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Description of *Monoleptoides* gen. nov. from the Afrotropical Region, including the revision of nine species (Coleoptera: Chrysomelidae: Galerucinae)

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Abstract. Due to their specific external and genitalic patterns, several species of Afrotropical Galerucines, most of them originally described in *Monolepta* Chevrolat, 1837 and *Candezea* Chapuis, 1879, are transferred to the new genus *Monoleptoides*. This group is phylogenetically well defined and comprises nine previously described species, some of them well known, abundant, and widely distributed in tropical Africa. Taxa newly combined with *Monoleptoides* and new synonymies include: *Crioceris duplicata* Sahlberg, 1823 (= *Monolepta pulchella* Klug, 1835; = *Monolepta fasciaticollis* Laboissière, 1940a, syn. nov.; = *Monolepta quinquepunctata* Laboissière, 1940a, syn. nov.); *Monolepta trivialis* Gerstaecker, 1855 (= *Candezea umbilicata* Laboissière, 1920, syn. nov.); *Monolepta didyma* Gerstaecker, 1871; *Monolepta thomsoni* Allard, 1888; *Monolepta advena* Weise, 1910 (= *Monolepta keniensis* Bryant, 1953; syn. nov.); *Candezea centromaculata* Jacoby, 1900; *Candezea horni* Laboissière, 1931; *Candezea mertensi* Laboissière, 1940b; *Candezea sulcata* Laboissière, 1940a (= *Candezea sexplagiata* Laboissière 1940a; syn. nov.). Detailed descriptions for the generotype, *Monoleptoides duplicata* and redescriptions of all species, as well as an identification key are given. Collection data are recorded in detail for the 1190 specimens studied, and summarized in distribution maps.

Key words. Afrotropical region, Africa, taxonomy, revision, biogeography, identification key, synonyms, lectotypes, new genus.

INTRODUCTION

Since the name *Monolepta* Chevrolat, 1837 was introduced, Galerucinae with a distinctly elongate basimetatarsus have traditionally been assigned to this genus. In the last printed catalogue to the Galerucinae (Wilcox 1973), 180 species of *Monolepta* and a further 40 species of *Candezea* Chapuis, 1879 were listed from tropical Africa have been listed. The latter genus was described for species where the third antennomere is distinctly longer than the second, while species with the second and third antennomeres of equal length were retained in *Monolepta*. Most of these species were described between 1890 and 1950 (Wagner 2003a). Descriptions by preceeding authors were based on external characters only, with very few exceptions, and the allocation to *Monolepta* and other genera of the "Monoleptites" (Wilcox 1973) was mostly typological. In our ongoing revision of the Afrotropical taxa of this group, genital patterns proved to be the most usefull characters to distinguish not only species, but also to delimit genera. Since there are no objective criteria to define a "genus", it should at least comprise species forming a monophyletic group, which is defined by autapomorphies. After a comprehensive redescription of the generotype of *Monolepta*, the South African *Monolepta bioculata* (Fabricius, 1781), published some years ago (Wagner 2007) it became obvious that species of *Monolepta* and *Candezea* in their original combinations are polyphyletic, and many species need to be transferred to other taxa (Wagner 2004). Initial studies on the phylogenetic relationships within these genera resulted in an isolated group of species that could easily be separated on morphological as well as molecular data (Wagner 2004, Stapel et al. 2008). This recently recognized taxon is herein formally described as a new monophyletic group. It includes nine previously described species, four of them originally described in *Monolepta*, four in *Candezea*, and the oldest one in *Crioceris* Müller, 1764, which was described before the other two genera had even been established. Six additional species are treated as synonyms, five of them new. All the species are redescribed, the material is examined and recorded in detail, and distribution maps and an identification key are provided.

METHODS

A standard set of figures is given for each species, these include the following: diagrammatic illustrations of the dorsal colouration and the right antenna, where black colouration is depicted by black, yellow colouration by white, and red colouration by grey. Most taxa are very polymorphic, and in those species more than one colouration type is figured. Note that usually transitions between

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*37th contribution to the taxonomy, phylogeny and biogeography of the Galerucinae

the given colouration types occur, i. e. that only typical and frequently found colour types are illustrated. The basal four anntennomeres of each one male and female, dorsal and lateral view of the median lobe including the endophallic structures, and ventral view of the median lobe without the endophallic structures (for classification see Wagner 2000b), and the spermathecae of two different females are figured. Photographs of the primary types of all species are given with all labels, and in detail. Morphometric measurements were made for external characters. Absolute measurements are: Total length from the clypeus to the apex of the elytron, length of elytron, maximal width of both elytra (usually in the middle or in the posterior third of the elytra), and width of pronotum. Relative measurements are: Length to width of pronotum, maximal width of both elytra to length of elytron, length of second to length of third antennomere, and length of third to length of fourth antennomere. The number of specimens measured is given in the description under "total length".

MATERIAL

The subsequent redescriptions are based on 1190 labelled specimens from the following collections (Table 1). Musuem codons used and responsible curators in brackets: Natural History Museum, London (BMNH; S. Shute); private collection Ron Beenen, Nieuwegein, The Netherlands (CRB); private collection Manfred Döberl, Abensberg, Germany (CMD); private collection Horst Kippenberg, Herzogenaurach, Germany (CHK); private collection Lev N. Medvedev, Moscow, Russia (CLM); private collection Vaclav Šilha, Prague, Czech Republic (CVS); Deutsches Entomologisches Institut, Eberswalde (DEIS; L. Behne, L. Zerche); Hungarian Museum of Natural History, Budapest (HMNH; O. Merkl); Institute Royal des Sciences Naturelle de Belgique, Brussels (IRSN; M. Cludts, D. Drugmand, P. Limbourg); Museo Civico di Storia Naturale, Genova (MCGD; R. Poggi); Museo ed Instituto di Zoologia Sistematica, Universitá di Torino (MIZT; M. Daccordi); Manchester Museum, Manchester University (MMMU; C. Johnson); Museo National de Sciencas Naturales, Madrid (MNCN; M. Paris); Musée National d'Histoire Naturelle, Paris (MNHN; N. Berti+); Museum für Naturkunde der Humboldt Universität zu Berlin (MNHU; J. Frisch, J. Willers); Musée Royal d'Afrique Centrale, Tervuren (MRAC; M. de Meyer); Museum of Zoology, Helsinki (MZHF; H. Silfverberg); Museo Zoologico "La Specola", Firenze (MZSF; L. Bartolozzi); Naturhistorisches Museum Basel (NHMB; E. Sprecher); Naturhistorisches Museum Wien (NHMW; H. Schönmann); Naturhistoriska Riksmuseet, Stockholm (NHRS; B. Viklund); National Museums of Kenya, Nairobi (NMK; W. Kinuthia, Ch. Lange); Natuurhistorisch Museum Leiden (NNML; R. de Jong, F. v. Assen), Oxford University Museum of Natural History (OUMNH; G. McGavin); South African National Collection of Insects, Plant Protection Research Institute, Pretoria (SANC; E. Grobbelaar); Ditsong National Museum of Natural History (formerly Transvaal Museum), Pretoria (TMSA; R. Müller); Texas A & M University, Department of Entomology (TAMU; E. Riley); National Museum of National History, Washington (USNM; D. Furth); Zoologisches Forschungsmuseum Alexander Koenig, Bonn (ZFMK; D. Ahrens, K. Ulmen); Zoological Institute St. Petersburg (ZISP; A. Kirejtshuk); Zoological Institute University of Kopenhagen (ZMUC; M. Hansen †); Zoologisches Institut und Zoologisches Museum der Universität, Hamburg (ZMUH; H. Riefenstahl).

Collection data of the examined specimens are recorded in detail. Label data for primary type specimens is cited verbatim, for all other specimens localities are recorded as precisely as possible. Country names and feature classes with traditional names are listed, usually with their current data. Geographical coordinates given in degree and minutes for locally data given like decimal data. These coordinates were mostly taken from the Alexandria Digital Library Gazetteer Server. Localities of the former Belgian Congo and also referred to as Congo (Zaire), in particular, were taken from a gazetteer compiled by Ugo DallAsta (MRAC).

DESCRIPTION OF MONOLEPTOIDES GEN. NOV.

Type of the genus (by current designation):
Crioceris duplicata Sahlberg, 1823.

Total length. 3.90–7.20 mm.

Head. Pale yellow, yellow or reddish-yellow, very few specimens with dark brown frons and vertex. If head reddish, frons often paler than vertex. Head transverse, with a distinct transverse depression between the posterior third of eyes (Fig. 2a–e), sometimes with small triangular tubercles between eyes (Figs 3a–c, 4a–d), finely punctuated. Labrum, palpi and antennae pale yellow to yellow, maxillary palpi with long and slender terminal palpomere (Fig. 1a). Three basal antennomeres with a few sparse setae, fourth to eleventh antennomeres finely pubescent (Fig. 1d). Usually only terminal antennomere with black tip, in few specimens up to five apical antennomeres brownish to black; antennomeres four to eight black in contrast with the pale basal and apical antennomeres in *M. horni* only (Fig. 5a). Antennomeres long and slender, particularly in females, third antennomere distinctly longer than second (length of second to third antennomere 0.53–0.88), fourth varying from double the length of the third, to only one quarter longer (length of third to fourth antennomere 0.47–0.77 (Figs 2g, h, 6e, f).

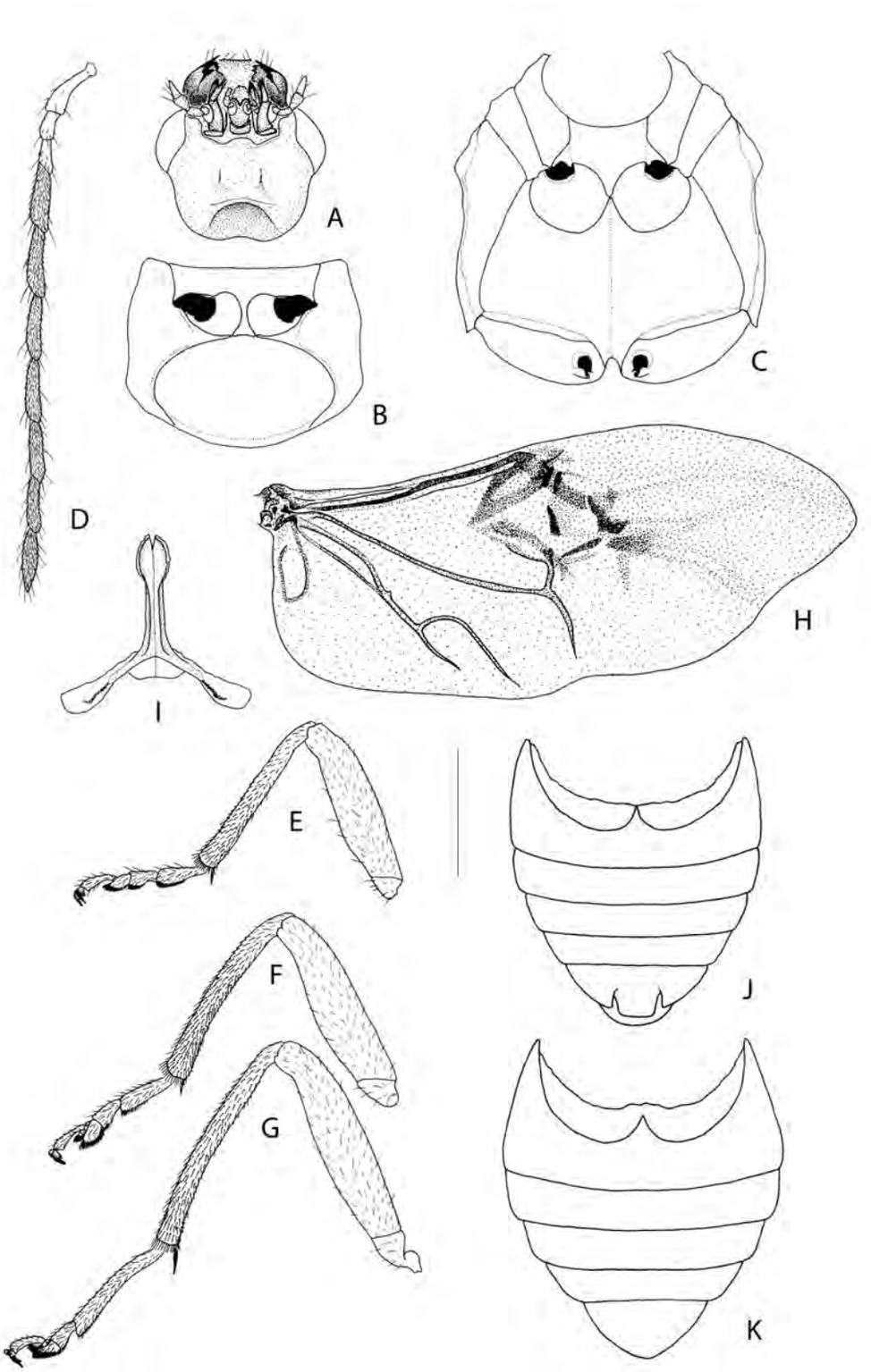

Fig. 1. Morphology of the type species of *Monoleptoides* gen. nov., *Monoleptoides duplicata* (Sahlberg, 1823). **a.** Head, ventral. **b.** Prothorax, ventral, coxal cavity openings black. **c.** Meso- and metathorax, ventral, coxal cavity openings black. **d.** Antenna. **e.** Fore-leg. **f.** Middle-leg. **g.** Hind-leg. **h.** Hind-wing. **i.** Metendosternite. **j.** Abdomen, male. **k.** Abdomen, female. Scale bar: 1 mm.

Thorax. Pronotum yellow to reddish-yellow; a few specimens of some species with either a black median spot (Figs 2d, 7e, and 8b); black basal triangle (Fig. 2e); broad black medial longitudinal band (Fig. 8c); or in *M. sulcata*, two black dorsolateral patches (Fig. 9b, c). Pronotum with double punctuation, very fine and additionally much coarser, not pubescent. Anterior half of pronotum distinctly convex, with an arched transverse depression in posterior half, most distinct in *M. mertensi* and *M. sulcata* (Figs 6a–c, 9a–c), but also visible in all other species if they are viewed dorso-laterally. Pronotum transverse, broad, median length to maximum width 0.56–0.74. Prothoracic coxal cavities closed behind, prosternal process slightly enlarged posteriorly (Fig. 1b). Metasternum broad (Fig. 1c), shape of metendosternite as in Fig. 1i. Elytra coarsely punctuated, not pubescent, elongate, sub parallel to ovate. Specimens with pale yellow to yellow elytra (dorsum thus completely yellow) occur in all species except *M. sulcata*, and in about 60 % of the material studied. In most species there are also specimens with a more or less broad black elytral base, extending onto the epipleura for up to half their length (Figs 2c–e, 7c–e, 8b, c, 6c, 9b); these specimens usually also have a transverse black band in the posterior third of the elytra. Other specimens have only black humeral spots or a transverse basal patch, neither of which reaches the outer elytral margins (Fig. 2b), forming a diagnostic pattern for some species (Figs 3b, c, 4b–d, 10b–d). Two species have a brownish-red elytral base and tip (Fig. 7b), sometimes with a sub medial spot (Fig. 6a), and in one species the elytra are predominantly black with a reddish apical part (Fig. 9a). Length of elytron 2.90–5.80 mm, maximal width of both elytra together 1.85–4.30 mm, width of both elytra to length of elytron 0.58–0.78. Scutellum yellow, yellowish-red, or very rarely black. Legs pale yellow to yellow, femora sparsely pubescent, tibiae and tarsi more densely setose, and bristle-like (Fig. 1e–g). First tarsomere on all legs elongate, in particular the basi-metatarsus that is about half the length of the meta-tibia (Fig. 1g). Tarsal claws with a distinct basal tooth, bifid. Hind wings fully developed (Fig. 1h).

