

A contribution to knowledge of the subfamily Panagaeinae Hope, 1838 from Africa.

Part 5. Revision of the *Craspedophorus festivus* group (Coleoptera: Carabidae)

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Abstract. Afrotropical species of the genus *Craspedophorus* Hope, 1838, still ungrouped, are revised. A new species group is established in this part, *C. festivus* group. New species described are *C. puchneri* sp. nov. (Tanzania, Manyara) and *C. schuelei* sp. nov. (Mozambique, Sofala Province) of the *C. festivus* species group, and *C. sciakyi* sp. nov. (South Africa: Western Cape Province) of the *C. strachani* species group Häckel 2017b. New subspecies are *C. deflexus nguruanus* ssp. nov. (Tanzania, Morogoro) and *C. strangulatus mesothorax* ssp. nov. (Ghana). *C. laevifrons* (Schaum, 1863) as denoted to ssp. of *C. stenocephalus* (Reiche, 1847). *Panagaeus (Craspedophorus) tropicus* Hope, is synonymised with *C. microcephalus* (Dejean, 1831), *Epigraphus (Craspedophorus) fuscicornis* (Kolbe, 1883) is synonymised with *Craspedophorus selenoderus* (LaFerté-Sénéclercq, 1851).

INTRODUCTION

This paper presents further results of my study of the Afrotropical Panageine ground beetles (Coleoptera, Carabidae). It is a continuation of published parts 1-4 (Häckel 2016, 2017a, b, 2020) and it also concentrates on the systematics of the large and heterogeneous genus *Craspedophorus* Hope, 1838 and the related genera *Epigraphus* Chaudoir, 1869, *Epigraphodes* Basilewsky, 1967 and *Psecadius* Alluaud, 1911. According to the most recent studies (Lorenz 2005, Häckel & Farkač 2012, 2013, Häckel 2016, 2017a,b, 2020), these genera include 87 described Afrotropical species, 73 species in *Craspedophorus*, 7 species in *Epigraphus*, 3 species in *Epigraphodes* and 4 species in *Psecadius*, all of them with mostly prevailing nocturnal activity. Despite the recent descriptions of numerous species by Kirschenhofer (2000), Fedorenko (2016) and the author (Häckel & Kirschenhofer 2014, Häckel 2015, 2016, 2017a,b, 2020), the taxa of this subfamily and their bionomics in tropical regions remain inadequately known.

MATERIAL AND METHODS

Observation and dissections of the specimens were made under Nikon stereo-binocular microscope. Photographs were taken with a Nikon SLR camera equipped with AF-5 DX Micro

NIKKOR 40mm f/2.8G lens and processed using Helicon Focus computer software. Measured values were as follows: maximum body length from anterior margin of clypeus to apex of elytra, maximum head width including eyes, length of pronotum along midline, maximum width of pronotum, length of elytra from its base to apex along suture, and maximum width of elytra. Whenever possible, the aedeagus was extracted, studied dry and glued on a card pinned beneath the dissected specimen. High-resolution habitus images of type specimens are available at Carabidae of the World web-project <http://www.carabidae.org>.

The acronyms used for the entomological collections where the examined material is deposited are as follows:

- BMNH The Natural History Museum, London, United Kingdom (B. Garner, M. Barclay);
MNHN Muséum national d'Histoire naturelle, Paris, France (T. Deuve);
MRAC Musée Royal de l'Afrique Centrale, Tervuren, Belgium (S. Hanot);
NMEC Naturkundemuseum Erfurt, Germany (M. Hartmann);
NMPC National Museum, Praha, Czech Republic (J. Hájek);
NMWC Naturhistorisches Museum Wien (H. Schillhammer);
OUMNH Oxford University Museum of Natural History, United Kingdom (D. Mann);
cDM Private Collection of D. Maquet, Grâce-Hollogne (Bierset), Belgium;
cDW Private Collection of D. W. Wrase, Berlin, Germany;
cIB Private Collection of I. Brunk, Dresden, Germany;
cJB Private Collection of J. Bašta, Brno, Czech Republic;
cMH Private Collection of M. Häckel, Praha, Czech Republic;
cPS Private Collection of P. Schüle, Herrenberg, Germany;
cRK Private Collection of R. Kmeco, Litovel, Czech Republic;
cRS Private Collection of R. Sehnal, Unhošť, Czech Republic;
cSF Private Collection of S. Facchini, Piacenza, Italy.

Other abbreviations:

- DR Congo Democratic Republic of the Congo;
RSA Republic of South Africa;
S.N.N.P.R. Southern Nations, Nationalities, and People's Region (Ethiopia);
BL body length;
LW ratio length to width ratio;
/ marks the end of the line on the original label;
// marks the end of one specific original label;
/// differentiates pinned labels from the pasted ones in the boxes of the Chaudoir collection (MNHN).

SYSTEMATIC PART

Craspedophorus Hope, 1838

Craspedophorus Hope, 1838: 165; type species *Carabus reflexus* Fabricius, 1781: 302.

Eudema Laporte de Castelnau, 1840: 137; type species *Panagaeus regalis* Gory, 1833: 213 (synonymised by Andrewes 1919: 128).

Isotarsus LaFerté-Sénectere, 1851: 217; type species *Panagaeus regalis* Gory, 1833: 213 (synonymised by P. Basilewsky 1953: 168).

Epicosmus Chaudoir, 1846: 512; type species *Panagaeus tomentosus* Vigors, 1825: 537 [= *Craspedophorus angulatus* (Fabricius, 1781)] (synonymised by P. Basilewsky 1953: 168).

Brachyonychus Chaudoir, 1878: 85; type species *Epicosmus sublaevis* Chaudoir, 1869: 67.

Acanthocosmus Jeannel, 1949: 855 (Subgenus); type species *Eudema nigrita* Künckel d'Herculais, 1891: Tab. 30 (synonymised by P. Basilewsky 1953: 171).

Brachycosmus Jeannel, 1949: 857 (Subgenus); type species *Panagaeus festivus* Klug, 1833: 128 (synonymised by P. Basilewsky 1953: 171).

***Craspedophorus festivus* species group nov.**

(= see also Chaudoir 1879: 105; = *tropicus* species group Basilewsky 1987: 107)

This heterogeneous group was established for some Afrotropical species with terminal palp securiform, strongly dilated, mainly in males [Fig. 54b]. Together with species placed here in *C. nobilis* and *C. erichsoni* groups (Häckel 2020) Chaudoir placed these species in the genus *Epicosmus*, later synonymised with *Craspedophorus* by Andrewes (1919: 126). According to Chaudoir, species of this group are characterised by metepisterna elongated and trapeziform as we can find in species of the *C. erichsoni* group (Häckel 2020) and in contrary to species of the *C. nobilis* group (Häckel 2020) with metepisterna short and rhombic. They differ from those species of *C. erichsoni* group (with similar metepisterna) by crenulation distinctly visible on the anterior margin of ventrites and above all by the shape of the pronotum. However, even in this group, three different types of pronota (three subgroups) can be identified.

The most common pronotum is that one shaped similarly as in the nominotypical species of the subgroup, which I therefore call *Craspedophorus festivus* subgroup. For all species in this subgroup, pronotal base is straight or slightly convex and lacks any mark of pedunculation. All species here placed in this subgroup, which well agree with Chaudoir's criteria, agree as well with Laferte's classification, based on pronotal shape. According to Laferte, these species are characterised by pronotum distinctly transversal and semilunar-shaped, each without lateral rims, markedly flattened and elevated [Fig. 48 a-w]. Because of this at eye marked character, I place into this subgroup each species with similarly shaped pronotum regardless it agrees with all Chaudoir's criteria listed here (episterna, crenulation of ventrites, ventral tarsal brush of setae). Chaudoir figured these species close to the final part of his system; he listed eight species there, as follows: *C. microcephalus* (Dejean, 1831), *C. festivus* (Klug, 1833), *C. tropicus* (Hope, 1842), here synonymised with *C. microcephalus*, *C. stenocephalus* (Reiche, 1847), *C. gratus* (Chaudoir, 1854), *C. strangulatus* Murray, 1857, *C. laevifrons* (Schaum, 1863) and added *C. mniszehi* (Chaudoir, 1879) described by him in the same monography. Recently inserted taxa are *C. galla* (Raffray, 1886), *C. jeanneli* Alluaud, 1930 and *C. somalicus* Basilewsky, 1987. Because of demotion of *Craspedophorus laevifrons* (Schaum, 1863) to subspecies of *C. stenocephalus* (Reiche, 1847), the subgroup recently contains 8 species.

Another Chaudoir "group" contains only one species, *C. selenoderus* (LaFerté-Sénéctere, 1851). This species is, in my opinion, insufficiently characterized in the key (Chaudoir 1878: 105, 109). It is not clear from this key if the sets should be present (or absent) on the dorsal or ventral side of the tarsus. In addition, this diagnostic marker does not work with Basilewsky

comparative type (Fig. 58). However, the description of pronotum in *C. selenoderus* clearly differs from the description of the first subgroup of species. Basilewsky (1987: 188) was aware of this when he included his newly described species *C. conspicuus* into the group of “*C. selenoderus* sensu Chaudoir”, which he is the only other author to directly mention. Chaudoir’s description (1878: 109): “Pronotum...; base roundly sinuate, weakly prolonged to peduncle in the middle; ...basal margins quite concave near peduncle; between this incisura and lateral margins weakly convex” completely denies the flat pronotal base in this species (Fig. 49g). A similar shape of the pronotum have several other described species of the genus which otherwise meet Chaudoir’s criteria for inclusion in *C. festivus* species group (Figs. 49a-i). They are *C. fuscicollis* (Kolbe, 1883), here synonymised with *C. selenoderus*, *C. cordicollis* (Raffray, 1886), *C. deflexus* Bates, 1886, *C. bayeri* (Burgeon, 1930) and *C. conspicuus* (Basilewsky, 1987). Very similar pronotum as in *C. deflexus* is to be found in a newly described species *C. puchneri* sp. nov. from Tanzania. A hint of pedunculation (Fig. 49b) can also be observed in the newly described species *C. schueleii* sp. nov. from Mozambique, although its pedunculation is formed only slightly in comparison with those in species of the *C. erichsoni* species group (see Häckel 2020: 60). I classify all of the above into a *C. selenoderus* species subgroup, it recently contains 7 species.

The last (third) subgroup contains a single species, which differs from the others in the group not only by the shape of pronotum [Fig. 49h], but also by atypical coloration. It is *Craspedophorus benadirensis* species group [Plate 3, Fig. 33]. The whole group now contains 17 species.

Characters. Medium-sized species (14.5-20.1 mm), mostly alate. Head short or moderately long, constriction behind eyes weakly distinct. Antennae slender without any dilatation. Labial palps with terminal article very dilated, triangular, especially in males. Pronotum (see above) mostly strongly transverse, semicircular or hexagonal shaped, rarely rounded, pronotal base straight, less frequently concave anteriorly. Metepisterna longer than wide, trapeziform, similarly to those of *C. reflexus* or *C. leprieuri* groups (Häckel 2016). Ventrites crenulated anteriorly. Tarsomeres slender, each with dense cover of setae on its dorsal surface. Elytral colouration similar in almost all species, with two isolated maculae on each elytron, one in the basal half and one in the apical half of elytra. One species differs in colouration having each elytron ornated with three yellow maculae.

***Craspedophorus festivus* subgroup**
[*Craspedophorus festivus* species complex]

***Craspedophorus festivus* (Klug, 1833)**

(Plate 3, Figs. 31, 32)

Panagaeus festivus Klug, 1833: 128 (type loc. “Madagascar”). *Isotarsus festivus* LaFerté-Sénectere 1851: 221. *Epicosmus festivus* Chaudoir 1861: 345, 1879: 105. *Eudema lestivum* Gemminger & Harold 1868: 208. Quedenfeldt, 1883: 259. *Eudema festiva* Alluaud, 1895: clxxx. *Craspedophorus (Epicosmus) festivus* Alluaud 1900: 29. *Craspedophorus festivus* Burgeon 1930: 161, Burgeon 1935: 182, Basilewsky 1952b: 244. Lorenz 2005: 320, Häckel & Farkač 2012: 81. *Craspedophorus (Brachycosmus) festivus* Jeannel 1949: 857.

Compared material. 1 ♂: “[Toamasina Prov.] Rogez env.” (Plate 3, Fig. 31, NMPC).

Other material examined: Angola: Benguela. 1 ♀: “Benguela” (NMPC); “1 ♂, 1 ♀: “Alto-Catumbela env.” (cOH, cRK). Huambo; 1 ♀: “75 km n Caconda, nr. Cuima” (cPS). Burundi. 1 ♂: “Urundi: Usumbura” (MRAC). Comoros. 2 ♂♂: “Grande Comore” (MRAC). DR Congo: Bandundu (Mai-Ndombe). 2 ♂♂, 1 ♀: “Kunungu” (MRAC). Bas-Congo; 1 ♂, 1 ♀: “Bas-Congo”. Kasai-Occidental; 1 ♀: “Ipamu” (MRAC). Kasai-Oriental. 1 ♂, 1 ♀: “Kondue” (MRAC). Katanga. 4 ♂♂, 2 ♀♀: “Lubumbashi”; 2 ♂♂: “Kolwezi” (cDM). Sud-Kivu. 2 ♂♂, 1 ♀: “Sandje”, 1 ♂: “Uvira” (MRAC). Madagascar. 1 ♂: “Madagascar” (NMWC); 2 ♂♂, 1 ♀: “Ins. Nossibé” (NMWC); 3 ♂♂, 1 ♀: “[Toamasina Prov.] Rogez env.” (Plate 3, Fig. 12, cMH); 1 ♀: “Fianarantsoa prov., Ranomafana” (cMH). Tanzania: Morogoro. 1 ♂, 1 ♀: “Kiguruwila Aerea, Uluguru Mts.” (cPS). Pwani. 2 ♂, 1 ♀: “Mafia Is., Jimbo” (cDM). Zambia. 1 ♀: [North-western Province] 150 km s Mwinilunga” (cMH); 1 ♂: “Central prov. 15 km e Serenje” (cRK).

Note. This species is based on a single specimen, collected in Madagascar. Later it was recorded by other authors in a wide area of South-central and Eastern Africa, from Angola to Tanzania and Madagascar. I have not seen the type, so my determination is based on the material deposited in NMPC and revised by Basilewsky (1967). Description (in part, see Klug 1833: 128). “Length 6.5-8 points. Black, pronotum rounded, grossly sculptured, elytra each with two yellow fasciae, large, wide. Body large, black. Head elongated, sparsely punctured, impressed before eyes. Antennae black, terminally brownish. Labrum ferruginous. Palpi black, terminally ferruginous. Pronotum grossly sculptured, dorsally canaliculated, flat, with margins rounded and elevated. prosternum and venter sparsely, but deeply punctured. Elytra convex, striae punctured, intervals convex, sparsely punctured, fairly covered by setae, black, each elytron with two transversal maculae, humeral macula larger, reaching from interval IV to VIII, preapical macula smaller, on the same intervals. Legs black, tibiae distally with ventral brush of ferruginous setae” [from Latin]. Chaudoir (1879: 105) added. “Length 19 mm, width. 8-8.5 mm. It weakly resembles two last species of *Craspedophorus* [*C. brevicollis* (Dejean, 1831) and *C. latifrons* (Chaudoir, 1876)], but it is more narrow and elongated. Head distinctly narrower than that in *C. brevicollis*, weakly strangulated behind eyes, without transversal depression between frons and vertex; frons very weakly punctured posteriorly and on its lateral sulci, which quite well marked, but almost smooth medial, as well as epistoma and neck; eyes moderately convex. Pronotum twice wider than head, narrower and longer than in *C. brevicollis*, less widened near base, with margins less rounded; anterior margin weakly sinuate, anterior angles quite close neck, weakly protruded anteriorly, quite narrowly rounded each on its top, base very flat, posterior angles obtuse, but with a marked indentation; dorsum weakly convex anteriorly, quite flat posteriorly, weakly depressed near each margin and base, toward peduncle; lateral rims weakly widened posteriorly, fairly elevated near posterior angles; surface quite densely, but less deeply punctured, covered by distinctly shorter and more vertical setae. Elytra about by 2 mm wider than pronotum, less than by a half longer than wide, ovoid, fairly elongated, almost truncated near base, with humeri weakly descended, but strongly rounded, in contrary to the margins, which weakly widen to midlength, where quite large; dorsum moderately convex, striae finely, but deeply impressed, finely and quite densely punctured, intervals quite convex, finely and densely punctured, covered by very short setae, posteriorly declined. Head ventrally smooth; prosternum and episterna grossly, sparsely punctured, as well as proximal abdominal segments near margins; metasternum and venter finely punctured in the middle, covered by setae. Black, weakly glossy, ventrally more shiny, antennae brownish,

with distal articles less ferruginous, palps brown, distally reddish, tarsi ventrally covered by yellow setae; each elytron ornated by two fasciae, with very serrate margins, humeral macula reaching from striae III to VIII, located near basal fourth, compound of five macular spots, two external spots and that near middle longer than two intermediate spots, which only somewhat longer than wide; preapical fascia more equal, compound of five macular spots on the same intervals, spot on interval III moved anteriorly, by contrast to two intermediate, which somewhat prolonged posteriorly; maculae lemon yellow, quite shiny. It occurs in Madagascar, where it seems to be rare” [from French].

Distribution. Angola: Benguela, Huambo Provinces; Burundi, Comoros: Grande Comore, Mayotte Islands; DR Congo: Bandundu (Mai-Ndombe), Bas-Congo, Kasai-Occidental, Kasai-Oriental, Katanga, Sud-Kivu Provinces. Madagascar, Tanzania: Morogoro, Pwani; central, northwestern Zambia.

Craspedophorus somalicus Basilewsky, 1987

(Plate 3, Figs. 25, 26)

Craspedophorus somalicus Basilewsky, 1987: 186 (type loc. “Afgoi, Somalie” [Shabellaha Hoose Region, Somalia]). Lorenz 2005: 321. Häckel & Farkač 2012: 83.

Type material. Holotype (♀). “Holotypus [printed in black on red circumscribed label] // ♀ [printed in black on white label] // Coll. Mus. Tervuren / Somalie: Afgoi [printed in black]/ VII - [handwritten in black] 1977 / Leg. Olmi [printed in black on white label] // [DataMatrix] RMCA Ent / 000020038 [printed on white label] // *Craspedophorus / somalicus* n. sp. [handwritten in black]/ P. Basilewsky det., 19 [printed in black on white label]” (Plate 3, Fig. 26, MRAC).

Other material examined: Kenya: Coast. 1 ♂: “nw of Garsen” (Plate 3, Fig. 25; cMH); 1 ♂: “Hola” (cPS).

Note. This species is based on two females collected in Afgooye, Shabellaha Hoose region, Somalia. Afgooye (Somali: Afgooye, Arabic: (أبي ورجفأ) is a town in the southeastern Lower Shebelle (Shabellaha Hoose) region of Somalia. It is the centre of the Afgooye District.

Description (in part, see Basilewsky 1987: 186). “Length 15-16.5 mm. Alate. Black, mandibles and palps dark brown; each elytron with two large clear yellow maculae, with serrate anterior margins, not reaching base, located in basal third, compound of five macular spots, elongated, each of different length, reaching from interval IV to VIII interval, macular spots on 5th and 7th interval shorter, spot on 8th interval markedly prolonged anteriorly; preapical macula, located in apical fourth, compound as well of five spots, inequally long, on the same intervals. Dorsum finely covered by brownish or yellowish adjoining setae, underside more densely covered by setae, which longer, as well as these on femora and haunches, venter covered by setae, more finely in the middle. Head narrow and elongated, surface smooth except lateral sulci, weakly transversally rugate; labrum strongly sinuate anteriorly, with four setose points. Eyes large, strongly convex, temples very short. Labial dent medium-sized, triangular-shaped, rounded on its top. Terminal palpal article elongated, markedly dilated, but triangular. Antennae long and fine, without dilatation, reaching to base by 3.5 article. Pronotum transversal, 1.30-1.37 times wider than long, very narrowed

anteriorly, base about 2.5 times wider than anterior margin, maximal width at hind fourth; anterior margin not wider than neck; anterior angles indistinct, lateral margins not elevated, regularly, but weakly arcuate anteriorly to maximal width, from where narrowing and almost directly following each to one shallow incisura immediately in front of posterior angle, creating a small indentation, dent protruded externally, base flat, not pedunculated, lateral rim fine and regular, marginal sulci very narrow longwise, basilar depressions deep and almost rounded. Disk moderately convex. Surface regularly, but somewhat more deeply punctured, punctuation gross, rarely confluent, points less separated, interspaces with fine microsculpture, transversal. Elytra elongated, fairly convex, 1.54-1.62 times longer than wide, margins almost parallel, humeri well distinct, widely rounded; elytra weakly sinuate in front of apex; intervals weakly convex, regularly punctured in four rows, with fine microsculpture, which subreticular; striae finely impressed, regularly punctured. Prosternum regularly, quite grossly and rarely punctured, meso- and metasternum more grossly punctured, as well as ventral margins, in the middle venter more finely rugate than punctured. Ventral sternites anteriorly with crenulation weakly marked. Metepisterna one and half times longer than wide. Legs normal. It belongs to a *C. tropicus* group [= *C. festivus* group in this article]. It differs from *C. tropicus* (Hope, 1842), occurring in a wide area of western and central Africa, by head, differently punctured, smooth in the middle, by terminal palpal article, which more securiform, and truncated distally, by pronotum, which less transverse, with margins less narrowing anteriorly, by surface, which less grossly, less confluent, but more densely punctured, by elytra, narrower and more elongated, by elytral coloration with maculae, marginated more irregularly, and by sculpture of intervals, more grossly punctured” [from French].

Distribution. Southern Somalia, Kenya: Coast Province.

***Craspedophorus stenocephalus stenocephalus* (Reiche, 1847)**

(Plate 2, Figs. 17-20)

Panagaeus stenocephalus Reiche, 1847: 263 (type loc. “Abyssinie” [= Ethiopia]. *Isotarsus stenocephalus* LaFerté-Sénéclere 1851: 221. *Epicosmus stenocephalus* Chaudoir 1861: 344, 1879: 106. *Eudema stenocephalum* Gemminger & Harold 1868: 209. *Craspedophorus stenocephalus* Burgeon 1930: 161, 1935: 182. Basilewsky 1948: 37, Lorenz 2005: 321. Häckel & Farkač 2012: 83.

Compared material. 1 ♂: “Comp. typ. / Basilewsky [printed in black on red circumscribed label] // Coll. Mus. Congo [printed in black] Abyssinie [handwritten in black on white label] // *stenocephalus* / CCT Reche [handwritten in black] / P. Basilewsky det. 19 [printed in black on white label]” (Plate 2, Fig. 19), 1 ♀: “Comp. typ. / Basilewsky [printed in black on red circumscribed label] // Gondar, Abys. [printed in black] / VI. 1923 [handwritten in black] / U. Ignesti [printed in black on white label] // Coll. Mus. Congo / Col. P. Basilewsky [printed in black on white label] // *stenocephalus* / Reche [handwritten in black] / P. Basilewsky det., 19 [printed in black on white label]” (Plate 2, Fig. 20, MRAC).

Other material examined: DR Congo: Katanga. 1 ♀: “Urwald Moera” (Plate 2, Fig. 20, NMWC); 1 ♀: “Lukolela” (cDM). Nord-Kivu. 1 ♂: “Kivu, Mamour” (cMH), 1 ♂: “Urwald Beni.” (cMH); 1 ♀: “Mbau, Forêt de Beni” (cDM). Orientale (Ituri). 1 ♂, 1 ♀: “Ituri, Congo Belge” (NMPC); 1 ♀: “Urwald Mawambi” (NMWC); (Tshopo) 1 ♂: “Likenga (près de Kisangani)” (cDM). Eritrea. 1 ♀ labelled as *C. stenocephalus* Reiche by Alluaud 1927: “Abyssinie, Colonie Erytrée” (MNHN). Ethiopia. 1 ♂: “Abyssinie / A Raffray / Voy. 1881” (Plate 2, Fig. 17,

MNHN, Oberthür/Bates Collection), 1 ♂ labeled as *C. stenocephalus* Reiche by Basilewsky 1954: “Abyssinie, Raffray” (MNHN). Tanzania. 1 ♀: “Tanganika, D. O. A.” (NMPC).

Examined specimens of transitional populations. *C. s. stenocephalus* trans ad *C. s. laevifrons*. Central Africa. 1 ♀ labeled as *C. stenocephalus* Reiche by Alluaud 1927: “Congo français, Fort Crampel [Nana Grébizi Prefecture: Kaga Bando], Coll[ecti]on Le Moul, Naturaliste, Paris” (Plate 2, Fig. 21, MNHN); 1 ♂: “[Sangha-Mbaéré prefecture] 60 km w of Bambio, N 03°50' E 16°44', 630 m” (cMH).

