

Studies in Afrotropical Sestyrini (Coleoptera, Cerambycidae, Cerambycinae). I. Revision of the African members of the genus *Dere* White, 1855 – with description of new species

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The Afrotropical species of *Dere* White, 1855 are revised. The genus *Zoocosmius* Fåhraeus, 1872 is reduced to a synonym of *Dere*, and the following new combinations are made: *Dere basalis* (Aurivillius, 1925), *D. bicolor* (Kolbe, 1894), *D. leptis* (Jordan, 1903), *D. masoni* (Aurivillius, 1923) and *Dere minor* (Jordan, 1894). *Syndere viridicincta* Aurivillius, 1907 and *Maynagaleptus donisi* Lepesme & Breuning, 1956, both formerly synonymized with *Zoocosmius minor* (Jordan, 1894) are shown to be bona spp.: *D. viridicincta* (Aurivillius, 1907) **comb. nov.** and *D. donisi* (Lepesme & Breuning, 1956) **comb. nov.** *Zoocosmius niger* (Aurivillius, 1907) is reduced to a morph, *m. nigra* (Aurivillius, 1907) of *D. leptis* (Jordan, 1903). *Zoocosmius basilewskyi* Fuchs, 1974 is synonymized with *D. bicolor* (Kolbe, 1894). Four new species and two new subspecies are described: *D. krameri* **sp. n.** (Tanzania), *D. minettii* **sp. n.** (Tanzania), *D. janenschi* **sp. n.** (Tanzania), *D. littoralis* **sp. n.** (Kenya), *D. bicolor* ssp. *puchneri* **ssp. n.** (Angola) and *D. bicolor* ssp. *ivorensis* **ssp. n.** (Ivory Coast). The two species *Zoocosmius coeruleus* Aurivillius, 1914, and *Z. teocchi* Adlbauer, 2006 are excluded from *Dere*. The genus *Dere* as treated here comprises 16 African spp. A key to the species is given.

Key words: Coleoptera, Cerambycidae, Sestyrini, *Dere*, *Zoocosmius*, revision, new species, Africa.

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Introduction and taxonomic history

White (1855) described the genus *Dere* with *D. thoracica* White, 1855 from Northern China as the type species. This is the only species of the genus that reaches into the Palearctic region. The remaining species are found in tropical Asia (approximately 25 spp.) and Africa.

The taxonomic history of *Dere* and related genera in Africa started when Fåhraeus (1872) described the genus *Cosmius* with type species *C. vittatus* Fåhraeus, 1872 from South Africa. Later the same year Fåhraeus (1872a) published the generic replacement name *Zoocosmius* because of homonymy with a genus of Diptera, *Cosmius* Dumeril, 1806.

Later H.J. Kolbe described the genus *Syndere* – “mit *Dere* nahe verwandt” (Kolbe 1894) – with type species *S. bicolor* based on a single female from Congo Dem. Rep. (‘Albert-See’). Several species were described around the turn of the century and attributed to *Syndere*: *S. apicalis* Gahan, 1898, *S. leptis* Jordan, 1903, *S. lagria* Jordan, 1903, *S. nigra* Aurivillius, 1907 and *S. viridicincta* Aurivillius, 1907.

Aurivillius, in his *Coleopterorum Catalogus* (1912) synonymized *Syndere* Kolbe, 1894 with *Zoocosmius* Fåhraeus, 1872, resulting in new name combinations for all the above-mentioned species.

Subsequently Aurivillius added three new species to the *Zoocosmius* list: *Z. coeruleus* Auri-

villius, 1914, *Z. masoni* Aurivillius, 1923 and *Z. basalis* Aurivillius, 1925.

The first description of an African species of *Dere* actually being described as a member of that genus occurred in 1904 when Gahan described *D. nigrita* with type from South Africa.

For the remaining three quarters of the 20th Century very little happened with regards to African *Dere* / *Zoocosmius* species except that in 1956 *Maynagaleptus donisi* Lepesme & Breuning, 1956 was described. It was described as a Callichromatini, but later transferred to *Zoocosmius* by Adlbauer (2003). In 1974, Fuchs published *Zoocosmius basilewskyi* Fuchs, 1974.

Adlbauer (2001) transferred *Z. apicalis* to the genus *Dere* based on great morphological similarities with *D. lagria* (Jordan, 1903) and the new species he had described the year before, *D. zimbabweana* Adlbauer, 2000. This transfer, however resulted in a name conflict with the already existing *Dere apicalis* Gahan, 1906 from Sri Lanka. Adlbauer later (2003) rectified this secondary homonymy giving the Oriental species the replacement name: *D. apicaloides* (Gahan, 1906).

In another work, Adlbauer (2001a) transferred the species *Zoocosmius vittatus* (Fåhraeus, 1972) to *Dere*. The full implications of this transfer was however, not recognized by the author: since the taxon *Z. vittatus* is the type species of *Zoocosmius*, this genus through this act becomes a synonym of *Dere*.

The original description of the genus *Dere* by White (1855) is rather short and vague: “*Antennae shortish, not reaching to the end of the elytra, third joint the longest, the following joints short, somewhat thickened towards the end. Thorax nearly as wide as long, gradually narrowed before and behind from the middle. Elytra long, depressed along the back on each side of the suture, sides rounded. Legs shortish, femora not reaching to the end of the elytra.*” (op.cit. p. 248–249).

Gahan (1906) gave an amended and more detailed generic description of *Dere* in his work on the Cerambycid fauna of British India (op.cit. p. 315).

The present author has examined a number of Asian members of the genus, viz. *D. fulvipennis*

Gahan, 1906, *D. affinis* Gahan, 1906, *D. coeruleipennis* Aurivillius, 1925, *D. virescens* Aurivillius, 1924, and including the type species *D. thoracica* White, 1855. There is no doubt that the Asian and African members of *Dere* are congeneric, and that Adlbauer (2001a) was de facto correct in his indirect (but formally incorrect) synonymization of *Zoocosmius* Fähr. with *Dere* White.

Below, a redescription of the genus *Dere* is given to fit the African members of the genus. In most cases, it will also be valid for the Asian species, but some of the variation described will be irrelevant in an Oriental context, and vice versa the wide variation in some characters found in Asian species will not be covered in the description below.

The intent of the author is to undertake a series of revisions and reviews of the already described genera referred to the tribe Sestyrini. Also new species and genera will be described. The study will be limited to the fauna of continental Africa. Part II (Bjørnstad 2013) and Part III (Bjørnstad 2013a) will be published in the December issue of Les Cahiers Magellanes.

Material and methods

This study is based on the material collected by the author in Tanzania 1970–74 and 1989–91 and in Kenya 1982–86. Besides, rather extensive material has been on loan from most of the relevant museums and institutions as well as from the private collections of friends and colleagues. A total of 250 specimens have been examined. This includes types of all described taxa.

Representatives of some of the species have been dissected under a stereoscopic microscope and the genitalia dry mounted as a basis for ink drawings. In the present study, only a few species have been dissected, but it was beyond the scope of this work to carry out a wide-scaled study of the genitalia of all species.

Karsten Sund of the Natural History Museum, University of Oslo (NHMO), has made photographic images of all taxa.

Measurements of total body length is made from the tip of the mandibles to the apex of elytra

or the end of the pygidium whichever reaches the farthest.

Collections acronyms. **ABS** = Coll. Anders Bjørnstad, Skien, Norway; **APG** = Coll. Alfred Puchner, Grafenbach, Austria; **IRSNB** = Institut royal des Sciences Naturelles de Belgique, Brussels; **JSP** = Coll. Jerome Sudre, Pignan, France; **KAG** = Coll. Karl Adlbauer, Graz, Austria; **MNHN** = Museum National d'Histoire Naturelle, Paris, France; **MNHUB** = Museum für Naturkunde der Humboldt-Universität, Berlin, Germany; **MRAC** = Musée royal de l'Afrique centrale, Tervuren, Belgium; **NHM** = Nat.Hist. Mus., London, U.K.; **NRM** = Swedish Museum of Natural History, Stockholm, Sweden; **PJT** = Coll. Pierre Juhel, Trans La Forêt, France; **RMR** = Coll. Riccardo Mourglia, Rivoli, Italy; **RPP** = Coll. Renzo Perissinotto, Port Elizabeth, Rep. of South Africa; **SAMC** = Iziko Museums of South Africa, Cape Town, Rep. of South Africa; **SANC** = S. Afr. Nat. Coll. of Insects, Pretoria, Rep. of South Africa; **SDEI** = Senckenberg Deutsches Entomologisches Institut, Eberswalde, Germany; **TGM** = Coll. Thierry Garnier, Montpellier, France; **TMSA** = Ditsong: National Museum of Natural History (ex Transvaal Museum), Pretoria, Rep. of South Africa; **ZSM** = Zoologische Staatssammlung, München, Germany.

Description of the genus in Africa

Dere White, 1855

= *Cosmius* Fähræus, 1872

= *Zoocosmius* Fähræus, 1872 **syn. nov.**

= *Syndere* Kolbe, 1894

= *Maynagaleptus* Lepesme & Breuning, 1956

Size. Length 5.5–14.5mm long (in the species descriptions arbitrarily grouped as ‘small’: 5.5–8.5mm, ‘medium’: 8.5–11.5mm and ‘large’: 11.5–14.5mm).

Texture. Most surfaces visible in a dorsal view usually strongly punctate/pitted (foveolate) or irregularly rugose.

Head. Mandibles are short and stout with a broad base, usually with adpressed bristle-like hairs and a glabrous and shiny hooked apex. At the end of the hairy basal part of each mandible, before

the glabrous apex, there is a long, hyaline hooked bristle, inwardly bent. Labial and maxillary palpi rather similar, both with a cylindrical, oblong end segment with rounded apex, always pale brown, nearly hyaline. The end segment is at least twice as long as its greatest width, and nearly four times as long as the penultimate joint. Clypeus setose with long yellow bristles along anterior margin. The eyes are finely faceted, sinuately excavated to fit the socket of the antenna, resulting in a small, narrow superior lobe, and a larger suborbicular inferior lobe about as high as wide. Antennal tubercles usually only moderately raised, rounded to slightly pointed. Frons almost square to slightly elongate, flat or slightly concave or convex. Vertex sometimes with a longitudinal ridge. Genae narrow and hairy especially below the eyes.

Antennas. Relatively short, normally reaching halfway to three quarters down the elytra. The third antennal joint always the longest. Scapus straight or slightly curved and normally with heavy sculpturing. The last segments of the antennae usually contracted, slightly dentate and compressed, or even shallowly canaliculate, giving the distal part of the antenna an incrassate appearance.

Pronotum. Usually slightly longer than wide, but the ratio length:width varies from 1:1 to 1.5:1. The shape varies from “barrel-shaped” (i.e. with greatest width at or near the middle, and evenly rounded anteriorly and posteriorly) to types with nearly parallel sides in anterior half or two thirds, but with a “neck-like” constriction posteriorly. Surface of pronotal disc variably sculptured from deeply pitted (foveolate) and mat to being more weakly punctate and shiny. The foveolation varies between species from being very dense, giving a “honey-comb” like appearance, to more open with smooth surface areas between each “pit-like” depression. The disc normally has little visible indumentum, but some species may have stripes or patches of adpressed hairs. All species of *Dere* have dense adpressed indumentum on the sides of the pronotum. The degree to which the upper parts of this lateral hairy band is visible or not in a dorsal view, is a diagnostic character to differentiate the species.

Scutellum. Variably shaped (triangular, broadly cordate, rounded etc.) and with variable degree of hairiness (densely tomentose to glabrous and shiny). However, all species of the genus have a very fine, minute transversal undulation of the scutellum (only visible in a minimum of 50x magnification). (This character also applies to Oriental members of the genus.)

Elytra. Always heavily sculptured punctate to pitted to rugose, mat or lustrously metallic, mono- or bichromatic, often with apical part differing in colour from the rest. In some instances the “honey-comb”-structure of the pronotum continues on to the anterior (basal) part of the elytra (e.g. in *D. minor*). Basal part of elytra with marked shoulders. Otherwise, the elytra have more or less parallel sides in basal part, normally somewhat constricted near the middle, then with a widened distal half with convex sides. The apices varies strongly from species to species from slightly truncate to very strongly excavated, never evenly rounded. This may result in sutural and/or marginal teeth. In some species, the marginal teeth may be prolonged and thickened into a strong spine.

Pygidium. Usually well protruding, broadly tongue-shaped more or less truncate, but with rounded corners.

Legs. Quite slender, usually quite dark or black, but sometimes with brighter colours (e.g. *D. grobbelaarae*). The procoxal cavities are closed, i.e. the inner end of the proepimeron reaches the prosternal process. The femora always with a very slender stalk-like basal part, then strongly widened or clavate distal part; the clavation always most marked in the profemora, less so in the mesofemora and least in the metafemora. The degree of sculpturing varies, again most pronounced in the profemora. Further the femora may be carinate or acarinate (see under the various species), always rounded at apex. Tibiae usually slightly curved, carinate, slightly widened at apex and with two spines. The tarsi relatively slender with first joint longer or much longer than second joint. The legs are variously equipped with a mixture of small, silvery adpressed hairs and scattered erect bristles.

Ventral surface. The ventral side of the head

has a gula with a shiny basal part, usually smooth medially, but finely transversally undulate laterally. The distal part irregularly and coarsely pitted. The anterior part of prosternum usually smooth and shiny, the posterior part variously covered by hairs and with a broad triangular prosternal process. Metasternum smooth or punctate and with or without a median groove. Metasternum and the abdominal sternites variously covered by white or yellow silky hairs, sparse to densely matted, evenly distributed or in fascicles.

Sexual dimorphism in external characters is not very pronounced in the genus *Dere*. In fact, it is often difficult to tell the sex of a certain specimen unless there is a longer series for comparison. On an average, the females are slightly larger and somewhat more markedly widened in the distal part of the elytra. The male antennae reaches a little bit further down the elytra; on closer examination, this seems largely to be due to elongation of the third antenna joint in the males. The size, shape and degree of protrusion of the pygidium does not seem to bear any relevance to sex. Regarding coloration there seem to be very little differences between sexes. Only in the two closely related species, *D. vittata* and *D. basalis*, there seems to be a sex-correlated difference in that the males normally are darker than females.