Abdomen. Pale yellow to yellowish-red, rarely darker and then appearing brownish-red. Apical margin of anal sternite with two deep incisions in males (Fig. 1j), rounded in females (Fig. 1k).

Male genitalia. Median lobe bilaterally symmetrical, slender, more or less parallel-sided (Figs 2i–n, 4h–j, 5e–g, 7i–n, 9g–i, 10h–j), widening slightly towards the base and sub apically in some species (Figs 3g–i, 8g–i, 6g–i, 10k–m). Straight to slightly curved ventrally towards apex, more or less deeply incised apically. Endophallus with a medial group of long, slender spines, one to three pairs of them more robust. Ventrad of these spines is a slightly more distinctly sclerotized "ladder-like" patch, which is positioned above the apex when the endophallus is everted (Fig. 7j). Tectum long, almost reaching the apical incision.

Female genitalia. Spermatheca with small ovate to spherical nodulus and very broad, cap-like cornu that is short in six species (Figs 2o, 3j, 4k, 7o, 8j, 10n) but slender and elongate in the three other species (Figs 5h, 6j, 9j). There are two pairs of bursal slecrites that differ slightly from one another.

Distribution. Beetles of this group are distributed nearly throughout the Afrotropical Region with exception of Madagascar. *Monoleptoides duplicata* shows the widest distribution from Guinea to Ethiopia in the North and in Eastern Africa towards Natal in the South. Some species, like *M. didyma*, *M. trivialis*, and *M. advena* are restricted to eastern Africa, or show a restricted distribution along the Albertine Rift like *M. sulcata*, the Congo Basin like *M. mertensi* or Western-Central Africa like *M. horni*.

Diagnosis. Four of the valid species of *Monoleptoides* gen. nov. were originally described in *Monolepta*; another species, *C. duplicata*, was transferred to *Monolepta* a long time ago (Weise 1924); and another four species were originally described in *Candezea*. The revision of the latter genus has already been completed (Wagner & Kurtscheid 2005), whereas the revision of the about 100 valid species of Afrotropical *Monolepta* is still in progress. A revision of the genotype, *M. bioculata*, has been published (Wagner 2007). The genus *Dyolania* Laboissière, 1931 needs to be included with these two genera in this diagnosis. *Dyolania* was synonymized with *Monolepta* by Wilcox (1973), but as a recent revision (Bauer & Wagner 2010) reveals, it was re-established and is most likely the sister taxon of *Monoleptoides* gen. nov. Specimens of *Monoleptoides* gen. nov. can be distinguished from those of *Monolepta*, *Candezea* and *Dyolania* by the following characters:

The antennae are long, the antennomeres distinctly elongate as in *Dyolania* and *Candezea*, while *Monolepta* have shorter antennae. *Monolepta* can be distinguished by antennomeres two and three of nearly the same length (length of second to third antennomere: 0.82–1.10) while the third antennomere in *Candezea* is more distinctly elongate (0.49–0.63), and *Monoleptoides* gen. nov. clearly falls between these two (0.53–0.88). Since *Monolepta* and *Candezea* are traditionally distinguished by the ratio of the length of the second to the third antennomere, the original description of the species now included in *Monoleptoides* gen. nov. in both these genera, is not surprising.

Monoleptoides gen. nov. can be distinguished comparatively easily by the coarse punctuation of pronotum and elytra, that does not occur in the other groups named

above. This punctuation is sometimes difficult to see and the specimen should be observed whilst illuminated from the side. The more or less distinct transverse pronotal depression, a character that does not occur in *Monolepta* and *Candezea* but is found in *Dyolania*, can also be more easily observed under such lighting. *Monoleptoides* gen. nov. are on average more slender than species of *Monolepta*. *Candezea* has similarly narrow elytra, but the elytra bulges more distinctly dorso-ventrally. *Dyolania* is even more slender than *Monoleptoides* gen. nov.

With some experience the characters given above allow a fairly good differentiation of the specimens of *Monoleptoides* gen. nov. from the other taxa, but the genitalia of both sexes offer far better diagnostic structures. In females the spermatheca is poorly sclerotized and has a characteristic shape. Its shape with a small nodulus, and an enlarged, cap-like cornu is only known from *Monoleptoides* gen. nov. Females of the other genera have a longer and far more slender cornu. The spermathecae of *M. horni*, *M. mertensi*, and *M. sulcata* are more similar to *Monolepta*, but at least the proximal part of the cornu is much larger than in any *Monolepta* species.

The best diagnostic character to identify species of *Monoleptoides* gen. nov. and to distinguish this genus from other closely related genera, is the shape of the median lobe and the structure of the endophallic armature. Neither *Monolepta* nor *Candezea* have apically incised median lobes. Within Afrotropical galerucines possessing this character is typical for the metallic bluish *Barombiella* Laboissière, 1931 (Wagner & Freund 2003) and *Bonesioides* Laboissière, 1925 (Freund & Wagner 2003), which both have a much shorter median lobe, and *Galerudolphia* Hincks, 1949, which are small, slender, dorso-ventrally compressed leaf beetles with a trapezoidal pronotum (Bolz & Wagner 2005). The general shape of the median lobe is most similar to that of *Dyolania*, which also has an apical incision, but there are differences in the endopahllic armature. This genus is most likely to be the sister taxon to *Monoleptoides* gen. nov., however, differences in dorsal punctuation (very fine in *Dyolania*), the construction of the prothoracic coxal cavities (open), and the shape of the spermatheca (short, slender cornu with bottle-like nodulus), expose the generic differentiation.

REDESCRIPTIONS OF SPECIES

***Monoleptoides duplicata* (Sahlberg, 1823)**, comb. nov.
Crioceris duplicata Sahlberg, 1823: 69 (Sahlberg 1829).
Monolepta pulchella Klug, 1835, nomen nudum (Weise 1924, Wilcox 1973).
Monolepta fasciaticollis Laboisière, 1940a: 67; syn. nov.
Monolepta quinquepunctata Laboissière, 1940a: 67; syn. nov.

Total length. 4.30–5.50 mm (mean: 4.95 mm; n = 20).

Head. Pale yellow, yellow or reddish-yellow, very few specimens with dark brown frons and vertex. If head reddish, frons usually paler than vertex (Fig. 2c), labrum, palpi and antenna pale yellow to yellow, usually only terminal antennomere with black tip (Fig. 2a–d). Only a few specimens with two brownish sub terminal antennomeres (Fig. 2e). Antenna comparatively short, antennomeres slender. Length of second to third antennomere 0.74–0.85 (mean: 0.80), males in particular with short third antennomere (Fig. 2g), length of third to fourth antennomere 0.54–0.65 (mean: 0.57).

Thorax. Pronotum yellow to reddish-yellow (Fig. 2a–c), rarely (8 % of material examined) with small circular or larger, triangular median black spot (Fig. 2d, e), distinctly convex (Fig. 2f). Pronotum broad, median length to maximum width 0.63–0.68 (mean: 0.66). Elytra in about half of the material examined completely yellow (Fig. 2a). This type of colouration occurs mainly in Central and East Africa where about two thirds of all specimens are yellow, while 90 % of the specimens from West Africa have broad basal and sub terminal transverse black bands (Fig. 2c). Broad transverse elytral bands are usually correlated with a yellowish-red pronotum. Length of elytron 3.15–4.50 mm (mean: 3.87 mm), maximum elytral width 2.30–3.40 mm (mean: 2.82 mm). Width of both elytra to length of elytron 0.68–0.77 (mean: 0.73). Scutellum yellow (Fig. 2a–d), very rarely black (Fig. 2e). Legs pale yellow to yellow.

Abdomen. Pale yellow to yellowish-red.

Male genitalia. Median lobe widening slightly in the basal third and sub apically, bluntly rounded at apex and slightly incised (Fig. 2i, k), distinctly narrower sub apically in small specimens (Fig. 2l–n), endophallus usually with three pairs of spiculae of different lengths.

Female genitalia. Spermatheca with small nodulus and very broad cornu with a short tip (Fig. 2o).

Diagnosis. *Monoleptoides duplicata* shows a high degree of similarity in body size, body shape and colouration patterns to *M. thomsoni* in particular. Both species occur sympatrically over a wide range, *M. duplicata* being more frequent in East and specifically in south Central Africa, whilst *M. thomsoni* is dominant in West Africa. Both species cannot be definitively distinguished using external characters. *Monoleptoides duplicata* is on average smaller (total length 4.30–5.50 mm) and its pronotum is more distinctly transverse (pronotal length to width 0.63–0.68) than in *M. thomsoni* (total length 4.40–6.00 mm, pronotal length to width 0.66–0.74).

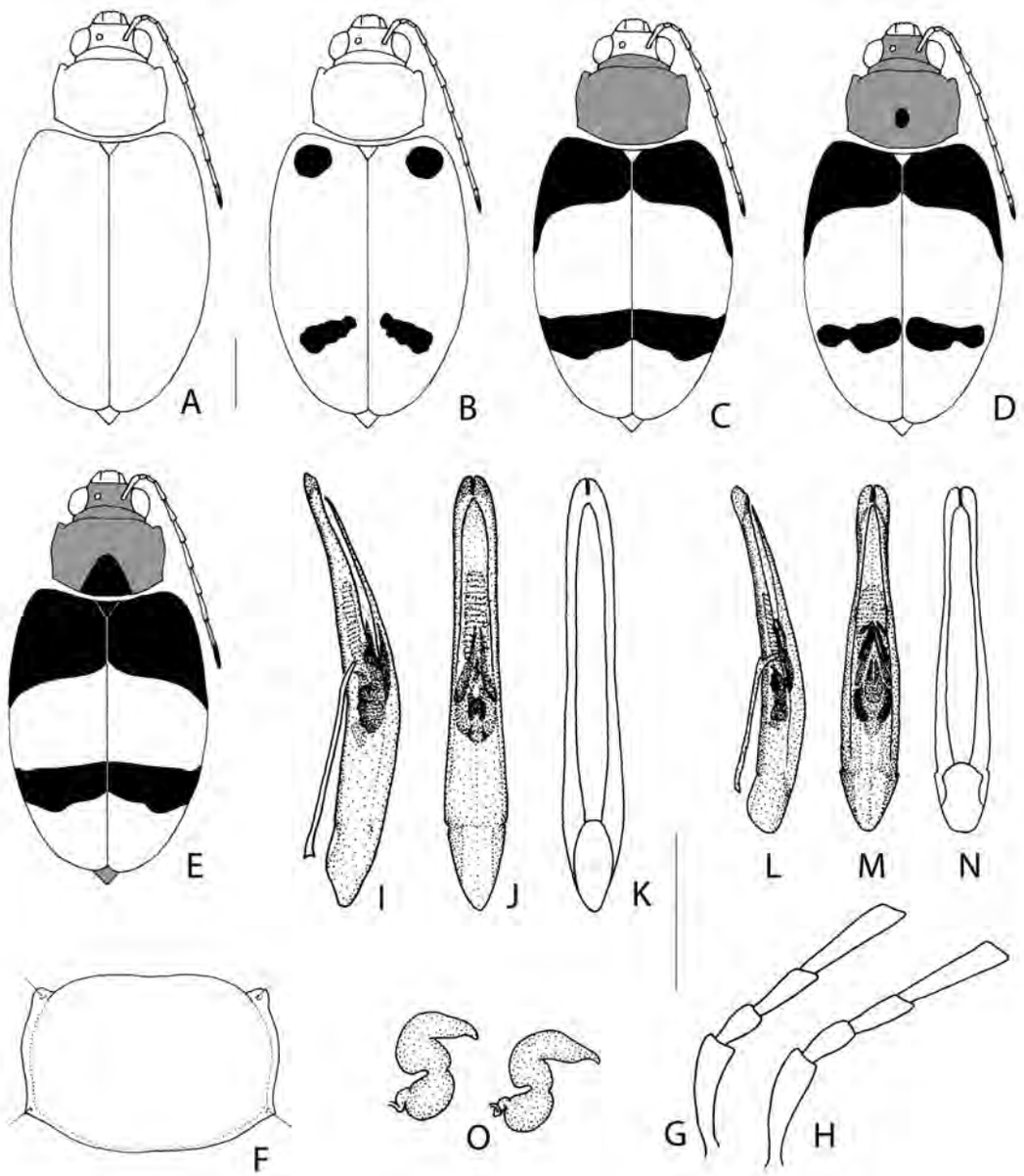

Fig. 2. Morphology of *Monoleptoides duplicata* (Sahlberg, 1823). **a–e.** Habitus showing typical colour variation. **f.** Pronotum, detail. **g, h.** Basal antennomeres one to four of male (g) and female (h). **i–k.** Median lobe of a typical specimen, lateral (i), dorsal (j), and ventral without endophallic structures (k). **l–n.** Median lobe of small specimens, lateral (l), dorsal (m), and ventral without endophallic structures (n). **o.** Spermathecae of two different females. Scale bars: 1 mm.

Monoleptoides duplicata is often entirely yellow, which is comparatively rare in *M. thomsoni*. Most specimens of *M. thomsoni* have small elytral bands (Fig. 7c) while most specimens of *M. duplicata* have stronger black elytral colouration (Fig. 2c). However, both species can only be reliably distinguished by the male genitalia, the allocation of females to species is sometimes almost impossible. The median lobe is slightly curved ventrally and has a bluntly rounded apex in *M. duplicata* (Fig. 2i–n), while *M. thomsoni* has a straight median lobe with a pointed apex (Fig. 7i–n). Despite both species having a wide overlap in geographical distribution, they seem to prefer different habitats. Based on about 600 specimens with detailed collecting site data, only four places could be identified where both species obviously occur syntopically (Dalaba and Tabuna Valley, both in Guinea; Garamba National Park in north-eastern DRC; and Bambesa in southern DRC). In southern Africa *M. duplicata* may be confused with *M.*

centromaculata, but broad elytra (Fig. 8a–c) and the very broad median lobe (Fig. 8g–i) of the latter species allow effective differentiation between the two species. To distinguish *M. duplicata* from *M. advena*, a species restricted to Kenya and northern Tanzania, dissection of genitalia is necessary in entirely yellow specimens, where *M. advena* has a comparatively short, broad and parallel-sided median lobe (Fig. 4h–j).

Distribution and geographical variation. Widely distributed in savannah and tropical forest zones from Sierra Leone to east Uganda and the Katanga Province in southeastern DRC, with very few further south- and eastwards (Fig. 11), concentrated mainly in the Guineo-Congolian forest area. Alongside *M. thomsoni* this is the most abundant and widely distributed species in the group. Specimens with a reddish head and pronotum (Fig. 2c–e) are more frequent in West Africa and Uganda, most specimens from southern DRC have small black spots (Fig. 2b) or are entirely yellow (Fig. 2a). As in *M. trivialis* and *M. thomsoni*, entirely yellow specimens are predominately from savannah localities. Specimens from a single location e. g. Malela (8 ex.) show continuous variation, from entirely yellow to forms with black elytral bands. So specimens from the Bambesa and Moto populations (21 ex.; including the type specimens of *M. fasciaticollis* and *M. quinquepunctata*) and Kampala (7 ex.). The large collection from Kapanga at Lulua River in southern DRC (99 ex.) are all, without exception, entirely yellow. So too is the material from Kaniama and Luisa (20 ex.), and the specimens (3 ex.) from Mlanje, all from the same region.

