

## Systematic position of *Omostropus rotundatus* and notes on some other species of Harpalina (Coleoptera: Carabidae) from Ethiopia

## Систематическое положение *Omostropus rotundatus* и замечания о некоторых других видах Harpalina (Coleoptera: Carabidae) из Эфиопии

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**Abstract.** *Omostropus rotundatus* Clarke, 1973 from the Bale Mountains (Ethiopia) is transferred to the genus *Harpalus* Latreille, 1802. Since the name *rotundatus* was already used in the latter genus, the substitute name *Harpalus clarkei* Kataev et Schmidt, **nom. nov.** is proposed for *Harpalus rotundatus* (Clarke, 1973), **comb. nov.** (non Dejean, 1829; non Chaudoir, 1844). The diagnostic characters of *Harpalus* and *Omostropus* are discussed. Data on distribution and hind wing development of some additional Ethiopian species of Harpalina mostly from the Bale and Arsi Mountains are presented.

**Резюме.** *Omostropus rotundatus* Clarke, 1973, описанный из гор Бале (Эфиопия), перенесен в род *Harpalus* Latreille, 1802. Поскольку название *rotundatus* уже было использовано в этом роде, для *Harpalus rotundatus* (Clarke, 1973), **comb. nov.** (non Dejean, 1829; non Chaudoir, 1844) предложено новое замещающее название *Harpalus clarkei* Kataev et Schmidt, **nom. nov.** Обсуждаются диагностические признаки *Harpalus* и *Omostropus*. Представлены также материалы по распространению некоторых других эфиопских видов Harpalina преимущественно в горах Бале и Арси и данные по развитию у них крыльев.

**Key words:** ground beetles, wing development, Carabidae, Harpalini, *Harpalus*, *Omostropus*, *Siopelus*, *Pseudoharpalus*, new combination, new substitute name

**Ключевые слова:** жуки-жужелицы, развитие крыльев, Carabidae, Harpalini, *Harpalus*, *Omostropus*, *Siopelus*, *Pseudoharpalus*, новая комбинация, новое замещающее название

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## Introduction

While sorting the specimens of carabids collected in the mountains of southern Ethiopia during recent years, a remarkable apterous species of *Harpalus* Latreille, 1802 with transverse metepisternum was recognised. This character is very rare among *Harpalus* species occurring in East and Southern Africa. Although this species has a typical *Harpalus* appearance and all distinctive features of this genus, the study of the literature dealing with the taxonomy of Harpalini of this region surprisingly revealed that it was described within the genus *Omostropus* Péringuey, 1896 as *O. rotundatus* Clarke, 1973. Its original description, including the features of the male genitalia, fully agrees with the characteristics of the latter species. In the present contribution we re-describe this species within the genus *Harpalus* and discuss the diagnostic characters of *Harpalus* and *Omostropus*. Moreover, we point to the differences between the indications in the respective original descriptions and our own observations regarding the development of hind wings in two other Harpalina species described by Clarke (1973). Finally, we present new collecting data on some additional Ethiopian species of the subtribe Harpalina mostly from the Bale and Arsi Mountains, fauna of which is still poorly understood.

## Material and methods

The following abbreviations are used for the depositories of the specimens examined: MNHN, Muséum national d'Histoire naturelle, Paris, France; TMB, Természettudományi Múzeum (Hungarian Natural History Museum), Budapest, Hungary; ZIN, Zoological Institute, Russian Academy of Sciences, Saint Petersburg, Russia; ZMAA, Zoological Museum, Addis Ababa University, Ethiopia; ZSM, Zoologische Staatssammlung München, Germany; cJS, collection of J. Schmidt, Rostock, Germany; cWR, collection of D.W. Wrase, Gusow-Platkow, Germany (part of ZSM).

Length and width of metepisterna were measured along their inner and anterior margins, respectively. Male genitalia were examined in glycerin and then embedded in euparal. Drawings were

prepared using an ocular grid (10×10 squares) attached to a stereomicroscope MBS-10. The habitus photograph was taken with a Canon EOS 6 D camera with a Canon MP-E 65 mm lens, and subsequently processed using the Helicon Focus 7.2 software and optimised with Photoshop® CS2.