Genitalia. Nothing seems to have been published on the genitalia of African species of *Dere*. Investigative dissections of the male genitalia of the three most common species, viz. *D. apicalis*, *D. viridicincta* and *D. leptis*, were carried out. These three species are taxonomically quite apart from each other within the genus. They were thus believed to show a good representation of the span of variation in these characters. The aedeagi, the tegmina and the anal tergites were examined and compared. Beside the obvious differences in size, *D. leptis* being much smaller than *D. apicalis* and *D. viridicincta*, there is structurally little difference between the three representatives: The parameres of the tegmina in *apicalis* (Figure 1b) are relatively a little longer than in *viridicincta* (Figure 1a); *leptis* (Figure 1c) is intermediate between the other two. The aedeagi in all three species have a superior (dorsal) lobe apically rounded to weakly truncate, wider than

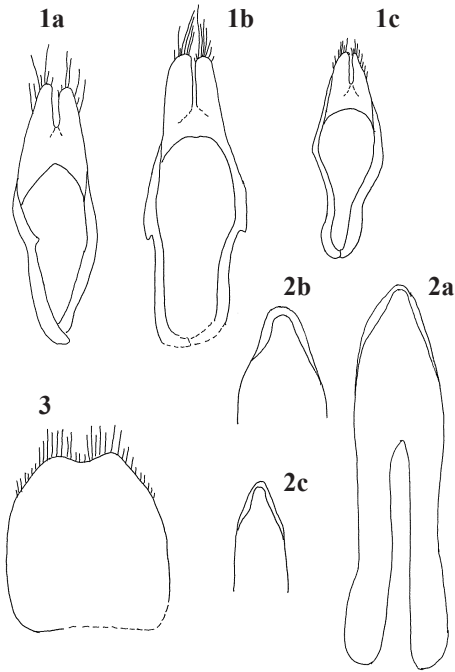


FIGURE 1–3. 1. Tegmina with parameres. **a.** *D. viridicincta*, **b.** *D. apicalis*, **c.** *D. leptis*. 2. Ventral view of aedeagi. **a.** *D. viridicincta*, **b.** *D. apicalis*, **c.** *D. leptis*. 3. Anal tergite of *D. viridicincta*.

the inferior (ventral) lobe (Figures 2a–c). The anal tergites (Figure 3) are also quite similar: apically notched giving a bilobed outer margin.

Excluded species. The present study has shown that two species hitherto attributed to *Zoocosmus*, viz. *Z. coeruleus* Aurivillius, 1914 and *Z. teocchi* Adlbauer, 2006, does not comply with the generic description of *Dere* above. They differ in the following characters: their elytra apices are evenly rounded (never excavate nor truncate like in *Dere*), they lack the dense patches of hair on the sides of the pronotum, their labial and maxillary palps are black (always pale brown in *Dere*), their antennae are longer and less thickened, and on their heads the frons is squared or trapezoidal with raised carinae along their lateral edges (no such in *Dere*). They are therefore excluded from the further treatment of the species given below. Part 2 of this publication series (Bjørnstad 2013a) is intended to deal with these

two species where a new genus will be described.

Systematic position and related genera.

The genus *Dere* is placed in the tribe Sestyrini Lacordaire, 1868 after the synonymization of Cleomeninae Pascoe, 1896 (Bousquet *et al.* 2009).

Dere is closely related to the genus *Apiogaster* Perroud, 1855. Adlbauer (2003b) revised this genus and gave the shape of the scutellum as the major differential character between the two (op.cit. p. 4): in *Apiogaster* the scutellum is near vertical and with a bifid apex. In *Dere* the scutellum is horizontal, variably triangular to rounded, but never bifid. Members of *Apiogaster* normally appear more slender than species of *Dere*.

Dere is also related to *Hexarrhopala* Gahan, 1890 through the similarly contracted and thickened antennae, but differing among other in the following characters: in *Hexarrhopala* the pronotum is carinate (not in *Dere*), the elytra apices are rounded (always truncate or excavate in *Dere*), and they lack the dense hair patches on the sides of the pronotum (always present in *Dere*). Besides the species of *Hexarrhopala* are characterized by “rather long widely scattered cilia coming off from all parts” (Gahan 1890 p. 809).

Note. *Apiogaster collare* Jord. is an untypical representative of its genus in that it shows several transient characters: its carinate pronotum with scattered long, erect cilia strongly reminds of *Hexarrhopala*. The broad elytra reminds of both *Dere* and *Hexarrhopala*, but the scutellum is of typical *Apiogaster* shape and orientation.

Generic key. A key to the African species of *Dere* is given in Table 1.

Description of the species

Dere krameri sp. n. (Figure 5)

Examined specimens. *Holotype*: 1♂ **Tanzania**, Ruaha N.P., m 800/1000. 8.I.1993. leg. R. Mourglia, in Coll. ABS. (AB 49675). *Paratypes*: 1♂ with the same data, but 2.XII.1989, in Coll. ABS (AB 46445); 1♀ **Tanzania**: Mufindi: Mafinga e.l. [ex larva] I.1990. leg. P.A.Dutto in

TABLE 1. Generic key to the African species of *Dere*.

1. Uniformly black species	2
- At least bicoloured species	5
2. Elytra apices deeply excavate and toothed	3
- Elytra apices truncate but without teeth	4
3. Small species 5–8mm (West and Central Africa)	<i>D. leptis m. nigra</i>
- Larger species 10–12mm (East Africa)	<i>D. janenschi n. sp.</i>
4. Pronotum elongate: approx. 1.5 times as long as wide	<i>D. littoralis n. sp.</i>
- Pronotum barrelshaped: approx. as long as wide	<i>D. nigrita</i>
5. Elytra shiny metallic green, yellow or blue	6
- Elytra otherwise	8
6. Pronotum with shallow foveolation, scutellum glabrous	<i>D. donisi</i>
- Pronotum with dense and deep foveolation, scutellum hairy	7
7. Small species (< 7mm) with incomplete silvery hair stripe on pronotum	<i>D. minor</i>
- Larger species (≥ 8.5mm) with complete stripe of yellow hairs	<i>D. viridicincta</i>
8. Pronotum medially with a (complete or incomplete) orange brown stripe	<i>D. bicolor</i>
- Pronotum without median stripe	9
9. Head orange to reddish brown, elytra yellow and black	<i>D. krameri n. sp.</i>
- Other colours	10
10. Elytra black, but with brick-red or coppery borders	<i>D. minettii n. sp.</i>
- Other colours	11
11. Legs reddish brown	<i>D. grobbelaarae</i>
- Legs black (or dark brownish black)	12
12. Pronotum elongate: approx. 1.5 times longer than wide	<i>D. masoni</i>
- Pronotum shorter: about as long as wide	13
13. Elytra black with yellow apices	<i>D. zimbabweana</i>
- Elytra with other colours	14
14. Elytra black with oblong rufous vitta on basal three quarters	<i>D. leptis m. leptis</i>
- Elytra with other colours	15
15. Elytra apically deeply excavate resulting in two sharp teeth	<i>D. apicalis</i>
- Elytra shallowly truncate, but without apical teeth	16
16. Small species, 7.5–8.5mm, with very densely punctate pronotum	<i>D. basalis</i>
- Larger, 9–12 mm, with punctuation apart and smooth intervals in between	<i>D. vittata</i>

Coll. ABS (AB50127); 1♀ Tanzania: Mbeya: Ujewa 10.I.1994 leg. G. Curletti in Coll. RMR (AB50128)

Length. 10–14.5mm.

Habitus. A large species with body shape and size typical of the genus, most surfaces coarsely punctate or pitted. Head orange to reddish brown, pronotum black with orange to reddish brown anterior and posterior margins. Elytra dark yellow

to orange with one oblong, black patch on distal half of each elytron. Antennas and legs black.

Head. Mandibles short evenly curved on outer margin and with a hooked apex. Clypeus with long, golden bristles. Eyes small-faceted. Antennal tubercles only moderately raised. Vertex with a short and narrow, black longitudinal crest; the head itself otherwise reddish brown.

Antennas. Scapus long, almost straight, only

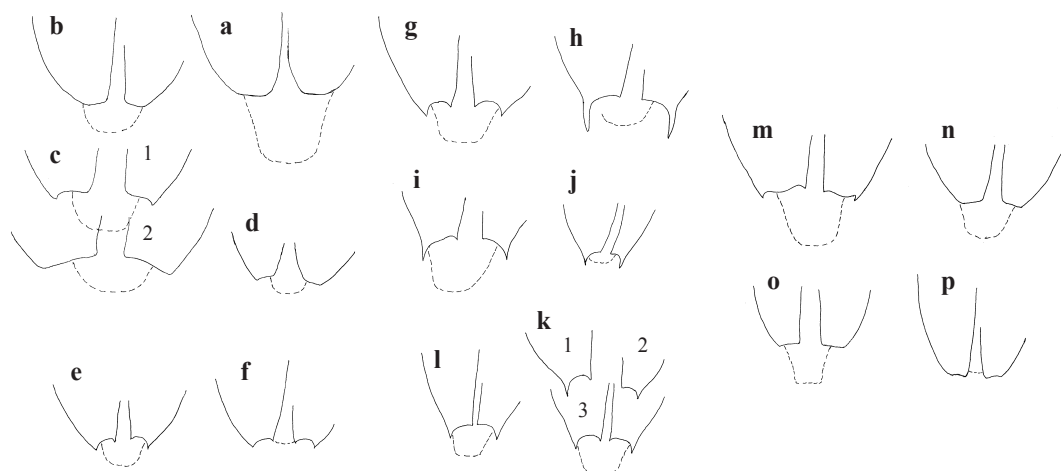


FIGURE 4. Elytra apices of the species of *Dere*. Outline of pygidium with broken lines. **a.** *D. krameri*, **b.** *D. minetti*, **c.** *D. vittata* (1) – variation (2), **d.** *D. basalis*, **e.** *D. grobbelaarae*, **f.** *D. apicalis*, **g.** *D. zimbabweana*, **h.** *D. donisi*, **i.** *D. viridicincta*, **j.** *D. minor*, **k.** *D. bicolor* – ssp. *puchneri* (1), ssp. *ivorensis* (2), ssp. *bicolor* (3), **l.** *D. leptis*, **m.** *D. janenschi*, **n.** *D. nigrita*, **o.** *D. masoni*, **p.** *D. littoralis*.

weakly widened distally with a rounded apex and short bristly hairs. 2nd antennal segment only one third of length of scapus, 3rd joint 1.5 times that of scapus. 4th and 5th joint of equal length. From the 7th joint onwards till apex gradually shortened. Joints 3–10 weakly dentate and with scattered bristly hairs, end segments shallowly canaliculate.

Pronotum. As long as wide, barrelshaped with evenly rounded sides, strongly widened with greatest width slightly behind the middle. The whole dorsal surface of pronotum relatively openly pitted (foveolate) with smooth areas in between. A silvery white tomentum restricted to lower lateral parts, only visible in lateral view; upper lateral parts and the pronotal disc devoid of hairs.

Scutellum broadly triangular laterally slightly raised and thickened.

Elytra. More or less parallelsided throughout, only weakly constricted medially and vaguely widened in the distal half. Upper surface densely rugose/ punctate in its full length, with one weak costa on each elytron. Apex of elytra only weakly truncate and without any teeth suturally nor marginally (Figure 4a).

Pygidium. Protruding, reddish brown, broadly

rounded and with long erect bristles at margin.

Legs. Black with short, silvery to pale yellow stiff, bristly hairs. Profemora strongly thickened in the middle, but without any carina. Protibiae slender with slightly curved base and gradually widened distally. Meso- and metafemora only moderately thickened, also these acarinate. Meso- and metatibiae slender, weakly curved and with a long, sharp, brown spine at apex. Meso- and metatarsi slender with first segment twice as long as second.

Ventral surface. Head below with a shiny, smooth basal half, but distally coarsely rugose between the eyes. Genae with short, stiff, white hairs. Prosternum black, shallowly pitted, covered with white hairs especially laterally, and with a reddish, broad, shiny and smooth anterior margin. Abdominal sternites brown with white tomentum: sparsely on the surfaces, but denser along distal margins.

Distribution. Tanzania.

Differential characters. Close to *D. vittata* (Fähr.), but differing in the following characters: in *krameri* sp. n. the apices of the elytra has a very weak truncation, i.e. the concavity is very shallow, and the edges of this truncation are



FIGURES 5–6. 5. *Dere krameri* sp.n. HT ♂, 10mm (ABS). 6. *D. minettii* sp.n. HT ♂, 13mm (ABS). Photos: Karsten Sund (NHM, Oslo).

smoothly rounded. In *D. vittata* the excavation is much deeper, and the corners are sharply angled. *D. krameri* has (weakly) costate elytra, just visible as a yellow line medially on each elytron; *D. vittata* is acostate. In *D. vittata* the femora are distinctly keeled, in *D. krameri* there are no femoral carinae present. Both species have a barrelshaped pronotum, in *D. krameri* as long as wide, in *D. vittata* distinctly longer than wide. In *vittata* most of the underside, including distal parts of the abdominal sternites, are covered by densely matted, thick and soft silvery hairs. By comparison, the underside of *D. krameri* has a very reduced tomentum of short and scattered

hairs. Beside the structural differences, there is the more obvious difference in colour pattern of the elytra: *D. krameri* has a dark yellowish brown ground cover, while *D. vittata* is rufous. In *D. vittata* the elytra have a black patch in basal two thirds, gradually fading distally; in *D. krameri* there is a more well-defined black patch in distal half of each elytron.

Etymology. Named in honour of Mrs. Ada Kramer, the wife of the keen entomologist and collector Riccardo Mourglia, for her never-ending enthusiasm in supporting her husband's collecting activities, and for her generous hospitality during my visits to their home in Rivoli, Italy.

***Dere minettii* sp. n.** (Figure 6)

Examined specimens. *Holotype*: 1♂ **Tanzania**, Mufindi Dist.: Mafinga m 1900 21.XI–4. XII.1989 leg. R. Mourglia in Coll. ABS (AB 50130). *Paratypes*: 2♂♂ Tanzania, Dodoma Region: Kondo Distr. 17.XII.2009 leg. R. Minetti, in Coll. ABS. (AB 47689–90); 1♀ Tanzania, Prov. Singida, Umg. Manyoni, 1300m, S05°461′/O034°453′, XI.2012, leg. P. Kayumbo in Coll. APG

Length. 9.5–13mm.