Type material

Crioceris duplicata: Holotype, ♂, "S. Leona, Afzelius / Duplicata, Sahlb. nov. sp. Inf." (NHRS; Fig. 20a). Type locality: Sierra Leone, no details available, examined. Only this specimen, displaying all the data recorded in the original description "Sierra Leone Africae. D. Afzelius", is available in NHRS. It can be treated as the holotype by inference. Two further specimens in this collection are marked with paratype labels, but are not valid types: 1 ♀ "Guinea, Westerman" and ♂ "Moyamba, S. Leone duplicata Sahlb.". The original description was published in a monographic series (Sahlberg 1823). It was repeated, with minor changes, in a journal six years later (Sahlberg 1829). Only two additional colour variations are mentioned in this later version.
Monolepta pulchella: Types, reported to be in MNHU, were not be found there. I follow the synonymy recorded in the catalogues of Weise (1924), and Wilcox (1973).
Monolepta fasciaticollis: Lectotype, ♂, "Type / Holotype fasciaticollis / Congo belge: P. N. A. Rwindi 1000 m 20 au 24-xi-1934 G. F. de Witte: 773 / Coll. Mus. Congo / R. Dét. G 4587 / Monolepta fasciaticollis m. V. Laboissière – Dét." (MRAC; Fig. 20b). Type locality: Democratic Republic of the Congo, Lake Kivu region, Rwindi, 0.47S/29.17E, examined. There are two syntypes listed in the original description and a lectotype is herein designated to fix the name on single specimen. – Paralectotype: 1 ♂, "May ya Moto, 950 m, 6 au 9–XI.1934, G. F. de Witte: 729" (IRSN).
Monolepta quinquepunctata: Holotype, ♀, "Type / Congo belge: P. N. A. Rwindi 1000 m, 20 au 24-xi-1934 G.F. de Witte: 773 / 6. Okt. / Monolepta quinquepunctata m. V. Laboissière – Dét. / Type M. quinquepunctata / R. Det. i 4586 / Coll. Mus. Congo" (MRAC; Fig. 20c). Type locality: Democratic Republic of the Congo, Lake Kivu Region, Rwindi, 0.47S/29.17E, examined. Holotype by inference, a single male (but the specimen is actually a female) is mentioned in the original description.

Further material examined

Benin. 2 ♂, Agoué, 6.13N/1.40E, 1879, Abbe Ménager (MNHN); 1 ♀, Dahomey, Mus. Hauschild (ZMUC). – **Burundi.** 1 ♂, Usumbura, Ngwelo, 3.57S/29.47E, coll. Clavareau (MRAC); 3 ♂, Usumbura, I.1926, H. Schouteden (MRAC); 1 ♂, Prov. Cibitoke, 3.18S/29.24E, II.1989, C. J. M. Berger (CRB). – **Cameroon.** 1 ♀, Kibati, 3.46N/9.45E (MNHU); 2 ♂, Bitye ja river, 3000 feet, ex. coll. Oberthur (MNHN); 5 ♀, Farc GR, 8.23N/12,50E, IV.2007, Gallery Forest, fogging Cola laurifolia, Jocque et al. (IRSN). – **Congo (Zaire).** 1 ♂, Beni Bendi, 0.30N/29.28E, Sankuru, I.1895, L. Cloetens (IRSN); 1 ♀, VIII.1898, Dybowski (MNHN); 2 ♀, Elisabethville, 11.40S/27.28E, X.1911, Miss. Agric. (MRAC); 8 ♀, 6 ♂, Malela, 4.22S/26.08E, XII.1913, Burgeon (MRAC); 1 ♂, Bumbuli, 3.24S/20.21E, IV.1915, R. Mayné (MRAC); 2 ♀, 3 ♂, Kasai, Luisa, 6.07S/19.26E, 1921, L. Achten (MRAC); 1 ♂, Watsa à Niangara, 3.42N/27.52E, VII.1920, L. Burgeon (MRAC); 1 ♂, Luluabourg, 5.54S/22.25E, XI.1921, L. Achten (MRAC); 1 ♂, Haut-Uele, Watsa, 3.03N/29.32E, 1922, L. Burgeon (MRAC); 1 ♀, 2 ♂, Haut-Uele, Moto, 2.54N/28.37E, VI.–VII.1923, L. Burgeon (MRAC); 2 ♀, Likimi, 2.50N/20.45E, X.1927, A. Collart (IRSN); 1 ♂, Kivutu Kumbi, II.1924 (ZMUH); 1 ♀, Faradje, Mongapi, 3.44N/29.43E, IV.1930, A. Collart (IRSN); 10 ♀, 5 ♂, Lomami, Kaniama, 7.34S/24.11E, 1931, III.–V.1932, R. Massart (MRAC); 2 ♀, 3 ♂, Uele, Dingila, 3.39S/26.04E, X.1932, J. Vrydagh (MARC); 38 ♀, 61 ♂ (16 ♂ dissected) Lulua, Kapanga, 10.37S/24.54E, VIII., XII.1932, IX., XI.1933, G. F. Overlaet (MRAC); 8 ♀, 3 ♂, Bambesa, 3.28N/25.43E, X.1933, III.1937, IV.,V.1937, II.,X.1938, X.1939, J. V. Leroy / J. Vrydagh (5 ex. IRSN, 6 ex. MRAC); 1 ♂, Luisa, Tulume, 7.18S/22.40E, V.1935, Mme Gillardin (MRAC); 2 ♂, NW-Ruwenzori, Watalinga, 0.40N/29.40E, VI.1937, Listranc (MRAC); 1 ♂, Kasenyi, 7.26S/24.10E, VIII.1937, Bredo (MRAC); 1 ♀, P. N. U., Businga, Sange, 3.20N/20.50E,

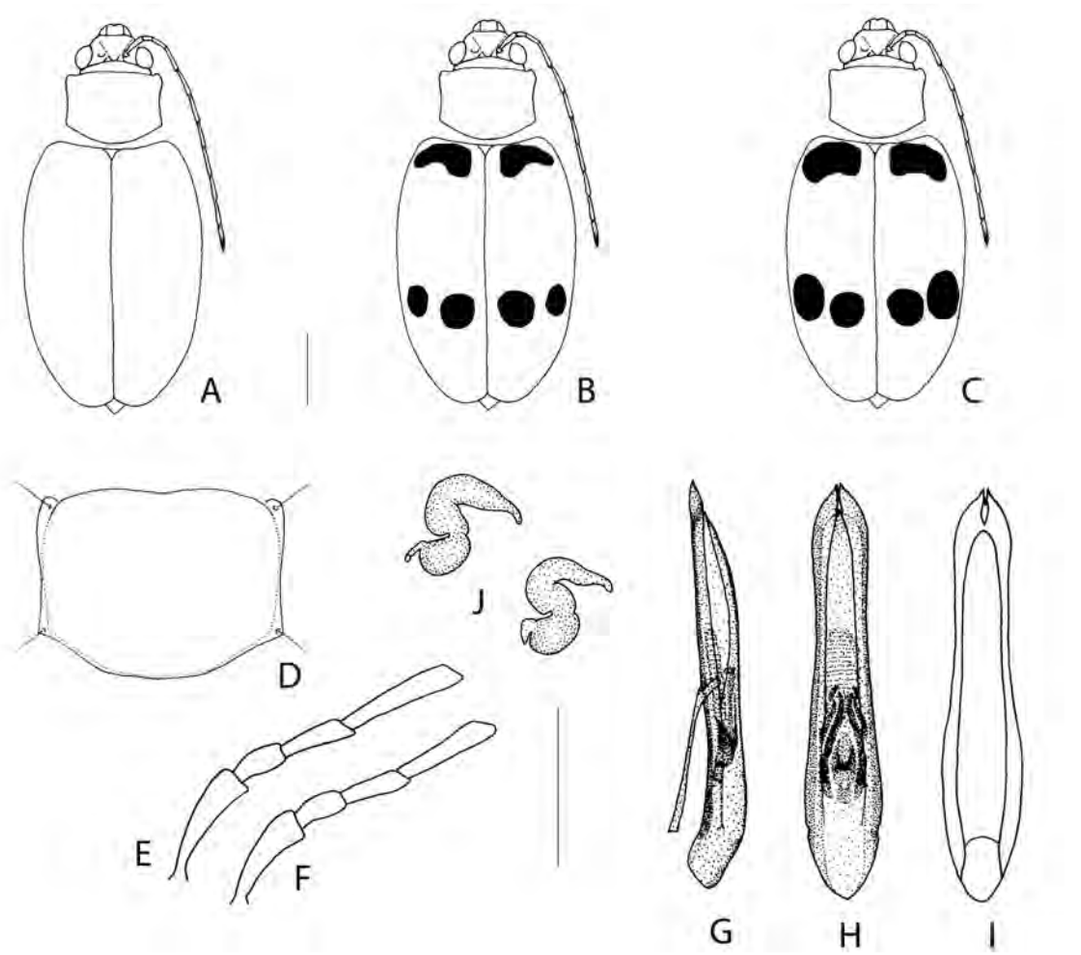

Fig. 3. Morphology of *Monoleptoides trivialis* (Gerstaecker, 1855). **a–c.** Habitus showing typical colour variation. **d.** Pronotum, detail. **e, f.** Basal antennomeres one to four of male (e) and female (f). **g–i.** Median lobe, lateral (g), dorsal (h), and ventral without endophallic structures (i). **j.** Spermathecae of two different females. Scale bars: 1 mm.

VI.1945, Miss. G. F. de Witte (IRSN); 1 ♂, P. N. Upemba, Lusinga, 8.56S/27.12E, 1760 m, IV.1947, Miss. G. F. de Witte (IRSN); 1 ♀, 2 ♂, P. N. Upemba, R. Mubale, 8.33S/27.21E, 1480 m, V.1947, Miss. G. F. de Witte (IRSN); 1 ♂, P. N. Upemba, Riv. Munte, 8.40S/28.45E, 1480 m, V.1947, Miss. G. F. de Witte (IRSN); 2 ♀, 4 ♂, P. N. Upemba, Mukana, 9.15S/27.12E, 1810 m, III.1948, Miss. G. F. de Witte (IRSN); 1 ♂, P. N. Upemba, R. Lufwa, 9.40S/27.11E, 1700 m, III.1948, Miss. G. F. de Witte (IRSN); 2 ♂, N. Lac Kivu, Rwankwi, 2.30S/28.00E, IV.1948, J. V. Leroy (MRAC); 1 ♀, P. N. Upemba, Katongo, 8.48S/26.59E, 1750 m, IV.1948, Miss. G. F. de Witte (IRSN); 1 ♀, 1 ♂, P. N. Upemba, Mbuye Bala, 8.54S/26.53E, 1750 m, IV.1948, Miss. G. F. de Witte (IRSN); 1 ♀, P. N. Upemba, Munoi bif Lupiala, 8.45S/26.46E, 890 m, VI.1948, Miss. G. F. de Witte (IRSN); 1 ♂, P. N. Upemba, Kabwekanono, 5.48S/28.34E, 1815 m, IX.1948, Miss. G. F. de Witte (IRSN); 1 ♂, P. N. Upemba, Kismokoto-Kiwakishi, 9.09S/27.11E, 1070 m, X.1948, Miss. G. F. de Witte (IRSN); 4 ♀, 6 ♂, P. N. Upemba, Kabwe s/Muye, af. Lufira, 8.49S/26.49E, 1329 m, V.1948, Miss. G. F. de Witte (IRSN); 1 ♀, P. N. Upemba, Mabwe, 8.39S/26.31E, 585 m, I.1949, Miss. G. F. de Witte (IRSN); 3 ♀, 7 ♂, P. N Upemba, Kanonga, 9.15S/26.08E, 675 m, II.1949, Miss. G. F. de Witte (MRAC); 12 ♀, 6 ♂, P. N. Garamba, 3.40N/29.00E, several locations, X.1950, XII.1951, IV., VI.–VII.1952, Miss. H. de Saeger (17 ex. IRSN, 1 ex. MRAC), 1 ♂, Station de Gandajika I.N.E.A.C., 6.45S/23.57E, 1957, P. de Francquen (MRAC); 1 ♀, Reg. Thysville, Bas-Congo, 5.15S/14.52E, 1959/1963, R. Michaux leg (MRAC); 1 ♂, P. N. Albert (Ruwenzori), Ibatama, 1690 m, V.1958, P. Vanschuytbroeck (MRAC); 24 ♀, 29 ♂ (15 ex. genitalia dissected), Terr. de Kasongo, River Lumami, 4.27S/26.40E, VIII.1959, II./III.1960, P. L. G. Benoit (MRAC). – **Equatorial Guinea.** 1 ♂, Nkolentangan,