## Taxonomy

Order **Coleoptera**

Family **Carabidae**

Tribe **Harpalini**

Subtribe **Harpalina**

Genus **Harpalus** Latreille, 1802

***Harpalus clarkei*** Kataev et Schmidt, **nom. nov.** (Figs 1–7)

Substitute name for *Harpalus rotundatus* (Clarke, 1973), **comb. nov.** (non Dejean, 1829; non Chaudoir, 1844).

*Omostropus rotundatus* Clarke, 1973: 12.

**Material examined.** **Ethiopia, Oromia:** 7 males, 5 females, Mt. Kaka, E-slope above Meraro, 3300–3420 m, 07°24'N 39°12'E (env. Camp 1), 23–28.XI.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS, ZIN); 4 males, 2 females, Mt. Kaka, SE of crater, 3700–4100 m, 07°21'54"N 39°09'48"E to 07°21'09"N 39°10'18"E, 1.XII.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS). 29 males, 17 females, Bale Mts. W-slope Web Valley, W of Dinsho, 3650 m, 07°04'02"N 39°39'26"E [very close to the type locality of the species], 7.II.2019, R. Emmerich, J. Schmidt and M. Yeshitla leg. (cJS, ZIN, ZMAA). **Uncertain locality:** 1 male, Prov. Shoa [Shewa], Sodore, 3–4.VII.1990, Hiermeier leg. (ZIN) (see the Distribution section below).

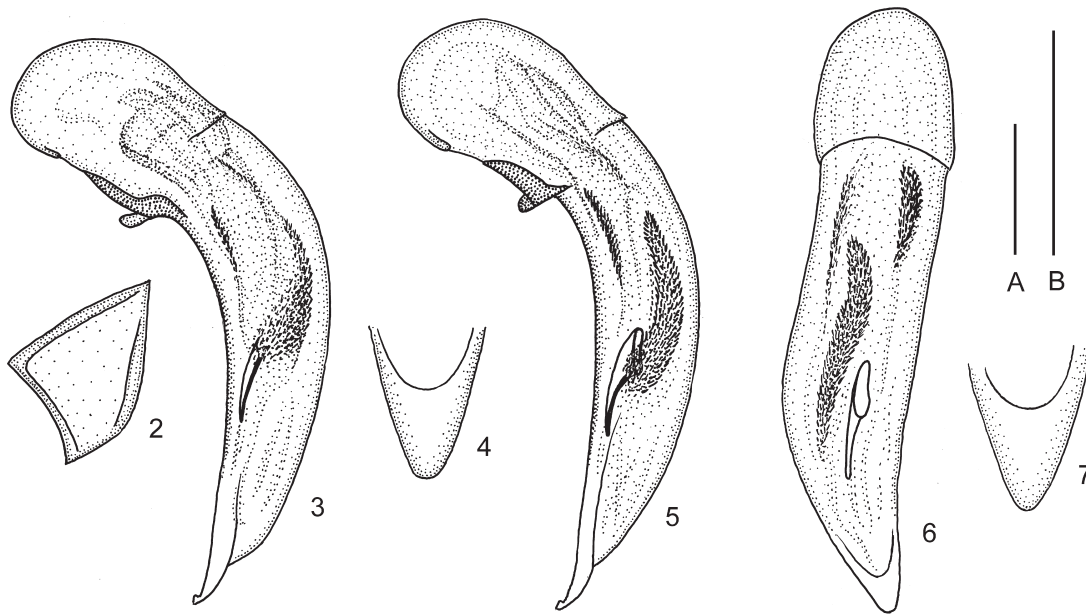
**Diagnosis.** Easily differing from all other described Afrotropical congeners in having the metepisternum wider than long, only slightly narrowed posteriorly, the pronotal basal angles widely rounded, and the metacoxa without posteromedial setigerous pore. *Harpalus procognatus* Lorenz, 1998 (= *H. cognatus* Chaudoir, 1876) from northern Ethiopia also has a wide metepisternum, but its metacoxa is with a posteromedial setigerous pore and the pronotal sides are slightly converging posteriorly, almost parallel-sided. In general appearance with rounded pronotal sides, *H. clarkei* **nom. nov.** is very similar to the sympat-



**Fig. 1.** *Harpalus clarkei* nom. n. (Mt. Kaka), habitus. Scale bar: 1.0 mm.

ric *H. rougemonti* Clarke, 1973, but the latter species is distinguished by having the metepisternum narrower (its inner margin about as long as ante-

rior margin) and more strongly narrowed posteriorly, the pronotum with basal edge ciliate and with basal angles more distinct, and the median