Note. This species was based on a single specimen, labelled “Abyssinie”, collected during Nemour’s expedition probably in north-eastern Ethiopia, where recently Amhara and Tigray regions are located (see Ferret P.V.A. & Galinier J.G. “Voyage en Abyssinie dans les province du Tigre, du Samen et de l’Amhara dédié à s. a. r. Monseigneur le duc de Nemours”). Chaudoir (1879: 108) added one record from “Nubia”. Nubia is a region along the Nile river, which is located in northern Sudan and southern Egypt. Description (in part, see Reiche 1847: 263). “Length 19 mm (8.3 points), width 8.5 mm (4 points). ...black, covered by yellow setae. Head elongated, almost smooth, shiny; with two elongated sulci between eyes; palps ferruginous, with articles distally dilated. Pronotum more than twice wider than head, narrower [than that in *C. microcephalus* (Dejean, 1831)], moderately widened, strongly narrowing anteriorly, posteriorly less strangulated, straight truncated; basilar lateral dent small, weakly marked; lateral margins rounded and inflexed, disc grossly punctured, weakly rugate. Scutellum triangular-shaped, smooth. Elytra hardly twice wider than pronotum, punctured, striated, with interval VIII wider; humeral fascia near base reaching from interval IV to VIII, preapical similarly ferruginous [from Latin]. “It strongly resembles *Panagaeus* [= *Craspedophorus*] *microcephalus* Dejean, 1831; black, covered by yellow setae. Head narrow, elongated, almost smooth and shiny, with two elongated sulci between eyes; some furrows weakly marked between eyes; palps piceous with articles terminally lighter, ferruginous. Pronotum asperate and strongly punctured, almost twice wider than head, somewhat shorter than wide, strongly narrowed anteriorly, distinctly less posteriorly, margins follow perpendicularly toward posterior angles, which obtuse, basilar lateral dent weakly marked, lateral rims elevated, rounded and dilated ad midlength, disk weakly rugate. Scutellum triangular-shaped, smooth. Elytra ovoid, with width not reaching double width of pronotum, twice and half less than its length, weakly sinuate before apex, humeri distinctly marked, striae punctured, intervals deeply punctured, interval VIII wider than the others; each elytron with two reddish fasciae transversal; humeral macula somewhat behind base, compound of five macular spots on intervals IV-VIII, spots on interval III and V overreach the others anteriorly and posteriorly; preapical fascia near apex, compound equally of five macular spots on the same intervals spot on interval III overreaches the others anteriorly, also not prolonged posteriorly. Underside very punctured. Dislocation of elytral maculae distinguishes this species sufficiently from *P. [Craspedophorus] microcephalus*” [from French]. Chaudoir (1879: 106) added. “Length 18-19 mm, width 8 mm. It differs from precedent species [*C. laevifrons* (Schaum, 1863)] by its pronotum, which longer and its convexity, which is stronger. Pronotal width of the precedent species is not bigger, lateral margins somewhat less rounded at midlength, posterior angles less rounded, and the dent near each top is not preceded by any indentation (incision); disk somewhat more convex, which creates flattening of lateral rims more marked. Elytra less elongated, with

margins more rounded, distinctly more convex, with striae equally punctured, intervals more convex, also throughout densely and more grossly punctured, covered with setae somewhat longer. Antennae, palps and legs black; elytral maculae more reddish, but otherwise similar; except length of humeral macular spots, which all longer, mainly two intermediate less short. Excepting holotype in Reiche's collection, collected in Abyssinia, I have another one specimen, collected in Nubia by Mr. Felder" [from French].

Distribution. Central Africa, DR Congo: Katanga, Nord-Kivu, Orientale Province (Tshopo, Ituri); Eritrea, Ethiopia: Amhara, Tigray; Sudan, Uganda.

***Craspedophorus stenocephalus laevifrons* (Schaum, 1863) stat. nov.**

(Plate 2, Figs. 21-24)

Isotarsus laevifrons Schaum, 1863: 83 (type loc. "Guinea (ad flumen Gaboon)" [= Gabon sn. Chaudoir 1879: 106]. *Eudema laevifrons* Gemminger & Harold 1868: 209. *Epicosmus laevifrons* Chaudoir 1879: 106. *Eudema* (ou *Craspedophorus*) *stenocephalus* Alluaud 1929: 89. *Craspedophorus laevifrons* Jeannel 1949: 853. Lorenz 2005: 321. Häckel & Farkač 2012: 81.

Compared material. 1 ♂: "Gabon / Bas-Ogooué [printed in black on white label] // Coll. Mus. Congo / Col. P. Basilewsky [printed in black on white label] // *laevifrons* Schaum [handwritten and underlined by black] // ex. identifique à / un ex. déterminé [handwritten in black] / P. Basilewsky det., 19 [printed in black]/ comme tel par / Chaudoir [handwritten in black on white label]" (Plate 2, Fig. 23, MRAC); 1 ♀: "Coll. Mus. Congo [printed in black] / Gabon [handwritten in black on white label] // *laevifrons* Schaum / (det. d'après coll. / Chaudoir) [handwritten in black]/ P. Basilewsky det., 19[printed in black]54[handwritten in black on white label] (Plate 2, Fig. 24, MRAC).

Other material examined: Gabon. 1 ♂ labelled as *laevifrons* Schaum by T. Rousseau 1904 and by P. Basilewsky 1954: "Museum Paris, Gabon, Aubry Leconte 1856"; 1 ♀ erroneously labelled as *strangulatus* Murray by P. Basilewsky 1954: "Env. Libreville, Congo franc." (MNHN). Guinea Equatorial. 1 ♀ labelled as *laevifrons* Schaum by T. Rousseau: "Guinea esp[agnola], Rio Benito" (Plate 2, Fig. 22, cMH).

Note. This species was based on a single specimen labelled "Guinea (ad flumen Gaboon)". Later this data are interpreted as Gabon by Chaudoir (1879: 106). Description (in part, see Schaum 1863: 83). "Length 7.5 points. Black, frons smooth, antennae and palps ferruginous, pronotum almost rounded, truncated posteriorly, each elytron with two yellow fasciae, occupying five intervals..." [from Latin]. Chaudoir (1879: 106) added. "Both sexes. Length 17 mm, width 6.7-7.3 mm. It strongly resembles *C. festivus* (Klug, 1833), but is somewhat smaller and narrower, mainly anteriorly. Head also somewhat smaller; eyes less convex in female. Pronotum markedly narrower, equally shaped, but less short, more narrowing toward base behind midlength, anterior margin less sinuate, weakly wider than neck, anterior angles adhering to neck, fairly obtuse, but not rounded on their tops; margins strongly arcuate, mainly at midlength, posterior angles obtuse, each with a small dent on its top preceded by small incisura; surface almost equally punctured and rugate as [*C.*] *festivus*, except lateral rim. Which is flattening and narrowing anteriorly. Elytra markedly wider than pronotum and differ than those in [*C.*] *festivus*, because they are less limited toward humeri, which somewhat more descended and more widely rounded; elytra differently striated, punctured and colorated than [*C.*] *festivus* with convexity, weakly similar; antennae ferruginous, with

three proximal articles less brownish, palpi shiny brown, tarsi brown, more darkish; covered by ventral brush of red setae. Its origin in Gabon” [from French].

Distribution. Gabon, Guinea Equatorial.

[*Craspedophorus microcephalus* species complex]

Craspedophorus microcephalus (Dejean, 1831)

(Plate 1, Figs. 1-6, 50-52)

Panagaeus microcephalus Dejean, 1831: 600 (type loc. “Sénégal”). *Isotarsus microcephalus* LaFerté-Sénéctere 1851: 221 (ex parte). *Epicosmus microcephalus* Chaudoir 1861: 345 (ex parte), 1879: 109 (ex parte). *Eudema microcephalum* Gemminger and Harold 1868: 209. *Craspedophorus microcephalus* Lorenz 2005: 321. Häckel & Farkač 2012: 83.

Epicosmus gratus Chaudoir 1861: 345 (ex parte), 1879: 109 (ex parte).

Panagaeus tropicus Hope, 1842: 119. Schaum 1853: 434. *Eudema tropicum* Gemminger and Harold 1868: 210.

Eudema (ou *Craspedophorus*) *tropicus* Alluaud 1929: 89. *Craspedophorus tropicus* Basilewsky 1963: 383, 1968: 92. Lorenz 2005: 321, Häckel & Farkač 2012: 83, **syn. nov.**

Type material. Holotype (♂). “*Tropicus* / Hope S. L. [handwritten in black on white label] // Type / Hope [printed in black] / Ann. Nat. Hist- / 10.1842 / P.94 [handwritten in black] / Coll. Hope Oxon. [printed in black on white label] // Type [printed in black] COL: 96 / *Panagaeus / tropicus* / Hope [handwritten in black] / Hope Dept. Oxford [printed in black on white label]” (Plate 1, Fig. 5; Fig. 52, OUMNH).

Compared material. 1 ♂: “Comp. typ. / Basilewsky [printed in black on red circumscribed label] // Sedhiou / Senegal / P. Gavard 1923 [printed in blue on white label] // Coll. Mus. Congo / Col. P. Basilewsky [printed in black on white label] // *microcephalus* / Dej. [handwritten in black] / P. Basilewsky det., 19 [printed in black on white label]” (Plate 1, Fig. 2; Fig. 51, MRAC).

Other material examined: Guinea. 1 ♀ labeled as *C. tropicus* Hope by Basilewsky [undated, probably after 1986]: “Beyla” (Plate 1, Fig. 4, cMH). Senegal. 1 ♀ labeled as *C. gratus* Chd. by unknown author [probably Alluaud]: “Casamance, Sedhiou, E. Laglaize 1891” (Plate 1, Fig. 1; Fig. 50, MNHN). Sierra Leone. 1 ♂ labeled as *Eudema angulatum*: “Sierra Leone” (Plate 1, Fig. 3, NMPC); 1 ♀ labeled as *C. gratus* Chd. by Basilewsky 1954: “Rio Pongo, P. Lutz 1883-1884” (Plate 1, Fig. 3; NMPC).

Note. This species was based on a single specimen labelled “Sénégal”. Description (in part, see Dejean 1831: 600). “It is similarly large as *C. brevicollis* (Dejean, 1831), but smaller. Head somewhat smaller, eyes less convex and protruded. Pronotum narrower, markedly more narrowing anteriorly, with very rounded margins posteriorly; anterior margin very fairly sinuate; anterior angles very obtuse; lateral rims quite widely depressed and weakly elevated; posterior angles very rounded; base less sinuate than that in *C. brevicollis*; weakly protruded posteriorly in the middle, indentated near margins close posterior angles, which weakly marked. Elytra somewhat narrower, each with basal angle somewhat more rounded, but not so rounded as those in *C. nobilis* (Dejan, 1826), elytra not too similarly striated and punctured; elytral yellow maculae somewhat larger; humeral macula more squared and less transverse, compound of six elongated macular spots, almost equal, reaching from striae II to VIII; preapical macula somewhat smaller and rather oblique, compound from five elongated macular spots, third spot [on interval V] prolonged somewhat anteriorly and posteriorly than

the others, macula reaching from striae III to VIII; however medial spot extending weakly to interval II, and second spot to interval III. Underside and legs equal as those in *C. brevicollis*. It occurs in Sénégal, from where it is recorded by Mr. Dumolin. ” [from French].

Chaudoir (1879: 108) added. “It differs from [*C. tropicus* (Hope, 1842)] by elytral coloration with differently expanded maculae, and by intervals, differently punctured. Pronotum with anterior angles somewhat more rounded, less narrowing anteriorly. Elytra equally shaped as in *C. brevicollis*, striae equally punctured, but punctuation of intervals markedly less dense, more glossy; elytral fasciae, equally orange-yellowish coloured as those in *C. brevicollis*, with less serrate margins, humeral macula, reaching from middle of interval II to stria VIII, transversal, ovoid-shaped, quite wide and fairly oblique; preapical macula reaching from external part of interval III to stria VIII, compound of macular spots long and equal, except two external spots, which somewhat more posteriorly than the others, spot on interval III shorter. Dejean’s type from Senegal; another specimen, collected by Mr. Boccardé in Portuguese Senegambia, is somewhat more elongated, its pronotum narrower with more rounded margins” [from French].

Description of *Panagaeus tropicus* (in part, see Hope 1842: 94). “...This species has the two anterior spots covering six interstitial spaces, whilst the posterior cover only five.”

Distribution. Guinea, Guinea-Bissau, Senegal, Sierra Leone.

Craspedophorus gratus (Chaudoir, 1854)

(Plate 1, Figs. 7-10)

Panagaeus microcephalus var. LaFerté-Sénectere, 1850: 394.

Epicosmus gratus Chaudoir, 1854: 339 (type loc. “Sénégal”). *Eudema gratum* Gemminger & Harold 1868: 209.

Epicosmus microcephalus Chaudoir 1861: 345 (ex parte), 1879: 108 (ex parte).

Craspedophorus microcephalus Basilewsky 1951: 205.

Craspedophorus gratus Lorenz 2005: 320. Häckel & Farkač 2012: 81.

Epicosmus tropicus Chaudoir, 1861 (ex parte). *Craspedophorus tropicus* Basilewsky 1963: 383 (nec. Hope). 1968: 92.

Craspedophorus conicus Murray, 1857: 117. *Epicosmus conicus* Chaudoir 1861: 344, syn.

Craspedophorus numitor Kirschenhofer, 2000: 349. Häckel & Farkač 2012: 79. *Craspedophorus tropicus* Häckel & Kirschenhofer, 2014: 372, syn.

Compared material. 1 ♂: “Comp. typ. / Basilewsky [printed in black on red circumscribed label] // Coll. Mus. Congo / Haut-Uele: Paulis [printed in black] / Yao IV - [handwritten in black] / P.L.G.Benoit [printed in black on white label] // *gratus* / Chd. [handwritten in black] / P. Basilewsky det., 19 [printed in black on white label]” (Plate 1, Fig. 10, MRAC).

Other material examined: Benin. 1 ♂: “[Zou Department] Pobé, Zagnanado” (cMH). Cameroon. 1 ♀ labeled as “*C. microcephalus* Dej. by Basilewsky 1954: “Kamerun H. Rolle, Berlin W” (MNHN). Northwest. 1 ♂, 9 ♀♀: “Northwest [Prov.], Bamenda” (Plate 1, Figs. 7, 8; cIB, cMH). Central African Republic. 1 ♂: “Kémo Prov., 35 km s Sibut, road Bangui-Sibut, 400 m” (cMH); 1 ♂: “Nana-Grébizi prov., 40 km s Kaga Bandoro”, 1 ♂: “Ombella-M’Poko prov., 85 km nw Bangui, near Boali, 390 m” (cPS). DR Congo: Orientale (Tshopo). 1 ♂, 1 ♀: “Likenga (près de Kisangani)” (cDM). Ivory Coast. 1 ♂: “Abidjan rég., Allokoi”; 1 ♂: “[Bafing] Biémaso, 441 m”; 4 ♂♂, 1 ♀: “[Bas-Sassandra District] San Pedro” (cDM); 5 ♂♂, 1 ♀: “San Pedro, Touih” (cPS); 1 ♀: “[Yamassoukro] Yamassoukro” (cSF). South Sudan. 1 ♂: “Marno Sudan Egypt 1873 [probably Fashoda (=Kodok)]” (Plate 1, Fig. 9; cMH). Togo. 1 ♂: “[Centrale] Fazao (village) 08°41’44.1 N 000°46’32.5” E 532 m” (cPS); 1 ♂: “Prefecture de Kloto, Forêt de Misahomé” (cMH); 1 ♂: “[Plateaux] Atakpamé” (cDM).

Note. First note about this species maybe we can find in Laferte's Catalogue (1850: 394): "*Panagæus microcephalus* (Dej, 5, 600). This species seems very similar to *C. brevicollis* and belongs to a group of species from Senegal with pronotum semilunar. Its elytral colouration is not constant. Elytral intervals are fully- to overfully-ranged by maculae in the specimens of type series in Dejean's Collection and in one of those which come from Mr. Boccardé's material [Laferte's description of typical *C. microcephalus* (Dejean, 1831) specimens coming from Senegal]. But in another two specimens (Boccardé's Collection as well) the maculae cover a less of intervals. Another way they are very similar, I did not felt any necessity to describe a new species for those small differences visible only with an eye-glass." I believe that this note is related to different specimens later described as *C. gratus* by Chaudoir.

Chaudoir's description is based on one specimen labelled "Senegal" only. Description (in part, see Chaudoir, 1854: 339) "This species creates a devolution from [*C.*] *microcephalus* (Dejean, 1831) to [*C.*] *stenocephalus* (Reiche, 1847), with pronotum more finely punctured, lateral margins more rounded and almost angulated behind midlength, in contrary to [*C.*] *microcephalus*, pronotum is less dilated ad midlength, with simply rounded margins, which marks new species. Elytra in [*C.*] *gratus* are wider, with more rounded margins, more finely and densely punctured, and more covered by setae, which distinguishes it well at eye. In contrary to [*C.*] *microcephalus*, where humeral macula really compound of 7 macular spots, almost equal, creating one fascia, transversal, almost parallel with base [see Plate 1: Figs. 1-6], humeral macula has six spots in [*C.*] *gratus*, which expanded more and more shortly toward suture, and the whole fascia is very concave anteriorly [see Plate 1: Figs. 7-10]; preapical macula compound of 5 macular spots in [*C.*] *gratus*, in contrary to that in [*C.*] *microcephalus*, compound of six spots, also colour of the spots is more yellow and less orange. [*C.*] *stenocephalus* differs from [*C.*] *gratus* by elytral colouration, with humeral macula, compound of 5 macular spots, where two shorter spots are interposed between three spots, which longer, preapical macula, as well compound of 5 macular spots, somewhat elongated, with one spot prolonged anteriorly and the others prolonged toward apex; colour of the spots is equal as in [*C.*] *gratus*. I have one specimen of [*C.*] *gratus* and one other of [*C.*] *stenocephalus*, both from Senegal; specimen of [*C.*] *microcephalus*, which I have, was collected by Mr. Boccardé in Senegambia Portuguese..." [from French].

Description of *C. conicus* (in part, see Murray 1857: 117). "Thorax narrowed in front, broadest behind the middle, truncate at the base, anterior angles meeting the neck, anterior margin between them nearly straight, very coarsely punctate, sparsely pilose; narrowly margined, and with a raised space within the margin, narrow in front, wider behind, on which the punctuation is fainter; an elongate fovea on each side at the base, and a minute tooth at the posterior angles, which are rounded and obtuse; no dorsal line. Scutellum minute. Elytra rather convex, broad, black, with two fulvous spots on each, one near the base, the other near the apex, both transverse; the coloured spaces not raised, nor of a different texture from the rest of the elytra; deeply punctate-striate, the punctures on the striae transverse; interstices convex and punctured, pilose, the hairs black on the black parts of the elytra, fulvous on the fulvous spots; the anterior of these spots commences on the interstice III, and is continued on intervals IV, V, VI, VII, and VIII, the extent and form of the fulvous marking varying in

different individuals; the posterior marking is confined to intervals IV, V, VI, VII, and VIII; the interval IX and marginal space are not encroached on by the fulvous spots; the marginal space is marked by a series of cross-wrinkles rather than punctures; the apex is slightly emarginate, but not truncate. Underside black, pilose, hairs piceous; prosternum sparsely and deeply punctate; inferior margin of thorax impunctate; sides of mesothorax and metathorax coarsely punctate; segments of abdomen finely and aciculary punctured, with some large, coarse punctures or foveae on their sides; inflexed margin of elytra finely punctate. Legs black and pilose. This species should be placed near the *P. [Craspedophorus] festivus* (Klug, 1833). At first I supposed it to be the *P. [Craspedophorus] tropicus* (Hope, 1842) and I have distributed it among my correspondents under that name, but I am afraid I have been hasty in doing so. I have not seen Hope's species in nature; but Mr. Westwood's recent appointment to the curatorship of the Entomological Collection at Oxford (an appointment on which all entomologists must felicitate themselves) having rendered Mr. Hope's collection again useful to science, I have availed myself of his kindness to ascertain (so far as can be done without actual inspection of the insect itself) whether any of my species of *Craspedophorus* correspond with Hope's. Mr. Westwood's report confirms my doubt as to this species, although he observes that it is of the same general form, and, coupled with Hope's description, leads me to consider the two species distinct. His description is as follows: 'Length 8 points...'. (see above in Note). This description, so far as it goes, corresponds with my species, except that in mine the thorax cannot be called semicircular, or not excavated; it should rather be called conical, and it certainly is excavated, especially posteriorly. Mr. Westwood has furnished me with a sketch of the thorax of [*C.*] *tropicus*, which shows that it is more semicircular and shorter than in [*C.*] *conicus* [see discussion]. Hope's species also is somewhat smaller. The number of interstices over which the yellow spots extend (a particular which Mr. Hope gives as a good specific character throughout the genus) corresponds with that in his *C. tropicus*, excepting that the anterior marking sometimes covers the whole of the third interstice, at other times scarcely impinges on it at all; thus leaving it not quite clear whether it covers five or six interstitial spaces."

Distribution. Benin, northern, northwestern and southwestern Cameroon, Central African Republic; DR Congo: Orientale Province; Ghana, Ivory Coast, Nigeria: Cross River State; Rwanda, Senegal, South Sudan, Togo.

***Craspedophorus mnizsechi* Chaudoir, 1879**

(Plate 1, Figs. 11, 12; Fig. 54)

Epicosmus mnizsechi Chaudoir, 1879: 109 (type loc. "Afrique occidentale"). *Craspedophorus mnizsechi* Lorenz 2005: 321. Häckel & Farkač 2012: 82.

Type material. Type was not found in MNHN.

Other material examined: Nigeria: Kano State. 1 ♀, 2 ♂♂: "Kano Distr." (BMNH).

Note. This species is based on a single specimen labelled "Afrique occidentale". Description (in part, see Chaudoir 1879: 109). "Length 15 mm, width 6 mm. It resembles

C. microcephalus (Dejean, 1831), but smaller, pronotum somewhat wider, less narrowing posteriorly, with anterior angles and anterior parts of lateral margins more rounded, maximal width somewhat closer to midlength; without any flexure near margins, and any indentation near posterior angles; elytra hardly wider than pronotum, with margins less rounded, more parallel; humeri less widely rounded, markedly more squared; dorsum less convex, but with striae and intervals equally punctured; two elytral fasciae, with yellow colour more orange, both reaching from striae II to VIII, humeral fascia less wide, both maculae with less serrate margins; preapical macula somewhat narrowing externally; lateral rim less narrow and more elevated. One specimen of this species deposited in the Mniszech's collection, without mentioning the origin, but it originates surely in West Africa" [from French]. The type of *C. mnizsechi* was not found in MNHN. But another specimens collected in Nigeria and deposited in BMNH I have seen much very well with Chaudoir's description.

They only differ by very small indistinct indentation (Figs. 47h, i; 54e), in front of the hind pronotal angle (which is not mentioned in the original description). Except this small discrepancy all other characters agrees exactly. That's why I decided not to describe Nigerian population as a new species but refer it as an acceptable candidate to neotype of *C. mnizsechi* for that case when Chaudoir's type stays lost.

Distribution. West Africa (Nigeria: Kano State).

Craspedophorus galla (Raffray, 1886)

(Plate 3, Figs. 29, 30)

Eudema galla Raffray, 1886: 312. (type loc. "Kobbo, dans le pays de Gallas-Raïas" [= Kobo, Amhara Region, Ethiopia]). Alluaud 1922: 492. *Craspedophorus galla* Alluaud 1930: 9, Lorenz 2005: 320. Häckel & Farkač 2012: 81.

Compared material. 1 ♂: "Dall'Harrar / all' Auasc [= Awash, Afar Region, Ethiopia] / X. 1910 [handwritten in black]/ *C. Citeri* [printed in black on white label]// Mus. Civ. / Genova [printed in black on white label] // *Epicosmus / galla* Raffr. / Alluaud déterm. [handwritten in black on white label]" (MNHN); 1 ♂ labeled as "ident. aux. ex de la collection Alluaud *C. galla* Raffr. by Basilewsky, 1954": "Abyssinie: Lac Dobbo" (MRAC).

Other material examined: Ethiopia. 1 ♀ labeled as *Cr. galla* Raffr. by Basilewsky 1954: "Abyssinie, Mission du Bonchamps, 1899 [probably Oromiya]" (Plate 3, Fig. 30; MNHN). 1 ♂: "Bedele [= Illubabor Zone, Oromiya]" (cOH). Kenya: Coast. 1 ♂: "Gede forest, 3°16'S 39°55'E" (Plate 3, Fig. 29; cMH). South Africa: Mpumalanga. 1 ♀: "White River, hinter Staumauer" (NMEC). Swaziland. 1 ♂: "Mlilwane Wildlife Sanctuary, 26°29.22'S 31°11'E, 800 mNN" (NMEC).