1.31N/9.51E, XI.1907–V.1908, G. Tessmann (MNHU). – **Ethiopia.** 1 ♀, Abessinia, Dimitiev (ZISP); 4 ♀, pr. Illubabor, 8.05N/35.45E, 30 km W of Abobo, VIII.1988, L. Medvedev "on Cucurbitaceae" (CM). – **Ghana.** 6 ex., Gold Coast (MMMU); 1 ♂, Kumasi, 6.43N/1.36W, II.1975, K. Adlbauer (ZFMK). – **Guinea.** 5 ♀, Guinea, Mus. Westermann (ZMUC); 1 ♀, ex. Ancey, 7.22N/9.04W, coll. M. Pic (MNHN); 1 ♀, Camayenne, 6 km de Konakry, 9.32N/13.41W, 1909, L. Duport (MNHN); 1 ♀, 1 ♂, Dalaba, 10.47N/12.12W, 1200 m, VIII.1945, H. Durand (MNHN); 1 ♀, 1 ♂, Tabuna Valley, 9.31N/12.26W, IX.1983, II.1984, C. B. Myrzin (CLM). – **Ivory Coast.** 1 ♀, Limbroko, 6.59N/3.39W (IRSN); 1 ♀, Haut-Sassandra, pays Dyola, 1910, A. Chevalier (MNHN); 1 ♀, 4 ♂, Koun-Abronso, 7.31N/3.15W, IX., X., XI.1961, J. Decelle (MRAC); 1 ♂, Bingerville, 5.20N/3.53W, VIII.1961, I.1963, I.1964, J. Decelle (MRAC); 1 ♀, Odienne, 9.36N/7.32W, III.1973, V. Viltard (MNHN). – **Kenya.** 1 ♂, Thika, 1.03S/37.05E, I.1927, A. F. J. Gedye (NMK); 1 ♂, Kisumu, 0.06S/34.45E, IV.1936, H. J. A. Turner (NMK); 1 ♀, 1 ♂, Emali Range, Sultan Hamud, 2.06S/38.28E, coll. No.10742, III.1940 (BMNH); 1 ♂, Malindi, 3.13S/40.07E, XI.–XII.1989, L. Bartolozzi et al. (MZFS); 1 ♂, Taita Hills, 3.24S/38.22E, V. Clausnitzer (ZFMK); 1 ♀, Mt. Nyiru, 2.09N/36.50E, dense woodland, 2100 m, Malaise trap, R. de Jong & C. Lepelaar (NNML). – **Malawi.** 3 ♂, Mlanje, 16.05S/36.29E, 800 m, IV.1913, X. 19913, S. A. Neave (BMNH). – **Mozambique.** 2 ♀, Caia, 17.49S/35.23E, Zambesi, VIII.1911, H. Swale (BMNH); 1 ♂, Valley of Kola ri., 15.12S/33.10E, 650 m, IV.1913, S. A. Neave (BMNH); 1 ♀, 2 ♂, Lourenzo Marques, 25.58S/32.25E, VIII.1921, C. B. Hardenberg (MNHU). – **Sierra Leone.** 1 ♀, "Monolepta bifasciata F. / S. R." (MNHU); 1 ♀, "S. L." (OUMNH); 1 ♂, coll. Kraatz (DEIS); 1 ♀, 1 ♂, Sierra Leone, 8.30N/12.00W, Don Kier, ex. coll. J. Weise, „duplicata Sahlb. / pulchella Klug" (MNHU); 1 ♀, ex coll. J. Weise (MNHU); 2 ♀, Sierra Leone, 58.166 (BMNH); 1 ♀, Mayeppa, 9.08N/12.0W, IX.1912, J. J. Simpson (BMNH); 1 ♂, 8.VIII.1895, ex coll. R. Oberthur (MNHN); 1 ♂, coll. Clavareau (MRAC); 1 ♀, 2 ♂, Sierra Leone, ex mus. Allard 1899 (MNHN); 2 ♀, 2 ♂, Rhobomp, 9.05N/12.54W, coll. Fry, 1905 (BMNH); 1 ♂, VIII.1909, ex coll. R. Oberthur (MNHN). – **South Africa.** 1 ♂, Durban, 29.51S/31.01E, P. Reineck (MNHU); 1 ♂, Zululand, Cape Vidal NR, 28.07S/32.34E, IV.1975, P. E. Reavell (TMSA); 1 ♂, Natal, Sordwana Bay, 27.32S/32.41E, IV.1976, P. E. Reavell (TMSA). – **Tanzania.** 1 ♂, Usambara (MNHU); 1 ♂, Nyassa-See, Langenburg, 9.01S/33.39E, Fülleborn (MNHU); 5 ♀, 7 ♂, Ukerewe Island, 2.09S/32.52E, Conrad (NMK); 1 ♀, Lindi, 10.01S/39.43E, VII.1891, Conradt (MNHU); 1 ♂, Nguela, 4.45S/38.30E, Heyne 900 (ZISP); 1 ♂, Mombo, 4.54S/38.18E, ex coll. J. Weise, "trivialis Sahlb." (MNHU); 2 ♀, 1 ♂, Kwai, 4.44S/38.21E, Paul (MNHU); 3 ♀, 1 ♂, Usambara, Nguelo, 4.45S/38.30E (ZMUH); 3 ♀, 2 ♂, Usambara, Derema, 4.45S/38.30E, 850 m, VIII.–IX.1891, L. Conradt (MNHU); 1 ♂, Sakarre, 4.58S/38.21E, IX.02 (MNHU); 1 ♂, Amani, 5.09S/38.36E, II.1906, Vosseler (MNHU); 1 ♀, D. Sambesi Gebiet, X.1906, F. Seiner (MNHU); 1 ♂, Muansa, 2.31S/32.54E, IV.1915, Holtz (MNHU). – **Togo.** 1 ♂, Bismarcksburg, 8.15N/0.55E, XII.1892, L. Conradt (MNHU). – **Uganda.** 1 ♂, Entebbe, 0.05N/32.29E, VII.1911, S. A. Neave (BMNH); 1 ♀, Northern Buddu, 0.25S/31.40E, 3800 ft., IX.1911, S. A. Neave (BMNH); 1 ♂, Buamba Forest, 0.50N/30.03E, Semliki Valley, XI.1911, S. A. Neave (BMNH); 1 ♂, Mpanga Forest, 0.15N/32.05E, Toro, 4800ft, XI.1911, S. A. Neave (BMNH); 1 ♀, Entebbe, I.1912, S. A. Neave (BMNH); 1 ♀, between Sezima River and Kampala, VIII.1912, S. A. Neave (BMNH); 2 ♀, Entebbe, I.1912, V.1914, S. A. Neave (BMNH); 1 ♂, Mubande, I.1923, H. Hargreaves (NMK); 1 ♂, Mabira Forest, 0.30N/32.55E, X.1937, T. H. E. Jackson (NMK); 1 ♂, Osiri, N-Kavirondo, VI.1943, H. J. A. Turner (NMK); 1 ♂, Busia, 0.28N/34.02E, VI.1940, A. F. J. Gedye (NMK); 11 ♀, 5 ♂, Kampala, 0.19N/32.35E, VI.1940, XII.1946, XII.1952, A. F. Gedye (7 ex. BMNH, 8 ex. NMK, 1 ex. USNM); 1 ♀, 2 ♂, Kalinzu Forest, 0.25S/30.05E, IX.1947, A. F. J. Gedye (NMK); 1 ♀, Bwamba Forest, III.1948, J. G. Williams (NMK); 2 ♂, Tororo Forest, 0.41N/34.05E, V.1956, R. Carcasson (NMK); 2 ♂, Bwamba Forest, III.1972 (CRB); 1 ♂, Kibale NP, 0.50N/31.06E, 1600 m, VII.–VIII.1998, L. Schmidt (ZFMK); 2 ex., Bwindi NP, 0.42S/30.43E, X.2002, V. Silha (CVS). – **Zimbabwe.** 1 ♂, Mutare, 18.58S/32.40E, Bvumba Rd. km 16, VIII.1998, Marlin E. Rice (TAMU).

***Monoleptoides trivialis* (Gerstaecker, 1855)**, comb. nov.
Monolepta trivialis Gerstaecker, 1855: 638.
Candezea umbilicata Laboissière, 1920: 51; syn. nov.

Total length. 4.10–5.40 mm (mean: 4.66 mm; n = 12).

Head. Pale yellow to yellow, including palpi and antennae, only terminal antennomere brown (Fig. 3 a–c), sub terminal antennomeres rarely brownish-yellow. Antennae very long and slender (Fig. 3 e, f). Length of second to third antennomere 0.72–0.78 (mean: 0.75), length of third to fourth antennomere 0.53–0.63 (mean: 0.58).

Thorax. Pronotum pale yellow, narrow (Fig. 3 a–c), posterior angles distinct (Fig. 3 a–d), median length to maximum width 0.69–0.74 (mean: 0.72). Elytra ovate and comparatively roughly punctate. Elytra pale yellow in 10 % of material examined (Fig. 3a); others with a slender transverse black band at elytral base that sometimes reaches the basal margin close to the yellow scutellum, from which it is separated by at least half the width of the scutel-

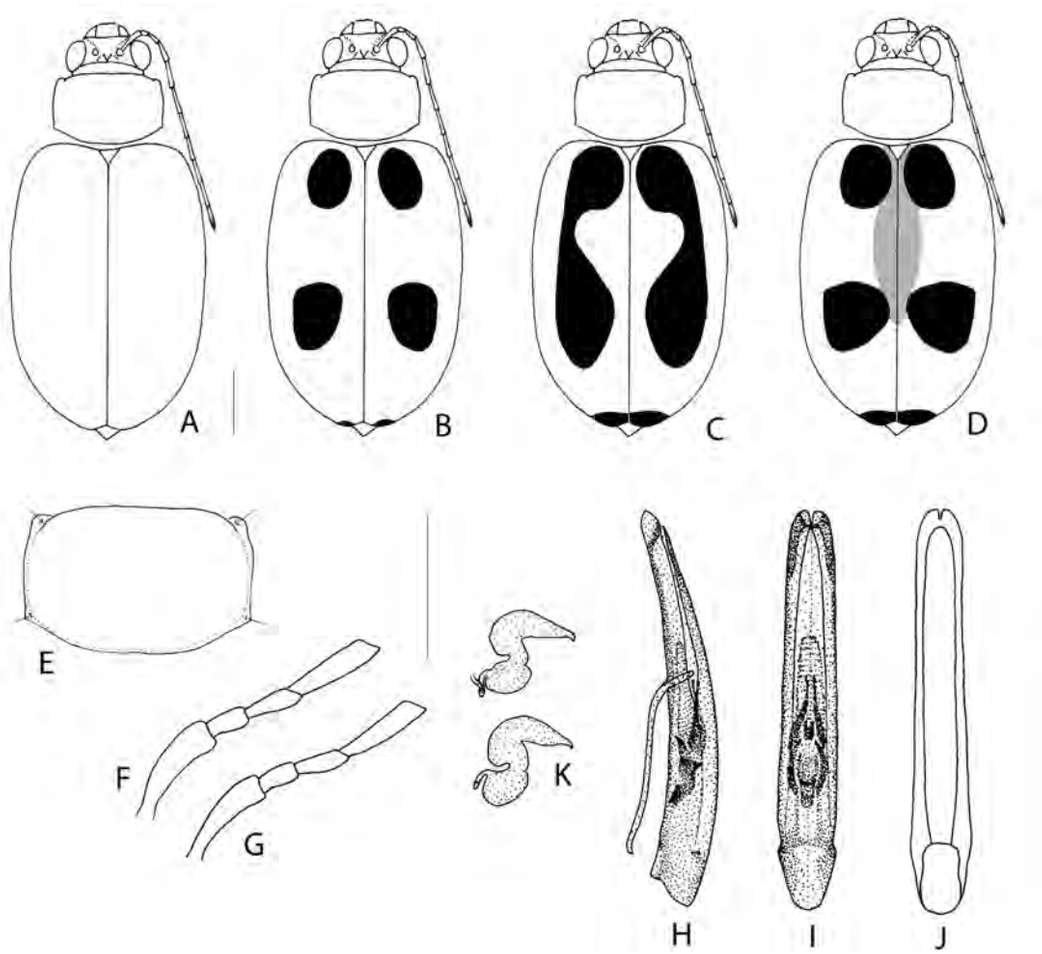

Fig. 4. Morphology of *Monoleptoides advena* (Weise, 1909). **a–d.** Habitus showing typical colour variation. **e.** Pronotum, detail. **f, g.** Basal antennomeres one to four of male (f) and female (g). **h–j.** Median lobe, lateral (h), dorsal (i), and ventral, without endophallic structures (j). **k.** Spermathecae of two different females. Scale bars: 1 mm.

lum (Fig. 3b, c) and one pair of small black spots after the second third (Fig. 3b, c) which are rarely connected, and therefore not forming a homogenous black band. In 10 % of material there is only one spot in the apical third. One specimen from Mozambique (Buzia River), and another from Tanzania (Lukuledi) with a narrow black line on outer eltyral margin and sutural margin. Length of elytron 3.15–4.25 mm (mean 3.74 mm), maximum elytral width 2.20–2.90 mm (mean: 2.59 mm). Width of both elytra to length of elytron 0.64–0.71 (mean: 0.67). Legs pale yellow.

Abdomen. Pale yellow.

Male genitalia. Median lobe dorso-ventrally compressed, widening distinctly basally and in the apical third, pointed and deeply incised at the apex, endophallus usually with three pairs of spiculae of different lengths (Fig. 3g–i).

Female genitalia. Spermatheca with small nodulus, and broad cornu (Fig. 3j).

Diagnosis. *Monoleptoides trivialis* and *M. didyma* have very similar colour patterns and are distributed sympatrically over a wide range. Similar labels indicate that they sometimes occur syntopically (Arabuko Sokoke and Malindi in Kenya; Zanzibar). Although both species are very similar superficially, there are distinct differences in their finer detail. *Monoleptoides trivialis* is larger, the elytra are wider, more ovate and testaceus, the pronotum much narrower (Figs 3d, 10e), and the antennae are longer than in *M. didyma*. Both species can be separated by pronotal index (pronotal length to width in *M. trivialis* 0.70–0.74; *M. didyma* 0.62–0.68), and antennal index (length of second to third antennomere in *M. trivialis* 0.72–0.78, third to fourth antennomere 0.53–0.63; *M. didyma*: second to third antennomere 0.65–0.76, third to fourth antennomere

0.67–0.77). Body size and shape, shape of pronotum and the antennae of *M. trivialis* are also very similar to *M. thomsoni*, which only occurs sympatrically in south-eastern DRC. The male genitalia of both these species are similar (Figs 3g–i, 7i–n), and together with the larger *M. centromaculata* (Fig. 8a–c) that also has a flat, apically pointed median lobe (Fig. 8g–i), these three species are obviously closely related. *Monoleptoides trivialis* can, however, be distinguished from both the other species by its more slender pronotum (Figs 3d, 7f, 8d).

Distribution. Most specimens examined have been collected in the coastal regions of Kenya, Tanzania and Mozambique, with only a few recorded from the interior of most of these countries and Zimbabwe (Fig. 12).

Type material examined

Monolepta trivialis: Holotype, ♀, "Sinna Peters / 30403 / Monolepta trivialis Gerst." (MNHU; Fig. 20d). Type locality: Mozambique, Sena, 17.45S/34.55E. Holotype by inference, original description indicates "nur ein Exemplar von Sena".
Candezea umbilicata: Holotype, ♀, "Museum Paris, Afrique Orient. Angl. Mombasa, Ch. Alluaud 1904 / Juillet / Coll. R. I. Sc. N. B. / Type / Candezea umbilicata Labois. V. Laboissière – dét. / Muséum Paris Coll. Générale" (MNHN; Fig. 20e). Type locality: Kenya, Mombasa, 4.04S/39.40E. In his short description Laboissière mentioned data for only one specimen, since this is the only one available, it can be treated as the holotype.

Further material examined

Kenya. 1 ♀, Malindi, Gede Forest, 3.18S/40.01E, V.1990, Werner (CMD); 1 ♂, Kilifi distr., Arabuko Sokoke, 3.20S/39.52E, Forest Reserve, IX.–X.1992, L. Bartolozzi et al. (MZSF). – **Mozambique.** 1 ♀, Lour. Marques, 25.58S/32.25E, II.1021, C. B. Hardenberg (MNHU); 1 ♂, "30406, Mozamb. Peters" (MNHU); 1 ♂, Vallée du Pungoue Guengere, 18.45S/33.40E, 1906, G. Vasse (MNHN); 1 ♀, Chibababa, Lower Buzi River, 19.52S/34.45E, XII.1906, C. F. M. Swynnerton (BMNH); 1 ♀, Pomene, 22.59S/35.35E, V.1975, beaten on coastal bush, A. Strydom (TMSA). – **Tanzania.** 1 ♂, Lukuledi, 11.27S/38.47E, Coll. Ertl (MRAC); 1 ♀, Tanga, 5.07S/39.05E, II.1936 (BMNH); 1 ♀, Inter Dar es Salaam et L. Tanganjika (HMNH); 1 ♀, Bagamoya, 6.19S/38.20E, (ZMUH); 1 ♂, Sansibar, 6.10S/39.12E, Hildebrandt, 60586 (MNHU); 1 ♀, mittlerer Rufiyi, Schneider (MNHU); 1 ♀, Parek, 6.17S/39.30E, 1600 m, Sammlung Dr. Chr. Schröder (MNHU); 1 ♂, Morogoro, 6.49S/37.40E, Nachlass Schmitt (NHMW); 1 ♀, Upogoro, 8.19S/34.42E, XI.1912 (MNHU); 3 ♀, 3 ♂, Zansibar, Mhonda Ouzigoua, A. Hacquard Mis. ap. 1879, 1. Trim. 1880, coll. R. Oberthur (1 ex. MNCN, 5 ex., MNHN); 1 ♀, 1 ♂, Mombo, 4.54S/38.18E, VII.1899, ex coll. J. Weise (MNHU); 1 ex. "didyma co-typ Gerst." (MNHU); 1 ♀, Mtanza, 7.51S/38.25E, V.1910, Holtz (MNHU); 2 ♀, D. Ostafrika, Litema-Gebirge, 3.24S/37.37E, Böttcher (MNHU); 1 ♀, Pangani Falls Forest, 5.20S/38.40E, I.–III.1993, Frontier-Tanzania (ZMUC). – **Zimbabwe.** 1 ♀, Matabele, 20.05S/30.57E, Hard af Seg. (NHRS).