**Figs 2–7.** *Harpalus clarkei* **nom. n.** (2, 5–7, Mt. Kaka; 3, 4, Sodore). Left metepisternum (2), median lobe of aedeagus, lateral view (3, 5), terminal lamella of median lobe, dorsal view (4, 7), median lobe of aedeagus, dorsal view (6). Scale bars: 0.5 mm (A: 2, 3, 5, 6; B: 4, 7).

lobe of the aedeagus with developed apical capitulum and with differing armature in the inner sac which includes two large spines in addition to the spiny patches. Moreover, *H. clarkei* **nom. nov.** is, on average, smaller than *H. rougemonti*, however, the latter species was found to be very variable in body length: 9.0–11.5 mm in the most examined specimens (8.4 mm in one of the two examined paratypes), and 8.1–13.6 mm, according to the original description (Clarke, 1973).

**Re-description.** Body length 6.5–8.7 mm. Habitus as in Fig. 1. Black, dorsum shiny; base of mandibles, outer margins of labrum, very narrow lateral margins of pronotum and occasionally elytral epipleura paler, reddish brown; appendages brownish yellow, in most specimens antennomeres 3–11, femora and tibiae apically as well tarsi slightly infuscate.

Head impunctate, with moderately large and convex eyes. Frontal foveae small, punctiform; fronto-clypeal furrows absent. Genae wide, slightly wider than antennomere 1. Mentum separated from submentum by complete suture, with prominent median tooth. Submentum with one pair of lateral setae. Epilobes moderately widened apically. Ligular sclerite narrow, not widened apically, with two ventroapical setae and without apical

ventral plate. Paraglossae wide, rounded apically, setose at margins, projecting ahead beyond ligular sclerite. Basal labial palpomere not carinate ventrally. Ultimate labial palpomere about as long as penultimate palpomere, sparsely setose. Dorsal microsculpture fine, consisting of isodiametric meshes, highly obliterate on clypeus, frons and vertex.

Pronotum transverse, widest slightly before middle, rounded at sides and with widely rounded basal angles. Apical margin very shallowly emarginate, bordered only laterally. Apical angles narrowly rounded, almost not prominent. One pair of lateral setae in widest point of pronotum. Pronotal basal edge glabrous, more or less straight in middle portion, completely bordered, almost as wide as elytral base. Surface evenly convex, with small oval basal foveae; punctation absent or very fine, restricted mostly to area in and around basal foveae. Microsculpture fine, consisting of isodiametric meshes, more distinct along base and sides, obliterate at anterior margin and in central portion.

Elytra relatively short, oval, widest just behind middle, with angularly rounded humeri and very shallow preapical sinuation. Sutural angle not projecting posteriad, slightly less than 90°, somewhat sharp, at most only slightly blunted at tip. Striae fine, superficial, occasionally slightly crenulate.



Parascutellar setigerous pore present. Parascutellar striole either short (occasionally absent) or moderately long, in many specimens connected by its apex with stria 1. Intervals entirely flat, impunctate and glabrous. Interval 3 with one discal setigerous pore in apical third; intervals 5 and 7 without discal pores. Stria 8 not arched in its middle portion and interval 9 not widened there. Marginal umbilicate series more or less continuous, without distinct gap at middle. Basal border glabrous, forming an obtuse angle with lateral elytral margin. Microsculpture very distinct in female, more or less highly obliterate in male on disc, consisting of isodiametric meshes.

Hind wings reduced to tiny scales.

Prosternum with fine and very short setae medially. Metepisternum (Fig. 2) wider than long.

Metacoxa with two obligatory setigerous pores, without additional posteromedial pore. Metafemur ventrally with three setigerous pores along posterior margin and without pores along anterior margin. Protibia widened apically, with three preapical spines on outer margin (isolated from spines on ventral side) and with one ventroapical spine; in male without distinct ventroapical tubercle. Tarsi glabrous dorsally, moderately short; metatarsomere 1 shorter than metatarsomeres 2 and 3 combined. In male, pro- and mesotarsomeres 1–4 dilated and with biseriate adhesive vestiture ventrally; protarsomere 1 with normal (not reduced) adhesive scales in apical half, mesotarsomere 1 moderately dilated, with adhesive scales at its apex.

Abdominal sternites without additional long setae; two penultimate sternites with several very short, indistinct setae. Last visible (VII) abdominal sternite without pronounced sexual dimorphism, rounded at apex, with two pairs of marginal setae in both sexes.