Note. This species is based on a single specimen, labeled "Kobbo, dans le pays de Gallas-Raïas". Kobo is a town in northern Wollo, Ethiopia. Located in the Semien Wollo Zone of the Amhara Region, town with coordinates of 12°09'N, 39°38'E, and an elevation of 1468 meters above sea level and I have not found the type in MNHN. So my determination is based on Basilewsky's comparative material and Alluaud's collection in MNHN. Description (in part, see Raffray 1886: 312). "Length 17 mm. Black, glossy, covered by grey setae. Head small, not too elongated, surface rugate, punctured, with anterior sulcus, transversal and two lateral sulci, frons convex longwise, with foveola rugate, longitudinal near base, eye small. Antennae reaching almost basal third of elytra, 1st article glossy, 4th-11th covered by grey

setae, and fairly dilated. Pronotum almost triangular-shaped, posteriorly wider by half than anteriorly, margins rounded posteriorly, hind angles less incised and more sharply and shortly indented, base flat near margins, lobed widely, shortly, almost flat in the middle, disk fairly, irregularly sulcated, impressed near margins, surface grossly punctured, with punctures less irregularly confluent. Elytra ovoid, widening posteriorly, obliquely truncated anteriorly, with rounded humeri, with margins almost parallel, gradually narrowing posteriorly, sinuate in front of apex, elytra throughout densely punctured, striated, each elytron ornated by two yellow fasciae, interrupted, humeral fascia in basal third compound of four macular spots, spots on intervals III, V, and VII elongated, spot on interval IV smaller and punctiform, preapical macula in apical fourth, compound of five macular spots, with spot on interval III elongated, spot on interval IV elongated more posteriorly, spot on interval V almost squared, more anteriorly, spots on intervals VI and VII similarly posteriorly, less elongated. Prothorax, prosternum and venter near margins grossly rugate, punctured, venter punctured more finely in the middle” [from Latin]. “This species is simply distinguishable by pronotum, strongly narrowing anteriorly, almost triangular-shaped, and by elytral coloration, with maculae interrupted and sinuate.” [from French].

Distribution. Ethiopia: Afar, Amhara, Oromiya. Kenya: Coast Province. South Africa: Mpumalanga. Swaziland.

***Craspedophorus jeanneli* Alluaud, 1930**
(Plate 3, Figs. 27, 28; Fig. 55)

Craspedophorus jeanneli Alluaud, 1930: 8 (type loc. “Nakuro env., 1800 m” [= Kenya: Rift Valley Province: Nakuru Lake]). Burgeon 1936: 138, Lorenz 2005: 320, Häckel & Farkač: 81.

Type material. Holotype (♂): “Afr. or. Angl. (Rift-valley) / Nakuro / Alluaud et Jeannel / Déc. 1911·1820 m·St. 17 [printed in black on white label] // Type [printed in red on white red circumscribed label] // *Jeanneli* / Type [handwritten in black] / Alluaud, det. 192 [printed in red, letters “det.” and “2” cancelled in black to “Alluaud, 1930”]” (Plate 3, Fig. 27; Fig. 55, MNHN).

Other material examined: Kenya: Western. 1 ♀ labelled as *C. jeanneli* Alluaud by Basilewsky, 1954: “Kenya / Camp I de l’Elgon / M^t Elgon, Vers^t Est / 2.100 m // Muséum Paris / Mission de l’Omo / C. Arambourg, P.A. Chappuis & R. Jeannel / 1932-33” (MNHN). South Africa: Limpopo. 1 ♂: “Transvaal, Louis Trichardt” (cPS). Zambia. 1 ♀: “[Northern Province] 92 km nw Mpika” (Plate 3, Fig. 28; cMH).

Note. This species is based on a single specimen labelled “Nakuro en Afrique orientale anglaise”, vers 1800 m”. Lake Nakuru is one of the Rift Valley soda lakes at an elevation of 1754 m above sea level. Description (in part, see Alluaud 1930: 8). “Length 15 mm, width 7 mm [Burgeon (1936: 138) 14-16.5 mm]. It belongs to a species group with pronotum semilunar-shaped, without lateral rims, flattened and elevated (*Epicosmus* pars [= *C. festivus* species group here]). Palps with terminal article securiform; antennae do not reach basal fourth of elytra. Pronotum regularly rounded anteriorly, with disk rugate, punctured. Posterior angles, each with an indentation, connected with peduncle (very weakly marked) by a basal margin, absolutely perpendicular to the axis of the body. Each elytron with two maculae, blocs of macular spots, with margins very serrate, reaching from interval IV to

VIII. Striae finely punctured; intervals densely punctured. Metepisterna longer than wide, very grossly punctured, as well as ventral sternites. Venter finely punctured; ventral sternites anteriorly, near posterior margin of the preceded segment, not crenulated, tarsi densely covered by brushes of ferruginous setae. It resembles *C. galla* (Raffray, 1886), by equal shaped body and face, but differs by pronotum, which not narrowing anteriorly, but widely and regularly rounded.” Later Burgeon (1936: 138) added some details after collecting more specimens in Rift Valley, Kenya “...body length pendulates from 14 to 16.5 mm. It belongs to [*C.*] *festivus* group, but ventral sternites anteriorly without crenulation. Head narrow and elongated resembling that in [*C.*] *stenocephalus* (Reiche, 1847), and [*C.*] *galla*; pronotal margins more widely rounded and arcuate in holotype and in some specimens, in other specimens margins fairly narrowing, not as oblique anteriorly...[from French]. In this regard, it should be noted that although both authors report a missing crenulation on the anterior side of the ventrite in this species, the crenulation is evident on the holotype at least as well as in the other species in the group (Figs. 55c, d). In my opinion, it is not necessary to enter this described but controversial feature into the key. The hitherto known zoogeographical area of the species has undergone a significant change with the discovery of two South African specimens. Both specimens from Limpopo (JAR) are indistinguishable from the individuals of the populations inhabiting Kenya. It is probably a species inhabiting an island-like large part of the Rift area.

Distribution. Kenya: Rift Valley, Western Provinces; South Africa: Limpopo; northwestern Zambia.

***Craspedophorus strangulatus strangulatus* Murray, 1857**

(Plate 2, Figs. 13, 14)

Craspedophorus strangulatus Murray, 1857: 119 (type loc. “Old Calabar”). Basilewsky 1952b: 243, 1960: 130, Häckel & Farkač 2012: 83.

Epicosmus strangulatus Chaudoir 1861: 344, 1879: 107. *Eudema strangulatum* Gemminger & Harold 1868: 210.

Type material. Lectotype (♂) established by P. Basilewsky 1954. “Lectotype [printed in black on white blue bordered rounded label] // O. Calabar / 78:19 [printed in black on white label] // *Craspedophorus / simplicicollis* n. sp. [handwritten in black] / Burgeon L. 1930 det: [printed in black on white label] (Plate 1, Fig. 13; BMNH). Paralectotype. 1 ♀ same labelled as holotype except type label and: “*strangulatus* / Murr. Col. O. Cal. 44 / Type Old Calabar [handwritten in black on white label] // *Craspedophorus / strangulatus* Murr. / Lectotype [handwritten in black] / P. Basilewsky det., 19 [printed in black [“det” is corrected to “vid” bay hand] 58 [handwritten in black on white label]]” (BMNH). Paralectotypes. 1 ♂: “O. Cal- / abar [handwritten in black on white rounded label] // Janson / Acq. 1884 // Paratype [printed in black on red label], 1 ♀: “Old Calabar [handwritten in black on pink label] // *Alopec / Thoms* [handwritten in black on pink label] // Ex Musæo / Ed. Brown [printed in black on white label] // Paratype [printed in black on red label] (Plate 1, Fig. 14; Fig. 56; MNHN, Oberthür / Bates Collection).

Other material examined: Cameroon: Southwest. 1 ♀: “forest n of Bakingili, 400 m” (cRS).

Note. This species was based on a single specimen labelled “Old Calabar” (see also Note to *C. lafertei* Murray, 1857 in Häckel 2017b: 15). Description (in part, see Murray 1857: 119). “Length 7.5-8.5 points, lat. 3.75 points... [from Latin]. “Very closely allied to the preceding

[*C. conicus* Murray, 1857 = *C. gratus* (Chaudoir, 1854)] species, and the same description will answer for both, with the following exceptions. This species is rather smaller. Its head is somewhat narrower. Its thorax is quite differently shaped, being narrow, constricted in front, and rather rapidly expanded behind; the posterior angles are obtuse, and not so much rounded as in [*C.*] *conicus*. The elytra are shorter, not quite so convex, and the interstices also are less convex; the fulvous markings are narrower, particularly the posterior spot, and the colour of the anterior spots does not encroach on the third interstice, and is thus confined to five instead of six interstices. The punctures on the interstices are somewhat coarser and less numerous, and seem to be rather more transverse. In other respects the characters of the two species correspond. Their extreme similarity, except in the form of the thorax, suggests the idea that they may possibly be sexes of the same species. As the tarsi in this genus furnish no indication of the sex, I endeavoured to satisfy myself on this point by detaching the abdomen and dissecting out the sexual organs, which I found, although not very decipherable, to be at least exactly the same in both species. They would appear therefore not to be sexes of the same species. Neither do I think they can be varieties, the difference of form in the thorax being too great to allow of such a supposition. I should also mention that I have received specimens of [*C.*] *conicus* in several consignments, but [*C.*] *strangulatus* came only upon one occasion, and then in small numbers”. Chaudoir (1879: 107) added. Length 17 mm, width 7.25 mm. It resembles [*C.*] *stenocephalus* (Reiche, 1847) but differs markedly by a singular shape of pronotum. Head weakly narrower, more cylindrical, eyes less protruded. Pronotum similarly shaped posteriorly but anteriorly strongly narrowing almost to width equal as width of neck; anterior margin flat, with anterior angles rectangular, not rounded, lateral margins anteriorly, where they are rounded [in *C. stenocephalus*], contrary to it strongly and longly sinuate, creating maximum width in two posterior thirds of pronotum, which a little smaller than that in [*C.*] *stenocephalus*; from the bottom of the incision lateral margins strongly rounded and obliques to base, each creating with it an obtuse angle, with a small dent on its top; base more flat near margins; anteriorly disc is strongly convex and weakly conic laterally but in middle, lateral parts flattened and gradually elevated toward posterior angles; fine lateral rims equal as in [*C.*] *stenocephalus*, and similarly disappear near midlength, base near margins more incised, punctuation and setae are very similar. Elytral width and shape intermediate between [*C.*] *laevifrons* (Schaum, 1863) and [*C.*] *stenocephalus*, it means narrower and less rounded than in [*C.*] *stenocephalus* but wider and more rounded than in [*C.*] *laevifrons*, not more convex than in that species; other characters are equal as in [*C.*] *stenocephalus*” [from French].

Distribution. Southwestern Cameroon, south-eastern Nigeria: Cross River State.

***Craspedophorus strangulatus mesothorax* ssp. nov.**

(Plate 2, Figs. 15, 16; Fig. 57)

Type locality. “Ghana, Kumasi (Ashanti region)”.

Type material. Holotype (♂): “Ghana, Kumasi / (Ashanti region) / VIII. 1998 (C. Joly leg.)” (Plate 2, Fig. 15; Fig. 57, NMPC). Paratypes. 1 ♀ same labeled as holotype (Plate 1, Fig. 16, cMH).

Description of holotype. Length 16.8 mm, width 7.8 mm. Head, elytra and legs similar as in *C. s. strangulatus* Murray, 1857, antennae and palpi similarly shaped and the same colour, antennal ratio in the new subspecies (AR = A1L/A3L : A2L/A3L : A4L/A3L) is the same as in *C. s. strangulatus* (0.7 : 0.5 : 0.75). Pronotum slightly more transverse but with significantly less inverted lateral margins of pronotum at the front (Fig. 48, n) than can be seen in all specimens of the nominotypical subspecies (Figs. 48 l, m); pronotal base similarly shaped as in *C. s. strangulatus*, hind angles, too. Elytra similarly shaped and coloured.

Differential diagnosis. This subspecies resembles *C. s. strangulatus* except for the shape of pronotum. Its pronotum resembles more pronota of the other species in this group, it is not so extremely narrowed towards the neck. Also it has different length to width ratio, it is 1.5 in the new subspecies (in contrary to *C. s. strangulatus* with L/W ratio 1.36),

Etymology. The name refers to the shape of pronotum, which is less extremely extended to the neck.

Distribution. Ghana.

Craspedophorus selenoderus subgroup

Craspedophorus bayeri (Burgeon, 1930)

(Plate 4, Figs. 44, 45)

Epigraphus bayeri Burgeon, 1930: 165 (type loc. "Kenya: Zuwani" [= Coast Province]. Basilewsky 1962: 174. *Craspedophorus bayeri* Basilewsky 1967: 130, 139. Lorenz 2005: 320, Häckel & Farkač 2012: 79.

Type material. Holotype (♂). "Holotypus [printed in black on red circumscribed label] // Musée du Congo / B. E. A.: Zuwani / 28-VI-1913 / Dr. Bayer [printed in black on white label] // *Epigraphus / Bayeri / Burg / Type* [handwritten in black on white label] // [DataMatrix] RMCA Ent / 000020044 [printed on white label] // " (Plate 4, Fig. 44, MRAC).

Other material examined: Kenya: Coast. 2 ♂♂, 2 ♀♀: "nw of Garsen"; 1 ♂, 3 ♀♀: "e of Garsen, w of Witu"; 1 ♀: "s of Garissa, n of Bura" (Plate 4, Fig. 45; cMH); 1 ♂: "Hola" (cPS). Somalia: Banaadir. 1 ♂, 1 ♀: "Benadir" (cDM). Tanzania: Arusha. 1 ♂: "Mto Wa Mbu" (cOH).

Note. This species is based on a single male, labelled "Kenya: Zuwani". Zuwani (or Zwani, Ziwani) is a tented camp, recently Zuwani Game Reserve, Taveta, and one of most beautiful locations in Tsavo West National Park, former Coast Province, Kenya. The species was described in the genus *Epigraphus* due to the similarity of some external features (mainly due to the shape of pronotum) without taking into account the absence of a feature of different width of protarsi in different sexes. Description (in part, see Burgeon 1930: 165). "Length 14.5 mm, width 6 mm. It resembles [*Epigraphus*] *insolitus* Bates, 1886, but body superior, more elongated, elytra more strongly punctured. Head longer, more sparsely punctured, head smooth; labrum, mandibular margins, palps and first antennal article brownish ferruginous. Pronotum narrower than that in [*E.*] *insolitus* Bates, 1886, and in [*E.*] *arcuatocollis* (Murray, 1857), more narrowing anteriorly, anterior angles not protruded anteriorly; lateral margins curved as those in [*E.*] *insolitus*, but posterior angles also not protruded posteriorly, base

less sinuate, with ferruginous margins by transparency, punctuation similar, finer on lateral flattened rims, which more narrowed anteriorly than those in [*E.*] *insolitus* and not strongly convex than in [*E.*] *arcuatocollis*. Elytra long, narrow, flattened in the middle, strongly punctured, striae with punctuation eroding interval margins, intervals punctured in transversal lines creating an aspect imbricate. Elytral maculae pale yellow, humeral macula almost reaching from interval IV to VIII, macular spots on intervals IV and VI shorter than the others; preapical macula rounded, with serrate posterior margin, on the same intervals, macular spot on interval VI moved more anteriorly than the others. Mentum bidental, underiside equally punctured as that in [*E.*] *arcuatocollis*. Abdominal segments with transverse ply, covered by six gross pores in two groups. Legs ferruginous. It differs from [*E.*] *amplicollis* (Schaum, 1854) from Natal, by narrower body, pronotum more narrowing anteriorly, with margins, more sinuate posteriorly, by elytra, more strongly punctured, et by different color of legs..." [from French]. Basilewsky (1967: 130) reclassified three species from the genus *Epigraphus* to the genus *Craspedophorus*. First of them *C. magnicollis* (Quedenfeldt, 1883) with a rhombic metepisternum was included in the group *C. strachani* (Häckel 2017) and discussed in the third part of a series devoted to Afrotropical species of the genus *Craspedophorus*. Two other species have trapezoidal metepisterna and are pronotum-like in shape of *C. selenoderus* (Laferté-Sénéctere, 1851). These are the species *C. fuscicornis* (Kolbe, 1883), which was included in the genus *Epigraphus* by Burgeon (1930: 162) and *C. bayeri* (Burgeon, 1930), which was described by the same author in the same genus.

Distribution. Kenya: Coast Province, southern Somalia, Tanzania: Arusha.

Craspedophorus conspicuus Basilewsky, 1987

(Plate 4, Figs. 34, 35)

Craspedophorus tropicus Alluaud 1929: 89 (nec. Hope). Burgeon 1930: 161, Burgeon 1935: 182, Basilewsky 1948: 37, 1952a: 23, Basilewsky 1953: 172, 1956: 131.

Craspedophorus conspicuus Basilewsky, 1987: 188 (type loc. Lulua, Kapanga [= Katanga Province, DR Congo]). Lorenz 2005: 320. Häckel & Farkač 2012: 80.

Type material. Holotype (♂): "Holotypus [printed in black on red label] // Genit. ♂ [printed in black]/ 87.040.6 [handwritten in black on yellow label] // Musée du Congo / Lulua: Kapanga [printed in black] / II [handwritten in black] -193[printed in black]3[handwritten in black] / Overlaet [printed in black on white label] // *Crasp. / conspicuus* n. sp. [handwritten in black]/ P. Basilewsky det., 19[printed in black on white label] // [DataMatrix] RMCA Ent / 000020043 [printed in black on white label]" (Plate 4, Fig. 34, MRAC). Paratypes: 4 ♂♂, 6 ♀♀ same labeled as holotype except: "Paratypus [printed in black on red label]" (MRAC), 2 ♂♂ same except: "Coll. Mus. Congo / Ruanda [= Rwanda]: Gitarama / 1850 m. terr. Nyanza / P. Basilewsky I-1953[printed in black on white label]" (Plate 4, Fig. 35, cMH, MRAC); 1 ♂ same except: "Urundi [=Burundi]: Bururi", 1 ♂ same except: "Urundi: Usumbura", 2 ♀♀ same except "[Katanga Province] Mura" / J. Van. Mol. VIII-1950, 1 ♀ same except "Jadotville", 1 ♀ same except "P.N.U. Kalumengo / Mission de Witte / IV-1947", 3 ♀♀ same except "Kabwe sur Mbuye / V-1948", 1 ♀ same except "Mbye-Bale / II-1948", 1 ♂ same except: "Munoi bif. Lupiala / VI-1948", 1 ♀ same except: "Lomami", 1 ♂, 1 ♀ same labelled "Elisabethville / C. Seydel XI.1950-VI.1951", 1 ♀ same except: "Bas-Congo: Thysville / P. Basilewsky XII-1952", 1 ♂, 1 ♀ same except: "Mayidi / R.P.Van Eyen 1942", 8 ♂♂ same except: "P.N.G.[Parc National Garamba, Orientale Province]/ Mabanga / Mission De Saeger II.1952", 1 ♂, 3 ♀♀ same except "Ituri: Bunia / P. Levèvre, VI.1938", 1 ♀ same except: "P.N.A. [Parc National Albert= Virunga

NP]: Munene”, 1 ♂ same except: “Sankuru [Kasaï-Oriental province]: Kishindi / P. Quarré IX.1951”, 1 ♂ same except “[Nord-] Kivu: Région des Lacs / Dr. Sagona”, 1 ♂ same except: “Kivu: Mokanga, terr. Fizi (N.Leleup III.1956)” (MRAC).

Note. This species is based on a series of more than 40 specimens, mainly from Democratic Congo, one specimen was collected in Burundi, two in Rwanda, holotype is labeled “Lualaba: Kapanga”. Kapanga is a territory in north-western part of the Katanga Province, DR Congo. Latitude. 8.3500° S, Longitude. 22.5833° E. Description (in part, see Basilewsky 1987: 188). “Length 14-15 mm. Alate. Black, palps and most of antennal articles dark brown; each elytron with two maculae, clear yellow, with margins very serrate, not reaching lateral margin; humeral macula, located in basal third, compound of five elongated spots, reaching from interval IV to VIII, spots on intervals V and VII are shorter than the others; preapical macula located in apical fourth, compound of five spots on the same intervals, not too equal, spots on intervals IV and VI distinctly moved anteriorly. Pronotum and elytra densely covered by setae very short, underside more densely covered by setae, which longer, except ventrally in the middle, where shorter. Head medium-sized, rarely and quite finely punctured, except lateral frontal sulci, which punctured more grossly, labrum sinuate anteriorly, where four setose points. Labial dent medium-sized, triangular shaped, and almost rounded in the middle. Terminal palp article dilated, but more triangular than kidney-shaped. Antennae long, not dilated, each reaching pronotal base by its fourth article. Pronotum transverse, 1.54-1.6 times wider than long, more narrowing anteriorly than posteriorly, base markedly wider than anterior margin, which is not wider than neck, anterior angles fully indistinct; lateral rims markedly flattened, but not elevated, margins quite strongly rounded ad maximum width, which located distinctly behind midlength, from where margins curved toward posterior angles, preceded by a well marked incisura, and indentated, with a dent protruded externally; base widely pedunculated in the middle and not flat; disk quite convex, not too distinctly separated from the rim, which ends somewhat before maximum of the width, surface very grossly sculptured, punctuation gross and very dense, but not confluent; without interspaces microsculptured. Elytra not too elongated, not parallel-sided, but weakly ovoid, moderately convex, 1.40-1.45 times longer than wide; humeri well marked and rounded, margins weakly sinuate in front of apex; intervals weakly convex, regularly punctured, in 6- rows, and microsculpture, not too marked; punctuation more fine and rare beyond the maculae; striae finely and not too distinctly punctured. Sternum and haunches moderately grossly punctured, with dots weakly separated, venter punctured finely and densely in the middle, grossly near margins. Metepisterna almost twice longer than wide anteriorly. Ventral sternites somewhat distinctly crenulated anteriorly. Legs normal. It belongs to *C. selenoderus* group, established by Chaudoir (1879: 109) for a single species *C. selenoderus* (LaFerté-Sénéctere, 1851) occurring in a large areal from West to East and South Africa (see map, Fig. 68). *C. conspicuus* differs from *C. selenoderus* by body size markedly larger, by pronotum less transverse more narrowed and less rounded anteriorly more grossly punctured, with anterior angles less marked, and posterior angles, pointed externally, by elytral maculae, which larger, with distinctly serrate margins, by elytral intervals more strongly and densely punctured. Antennae shorter in *C. selenoderus*, anterior pronotal margin as well wider than neck, metepisterna shorter, aedeagi are quite similar. At

eye this species could be presented as *C. tropicus* (Hope, 1842), interchangeable with it, which occurs in a large area of tropical and subtropical Africa (see map, Fig. 67). ...Although it is simply distinguishable by attentively comparing pronotal base; which is absolutely flat in *C. tropicus*, without any peduncle in its middle, in contrary to *C. conspicuus*, where pronotal base flat only laterally, near posterior angles, its straightness is limited on each side by basilar depression, medially it curves creating a wide peduncle; both species differ also by pronotal sculpture, pronotum more rugate, densely and grossly punctured, with wrinkles distinctly closer located than dots, pronotal margins distinctly more rounded anteriorly, head more sculptured, elytral intervals less convex, more and more densely punctured in *C. conspicuus*. Aedeagi are similar in both species” [from French].

Distribution. Burundi, DR Congo: Bas-Congo, Kasai-Oriental (Sankuru), Katanga, Orientale, Nord-Kivu, Sud-Kivu Provinces; Rwanda.

Craspedophorus cordicollis (Raffray, 1886)

(Plate 4, Figs. 36, 37)

Eudema cordicolle Raffray, 1886: 313. (type loc. “la vallée du mont Aladjjié, province du Damotkonene” [= Amba Alagi Mountains, Tigray Region, Ethiopia]). Alluaud 1922: 492. *Craspedophorus cordicollis* Lorenz 2005: 320. Häckel & Farkač 2012: 80.

Compared material. 1 ♀ “Abyssinie / Harrar [printed in black]/ Kristensen [printed in black italics] // *Cr. cordicollis* Raffr. [handwritten in black] / P. Basilewsky det., 19[printed in black]54[handwritten in black on white label]” (MNHN).

Other material examined: Ethiopia. Oromiya. 1 ♂, 1 ♀: “Illubabor Zone, Metu” (Plate 4, Figs. 36, 37, cMH). S.N.N.P.R. 1 ♀: “Anderatscha to Godjeb [= Anderaccha, Keffa Zone to Gojeb River]” (NMPC), 4 ♂♂, 3 ♀♀: “Kaffa Prov., Jimma”; 1 ♀: “8 km e de Jimma”; 1 ♂, 1 ♀: “Badabuna Forest” (MRAC).

Note. This species is based on a single specimen, labelled “la vallée du mont Aladjjié, province du Damotkonene”. Amba Alagi (German Ambla Aladji) is a mountain, or an amba, in northern Ethiopia. Located in the Debubawi Zone of the Tigray Region. Description (in part, see Raffray 1886: 313). “Length 16 mm. Almost parallel-sided, black, glossy, covered by short brown setae. Head almost squared, fairly convex, rugate, punctured, lateral frontal grooves smooth, vertex with elongated pit. Antennae slender. Pronotum almost cordate, anteriorly arcuate, anterior angles indistinct, rounded, posteriorly narrowing toward posterior angles, which obtuse, shortly indentated, base sinuate with two incisurae near margins, lateral rims posteriorly weakly elevated, disk weakly convex and somewhat more weakly sulcated, near base and each margin impressed, surface weakly rugate, grossly punctured. Elytra parallel-sided, humeri obtuse and rounded, margins almost parallel, sinuate in front of apex, striated, intervals irregularly punctured, each elytron with two yellow maculae, almost oblique, with serrate margins, located in humeral and apical fourth of elytral length, humeral macula reaching from interval III to VIII [IV to IX], compound of six macular spots, spots on intervals IV, VI and VIII smaller, preapical macula, reaching from interval III to VII [IV to VIII], compound of five macular spots, spot on interval IV very small, these on intervals VI and VII smaller than contiguous spots and moved posteriorly. Underside grossly punctured,

weakly rugate, ventral segments punctured, less rugate in the middle” [from Latin]. “This species is characteristic by its narrow and elongated body; pronotum with maximal width immediately before midlength, lateral rims weakly elevated, mainly in front of posterior angles, where shallow basal pits located, each narrows anteriorly, where it disappears. I have collected only one specimen of this graceful species, in the Aladjie Valley, Damotkonene Province” [from French].