***Monoleptoides advena* (Weise, 1909)**, comb. nov.
Monolepta advena Weise, 1909: 210.
Monolepta keniensis Bryant, 1953: 866; syn. nov.

Total length. 5.00–6.70 mm (mean: 5.73; n = 12).

Head. Pale yellow, mouth parts pale yellow to yellow. Antennae pale yellow, usually only tip of terminal antennomere black (Fig. 4a–d); comparatively short, length of second to third antennomere 0.77–0.83 (mean: 0.80), and length of third to fourth 0.55–0.60 (mean: 0.58; Fig. 4f, g).

Thorax. Pronotum pale yellow to yellow, distinctly transverse, median length to maximal width 0.57–0.66 (mean: 0.61; Fig. 4e), comparatively flat with an indistinct median transverse depression. Elytra completely yellow to pale brownish-yellow in half the material examined (Fig. 4a), but bright citric yellow in live specimens. Some specimens with large black spots close to the scutellum and at the beginning of the terminal third (Fig. 4b). In 10 % of the material examined, e. g. some type specimens of *M. advena*, these spots can be confluent forming an irregular longitudinal band (Fig. 4c). Specimens with isolated black spots with brownish-red stripe along the basal two thirds of the suture (Fig. 4d) make up 20 % of all specimens examined, e. g. the type specimens of *M. keniensis*. Colouration in specimens with spots always includes black elytral tips (Fig. 4b–d), a few yellow specimens have only these small black elytral tips. Elytra ovate, dorso-ventrally compressed, shallowly punctuated, length of elytron 3.85–5.40 mm (mean 4.31), maximum elytral width 2.60–3.50 mm (mean: 2.98), maximal width of both elytra to length of elytron 0.63–0.71 (mean: 0.67). Legs pale yellow.

Abdomen. Pale yellow to yellow.

Male genitalia. Median lobe parallel-sided in dorsal view, blunt apically and not deeply incised, gently curved in lateral view (Fig. 4h). One pair of long endophallic spiculae (Fig. 4i, j).

Female genitalia. Spermatheca with small nodulus, and very broad cornu with short tip (Fig. 4k).

Diagnosis. On average a large species with a distinctly transverse pronotum that can most easily be confused with *M. duplicata* which occurs sympatrically at least in Kenya, except for the coastal areas. *Monoleptoides advena* has, on average, a more slender pronotum (pronotal length to width: 0.57–0.66; *M. duplicata*: 0.63–0.68). Specimens with dorsal colour patterns (Fig. 4b–d) can easily be identified. In entirely yellow specimens only dissection of the male genitalia allows reliable species determination; *M. advena* has a comparatively broad, parallel-sided median lobe (Fig. 4h-j), while that of *M. duplicata* is narrower, and narrows, at least slightly, sub apically (Fig. 2i-n).

Distribution. Restricted to montane areas in northern Tanzania (Kilimandjaro, West-, and East Usambara) and Kenya (Mau Escarpment, Nairobi, Taita Hills; Fig. 13).

Type material

Monolepta advena: Lectotype, ♂, "Kilimandjaro / Type / Monolepta advena m / ex coll. J. Weise" (MNHU; Fig. 20h). Type locality: Tanzania, Klimandjaro, 3.09S/36.51E. – Paralectotypes: 1 ♀, "Kilimandjaro, Sjöstedt, 1905-6 / Kibonoto Kulturz. / 99730 / aug. / ex coll. J. Weise / Type / Monolepta advena cotype m" (MNHU); 1 ♀, "Kilimandjaro, Sjöstedt, VIII.1905-6 / Kibonoto Kulturz. / aug. / ex coll. J. Weise (MNHU); 1 ♂, "Kilimandj., Sjöstedt / Kibonoto Kulturz. / male / advena m / aug. / Typus" (NHRS); 1 ♀, "Kilimandj., Sjöstedt / Kibonoto Kulturz. / 20. april" (NHRS). Weise mentioned each of the four females and males, which are syntypes and a lectotype has been designated to fix the name on a single specimen.
Monolepta keniensis: Holotype, ♀, "Type / Kabarnet, Dist. Baringo, I-1944, Museum staff." (BMNH; Fig. 20i). Holotype by original designation. Type locality: Kenya, Rift Valley, Lake Baringo, 1.17S/36.50E. – Paratypes: 1 ♀, Nairobi, 1.17S/38.18E, 18.X.1920, A. F. J. Gedye (BMNH); 2 ♀, "Bura, Teita, 5000 ft, II.1939" (BMNH). Bryant mentioned five paratypes from Teita, only two of them are available in the BMNH; the specimen with the same locality data in NMK is not a type specimen.

Further material examined

Kenya. 1 ♂, 1 ♀, Bura, Teita, 3.30S/38.18E, II.1939 (NMK); 1 ♀, 1 ♂, Taita Hills, Wundanyi, IV.1997, M. Snizek (MIZT); 1 ♂, Taita Hills, Mbolo Forest, 3.20S/38.29E, III.1998, ICIPE (NMK); 1 ♂, Taita Hills, near Wundanyi, 1680 m, 3.21S/38.17E, Th. Wagner (ZFMK). – **Tanzania.** 1 ♀, Kilimandscharo, Chr. Schröder (MNHU); 1 ♂, Usambara, 1893 (BMNH); 1 ♂, Mombo, 4.54S/38.18E, Paul, ex coll. J. Weise (MNHU); 1 ♂, Mombo, Paul „testacea ? m / Typus" (NHRS); 2 ♀, 1 ♂, Mombo, VII.1899 (MNHU).

***Monoleptoides horni* (Laboissière, 1931)**, comb. nov.
Candezea horni Laboissière, 1931: 32.

Total length. 5.45–6.80 mm (mean: 6.12 mm; n = 8).

Head. Pale yellow, including labrum and palpi. Antenna very characteristic with fourth to eighth antennomeres black in contrast with the other basal and apical antennomeres (Fig. 5a). Length of second to third antennomere 0.75–0.86 (mean: 0.82), length of third to fourth antennomere 0.47–0.56 (mean: 0.51; Fig. 5c, d).

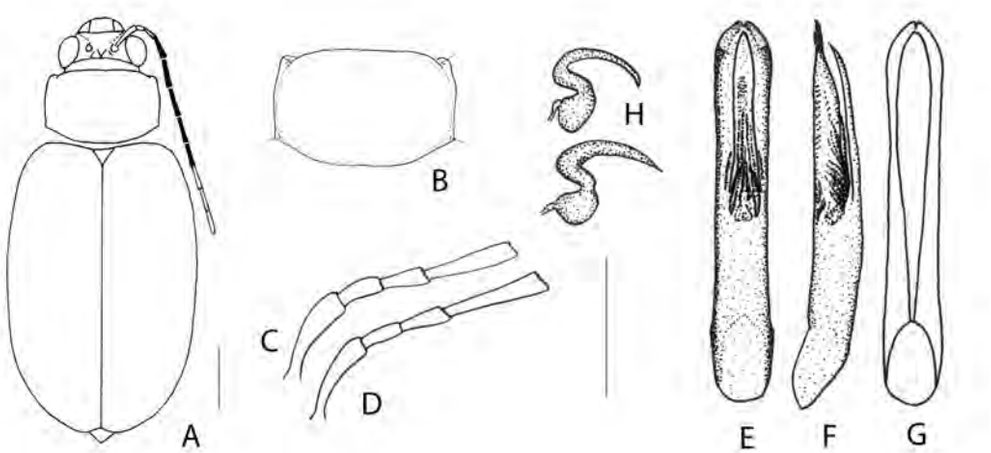

Fig. 5. Morphology of *Monoleptoides horni* (Laboissière, 1931). **a.** Habitus showing typical colour variation. **b.** Pronotum, detail. **c, d.** Basal antennomeres one to four of male (c) and female (d). **e–g.** Median lobe, lateral (e), dorsal (f), and ventral, without endophallic structures (g). **h.** Spermathecae of two different females. Scale bars: 1 mm.

Thorax. Pronotum pale yellow, distinctly transverse, median length to maximum width 0.62–0.66 (mean: 0.64). Pronotum with indistinct, medially interrupted transverse depression (Fig. 5b). Elytra ovate to sub parallel, length of elytron 4.20–5.00 mm (mean 4.58), maximum elytral width 2.55–3.20 mm (mean: 2.84); maximum width of both elytra to length of elytron 0.58–0.66 (mean: 0.62). Elytra entirely yellow to pale reddish-yellow (Fig. 5a). Scutellum yellow. Legs pale yellow.

Abdomen. Abdominal segments and pygidium yellow.

Male genitalia. Median lobe comparatively short, parallel-sided, straight in lateral view (Fig. 5f), apical incision short and indistinct (Fig. 5e, g); ventral groove broad in the apical half (Fig. 5g). Endophallus with many very slender spiculae (Fig. 5a, b), tectum slender and sharply pointed.

Female genitalia. Spermatheca with large nodulus, cornu very slender and straight, or at least curved apically (Fig. 5h).

Diagnosis. A comparatively large species with an entirely pale dorsum. Most similar to the entirely yellow specimens of the sympatric species *M. duplicata* and *M. thomsoni*, but *M. horni* can easily be distinguished by antennomeres four to eight, which are black (Fig. 5a), and in any doubtful cases by the genitalia of both sexes (Fig. 5e–h). *Dyolania oculata* (Jacoby, 1903) is also similar to *M. horni*. Both species share the peculiar antennal colouration, and occur sympatrically in Equatorial Guinea (including Bioko) and Cameroon (Bauer & Wagner 2010), but *D. oculata* has an entirely reddish-yellow dorsum and much narrower pronotum and elytra. Distinct differences in the shape and structure of the genitalia of both species underline the genetic differentiation between these two species.

Distribution. Restricted to a very small area in Equatorial-Guinea, Gabon, Togo and Cameroon (Fig. 14).

Type material

Lectotype: ♀, "Joko Kamerun / ex. coll. Laboissière. Coll. R. I. Sc. N. B. / Candezea horni m. V. Laboissière – Dét. 1931 / Holotype" (IRSN; Fig. 20k). Laboissière mentioned at least four specimens in his original description. A lectotype is here designated to fix the name on a single specimen. Type locality: Cameroon, Joko, 5.29N/12.19E. – Paralectotype: 1 ♀, Togo, Conradt, ex. coll. Kraatz (DEIS).

Further material examined

Cameroon. 1 ex., Joko, 5.29N/12.19E (ZMUH); 1 ex., Yaunde, 3.51N/11.31E, V.1897, v. Carnap (MNHU); 1 ex., Yaunde, III.1895, Zenker (MNHU); 1 ex., N'Kongsamba, 4.49N/9.53E, VII.1957, J. Cantaloube (MNHN). – **Equatorial Guinea.** 2 ex., Fernando Poo, 3.30N/8.42E, V.1900, L. Conradt (MNHU); 1 ex., Fernando Poo, Sta. Isabel, 3.45N/8.42E, VII.1900, L. Conradt (MNHU); 1 ex., Valle del Mvulu, Nniefang, L. Báguena (MNCN); 3 ex., Fernando Poo, Basupu, VI.1919, Escalera (MNCN); 1 ex., Fernando Poo, Sta. Isabel, VI.1919, Escalera (MNCN). – **Gabon.** 2 ex., Nsessé par Loango, 1.35S/10.00E, coll. E. Cordier (IRSN).

***Monoleptoides mertensi* (Laboissière, 1940)**, comb. nov.
Candezea mertensi Laboissière, 1940b: 12.

Total length. 5.00–7.20 mm (mean: 6.36 mm; n = 15).

Head. Pale yellow, including labrum and palpi. Antenna either entirely pale yellow (Fig. 6b), or terminal antennomere brown to blackish (Fig. 6a), or rarely up to five sub terminal antennomeres brown (Fig. 6c). Length of second to third antennomere 0.53–0.66 (mean: 0.60), length of third to fourth antennomere 0.54–0.66 (mean: 0.61; Fig. 6e, f).

Thorax. Pronotum pale yellow, distinctly transverse, median length to maximum width 0.58–0.68 (mean: 0.62). Pronotum with distinct, medially interrupted transverse depression (Fig. 6d). Elytra ovate, length of elytron 4.20–5.80 mm (mean 4.89), maximum elytral width 2.95–4.30 mm (mean: 3.55); maximum width of both elytra to length of elytron 0.68–0.76 (mean: 0.73). Elytra in about 70 % of specimens with a black humeral spot, a disrupted transverse black band beyond the middle, and black elytral tips (Fig. 6b); 10 % with the black elytral colouration more robust (Fig. 6c); 10 % with the humeral spots and elytral apex brownish-red and the transverse band reduced to a small spot just below the middle (Fig. 6a); or rarely with two spots on each elytron; elytra with brownish-red base and tip only (i. e. without black dorsal pattern) and very rarely yellow in the remaining material examined. Scutellum yellow. Legs pale yellow.

Abdomen. Abdominal segments and pygidium yellow.