Habitus. Medium to large species with body shape and size typical of the genus. Most surfaces coarsely punctate or pitted (foveolate). Head and pronotum in general black. Elytra black, but with a brick red or coppery border on each elytron, this border very narrow laterally and apically, broader along suture and area surrounding scutellum. Antennas and legs black.

Head. Mandibles short and broad, strongly hooked. Clypeus with long, golden bristles. Eyes small-faceted. Antennal tubercles blackish red to black moderately raised. A short, narrow, irregular longitudinal ridge on vertex between the tubercles present or only vaguely so.

Antennas. Scapus rather long, almost straight, only weakly widened distally with a rounded apex and short bristly hairs. The length of scapus nearly 2.5 times that of 2nd antennal joint, two thirds that of 3rd joint (in males). The 4th and 5th joint of equal length. From joint 7–10 gradually shortened, but last joint elongate, 1.5 times the length of penultimate joint. Joints 3–10 weakly dentate and with scattered bristly hairs. Two last joints shallowly canaliculate.

Pronotum slightly longer than wide with evenly rounded sides, dorsally somewhat flattened, strongly widened laterally with greatest width slightly behind the middle. Dorsal surface of pronotum densely foveolate ('honey-combed'), but practically without tomentum. The lower lateral / ventral parts of the pronotum has silvery white tomentum, only visible in a lateral view.

Scutellum red or black, broad and short, evenly rounded.

Elytra. More or less parallel-sided throughout, only very weakly constricted in the middle and vaguely widened in the distal half. Upper surface coarsely punctate in its full length, acostate. Apex

of elytra only weakly truncate and without any spines suturally nor marginally (Figure 4b).

Pygidium. Protruding, black with a thickened black to red margin.

Legs. Black with short, silvery to pale yellow stiff, bristly hairs. All femora rounded and without carina. Profemora strongly thickened in the middle. Protibiae slender with slightly curved base, gradually widened distally and with a weak carina on inner side. Meso- and metafemora only moderately thickened. Meso- and metatibiae slender, weakly curved and with a long, sharp, brown spine at apex. Meso- and metatarsi slender with first segment nearly twice as long as second. Lower surface of tarsi fringed by golden hairs.

Ventral surface. Head below (gula) with a shiny, black basal half, almost smooth medially, finely transversally undulate laterally. Distal half of gula irregularly pitted. Genae with stiff, white hairs, especially long beneath the eyes. The anterior third of prosternum shiny with fine transversal undulation; the remaining posterior part covered with matted, white hairs. Prosternal process triangular. Metasternum and abdominal sternites dark brown with scattered white and yellow bristly hairs.

Distribution. Tanzania.

Differential characters. Superficially similar to male specimens of *D. vittata*, but differ in the very weak and rounded truncation of the elytra (deeper and angled to weakly dentate in *D. vittata*). *D. minettii* has a very deep and dense ('honey-combed') foveolation of the pronotum, while in *D. vittata* the foveolation is open and shallow.

Etymology. Named in honour of Robert Minetti, the eminent collector who for so many years has contributed so much to the collection of the author and has provided part of the type material for the new species.

***Dere vittata* (Fähræus, 1872)** (Figures 7a–b)

Cosmius vittatus Fähræus, 1872: 67

Zoocosmius nom.nov. Fähræus, 1872a: 194

Zoocosmius vittatus Aurivillius, 1912: 426

Dere vittata Adlbauer, 2001a: 36

Examined specimens. *Syntype*: 1♂ Caffraria *Zoocosmius vittatus* Fähr. Type. In Coll. NRM [NHRS-JLKB000020611]. *Other material*:



FIGURES 7a–b. *D. vittata*. **7a.** *D. vittata* ♂, 10.5mm (ABS). **7b.** *D. vittata* ♀, 10mm (KAG). Photos: Karsten Sund (NHM, Oslo).

1♀ [Tanzania, Ruvuma Reg.] Lituhi, D.O.A. In Coll. NRM [NHRS-JLKB000020612]; 1♀ [Tanzania: Manda] Wiedhafen in Coll. MNHUB; ♀ Zimbabwe, Plumtree, Rhodesia 24.XI.06 on *Protea*. leg. J. O'Neil in Coll. NHM; 1♀ Mozambique, Sofala S Caia 18.06 S – 35.26 E. 22.XII.2005 E-Y: 3710 leg. Gussmann, Müller in Coll. KAG; 1♀ [Mozambique] Beira 1927.131 *Dere vittata* (Fabr.) K. Adlbauer det. 2003 in Coll. NHM; Botswana, 1♀ Okavango, Samandupi 12-18.XII.1973 leg. P.Reavel in Coll. TMSA; 8♂♂4♀♀ Süd-Afrika: O. Betschuanald. Serue 1200m, various dates in Nov. [19]06 leg. Seiner S.G. in Coll. MNHUB and ABS; 1♀ Swaziland,

Mlume XII.1984 leg. Beyers in Coll. JSP; 1♀ RSA, Zululand: Mkuzi Game Res. 27.53 S – 32.29 E. leg. D. Bourquin in Coll. ABS (AB 50129); 1♀ RSA: KwaZuluNatal: Hluhluwe Game Reserve. 23.XI.1962, leg. E.D.Thomas in Coll. SANC; 1♂ RSA: northern KwaZulu Natal: False Bay on *Acacia* sp. 10.XI.2012. leg. R. Perissinotto in Coll. RPP; 1♀ RSA: northern KwaZulu Natal: False Bay on light at night 30.X.2011 leg. R. Perissinotto in Coll. RPP; 1♀ C. Namibia, 20km N. Omaruru: Epako Lodge. I.1997 Leg. Thierry Garnier in Coll. TGM

Length. 9–14mm.

Habitus. A medium to large reddish brown

(females) to almost black (males) species with elytra having almost straight apical truncations. Pronotum barrelshaped with open and only very shallow foveolation.

Head. Reddish brown to dark blood red. Mandibles stout, hairy/bristly in basal part with a black, glabrous and shiny hooked apex. Frons punctate, flat or slightly concave with silky hairs on its lower part just above clypeus. Vertex depressed between and behind the tubercles, and normally with a short longitudinal carina. Occiput punctate to slightly ridged. Genae densely hairy.

Antennas. Barely reaching the middle of the elytra in females, slightly longer in males. Black with strongly punctate scapus; joints 2–11 finely puberulous. Joints 2–10 widened and each with a few (2–3) yellowish, hyaline bristles apically. Scapus slightly curved, twice as long as joint 2, but only one half to two thirds that of joint 3. Joint 3 is 2.0–2.5 times that of joint 4, from then onwards gradually shortened, thickened and slightly concave (canaliculate) on the inside.

Pronotum. Barrel-shaped, slightly longer than wide, sometimes with vague ‘bumps’ in its disc, but without any tomentum. The discal punctation/foveolation is open (smooth areas in between pits) and shallow. Reddish brown or purple to almost black in the middle, lighter towards the anterior and posterior margins. Lower lateral parts densely hairy, but this is not visible in dorsal view.

Scutellum. Wide and short with a small triangular apex.

Elytra. Acostate, densely punctate to rugose, virtually without tomentum except for a few very short and widely scattered bristles. Elytra subparallel throughout in males, more strongly widened in distal half in females. Apices with an oblique, but straight or slightly concave truncation, rarely resulting in weak lateral teeth (Figure 4c). The elytra has a yellowish to reddish brown ground colour, but with an oblong, sooty black patch on each elytron gradually fading distally (♀) or black almost throughout (♂).

Pygidium. Well protruding beyond the elytra apices, dark reddish brown, tongue-shaped and with scattered yellowish bristles.

Legs. Black with a mixture of short, adpressed silvery pubescence and scattered erect stiff bristles.

All femora moderately clavate and carinate. Profemora with a strong keel on upper anterior side and a weaker one lower posterior side. Meso- and metafemora with one weak ventral carina each. Tibiae slightly curved, apically widened and spined. Protarsi with first joint 1.5 times the length of the second; in metatarsi twice as long.

Ventral surface. Underside of head not hairy, but pro- and mesosternum, as well as all coxae densely covered with matted, silvery hairs. Also medial parts of metasternum and distal half of abdominal sternites with silver coating of hairs. The abdomen thus looks transversally banded (cf. Adlbauer 2001a, Abb. 115)

Variation. *D. vittata* – together with the closely related *D. basalis* below – seems to be the only species with tendencies towards sexual dimorphism (apart from differences in antennal length, body size and shape): the elytra of the males are much darker – usually uniformly blackish – than the bicoloured ones in the females with yellowish red borders.

Distribution. Tanzania, Mozambique, Zimbabwe, Botswana, Swaziland, South Africa, Namibia.

Differential characters. Pronotum less shiny than in *D. apicalis* and *D. zimbabweana*. Also the pronotal disc of *D. vittata* is more or less evenly convex and normally without the bumps of the same two species. *D. grobbelaarae* also has a mat pronotum, but is much smaller. *D. vittata* differ from both *D. apicalis*, *D. zimbabweana* and *D. grobbelaarae* in the very shallow excavation of the elytra apices. For differences vs. *D. krameri* and *D. basalis*, see under those species.

Dere basalis (Aurivillius, 1925) comb. nov.

(Figures 8a–b)

Zoocosmius basalis Aurivillius, 1925: 507

Examined specimens. *Holotype*: 1♂ RSA, Transvaal, Rustenburg. *Zoocosmius basalis* Auriv. NHRS-JLKB000020605 in Coll. NRM. *Other material*: 1♀ [RSA] Caffraria. leg. J. Wahlb. NHRS-JLKB000020606 in Coll. NRM; 1♀ S.Afr.: Northern Prov., Geelhoutbosch farm 24.22 S – 27.34 E./ 30.XI.1998: E-Y: 3339 at UV light. leg. C.L. Bellamy / *Dere nigrita* Gahan K. Adlbauer det. 2012 in Coll. TMSA.



FIGURES 8a–b. *D. basalis*. **8a.** *D. basalis* HT ♂, 7.5mm (NRM). **8b.** *D. basalis* ♀, 8.5mm (NRM). Photos: Karsten Sund (NHM, Oslo).

Note. According to the original description by Aurivillius (1925) more type material is supposed to be present at the “S. African Museum” (op.cit. p. 507). Enquiries to the museums in Cape Town (SAMC) and Pretoria (SANC, TMSA) about this have proven negative. The Bellamy specimen from 1998 at TMSA seems to be the only recent specimen of this seemingly rare species.

Length. 7.5–8.5mm.

Habitus. A small reddish brown species with dark and mat, densely foveolate unicolourous barrel-shaped pronotum and with elytra more or less gradually widened distally and with almost straight but slightly oblique apical truncation.

Head. Short, dark reddish brown to almost black. Mandibles short and stout, hairy/bristly in basal part with a black, glabrous and shiny hooked

apex. Frons punctate, flat or slightly concave without any visible tomentum. Antennal tubercles somewhat raised, punctate. Vertex depressed between and behind the tubercles, and with or without a short longitudinal carina. Occiput strongly reticulately foveolate. Genae with short yellowish shiny hairs and a couple of long thin bristles.

Antennas. Barely reaching halfway down the elytra in females, slightly longer in males. Dark purplish brown with strongly punctate scapus; joints 3–11 finely puberulous with silky, adpressed hairs. Joints 2–10 with a few (2–3) yellowish, hyaline bristles apically. Scapus slightly curved, twice as long as joint 2, but only one half (♂) to two thirds (♀) that of joint 3. Joint 3 is 1.5 times that of joint 4, from then onwards gradually

shortened and thickened.

Pronotum. Very dark brownish or purplish black, broadly barrel-shaped: approximately as long as wide, and strongly convex laterally. The disc is without any tomentum and only very weakly two-humped. Further the disc is strongly and densely pitted; the foveolation so dense that there is no area between the individual pits, thus giving a very mat appearance. Densely silky hairy on lower lateral parts, but this is not visible in a dorsal view.

Scutellum. Almost black, wide and short with a small triangular apex.

Elytra. Acostate, densely punctate to rugose, virtually without tomentum except for a few very short and scattered bristles. Elytra subparallel in basal half, slightly convex laterally in distal half. Apices with an oblique, almost straight truncation. Sutural corner rounded, the lateral angled (Figure 4d). The elytra has a reddish brown almost unicolourous ground colour in the male HT, but in the females the area between shoulder and scutellum and a short distance along the basal lateral edge has an orange yellow border.

Pygidium. Not or only barely protruding beyond the elytra apices, pale reddish brown, tongue-shaped and with scattered yellowish bristles.

Legs. Dark purplish to black with a mixture of short, adpressed silvery tomentum and scattered erect stiff bristles. All femora only moderately clavate and weakly carinate. Tibiae slightly curved, apically widened and spined. Protarsi with first joint only slightly longer than the second; in metatarsi approximately 1.5 times as long.

Ventral surface. Underside of head not hairy, but pro- and mesosternum, as well as all coxae densely covered with matted, silvery hairs. Abdomen more or less evenly, but sparsely, covered by silvery hairs.

Distribution. Rep. South Africa.

Differential characters. Closely related to *D. vittata*, but smaller (body length 7.5–8.5mm, vs. 9–14mm in *D. vittata*). The pronotum in *basalis* is shorter and very deeply and densely foveolate. In *D. vittata* the foveolation is more shallow and wide apart with smooth intervals in between giving a more lustrous appearance. In *D. basalis* the

scapus is short and more evenly rounded apically than in *D. vittata*. The frons of *D. basalis* is more deeply pitted; in fact this applies to most dorsal surfaces of the head (vertex and occiput). The scutellum is black in *D. basalis*, reddish brown in *vittata*. In general, the amount of hairiness in *basalis* is less than in *vittata*. In *D. basalis* the whole abdomen is thinly and evenly covered by short hairs, not having the dense silky-silvery tomentum of the distal halves of the abdominal sternites of *D. vittata*.

***Dere grobbelaarae* Adlbauer, 2004 (Figure 9)**

Dere grobbelaarae Adlbauer, 2004: 16

Holotype: 1♂ **RSA**, KwaZulu Natal: 4.5km SW of Golela, 27° 20,3' S / 31° 50,9' E c. 150 m, 20.XI.1996 leg. E.Grobbelaar & I.M.Miller collected (by beating) from *Acacia nilotica* (Mimosoideae) in SANC (not seen).