Distribution. Ethiopia: Afar, Harar, Oromiya, Tigray.

***Craspedophorus deflexus deflexus* Bates, 1886**

(Plate 4, Fig. 42; Fig. 60)

Craspedophorus deflexus Bates, 1886: 9 (type loc. “Mount Cameroons”). Lorenz 2005: 320, Häckel & Farkač 2012: 80.

Type material. “Holotype (♀): “Cameroons [handwritten in black on white label] // *Craspedophorus / deflexus* / Bates [handwritten in black on white label] // Ex-Musæo / H. W. Bates / 1892 [printed in black on white label] // TYPE [printed in black on red label] // Muséum Paris // ex Coll. / R. Oberthür / 1952 [printed in black on blue label]”, (Plate 4, Fig. 42, MNHN, Oberthür/Bates Collection).

Note. This species was based on a single specimen labelled “Mount Cameroons” (see also Note to *C. cameronus* Bates, 1886). Description (in part, see Bates 1886: 9). “Length 17 mm. Almost parallel-sided, black, covered by short setae, palps, antennae, tibiae and tarsi red-piceous, each elytron with two red maculae, reaching from interval V to VIII, humeral macula near base distant, squared; head wide, neck not depressed, both throughout coarsely punctured, eyes strongly convex; pronotum widest, lateral margins arcuate toward each end, narrowing more to neck than to base, with wide lateral rims, not elevated, depressed near base, posterior angles with sharp indentation, disc deeply, finely punctured; elytra deeply striated and punctured, intervals less dense and coarsely punctured [translated from Latin]. The form of the thorax is unlike that of any other species known to me. It approaches nearest *C. festivus* (Klug, 1833), but is much broader and less narrowed in front; the side margins are more broadly flattened even from the anterior angles, at first plane and behind deflexed, with a corresponding convexity of the dorsal surface towards the hind angles. The elytra are oblong-ovate, narrower at the base than the thorax at its widest part. The metathoracic episterna are scarcely broader than long, and the ventral segments are crenulated on their front margin. The apical joints of the palpi are not remarkably elongated at their exterior apex”.

Distribution. Western Cameroon.

***Craspedophorus deflexus nguruanus* ssp. nov.**

(Plate 4, Fig. 43; Fig. 61)

Type locality. “Tanzania 1759 m, Maskati, Nguru Mountains, S 06°03'29.3" N 37°29'08.4”.

Type material. Holotype (♀): “Tanzania 1759 m / Maskati, Nguru Mountains / S 06°03'29.3" N 37°29'08.4" / iv-v.11 General Collection, leg. Smith, R & Takano, H” (Plate 4, Fig. 43, BMNH).

Description of holotype. Length 15.5 mm, width 6.5 mm. Head and antennae similarly shaped and coloured as in *C. deflexus deflexus* Bates, 1886, antennal ratio in the new subspecies ($AR = A1L/A3L : A2L/A3L : A4L/A3L$) is also the same as in *C. d. deflexus* (0.9 : 0.5 : 0.75). Pronotum of the same dimensions and shaped as in nominotypical subspecies (L/W ratio 0.8).

Differential diagnosis. The only visible difference is the much finer pitting of the dorsal surface side wide edges of pronotum (Fig. 49d) than it is in *C. d. deflexus* (Fig. 49e). Elytra similarly shaped and coloured as in the nominotypical subspecies, it means they are almost 1.13 times

Etymology. The name refers to the site of the find, the Nguru Mountains in Tanzania.

Distribution. Tanzania: Morogoro, Nguru Mountains.

***Craspedophorus puchneri* sp. nov.**

(Plate 4, Figs. 40, 41; Fig. 62)

Type locality. “Tanzania, Manyara, Katesh vicinity, Hanang Mt., 3300m, 04°26'S 035°24'E”.

Type material. Holotype (♂): “E Africa n-Tanzania, Manyara Region / Katesh vicinity, Hanang Mt. / 3300m, 04°26'S 035°24'E / lgt. P. Kayombo, IX-2014” (Plate 4, Fig. 40; Fig. 62, NMPC). Paratypes. 1 ♂, 1 ♀ same labelled as holotype (Plate 4, Fig. 41), NMPC, cAP, cPS).

Description of holotype. BL (body length) 14.5 mm, EW (elytral width) 6.0 mm. Body piceous black, shiny, wholly covered with black setae; palps distally ferruginous, labrum and mandibles, antennae and tarsi (except terminal articles) black.

Head short, almost quadrate (length to width ratio approaching 1.0) and flat; eyes clearly convex, tempora weakly distinct, more than four times shorter than the length of the eye. Mandibles of medium length, hooked and pointed at apex. Frontal sulci deep and wide, frons slightly convex, impunctate in the middle; occiput depressed; neck smooth; apical/terminal labial palpomere distinctly triangularly dilated. Antennae filiform, reaching up to 1/4 of the elytral length; scape and antennomere 3 more than twice long as pedicel, antennal ratio ($A1L/A3L : A2L/A3L : A4L/A3L$) = 0.86 : 0.43 : 0.71.

Pronotum semilunar, markedly wider than long (length to width ratio = 0.65), distinctly (more than twice) wider than head across eyes, widest past midlength; sides converging anteriorly from the widest point, lateral margin wide arched along its entire length to the hind angle without any sinuation except very small indentation in front of hind angle; anterior margin shorter than base, anterior angles wide round slightly protruding forward; basal margin slightly emarginate and gently oblique on each side along the length of one outer quarter creating a weak pedunculation in the middle of basal margin, basal angles obtuse, denticulated, pointed; disc convex, surface coarsely foveate; median line distinct; microsculpture isodiametric (Fig. 49c).

Elytra ovoid, connate, almost elliptical, 2.38 times as long as wide, moderately convex, widening posteriad, widest at midlength, almost 1.31 times wider than pronotum; elytral base not serrated in the middle, humeri oblique but distinct; lateral margins flattened and elevated, preapical emargination shallow, apices rounded combined; striae fairly deep; intervals convex, quite densely punctate and covered by sparse black setae; microsculpture isodiametric. Each elytron with two yellow maculae consisting of shorter spots, relatively reduced compared to those in other species of the genus, humeral macula reaching from interval VI to IX, spot on interval VII shortened posteriorly, spot on interval VIII extended forward and twice as long as the previous one, spot on interval IX strongly reduced and sometimes indistinct, the preapical macula reaching from interval IV to VIII, spots on inner two intervals (IV and V) are also strongly reduced and sometimes missing (Fig. 62a).

Ventral side strongly and irregularly punctured, except for mesosternum medially and sternites the latter roughly and unevenly punched over the entire surface, each crenulated at basal margin (Fig. 62c); metepisternum relatively long, trapezoidal (ES3L/ ES3W 1.6, Fig. 62b). Legs relatively long and slender.

Differential diagnosis. This species closely resembles *Craspedophorus deflexus* Bates, 1886, from Cameroon and Tanzania, known in two subspecies described each on upon a single specimen of different sex. *C. puchneri* n. sp. differs from *C. deflexus* by pronotum which is clearly narrower than elytra in contrary to *C. deflexus* with pronotum as wide as elytra. Also the colouration is different, the humeral macula in *C. puchneri* is much more reduced and has a different margins than in *C. deflexus* (Figs 61a and 62a).

Etymology. Named after Alfred Puchner a renowned Austrian carabidologist.

Distribution. Tanzania: Manyara, Mt. Hanang, known only from the type locality.

***Craspedophorus schuelei* sp. nov.**

(Plate 4, Figs. 38, 39; Fig. 63)

Type locality. “Mozambique, Sofala Prov., Mt. Gorongosa, Mountain Forest 1400-1700 m”.

Type material. Holotype (♂): “1./2.XII.2006 Mozambique / Sofala Prov. Mt. Gorongosa / Mountain Forest 1400-1700m / P. Schüle leg.” (Plate 4, Fig. 38; Fig. 63, NMPC). Paratypes. 2 ♀♀ same labeled as holotype (Plate 4, Fig. 39, cMH, cPS).

Description of holotype. BL 14.0 mm, EW 5.4 mm. Body piceous black, shiny, wholly covered with black setae; palps distally ferruginous, labrum and mandibles, antennae and tarsi (except terminal articles) black.

Head short, almost quadrate and flat; eyes clearly convex, tempora weakly distinct, more than four times shorter than the length of the eye. Mandibles of medium length, hooked and pointed at apex. Frontal sulci shallow, wide and irregularly pitted, frons slightly convex, impunctate in the middle; occiput depressed; neck smooth; apical/terminal labial palpomere distinctly triangularly dilated. Antennae filiform, reaching up to 1/4 of the elytral length;

scape and antennomere 3 more than twice long as pedicel, antennal ratio (A1L/A3L : A2L/A3L : A4L/A3L) = 0.94 : 0.44 : 0.68.

Pronotum almost hexagonal, wider than long (length to width ratio = 0.64), 1.73 times wider than head across eyes, widest almost at midlength; sides converging anteriorly from the widest point, lateral margin wide arched to midlength and narrowing to the hind angle with very weak sinuation, hind angle obtuse, indentation almost indistinct; anterior margin shorter than base, anterior angles wide round and not protruding forward; basal margin almost straight without any pedunculation in the middle; disc convex, surface moderately densely foveated; median line distinct, reaching from anterior margin to base; microsculpture isodiametric (Fig. 63a).

Elytra almost elliptical, 1.47 times as long as wide, weakly convex, widening to midlength, widest at midlength, almost 1.19 times wider than pronotum; elytral base not serrated in the middle, humeri oblique, weakly distinct; lateral margins flattened and elevated, preapical emargination shallow, apices rounded combined; striae fairly deep; intervals convex, moderately densely punctate and covered by sparse black setae; microsculpture isodiametric. Each elytron with two relatively large yellow maculae of circular (to triangular) shape, humeral macula reaching from interval IV to the margin, inner spot (on interval IV) is the shortest, the longest is the spot at interval VII, the preapical macula reaching from interval V to VIII, spot on inner interval (V) is twice shorter than the others (Fig. 63a).

Ventral side strongly and irregularly punctured, sternites roughly and unevenly punched over the entire surface, each crenulated at basal margin (Fig. 63c); metepisternum relatively long, trapezoidal (ES3L/ ES3W 1.6, Fig. 63b). Legs relatively long and slender.

Differential diagnosis. This species can be easily identified in the whole group by the size and shape of pronotum, which is the least transverse and almost hexagonal (Fig. 49b), elytral colouration is also completely different with large maculae that do not have a serrate margin.

Etymology. Named after my friend Peter Schüle (Herrenberg, Germany), an excellent specialist in Afrotropical Carabidae including Cicindelinae.

Distribution. Mozambique: Sofala Province, known only from the type locality.

Craspedophorus selenoderus (La Ferté-Sénéctere, 1851)

(Plate 4, Figs. 46, 47; Figs 58, 59)

Isotarsus selenoderus La Ferté-Sénéctere 1851: 221 (type loc. "Guin. Lusit." [= Guinea-Bissau]). *Epicosmus selenoderus* Chaudoir 1861: 345, 1879: 109. *Eudema selenoderum* Gemminger & Harold 1868: 209. *Craspedophorus selenoderus* Basilewsky 1968: 93, Lorenz 2005: 321, Häckel & Farkač 2012: 83 [with erroneous data]. *Eudema fuscicornis* Kolbe, 1883: 18 (type loc.: "Chinchoxo" [= Cabinda, Angola]). Quedenfeldt 1883: 259. *Epigraphus fuscicornis* Burgeon 1930: 162, 1935: 184, Basilewsky 1948: 37, 1952a: 23, 1953: 178, 1956: 131, Lorenz 2005: 321, Häckel & Farkač 2012: 86. *Craspedophorus fuscicornis* Basilewsky 1948: 37, 1967: 130, 1968: 93, 1976: 714, Ferreira 1963: 503, **syn. nov.**

Compared material. 1 ♂: "Comp. typ. / Basilewsky [printed in black on red circumscribed label] // Coll. Mus. Congo [printed in black] / Congo français: / Mayomba [handwritten in black, =Mayumba, Congo-Brazzaville] /

Col. P. Basilewsky [printed in black on white label] // *selenoderus* Laf. / (*Craspedophorus* ou [handwritten in black] / *Epigraphus* [handwritten in black, cancelled by blue]) ? [handwritten in black] / P. Basilewsky det., 19 [printed in black on white label]" (Plate 4, Fig. 46; Fig. 58, MRAC); 1 ♀: "Museum Paris / Congo franç. / Mayomba / A. Vergnes 1899 [printed in black on white label] // *Epigr.* / *fuscicornis* Kolbe [handwritten in black] / P. Basilewsky det., 19[printed in black]54[handwritten in black on white label]" (MNHN). 1 ♂: "Comp. typ. / Basilewsky [printed in black on red circumscribed label] // ♂ [printed in black on white label] // Musée du Congo / Congo da Lemba [printed in black] X - XII - [handwritten in black] 1911 / R. Mayné [printed in black on white label] // *Cr. fuscicornis* Kolbe [handwritten in black] / P. Basilewsky det., 19[printed in black]54[handwritten in black on white label]" (MRAC); [= Kinshasa Province: Mont Amba District]" (Fig. 59, MRAC).

Other material examined: Burundi. 1 ♀: "Urundi: Bururi" (MRAC); 1 ♂: "Kigwena- Res." (cMH). Cameroon: East. 1 ♂, 1 ♀: "Doumé" (MRAC). Central. 1 ♂, 1 ♀: "Ebogo" (cMH). DR Congo: Kasai-Oriental. 1 ♂: "Djeka" (MRAC). Katanga. 8 ♂♂, 11 ♀♀: "Lulua: Kapanga" (MRAC); 1 ♀: "Lubumbashi, C. U. Kasapa" (cDM); 1 ♀: "Lubumbashi" (cMH). Nord Kivu. 1 ♀: "River Tube, Muhangi" (MRAC). Orientale. 2 ♂♂, 2 ♀♀: "P.N.G.[aramba]" (MRAC); 5 ♂♂, 3 ♀♀: "Ituri: Bunia" (MRAC). Ethiopia: Oromiya. 1 ♂: "70 km s Jima (N.P.), 07°02'N 38°40'E, 1230 m" (Plate 4, Fig. 47, cMH). Ivory Coast. 1 ♂: "Bingerville"; 1 ♀: "Zépréghé" (MRAC). Malawi. 1 ♂: "Nkawadzi [= Nkwazi]" (MRAC). Rwanda. 1 ♂, 2 ♀♀: "Kibungu" (MRAC). Tanzania: Morogoro. 6 ♂♂, 1 ♀: "Mts. Uluguru" (MRAC). Uganda. 1 ♂: "Busoda Distr." (MRAC). Zambia. 1 ♀: "[Northern Province] N. Rhodesia, XI. 1944, Dr. W.Eichler" (NMEC). 1 ♀: "Northwestern Province, 65 km n Kabompo, 1100 m" (cPS). Zimbabwe. 1 ♀: "[Manicaland] S. Rhodesia, Mt. Selinda" (MRAC).

Note. This species is based on a single specimen labeled "Guin. Lusit.", Chaudoir (1879: 109) added some data describing other three specimens, collected by Mr. Bocandé in Portuguese Guinea. Guinea-Bissau (officially the Republic of Guinea-Bissau) was colonized as Portuguese Guinea (Latin Guinea Lusitanica) in the 19th century. Description (in part, see key to species in LaFerté-Sénéctere 1851: 220). "(Prémière division): larger species, antennae longer than to midlength of the body, distal attenuated, 3rd article twice longer than the second one. Legs black; (aa) pronotum not convex, marginsless elevated, (bb) transverse, not too annular, with sinuate margins, (cc) without strangulation at base (peduncle), (ccc) semi-annular shaped" [translated from the French original]. This brief description was supplemented by Chaudoir (1879: 109). "Length 12 mm, width 5 mm. It fairly resembles any form of *C. brevicollis* (Dejean, 1831), but it is smaller. Head small, fairly elongated, markedly strangulated behind eyes, which strongly convex; frons convex, punctured, near each margin marginated by a furrow, which longitudinal, quite strongly an widely impressed, epistoma and neck smooth, neck somewhat bulbed. Pronotum twice wider than head, not too semicircular-shaped, shorter by a half than wide, narrowing anteriorly, maximum width at midlength; anterior margin weakly sinuate, anterior angles very widely rounded and not protruded, margins curved strongly and regularly longwise; posterior angles each strongly indented before the sharp dent, strongly protruded laterally, preceded by a rounded incisura; base roundly sinuate, weakly prolonged to peduncle in the middle; dorsum weakly convex, weakly depressed near anterior angles, and flattened anteriorly from margins to the middle; basal margins quite concave near peduncle; between this incisura and lateral margins weakly convex, this convexity prolonged anteriorly to midlength, narrowing step by step; dorsum deeply, moderately densely punctured, covered by setae, which long and vertical; punctuation more sparse near posterior angles; sagittal line finely impressed, reaching to each margin; lateral rims, very fine, disappear close to posterior angles. Elytra somewhat wider than back of pronotum, forming an oval, quite obtusely rounded at base, adapted

to pronotum with an arch retracted to it; lateral margins almost parallel near midlength, rounded toward humeri, which as well obtuse and very widely rounded; preapically weakly sinuate, apex fairly obtuse; dorsum moderately convex, markedly less than in *C. tropicus* (Hope, 1842), striae quite deeply by finely impressed, marked by small points; intervals quite convex, finely punctured, punctuation more dense than in *C. microcephalus* (Dejean, 1831) and less dense than in *C. tropicus*; setae covering elytra are well marked, inclined somewhat posteriorly. Body black, glossy, covered by setae little grayish, antennae with six distal articles and pronotum with posterior corners weakly brownish; each elytron with two large fasciae, humeral fascia rhomboid-shaped, less long than wide, quite oblique, reaching from 3rd to 8th striae, with posterior margins generally more serrate than anterior ones, it is expanded to 3rd interval in some specimens; preapical macula distributed between the same and whole as well wide, forms anteriorly an angle on the 6th interval, where posteriorly is concave; coloration is orange as in *C. microcephalus*. Three specimens of both sexes from Mr. Boccandé, collected in Portuguese Senegambia” [from French].

Kolbe then described the species *C. fuscicornis* according to one specimen collected near “Chinchoxo”, north of the Congo-mouth, by Dr. Falkenstein, staff-physician, during Gruessfeld’s Expedition in West Africa. Chinchoxo (also Tschintschotscho), coordinates 05°09.24’S, 12°03.75’E, is located in Cabinda, Angola. Cabinda (also spelled Kabinda, formerly Portuguese Congo, known locally as Tchiewa) is an exclave and province of Angola, a status that has been disputed by many political organizations in the territory. Description (in part, see Kolbe 1883: 18). “Length 13 mm. Body wide, each elytron with two red fasciae, shortening medially, located not too transversally, ornate; pronotum almost semicircular, anteriorly almost truncated, twice narrower, with margins each sinuate before posterior angle; disk quite impressed dorsally, between posterior angles, basal impressions deeply punctured and rugate, longitudinally canaliculate; elytra very simply arcuate behind midlength, striae not punctured, crenulated, intervals weakly convex, densely punctured; antennae brown, three basal antennomeres black, 3rd antennomere twice longer than 2nd; legs black, tarsi brown” [from Latin]. “Mostly resembles *E. amplicollis* Schaum” [from German]. This species was described by Kolbe as *Eudema*, genus later synonymised with *Craspedophorus* (Andrewes 1919: 126). Burgeon (1930: 162) respecting Chaudoir’s classification transferred this species in the genus *Epigraphus* (Chaudoir 1869: 117). Basilewsky (1967: 130) placed it back to the genus *Craspedophorus*, together with species as follows: *bayeri* Burgeon, 1930, *benoiti* Basilewsky, 1953, and *magnicollis* Quedenfeldt, 1883, because they seemed to him with less dilated protarsomeres in males, than it is necessary to be placed in the genus *Epigraphus*. In contrary to hitherto cited species, which are recently consequently listed in the genus *Craspedophorus*, by respecting Basilewsky’s transfer, recent catalogues (Lorenz 2005: 321, Häckel & Farkač 2012: 86) list the species in the genus *Epigraphus*, ignoring Basilewsky’s opinion. Firstly I have not seen any reason for this ignoring and consider taxonomical position of this species, presented in both catalogues, erroneous. Here I place it back in the genus *Craspedophorus*, in *C. selenoderus* species group. The relationship between *C. fuscicornis* and *C. selenoderus* is, in my view, conspecific. After researching both Basilewsky’s comparative types (Figs. 58, 59) and all the literature data, I found that both taxa are conspecific and decided to synonymize both names.

Distribution. Angola: Cabinda Province; Burundi, Cameroon, DR Congo: Bas-Congo, Équateur, Kasai-Oriental, Katanga, Kinshasa, Maniéma, Nord-Kivu, Orientale Provinces; Guinea-Bissau, Ivory Coast, Malawi, Rwanda, Senegal, Tanzania: Morogoro; Uganda, Zambia, Zimbabwe.

***Craspedophorus benadirensis* subgroup**
***Craspedophorus benadirensis* (Müller, 1942)**
(Plate 3, Fig. 33)

Eudema benadirensis Müller, 1942: 73 (type loc. “Villaggio Duca degli Abruzzi [Benadir Region], Somalia”).

Craspedophorus benadirensis Lorenz 2005: 320. Häckel & Farkač 2012: 79.

Craspedophorus parisii Straneo, 1942: 65. Lorenz 2005: 320 **syn. nov.**

Material examined: Kenya: Eastern. 1 ♀: “N of Ngomeni, Nguni” (cMH). 1 ♀: “E of Mwingi, Sosoma, 600 m” (cMH). Somalia. 1 ♂: “[Degmada Baydhaba] Baidoa” (BMNH).

Note. This species is based on a single female, collected in Benadir region, a coastal region of Somalia (Somali: Banaadir, Persian: Banādir). It covers most of the Indian Ocean coast of the country, from the Gulf of Aden to the Juba River, containing the capital of Mogadishu. Description (in part, see Müller 1942: 73). “Length 17 mm. Length to width ratio, pronotum 4:7, elytra 11.5:8.2. Alate, black, quite long, densely covered by setae; head small, glossy, frons with three sulci, lateral sulci long, quite strongly punctured and covered by setae, median sulcus shorter, without punctuation and setae; antennae slender, short, hardly reaching yellow humeral macula. Pronotum fully transversal, twice wider than long, maximum width at basal third, margins anteriorly narrowing regularly arcuate, posteriorly abruptly narrowing obliquely and elevated, base weakly protruded posteriorly and widely rounded in the middle, excavated near each margin, where ♀ two hind angles, surface very grossly rugate-punctured and finely punctured, with lateral rims widely flattened. Elytra somewhat wider than pronotum, quite convex, with margins distinctly sinuate in front of apex, strongly striated and punctured, intervals convex, glossy, quite densely and finely punctured, each elytron ornated with three yellow maculae, humeral macula reaching from interval VII to VIII, intermediate macula reaching from interval III to V, preapical (third) macula reaching from interval IV to VIII, with serrate margins. Underside glossy, prosternum grossly punctured, venter finely punctured in the middle, near margins punctuation changes to more gross. Metepisterna weakly longer than wide, ventral segments fairly crenulated anteriorly... Hab. In Somaliae regione benadirensis... Holotypus (♀) in Museo tergestino [Trieste]” [from Latin].

“Species of characteristic coloration, simply cognoscible by six yellow maculae (in contrary to four, which normal). Peringuey described one single species from South Africa with six yellow elytral maculae, *Eudema sexmaculatum* [= later synonymised to *C. abnormis* Bates, 1886] from the region of the Zambezi River (1898: 352, 1926: 581). This species distinctly differs from *C. benadirensis* by pronotum is narrower and similar to that in *C. pretiosus* (Chaudoir, 1837), distinguishable from it well by its different elytral coloration, as follows: humeral macula limited to interval VIII, intermediate macula located more posteriorly, immediately in front of elytral midlength, reaching from interval IV to VI, third

macula, preapical, reaching from interval IV to VIII as in *C. benadirensis*. Systematically it seems to be closer to [*C.*] *latifrons* (Chaudoir, 1876), from Eritrea, however different is the number of elytral maculae...” [from Italian]. Müller (1942) has not mentioned one significant difference between both formerly mentioned species - *C. benadirensis* differs from *C. abnormis* mainly by terminal labial palpomere in males, which are dilated and securiform in *C. benadirensis*. In *C. abnormis* labial palpomere is elongated, kidney-shaped. These markers led us to figure these species to other species group.