Male genitalia. Median lobe slender, ovate in cross-section, apical part curved ventrally (Fig. 6g), widening

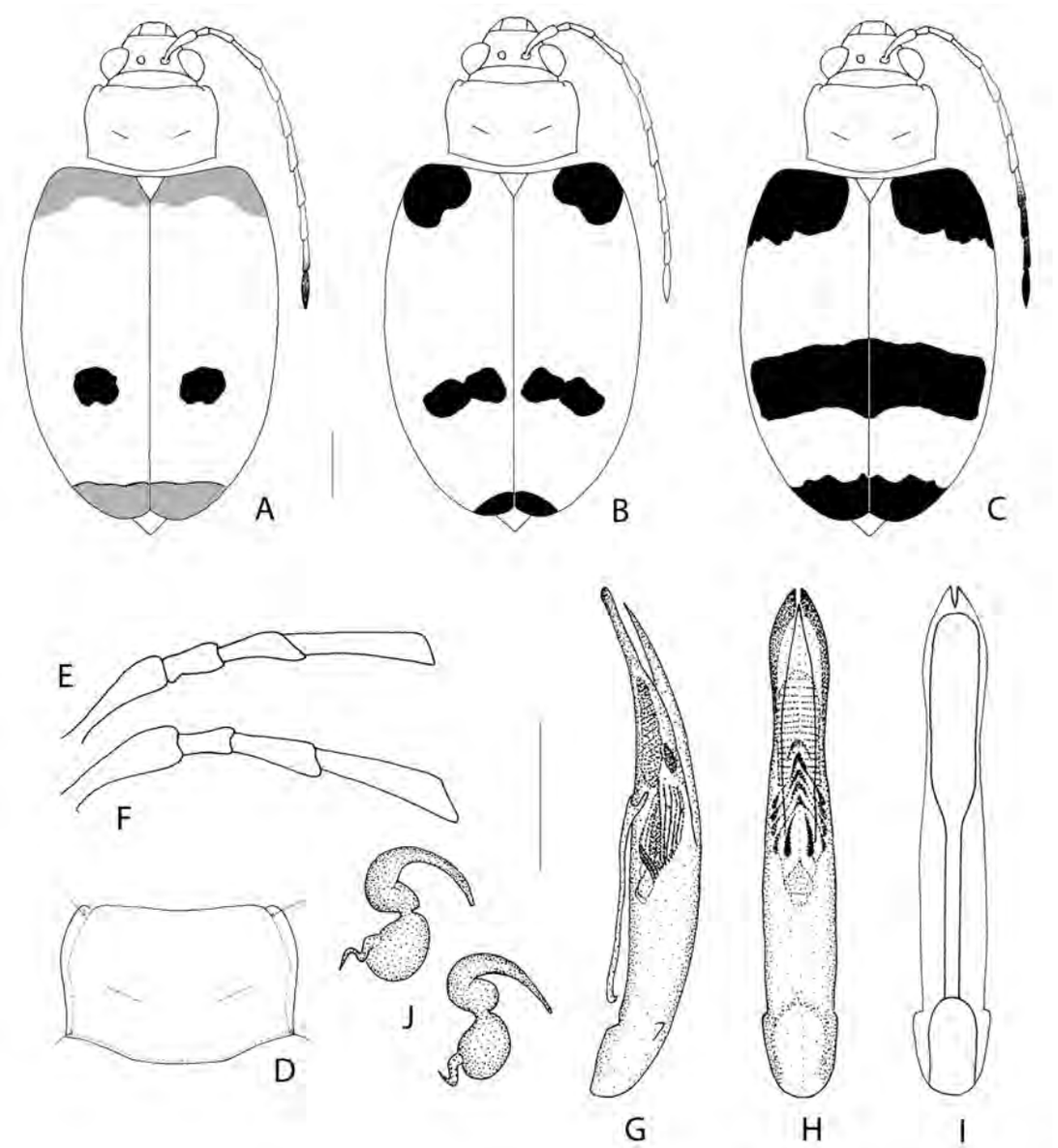

Fig. 6. Morphology of *Monoleptoides mertensi* (Laboissière, 1940). **a–c.** Habitus showing typical colour variation. **d.** Pronotum, detail. **e, f.** Basal antennomeres one to four of male (e) and female (f). **g–i.** Median lobe, lateral (g), dorsal (h), and ventral, without endophallic structures (i). **j.** Spermathecae of two different females. Scale bars: 1 mm.

slightly near the apex (Fig. 6h, i); ventral groove very broad in the apical half (Fig. 6i). Endophallus with many very slender and one pair of shorter, more robust spiculae (Fig. 6g, h), tectum slender and very pointed.

Female genitalia. Spermatheca with large, nearly spherical nodulus, and slender, distinctly curved cornu (Fig. 6j).

Diagnosis. The largest species in the genus and distinguishable from most others purely by size and the broadly laterally rounded elytra. Also, elytra with three transverse bands (Fig. 6c) do not occur in any other species of *Monoleptoides*, with the exception of a few specimens of *M. sulcata*, which has a red pronotum with black discal spots (Fig. 9b); or similar to elytral spots of few *M. advena* (Fig. 4b, d) where the black colour does not extend onto the lateral parts of the humeri, and which occurs allopatrically. Specimens with a brownish-red elytral base and tip (Fig. 6a) are only found in this species, and very rarely in the much smaller *M. thomsoni*. Only in some en-

tirely yellow specimens is dissection of the genitalia necessary, where M. mertensi show distinct patterns in both sexes (Fig. 6g–j).

Distribution. Restricted to Guineo-Congolian forests in Central Africa, and most abundant in the Congo basin (Fig. 15).

Type material

Holotype: ♀, "Type / Congo-belge: Kwango Ngowa XIII–1937 R. P. J. Mertens / R. Mus. Hist. Nat. Belg. I.G. 11.648 / cf. Bull. Mus. Hist. Nat. Belg. XVI, n° 25, 1940 p. 11-22 / V. Laboissière rev., 1940: Candezea Mertensi m. Type / Holotypus" (IRSN ; Fig. 20l). Holotype by original designation. Type locality: Congo (Zaire), Kwango, 5.70S/16.58E.
Paratypes: 22 ex., same locality as holotype (IRSN).

Further material examined

Cameroon. 1 ex., Mt. Balmayo, 3.13N/11.30E, leg. Barga, coll. Breuning (MRAC); 1 ex., Batouri District, 3.75N/13.75E, V.–VI.1935, F. G. Merfield (BMNH); 1 ex., Nkongsamba, Mt. N´Lonako, 4.59N/9.53E, 1800 m, 5.00N/9.88E, 1939, P. Lepisme, R. Paulian, A. Villiers (MNHN); 2 ex., Bitye fa river, 3000 f., 3.02N/12.37E, 1952, ex. coll. Oberthur (MNHN); 5 ex., Nkongsamba, 5.00N/9.52E, I.–VI.1957, J. Cataloube (MNHN); 1 ex., Nkolbisson, Dept. Nyong et Sanaga, 3.42N/11.00E, X.1963, L. G. Saegers (MRAC); 1 ex., Meyo, XII.1968, B. de Miré (MNHN); 1 ex., Essazok, Test Kakao, 3.68N/11.53E, XI.1969, B. de Miré (MNHN). – **Central Africa.** 1 ex., I.1957, Rafaii Hr. Oubanghi, Le Moult vend. via Reinbek (ZMUH). – **Congo (Republic).** 1 ex., Brazzaville, Mission Chari-Tchad, 4.27S/15.28E, 1904, D. J. Decorse (MNHN); 2 Ex., Env. de Brazzaville, 4.27S/15.28E, 1907, E. Roubaud & A. Weiss (MNHN); 1 ex., Odzala Nat.-Park, 0.38N/14.83E, I.–III.1997, S. Murzin & V. Siniaev (CLM). – **Congo (Zaire).** 1 ex., Kongo (DEIS); 1 ex. Kongo (IRSN); 1 ex., Congo, Dannfelt (NHRS); 1 ex., Kassongo à Stanleyfalls, 0.50N/25.20E, Rom. (IRSN); 1 ex., Uélé, Kasai, 2.58N/24.15E, L. Achten (MRAC); 1 ex., Kibali-Ituri, Ukaika, 0.45N/28.45E, XII.1910, Grauer (NHMW); 1 ex., Tshuapa, Itoka, 0.17S/23.08E, X.1912, R. Mayné (MRAC); 1 ex., Ubangi, Yambata, 2.43N/21.57E, XII.1912, R. Mayné (MRAC); 1 ex., Lac Leopold II, Tolo, 2.55S/18.58E, XII.1913, Dr. J. Maes (MRAC); 1 ex., Tshuapa, Ikenge 0.10S/18.44E, IV.1914, R. Mayné (MRAC); 3 ex., Lac Leopold II, Bumbuli, 3.40S/20.52E, IV.1915, R. Mayné (MRAC); 1 ex., entre Moyen Congo, Léopoldville et Stanleyville, 2.40S/20.25E, 1918, L. Burgeon (MNHN); 1 ex., Kivu, Kashewe, 1.56S/28.50E, 1920, coll. C. Babault (MNHN); 2 ex., Uélé, Moto, 2.45N/26.42E, 1920, L. Burgeon (MRAC); 1 ex., Haut-Uelé, Watsa à Niangara, 3.05N/29.53E, VII.1920, L. Burgeon (MRAC); 2 ex., Stanleyville, 0.50N/25.20E, VII.1920 (IRSN); 1 ex., Tshuapa, Bikoro, 0.45N/18.12E, III.1921, Dr. H. Schouteden (MRAC); 1 ex., Kasai, Bashishombe, 4.38S/21.05E, VIII.1921, J. Ghesquière (MRAC); 1 ex., Kwango (Kasai), Ipamu, 4.12S/19.41E, 1922, P. Vanderijst (MRAC); 1 ex., Mayumbe, Seke-Banza; 5.33S/13.27E, II.1924, A. Collart (MRAC); 1 ex., Kwango, Kimbou, 4.15S/17.08E, 1925, P. Vanderijst (MRAC); 7 ex., Kasai, Sankuru, 4.28S/20.42E, II.1925, J. Ghesquière (MRAC); 1 ex., Sankuru, Lomela, 2.30S/23.28E, IV.1925, J. Ghesquière (MRAC); 1 ex., Sankuru Fôret de Lankala, Sankuru (Riv.), 4.28S/20.42E, IV.1925, J. Ghesquière (MRAC); 1 ex., Stanleyville, Barumbu, 1.23N/23.52E, VII.1925, J. Ghesquière (MRAC); 1 ex., Stanleyville, 0.50N/25.20E, X.1925, J. Ghesquière (MRAC); 3 ex., Equateur, Tshuapa, Bokote, 0.08S/20.13E, 1926, R. P. Hulstaert (MRAC); 1 ex., Uélé, Tibo, 3.28N/27.58E, IV.1926, A. Collart (IRSN); 1 ex., Stanleyville, 0.50N/25.20E, V.1926, Dr. H. Schouteden (MRAC); 6 ex., Equateur (Tshuapa), Flandria, 0.33S/19.10E, IV.1928, R. P. Hulstaert (MRAC); 12 ex., Stanleyville, 0.50N/25.20E, VIII.1928, VI.1929, XI., XII.1929, A. Collart (IRSN); 9 ex., Ituri, Lubutu, 0.42S/26.58E, IX., X.1929, A. Collart (8 ex. IRSN, 1 ex. MRAC); 1 ex., Masisi de Manlimba á Uluku, IX.1929, A. Collart (IRSN); 6 ex., Sankuru, Komi, 3.48S/23.15E, I.–IV.1930, J. Ghesquière (MRAC); 1 ex., Bas Congo, Mangembo, 4.40S/14.27E, 1932, Dr. Zwolakowski (MRAC); 1 ex., Ubangi, Solweo, 0.50S/17.45E, II.1932, Brédo (MRAC); 1 ex., Lulua, Kapanga, 8.35S/22.58E, X.1932, F. G. Overlaet (MRAC); 3 ex., Tshuapa, Eala, 0.07N/18.28E, VII.–VIII.1933, A. Corbisier (MRAC); 1 ex., Uélé, Bambesa, 3.47N/25.42E, X.1933, J. V. Leroy (MRAC); 1 ex., Uélé, Dingila, 3.38N/26.07E, XI.1933, J. V. Leroy (MRAC); 79 ex., Tshuapa, Eala, 0.07N/18.28E, 1935, I.–XI.1936, J. Ghesquière (MRAC); 1 ex., Tshuapa, Eala, 0.07N/18.28E, IV.1936, P. Henrard (MRAC); 1 ex., Maniema, Kima, 6.03S/24.48E, 1937, E. Milliau (MRAC); 1 ex., Prov. Tshuapa, Lukolela, 1.05S/17.20E, 1937, R. Massart (IRSN); 5 ex., Uélé, Bambesa, 3.47N/25.41E, III/V/IX.1937, J. Vrydagh (1 ex. IRSN, 4 ex. MRAC); 1 ex., Rutshuru, 1.18S/29.45E, IV.1937, J. Ghesquière (MRAC); 1 ex., Ubangi, Gemena, 3.25N/19.46E, I.1938, G. Léontovich (MRAC); 1 ex., Kwango, Ngowa; 5.39S/16.28E, II.1938, R. P. J. Mertens (IRSN); 1 ex., Uélé, Bambesa, 3.28N/25.41E, V.1938, P. Henrard (MRAC); 2 ex., Kwango, Ngowa; 5.42S/16.34E, XII.1938, VI.1939, R. P. J. Mertens (IRSN); 2 ex., Bas Congo, Mayidi, 5.18S/15.15E, 1945, Rév. P. van Eyen (MRAC); 4 ex., Kivu, Kitwambalezi, 2.52S/28.58E, 1946, L. Herrinck (MRAC); 2 ex., Stanleyville, Basoko, 1.23N/23.40E, V.1949, P. L. G. Benoit (MRAC); 20 ex., Stanleyville, Yangambi, 0.43N/24.22E, X.1951, III.1952, II, III, VIII.1953, V.1954, X, XI.1959, J. Decelle (MRAC);

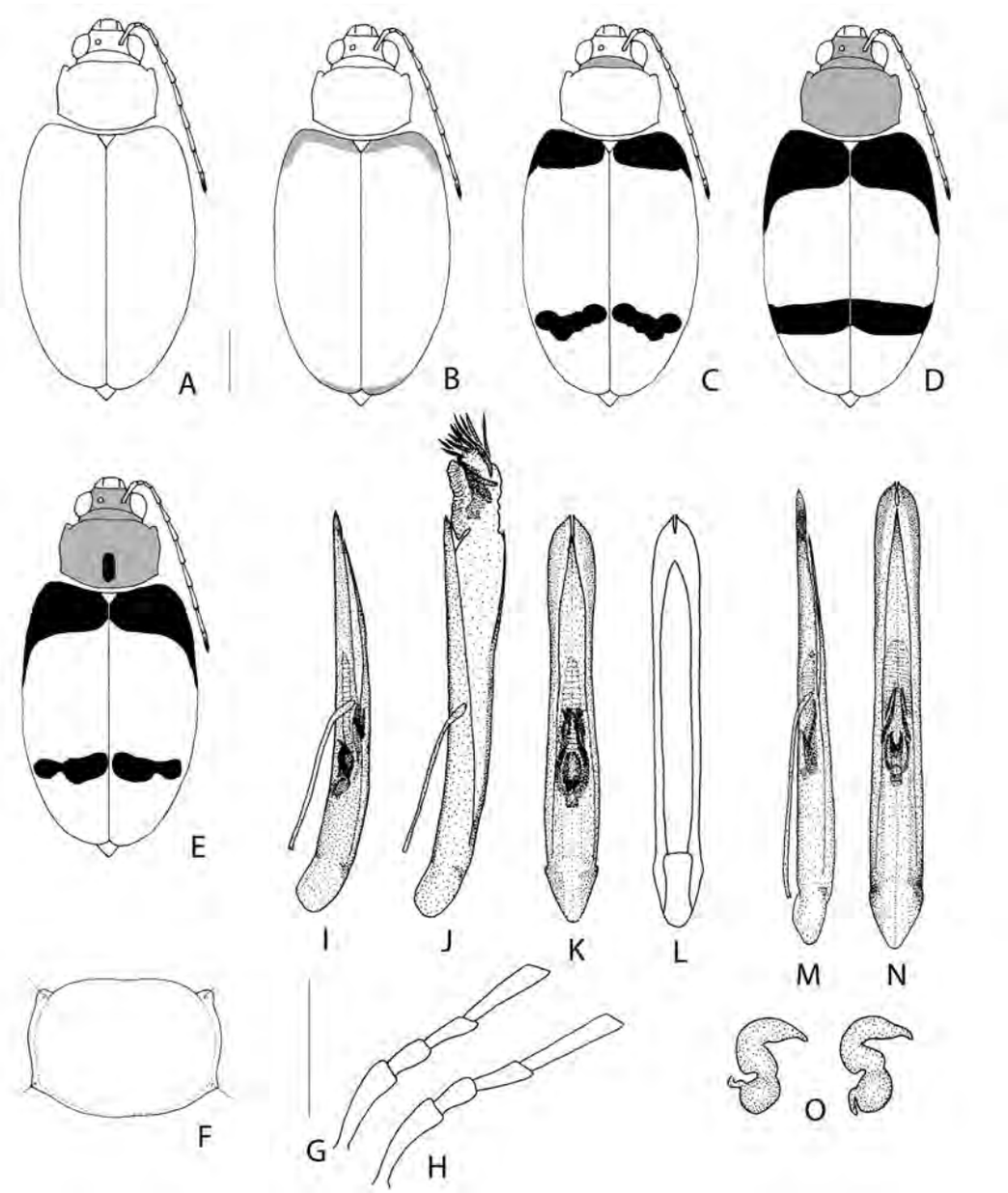

Fig. 7. Morphology of *Monoleptoides thomsoni* (Allard, 1888). **a–e.** Habitus showing typical colour variation. **f.** Pronotum, detail. **g, h.** Basal antennomeres one to four of male (g) and female (h). **i–l.** Median lobe of a typical specimen, lateral (i), lateral with everted endophallus (j), dorsal (k), and ventral, without endophallic structures (l). **m, n.** Median lobe of a large specimen, lateral (m), dorsal (n). **o.** Spermathecae of two different females. Scale bars: 1 mm.