Female genitalia: gonocoxite moderately curved, with several long setae at outer margin.

Median lobe of aedeagus (Figs 3–7) with comparatively large basal bulb, in lateral view arcuate, in dorsal view in apical third narrowed to apex and slightly curved to right. Apical orifice shifted to left. Terminal lamella in dorsal view (Figs 4, 7) triangular, longer than wide, with small and sharp apical flange protruding ventrally. Inner sac with one moderately large spine and three elongate

spiny patches: one dorso-lateral patch at middle and two patches baso-laterally.

*Etymology.* The substitute name refers to R.O.S. Clarke, the author of the original description of this species.

*Distribution.* Described from the Bale Mountains: type locality 25 km W of Dinshu (about 07°02'N 39°34'E). This species seems to be endemic to the Arsi and Bale Mountains in the central part of southern Ethiopia. In the Bale Mountains, the collecting localities are restricted to the drier northern face. According to our (J.S. and Y.M.A.) field data, it occurs at altitudes of 3300–3800 m and is probably represented by several geographically separated populations. Occurrence of the species near Sodore in the Rift Valley (see section Material examined) needs confirmation because we believe it is unlikely that *H. clarkei* **nom. nov.** occurs at altitudes of 1500–1750 m and thus in subtropical environments. Another doubtful record based on a “very battered female ex.” from “near Chenchu in the Gughe Highlands” was mentioned by Clarke (1973: 3). Because the Gughe Highlands are located far southwest of the Bale Mountains and geomorphologically distinctly separated by the Rift Valley we strongly believe that this report refers to another, probably undescribed species of *Harpalus*.

*Remarks.* This species was originally described within the genus *Omostropus* Péringuey, 1896, although Clarke (1973: 14) noted that the species “does not exemplify all the generic characters as given by Basilevsky (1951)”. The most significant difference mentioned by Clarke is the male first protarsomere of *O. rotundatus* with a small “plate” of adhesive hairs at its apex ventrally, as in *O. mandibularis* (Roth, 1851) [Clarke (1973: 14) apparently erroneously wrote “mesotarsomere” instead “protarsomere” since in the original description (p. 13) this information refers just to the first protarsomere and there is no information there concerning the first mesotarsomere]. According to Basilevsky (1951), the genus *Omostropus* is characterised by the first pro- and mesotarsomeres of male without adhesive vestiture ventrally. By these features it is distinguished from *Harpalus* and some other related genera. In males of *Harpalus*, the first protarsomere has normal adhesive scales at least apically, however the first mesotar-

somere in this respect is more variable and there are species both with and without adhesive vestiture although in most species the adhesive scales are also present at least apically. In some cases, this character is variable within one species, for example, in *H. (Cryptophonus) melancholicus* Dejean, 1829, *H. (Pseudoophonus) indicus* Bates 1891 and *H. (s. str.) angulatus* Putzeys, 1878; in these species, the absence or presence of the adhesive scales on the first mesotarsomere of male is a characteristic of the subspecies (Kataev, 2012, 2014). In some species, for example, *H. (Zangoharpalus) praticola* Bates, 1891, this character is variable and has no taxonomic significance (Kataev, 1997). In males of *O. mandibularis*, like in other members of *Omostropus*, the first mesotarsomere is without distinct adhesive vestiture, but the first protarsomere bears two very small scales apically. By the latter character, *O. mandibularis* is distinguished from other congeners, however it has a full set of other diagnostic characters of *Omostropus*, including the following: body elongate, elytral marginal umbilicate series with a wide gap medially, consisting of six to eight setigerous pores in anterior group and of eight to ten such pores in posterior group, the elytral stria 8 arched between anterior and posterior rows of umbilicate series and the interval 9 widened there (somewhat similar to that of *Acinopus* Dejean, 1821). As opposed to this, in *Harpalus clarkei* **nom. nov.**, as in many other members of *Harpalus*, the marginal umbilicate series is without distinct gap at middle, the stria 8 is not arched in its middle portion and the interval 9 is not widened there. All other characters of this species listed in the description above, including general habitus and the presence of the normally developed paired adhesive scales on the male first pro- and mesotarsomeres ventrally, also fully agree with the morphological characteristics of *Harpalus*, particularly the species distributed in the tropical mainland Africa.