Examined specimens. *Paratypes:* 1♂ **South Africa**, KZN at Munywana & Mzinene confluence nr. Hluhluwe 27.52,2 S 32.21,5E c. 50m 23.XI.1996 leg. E. Grobbelaar & IM Millar NIL 8.10.3 Collected (by beating) *Acacia nilotica* in Coll. KAG; 1♀, South Africa: KZN 2,5km W of Candover 27.28,4 S 31.55,3 E c. 200m 20.XI.1996 leg. E. Grobbelaar & IM Millar NIL 8.5.4 Collected (by beating) *Acacia nilotica*. Nat. Coll.of Insects, Pretoria in Coll. KAG. *Other material:* 1♂ **Zululand**, Etezi. leg. Rev. J.W.Hunt ex coll. Dr. Breuning. *Dere nigrita* Gah. E. Fuchs det., 1970 [false identity] in Coll. MRAC

Length. 6–7.5mm.

Habitus. A small, uniformly coloured rufous species with acarinate profemora and deeply excavated apices of elytra.

Head. Mandibles broad and short, almost straight (not hooked), bristly in basal parts with rather blunt shiny apices. Frons flat, rugose, sparsely hairy along edges of inferior eye lobe, and with a very narrow linear, medial furrow. Vertex with a short, irregular longitudinal ridge between tubercles. Occiput rugose. Genae with golden bristle-like hairs.

Antennas. Rather short, reaching the middle of elytra in male; female antennae only fractionally shorter. Basal joints of antennae slender, gradually strongly thickened distally, especially in males.



FIGURE 9. *D. grobbelaarae* PT ♂, 7mm (KAG).
Photos: Karsten Sund (NHM, Oslo).

Joint 3 the longest: twice the length of joint 2, one and a half times that of scapus and of joint 4. From joint 4 onwards gradually shortened, with adpressed fine pubescence.

Pronotum. Rather mat, barrel-shaped, clearly longer than wide (ratio 1.25 : 1), openly foveolate and with a microstructure in between giving a mat appearance. Disc slightly raised in the middle with two adjacent hardly noticeable bumps. Lower lateral parts with dense, short, silky tomentum hardly visible in dorsal view.

Scutellum. Broad and short with a short, triangular apex, and with the same colour as the rest of the body.

Elytra. More or less parallel-sided in basal half, distal half a little widened and with convex sides, especially in females. Elytra with very dense, irregular rugosity. One weak longitudinal

costa on each elytron. Apically deeply notched, resulting in two sharp teeth on each elytron (Figure 4e).

Pygidium. Protruding, broadly tongue-shaped with more or less the same colour as the rest of the body. Long bristles at apex.

Legs. Rusty brown with short and scattered adpressed silvery pubescence. All femora clavate and acarinate with the apical clavate parts coarsely punctate. Tibia carinate, slightly curved. First joint of meso- and metatarsi about 1.5 times as long as the second.

Ventral surface. Basal part of gula and anterior part of prosternum glabrous, otherwise more or less evenly covered by a silky tomentum of short, silvery white hairs.

Distribution. Republic of South-Africa: Kwa-Zulu Natal.

Differential characters. *D. grobbelaarae* is the only uniformly reddish or rusty brown species of the genus. Microstructure of elytra more dense than in *D. apicalis*; in the latter the areas between punctation appears relatively smooth, thereby giving a lustrous appearance. In *D. grobbelaarae* the areas between punctation are finely irrorate; the elytra thereby appearing mat. It looks a bit like the “red form” of *D. apicalis*, but is much smaller, and the profemora are acarinate. All forms of *D. apicalis* have black extremities (legs, antennae) and scutellum.

***Dere apicalis* (Gahan, 1898) (Figures 10a–d)**

Syndere apicalis Gahan, 1898: 44

Zoocosmius apicalis Aurivillius, 1912: 426

Dere apicalis Adlbauer, 2001: 89

Dere apicalis Adlbauer, 2003a: 1332

= *Syndere lagria* Jordan, 1903: 140

Syndere lagria Gahan, 1904: 162

Zoocosmius lagria Aurivillius, 1912: 426

Dere lagria Ferreira & Veiga Ferreira, 1957: 153

Examined specimens.

Form with black-tipped elytra (*apicalis*-type)

(Figures 10a–b). **Holotype:** 1♂ **Kenya**, Samburu 30.X–20.XI.[18]96. B.E.Africa. leg. C.S.Betton 98–12. *Syndere apicalis* Gahan in Coll. NHM. **Other material:** 1♂1♀ **Ethiopia**, (Sidamo) 16km



FIGURES 10a–b. *D. apicalis*. **10a.** *D. apicalis* ‘*apicalis*-type’ ♂ 9.5mm (JSP) **10b.** *D. apicalis* ‘*extreme apicalis*-type’ ♂ 9mm (JSP). Photos: Karsten Sund (NHM, Oslo).

S Agere Maryam, 1930m a.s.l. N 05°30'09" E 038°15'28". 14.IV.2007 in Coll. TGM; 1♂ Ethiopie. Sidamo. Env. de Borana Negele. V.1997. leg. Werner Lizler in Coll. JSP; 2♀♀ Ethiopie. Sidamo prov. 35km avant Shakizo. V.2002. leg. Sudre Werner in Coll. JSP; 2♂♂ Ethiopie. Sidamo. 35km S Agere Maryam 14.IV.2007 leg. S.Rojkoff, K.Werner & M.Francois in Coll. JSP; 1♂2♀♀ [Ethiopia] Sidamo Prov.: 90km E of Neghelli 900/1200m a.s.l. 17.V.1975 / Coll.Mus. Tervuren leg. R.O.S.Clarke / *Zoocosmius apicalis* Gah. Det. R.Mourgla 1990 in Coll. MRAC; 1♂2♀♀ [Ethiopia] Sidamo Prov.: 90km E of Neghelli 900/1200m a.s.l. 17.V.1975/Coll.Mus. Tervuren leg. R.O.S.Clarke in Coll. RMR.

Form with concolorous elytra (*lagria*-type) (Figure 10c). *Cotype*: 1♂ *Co-type*. **Tanzania**, Mpwapwa E. Africa. *Syndere lagria* Jordan 1894 in Coll. NHM. *Other material*: 2♂♂ Ethiopie. Sidamo prov. 35km avant Shakizo. V.2002. leg. Sudre Werner in Coll. JSP; ♂ **Ethiopie**, Sidamo. 35km S Agere Maryam 14.IV.2007 leg. S.Rojkoff, K.Werner & M.Francois in Coll. JSP; 1♂1♀ **Kenya**, Makuyu 1.X.1937 leg. C.D. Knight no. 791 *Syndere lagria* Jord. D.J. Atkinson det. 1950 in Coll. NHM; 1♂2♀♀ Tanganyika T.: Msagaa 35m. E of Singida X–XII.1935 leg. E. Burt in Coll. NHM; 2♂♂ **Tanzania**, Ruaha N.P.: Msembe 5.XII.1972 on fls. of *Securinega virosa*. Leg. A. Bjørnstad in Coll. ABS (AB 839 + 1205); 1♀ ditto, but 4.XII.1972 on fls. of *Securinega virosa*. Leg. A. Bjørnstad in Coll. ABS (gen.



FIGURES 10c–d. *D. apicalis*. **10c.** *D. apicalis* 'lagria-type' ♂ 8 mm (JSP). **10d.** *D. apicalis* 'red type' ♂, 8.5 mm (KAG). Photos: Karsten Sund (NHM, Oslo).

prep AB1520); 1♀ Tanzania: Ruaha N.P. 800 / 1000m. 2/XII/1989. leg. R. Mourglia in Coll. ABS (AB 46447); 4♂♂3♀♀ Tanzania: Ruaha N.P. m 800/1000 2/XII/1989. & 9/I/1989 leg. R. Mourglia in Coll. RMR; 2♂♂ Tanzania: Iringa–Kisanga. ex larva leg. P.A. Dutto in Coll. ABS (gen.prep. AB 46446) (AB 46446) and RMR; 1♂? **Zambia**, Northern Prov.: 40km est Isoka. 5.XII.2005. leg. S.Rojkoff, K.Werner in Coll. JSP; 1♂ **RSA**, Mpumalanga Prov.: 45km SW Komatipoort 31.XII.2003–2.I.2004 leg. A. Kudrna jr. in Coll. ABS (AB 47435); 1♂1♀ **RSA**: Limpopo Prov.: c. 10km SW Moreberg, 70km NE Polokwane 9–10. XII.2009. leg. A. Kudrna jr. in Coll. ABS (AB 48059–48060); 1♀ [RSA] Weenen. Natal. Coll. by leg. G.H.Burn in Coll. IRSNB; 1♀ [RSA] Malvern 10/[18]97 in Coll. NHM; 1♀ South-

Afrika. E. Transvaal Barberton 17km NNW 25.36 S 29.53 E. 10.XI.1980 Flowering *Acacia*. leg. Endrödy-Younga in Coll. RMR; 1♂ **RSA**: KZN: Pietermaritzburg. 23.XI.1973. On *Acacia karroo* flower. leg. M.v.d.Berg in Coll. SANC.

Form with redbrown head and pronotum ('red type' Adlbauer 2008) (Figure 10d). 1♂ **Mozambique**, NW: 15km SSE Manje. 530m. 3.XII.2005 Leg. Jiri Halada in Colol. KAG; 1♀ South Africa: KZ-Natal: 20km S Richmond at Mkomazi Riv. 500m. a.s.l. 4–6.I.2007. leg. I. Martinu in Coll. PJT; 1♀ [RSA] Potgietersrus: Makapansgat, 24.08 S-29.12 E. 1470m. a.s.l. 31.XI. –3.XII.1992 Leg. H&E Dombrow in Coll. KAG; 1♀ **RSA**: KwaZuluNatal: Nyala Game Ranch nr. Empangeni. 2.X.1977, leg. P. Reavell

in Coll. SANC.

Length. 7.5–11 mm.

Habitus. Small to medium, with reddish brown or black head and pronotum, elytra yellowish brown with or without black colour on distal part. Apices of elytra deeply notched (excavate). Antennae, legs and scutellum always black.

Head. Red or black. Mandibles short, thinly silky hairy at base, but with a hooked, glabrous apex. Frons almost square, flattened or slightly concave, strongly punctate. Genae hairy, especially below inferior lobe of eyes. Tubercles moderately raised. Vertex concave, unevenly foveolate and with a short longitudinal carina. Occiput punctate.

Antennas. Gradually thickened distally and with short, very thin, adpressed silky tomentum. Scapus strongly punctate, weakly curved, nearly twice as long as joint 2. Joint 3 is 2.5 times the length of joint 2, and 1.5 times that of joint 4. Joint 4 equals joint 5 in length, but from then onwards gradually shortened. Joints 3–8 weakly compressed and dentate. Three last joints incrassate.

Pronotum. Only slightly longer than wide, finely punctate and glossy with two slightly raised bumps at or slightly behind middle of pronotal disc. The foveolae are very shallow and well spaced with smooth areas in between. Laterally the pronotum is strongly convex and with a patch of white hairs on its lower part, but not visible in dorsal view.

Scutellum. Broadly triangular to broadly cordate, glabrous and glossy.

Elytra. Broad, normally acostate, but sometimes with one very weak submedian costa on each elytron. Elytra evenly widened distally, somewhat shiny with an irregularly punctate / rugose surface. Apex of elytra with a more or less semicircular excavation resulting in two sharp teeth; the lateral one more pronounced than the sutural one (Figure 4f). Colour variable (see below), normally reddish or yellowish brown, with or without a black patch distally.

Pygidium. Yellow, broadly tongue-shaped, variably protruding

Legs. Black with short and very thin, adpressed, silky pubescence, meso- and metafemora with stiff, semierect and sharp setaceous hairs. All

femora clavate and carinate. Tibiae slightly curved and carinate. First joint of metatarsi 1.5 times the length of the second; but little difference in their lengths in the protarsi; mesotarsi intermediate in this respect.

Ventral surface. With silky white hairs. The colour varies from black with yellow abdominal segments (“*lagria*-type” and “red type”; see below) to more or less uniform black ventral side (“*apicalis*-type”).

Variation. *D. apicalis* is a highly polymorphic species with local diversification at the outer fringes of its distribution area. The form with uniformly coloured elytra occurs all the way from Ethiopia to South Africa. This is the form that Jordan (1903) described as *Syndere lagria*. In Kenya and Ethiopia, i.e. the northern part of its distribution area, there occur individuals with varying amounts of black on distal parts of elytra: one ex. in the JSP collection has almost entirely black elytra (Figure 12). Gahan (1898) described the black-tipped form as *Syndere apicalis* (type from Samburu in northern Kenya). Later studies have shown that in one and the same population both “*lagria*-type” and “*apicalis*-type” are intermixed. This led Adlbauer (2003a) to synonymize the two, the latter name taking priority over *D. lagria*.

From the southern parts of its distribution area Adlbauer (2008) has described a form with reddish brown head and pronotum, but in other characters showing conspecificity with *D. apicalis*. Adlbauer did not formalize a name for this morph, and in this paper it is referred to as “red type”. Known specimens of this type have been found scattered in the eastern part of the RSA from KwaZulu Natal to Limpopo and in the Tete Prov. of Mozambique. For the possibility of *D. zimbabweana* also representing a morph of *D. apicalis*, see below under that species.

Distribution. Ethiopia, Kenya, Tanzania, Zambia, Mozambique, South Africa.

Differential characters. *D. apicalis* show similarities to both *D. vittata*, *D. grobbelaarae* and *D. zimbabweana*. The discriminating features towards *D. apicalis* have been dealt with under each of these species.



FIGURES 11–12. 11. *D. zimbabweana* PT ♀, 9mm (KAG). 12. *D. donisi* ♂, 10mm (KAG). Photos: Karsten Sund (NHM, Oslo).

***Dere zimbabweana* Adlbauer, 2000 (Figure 11)**

Dere zimbabweana Adlbauer, 2000: 9

Holotype: 1♂ **Zimbabwe**, S. Rhodesia, Salisbury 16.XII.1973 in SANC; not seen, but pictured in Adlbauer (2000).

