 1 antennomere of antennal club (Canary Islands, Spain, Morocco, Egypt)
..... *P. sericans* Fairmaire, 1871
- 3'. Eyes larger, diameter as large as length of 2–3 antennomeres of antennal club 4
4. Body length 3.5 mm; pronotal disc with transverse and longitudinal convexity, reduced medial furrow of pronotum deep at base (Chad)
..... *P. tschadensis* Kaszab, 1967
- 4'. Body length 2.5–3.0 mm; pronotal disc with only transverse convexity, reduced medial furrow of pronotum flat at base 5
5. Body narrower, elytra 1.8X longer than wide; eyes larger, diameter with 7–8 smaller facets; genae not wider than eyes (southern Africa)
..... *P. brincki* Ferrer, 1995
- 5'. Body broader, elytra 1.6X longer than wide; eyes smaller, diameter with 3–5 larger facets; genae wider than eyes (Middle East, Arabia, Egypt, Sudan)
..... *P. aharonii* (Reitter, 1910)

Biology. Vegetation at the sites (Figs. 3, 4) where *P. ambouli* was collected is desert scrub with

occasional small trees, mostly indigenous *Acacia* spp. (Fabaceae) and an introduced *Prosopis* sp. (Fabaceae) on hard, dry soil. Loose, powdery soil and some sandy soil was noted at these sites. The type locality (Fig. 3) at the east end of Camp Lemonnier was at a sandier dry wash, while the Ambouli wadi site (Fig. 4) had large stones and boulders lining an intermittent stream bed with drying, cracked mud. The expanded front tibiae of *Philhammus* beetles suggest that they are burrowers in soil or sand, but specimens are known only from light traps. The beetles appeared at the blacklight sheets during the first hour of the evening; temperature was 30–33° C and relative humidity was about 70%.

Other tenebrionid genera collected at light with *P. ambouli* included series of a species of *Cheirodes* Gené, a few individuals of *Leichenum* Dejean (also burrowing psammophiles), an undetermined member of Statirini, and single specimens of *Himatismus* Erichson and *Palorus* Mulsant.

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