3 ex., Stanleyville, Yangambi, 1952, C. Donis/ R. Mayné (MRAC); 1 ex., Stanleyville, Ongoka, 1.38S/26.03E, IV/IX.1952, J. Patos (MRAC); 7 ex., Equateur (Tshuapa), Bokuma, 0.10S/18.42E, XII.1951, VII.1952, Rév. P. Lootsen (MRAC); 1 ex., Maniema, Kisamba, 4.10S/26.50E, IX.1954, Dr. J. Claessens (MRAC); 1 ex., Tshuapa, Ikela, 1.18S/23.27E, 1955, R. Deguide (MRAC); 9 ex., Tshuapa, Ikela, 1955, XI.1956, Rév. P. Loosen (MRAC); 1 ex., P. N. A., Massif Ruwenzori, Tête de source, riv. Indray, affl. Semliki, 1840 m, 0.49N/30.07E, XI.1956, P. Vanschuytbroeck (IRSN); 1 ex., P. N. A., secteur nord, Tungula, affl. dr. Semliki, 0.48N/30.04E, I.1957, P. Vanschuytbroeck (IRSN); 1 ex., P. N. A., secteur nord, Kilia, village chef Kaparata, 1000 m, 0.47N/25.17E, I.1957, P. Vanschuytbroeck (IRSN); 1 ex., Stanleyville, Yangambi, 0.47N/24.47E, XII.1958, P. Dessert (MRAC); 3 ex., Yan-

gambi, XI.1959, P. Dessart (IRSN); 2 ex., Maniema, Kasongo, Riv. Lomami, 4.45S/26.41E, II/III.1960, P. L. G. Benoit (MRAC); 1 ex., Kivu, Fôret de Kasuo, 0.23S/29.02E, XII.1966, R. P. Celis (MRAC); 3 ex., Zaire, Tshuapa, Etata, 0.23S/20.44E, VII.–X.1969, V.1970, J. Hauwaerts (MRAC); 1 ex., Mayumbe, Kilengi, 5.22S/13.38E, V.1970, P. M. Elsen (MRAC); 2 ex., Kisangani, 0.50N/25.20E, VII.1971, J Traveniers (MRAC); 10 ex., Djoumouna (stream), galerie fôrestière, 4.38S/15.16E, I.1973, Cornic (MNHN); 3 ex., Makoua, 0.01N/15.38E, II.1973, C. Morin (MNHN); 1 ex., Bandeko, 1.54N/17.35E, XI.973, C. Morin (MNHN); 1 ex., Djoumouna (stream), 4.38S/15.16E, III.1975, C. Morin (MNHN); 1 ex., Mossenbjo, III.1976, G. Onore (MNHN); 1 ex., Tshuapa, Eala, 0.07N/18.28E, VII.1980, R. Kiss (IRSN); 2 ex., 1993, Thollon (MNHN). – **Equatorial Guinea.** 1 ex., Fernando Poo, Basile, 3.45N/8.51E, IX.1901, L. Fea (MCGD); 1 ex., Is Fernando Poo, Musola, 3.33N/8.37E, I.1902, L. Fea (MCGD); 1 ex., Nkolentangan, 1.31N/9.51E, VI.1907–V.1908, G. Tessmann (MNHU).

***Monoleptoides thomsoni* (Allard, 1888)**, comb. nov.
Monolepta thomsoni Allard, 1888: 286.

Total length. 4.40–6.00 mm (mean: 5.19 mm; n = 35).

Head. Pale yellow to yellow (Fig. 7a, b), or reddish-yellow (Fig. 7d, e), frons usually paler than vertex (Fig. 7c), labrum, palpi and antenna pale yellow to yellow, usually only terminal antennomere with black tip (Fig. 7a–e). Antenna comparatively short, antennomeres slender; length of second to third antennomere 0.64–0.88 (mean: 0.75), particularly in males with short third antennomeres (Fig. 7g, h), length of third to fourth antennomere 0.56–0.72 (mean: 0.63).

Thorax. Pronotum yellow to reddish-yellow (Fig. 7a–d), only four specimens known with a small, medial, black pronotal spot near the basal margin in posterior third (Fig. 7e), distinctly convex dorsally (Fig. 7f). Pronotum slender, median length to maximum width 0.66–0.74 (mean: 0.70). Elytra completely yellow in about 10 % of material examined (Fig. 7a), few specimens (as the type) with reddish-brown elytral base and apical tip (Fig. 7b), but more than 80 % with black transverse elytra bands (Fig. 7c–e). All four specimens from Zimbabwe with narrow black elytral outer margins and suture. Elytra slender, length of elytron 3.45–4.20 mm (mean 3.91 mm), maximum elytral width 2.40–3.00 mm (mean: 2.70 mm). Width of both elytra to length of elytron 0.64–0.74 (mean: 0.68). Scutellum yellow. Legs pale yellow to yellow.

Abdomen. Pale yellow to yellowish-red.

Male genitalia. Median lobe narrow, parallel-sided, very long and compressed, widening slightly apically (Fig. 7k), but sometimes indistinct (Fig. 7n), apex pointed with deep median incision. Endophallic spiculae slender, short (Fig. 7i–n).

Female genitalia. Spermatheca with small nodulus, and very broad cornu with short tip (Fig. 7o).

Diagnosis. The external characters and distribution of *M. duplicata* are very similar to this species. *Monoleptoides thomsoni* is, however, more frequent in West Africa, while it is very rare east of the Central African Rift Valley. Both species cannot be definitively distinguished without doubt by external characters, despite *M. thomsoni* having on average a more slender pronotum and elytra (pronotal length to width: 0.66–0.74; *M. duplicata*: 0.63–0.68; width of both elytra to length of elytron: 0.64–0.74; *M. duplicata*: 0.68–0.77).

Only the shape of the median lobe allows a clear differentiation of these two species (Figs 2i–n, 7i–n). Two other species show similarity, namely *M. trivialis* and *M. centromaculata*, but they mainly occur allopatrically and can be differentiated by the shape of the pronotum and/or male genital pattern (Figs 3d, g–i, 8d, g–i).

Distribution and geographical variation. Most specimens are known from humid savannah and tropical forest zones from Sierra Leone to Cameroon in West Africa, and to a lesser extent, from the Congo basin. A few specimens with peculiar colouration (narrow black outer elytral margins and suture) have been collected in Zambia and Zimbabwe along the south-eastern border of the distribution range. This species seems to be restricted to the Guineo-Congolian forest area and does not occur further eastwards than the easternmost distribution of this vegetation type in western Kenya (Kakamega Forest).

There is little geographical colour variation. All the specimens from Sierra Leone have a red or reddish head and pronotum (Fig. 7d), while black markings in the dorsal colouration constantly decrease in size moving in the direction of the Congo basin. Here specimens with a yellow pronotum and small elytral bands (Fig. 7c) are more abundant. There are only six (of seven) specimens collected from savannahs in the Garamba National Park which are entirely yellow, whilst the sympatric *M. duplicata* all have black bands. This might be an effect of character displacement. Specimens with the same colouration as the type specimen (Figs 7b, 20g) occur mainly in Nigeria (Fig. 16).

Type material examined

Holotype, 1 ♀, "Thomsoni typus / Monolepta thomsonii Muss. Calabar / Monolepta thomsoni (Mur) All. V. Calabar / Ex Musaeo 1899 Coll. R. Oberthür Coll. G. Allard / Muséum Paris 1952 / Holotypus / Mus. Calabar; Mus. E. Allard 1899" (MNHN). Allard gave no data on the material he studied in his short description, but since there is only one specimen in his collection in MNHN indicating a type status, this can be treated as holotype by inference. Type locality: Nigeria, Old Calabar, 4.56N/8.22E.

Further material examined

Benin. 2 ♂, Dahomey, Zaguanado, 6.23N/2.14E, coll. Clavareau (MRAC); 4 ♀, 4 ♂, Benin, Agoué, 6.13N/1.40E, 1879, Abbé Ménager (MNHN); 1 ♀, Dahomey, 1903, E. Poisson (MNHN). – **Cameroon.** 3 ♀, Joko, 5.29N/12.19E (1 ex. BMNH, 2 ex. MRAC); 1 ♀, Duala, 4.10N/9.37E, v. Rothkirch, coll. Clavareau (MRAC); 1 ♂, Kamerun, Tibati, 6.28N/12.38E, II., L. Colin (MNHU); 1 ♂, N'Kongsamba, 4.59N/9.53E, J. Cantaloube (MNHN); 1 ♀, 1 ♂, Bassam, 2.05N/13.20E, 1897, Le Moult vend, via Reinbek (ZMUH); 1 ♀, Duala, IX.1912, v. Rothkirch (MNHU); 1 ♂, Batouri distr., 3.45N/13.45 E, 750 m, VI.1925, F. G. Meerfield coll. (BMNH); 1 ♂, Doula, 1939, P. Lepesme, R. Paulian & A. Villiers (MNHN). – **Central African Republic.** 1 ♀, Bosum, 6.19N/16.38E, VI.1914, Tessmann (MNHU). – **Congo (Zaire).** 1 ♀, Congo, Dannfelt (NHRS); 1 ♀, 150–200 miles W. of Kambove, 1200–1500 m, IX.1904, Neave coll. (BMNH); 1 ♂, Beni Urwald, 0.30N/29.28E, II.1898, Exp. Herzog Adolf zu Mecklenburg, ex coll. J. Weise (MNHU); 1 ♂, Mobwasa, 2.39N/23.03E, XI.1912, R. Mayné (MRAC); 1 ♀, Kasai, Lulua, 5.54N/22.35E, 1921, L. Achten (MRAC); 1 ♂, Bambuli, 1.48N/30.14E, IV.1915, R. Mayné (MRAC); 1 ♀, Kibenga-Baraka, 4.07S/29.06E, VII.1918, R. Mayné (MRAC); 1 ♂, Basongo, 4.20S/20.24E, VII.1921, H. Schouteden (MRAC); 1 ♀, Leopoldville, 4.18S/15.18E, XII.1925, R. P. Hulstaert (MRAC); 1 ♀, Boyanga, 2.16N/21.45E, XI.1927, A. Collart (IRSN); 2 ♀, alto Uelle, Yakuluku, 4.20N/28.48E, IV.1927, F. S. Patrizi (MCGD); 1 ♀, Leverville, 4.50S/18.44E, 1928, J. Tinant (MRAC); 1 ♀, 1 ♂, Kutu, Distr. Bangala, 1.36N/10.09E, VI.1936, G. Settembrino (IRSN); 1 ♂, Ubangi, Budjala, 2.39N/19.42E, II.1937, Leontovitch (MRAC); 1 ♀, 1 ♂, Bambesa, 3.28N/25.43E, 1938, J. Vrydagh (IRSN, MRAC); 2 ♀, Yangambi, 0.47N/24.28E, km 5, II.1939, M. Brouwers, coll. Basilewsky (MRAC); 1 ♀, Kibali-Ituri, Kingwa, II.1940, A. Lepersonne (MRAC); 1 ♀, Bas Congo, Mayidi, 5.18S/15.15E, 1945, Rév. P. van Eyen (MRAC); 1 ♀, Terr. de Dibaya, Kamponde, 6.45S/22.56E, 1945, Fr. Allaer (MRAC); 1 ♀, Libenge, 3.39N/18.38E, IX.1947, R. Cremer & M. Neumann (IRSN); 1 ♀, P. N. Upemba, Kabwe nr. Muye, 8.47S/26.52E, 1320 m, V.1948, Miss. G. F. de Witte (IRSN); 4 ♀, 3 ♂, P. N. Garamba, several locations, 4.10N/29.30E, V., IX.1950, VI., VII.1952, Miss. H. de Saeger (IRSN), 2 ♂, Equateur, Bokuma, 0.06S/18.42E, VII.1952, R. P. Lootens (MRAC); 3 ♀, 3 ♂, Congo Belge, Kibali-Ituri, Nioka, 2.10N/30.39E, VIII.1952, J. Hecq (MRAC); 1 ♀, Mayumbe, 4.30S/12.30E, IX.1952, R. Mayné (MRAC); 3 ♀, 2 ♂, P. N.G., Anie, Pidigala, 4.27N/29.28E, V., XI.1950, IV., VII.1952, Miss. H. de Saeger (MRAC); 3 ♀, P. N. A., Ruwenzori, Kiurama, 2100 m, X.1953, P. Vanschuytbroeck & V. Hendrickx (IRSN); 1 ♀, Uele, Baye, terr. Bondo, 4.19N/23.40E, VIII.1956, R. F. L. Rooyakkers (MRAC); 1 ♂, Yangambi (Stanleyville), 0.47N/24.28E, XII.1958, P. Dessart (MRAC); 1 ♀, 2 ♂, Lovanium (Kinshasa), 4.16S/15.19E, XII.1962, P. M. Elsen (MRAC). – **Gambia.** 1 ♀, 1 ♂, Bolama, 11.33N/15.37W, VI.–XII.1899, L. Fea (MCGD, ZMUH). – **Ghana.** 2 ♀, 2 ♂, Gold Coast, 67.56 (BMNH); 2 ♀, 2 ♂, Takoradi, 4.55N/1.45W, Besnard, ex coll. Breuning (MRAC); 1 ♂, Mamso, Anenfi, 5.45N/1.22W, IV.–VI.19681, ex coll. Breuning (MRAC); 1 ♀, Boyasi, ca. 10 m SE of Kumasi, 6.42N/1.34W, 1000 ft., VII.1970, I. K. D. Acheampong (BMNH). – **Guinea.** 1 ♀, Asente Akem, 7.53N/9.26W, Junod, coll. Clavareaux (MRAC); 1 ♀, 1 ♂, Dalaba, 10.47N/12.12W, 1200 m, VIII.1945, H. Durand (MNHN); 1 ♀, 1 ♂, Kindia, 10.04N/12.51W, 1964/65, J. Dedycker (MRAC); 1 ex., Pastoria, IX.1983, C. B. Myrzin (CLM); 7 ex., Tabuna Valley, 9.31N/12.46W, IX.1983, II.1984, C. B. Myrzin (CLM); 2 ex., Mt. Gandan, 9.11N/10.33E, IX.1984, C. B. Myrzin (CLM); 1 ex., Forecaniah, 9.25N/13.05W, IX.1984, C. B. Myrzin (CLM). – **Ivory Coast.** 1 ♂, Bingerville, 5.20N/3.53W, II.1896, Le Moult vend, via Reinbek (ZMUH); 1 ♂, Abengourou, 7.11N/3.59W, ex. Coll. Breuning (MRAC); 1 ♀, 1 ♂, 1897, Delafosse (MNHN); 2 ♀, 3 ♂, Haute Cote d'Ivorie, Cercle de Mankono, 7.58N/6.02W, V., VI.1910, A. Chevalier (MNHN); 1 ♀, 2 ♂, Haute Sassandra, pays Dyola, entre zonale et Sanrou, 8.02N/7.19W, V.1910, A. Chevalier (MNHN); 3 ♀, 6 ♂, Cote d'Ivorie, G. Melou (MNHN); 2 ♀, 3 ♂, Bingerville, 1914, G. Melou (MNHN); 3 ♀, 1 ♂, Bingerville, VIII.1961, I.1963, I.1964, J. Decelle (MRAC). – **Kenya.** 1 ♂, Kitale, Uasin Gishu, 1.00N/35.02E, 2100 m, Miss. de l'Omo, C. Arambourg et al. (MNHN); 1 ♂, Kakamega Forest, Buyangu, 0.19N/34.47E, VII.2001, A. Patt (ZFMK); 12 ex., Kakamega Forest, 0.17N/34.45E, X.2001, X.2002, I.2003, fogging *Teclea nobilis* and *Heinsenia dirvelloides*, Th. Wagner, W. Freund & C. Schmidt (ZFMK). – **Nigeria.** 2 ♀, 1 ♂, Old Calabar, 4.56N/8.22E, Murray, ex. coll. Chevrolat (BMNH); 2 ♀, 2 ♂, Vieux Calabar, ex coll. E. Allard (MNHN); 2 ♀, 1 ♂, Baly coll. (BMNH); 2 ♀, 3 ♂, Old Calabar, 67-56 (BMHN); 1 ♂, Old Calabar, coll. Fry, 1905 (BMNH); 1 ♀, 1 ♂, Old Calabar (112.45, BMNH); 5 ♀, 4 ♂, S-Nigeria, Lagos distr., 6.00N/4.00E, IX.1949, W. E. S. Merrett (BMNH); 1 ♀, Erinodo, 7.35N/4.53E, W-fall,