Examined specimens. *Paratype:* 1♀ **Zimbabwe**, S. Rhodesia: Salisbury (c) 16.XII.[19]73. leg. N.J. Duke in Coll. KAG. *Other material:* 1♀ Zimbabwe: Bulawayo Umg. 30.XI.[19]93. leg. M. Bernhard in Coll. KAG; 1♀ **Malawi**, Mzuzu. 14.XII.2007 leg. Josso. Juhel. Monfort. Murphy in Coll. PJT

Length. 8.5–10.5mm.

Habitus. Medium-sized, robust and broad, lustrous black with yellow to yellowish beige abdomen, pygidium and apical part of elytra. Apices of elytra deeply notched.

Head. Head, including mandibles and antennae pitch black, only palpi (maxillary and labial) pale rusty brown. Mandibles short, thinly silky hairy at base, but with a hooked, glabrous apex. Frons flattened or slightly concave, strongly punctate. Genae densely hairy, especially below inferior lobe of eyes. Tubercles raised, round to somewhat acute. Vertex concave, unevenly foveate and with a short longitudinal carina. Occiput punctate.

Antennas. Gradually thickened distally and with short, very thin, adpressed silky tomentum. Scapus strongly punctate, weakly curved, nearly twice as long as joint 2. Joint 3 is 2.5 times the length of joint 2, and 1.7 times that of joint 4. Joint 4 equals joint 5 in length, but from then onwards gradually shortened and thickened. The three last

antennal segments are equally long. Joints 3–8 weakly dentate.

Pronotum. Only fractionally longer than wide, shallowly and openly punctate/foveolate with broad, smooth and glossy areas in between and with two slightly raised bumps at or slightly behind middle of pronotal disc. Laterally the pronotum is strongly convex and with a patch of white hairs on its lower part, but this is not visible in dorsal view.

Scutellum. Broadly triangular to broadly cordate, glabrous and glossy.

Elytra. Broad, acostate, evenly widened distally, somewhat shiny with an irregularly punctate/rugose surface. Black throughout except for the apical one sixth which is pale yellow or beige. Apex of elytra with a more or less semicircular excavation resulting in two sharp teeth; the lateral one more pronounced than the sutural one (Figure 4g).

Pygidium. Yellow, broadly tongue-shaped, protruding beyond the apical teeth of elytra.

Legs. Black with short and very thin, adpressed, silky pubescence. All femora clavate and weakly carinate. Tibiae slightly curved and carinate. First joint of metatarsi 1.5 times the length of the second; but little difference in their lengths in the protarsi; mesotarsi intermediate in this respect.

Ventral surface. With silky tomentum, the hairs white on the anterior parts, yellow on abdomen.

Distribution. Malawi, Zimbabwe.

Differential characters. the large, shiny black habitus of this beetle, with its yellow, deeply notched apices, makes it easily distinguishable from all other members of the genus on colours alone. Structurally however, it comes very close to the very variable *D. apicalis*. In the “Differentialdiagnose” of the original description Adlbauer (2000) compares *D. zimbabweana* with its closest relative, *D. lagria* (= *D. apicalis*) and says: “...unterscheidet sich von dieser Art [*lagria*] durch kräftigeren, robusteren Körperbau, schlankeres Pronotum, kürzeres Scutellum, stärker halbrund ausgeschnittene Elytrenapices und andere Färbung.” (op.cit. p. 9). Apart from the mentioned striking colour combination, the

present author is unable to see these differences based on the material at hand. The body size is the same (7.5–11mm in *D. apicalis* vs. 8.5–10.5mm in *D. zimbabweana*), the ratio length:width of pronotum the same (from 1.0–1.1 in both species) and the excavation of elytra apices are roughly the same. The investigated specimens show no difference in the shape of the scutellum. It may be that *D. zimbabweana* represent a local extreme chromatic morph of *apicalis*, but for lack of proof, to that effect I have chosen to keep it as a *bona.sp.* for the time being.

The *minor/viridicincta/donisi*-complex

Three names are available in this morphotype-complex: *Apiogaster minor* Jordan, 1894 with Holotype from Gabon in the Paris Museum (MNHN), *Syndere viridicincta* Aurivillius, 1907 with Syntype from Dahomey in the Senckenberg Museum (SDEI), *Maynagaleptus donisi* Lepesme & Breuning, 1956 with HT from Congo Belge in the Tervuren Museum (MRAC).

For the present revision, a total of 73 specimens of this complex has been examined. The great majority (57 ex) agrees with the type of *S. viridicincta*, while 15 specimens comply with *M. donisi*. These two taxa seem well separate and are easily distinguished even with the unaided eye (see below for differential characters).

The last specimen of this lot is the Holotype of *A. minor*. It stands apart from the rest by its smaller size (6.75mm against 8.5–10.5mm in *D. viridicincta* and 8–10mm in *D. donisi*), and its blue-coloured elytra (never known in *D. donisi*, and only in two of the 57 *D. viridicincta*). Otherwise, in most of the differential characters that separate *D. viridicincta* and *D. donisi*, it seems to have an intermediate position.

The Holotype of *D. minor* is the only specimen of this complex ever recorded from Gabon. Future sampling in this country may confirm the distinctness of this taxon. I have chosen to treat the complex as consisting of 3 separate species. This contradicts the treatment of Adlbauer (2003) where all three available names are synonymized.

Dere donisi* (Lepesme & Breuning, 1956)*comb. nov.** (Figure 12)*Maynagaleptus Donisi* Lepesme & Breuning, 1956: 181–183*Zoocosmius minor* sensu Adlbauer 2003b: 27

Examined specimens. *Holotype*: 1♂ [RDC] Yangambi 1953. O. Donis Z-A-572/coll. leg. R. Mayne Com. et Bois Congo R. 2458/Coll. Mus.Congo Don R.Mayne/ *Maynagaleptus Donisi* Lep. et Br. TYPE. P.Lepesme det. in Coll. MRAC. *Paralectotype*: 1♂ Musee du Congo. Ituri: Midje avril 1914 leg. Dr. Christy. *Z. viridicinctus* ab. *viridis* Aur. mat. Type. in Coll. MRAC. *Other material*: 1♂ **Cameroon**, Obout, Yaonde, X.1989, leg. F. Rousset in Coll. ABS (AB 50124); 1♂ Cameroon, Obout, Yaonde, X.1989, ex coll. R. Mourglia in Coll. KAG; 1♂ S-Cameroon, Reg. Mbalmayo, IV.1993, ex coll. T. Garnier in Coll. KAG; 1♀, Cameroon: Ebogo. V.2003. Leg. P. Juhel, in Coll. PJT; 2♂♂2♀♀ S. Cameroon: Reg. Mbalmayo 04/93, in Coll. TGM; 1♂ **Congo-belge**, Kwango, Ngowa 2.XI.1937. leg. R.P.J.Mertens. R.Mus.Hist. Nat. Belg. I.G. 11.520 in Coll. ABS ex Coll. IRSNB (AB 50253); 1♂1♀ Congo-belge: Kwango, Ngowa 2.XI.1937. leg. R.P.J.Mertens. R.Mus.Hist. Nat. Belg. I.G. 11.520 in Coll. IRSNB; 1♂ Coll.Mus.Congo. Mayidi 1942 leg. Rev. P. Van Eyen in Coll. RMR; 1♂ IRSAC Mus.Congo Kivu: Rutshuru 5.II.1956 leg. J&N. Leleup in Coll. RMR

Length. 8–10mm.

Habitus. Black, with emerald green to yellowish green metallic elytra furnished with stout spines at their apices.

Head. Black, relatively long. Mandibles blackish brown, rugose and hairy in basal part with a shiny, glabrous and sharply hooked apex. Frons, antennal tubercles and anterior part of vertex variously equipped with yellowish straight hairs. Posterior part of vertex practically without any tomentum apart from 2–3 long hyaline bristles bordering the superior eye lobes on each side.

Antennas. Reaching to base of last pair of legs (♀) or slightly behind (♂). Scapus slightly curved, only weakly widened distally with a rounded apex and short bristly hairs. The length of scapus nearly twice that of 2. antennal joint, two thirds that of 3. joint. The 4. joint only half the length of joint 3, and shorter than 5. joint. From joint 7–10

gradually shortened, but last joint elongate, 1.5 times the length of penultimate joint. Joints 3–10 weakly dentate and with scattered bristly hairs. No channeling of last joints.

Pronotum. Longer than wide, slightly convex laterally. Pronotal disc foveolate, but this foveolation is shallow. Without tomentum apart from a small dot of silvery hairs posteriorly in front of scutellum. Two slightly raised bumps near middle of pronotum. The lateral/ventral parts of the pronotum has a very dense silvery band of white tomentum, also partly visible from a dorsal view.

Scutellum. Black, broad and short, glabrous and somewhat shiny.

Elytra. Densely punctate, but shiny metallic yellowish to emerald green (in fresh specimens), more or less parallel-sided; slightly constricted just in front of the middle, somewhat convex in distal half. Deeply obliquely notched apically giving a pointed sutural angle and a very strong marginal spine (Figure 4h).

Pygidium. Protruding, but never beyond apex of marginal spine. Reddish brown in colour, evenly rounded and with a few bristly hairs.

Legs. Pro- and mesofemora strongly club-shaped, metafemora less so. Profemora acarinate, meso- and metafemora carinate. Also tibiae weakly carinate. All tarsi, tibiae and basal part of femora reddish brown, femoral clubs blackish.

Ventral surface. Head below (gula) with a shiny, black basal third, almost smooth medially, finely transversally undulate laterally. Distal two thirds of gula irregularly rugose. Genae with white to yellowish hairs, especially dense beneath the eyes. Prosternum with a narrow shiny finely transversally undulated band in front; the remaining posterior part variably covered with very short, white hairs. Prosternal process broadly triangular. Metasternum and abdominal sternites reddish brown with variable cover of short silvery hairs. Metasternum with a longitudinal furrow in posterior half.

Differential characters. Close to *D. viridicincta* from which it differs in the following characters: pronotum distinctly longer than wide (as long as wide in *D. viridicincta*) and furnished with two slightly raised dorsal protuberances

(“bumps”) at its widest part (missing or only very vague in *D. viridicincta*), scutellum glabrous and shiny (densely hairy in *D. viridicincta*), the marginal spines of elytra apices longer and more stout than in *D. viridicincta*. The long median stripe of golden hairs on the pronotum of *D. viridicincta* is in *D. donisi* reduced to a small dot of silvery white hairs near posterior margin of its pronotum. The foveolation of the pronotal disc in *D. donisi* is more shallow and spaced as compared to the deep and dense pitting in *D. viridicincta*. Pygidium not protruding beyond apex of marginal spine of elytra; in *D. viridicincta* the pygidium normally extends well beyond the spines. For differences vs. *D. minor* see below.

Distribution. Cameroon and Congo Dem. Rep.

Remarks. When Lepesme & Breuning (1959) described the taxon *Maynagaleptus donisi* they wrongly placed it close to the genus *Agaleptus* in the Callichromatini. Adlbauer (2003b) partly rectified this by transferring it to its taxonomically correct context in the Sestyrini (Cleomenini at that time), but wrongly synonymized it – together with *Zoocosmius viridicinctus* – with *Zoocosmius minor*.

***Dere viridicincta* (Aurivillius, 1907) comb. nov.**
(Figure 13)

Syndere viridicincta Aurivillius, 1907: 79

Zoocosmius viridicinctus Aurivillius, 1912: 426

Zoocosmius viridicinctus Auriv. ab. *viridis* Aurivillius, 1927: 531 (**syn. nov.**)

Zoocosmius minor sensu Adlbauer 2003b: 27

Examined specimens. *Syntype*: 1♀ *Syndere viridicincta* Auriv. Typus/Syntypus/ Dahomey ex Coll. F. Schneider/Coll. Kraatz. Ch. Aurivillius det. in Coll. SDEI. *Lectotype*: ♀ Musée du Congo: Bas-Uele VII–VIII.1920 leg. L. Burgeon Type *Zoocosmius viridicinctus* Auriv. ab. *viridis* Auriv. In Coll. NRM [NHRS-JLKB000020610]. *Other material*: 1♂ **Ivory Coast**, Kpouebo. Moronou 25.VIII.1984. leg. J.M.Leroux 644 in Coll. JSP; 1♀ Ivory Coast: Comoe. X.1998. Leg. Ph. Moretto, in Coll. ABS (AB 42822) ; 1♂1♀ RCI: Comoe. IV.1998. Leg. P. Juhel in Coll. PJT; 1 ex. Ivory Coast: Dimbroko. in Coll. IRSNB; 1♂ **Benin**, Attogon. Atlantique RB. VII.2001. leg.

Le Gall in Coll. TGM ; 1♂3♀♀ **Ghana**, Gold Coast. Feb.1945. leg. G.H. Thompson. *Piptadenia africana* in Coll. NHM; 1♀ Gold Coast. Sunyani. 1945. leg. G.H. Thompson. *Zoocosmius minor* K. Adlbauer det. 2003 in Coll. NHM; 1♀ Gold Coast. 9.III.1947. leg. G.H. Thompson. *Albizia zygia*. in Coll. NHM; 1♀ Benin, Niamouli, 11.XI.1998; sweepnetting, forest, Coll. leg. G.Goergen. in Coll. KAG; 7 ex. Dahomey ... 19.. Collection Gerhardy in Coll. IRSNB; 1♂ **Cameroon**, Obout, Yaounde, X.1989, ex coll. R. Mourglia, in Coll. KAG; 1♀ Cameroon, Douala. XI.1998 in Coll. JSP; 3 ex. **DR Congo**, Gemena. IX–X.1947. leg. R. Cremer- M.Neuman. in Coll. ABS ex Coll. IRSNB incl. gen.prep. AB 50254 (AB 50254-6); 16 ex. Congo Belge: Gemena. IX–X.1947. leg. R. Cremer- M.Neuman. in Coll. IRSNB; 3♂♂1♀ Coll. Mus.Congo Bambesa 4.IV.1939 J. Vrydagh/ *Zoocosmius viridicinctus* Aur. det. R.Mourglia 1994; 1♂ Musée du Congo: Haut-Uala: Watsa. 1922. leg. L. Burgeon . In Coll. NRM [NHRS-JLKB000020609] (claimed by NRM to be type, but Aurivillius did his description in 1907); 1♀ Aschanti. Coll. Thieme *Syndere subaenea* n.sp. [sic!] in Coll. MNHUB; 1♂ Njam-Njam Somnio [? Niam-Niam: Zemio? – in RCA] in Coll. MNHUB; 2♂♂1♀Congo Belge. Gemena IX–X.1947 in Coll. RMR; 3♂♂1♀ Coll.Mus. Congo. Bambesa 7.IX.1937 & IV.1939 leg. J.Vrydagh in Coll. RMR.