At the same time but subsequently (1942) Straneo described *Craspedophorus parisii*, which was synonymised with *C. benadirensis* by Lorenz (2005: 320). In the later description there is firstly mentioned the morphology of labial palpomere in this species (in part, see Straneo 1942: 65). “Length 18 mm; maximal width 7.4 mm. ...Each elytron with three maculae...” [from Italian]. “...palpi con ultimo articolo fortemente triangolare [terminal palpomere strongly dilated (securiform)]. Holotype ♂ deposited in Museo Civico di Milano, allotype deposited in my collection...” [from Italian]. This species was based on a pair of specimens, labelled “Dolo, Somalia”. Recently Dolo Odo (Somali: Dooloow) is one of the words as in the Somali Region of Ethiopia. Part of the Liben Zone, Dolo Odo is located in the angle formed by the confluence of the Ganale Dorya with the Dawa River, and bordered to the northwest by Filtu, on the northeast by Afder Zone, on the southeast by Somalia, and on the south by Kenya.

Distribution. Ethiopia: Somali; Kenya: Eastern Province; southern Somalia.

KEY TO SPECIES OF *CRASPEDOPHORUS FESTIVUS* GROUP

- 1 Elytra each with three separate yellow maculae, humeral macula (the smallest), in front 1/6 of elytral length, extending to 3 outer intervals (VII-IX), central macula (the largest) in front 1/3 of elytral length, reaching intervals III-V, preapical macula in the back 1/4 of elytral length reaching the four outer intervals (V-VIII) (Plate 3, Fig. 33). East Africa: Kenya, Somalia. *C. benadirensis* (Müller, 1942)
- Elytra each with a maximum of two separate maculae, humeral and preapical.2
- 2 Pronotal base straight, without any pedunculation of the middle part (*C. microcephalus* subgroup, Figs. 48 a-w)3
- Pronotal base with the middle part always clearly protruding backwards (pedunculation), the lateral 1/5-1/3 of the length of the base concaved anteriorly (*C. selenoderus* subgroup, Figs. 49 a-i). Central, East, South Africa 11
- 3 Pronotum with lateral edge anteriorly pressed inwards (concaved), anterior pronotal angles blunt but distinct even in females (Figs. 48 l-n). West Africa: Ghana, Nigeria, Cameroon. *C. strangulatus* Murray, 1857
- Pronotum with lateral edge anteriorly either wide arched (convex) in females or straight narrowing to the neck (in males), anterior pronotal angles rounded or indistinct.4
- 4 Pronotum more semilunar shaped with maximum width clearly behind half the length (in the back 1/3 in females, in the back 1/4 in males, Figs. 48 a-k, o).5
- Pronotum more hexagonal shaped with maximum width immediately behind half the length (*C. festivus* complex, Figs. 48 p-w). Central, East, South Africa, Madagascar9

- 5 Pronotum with hind angles wide open, rounded, with indentation only faintly distinct (Figs. 48 a-i). Elytral humeral maculae with a rounded or slightly serrated margin (*C. microcephalus* complex, Plate 1: Figs. 1-12). West to Central-East Africa: Senegal to South Sudan..... 6
- Pronotum with hind angles less rounded, with indentation more distinct (Figs. 48j-k) Elytral humeral maculae with distinctly or strongly serrated margin (Plate 3, Figs. 25-28..... 8
- 6 Pronotum slightly less transverse (LW ratio >0.6), anterior angles wide open, slightly rounded but not projecting forward over the front edge (Figs. 48 a-g). Elytra with humeral maculae extending medially (from interval IX) to interval II or III, round, square or triangular in shape, with a slightly serrated or straight margin, composed of spots anterior-posteriorly of the same length except the most medial, which is always shorter-posteriorly than adjacent lateral one (Plate 1, Figs. 1-10). Slightly larger species (BL ≥17 mm). West, Central, East Africa, Senegal to South Sudan. 7
- Pronotum slightly more transverse (LW ratio <0.6), anterior angles strongly rounded, slightly but distinctly projecting forward over the anterior margin (Figs. 48h, i). Elytra with humeral maculae always extending medially to interval II, forming a wide band extending almost the entire proximal half of elytra, composed of spots anterior-posteriorly of the different length, the most medial spot (on interval II) distinctly longer-posteriorly than adjacent lateral one (Plate 1, Figs. 11, 12). Smaller species (BL >16 mm). West Africa: Nigeria..... *C. mnizechi* Chaudoir, 1879
- 7 Body slightly flatter and longer (elytra more than 1.37 times as long as wide). Elytral maculae of large, spherical or square shape, always with a straight or finely serrated margin (Plate 1: Figs. 1-6). Far West Africa: Senegal to Sierra Leone. *C. microcephalus* (Dejean, 1831)
- Body somewhat more convex, shorter (elytra less than 1.37 times as long as wide). Elytral maculae more reduced, forming transverse bands often tapering in the media, macular margins always serrated (at least slightly in females) (Plate 1: Figs. 7-10). West to Central-East Africa: Ivory Coast to South Sudan..... *C. gratus* (Chaudoir, 1854)
- 8 Pronotum strictly semilunar-shaped, not narrowing anteriorly, but widely and regularly rounded, anterior angles completely indistinct, flanks arcuate to anterior pronotal margin (Fig. 48o), elytral maculae with a less serrated margin in some females (Plate 3, Figs. 27, 28). East, South Africa: Kenya to Zambia *C. jeanneli* Alluaud, 1930
- Pronotum with lateral margins more straight narrowing to the neck, anterior pronotal angles wide open, rounded but slightly distinct (Fig. 48 j, k), elytral maculae with a strongly serrated margin in both sexes (Plate 3: Figs. 29, 30). East Africa: Ethiopia, Kenya (Plate 3, Figs. 29, 30..... *C. galla* (Raffray, 1886)
- 9 Head noticeably arrow (head across eyes more than 2.5 times narrower than the maximum width of the pronotum, Plate 3, Figs. 25, 26). Body smaller (BL <16 mm). East Africa: Kenya, Somalia. *C. somalicus* Basilevsky, 1987
- head of normal width for species of this genus (head across eyes less than 2.5 times narrower than the maximum width of the pronotum). Body somewhat larger (BL >16 mm). 10
- 10 Pronotum strongly transverse (LW ratio <0.7), semilunar shaped (Figs. 48p, q), pronotal base as wide as the elytral base. South Africa: from DR Congo Katanga and Angola to Zambia including Madagascar and the Comoros. *C. festivus* (Klug, 1833)
- Pronotum less transverse (LW ratio >0.7), more hexagonal shaped (Figs. 48r-u), base distinctly narrower than the elytral base. Central, Eastern Africa. *C. stenocephalus* (Reiche, 1847)
- 10a Body larger (BL >18 mm). Pronotum laterally more angulated (hexagonal), less rounded (Plate 2, Figs. 17-20). East Africa: Ethiopia to DR Congo. *C. s. stenocephalus* s. str.
- Body smaller (BL <17 mm). Pronotum laterally less angulated, more rounded (Plate 2, Figs. 21-24). Central Africa: Guinea Equatorial to DR Congo..... *C. s. laevifrons* (Schaum, 1863)
- 11 Pronotum not too transverse (LW ratio varies from 0.67 to 0.75, Figs. 49a, b, g), with indentation in front of the hind angles noticeable, faint or completely missing 12

- Pronotum strongly transverse (LW ratio <0.65, Figs. 49c-f, i), with usually well-defined indentation in front of hind angles 14
- 12 Pronotum almost hexagonal, very little transverse (LW ratio >0.7), hind angles with very little or no clear indentation (Fig. 49b). Body flatter, each elytron with two yellow maculae, both are spherical in shape without a serrated margin (Plate 4, Figs. 38, 39). Southeastern Africa: Mozambique: Sofala Province.
.....*C. schuelei* sp. nov.
- Pronotum of semilunar of cordiform shape, somewhat more transverse (LW ratio varies from 0.67 to 0.7), hind angles with small but distinct indentation (Fig. 49a, g). Body moderately or strongly convex, each elytron with two yellow maculae, usually with serrated margin (Plate 4, Figs. 34-37). 13
- 13 Body strongly convex, smaller species (BL <15 mm) quite reminiscent of *C. microcephalus* complex species, but smaller figure (Plate 4, Figs. 34-35) and pronotum with a more pronounced pedunculation of the base (Fig. 49g). Central Africa: Burundi, DR Congo, Rwanda. *C. conspicuus* Basilewsky, 1987
- Body only moderately convex, larger species (BL >16 mm) (Plate 4, Figs. 36, 37). Pronotum with lateral margins broadly rounded, with maximum width at midlength, so that it becomes cordate (Fig. 49a). East Africa: Ethiopia.....*C. cordicollis* (Raffray, 1886)
- 14 Pronotum with anterior angles weakly but distinctly protruded anteriorly (Figs. 49d, e, i). Elytra colored with two yellow maculae, relative large, with less serrate margin, both humeral and preapical maculae reaching from interval IV to VIII 15
- Pronotum with anterior margin straight, anterior angles not protruded anteriorly (Figs. 49c, f). Elytra colored with two yellow maculae, more reduced, with more serrate margin, humeral macula reaching from interval V or VI to VIII, preapical macula reaching from interval IV, V or VI to VIII..... 16
- 15 Pronotum more transverse (LW ratio >0.6), with anterior angles more protruding anteriorly and angled (Fig. 49i). Body smaller (BL <15 mm) and more elongated (elytra 1.54 times as long as wide). First antennomere, palps and legs ferruginous (Plate 4, Figs. 44, 45). East Africa: Kenya. *C. bayeri* (Burgeon, 1930)
- Pronotum less transverse (LW ratio <0.6), with anterior angles more rounded and less distinct (Figs. 49d, e). Body larger (BL >15 mm) and wider (elytra 1.46 times as long as wide). Antennae, palps and legs black (Plate 4, Figs. 42, 43). Central-West and East Africa: Cameroon, Tanzania. *C. deflexus* Bates, 1886
- 16 Body small (BL <13 mm) Pronotum with anterior margin significantly shorter than posterior margin (Figs. 49d, e). Elytra with yellow maculae relative larger, each with a slightly serrated margin (Plate 4, Figs. 46, 47). Central, East and South Africa. Cameroon to Ethiopia, Angola and Zambia. *C. selenoderus* (Laferté-Sénéctere, 1850)
- Body larger (BL >13 mm) Pronotum with anterior margin significantly shorter than posterior margin (Fig. 49f). Elytra with yellow maculae more reduced, each with strongly serrated margin (Plate 4, Figs. 34, 35). E Africa: Tanzania, Manyara.*C. puchneri* sp. nov.

***Craspedophorus strachani* species group Häckel 2017b**

***Craspedophorus sciakyi* sp. nov.**

(Fig. 65)

Type locality. Republic of South Africa, Northern Cape Province, Namaqualand, Kamieskroon.

Type material. Holotype (♂): “RSA West Cape [= Republic of South Africa, Northern Cape Province], Namaqualand, Kamieskroon, XII - 1996 lgt. Giannatelli Stobbia” (Fig. 65, cMH). Paratypes: 1 ♀ same data as holotype (cRS).

Description of holotype. BL 20.1 mm, EW 8.0 mm (PT female BL 20.1 mm, EW 9.1 mm). Body piceous black, shiny, wholly covered with black setae; palps, labrum and mandibles, antennae and tarsi black except terminal articles which darkish brown. Colouration. Body piceous black, glossy; underside black, legs, palps, antennae, mandibles and tarsi distally darkish brown.

Head almost quadrate (width ratio head to pronotum 0.57), labrum and mandibles smooth, opaque, terminal labial palpomere kidney-shaped (bow-shaped in female). Eyes convex. Frons medially raised, frons glabrous in the middle in front, posteriorly and laterally punctured coarsely and irregularly, in front of eyes with two shallow longitudinal depressions, coarsely and irregularly punctured and furrowed. Vertex also punctured coarsely and irregularly, with a weak constriction into occiput and neck, punctured less coarsely but more densely than head. Antennae whip-shaped, distally not widening or flattening, reaching almost to one-third of elytral length. Scape and antennomere 3 more than twice long as pedicel, antennal ratio (A1L/A3L : A2L/A3L : A4L/A3L) = 0.60 : 0.33 : 0.53, surface sparsely covered with short setae.

Pronotum slightly transverse (length to width ratio 0.76), almost hexagonal, maximum width at midlength, disc moderately convex, lateral rims strongly and widely flattened, not elevated; anterior margin straight, anterior angles very widely rounded, indistinctly protruded anteriorly; margins markedly arcuate anteriorly, narrowing in straight line or indistinctly sinuate posteriorly; base weakly convex; sagittal line widely and deeply impressed; lateral rims distinct, each separated from disc by a shallow but distinct furrow reaching both pronotal ends; basal pits located medially from rims, each elongated, quite deep, and extends from the centre of pronotum almost to the base; surface quite strongly and coarsely densely punctured (Fig. 65b).

Elytra fused, almost elliptical, 1.49 times as long as wide, Humeri rounded but distinct, not bevelled, elytral base without any rim, but intervals II-V medially separated from the base by a groove lining the outside of scutellum, interval I reaches to the base between scutellum and said groove, widens strongly near the scutellum and contains a scutellar setiferous puncture. Striae deeply impressed, impunctate. Intervals convex, densely but shallowly pitted, almost glabrous, with subtle isodiametric microsculpture, very sparsely covered with black setae, mainly posteriorly. Each elytron with two yellow maculae of square shape, humeral macula reaching from interval VI to IX, all spots at intervals as long, about as long as the whole macula is wide, so the spot is square in shape (unlike *C. kaboboanus* with spots anteroposteriorly stretched into a rectangular shape); preapical macula reaching from interval VI to IX, spots also anteroposteriorly the same length, but shorter than the shoulder spot, but thanks to narrower intervals, the preapical macula also has a square shape (Fig. 65b).

Underside covered with short setae, finely punctured medially, coarsely punctured near margins; metepisterna rhombic, as long as wide. Legs moderately covered with black setae.

Differential diagnosis. This species closely resembles *Craspedophorus kaboboanus* Basilewsky, 1987 known from both shores of Lake Tanganyika in the African Rift (Kabobo in DR Congo and Kigoma in Tanzania), see Häckel 2017b: 30. *C. sciakyi* n. sp. differs

from *C. kaboboanus* by pronotum with median line more deeply impressed, reaching from anterior margin to base and clearly visible along the entire length (in contrary to *C. kaboboanus* where the line is indistinct in the back third; it differs also by elytral surface and colouration. Elytral intervals in *C. sciakyi* are more densely punctured than intervals in *C. kaboboanus*. Also elytral maculae are distinctly longer anteroposteriorly in *C. kaboboanus* than in *C. sciakyi* where maculae are shorter and more rounded. Aedeagus of both species also differs (Fig. 65b and Häckel 2017b: plate 14, fig. 113).

Etymology. Named after my friend Riccardo Sciaky (Milano, Italia), an excellent specialist in Carabidae.

Distribution. Known only from the type locality.

Craspedophorus kaboboanus Basilewsky, 1987

Material examined: Burundi. 1 ♂: “NE Ruvubu-Parc” (NMEC).

Distribution. DR Congo: Katanga Province; Tanzania: Kigoma, new for Burundi.

DISCUSSION

When choosing the name of the last unrevised group of species of the genus *Craspedophorus* Hope, 1842, I tried to stick to the established names, but these sometimes do not match the name of the oldest described species in the group. However, it is not necessary to respect the name of the oldest described species when choosing the name of the working group of species, here Code does not mandate this obligation. This is another advantage of a free taxon such as a working group of species. Chaudoir (1879: 105) did not introduce or name groups of species in the concept of a working taxon, he only defined them in his key. Other authors (Bates, Alluaud, Burgeon, Basilewsky) work completely freely with the names of species groups. Perhaps that is why this group was sometimes (Burgeon 1936: 138) named after the species *C. festivus* (Klug, 1833), widespread in South Africa and Madagascar, other times (Basilewsky 200: 187) after the name *C. tropicus* (Hope, 1842), namely, a species that the author seemed to have a pan-African extension area. The oldest described species in the group is Dejean's *Panagaeus microcephalus* from 1831. However, a type specimen of this species has not been preserved (it was not repeatedly found in the MNHN). Assigning the name *Craspedophorus microcephalus* to other specimens in the manner of lectotypes or “comparative types” (such as Alluaud in MNHN or Basilewsky in MRAC) is due to the authors' contemporary view. The authors also often did not have the opportunity to see the original type, they derived their “comparative types” from other “comparative types”, and the literature provided descriptions often deviating from the original types. The taxonomic history of the *C. microcephalus* complex is an excellent example of such procedures.

Laferté-Sénéctere recognized in Dejean's collection in the type series *C. microcephalus* the difference of some specimens from the others. He commented on his findings in the catalogue (1850: 394). These were two specimens from Mr. Bocandé, the author did not

specify the country of origin. But another specimen in the same series and of the same origin (Bocandé) matched Dejean's specimens. Laferté-Sénéctere thus considered the difference found to be individual variability and noted that it did not intend to address the difference taxonomically. Chaudoir, on the other hand, considered the aforementioned variation in color to be significant, described some other differences (slightly different shape of pronotum, etc., see description) and described the new species as *C. gratus* (1854: 339). He stated in a zoogeographical note: "...I have one specimen of [*C.*] *gratus* and one other of [*C.*] *stenocephalus*, both from Senegal; specimen of [*C.*] *microcephalus*, which I have, was collected by Mr. Boccandé in Senegambia Portuguese..." [translated from French]. I consider this sentence to be key for the further development of the taxonomy of the taxa concerned. In another publication (1861: 345), the already mentioned Chaudoir zoogeographic note sounds completely different. "*C. gratus*... J' en possède maintenant trois exemplaires provenant tous des chasses de M. Boccandé dans la Sénégambie portugaise [I now have three specimens, all of Mr Boccandé's collecting in Senegambia, Portugal]". He also adopted this new interpretation in his monograph (Chaudoir 1879: 109): "*C. gratus*... Deux individus rapportés par Mr. Boccandé de la Sénégambie portugaise [Here he reports two specimens of that origin]". On the one hand, Chaudoir inaccurately mentions the name of the donor of those pieces ("Boccandé"), while Laferté-Sénéctere mentions them precisely (1850: 394) [Emmanuel Bertrand-Bocandé (1812-1881) was an explorer, businessman, and French colonial administrator who helped spread French influence in Basse Casamance, Senegal, specifically on the island of Carabane. He left a valuable account of this region during colonial times. Carabane, also known as Karabane, is an island and a village located in the extreme south-west of Senegal, in the mouth of the Casamance River, near the border of Guinea-Bissau (Wikipedia)]. From the above, it is most likely that Bocandé's beetles may have come from Senegal or neighbouring present-day Guinea-Bissau, and Chaudoir did not even need to know the person in question (?incorrect transcription of the name). However, based on Chaudoir's original note from 1854, it is clear that the described (type) specimen of *C. gratus* came from Senegal and specimens from Senegambia (Guinea-Bissau) and other specimens from Senegal belong to Dejean's *C. microcephalus*. In the years 1861 (p. 245) and 1879 (p.109) Chaudoir described the origin of the specimens quite the opposite in 1854. The lectotype of *C. gratus* was not marked until 1861, and thus only specimens with extensive round orange elytral spots, including from Senegambia, were available in Chaudoir's collection. These specimens, which in fact belong to the species *C. microcephalus* with a probable area of distribution from Senegal to Guinea and Sierra Leone, apparently served other authors as if not lectotypes, ie certainly as comparative types of the species *C. gratus*. During my visit to the MNHN in 2015, I myself did not find any lectotypes of *C. gratus* or *C. microcephalus*, but I found older specimens determined by Alluaud before 1915 (Plate 1, Fig. 4; Fig. 50 a-f) and Basilewsky's comparative types from 1954 deposited in the NMPC, designated *C. gratus* (Plate 1, Fig. 6). And specimens that according to Chaudoir's description (1854: 339) correspond to *C. gratus* (eg from Cameroon) I found in the MNHN marked as *C. microcephalus*, the determinant here was again Basilewsky in 1954). In my opinion, Basilewsky apparently dealt with the described contradictions at a later stage in his life and came to the same conclusions as I did here. But he never published them. My

conclusions thus support only Basilewsky's later designated (before 1987) comparative types for both species (Plate 1, Figs. 2, 10; Figs. 51a, 53a). Unfortunately, the labels are not marked with the exact year (Figs. 51b, d; 53d). However, only these last designations correspond to Chaudoir's original description (1854), Laferte's notes (1850) and especially Dejean's description (1831). We can find out that Basilewsky finally used comparative types in the finalization of the modification of his collection (in MRAC), which correspond to the descriptions and thus to the actual now untraceable type specimens in MNHN. In his last work on Panageini, Basilewsky first compared types from OUMNH (*C. tropicus*) and other museums (1987: 200). In the case of the taxa *C. gratus*, *C. microcephalus* Basilewsky, he did not publish his conclusions and similarly did not address the position of the taxa *C. tropicus* (Hope, 1842) and *C. conicus* (Murray, 1857). Chaudoir, Alluaud, Burgeon and Basilewsky thus recognize the first three taxa named as separate species and, in the case of *C. conicus*, keep Chaudoir's synonymization with *C. tropicus* in force. From the relatively large number of populations I have seen, it appears that the distribution of the taxon *C. gratus* extends much further east than the species *C. microcephalus*, ie from Senegal (literature) through Côte d'Ivoire, Togo, Benin, Cameroon, Central African Republic to the north-eastern DR Congo (Orientale Province) and central-eastern Africa (South Sudan). Hope's *Panagaeus tropicus* is morphologically indistinguishable from populations of *C. microcephalus* from Sierra Leone (with somewhat rounder spots and a slightly narrower body shape than populations from the Senegal type locality). For the taxon *C. conicus*, only the drawing and place of origin are available. Both support the classification of the taxon as conspecific to *C. gratus*. It is therefore clear that the determination of the taxa concerned in the populations of West Africa, in particular from the period 1861-1986, is in doubt:

a) Chaudoir (1861: 345), Sénégalie portugaise for *C. gratus* (correctly for *C. microcephalus*); Chaudoir (1879: 109) *ibidem*; b) Basilewsky (1951: 205) Sakdjé, northern Cameroon, for *C. microcephalus* (correctly for *C. gratus*);

b) species reference "*C. tropicus*" thus belongs to the species *C. microcephalus* or *C. gratus* respectively. Basilewsky (1963: 383) Ziéla, Guinea, for *C. tropicus* (correctly for *C. microcephalus*); Basilewsky (1968: 92) Bingerville, Ivory Coast (correctly for *C. gratus*).

Data from Central Africa were corrected by Basilewsky on the example of a finding referred to as *C. tropicus* from the Upemba National Park in Katanga in southern DR Congo (1953: 172), which was reclassified as the newly described *C. conspicuus* Basilewsky, 1987: "At eye this species [*C. conspicuus*] could be presented as *C. tropicus* (Hope, 1842 here synonymised with *C. gratus*), interchangeable with it, which occurs in a large area of tropical and subtropical Africa. This mistake was often present by different authors, including me (Basilewsky 1953a: 172).." [from French]. It can be concluded that the mentioned Basilewsky's note on "different authors including me" may include all data from the Alluaud's and Basilewsky's collections from the former Belgian Central African colonies Congo-Belge and Ruanda-Urundi (now DR Congo, Rwanda, Burundi). These are the data: Alluaud (1929: 89) Bas-Uelé, DR Congo: Orientale Province, for *C. tropicus* (correctly for *C. conspicuus*); Burgeon (1930: 161) DR Congo: Bas-Congo Province, *ibidem*; Lac Léopold, (=Mai-Ndombé Lake), Bandundu province, *ibidem*; Sankuru, Kasai-Oriental Province, *ibidem*; Région des lacs, Nord-Kivu Province, *ibidem*; Burgeon (1935:

182) *ibidem*; Basilewsky (1952: 23) Gemena (DR Congo, Équateur, Sud-Ubangi Province, *ibidem*; Basilewsky (1956: 131) Kinazi, Ruanda-Urundi (=Rwanda), *ibidem*.