According to the original description (Facchini, 2012), *Omostropus bulirschi* Facchini, 2012 from Madagascar is most similar in appearance to *O. rotundatus* (= *Harpalus clarkei* **nom. nov.**), but has normally developed wings (apparently also elongate metepisternum) and the first mesotarsomere of male without a ventral adhesive vestiture. The first protarsomere of *O. bulirschi* is dilated and with ventral adhesive vestiture as in

*Harpalus*. The elytral marginal umbilicate series is interrupted, but without wide gap. It is therefore very likely that *O. bulirschi* should also be included in the genus *Harpalus*.

#### Genus *Omostropus* Péringuey, 1896

*Omostropus* Péringuey, 1896: 418, 429. Type species: *Omostropus tersulus* Péringuey, 1896, designated by Basilewsky (1947).

*Diagnosis.* Body medium-sized (length about 6.5–12.0 mm), elongate, convex. Dorsum impunctate and glabrous (except for unsetigerous punctation at base of pronotum). Fully winged or brachypterous. Frontal foveae small, punctiform or stroke-like. Fronto-ocular furrows absent. Genae wide. Mentum separated from submentum by complete transverse suture, with wide median tooth. Epilobes moderately or rather markedly widened apically. Submentum with one or two pairs of lateral setae. Basal labial palpomere not carinate. Penultimate labial palpomere not long, about as long as ultimate palpomere, with several setae at anterior margin. Ligular sclerite narrow, not widened apically, with two ventroapical setae at apical edge, in some species also with several short dorsal setae. Paraglossae setose at margins, wide, rounded apically, markedly longer than ligular sclerite. Pronotum with one pair of lateral setae. Pronotal basal margin completely bordered, its basal edge not ciliate. Elytra with or without one discal pore on interval 3 behind middle, without discal pores on intervals 5 and 7. Parascutellar pore present. Parascutellar striole more or less highly reduced. Elytral marginal umbilicate series widely interrupted medially, with a gap about as long as rows of umbilicate pores, consisting of six to eight setigerous pores in anterior group and of eight to ten such pores in posterior group; stria 8 slightly arched between anterior and posterior groups and interval 9 slightly widened there. Metacoza without additional posteromedial pore. Metafemur ventrally in most species with two or three (in some species up to five) setae along posterior margin. Protibia with three to five preapical spines at outer margin and with one or two ventroapical spines. Tarsi glabrous dorsally. Pro- and mesotarsomeres 2–4 in male dilated and with biserial vestiture ventrally; protarsomere 1 scarcely dilated and in most species without adhesive ves-

ture (in some species with one or two very small scales apically); mesotarsomere 1 scarcely dilated and without distinct adhesive vestiture. Abdominal sternites without additional long setae; two or three basal sternites finely punctate and with very short setae medially; last visible (VII) abdominal sternite without pronounced sexual dimorphism, with two pairs of marginal setae. Gonocoxite with several long setae at outer margin. Median lobe of aedeagus with apical orifice shifted to left (in many species very weakly, almost in dorsal position), without apical capitulum.

**Composition.** The genus includes nine described species from East and Southern Africa. The systematic position of *O. bulirschii* Facchini, 2012 from Madagascar needs further study.

**Remarks.** The genera *Omostropus* and *Harpalus* are closely related taxa which both are defined polythetically, by combination of several nonspecific characters. *Omostropus* differs from *Harpalus* in having in male the first protarsomere without developed ventral adhesive vestiture, at most with one or two very small scales apically. In addition, in all species of *Omostropus*, the male first mesotarsomere is only scarcely dilated and without distinct ventral adhesive vestiture, the elytral marginal umbilicate series is widely interrupted medially, with a gap about as long as rows of umbilicate pores, the stria 8 is slightly arched between the anterior and posterior groups, and the interval 9 is slightly widened there. In *Harpalus*, the male first protarsomere is furnished ventrally with normally developed paired adhesive scales; the male first mesotarsomere ventrally in most species is with distinct paired adhesive scales, the elytral marginal umbilicate series is continuous or more or less widely interrupted medially, and the elytral stria 8 in most species is not arched in its middle portion.

## Data on distribution and hind wing development of some other species of Harpalina from mountains of southern Ethiopia

### *Harpalus rougemonti* Clarke, 1973

**Type material examined. Paratypes:** 1 male, "Dinshu Bale mts. – VI.1971", "Under stone Hagenia belt 3.100 m.", "*Harpalus rougemonti* n. sp. det. R.O.S.