Length. 8.5–10.5mm.

Habitus. Medium-sized dark reddish brown, with variably yellowish green (to blue) elytra furnished with spines at their apices. Pronotum with a longitudinal median stripe of yellow to golden hairs.

Head. Mandibles with reddish brown and hairy basal part and a shiny black hooked apex. Frons and cheeks with yellow hairs. Vertex with a longitudinal ridge of variable length between antennal tubercles and superior lobes of eyes. Posterior part of vertex practically without any tomentum apart from 2–3 long hyaline bristles bordering the superior eye lobes on each side.

Antennas. Reaching to the base of last pair of legs (♀) or slightly behind (♂). Scapus straight, only weakly widened distally with a rounded apex and short bristly hairs in fresh specimens.



FIGURE 13–14. 13. *D. viridicincta* ♂, 9mm (KAG). 14. *D. minor* HT ♂, 6.75mm (MNHN). Photos: Karsten Sund (NHM, Oslo).

The length of scapus twice that of 2. joint, three quarters that of 3. joint in females, less so in males. Joints 3–10 weakly dentate, gradually shortened with minute yellowish tomentum and apically with a few longer bristly hairs. Last joint slightly elongate, not channeled.

Pronotum. Dark purplish brown, as long as wide, densely pitted and with a longitudinal median band of golden yellow hairs. The lateral/ventral parts of the pronotum has a dense band of yellowish white tomentum, also partly visible from a dorsal view.

Scutellum. Small, short but broad, densely hairy.

Elytra. Densely punctate, somewhat shiny yellowish green to brownish to (rarely) cobalt blue colour, more or less parallel-sided; slightly

constricted just in front of the middle, somewhat convex in distal half. Deeply obliquely notched apically giving a pointed sutural angle and a strong marginal spine (Figure 4i).

Pygidium. Protruding, often beyond apex of marginal spine. Reddish brown in colour, evenly rounded and with a few bristly hairs.

Legs. Reddish brown. Pro- and mesofemora strongly clavate, metafemora less so. Profemora acarinate, meso- and metafemora carinate. Also tibiae weakly carinate.

Ventral surface. Head below (gula) with a shiny brown basal part, almost smooth medially, finely transversally undulate laterally. Distal half of gula densely punctate. Genae with dense yellowish tomentum especially below the eyes. Prosternum bordered in front by a narrow shiny

band; the remaining posterior part densely covered with short, matted yellowish hairs almost hiding the punctate surface below. Metasternum and abdominal sternites with sparse silvery tomentum, increasingly dense laterally.

Variation. Aurivillius (1927) described *Zoocosmius viridicinctus* Auriv. ab. *viridis* very briefly, saying only “*A forma typica tantum differt elytris totis viridibus.*” (op.cit. p. 531). The colour of the elytra varies much within a single population from nearly yellow or yellowish brown through various shades of green to (rarely) dark cobalt blue. There is little to gain from giving the various colour forms a formal name, and I have therefore reduced ab. *viridis* Auriv. to synonymy with the nominal form. The formalistic problem, however, lies in the fact that Aurivillius based his description of ab. *viridis* on two specimens from “Congogebiet” borrowed from the Tervuren Museum, both labelled as types. In a letter March 1927 Aurivillius said he would like to keep one of them for the Riksmuseet, Stockholm (NRM), returning the other to MRAC (Marc De Meyer pers. comm.). The two syntypes, however, belong to two different species and the type series therefore is a mixed series. The Stockholm specimen [NHRS-JLKB000020610] is what it is supposed to be: a green form of *D. viridicincta*, and I designate this specimen as a lectotype. The specimen that was returned to Tervuren is a specimen belonging to *D. donisi* Lep. & Br. and should therefore be excluded from the type series as a paralectotype (listed under ‘examined specimens’ of that species).

Distribution. Ivory Coast, Ghana, Benin, Cameroon, Gabon, DR Congo.

Differential characters. Closely related to *D. donisi* and *D. minor*; see further under those species.

***Dere minor* (Jordan, 1894) comb. nov.**

(Figure 14)

Apiogaster minor Jordan, 1894: 190

Zoocosmius minor sensu Adlbauer 2003b: 27

Examined specimens. *Holotype*: 1♂ Gabon/*Apiogaster minor* Jordan. Type!/Ex Tring Museum 1911/Museum Paris 1952. Coll. R. Oberthür/Type (red label) in Coll. MNHN

Length. 6.75mm.

Habitus. A small species with dark blue elytra furnished with long lateral spines at their apices. Pronotum with a short basal longitudinal stripe of silky, silvery hairs.

Head. Mandibles reddish brown with a broad short-haired basal part and a glabrous, shiny hooked apex. Frons and cheeks rugose without or with only minute white hairs. The dorsal two thirds of the frons with a weak median crest. Antennal tubercles moderately raised. Vertex depressed, densely foveate, without any longitudinal crest and practically without any tomentum apart from one long hyaline bristle bordering the superior eye lobes on each side.

Antennas. Reaching slightly behind the base of last pair of legs. Scapus slightly curved, weakly widened distally with a rounded apex and very short bristly hairs. The length of scapus 1.5 times that of 2. joint, a bit shorter than 3. joint. Joints 4–10 weakly dentate, gradually shortened and thickened with minute silvery pubescence and apically on each joint with a few longer bristly hairs. Last joint elongate, not channeled.

Pronotum. Very dark purplish brown to almost black, about 1.4 times as long as wide, densely pitted (“honey-combed”) and with weak, rounded protuberances near the middle. A longitudinal median band of silvery, matted hairs reaches about one third of its length, starting from its base. The lateral/ventral parts of the pronotum has a dense cover of silvery white, matted hairs, clearly visible in a dorsal view.

Scutellum. Small, rounded oblong, densely hairy.

Elytra. Densely punctate/foveate in basal half, gradually changing to more irregularly rugose in apical half, somewhat shiny blue, more or less parallel-sided; slightly constricted just in front of the middle, somewhat convex in distal half. Deeply and obliquely notched apically giving a weakly pointed sutural angle and a strong marginal spine (Figure 4j).

Pygidium. Only little protruding, not reaching beyond apex of marginal spine. Reddish brown in colour, evenly rounded, densely covered by adpressed silky hairs and with a few long, bristly hairs along outer margin.

Legs. With reddish brown tibiae and basal part of femora; femoral clubs and tarsi darker. Pro- and mesofemora strongly clubshaped, metafemora less so. All femora and tibiae weakly carinate and shortly silky hairy.

Ventral surface. Head below (gula) with a shiny smooth brown basal part. Distal half of gula densely punctate and with long backwardly bent bristles. Genae with a few bristly hairs. Prosternum, metasternum and abdominal sternites covered with dense silvery tomentum, increasingly dense laterally.

Distribution. Gabon.

Differential characters. Closely related to *D. donisi* and *D. viridicincta*. As Jordan's specific epithet implies, *D. minor* is a small species, by far the smallest in the complex to which it belongs (see above). It differs further from *D. donisi* in its dense and deep pronotal foveolation, its markedly longer hair stripe (reaching more than one third of the pronotal disc from its base) and by shorter marginal spines on elytra apices. The elytra of *D. minor* are dark blue, as opposed to various shades of green in *D. donisi*. From *D. viridicincta*, beside its much smaller size, it differs by its silvery, incomplete hairstripe on pronotum (not yellow and complete like in *D. viridicincta*) and by the pronotum being distinctly longer than wide (as long as wide in *D. viridicincta*).

Dere bicolor (Kolbe, 1894) comb. nov.

(Figures 15a–d)

Syndere bicolor Kolbe, 1894: 55

Zoocosmius bicolor Aurivillius, 1912: 426

Zoocosmius basilewskyi Fuchs, 1974: 482–483 **Syn. nov.**

Dere bicolor bicolor (Kolbe, 1894)

(Figures 15a–b)

Examined specimens. *Holotype*: ♀ **DR Congo**, S.W.Albert-Njansa, Undussuma, 1050m a.s.l., Ende VII.[18]91. Stuhlmann S./Type/ *Syndere bicolor* n.sp./*Holotypus Syndere bicolor* Kolbe, 1894 labelled by MNHUB 2013/ in Coll. MNHUB. *Holotype*: ♀ **DR Congo** Musee du Congo: Eala. XII 1935 Leg. J.Ghesquiere. *Holotype Zoocosmius basilewskyi* E.Fuchs det. 1974. In Coll. MRAC. *Paratype*: 1♂ **DR Congo** [Zaire] Tshuapa – Bamanya 30.VIII.1963.

leg. Rev. P. Hulstaert. *Paratypus Zoocosmius basilewskyi* mihi. E.Fuchs det., 1974 in Coll. MRAC. *Paratype*: 1♂ **DR Congo** [Zaire] Eala VIII–IX.1930 leg. Dr. P.Staner. *Paratypus Zoocosmius basilewskyi* mihi. E.Fuchs det., 1974 in Coll. MRAC. *Other material*: 1♀ **DR Congo**, Monze, Engengele, 30.VI.2009, canopy fogg. Congostream Exp., ex coll. IRSNB in Coll. KAG; 1♀ **Burundi**, Kanna 26/28.I.1926. leg. Dr. H. Schouteden. *S. bicolor* Klb. ab? in Coll. MRAC; 1♀ **Kenya**, Colony. Kakumega [Kakamega]. Yala River. leg. H.J.A. Turner. *Zoocosmius sp.* K. Adlbauer det. 2003 in Coll. NHM

Length. 6–10.5mm.

Habitus. Small to medium with bicoloured black and yellowish orange to rufous pronotum and elytra.

Head. Mostly black but with a varying amount of orange yellow on its vertex/occiput, coarsely punctate with slightly elongated anterior part. Mandibles short, finely puberulous brown to black with hooked apices. Antennal tubercles moderately raised, pointed. Anterior part of head, including genae, with sparse silky white to yellowish hairs. The frons flattened to weakly convex, with or without a median fissure.

Antennas. Rather short, only reaching to the first third of the elytra in females, slightly longer in males. Scapus slightly curved with rounded apex and punctate surface. Third antenna joint the longest: about 1.5 times that of scapus, twice the second joint and 1.5 times fourth joint. Joint 4 and 5 of equal length, from then onwards more or less gradually shortened and thickened, but last joint nearly twice the length of penultimate segment. Joint 4–10 slightly dentate.

Pronotum. Black with a varyingly wide longitudinal orange-brown stripe, variably barrelshaped, as long as wide to distinctly longer than wide (ratio length:width varying from 1:1 to 1:1.15). Disc densely, but shallowly foveolate, without hairs. Laterally the pronotum is evenly rounded and with a silvery tomentum just visible from a dorsal view.

Scutellum. Black and shiny, glabrous. Wide, but very short.

Elytra. Strongly and densely punctate, weakly costate, more or less parallel-sided in basal half,



FIGURES 15a–b *D. bicolor*. **15a.** *D. bicolor* ssp. *bicolor* HT ♂, 10.5mm (MNHUB). **15b.** *D. bicolor* ssp. *bicolor* ♀, (PT *Zoocosmius basilewskyi*) 7mm (MRAC). Photos: Karsten Sund (NHM, Oslo).

weakly constricted medially and only vaguely widened in the distal half, but more so in females. Apically obliquely excavated resulting in a small sutural tooth and a larger lateral spine (Figure 4k). Basic colour of elytra black, but most of the anterior part is orange (yellow in older bleached specimens) to reddish brown with only a narrow lateral stripe and epipleura black. The apical part of elytra black. Sometimes there is a black sutural stripe in anterior half of elytra (e.g. in HT Figure 18).

Pygidium. Long protruding, black to reddish, squarely truncate with sparse silky tomentum.

Legs. Black. Profemora strongly clavate, acarinate. Meso- and metafemora weakly carinate (on anteroventral face). Mesofemora clavate, metafemora less so. The claviform apices of

femora strongly punctate and with short tomentum of silky hairs. In all tarsi, the first joint is only slightly longer than the second.

Underside. Black, densely covered by white to somewhat yellowish silky tomentum.

Distribution. DR Congo, Burundi, Kenya.

Differential characters. The bicolourous, black and orange pronotum makes it easily distinct from all other species of the genus.

Note. It seems strange that Fuchs overlooked the taxon *D. bicolor* in spite of apparently having -examined the Tervuren collection where Dr. Schouteden's specimen (from 1926) labelled as *Syndere bicolor* Klb. must have been present.

***Dere bicolor ivorensis* ssp. n.** (Figure 15c)

Examined specimen. *Holotype:* 1♀ Ivory



FIGURES 15c–d. *D. bicolor*. **15c.** *D. bicolor* ssp. *ivorensis* ssp.n. HT ♀, 9.5mm (NHM). **15d.** *D. bicolor* ssp. *puchneri* ssp.n. HT ♀, 10mm (APG). Photos: Karsten Sund (NHM, Oslo).

Coast, Bouake. Collection Lepesme. *Zoocosmius* sp. K. Adlbauer det. 2003 in Coll. NHM

Description. Like nominal ssp., but differing in the following characters: The antennal tubercles are more raised than and with a rounded apex (only moderately raised and pointed in ssp. *bicolor*). The vertex is more deeply depressed between the superior lobes of the eyes, and this depression has a median longitudinal, irregular crest not found in ssp. *bicolor*. The pronotum in ssp. *ivorensis* n.ssp. has wider, more bulging sides, and this lateral convexity gives the insect a different appearance. Further, the orange mark on the pronotum is hourglass-shaped; in ssp. *bicolor* it is normally widened in the middle. The elytra in ssp. *ivorensis* are almost totally black except for one tiny orange-yellow spot at base of each

elytron between shoulder and scutellum. The excavation of elytra apices is more pronounced, more oblique and forming a stronger lateral tooth than what is found in ssp. *bicolor* (Figure 4k).

Distribution. Only known from the type locality in Ivory Coast.