In the *C. microcephalus* complex, the morphology of specimens is influenced by signs of sexual dimorphism. It is mainly a larger narrowing (bevel) of lateral margin of pronotum in males towards the front, while in females of the same population lateral pronotal margins are more semicircular (Plate 1, Figs. 7, 8; Fig. 48h, i). The difference is often small, individually also variable, but when comparing a larger number of specimens quite clear. For some species, a difference in the extent of spots can be traced, which in females are larger due to the larger anteroposterior dimension, but in some species the spots also differ in width, ie in the different number of intervals affected (Plate 1, Fig. 3 versus Fig. 6 and Fig. 7 versus Fig. 8). In addition, differences in the extent of spots between populations of individual areas in the west-east direction can be traced, which have the character of clinal variability. This is not an exceptional phenomenon in this genus (*Craspedophorus*), a similar tendency to reduce spots from the African Far West (Senegal) to Congo is also observed in species from other groups, eg a) *C. reflexus megamacula* Häckel, 2016 → *C. r. reflexus* (Fabricius, 1781) → *C. r. uelensis* Burgeon, 1930 in *C. reflexus* group (Häckel 2017a: 226, Plate 9) or in the taxa b) *C. leprieurii guineensis* Basilewsky, 1987 → *C. l. leprieurii* (Laporte de Castelnau, 1835) → *C. l. peringueyi* Csiki, 1929 in *C. leprieurii* group (Häckel 2017a: 205, Plate 1) and finally c) *C. tetrastigma* (Laferté-Sénéclercq, 1851) → *C. t. morettoii* Häckel, 2017 → *C. t. milzi* (Duvivier, 1891) in *C. strachani* group (Häckel 2017b: 55, Plate 3). Within this group, the unsexed holotype of *C. tropicus* (Hope, 1842, Plate 1, Fig. 5; Fig. 52) from Sierra Leone can be very successfully placed in the named clinal line of the *C. microcephalus* complex. Its body is somewhat narrower and more convex than in individuals from Senegal (Plate 1, Figs. 1, 2) and thus resembles the population of *C. gratus* (Plate 1, Figs. 7-10), but differs from them in the shape of humeral maculae. These are somewhat more reduced in the middle than in Senegalese populations, so they are circular and not square or rectangular in shape. But the spots on the individual intervals have little difference in length, macular margins are as smooth as in males from the same locality (Sierra Leone) and not serrate as in all eastern living populations (*C. gratus*, Figs. 7-10). Moreover, according to the shape of the terminal labial palps, everything shows that Hope's holotype *C. tropicus* is a female. This would explain other minor differences in the extent of the spots against the male from Sierra Leone (Plate 1, Fig. 3). Murray's taxon *C. conicus* from western Cameroon can be assigned to populations inhabiting the West African area from the Ivory Coast to Cameroon, which have a relatively uniform appearance (Plate 1, Figs. 7, 8). In this work, these specimens are similar to those from Cameroon, which were originally mistakenly referred by Basilewsky to as *C. microcephalus* and also as specimens from northeastern DR Congo (Uele), from which Basilewsky eventually chose his comparative type for *C. gratus* (Plate 1, Fig. 10), all they are included in taxon *C. gratus*. The name *C. conicus* is thus a new synonym for *C. gratus*. The similarity of the aedeagi in these taxa does not facilitate the taxonomist's work. The absence of DNA analysis and the worse availability of species, which are usually very limited in museums, explain the difficulty of species classification and perhaps some historical determination errors. If, in future, DNA studies show that all taxa discussed in this paragraph form only one species with strong variability, it will be named *C. microcephalus*.

(Dejean, 1831). However, the findings so far do not support this, originally Laferte's view, especially if we accept the fact that both morphotypes occur together in some places (Senegal).

From the data obtained so far, it appears that the similar-looking populations of the *C. microcephalus* complex described above inhabit the northern part of sub-Saharan Africa in a kind of horizontal strip from Senegal to South Sudan. The African Rift area and East Africa are populated with taxa that differ from taxa of the *C. microcephalus* complex very little at first glance. The population of Ethiopia described by Raffray in 1886 as *Eudema galla* (Plate 3, Figs. 29, 30) is most similar to the West and Central African populations of *C. microcephalus* complex. Ethiopian specimens (*Craspedophorus galla*) differ from the East African (South Sudan) populations of the *C. microcephalus* complex (treated here as *C. gratus*) only in the shape of pronotum, by a different length of its base and a different shape of basal indentation in front of its hind angles (Fig. 48e versus j, k). The same is true of the populations inhabiting the southern part of the Rift, from which Alluaud created a new taxon *Craspedophorus jeanneli* in 1930. (Also, these specimens differ from the populations of the *C. microcephalus* complex only in the shape of pronotum, which is more semilunar-shaped (Fig. 48o). Another important feature by which Alluaud distinguished his taxon, namely the absence of crenulation at the anterior edge of the ventrites, I cannot consider valid. This view of Alluaud was also taken by Burgeon (1936: 138), although Burgeon himself did not question the affiliation of *C. jeanneli* to the *C. festivus* group. I examined the holotype *C. jeanneli* in the MNHN and found that the crenulation of ventrites is expressed as strongly in this taxon as in other species of the *C. festivus* group (Fig. 55d). Thus, both taxa (*C. galla* and *C. jeanneli*) can form only slightly different local forms of the *C. microcephalus* complex.

In West Africa, in the *C. festivus* group, in my opinion, other taxa can be found that are more easily distinguishable from populations of the *C. microcephalus* complex. One of them is *C. mnizsechi* (Chaudoir, 1879). I also did not find the type of this taxon in MNHN, only a description is available which distinguishes the species from the taxa of the *C. microcephalus* complex. This is due to the smaller dimensions of *C. mnizsechi*, but above all the different shape of its pronotum, which is more transverse (Fig. 48h, i). In addition, the type specimen was not precisely located, Chaudoir expressed his firm belief that it came from West Africa ("Afrique occidentale") and marked it as such. In BMNH I found three specimens from Nigeria (Kano State), which very well correspond to Chaudoir's description of *C. mnizsechi*. These Nigerian specimens could be used to select a candidate for the neotype *C. mnizsechi*. However, there are slight differences from Chaudoir's description in the color and shape of the edge of the humeral spots, but these are individually and clinically variable features (Plate 1, Figs. 11-12). Therefore, I do not name the specimens from this population as a new taxon, but I add a redescription of the species under the name *C. mnizsechi*. If the original type is found, it will have to be compared with said Nigerian specimens in BMNH. Another easily distinguishable species from the populations of the *C. microcephalus* complex is Murray's *C. strangulatus* from western Cameroon and eastern Nigeria. Pronotum is characteristically shaped in this type, its sides are significantly pressed into the front part (Fig. 48l, m). Similarly, but with less pronounced squeezing sides of pronotum in front, the population from Central Ghana has (Fig. 48n). In addition to the

shape of pronotum, these specimens are morphologically very similar to the specimens of the population of *C. strangulatus* from southwestern Cameroon (Plate 2, Figs. 13-16), which must be considered nominotypical (Fig. 56). I consider the taxon from Ghana to be a new subspecies of *C. strangulatus* (Fig. 57).

Another complex of species differs from West African populations also mainly by the shape of pronotum, but the difference in shape is more pronounced due to its narrower base in Central African, East African and South African populations, including those in Madagascar (Fig. 48p-w). This species complex can be called *C. festivus* complex and together with West African populations (*C. microcephalus* complex) forms a distinctive, morphologically well-definable subgroup of species within the *C. festivus* group. I believe that this complex contains at least three valid species. Two of them have significantly different pronotum shapes, namely *C. stenocephalus* (Reiche, 1847) (Plate 2, Figs. 17-22) and *C. festivus* (Klug, 1833) (Plate 3, Figs. 31, 32) and the third taxon includes individuals who have the same shaped pronotum as the population of *C. stenocephalus*. However each specimen of the latter group (all from East Africa) differs from *C. festivus* and *C. stenocephalus* not only in body size, but also in a significantly narrower head (Plate 3, Figs. 25, 26). Therefore, I keep the taxon *C. somalicus* Basilewsky, 1987, created for narrow-headed populations in East Africa, still in force, while the Gabonese populations described as *Isotarsus* (= *Craspedophorus*) *laevifrons* Schaum, 1863 differing from *C. stenocephalus* only in body size (Plate 2 Figs. 17-20, versus Figs. 21-24) I see only as a subspecies *C. stenocephalus*.

Other species of the *C. festivus* group are much better distinguishable from the so far reported species. They are also more different from each other, creating a much more heterogeneous subgroup, which I named after the oldest described taxon, *C. selenoderus* subgroup (Plate 4, Figs. 34-47). The only link between the diverse-looking species of this subgroup is the clearer pedunculation of pronotal base (Fig. 49a-i). These species form a collection basket within the group and for most of them there is no doubt that they form valid species. The exception is the nominotypical species of the subgroup itself. I have not seen type specimens, but based on the study of different populations in MNHN, MRAC and Basilewsky's comparative types (Figs. 58, 59), the following conclusion can be drawn. The taxon described as *Eudema fuscicorne* Kolbe, 1883 from southwestern Africa (Cabinda, Angola) and then mistakenly assigned by Burgeon to the genus *Epigraphus* (1930: 162) is conspecific with the valid species *C. selenoderus* (Laferté-Sénéctere, 1851) described from West Africa, but in fact with Pan-African distribution. The only specimen, originating from the Tanzanian mountains of Nguru, is evidently conspecific with Bates' type *C. deflexus*, described in 1886 according to one female from Cameroon (Plate 4, Fig. 42; Fig. 60). The Tanzanian specimen probably comes from the BMNH collection. In both cases (type specimen and newly identified) it is a female, the aedeagi cannot be compared, however, a slightly different density of the occipital and pronotal punctuation leads me to describe this taxon only as a new subspecies of *C. deflexus* (Plate 4, Fig. 43; Fig. 61). The other two species of the subgroup from the central and southern part of the Rift are completely different from those reported so far and are described as new species (Plate 4, Figs. 38-41; Figs. 62, 63).

CATALOGUE AND DISTRIBUTION OF SPECIES *CRASPEDOPHORUS* HOPE,
1838

a) *C. reflexus* species group Häckel 2016 (8 species)

- C. bonnyi* Bates, 1890. DR Congo: Orientale, Nord-Kivu Provinces.
C. buettneri Kolbe, 1889. DR Congo: Bandundu Province.
C. carbonarius (Harold, 1879), as *Eudema*. Ethiopia: Oromiya; Kenya: Coast Province; Tanzania: Morogoro, Zanzibar Isl.
C. impictus (Boheman, 1848), as *Panagaeus*. Angola: Lunda Norte Province; DR Congo: Kasai-Occidental, Katanga, Nord-Kivu, Sud-Kivu Provinces; Malawi; Mosambique: Maputo Province; South Africa: Eastern Cape, Gauteng, Kwa-Zulu Natal, Limpopo, Mpumalanga, North West, Western Cape Provinces; Tanzania: Rukwa; Uganda; Zambia; Zimbabwe.
C. reflexus crampeli (Alluaud 1915) as *Eudema*. Cameroon: Central Province; Central African Republic.
C. reflexus megamacula Häckel, 2016. Burkina Faso, Gambia, Senegal.
C. reflexus reflexus (Fabricius, 1781), as *Carabus*. Cameroon: Northwest Province; Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Nigeria: Oyo; Sierra Leone.
C. reflexus rugatus Häckel, 2017. Cameroon: Central, Extreme North, West Provinces.
C. reflexus uelensis Burgeon, 1930. DR Congo: Orientale Province; Ethiopia: Gambela, Oromiya; South Sudan.
C. ruvumanus Häckel, 2016. Tanzania: Iringa, Ruvuma, Singida, Tanga.
C. stanleyi Alluaud, 1930. Congo (Brazzaville), DR Congo: Équateur, Orientale Provinces; Tanzania: Iringa, Mbeya; Uganda.

b) *C. leprieuri* species group Häckel 2017a (4 species)

- C. cameronus* Bates, 1886. Cameroon, DR Congo: Orientale, Sud-Kivu Provinces; Equatorial Guinea, Gabon, Guinea, Nigeria: Cross River State.
C. leprieuri clasispilus (Alluaud 1915), as *Eudema*. Northern, central Cameroon, Central Africa, northern Congo, northeastern DR Congo: northern Orientale Province.
C. leprieuri guineensis Basilewsky, 1987. Coast of Guinea-Bissau and Senegal.
C. leprieuri leprieuri (Laporte de Castelnau, 1835), as *Panagaeus*. Cameroon, Guinea, Guinea-Bissau, Ivory Coast, Senegal, Togo.
C. leprieuri peringueyi Csiki, 1929. Mozambique: Niassa Province; Tanzania: Morogoro, Ruvuma; eastern Zambia, eastern Zimbabwe.
C. leprieuri zambianus Häckel, 2017. Angola: Lunda Norte Province; Burundi, Congo, DR Congo: Bandundu, Bas-Congo, Kasai-Occidental, Katanga, Kinshasa, Sud-Kivu Provinces; Rwanda, Zambia.
C. merus lundanus Häckel, 2017. Angola: Lunda Norte Province; Democratic Congo: Kasai-Oriental, Katanga Provinces.
C. merus merus Péringuey, 1904. DR Congo: Kasai-Occidental, Kasai-Oriental,

Katanga, Maniema, Orientale Provinces; Tanzania: Iringa, Ruvuma; Zimbabwe.
C. merus pseudofestivus Burgeon, 1930. Burundi, DR Congo: Katanga, Orientale, Sud-Kivu Provinces; Rwanda, Tanzania: Kagera; Uganda.

C. pretiosus (Chaudoir, 1837), as *Panagaeus*. South Africa: KwaZulu-Natal, Western Cape Provinces.

c) *C. regalis* species group Häckel 2017a (4 species)

C. bouvieri bouvieri Rousseau, 1905. Central Cameroon, Central African Republic, Congo.

C. bouvieri iturianus Basilewsky, 1956. DR Congo: Orientale Province.

C. imperialis imperialis Burgeon, 1930. Benin, Burkina Faso, Ghana, Ivory Coast, Togo.

C. imperialis dux Basilewsky, 1951. Northern Cameroon.

C. regalis regalis (Gory, 1833), as *Panagaeus*. Northern, central Guinea, Guinea-Bissau, Senegal.

C. regalis sayersii (Hope, 1842), as *Panagaeus*. Ghana, south-eastern Guinea, Ivory Coast, Liberia, Togo.

C. unicolor Chaudoir, 1879. Angola, Lunda Norte Province; DR Congo: Katanga, Maniema Provinces; Malawi, Mozambique: Sofala Province; Tanzania: Kigoma, Lindi, Morogoro, Pwani, Ruvuma, Singida, Tabora, Zanzibar Island; Zambia, Zimbabwe.

d) *C. strachani* species group (24 species)

da) *C. strachani* subgroup Häckel, 2017b

C. chevalieri (Alluaud, 1915), as *Eudema*. Central Cameroon, Central African Republic, Gabon.

C. congoanus Kolbe, 1889. DR Congo: Bandundu, Équateur, Kasai-Occidental, Kasai-Oriental, Maniema, Orientale Provinces.

C. cuneatus cuneatus (Alluaud, 1915), as *Eudema*. Central Cameroon, Central African Republic.

C. cuneatus paromius Basilewsky, 1987. DR Congo: Orientale Province.

C. cuneatus rotundatus Häckel, 2017b. Northern Cameroon, Central African Republic.

C. dicranothorax (Alluaud, 1915), as *Eudema*. Congo (Brazzaville), Central African Republic, DR Congo: Bas-Congo; Gabon.

C. dicranulothorax Häckel, 2017b. Southwestern Cameroon.

C. glaber Bates, 1886. Central, southwestern Cameroon; Gabon, southeastern Nigeria: Cross River State.

C. klugii (Hope, 1842), as *Panagaeus*. Southern Ivory Coast, southeastern Liberia.

C. lafertei Murray, 1857. Southeastern Nigeria: Cross River State.

C. latemaculatus Alluaud, 1930. Central Cameroon.

C. latipennis Burgeon, 1930. Central, southwestern Cameroon, southeastern Nigeria: Cross River State.

C. lemariiei Häckel, 2017b. Gabon.

C. phenacoides Häckel, 2017b. Central, eastern, littoral Cameroon.

- C. phenax* Basilewsky, 1987. Central, western, southwestern Cameroon, Democratic Congo: Bandundu, Équateur, Kasai-Oriental Provinces.
- C. ruficroides ruficroides* Häckel, 2017b. Guinea, Ivory Coast.
- C. ruficroides thomsoni* Häckel, 2017b. Cameroon, Central African Republic, Gabon.
- C. ruficrus* (Chaudoir, 1861), as *Epicosmus*. Gabon, Guinea Equatorial.
- C. strachani bamendanus* Häckel, 2017b. Northwestern Cameroon.
- C. strachani grossus* (Hope, 1842), as *Panagaeus*. Benin, Ghana, Ivory Coast, Nigeria: Cross River State, Togo.
- C. strachani monardi* Basilewsky, 1951. Northern Cameroon.
- C. strachani strachani* (Hope, 1842), as *Panagaeus*. Guinea, Ivory Coast, Liberia, Sierra Leone.
- C. tetrastigma milzi* Duvivier, 1891. Central African Republic, DR Congo: Équateur, Orientale Provinces.
- C. tetrastigma morettoii* Häckel, 2017b. Ivory Coast, Nigeria: Kaduna State.
- C. tetrastigma tetrastigma* (Chaudoir, 1850). Guinea, Guinea-Bissau, Senegal.
- C. tetrastigma* ssp. DR Congo: Mai-Ndombe (Bandundu) Province.

db) *C. muata* subgroup

- C. hanangensis* Häckel, 2020. Tanzania: Manyara.
- C. kaboboanus* Basilewsky, 1987. Burundi, DR Congo: Katanga Province; Tanzania: Kigoma.
- C. magnicollis discrepans* Basilewsky, 1987. DR Congo: Kasai-Occidental, Katanga Provinces; northern Zambia.
- C. magnicollis inquilinus* Basilewsky, 1987. DR Congo: Bas-Congo Province.
- C. magnicollis magnicollis* (Quedenfeldt, 1883), as *Eudema*. Angola: Huila, Malanje Provinces; DR Congo: Katanga Province.
- C. montivagus* Basilewsky, 1976. Tanzania: Morogoro.
- C. muata* (Harold, 1879), as *Eudema*. Angola: Cabinda, Cuanza Sul, Huila, Malanje Provinces.
- C. sciakyi* sp. nov. South Africa: Western Cape Province.
- C. simplicicollis* Burgeon, 1930. Malawi, northern Zambia.

e) *C. brevicollis* group Häckel 2017b (3 species)

- C. abnormis* Bates, 1886. Angola: Benguela; DR Congo: Katanga; Kenya: North-eastern Province; Malawi, Tanzania: Dodoma, Iringa, Mbeya, Shinyanga; Zambia, Zimbabwe.
- C. brevicollis beninensis* Häckel, 2017b. Southern Benin.
- C. brevicollis brevicollis* (Dejean, 1831), as *Panagaeus*. Northern Benin, Burkina Faso, Gambia, Guinea, Guinea-Bissau, Mali, Senegal.
- C. latifrons* (Chaudoir, 1876), as *Eudema*. Ethiopia: Oromiya, S.N.N.P.R., Tigray; Kenya: Coast Province; Somaliland (northern Somalia).

g) *C. nobilis* group Häckel, 2020 (6 species)

- C. bonvouloirii* (Chaudoir, 1861), as *Epicosmus*. Botswana, Mozambique: Maputo Province; South Africa: KwaZulu-Natal, Mpumalanga Provinces; Swaziland.
C. graciosus drakensis Häckel, 2020. South Africa: KwaZulu-Natal, Drakensberg Mts..
C. graciosus graciosus (Chaudoir, 1879), as *Epicosmus*. Mozambique: Maputo Province; South Africa: KwaZulu-Natal, Northwest, Mpumalanga Provinces.
C. nobilis (Dejean, 1826), as *Panagaeus*. South Africa: Eastern, Western Cape, KwaZulu-Natal, Mpumalanga Provinces.
C. opulentus (Péringuey, 1898), as *Eudema*. South Africa: KwaZulu-Natal Province.
C. subgraciosus Basilewsky, 1987. South Africa: Limpopo Province.
C. volana (Alluaud, 1895), as *Eudema*. Southern Madagascar.

h) *C. benoiti* (Basilewsky, 1953), as *Epigraphus*. DR Congo: Katanga, northwestern Zambia.

i) *C. erichsoni* group Häckel, 2020 (6 species)

- C. erichsoni difficilis* (Chaudoir, 1879), as *Epicosmus*. DR Congo: Katanga, Nord Kivu, Orientale, Sud Kivu Provinces; Tanzania: Iringa, Mtwara; northwestern Zambia.
C. erichsoni erichsoni (Hope, 1842), as *Panagaeus*. Central, northwestern, southwestern Cameroon, Central Africa, Ghana, Ivory Coast, Nigeria: Nasarawa, Taraba States.
C. ghesquierei Burgeon, 1930. Democratic Congo: Équateur, Kasai-Oriental Province.
C. nigrita (Künckel d'Hercule, 1891), as *Eudema*. Central Madagascar.
C. ornatus occidentalis Häckel, 2020. Western Cameroon, Central Africa, Guinea.
C. ornatus ornatus (Boheman, 1848), as *Panagaeus*. Angola: Benguela Province; DR Congo: Katanga Province; South Africa: Eastern Cape, KwaZulu-Natal; South Sudan, Tanzania: Pwani, Ruvuma; northwestern Zambia.
C. oxygonus (Chaudoir, 1861), as *Epicosmus*. Northwestern, southwestern, western Cameroon, DR Congo: Orientale (Tshopo) Province; Gabon.
C. pungens (Alluaud, 1895), as *Eudema*. Northern Madagascar: Amber Mts.
C. rikatlensis (Péringuey, 1896), as *Eudema*. DR Congo: Katanga; Mozambique, central, eastern Zambia.

j) *C. festivus* **group nov.** (17 species)

ja) *C. festivus* species subgroup

- C. festivus* (Klug, 1833), as *Panagaeus*. Angola: Benguela, Huambo Provinces; Burundi, Comoros, DR Congo: Bandundu (Mai-Ndombe), Bas-Congo, Kasai-Occidental, Kasai-Oriental, Katanga, Sud-Kivu Provinces; Madagascar, Tanzania: Morogoro, Pwani; Zambia: North-western, Central Provinces.
C. galla (Raffray, 1886), as *Eudema*. Kenya: Coast Province; South Africa: Mpumalanga; Swaziland.
C. jeanneli Alluaud, 1930. Kenya: Rift Valley, Western Provinces; South Africa: Limpopo;

northwestern Zambia.

C. microcephalus species complex:

- C. gratus* (Chaudoir, 1854), as *Epicosmus*. Benin, northern, northwestern and southwestern Cameroon, Central African Republic; DR Congo: Orientale Province; Ghana, Ivory Coast, Nigeria: Cross River State; Rwanda, Senegal, South Sudan, Togo.
- C. microcephalus* (Dejean, 1831), as *Panagaeus*. = *Panagaeus tropicus* Hope, 1842. Guinea, Guinea-Bissau, Senegal, Sierra Leone.
- C. mniszewski* (Chaudoir, 1879), as *Epicosmus*. Nigeria: Kano.
- C. somalicus* Basilewsky, 1987. Kenya: Coast Province; Somalia (Southern part).
- C. stenocephalus laevifrons* (Schaum, 1863), as *Isotarsus*. Central Africa, Gabon, Guinea Equat.
- C. stenocephalus stenocephalus* (Reiche, 1847), as *Panagaeus*. DR Congo: Katanga, Nord-Kivu, Orientale (Ituri, Tshopo) Provinces; Eritrea, Ethiopia, Tanzania.
- C. strangulatus mesothorax* **ssp. nov.** Ghana.
- C. strangulatus strangulatus* Murray, 1857. Southwestern Cameroon, Nigeria: Cross River State.

jb) *C. selenoderus* species subgroup

- C. bayeri* (Burgeon, 1930), as *Epigraphus*. Kenya: Coast Province, southern Somalia, Tanzania: Arusha.
- C. cordicollis* (Raffray, 1886), as *Eudema*. Ethiopia: Oromiya, S.N.N.P.R., Tigray.
- C. deflexus deflexus* Bates, 1886. Southwestern Cameroon.
- C. deflexus nguruanus* **ssp. nov.** Tanzania: Morogoro.
- C. conspicuus* Basilewsky, 1987. Burundi, DR Congo: Bas-Congo, Kasai-Oriental (Sankuru), Katanga, Orientale, Nord-Kivu, Sud-Kivu Provinces; Rwanda.
- C. puchneri* **sp. nov.** Tanzania: Manyara.
- C. schuelei* **sp. nov.** Mozambique: Sofala Province.
- C. selenoderus* (LaFerté-Sénectere, 1851), as *Isotarsus*. = *Epigraphus fuscicornis* (Kolbe, 1883). Angola: Cabinda Province; Burundi, central, eastern Cameroon, DR Congo: Bas-Congo, Équateur, Kasai-Oriental, Katanga, Kinshasa, Maniéma, Nord-Kivu, Orientale Provinces; Guinea-Bissau, Ivory Coast, Malawi, Rwanda, Senegal, Tanzania: Morogoro; Uganda, Zambia, Zimbabwe.

jc) *C. benadirensis* species subgroup

- C. benadirensis* (Müller, 1942), as *Eudema*. Ethiopia: Somali; Kenya: Eastern Province; southern Somalia.