Clarke 1971", "Paratype", "S. de Rougemont Coll." (MNHN); 1 male, "8 km W Dinshu, Bale Prov., 3050 m, 19.XII.1971, Coll. Mus. Tervuren, Ethiopie, R.O.S. Clarke", "Paratypus", "*Harpalus rougemonti* n. sp., R.O.S. Clarke det." (ZIN).

**Additional material examined. Ethiopia, Oromia:** 56 specimens (males and females), Mt. Kaka, E-slope above Meraro, 3300–3420 m, 07°24'N 39°12'E (env. Camp 1), 23–28.XI.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS, ZIN ZMAA); 9 males, 1 female, Mt. Kaka, E-slope above Meraro, 3370–3500 m, 07°22'57"N 39°11'27"E, 25.XI.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS); 1 male, 1 female, Mt. Enkuolo, N-slope, 3350–3600 m, 07°22'48"N 39°21'07"E, 6–9.XII.2016, J. Schmidt leg. (cJS); 11 males, 2 females, Mt. Enkuolo, NE-slope, 3100–3200 m, 07°24'41"N 39°22'26"E, 5–7.XII.2016, J. Schmidt leg. (cJS, ZIN); 2 males, 2 females, Mt. Chillalo, SW-slope, 2985 m, 07°53'31"N 39°10'18"E, 30.XI.2016, J. Schmidt leg. (cJS); 3 males, 1 female, Mt. Chillalo, SW-slope, 3000–3300 m, 07°54'01"N 39°11'26"E, 2.XII.2016, J. Schmidt leg. (cJS); 2 males, 1 female, Bale Mts., Web River N of Dinsho, 3000 m, 07°07'18"N 39°46'03"E, 5.II.2019, R. Emmerich, J. Schmidt and M. Yeshitla leg. (cJS); 1 male, Bale Mts., forest remain W of Dinsho, 3100 m, 07°06'16"N 39°44'46"E, 8.II.2019, R. Emmerich, J. Schmidt and M. Yeshitla leg. (cJS); 1 male, Bale Mts., above Sebsebe Washia Forest, upper Salgen Valley, 3340–3500 m, 07°03'N 39°37'E, 4.II.2019, R. Emmerich, J. Schmidt and M. Yeshitla leg. (cJS); 7 males, 4 females, road Shasheme [= Shashamene] – Dodola, Mt. Mascall, 3100–3300 m, 21.VII.2005, A. Puchner leg. (cWR, ZIN, cJS); 4 males, 1 female, road Shasheme [= Shashamene] – Dodola, env. Kofelee, 2430–2530 m, 20.VII.2005, A. Puchner leg. (cWR, ZIN).

**Wing status.** The hind wings are about 0.5–0.7 as long as elytra and thus dysfunctional. The metepisterna are shortened, about as wide as long, markedly narrowed posteriorly. Consequently, *H. rougemonti* has to be considered an obligatory brachypterous species. This is in contrast with the original description. Clarke (1973: 7) noted that *H. rougemonti* is a winged species, but he did not indicate that he has investigated the hind wing development and metathoracal morphology.

**Distribution.** Until today only known from the Arsi Volcanos and the northern face of the Bale Mountains at altitudes between 2430 and 3600 m. Type locality is the northern slope of the Bale Mountains 8 km west of Dinsho (about 07°06'N 39°44'E). Clarke (1973: 3, 9) mentioned



several additional collecting sites of the species on Mt. Chillalo and between Dinsho and the locality 10 km East of Adaba along the northern face of the Bale Mountains.