Note. The above description is based on a single specimen from the NHM collections. The proper status of this taxon evidently requires more material.

***Dere bicolor puchneri* ssp. n.** (Figure 15d)

Examined specimen. *Holotype*: 1♀ **Angola**, Cuanza Sul Prov.: 19km S Calulo. 2.XII.2012. 14° 56' 36 E, 10° 09' 01 S. leg. P. Schüle in Coll. APG

Description. Like nominal ssp., but differing in the following characters: The antennal



FIGURES 16a–b. *D. leptis*. **16a.** *D. leptis* m. *leptis* ♂, 7mm (ABS). **16b.** *D. leptis* ‘intermediate morph’ ♀, 7 mm (ABS) Photos: Karsten Sund (NHM, Oslo).

tubercles like in nominal ssp.: only moderately raised and acute. Vertex depressed, but with only a vague median ‘hump’ (not a defined crest like in ssp. *ivorensis* n.ssp.). The sides of the pronotum are more pronouncedly convex than the other subspecies. The lateral teeth of the elytra apices are strong and slightly inwardly bent (Figure 4k). The elytra are almost totally black except for a small orange-yellow spot near base between shoulder and scutellum, and thus very similar to ssp. *ivorensis* ssp.n. But on the pronotum the amount of bright colour is even more reduced: only one roughly triangular spot at the anterior end, and a similar one at the posterior end.

Distribution. Only known from the type locality in Angola.

Note. The above description is based on a

single specimen from the APG private collection. The proper status of this taxon evidently requires more material.

***Dere leptis* (Jordan, 1903) comb. nov.**

(Figures 16a–d)

Syndere leptis Jordan, 1903: 140

Zoocosmius leptis Aurivillius, 1912: 426

Examined specimens.

m. *leptis* (Figure 16a). 1♂ *Holotype*: (red label) / *Syndere leptis*. Type Nov.Zool. 1903 p. 140 Jordan/ N-Kamerun. Johann Albrechtshöhe. L. Conradt [18]96/Museum Paris 1952. Coll. R. Oberthür/ Ex Tring Mus. 1911. In Coll. MNHN. *Other material*: 2♀♀ **Ghana**, Gold Coast 1949. leg. G.H. Thompson. *Antiaris africana*. in Coll. NHM;



16c



16d

FIGURES 16c–d. *D. leptis*. **16c.** *D. leptis* 'bimaculate morph' ♂, 7mm (MNHN). **16d.** *D. leptis* m. *nigra* ♂ 6.5mm (JSP). Photos: Karsten Sund (NHM, Oslo).

4♂♂4♀♀ N-Cameroon, Joh. Albrechtshöhe leg. L. Conradt SV various dates IV–V.[18]96 in Coll. MNHUB and ABS incl. gen.prep. AB 50258; 1♂ Cameroon. leg. Konradt. *Syndere leptis* Jord. Coll. Kraatz. Ch. Aurivillius det. in Coll. SDEI; 1♂ Cameroon: Littoral: Lolodorf. VII.1991. leg. F. Rousset in Coll. ABS (AB 46448); 1♀ Cameroon: Mengueme Centre Sud. XI.1992. Leg. F. Rousset in Coll. JSP; 1♂1♀ S. Cameroon: Reg. Mbalmayo IV.1993 in Coll. TGM; 1♀ Cameroon. leg. Conradt. in Coll. IRSNB; 1♀ Mundame (Kam.) leg. R. Rohde in Coll. IRSNB; 1 ex Cameroon. Ebolowa leg. Nonvll [Nonveiller] IV.1970 in Coll. RMR; 1♂2♀♀ Cameroon. Littoral: Lolodorf–VII. [19]91 leg. F. Rousset in Coll. RMR; ♂Cameroon. Yaounde: Obout X.1989 leg. F. Rousset in Coll. RMR; 1♀ Cameroon. Efulen leg. H.L.Weber

Acc 6257 in Coll. RMR; 1♂ Museum de Paris. Cameroon. Lada 27.III.1973 leg. B. de Mire in Coll. RMR; **Equatorial Guinea**, 1♂ Span. Guinea: Nkolentangan XI. 1907–V.1908. leg. G. Tessmann S.G. in Coll. ABS ex Coll. IRSNB (AB 50250); 5♂♂6♀♀ Span. Guinea: Nkolentangan XI.1907–V.1908. leg. G. Tessmann S.G. in Coll. MNHUB; 1♀ Equatorial Guinea: Nkolentangan West-Afrika: Uelleburg VI–VIII.1908 leg. G. Tessmann S.G. in Coll. MNHUB; 1♀ **Gabon**, Mouila. leg. G. Le Testu. *Zoocosmius leptis* Jordan det. R.Mourglia 1990. in Coll. NHM

intermediate morph (Figure 16b) 1♂1♀ Cameroon (North): Joh. Albrechtshöhe leg. L. Conradt SV 1.VIII.189731.III.1898 in Coll. MNHUB and ABS.

bimaculate morph (Figure 16c): 1♂ **Cameroon**, Nkolmbane(?). III.1966. Museum Paris. leg. B. de Mire in Coll. MNHN.

m. nigra (Aurivillius, 1907) comb. nov., stat. nov. (Figure 16d)

Syndere nigra Aurivillius, 1907: 78–79

Zoocosmius niger Aurivillius, 1912: 426

Zoocosmius nigra [sic] Adlbauer, 2003: 39

Examined specimens. *Syntype*: 1♀ *Syndere nigra* Auriv. typus / Kamerun. Konradt/Coll. Kraatz. Ch. Aurivillius det./Syntypus; in Coll. SDEI. 1♀ *Syndere(?) nigra* Auriv. typ. Kamerun – Konradt. In Coll. NRM [NHRSLKB 000020608]. *Other material*: 2♀♀ Ghana: Gold Coast 1949. leg. G.H. Thompson. *Antiaris africana*. in Coll. NHM; 1♀ Ghana: Ashanti: Bobiri Ft. leg. Le Gall in Coll. TGM; 1♂ Ghana. Kumassi. iv.1989. leg. Obenberger in Coll. JSP; 1♀ Cameroon (North): Joh. Albrechtshöhe leg. L. Konradt S in Coll. MNHUB

Length 5.5–7.5 mm.

Habitus. Small and mat black with or without rufous maculation on elytra. The elytra obliquely excavate resulting in a sharp lateral spine and a smaller sutural one. Pronotum with a necklike constriction at base.

Head. Black, sparsely toment, not prolonged anteriorly. Mandibles reddish brown with bristly tomentum and a black and shiny hooked apex. Frons slightly convex with a shallow median groove. Cheeks with short, white tomentum. Tubercles moderately raised, rounded to pointed. Posterior part of vertex deeply pitted or finely ridged.

Antennas. Black or rarely reddish brown, finely puberulous, short: reaching the middle or two thirds down the elytra in males, shorter in females. Scapus slightly curved with rounded apex; dorsal surface very irregular, almost scaly. Third antenna joint slightly shorter than or as long as the scapus, from then onwards gradually shortened. Antenna joints 5–10 broadened but only weakly dentate. End segments incrassate.

Pronotum. Distinctly longer than wide, more or less parallel-sided in anterior half to two thirds, then distinctly narrowed towards its base. Disc of pronotum densely and deeply foveolate ('honey-

combed'), without any tomentum except for a few (3–4) long yellowish soft bristles behind the middle and a tiny patch of white hairs in front of scutellum. Laterally the pronotum has a silvery band of densely matted hairs visible in dorsal view, and continuing ventrally.

Scutellum. Triangular without hairs, somewhat shiny.

Elytra. Coarsely punctate, slightly widened and convex in distal half (especially in the female), and with an oblique excavation giving a two-toothed apex; the lateral tooth bigger than the sutural one (Figure 4l); this difference even more pronounced in the male. The elytra are uniformly black (*m. nigra*), or with oblong rufous or tawny vittae running for three quarters their length from base (*m. leptis*). These vittae are normally shallowly concave on the sutural side, but sometimes they extend to the suture forming one big, contiguous rufous patch (see below).

Pygidium. Blackish with a truncate apex.

Legs. Finely puberulous. Pro- and mesofemora strongly clavate, metafemora much less so. Profemora rounded, meso- and metafemora only weakly carinate. Pro- and mesofemora with a more or less smooth surface; metafemora punctate. Meso- and metatibiae with a tuft of yellow hairs and a red spine at apex. Tarsi with first joint only slightly longer than second joint.

Ventral surface. Head below with a shiny black and smooth basal part. Distal part of gula irregularly pitted. Genae with white hairs. Anterior quarter of prosternum shiny with fine transversal undulation, the rest of prosternum covered with matted white hairs. Prosternal process triangular. The whole abdomen apart from medial parts of four last abdominal sternites – rather densely covered with silvery hairs; the more or less naked medial parts finely punctate, black and shiny.

Distribution. Ghana, Cameroon, Equatorial Guinea, Gabon.

Variation. The striking differences in the coloration of the elytra seems to be the only reason for Aurivillius describing the black form as a separate species, *Syndere nigra* in 1907. He writes (1907 p. 79): "Mit *S. leptis* Jord. nahe verwandt, aber ohne den rotgelben Streifen der Fld., welche für *leptis* auszeichnend ist."

However, even on close examination the author has been unable to find a single structural difference between the two. They occur sympatrically, and the breeding experiments of G.H. Thompson clearly indicate them to be conspecific. Thompson, who worked for the Department of Forestry, Univ. Oxford, were for several years based in Ghana and did breeding of various xylophagous insects. In 1949 he bred a series of *D. leptis* from *Antiaris africana* (= *A. toxicaria* Lesch., Moraceae). Four of these specimens are in the NHM collections: two of them have orange maculation (m. *leptis*), the other two with unicolorous black elytra (m. *nigra*; wrongly identified as *D. nigrita* by Duffy). Transitional forms between m. *leptis* and m. *nigra* do occur, cf. Photo 12 b,c.

Differential characters. The uniformly black form, m. *nigra*, may superficially resemble the equally uniformly black *D. nigrita*. However, all forms of *D. leptis* differ by the presence of the apical teeth on the elytra; *D. nigrita* has a very shallow excavation at the apex of elytra and the corners are blunt and rounded. In all forms of *D. leptis* the pronotal lateral bands of silvery hairs are clearly visible in a dorsal view; not so in *D. nigrita*.

Dere janenschi sp. n. (Figure 17)

Examined specimens. *Holotype*: 1♀ **Tanzania**, D. Ost-Afrika: Tendaguru, Lindi XII.1909–I.1910 Janensch S.G. / *Zoocosmius* sp. K. Adlbauer det. 2002 in Coll. MNHUB. *Paratype*: 1♀ D. Ost-Afrika: Lindi III.[19]03/ *Syndere viridicincta* Auriv. (from Dahomey) Determ. E.Hintz in Coll. IRSNB

Length. 10–12 mm.

Habitus. A totally black, medium to large species, densely foveolate/rugose on all surfaces that are visible in dorsal view. General shape of body typical of the genus. Pygidium densely covered with silky hairs.

Head. Mandibles black, broad and short. Frons almost square, flattened with a weak median furrow or line being a continuation of the carina on vertex from behind the tubercles forward to clypeus.

Antennas. Scapus short, slightly curved, deeply and irregularly foveate, twice as long as

joint 2, but shorter than joint 3. Joint 3 by far the longest, from then onwards the joints are gradually thickened and shortened. Joints 6–10 slightly dentate and compressed.

Pronotum. Slightly to distinctly longer than wide (ratios from 1.05:1 to 1.15:1) with convex sides. Pronotal disc deeply foveolate (‘honey-combed’), and with a small patch of silvery hairs near posterior border, just in front of scutellum and a similar very small patch at the anterior border. Silvery hair patch on sides of pronotum very dense and extending to upper lateral parts clearly visible in a dorsal view.

Scutellum. Broadly triangular with blunt corners, glabrous and somewhat shiny.

Elytra. Densely punctate to rugose, virtually without tomentum except for a few very short and widely scattered bristles. Elytra sub-parallel in basal half, slightly convex laterally in distal half. Apices truncate to shallowly excavate giving a two-toothed apex; the lateral tooth bigger than the sutural one (Figure 4m), but both are relatively small. The border between the sutural and lateral teeth is slightly convex.

Pygidium. Blackish, long protruded, tongue-shaped, densely silvery/silky tomented.

Legs. Black. All femora punctate and with silvery, adpressed hairs on their distal clavate parts. Profemora clavate, acarinate. Meso- and metafemora less clavate, weakly carinate. Tibiae carinate. In all tarsi the first joint is longer than the second. This is especially noticeable in the metatarsi where joint 1 is more than 1.5 times as long as joint 2. All tarsal joints with silvery tomentum.

Ventral surface. All parts (except gula) densely covered with silky white hairs

Distribution. Only known from the type locality in coastal SE-Tanzania.

Differential characters. Closely related to *D. leptis*, looking very similar to its all-black form m. *nigra*, but much bigger and otherwise differing in that the pronotum in *D. janenschi* is more gradually narrowed anteriorly and posteriorly, not having the necklike constriction of *D. leptis*. In *D. leptis* there is an abrupt widening in the femora from the narrow basal stalklike part to the strongly clavate distal part. This is much more gradual in



FIGURES 17–18. 17. *D. janenschi* sp.n. HT ♀, 10 mm (MNHUB). 18. *D. nigrita* ♂, 8mm (KAG). Photos: Karsten Sund (NHM, Oslo).

D. janenschi. Further, the surface of the elytra is much more coarsely sculptured in *D. janenschi*, and the apical excavation more shallow, resulting in only short teeth.

Etymology. Named in honour of Werner E.M. Janensch (1878–1969), the famous German palaeontologist who was in charge of the excavations at Tendaguru in SE Tanzania 1909–1911 looking for Jurassic dinosaurs. During his stay there, he collected the HT of this new species. Janensch was curator of what is now the Museum für Naturkunde in Berlin (MNHUB) who kindly provided the specimen for description.