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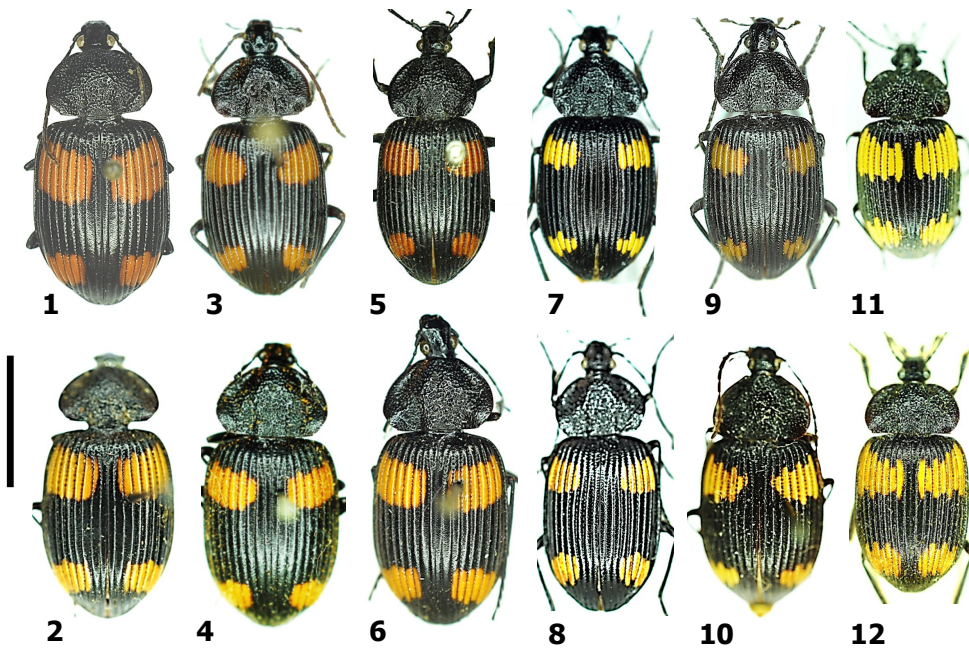


Plate 1

Plate 1. Figs. 1-12. *Craspedophorus festivus* group I. (Scale bar: 10 mm): 1- *C. microcephalus* (Dejean, 1831): habitus of ♂ from Senegal, dorsal aspect; 2- *C. microcephalus* (Dejean, 1831): habitus of ♀ from Senegal, dorsal aspect (comparative type of Basilewsky's collection in MRAC 1987); 3- *C. microcephalus* (Dejean, 1831): habitus of ♂ from Sierra Leone, dorsal aspect; 4- *C. microcephalus* (Dejean, 1831): habitus of ♀ from Guinea, dorsal aspect; 5- *C. microcephalus* (Dejean, 1831): holotype of *Panagaeus tropicus* Hope, 1842 (OUMNH), habitus, dorsal aspect; 6- *C. microcephalus* (Dejean, 1831): habitus of ♀ from Senegal, dorsal aspect; 7- *C. gratus* (Chaudoir, 1854): habitus of ♂ from Cameroon, dorsal aspect; 8- *C. gratus* (Chaudoir, 1854): habitus of ♀ from Cameroon, dorsal aspect; 9- *C. gratus* (Chaudoir, 1854): habitus of ♂ from „Sudan“ (=probably South Sudan), dorsal aspect; 10- *C. gratus* (Chaudoir, 1854): habitus of ♀ from DR Congo, Haut-Uele (=Orientale prov.), dorsal aspect (comparative type of Basilewsky's collection in MRAC 1987); 11- *C. mniszehi* Chaudoir, 1879: habitus of ♂ from Nigeria, dorsal aspect; 12- *C. mniszehi* Chaudoir, 1879: habitus of ♀ from Nigeria, dorsal aspect.

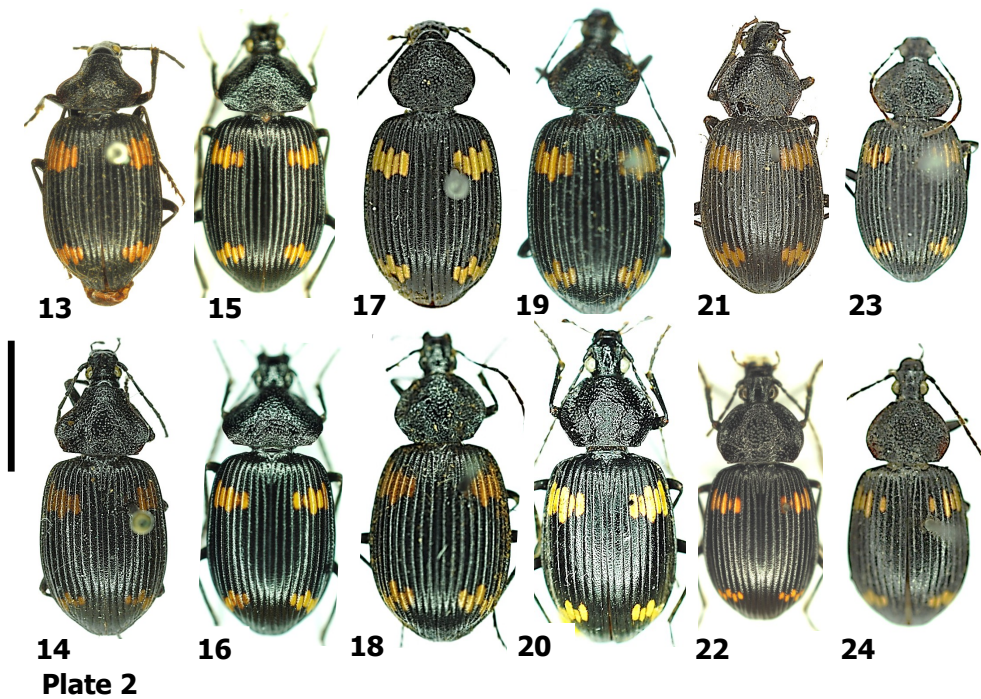


Plate 2. Figs. 13-24. *Craspedophorus festivus* group II. (Scale bar: 10 mm): 13- *C. s. strangulatus* (Murray, 1857): habitus of ♂, lectotype in BMNH, dorsal aspect; 14- *C. s. strangulatus* (Murray, 1857): habitus of ♀, paralectotype in MNHN, dorsal aspect; 15- *C. s. mesothorax* ssp. nov.: habitus of holotype, dorsal aspect; 16- *C. s. mesothorax* ssp. nov.: habitus of paratype ♀, from Ghana, dorsal aspect; 17- *C. s. stenocephalus* (Reiche, 1847): habitus of ♂ from Ethiopia, dorsal aspect; (labelled by Bates in Oberthür-Bates Collection in MNHN); 18- *C. s. stenocephalus* (Reiche, 1847): habitus of ♀ from Ethiopia (comparative type of Basilewsky's collection in MRAC 1954), dorsal aspect; 19- *C. s. stenocephalus* (Reiche, 1847): habitus of ♂ from Ethiopia (comparative type of Basilewsky's collection in MRAC 1954), dorsal aspect; 20- *C. s. stenocephalus* (Reiche, 1847): habitus of ♀ from DR Congo, Katanga, dorsal aspect; 21- *C. s. stenocephalus* trans ad *C. l. laevifrons*: habitus of ♀ from Central Africa, dorsal aspect; 22- *C. s. laevifrons* (Schaum, 1863): habitus of ♀ from Guinea Equatorial, dorsal aspect; 23- *C. s. laevifrons* (Schaum, 1863): habitus of ♀ from Gabon (comparative type of Basilewsky's collection in MRAC 1954), dorsal aspect; 24- *C. s. laevifrons* (Schaum, 1863): habitus of ♀ from Gabon (comparative type of Basilewsky's collection in MRAC 1954), dorsal aspect.

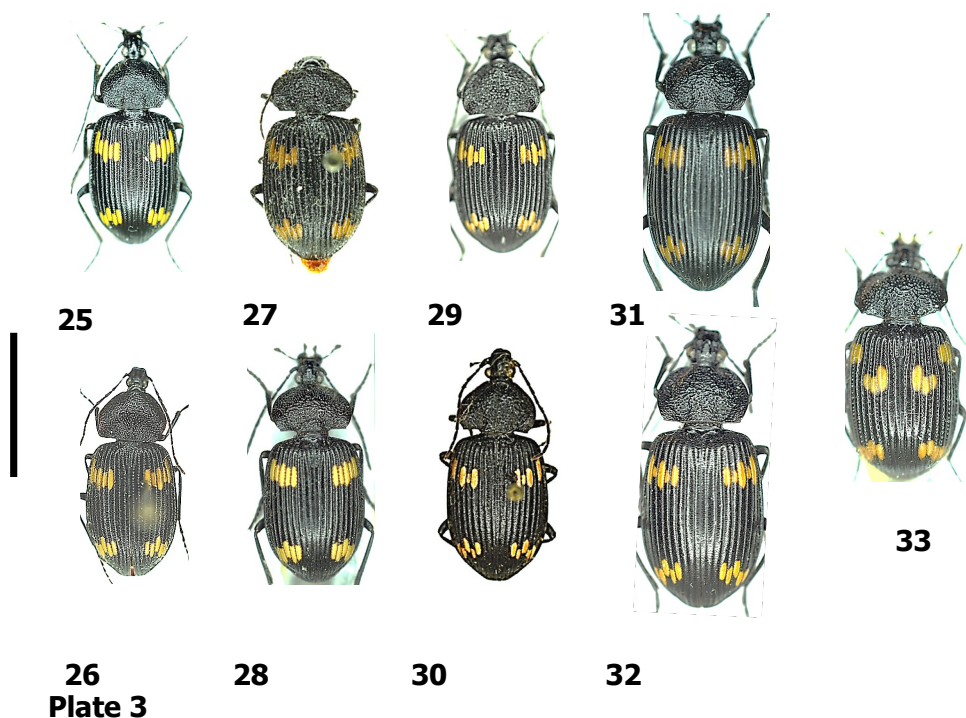


Plate 3. Figs. 25-33. *Craspedophorus festivus* group III. (Scale bar: 10 mm): 25- *C. somalicus* Basilewsky, 1987: habitus of ♂ from Kenya, dorsal aspect; 26- *C. somalicus* Basilewsky, 1987: habitus of holotype (♀), dorsal aspect; 27- *C. jeanneli* Alluaud, 1930: habitus of holotype (unsexed), dorsal aspect; 28- *C. jeanneli* Alluaud, 1930: habitus of ♀ from Zambia, dorsal aspect; 29- *C. galla* (Raffray, 1886): habitus of ♂ from Zambia, dorsal aspect; 30- *C. galla* (Raffray, 1886): habitus of ♀ from Ethiopia (compared with Alluaud's cotypes by Basilewsky 1954), dorsal aspect; 31- *C. festivus* (Klug, 1833): habitus of ♂ from Madagascar, dorsal aspect; 32- *C. festivus* (Klug, 1833): habitus of ♀ from Madagascar, dorsal aspect; 33- *C. benadirensis* (Müller, 1942): habitus of ♀ from Kenya, dorsal aspect.

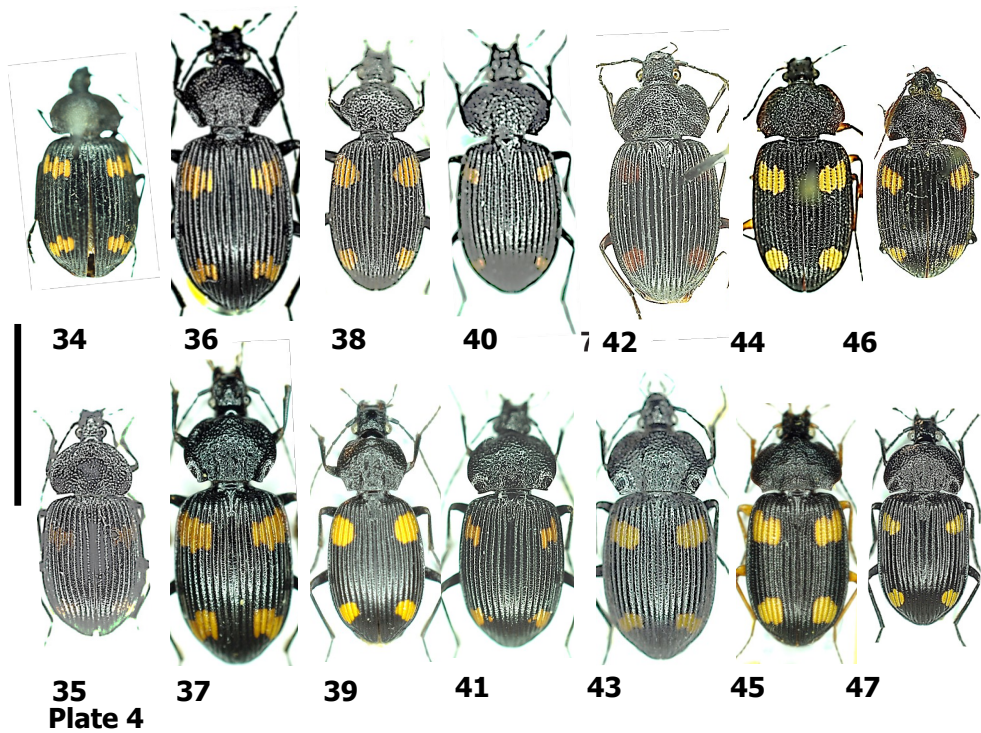


Plate 4. Figs. 34-47. *Craspedophorus festivus* group IV. (Scale bar: 10 mm): 34- *C. conspicuus* Basilewsky, 1987: habitus of holotype (♂), dorsal aspect; 35- *C. conspicuus* Basilewsky, 1987: habitus of paratype (♀) from Rwanda, dorsal aspect; 36- *C. cordicollis* (Raffray, 1886): habitus of ♂ from Ethiopia, dorsal aspect; 37- *C. cordicollis* (Raffray, 1886): habitus of ♀ from Ethiopia, dorsal aspect; 38- *C. schuelei* sp. nov.: habitus of holotype (♂), dorsal aspect; 39- *C. schuelei* sp. nov.: habitus of paratype ♀ from Mozambique: Sofala, dorsal aspect; 40- *C. puchneri* sp. nov.: habitus of holotype (♂), dorsal aspect; 41- *C. puchneri* sp. nov.: habitus of paratype ♀ from Tanzania: Manyara, dorsal aspect; 42- *C. deflexus deflexus* Bates, 1886: habitus of holotype (♂), dorsal aspect; 43- *C. deflexus nguruanus* n. ssp.: habitus of holotype (♀), dorsal aspect; 44- *C. bayeri* (Burgeon, 1930): habitus of holotype (♂), dorsal aspect; 45- *C. bayeri* (Burgeon, 1930): habitus of ♀ from Kenya, dorsal aspect; 46- *C. selenoderus* (Laferté-Sénéctere, 1850): habitus of ♂ from Congo-Brazzaville (comparative type of Basilewsky's collection in MRAC 1954), dorsal aspect; 47- *C. selenoderus* (Laferté-Sénéctere, 1850): habitus of ♀ from Ethiopia, dorsal aspect.

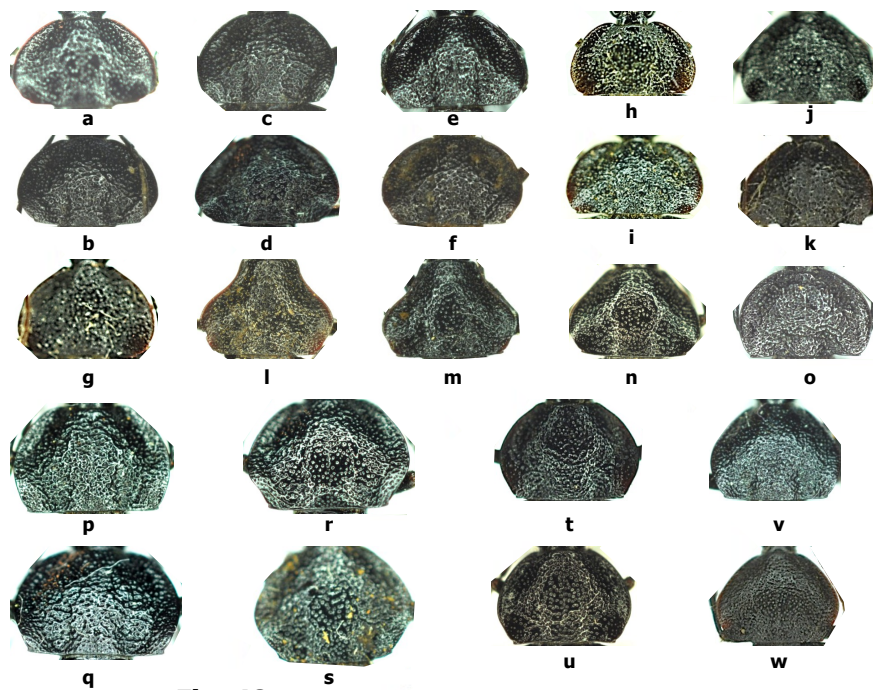


Fig. 48

Fig. 48. *Craspedophorus festivus* subgroup. Design of pronotum, dorsal aspect: a- *C. microcephalus* (Dejean, 1831), male Sierra Leone; b- *C. microcephalus* (Dejean, 1831), female Senegal; c- *C. microcephalus* (Dejean, 1831), HT of *Panagaeus tropicus* Hope, 1842 (OUMNH); d- *C. microcephalus* (Dejean, 1831), female Sierra Leone; e- *C. gratus* (Chaudoir, 1854), male Sudan; f- *C. gratus* (Chaudoir, 1854), female Cameroon; g- *C. gratus* (Chaudoir, 1854), male DR Congo; h- *C. mniszehi* Chaudoir, 1879, male Nigeria; i- *C. mniszehi* Chaudoir, 1879, female Nigeria; j- *C. galla* (Raffray, 1886), male Ethiopia; k- *C. galla* (Raffray, 1886), female Ethiopia; l- *C. s. strangulatus* (Murray, 1857), lectotype in BMNH (male); m- *C. s. strangulatus* (Murray, 1857), paralectotype in BMNH (female); n- *C. s. mesothorax* n. ssp., holotype, o- *C. jeanneli* Alluaud, 1930, female Zambia; p- *C. festivus* (Klug, 1833), male Madagascar; q- *C. festivus* (Klug, 1833), female Madagascar; r- *C. stenocephalus stenocephalus* (Raffray, 1886), male DRC: Kivu; s- *C. stenocephalus stenocephalus* (Raffray, 1886), female Ethiopia; t- *C. stenocephalus laevifrons* (Schaum, 1863), male Gabon; u- *C. stenocephalus laevifrons* (Schaum, 1863), female Guinea Equatorial; v- *C. somalicus* Basilewsky, 1987, male Kenya; w- *C. somalicus* Basilewsky, 1987, female Somalia.

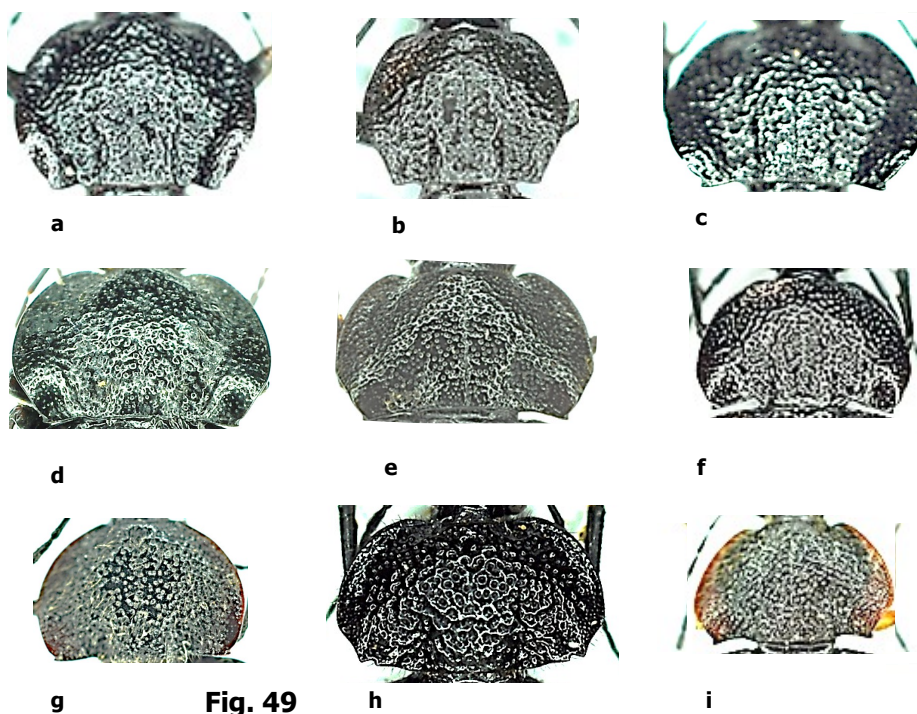
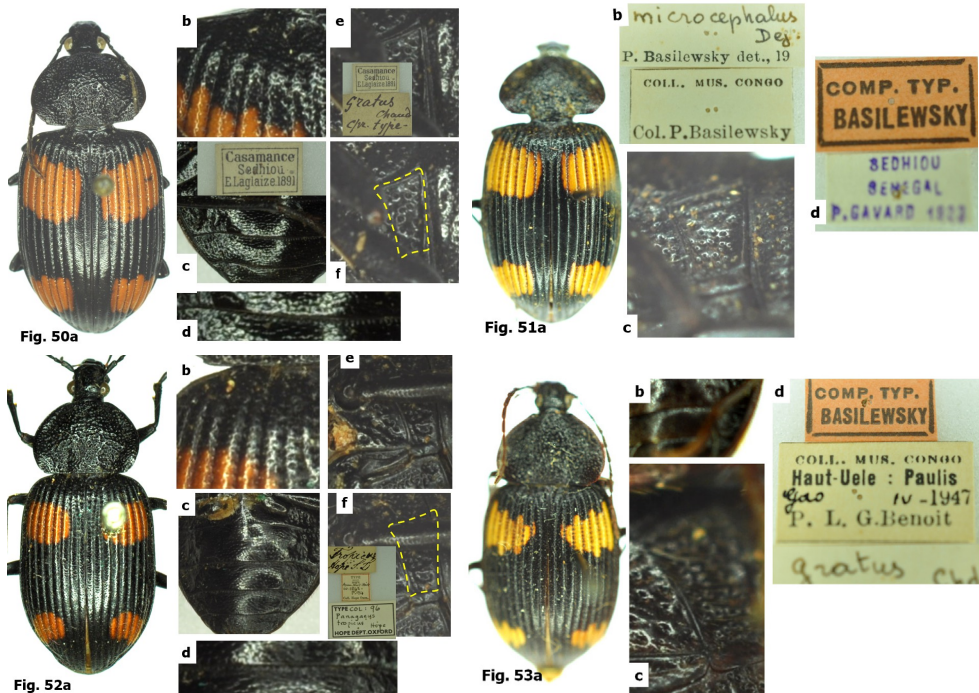


Fig. 49 *Craspedophorus selenoderus* and *C. benadirensis* subgroups. Design of pronotum, dorsal aspect: a- *C. cordicollis* (Raffray, 1886), male Ethiopia; b- *C. schuelei* sp. nov. (HT); c- *C. puchneri* sp. nov. (HT); d- *C. deflexus nguruanus* ssp. nov. (HT); e- *C. deflexus deflexus* Bates, 1886 (HT); f- *C. selenoderus* (Laferté-Sénéctere, 1850), female Ethiopia; g- *C. conspicuus* Basilewsky, 1987, female Rwanda; h- *C. benadirensis* (Müller, 1942), female Kenya; i- *C. bayeri* (Burgeon, 1930), female Kenya.



Figs. 50-53. *Craspedophorus microcephalus* species complex I. Fig. 50. *C. microcephalus* (Dejean, 1831), female from Senegal (MNHN, labeled as *C. gratus* Chd. by unknown author probably Alluaud): a- dorsal aspect, b- sculpture of elytral humerus, dorsal aspect, c- ventrites, ventral aspect and label, d- ventrites, ventral aspect, detail, e- left metepisternum, oblique ventral aspect, f- left metepisternum (outlined in yellow), oblique ventral aspect and labels. Fig. 51. *C. microcephalus* (Dejean, 1831), female from Senegal (comparative type of Basilewsky's collection in MRAC 1987): a- dorsal aspect, b- label, c- left metepisternum, d- labels. Fig. 52. *C. microcephalus* (Dejean, 1831), holotype of *Panagaeus tropicus* Hope, 1842 (OUMNH): a- dorsal aspect, b- sculpture of elytral humerus, dorsal aspect, c- ventrites, ventral aspect, d- ventrites, ventral aspect, detail, e- left metepisternum, oblique ventral aspect, f- left metepisternum (outlined in yellow), oblique ventral aspect and labels. Fig. 53. *C. gratus* (Chaudoir, 1854) female from DR Congo, Haut-Uele (comparative type of Basilewsky's collection in MRAC 1987): a- dorsal aspect, b- ventrites, ventral aspect, c- left metepisternum, oblique ventral aspect- labels.

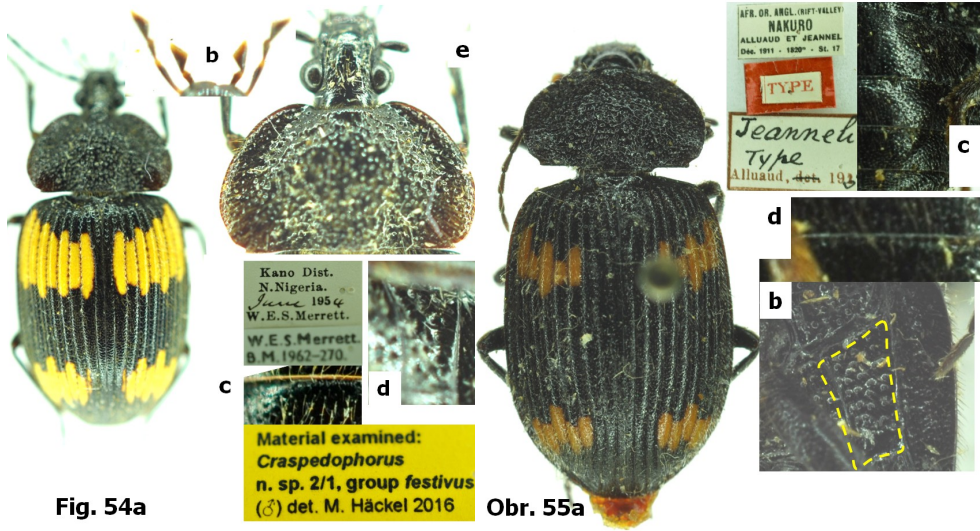


Fig. 54a

Obr. 55a

Figs. 54-55. *Craspedophorus microcephalus* species complex II. Fig. 54. *C. mniszcechi* Chaudoir, 1879, male from Nigeria: a- dorsal aspect, b- palps, c- ventrites, ventral aspect, detail and labels, d- left metepisternum, oblique ventral aspect, e- head and pronotum in detail, dorsal aspect. Fig. 55. *C. jeanneli* (Alluaud, 1930), holotype: a- dorsal aspect, b- left metepisternum (outlined in yellow), oblique ventral aspect, c- labels and ventrites, ventral aspect, d- ventrites, ventral aspect, detail.