### *Harpalus impressus* Roth, 1851

*Material from Ethiopia examined. Amhara:* 3 males, 20 km S of Debre Sina, baited trap, “No. 31”, 18–21.IX.1980, A. Demeter leg. (TMB). *Oromia:* 7 males, 9 females, Mt. Kaka, E-slope above Mera-ro, 3300–3420 m, 07°24'N 39°12'E (env. Camp 1), 23–28.XI.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS, ZIN, ZMAA); 3 males, 1 female, Mt. Kaka, E-slope above Meraro, 3370–3500 m, 07°22'57"N 39°11'27"E, 25.XI.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS); 1 female, Mt. Kaka, SE of crater, 3700–4100 m, 07°21'54"N 39°09'48"E to 07°21'09"N 39°10'18"E, 1.XII.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS); 2 males, Mt. Chillalo, SW-slope, 3000–3300 m, 07°54'01"N 39°11'26"E, 2.XII.2016, J. Schmidt leg. (cJS); 1 female, Arussi, IV.–V.1904, Brovtsyn leg. (ZIN); 1 male, “Coll. Mus. Congo, Abyssinie: Riv. Boule-Boulo [= Bulbula River, drains Lake Zeway to Lake Abyata in the Ethiopian Rift Valley: 7.89°N 38.74°E to 7.65°N 38.61°E], Col. P. Basilewsky”, “*H. impressus* Roth, P. Basilewsky det., 19” (ZIN). *Afar/Dire Dawa/Harari/Oromia:* 1 male, Gewani – Harerge [the road between these two localities passes four provinces], VII.1994, R. Lízler leg. (cWR). *Somali:* 1 female, “Abyssinia Kovács / Urso [= Hurso] 1911” (TMB).

*Wing status.* The hind wings of the investigated specimens from the mountains of central southern Ethiopia within Amhara and Oromia are 0.70–0.75 as long as the elytra and thus dysfunctional; the metepisterna are 1.15–1.25 as long as wide. In all other examined specimens from Ethiopia (including the specimens from Arussi and “Gewani – Harerge”), Eritrea and Yemen, the wings are fully developed. Consequently, *H. impressus* is considered a dimorphic/polymorphic species.

*Distribution.* Described from “Tigré in N. Abissinien” (= Tigray, northern Ethiopia) (Roth, 1851). *Harpalus impressus* is widely distributed in the mountains of Arabia and East Africa. Beside Ethiopia, it was recorded from Eritrea, South Sudan, Saudi Arabia and Yemen (Basilewsky, 1951, 1979; Abdel-Dayen et al., 2018). In the mountains of central southern Ethiopia it was collected on the northern face of the Bale Mountains [three collecting sites 8–25 km W of Dinsho mentioned

by Clarke (1973)] and along the slopes of the Arsi volcanos Chillalo and Kaka (this study). Based on the collecting localities mentioned by Basilewsky (1951, 1953, 1957), Clarke (1973) and the newly collected material presented in this study, in Ethiopia *H. impressus* occurs in a very wide range of elevations (1500–3700 m).

*Remarks.* The interpretation of this species follows Basilewsky (1951), but because the species is variable morphologically, its taxonomy needs further study.

### *Harpalus jeanneli* Basilewsky, 1947

*Material from Ethiopia examined. Addis Ababa:* 1 female, “Addis Ababa, Abyssinie” (ZIN). *Southern Nations, Nationalities and People (SNNP):* 3 males, Gughe Highlands near Tola village, 06°18'48"N 37°33'57"E, 2950 m, 5.XII.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS); 1 female, Gughe Highlands, env. Dorze and Chench, 06°15'N 37°34'E, 2600–2700 m, 4.XII.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS); 1 male, 1 female, Dorze Lodge, 2400 m, 06°10'56"N 37°34'35"E, 4–17.X.2015, V. Major leg. (ZIN). *Afar/Dire Dawa/Harari/Oromia:* 1 male, Gewani – Harerge, VII.1994, R. Lízler leg. (cWR). *Dire Dawa:* 1 male, “Abyssinie, D. Daoua [= Dire Dawa]” (ZIN).

*Unknown locality:* 1 female, “Abyssinia Kovács / Lacus Shalo” (TMB).

*Wing status.* The specimens from the south-eastern highlands of Ethiopia as well as the examined specimens from Kenya have hind wings fully developed and metepisterna elongate, markedly longer than wide.

*Distribution.* Widely distributed in Kenya, from where it was described (type locality “Rift Valley, Naivasha, 1900 m”) (Basilewsky, 1947, 1951, 1977), and also recorded from south western Ethiopia (Omo Valley in the former Kenia Colony) (Basilewsky, 1951) and Uganda (Basilewsky, 1962). Additional records from central and southern Ethiopia are presented here. The species is known from the altitudes of 1300–3000 m and most common in Kenya at about 2000 m.

### *Siopelus (Neosiopeus) aethiopicus* Clarke, 1973

*Material examined. Ethiopia, Oromia:* 1 male, 1 female, Bale Mts., Web River N of Dinsho, 3000 m, 07°07'18"N 39°46'03"E, 5.II.2019, R. Emmerich, J. Schmidt and M. Yeshitla leg. (cJS); 1 female, Bale



Mts., Dinsho, 3200 m, 07°05.750'N 39°47.407'E, 19.II and 2.III.2013, J. Hagge, Y. Teklu and J. Schmidt leg. (cJS); 1 female, Mt. Kaka, E-slope above Meraro, 3300–3420 m, 07°24'N 39°12'E (env. Camp 1), 23–28.XI.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS).