***Dere nigrita* Gahan, 1904 (Figure 18)**

Dere nigrita Gahan, 1904 in Distant Ins. Transvaal. 1904: 124

Examined specimens. *Holotype*: 1♀ RSA

[Transvaal] Waterberg. Dist. 1898–99 [leg.] v. Jutrzencka. *Dere nigrita* Gahan Type. Distant coll. 1911–383 in Coll. NHM. *Other material*: 1♀ **Zimbabwe**, Rusape 8.XII.1992. leg. K&F. Adlbauer Verglichen mit d. Holotypus. In Coll. KAG; 1♂ **RSA**, Natal: Dist. Richmond: Indaleni in Coll. ABS (AB 50123); 1♂ **Namibia**, Finkensteen, E Windhoek. 5.I.1996 leg. K&F. Adlbauer Verglichen mit d. HT in Coll. KAG; Description

Length. 7.5–8.5 mm.

Habitus. Small to medium uniformly black or very dark brownish black with more or less all surfaces visible in dorsal view deeply punctate or pitted. Pronotum barrel-shaped. The elytra only slightly and obliquely truncate apically with rather blunt angles both suturally and marginally.

Head. Black with hardly any tomentum on dorsal surfaces; only genae sparsely hairy + a few long yellowish setae at the lower posterior margin of eye. Mandibles reddish brown with bristly tomentum and a black and shiny hooked apex. The frons flat with no median groove. Tubercles somewhat raised. Both occiput, vertex and frons deeply punctate or foveolate.

Antennas. Black, finely puberulous; reaching three quarters down the elytra in males, about half way in females. Scapus strongly punctate, slightly curved with rounded apex. Third antenna joint longer than the scapus, joint 4–10 gradually shortened. Last joint only slightly longer than the penultimate. Antenna joints 3–10 slightly broadened apically, weakly dentate.

Pronotum. Distinctly longer than wide, barrel-shaped; i.e. evenly convex both dorsally and laterally. Disc of pronotum densely and deeply foveolate, without any tomentum. Laterally the pronotum has a silvery band of hairs, but this is not visible in dorsal view.

Scutellum. Broad and short with irregular surface. Not shiny. No hairs.

Elytra. Coarsely rugose, slightly widened in distal half and apically with a small oblique truncation with blunt corners (Figure 4n). The elytra are uniformly black or dark brownish black throughout, but sometimes with a small and diffuse reddish area at base between shoulders and scutellum.

Pygidium. Brown, tongue-shaped with sparse yellowish bristles.

Legs. Finely puberulous. All femora densely punctate and acarinate. Profemora strongly clavate, mesofemora clavate, metafemora less so. Meso- and metatibiae with a tuft of yellow hairs and a red spine at apex. Tarsi with first joint about 1.5 times longer than second joint.

Ventral surface. Most ventral surfaces sparsely covered with short silvery hairs.

Distribution. Zimbabwe, RSA, Namibia.

Differential characters. Looking like a miniature *D. minettii* except that it is uniformly dark coloured and the elytra apices are more clearly truncate. It differs from the other black species of *Dere* in the following characters: lacks the shiny and nearly smooth appearance of the femora of *D.*

littoralis, and lacks the sharp teeth of elytra apices of *D. leptis* m. *nigra*. In addition, the shape of the pronotum is different: in *D. nigrita* the sides are evenly rounded, giving it a barrel-shaped appearance; in *D. leptis* m. *nigra* and *D. littoralis* the greatest width is well behind the middle of the pronotum and then more abruptly constricted towards its base. From *D. janenschi*, *D. nigrita* differs in its smaller size, its short pronotum and in the lack of pronotal tomentum visible in a dorsal view.

Note. Duffy (1957) published *Z. nigrita* as occurring in Ghana. Adlbauer (2001a, 2003) commented on the unlikeliness of such a distribution and suggested the Ghanaian record to be a result of misidentification. The author has examined the three specimens in NHM named as *Dere nigrita*: apart from the type (from South Africa), the two other specimens (from Ghana) are misidentified: they both belong to *D. leptis*. Ghana is therefore deleted from the distribution area of *D. nigrita*.

***Dere masoni* (Aurivillius, 1923) comb. nov.**
(Figure 19)

Zoocosmius masoni Aurivillius, 1923: 451

Examined specimens. *Holotype*: 1♀ *Zoocosmius Masoni* Auriv. Type. Kibwezi, Kenya, Br.E.Africa Collector R.Dummer 7.XII.1921 F.R.Mason Coll. In Coll. NRM [NHRS-JLKB000020607]

Length. 9 mm.

Habitus. Medium-sized with long and slender pronotum and antennae, rufous and black elytra apically truncated, but without any teeth or spines.

Head. Black with all dorsal surfaces strongly punctate. Mandibles short. Frons slightly prolonged, flat to shallowly concave with a weak median groove. Tubercles rather pointed.

Antennae. Long and slender; only very slightly thickened in last segments, and reaching well beyond middle of elytra. Joints with sparse adpressed silky tomentum, and with a few erect bristles at apex of each joint and on the underside of joints 2–8. Scapus slightly curved and slightly widened apically, rugose/punctate with rounded apex. Joints 5–11 slightly dentate and shallowly channelled. Last joint only slightly longer than the



FIGURES 19–20. 19. *D. masoni* HT ♀, 9mm (NRM). 20. *D. littoralis* sp.n. HT ♀, 6mm (ABS). Photos: Karsten Sund (NHM, Oslo).

penultimate.

Pronotum. Elongate 1.5 times as long as wide with rounded sides, and with greatest width slightly behind the middle. The whole dorsal surface of pronotum evenly and deeply foveolate, but without hairs. Lower lateral and ventral parts of pronotum sparingly covered with silvery hairs. Pronotal hairyness not visible in dorsal view.

Scutellum. Black, smooth and shiny, sharply triangular with raised edges.

Elytra. Acostate, practically without any tomentum, but with even and dense punctation; weakly constricted near the middle. Apices with almost straight truncation, unarmed (Figure 4o).

Pygidium. Black, long protruding, tongue-shaped with a rounded apex. It has a coarse surface and is provided with scattered, adpressed

silvery hairs.

Legs. All legs black, weakly punctate and with sparse tomentum of short, silvery hairs. All femora with slender basal part, widened distally into a shiny, non-carinate clubshaped part. Protibiae slightly curved; meso- and metatibiae straight and with long hyaline, red spines apically. All tarsi densely padded by golden hairs. Protarsi with basal segment as long as the second; meso- and metatarsi with basal joint almost twice as long as the second. Claws red, hyaline.

Ventral surface. Black. Head below (gula) with a shiny, smooth basal third, anterior part (between the eyes) rugose with a few erect silvery, bristly hairs. The anterior third of prosternum glabrous and shiny with fine transverse undulation; the remaining posterior part with scattered silvery

hairs including the broadly triangular prosternal process. Mesosternum finely punctate and with a short median groove. The whole abdomen finely punctate and with much reduced indumentum. The posterior edge of the abdominal sternites with a very marked, but narrow shiny, yellow rim.

Distribution. Only known from the type locality in South-Eastern Kenya.

Differential characters. The strongly elongate pronotum, slender antennae and smooth and shiny acarinate femora show strong affinity to the next species, *D. littoralis*. However, while *D. littoralis* has a sinuate excavation with rounded corners of elytra apices, the elytra of *D. masoni* have an almost straight truncation apically with clearly angled, not rounded, corners. The posterior part of prosternum in *D. masoni* has only scattered silvery hairs, not densely matted like in *D. littoralis*. The red and black elytra of *D. masoni* stands in contrast to the entirely black elytra of *D. littoralis*. Besides, *D. littoralis* is a much smaller species (66.5mm) than *D. masoni* (9mm).

Dere littoralis sp. n. (Figure 20)

Examined specimens. *Holotype*: 1♀, Kenya, Jadini Forest 25 m. a.s.l. IV.1981 leg. G. Lecourt, in Coll. ABS. (AB 49676). *Paratypes*: 2♂♂ with the same data as holotype, in Coll. ABS (AB 50125-6).

Length 6.0–6.5mm.

Habitus. Small and slender, totally black, with long, slender antennae almost reaching the unarmed elytra apices.

Head. Mostly black. Mandibles brownish, strongly curved with a sharp, black, smooth, shiny apex; basal two thirds punctate and hairy. Frons flat or slightly concave with pale yellow adpressed tomentum on lower half. Cheeks densely tomented. Clypeus with erect pale yellowish bristly hairs. Tubercles very dark brown to black, moderately raised, pointed backwards. Vertex pitted, occiput reticulate with small transversal ridges.

Antennae. Long and slender, reaching almost as long as the elytra in male, slightly shorter in female. Basal joints with sparse tomentum of silvery, adpressed hairs and short erect bristles. Scapus curved, coarsely punctate, widened distally and with a rounded apex. The length of

scapus nearly twice that of 2. antennal joint. The 3. joint 1.7 times as long as scapus. 4. and 5. joint of equal length. Joints 6–10 subequal or gradually somewhat shortened, but last joint elongate, 1.5 times the length of penultimate joint. Joints 6–10 weakly dentate, finely keeled, increasingly channelled distally.

Pronotum. Elongate, 1.5 times as long as wide with rounded sides, and with greatest width slightly behind the middle. The complete dorsal surface of pronotum densely, but shallowly foveolate. Lower lateral and ventral parts of pronotum densely covered with silvery hairs, barely visible in dorsal view.

Scutellum. Black, smooth and shiny, sharply triangular with slightly concave sides.

Elytra. Acostate, practically without any tomentum, but with even and dense punctation; weakly constricted near the middle, slightly widened anteriorly and posteriorly in female; males almost parallel-sided throughout. Apices concavely truncate with rounded, blunt corners (Figure 4p).

Pygidium. Not protruding beyond elytra apices.

Legs. All legs dark brownish black, weakly punctate and with sparse tomentum of short, silvery adpressed hairs. All femora with slender basal part, strongly widened distally into a shiny, non-carinate clubshaped part. Protibiae slightly curved; meso- and metatibiae straight and with long hyaline, red spines apically. All tarsi densely padded by golden hairs. Protarsi with basal segment as long as the second; meso- and metatarsi with basal joint almost twice as long as the second. Claws red, hyaline.

Ventral surface. Black. Head below (gula) with a shiny, smooth basal third, anterior part (between the eyes) rugose with a few yellowish, bristly hairs. The anterior third of prosternum glabrous and shiny with fine transverse undulation; the remaining posterior part covered with densely matted, white hairs including the broadly triangular prosternal process. Mesosternum finely punctate and with a short median groove. Abdominal sternites finely punctate, nearly glabrous medially, but with white silky hairs laterally.

Distribution. Only known from the type

locality in South-Eastern coastal Kenya.

Differential characters. Easily distinguished from the other wholly black forms, *D. janenschi*, *D. nigrita* and *D. leptis* m. *nigra* through the strongly elongated pronotum.

Etymology. ‘*littoralis*’ meaning coastal; the type locality, Jadini Forest south of Mombasa, being very close to the beach along the Indian Ocean.

Discussion

Biology. Little is known about the biology and ecology of the species of *Dere*. The West- and Central African species are found in forest regimes, while the East- and South African species generally are inhabitants of savanna and thorn scrub vegetation. Breeding experiments in Ghana by Thompson (1963; see also Duffy 1957, 1980) has shown *Antiaris africana* (Moraceae) and various leguminous trees (*Albizia adianthifolia*, *A. zygia*, *Piptadeniastrum africanum*) to be host plants (for *D. leptis* and *D. viridicincta* respectively).

The imagines seem to be pollen feeders: specimens in collections often have a considerable load of pollen attached on their heads and pronota. The foveate surfaces of the front part of the beetles help the pollen-transport. *D. grobbelaarae* has only been caught on *Acacia nilotica*, and both *D. apicalis* and *D. vittata* have been reported on *Acacia* spp. in RSA by Endrödy-Younga (label information) and R. Perissinotto (pers.comm.). Further *D. apicalis* has been found on the flowers of *Acacia karroo* in RSA according to label. The author has collected a series of *D. apicalis* on *Securinea virosa* (Euphorbiaceae) in Tanzania, a valuable source of food for many African pollen-feeding Cetoniinae and Callichromatini.

Beside the diurnal pollen-feeding habits, members of *Dere* seem also to be nocturnal: many specimens have been collected in UV-light traps at night.

Geographical distribution. The African members of the genus are widespread in most of tropical Africa from Ivory Coast in the west to Ethiopia in the east and southwards to the Republic

of South Africa and Namibia. At present, there are records from 20 different African countries.

Based on present knowledge of their distribution, the species of *Dere* can be divided into two major zoogeographically disjunct groups: the ‘*viridicincta*-group’ (4 spp.) and the ‘*apicalis*-group’ (11 spp.). *D. viridicincta* has a wide distribution in West- and Central-African countries from Ivory Coast to the Democratic Republic of Congo. Within this area another three species of *Dere* are found, viz. *D. donisi*, *D. minor* and *D. leptis*. *D. apicalis* covers a large area in Eastern and Southern Africa from Ethiopia to the Rep. of South Africa, and 10 of the remaining species, viz. *D. basalis*, *D. grobbelaarae*, *D. janenschi*, *D. krameri*, *D. littoralis*, *D. masoni*, *D. minettii*, *D. nigrita*, *D. vittata*, and *D. zimbabweana* are found within this area. One zoogeographically slightly deviating species, *D. bicolor*, has three widely disjunct subspecies: the nominal subspecies is known from DR Congo, Burundi and Western Kenya, the ssp. *ivorensis* is seemingly limited to Ivory Coast, and the ssp. *puchneri* is the only member of the genus ever recorded from Angola.

It seems that the Guineo-Congolian forest regime is relatively poor in species of *Dere*. Most of the members of the genus belong to the savanna woodlands of the “Zambezian Regional Centre of Endemism” (White 1983). The northern savannas (the Sudanian Regional Centre) apparently has no representatives of *Dere*.

With the exception of *D. apicalis*, *D. leptis* and *D. viridicincta*, most species of the genus seem to be rare in collections. Many seem to have a rather limited distribution: half of the species have been recorded from one country only viz. *D. basalis* and *D. grobbelaarae* (Rep. South Africa), *D. janenschi*, *D. minettii* and *D. krameri* (Tanzania), *D. littoralis* and *D. masoni* (Kenya) and *D. minor* (Gabon).

The greatest specific variety is found in South Africa (5 spp.), Tanzania (5 spp.) and Kenya (4 spp.), and thus strengthens the impression of *Dere* as primarily attached to the savanna ecosystems. This in opposition to its related genus *Apiogaster* where maximum diversity is found in DR Congo (8 spp. according to Adlbauer 2003b).

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