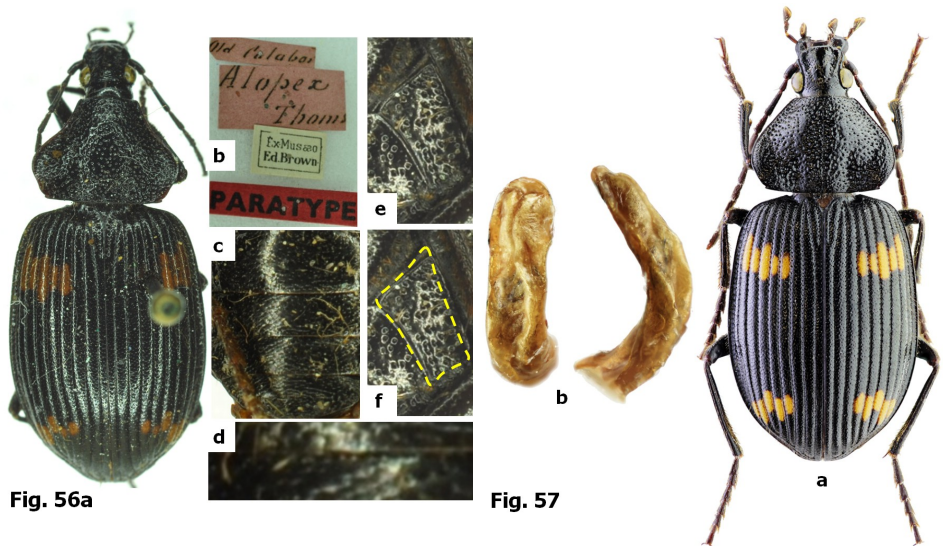
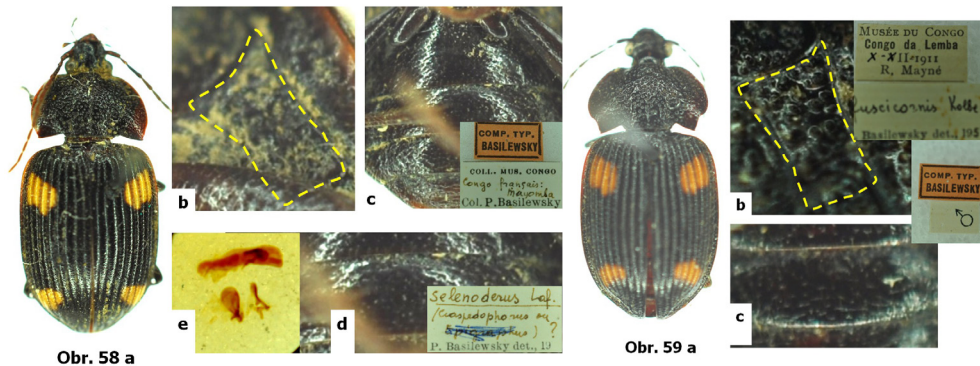


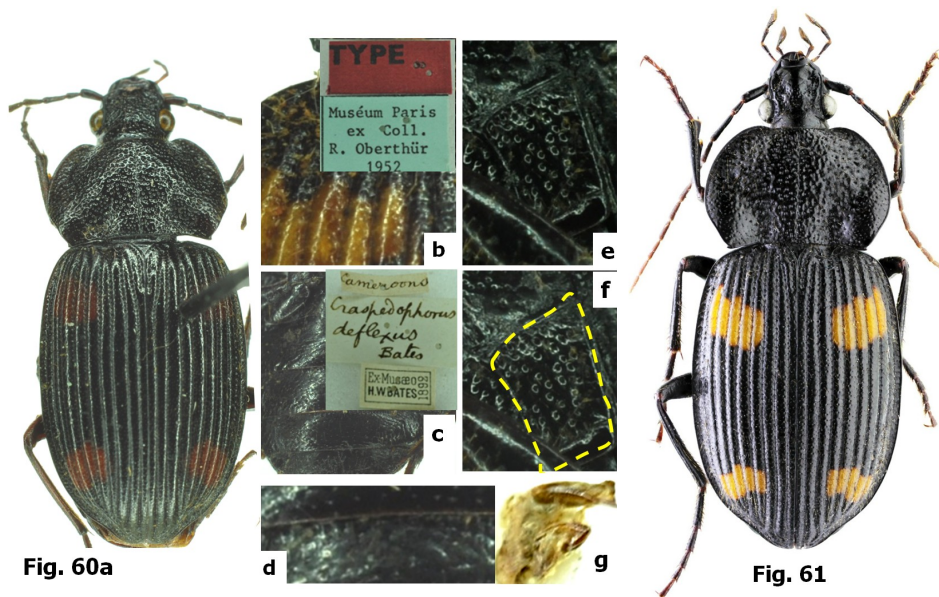
Fig. 56a

Fig. 57

Figs. 56-57. *Craspedophorus strangulatus* complex. Fig. 56. *C. strangulatus strangulatus* (Murray, 1857), female from Old Calabar, Nigeria (paralectotype in MNHN): a- dorsal aspect, b- labels, c- ventrites, ventral aspect, d- ventrites, ventral aspect, detail, e- left metepisternum, oblique ventral aspect, f- left metepisternum (outlined in yellow), oblique ventral aspect. Fig. 57. *C. strangulatus mesothorax* ssp. nov., holotype: a- dorsal aspect, b. Aedeagus from frontal (left) and right lateral (right) aspect.



Figs. 58-59. *Craspedophorus selenoderus* complex. Fig. 58. *C. selenoderus* (Laferté-Sénéctere, 1850), male from Congo-Brazzaville (comparative type of Basilewsky's collection in MRAC 1987): a- dorsal aspect, b- left metepisternum (outlined in yellow), oblique ventral aspect, c- ventrites, ventral aspect and labels, d- ventrites, ventral aspect, detail and label, e- aedeagus and parameres enclosed in Canadian balsam, left lateral aspect. Fig. 59. *C. selenoderus* (Laferté-Sénéctere, 1850), female from DR Congo (comparative type of *Craspedophorus fuscicornis* Kolbe, 1883 in Basilewsky's collection, MRAC 1987): a- dorsal aspect, b- left metepisternum (outlined in yellow), oblique ventral aspect and labels, c- ventrites, ventral aspect.



Figs. 60-61. *Craspedophorus deflexus* complex. Fig. 60. *C. deflexus deflexus* Bates, 1886, holotype: a- dorsal aspect, b- sculpture of elytral humerus, dorsal aspect and labels, c- ventrites, ventral aspect and labels, d- ventrites, ventral aspect, detail, e- left metepisternum, oblique ventral aspect, f- left metepisternum (outlined in yellow), oblique ventral aspect, g- aedeagus from ventral aspect. Fig. 61. *C. deflexus nguruanus* n. ssp.: habitus of holotype, dorsal aspect.



Fig. 62a



Fig. 62. *Craspedophorus puchneri* sp. nov.: habitus of holotype (male): a- dorsal aspect, b- left metepisternum, oblique ventral aspect, c- ventrites, ventral aspect, detail, d- aedeagus from frontal and (e-) right lateral aspect.



Fig. 63a



Fig. 63. *Craspedophorus schuelei* sp. nov.: habitus of holotype (male): a- dorsal aspect, b- left metepisternum, oblique ventral aspect, c- ventrites, ventral aspect, detail, d- aedeagus from frontal and (e-) right lateral aspect.

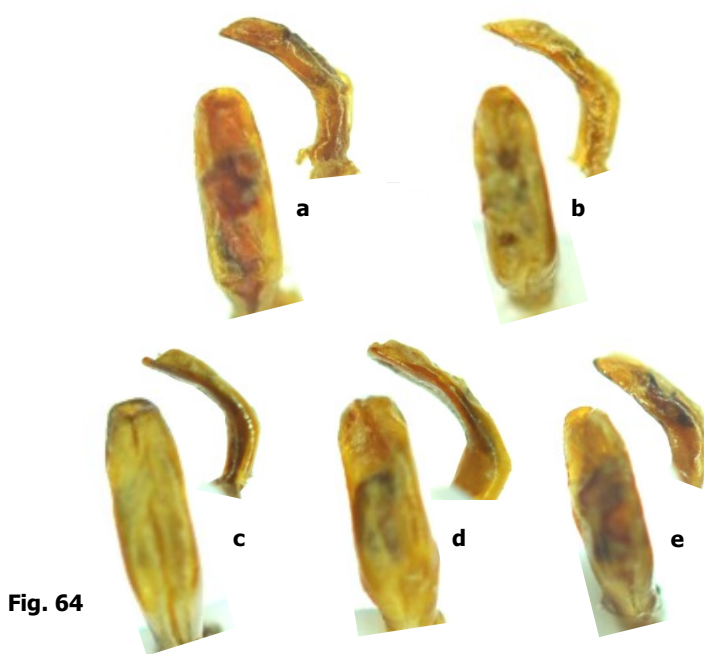


Fig. 64

Fig. 64. *Craspedophorus festivus* group. Aedeagus in frontal and right lateral aspects: a) *C. microcephalus* (Dejean, 1831), Sierra Leone, b- *C. galla* (Raffray, 1886), Ethiopia, c- *C. stenocephalus laevifrons* (Schaum, 1863), Gabon, d- *C. stenocephalus stenocephalus* (Raffray, 1886), DR Congo: Kivu, e- *C. conspicuus* Basilewsky, 1987, DR Congo: Katanga.



Fig. 65a

b

Fig. 65. *Craspedophorus sciakyi* sp. nov.: habitus of holotype (male): a- aedeagus from frontal and right lateral aspect, b- dorsal aspect.

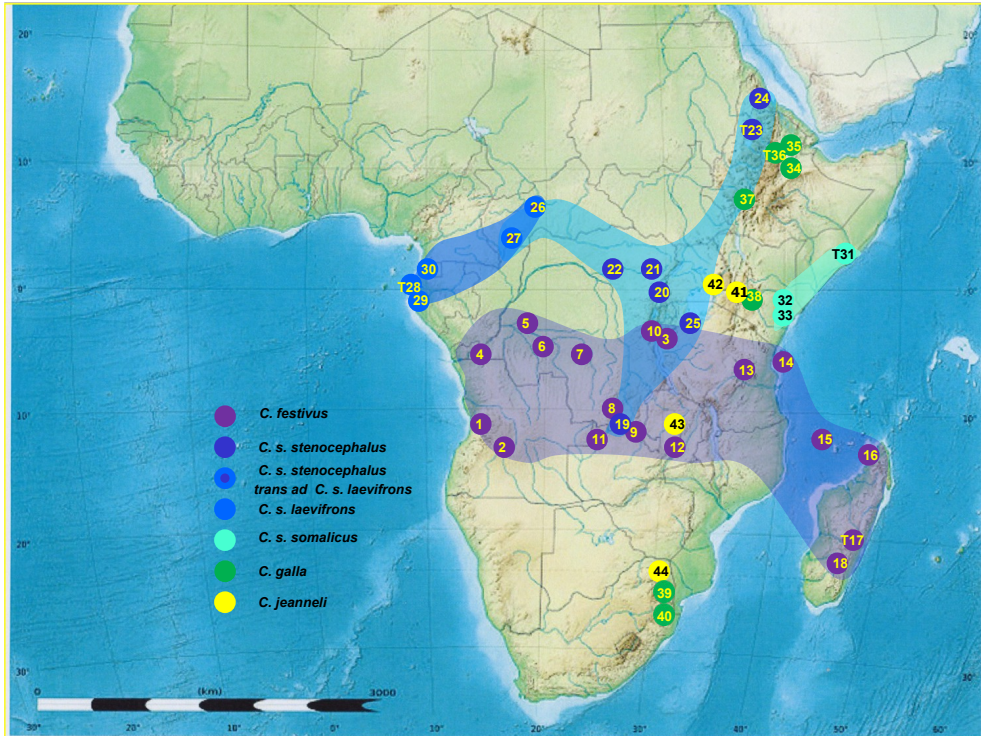


Fig. 66. Distribution of the *Craspedophorus festivus* group (I) in the Afrotropical Region.

A 1-18 *C. festivus* (Klug, 1833): 1) Angola, Benguela: Alto-Catumbela env.; 2) Huambo: 75 km n Caconda, nr. Cuima; 3) Burundi: "Usambara" (=Bujumbura); 4) DR Congo: Bas-Congo; 5) Mai-Ndombe (Bandundu): Kunungu; 6) Kasai-Occidental: Ipamu; 7) Kasai-Oriental: Kondue; 8) Katanga: Kolwezi; 9) Lubumbashi; 10) Sud-Kivu: Uvira; 11) Zambia, North-western: 150 km s Mwinilunga; 12) Central: Serenje; 13) Tanzania, Morogoro: Kiguruwila Aerea, Uluguru Mts.; 14) Pwani.: Mafia Is., Jimbo; 15) Comoros: Grande Comore; 16) Madagascar (HT): Nossibé Is.; 17) Toamasina: Rogez; 18) Fianarantsoa: Ranomafana. B 19-26 *C. stenocephalus stenocephalus* (Raffray, 1886): 19) DR Congo, Katanga: Moera; 20) Nord-Kivu: Beni; 21) Orientale (Ituri); Mawambi; 22) Orientale (Tshopo): Likenga near Kisangani; 23) Ethiopia (HT), Amhara: Gondar; 24) Eritrea; 25) Tanzania: "Tanganika". B/C 26-27 *C. s. stenocephalus* trans ad *C. s. laevifrons*. 26) Central Africa: "Congo français, Fort Crampel" (=Nana Grébizi: Kaga Bando); 27) Sangha-Mbaéré: 60 km w of Bambio. C 28-30 *C. s. laevifrons* (Schaum, 1863): 28) Gabon: "Bas-Ogooué" (=Ogooué Maritime, HT); 29) Esturaire: Libreville env.; 30) Guinea Equatorial: "Guinea esp[agnola], Rio Benito" (=Mbini River). D 31-33 *C. somalicus* Basilewsky, 1987: 31) Somalia, Lower Shebelle: Afgoi (=Afgooye, HT); 32) Kenya, Coast: nw of Garsen; 33) Hola. E 34-40 *C. galla* (Raffray, 1886): 34) Etiopia, Afar: Awash; 35) "Lac Dobbo" (=Doba); 36) Amhara, Semien Wollo: Kobbo (HT); 37) Oromiya, Illubabor: Bedele; 38) Kenya, Coast: Gede forest; 39) South Africa, Mpumalanga: White River; 40) Swaziland: Mlilwane Wildlife Sanctuary. F 41-45 *C. jeanneli* Alluaud, 1930: 41) Kenya, Rift Valley: Nakuru (HT); 42) Western: Elgon Mt.; 43) Zambia, Northern: 92 km nw Mpika; 44) South Africa, Limpopo: "Transvaal, Louis Trichardt".

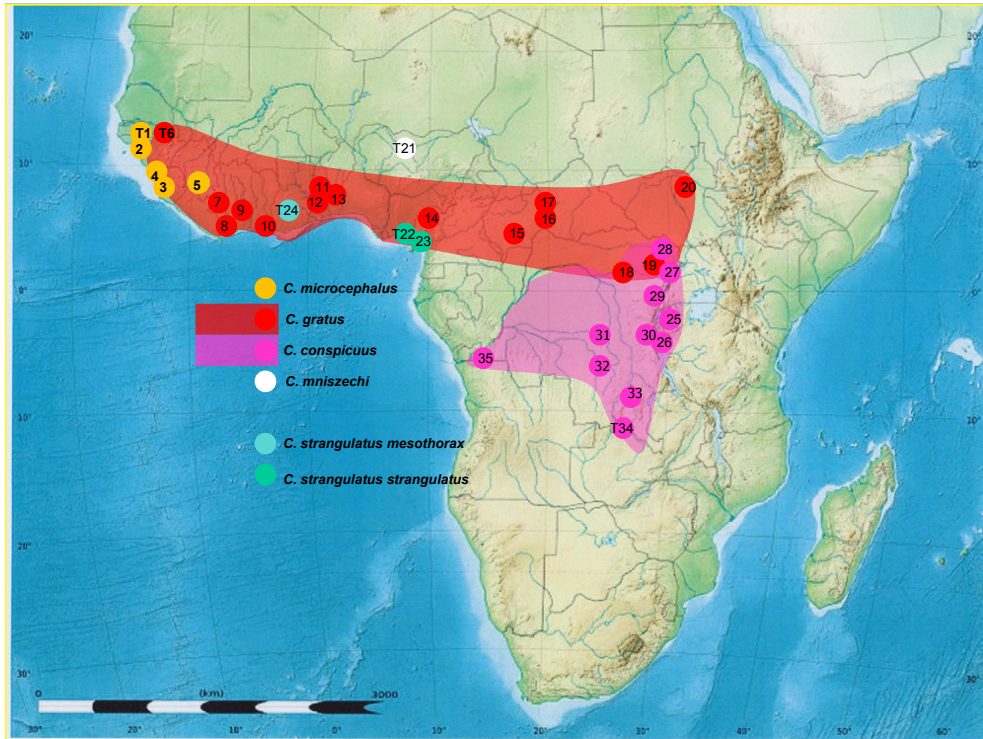


Fig. 67. Distribution of the *Craspedophorus festivus* group (II, *C. festivus* and *C. selenoderus-partim* subgroups) in the Afrotropical Region.

A 1-5 *C. microcephalus* (Dejean, 1831): 1) Senegal (HT): Casamance, Sedhiou; 2) “Senegambia Portuguese” (=Guinea-Bissau); 3) Sierra Leone (HT of *Panagaeus tropicus* Hope, 1842); 4) Guinea: Rio Pongo; 5) Beyla. B 6-20 *C. gratus* (Chaudoir, 1854): 6) Senegal (HT); 7) Ivory Coast, Bafing: Biémaso; 8) Bas-Sassandra: San Pedro, Touih; 9) Yamassoukro; 10) Abidjan: Allokoi; 11) Togo, Centrale: Fazao; 12) Plateaux: Atakpamé; 13) Benin, Zou: Pobé, Zagnanado; 14) Cameroon, Northwest: Bamenda; 15) Central African Republic, Ombella-M’Poko: 85 km nw Bangui, near Boali; 16) Kémo: 35 km s Sibut; 17) Nana-Grébizi: 40 km s Kaga Bandoro; 18) DR Congo: Orientale (Tshopo): Likenga, Kisangani env.; 19) Orientale (Haut-Uele): “Paulis” (=Isiro); 20) South Sudan: “Marno Sudan (probably Fashoda =Kodok)”. C 21 *C. mniszehi* (Chaudoir, 1879): Nigeria, Kano: Kano District (neotype). D 22-23 *C. strangulatus strangulatus* Murray, 1857: 22) “Old Calabar” (=Nigeria: Cross River State, HT); 23) Cameroon, Southwest: Bakingili env. E 24 *C. strangulatus mesothorax* ssp. nov.: Ghana, Ashanti: Kumasi (HT). F 25-35 *C. conspicuus* Basilewsky, 1987: 25) Ruanda (=Rwanda): Gitarama; 26) Urundi (=Burundi): Bururi; 27) DR Congo: Orientale: PN Garamba; 28) Ituri: Bunia; 29) Nord-Kivu: “P.N.A.” (PN Albert= Virunga NP): Munene; 30) Sud-Kivu: Mokanga, terr. Fizi; 31) Kasai-Oriental (Sankuru): Kishindi; 32) Lomami; 33) Katanga: PN Upemba; 34) Lulua: Kapanga (HT); 35) Bas-Congo: Thysville.

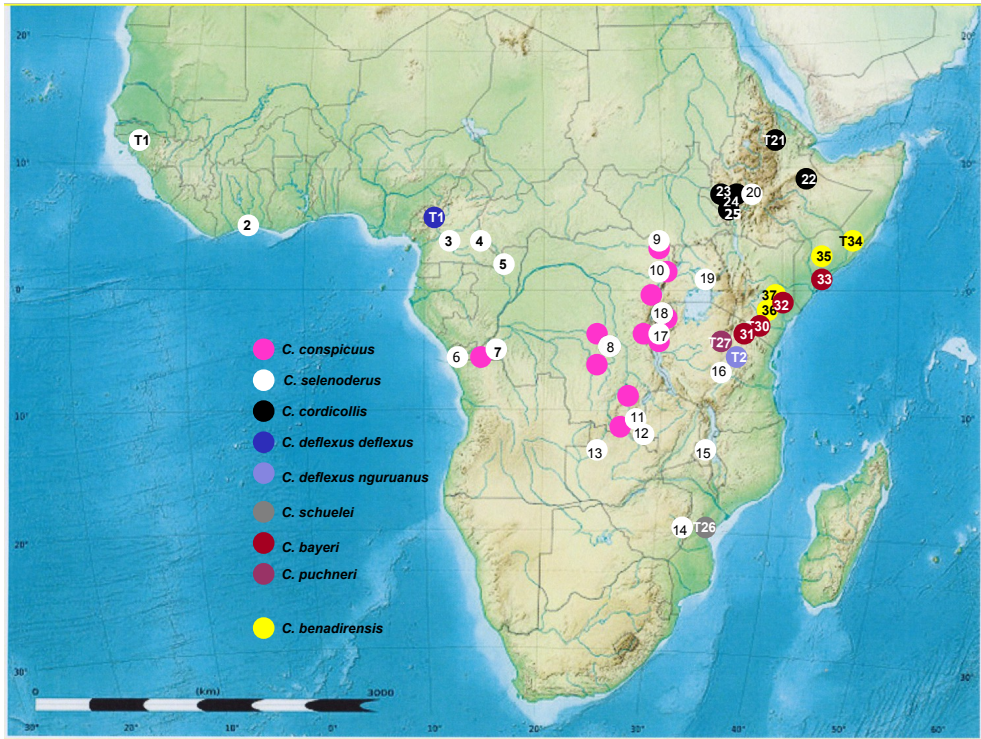


Fig. 68. Distribution of the *Craspedophorus festivus* group (III, *C. selenoderus*-partim and *C. benadirensis* subgroups) in the Afrotropical Region.

A 1-20 *C. selenoderus* (Laferté-Sénéctere, 1851): 1) "Guin. Lusit." (=Guinea-Bissau, LT); 2) Ivory Coast: Bingerville; 3) Cameroon, East: Doumé; 4) Central: Ebogo; 5) "Congo français, Mayomba" (=Central Africa, Sangha-Mbaéré prefecture, Ndoki National Park); 6) Cabinda (Angola): Chinchoxo (HT of *Eudema fuscicornis* Kolbe, 1883); 7) DR Congo, Kinshasa: Congo da Lemba (comparative type in Basilewky's collection in MRAC); 8) Kasai-Oriental, Sankuru: Djeka; 9) Orientale: Park national Garamba; 10) Ituri: Bunia; 11) Katanga: Lubumbashi, C.U. Kasapa; 12) Lulua: Kapanga; 13) Zambia, northwestern: Kabompo; 14) "S Rhodesia, Mt. Selinda" (=Zimbabwe, Manicaland); 15) Malawi: "Nkwadzi [=Nkwazi]"; 16) Tanzania, Morogoro: Uluguru Mts.; 17) Burundi, Bururi; 18) Rwanda: Kibungu; 19) Uganda: Busoga; 20) Ethiopia, Oromiya: 70 km s Jima. B 21-25 *C. cordicollis* (Raffray, 1886): 21) Ethiopia, Tigray: Debubawi Zone, Amba Alagi (HT); 22) Harar; 23) Oromiya: Illubabor Zone, Metu; 24) Jimma: Badabuna Forest; 25) S.N.N.P.R.: "Anderatscha to Godjeb (=Anderaccha, Keffa Zone to Gojeb River). C 26 *C. schueleii* sp. nov.: Mozambique, Sofala: Mt. Gorongosa (HT). D 27 *C. puchneri* sp. nov.: Tanzania, Manyara: Katesh vicinity, Hanang Mt. (HT). E 28 *C. deflexus deflexus* Bates, 1886: "Mount Cameroons" (=Cameroon, North-West Province, HT). F 29 *C. deflexus nguruanus* ssp. nov.: Tanzania, Morogoro: Maskati, Nguru Mountains (HT). G 30-33 *C. bayeri* (Burgeon, 1930): 30) Kenya, Taita-Taveta: Zuwani (HT); 31) Tanzania, Arusha: Mto Wa Mbu; 32) Kenya, Coast: Garsen; 33) Somalia: Banaadir. J 34-37 *C. benadirensis* (Müller, 1942): 34) Somalia, Benadir: "Villaggio Duca degli Abruzzi" (=Jiwhaar, HT); 35) Degmada Baydhaba: Baidoa; 36) Kenya, Eastern: n of Ngomeni, Nguni; 37) e of Mwingi, Sosoma.

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