**Wing status.** In the investigated specimens, the hind wings are reduced to short stubs and the metepisterna are about as wide as long. Consequently, *S. aethiopicus* has to be considered an obligatory wingless species. As we noted above for *H. rougemonti*, Clarke (1973: 4) also considered *S. aethiopicus* a winged species, but he did not indicate that he has investigated the hind wing development and metathoracal morphology.

**Distribution.** The species is probably endemic to the mountains of central southern Ethiopia. In the Bale Mountains, it seems to be restricted to the drier northern face. Type locality is the northern slope of the Bale Mountains, 10 km west of Dinsho (about 07°07'N 39°43'E). Clarke (1973: 6) additionally noted a collecting site along the slopes of Mt. Gara Tita, 20 km SW of Deder (about 09°15'N 41°20'E). *Siopelus aethiopicus* was collected at altitudes between 2550 and 3200 m.

### ***Siopelus (Africobatus) harpaloides*** (Guérin-Méneville, 1847)

**Material from Ethiopia examined.** 1 male, Oromia, S-slope Bale Mts., S of Rira, Katcha, 2380 m, 06°42'58"N 39°43'25"E, 3.III.2015, J. Hagge leg. (cJS).

**Wing status.** Hind wings are fully developed.

**Distribution.** A common species widely distributed over tropical Africa including Ethiopia where it occurs in a wide altitude range of 1200 to 2750 m (Basilewsky, 1950, 1953).

### ***Pseudohyparpalus angustipennis*** (Putzeys, 1876)

**Material examined.** **Ethiopia, Amhara:** 1 male, 2 females, W-slope Mt. Choke, 2750–2900 m, 10°38'N 37°45'E, 1.III.2019, D. Hauth, J. Schmidt, M. Yeshitla and W. Yitbarek leg. (cJS). **Oromia:** 4 males, road N of Rira, 3000–3200 m, 06°46'N 39°44'E, 28.II.2013, J. Hagge, Y. Teklu and J. Schmidt leg. (cJS, ZIN); 15 males, 8 females, Bale Mts., Hareenna, Hagenia-Schefflera forest, 2400–2500 m, 06°43'N 39°44'E, 28.II.2013, J. Hagge, Y. Teklu and J. Schmidt leg. (cJS, ZMAA, ZIN); 1 male, 4 females, S-slope Bale Mts. below Rira, 1780 m, 06°35'38"N 39°45'12"E,

15.XII.2016, J. Schmidt leg. (cJS); 1 male, 1 female, S-slope Bale Mts. below Rira, 2380 m, 06°43'17"N 39°43'14"E, 16.XII.2016, J. Schmidt leg. (cJS); 1 male, 1 female, S-slope Bale Mts. S of Rira, Katcha, 2380 m, 06°42'58"N 39°43'25"E, 3.III.2015, J. Hagge leg. (cJS); 1 male, Ambo, at light, 1.VI.1990, A.F. Emeljanov leg. (ZIN). **Southern Nations, Nationalities and People (SNNP):** 1 female, Gughe Highlands, env. Dorze and Chencha, 2600–2700 m, 06°15'N 37°34'E, 4.XII.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS); 1 male, 1 female, Gughe Highlands, near Tola village, 2950 m, 06°18'48"N 37°33'57"E, 5.XII.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS); 17 males, 9 females, Gughe Highlands, near Mt. Gughe, 2880–2950 m, 06°12'00"N 37°20'19"E, 7.XII.2017, D. Hauth, J. Schmidt and M. Yeshitla leg. (cJS, ZIN).

**Wing status.** Hind wings are fully developed.

**Distribution.** Described from “Adowa” (= Adwa) in northern Ethiopia (Putzeys in Chaudoir, 1876). According to Clarke (1981), *P. angustipennis* is probably endemic to Ethiopia, but the species is winged and its distribution seems to be wider; at least it should be found in the nearest areas of Eritrea since there is no any biogeographical border between these countries. In Ethiopia, the species occurs in mountainous regions throughout the country at altitudes between 1450 and 3230 m (Clarke, 1981; newly collected material).

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