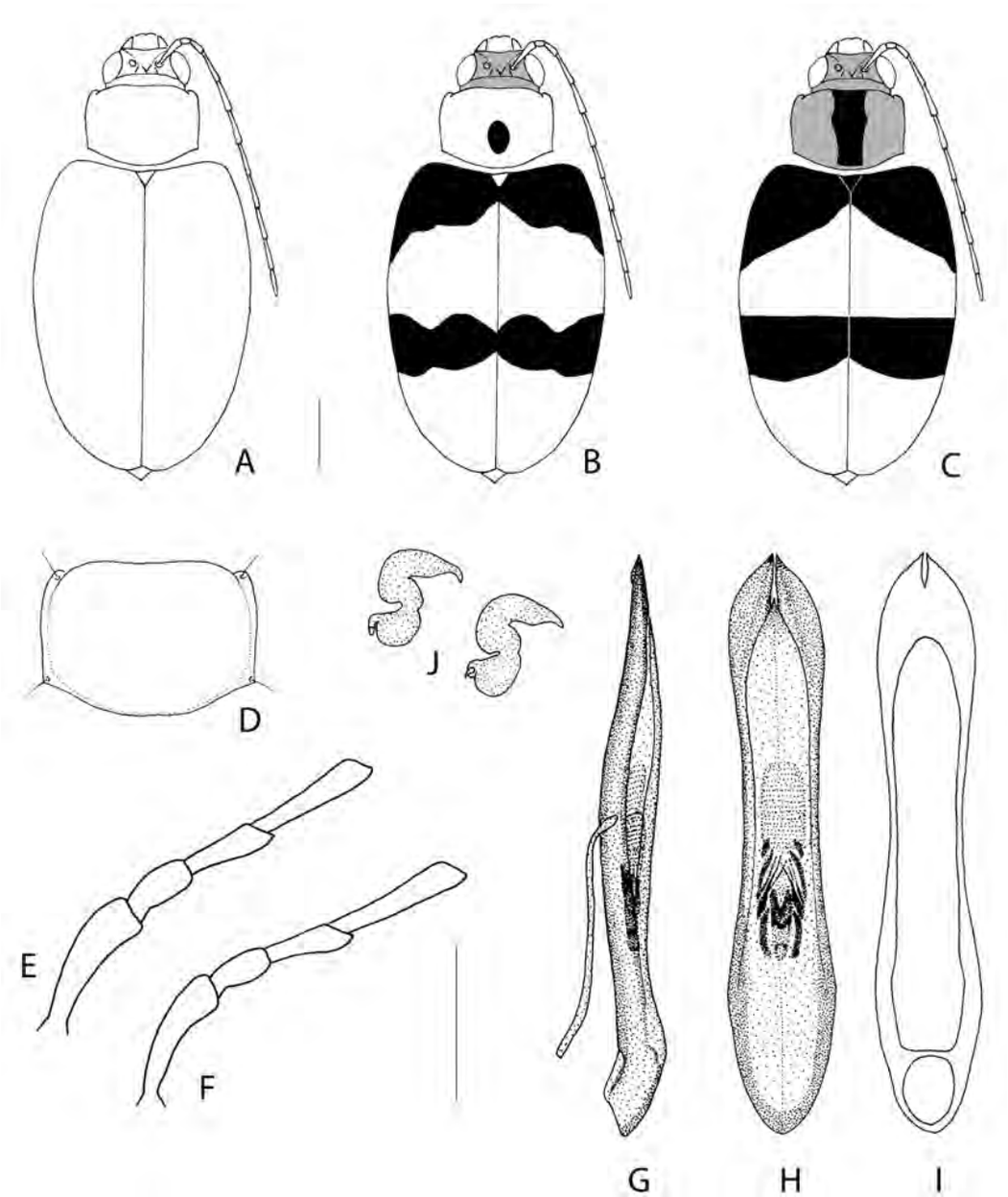

Fig. 8. Morphology of *Monoleptoides centromaculata* (Jacoby, 1900). **a–c.** Habitus showing typical colour variation. **d.** Pronotum, detail. **e, f.** Basal antennomeres one to four of male (e) and female (f). **g–i.** Median lobe, lateral (g), dorsal (h), and ventral, without endophallic structures (i). **j.** Spermathecae of two different females. Scale bars: 1 mm.

III.1972, E. W. Classey (BMNH). – **Sierra Leone.** 1 ♂, Sierra Leone, ex coll. J. Weise (MNHU); 1 ♀, Sierra Leone, 928 (ZMUH); 1 ♂, Sierra Leone (813. BMNH); 1 ♀, 1 ♂, Jacoby coll. (BMNH); 2 ♀, 1 ♂, Baly coll. (BMNH); 1 ♀, 1 ♂, Freetown, 8.13N/13.17W, A. Mocquerys (MNHN); 1 ♂, Rhobomp, 9.05N/12.54W, coll. Fry, 1905 (BMNH); 1 ♀, Rhobomp, coll. Kraatz (DEIS); 1 ♂, Sierra-Leone, Afr. Occ. Angl., Le Moult vend., via Reinbek (ZMUH). – **Togo.** 2 ♀, 2 ♂, Togo, Conradt, coll. Kraatz (3 ex. DEIS, 1 ex. ZMUH); 1 ♂, Bismarckburg, III.–IV.1893, L. Conradt (MNHU); 1 ♂, Bismarckburg, 8.15N/0.55E, V.1904, Glauning (MNHU); 1 ♂ Atakpame, X.1984, K. Erber (ZFMK); 1 ♀, Kloto, Missahoe, 6.59N/0.40E, X.1990, K. Adlbauer (ZFMK). – **Uganda.**

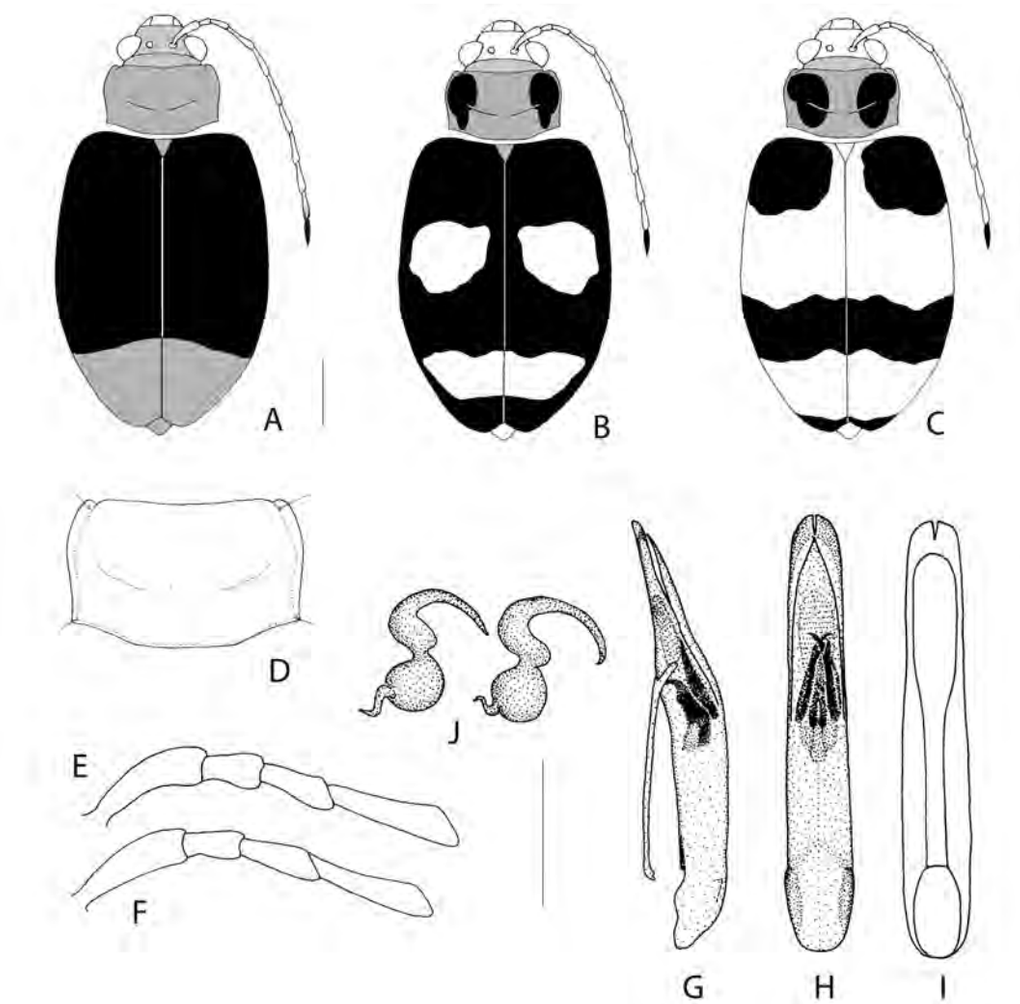

Fig. 9. Morphology of *Monoleptoides sulcata* (Laboissière, 1940). **a–c.** Habitus showing typical colour variation. **d.** Pronotum, detail. **e, f.** Basal antennomeres one to four of male (e) and female (f). **g–i.** Median lobe, lateral (g), dorsal (h), and ventral, without endophallic structures (i). **j.** Spermathecae of two different females. Scale bars: 1 mm.

1 ♀, 1 ♂, Buamba Forest, 0.45N/30.02E, Semliki Valley, XI.1907, S. A. Neave (BMNH); 2 ♂, 2 ♀, Budongo Forest, 1.45N/31.35E, 1200 m, XII.1911, S. A. Neave (BMNH); 1 ♂, Kampala, 0.19N/32.35E, XI.–XII.1920, S. A. Neave (BMNH); 1 ex., Mabira Forest, Chagwe, 0.30N/32.55E, 1300 m, VII.1911, S. A. Neave (BMNH); 6 ex., Budongo Forest, 1.45N/31.35E, I.1997 fogging *Cynometra alexandri* and *Rinorea beniensis*, Th. Wagner (ZFMK); 2 ♀, 1 ♂, Budongo Forest, X.2004, T. Kölkebeck / Th. Wagner (ZFMK). – **Zambia.** 1 ♀, D. Sambesi Gebiet, X.1906, F. Steiner (MNHU). – **Zimbabwe.** 1 ♂, Res. Marangora, 750 m, II.1987, W. Wittmer (NHMB); 1 ♀, 1 ♂, 21 km W Centenary, Miware Raffia Palm Reserve, VIII.1998, M. Rice (TAMU); 1 ♀, Mazowe Dam, 17.31S/30.59E, VII.1998, Coll. Marlin E. Rice (TAMU).

***Monoleptoides centromaculata* (Jacoby, 1900)**, comb. nov.
Candezea centromaculata Jacoby, 1900: 261.

Total length. 4.80–5.90 mm (mean: 5.50 mm; n = 12).

Head. Pale yellow to yellowish-red (Fig. 8a–c), frons usually paler than vertex, palpi and antenna pale yellow, usually only terminal antennomere brownish to black, rarely also two to three sub terminal antennomeres a pale brownish colour. Antenna and all anthomeres very slender, length of second to third antennomere 0.68–0.76 (mean: 0.73), length of third to fourth antennomere 0.54–0.66 (mean: 0.60; Fig. 8e, f).

Thorax. Pronotum pale yellow, yellow or reddish-yellow (Fig. 8a), sometimes yellow basally and a contrasting reddish colour in the anterior part; 30 % of material with medially placed black markings, either in the form of a black dot just below the middle (Fig. 8b), or sometimes extended to form a median, longitudinal band (Fig. 8c). Pronotum broad (Fig. 8d), distinctly convex, median length to maximum width 0.67–0.71 (mean: 0.69), lateral pronotal margins broad. Pronotum with a distinct, but shallow transverse depression. Elytra pale yellow in two thirds of the material studied (Fig. 8a), others with a transverse black band at the base and another in the apical half of elytra (Fig. 8b, c). Black basal colouration includes the epipleura, and rarely also the scutellum (Fig. 8c), which is usually yellow (Fig. 8a, b). Elytra broad, lateral margins distinctly convexly rounded, length of elytron 3.80–4.55 mm (mean: 4.21), maximum width of both elytra 2.70–3.30 mm (3.02 mm), width of both elytra to length of elytron 0.68–0.77 (mean: 0.72). Legs usually pale yellow, only two specimens with contrasting dark brown tibae and tarsi on all legs.

Abdomen. Sternites and pygidium pale yellow to reddish-yellow.

Male genitalia. Median lobe broad, widening distinctly sub apically, pointed at the apex and deeply incised (Fig. 8h, i); shallowly sigmoidal in lateral view (Fig. 8g); endophallus usually with groups of comparatively short spiculae.

Female genitalia. Spermatheca with small nodulus and broad cornu (Fig. 8j).

Diagnosis. A large species, with elytra that are broadly and convexly rounded laterally, and only found in southern Africa. Species that are most similar to *M. centromaculata* are *M. duplicata* and *M. thomsoni*. Both species occur sympatrically with *M. centromaculata* in the southern DRC, Zambia and Zimbabwe, but neither has been recorded from the Republic of South Africa, where the latter species is widely distributed. The pronotal spot from which the species name is derived (Fig. 8b, c) is found in

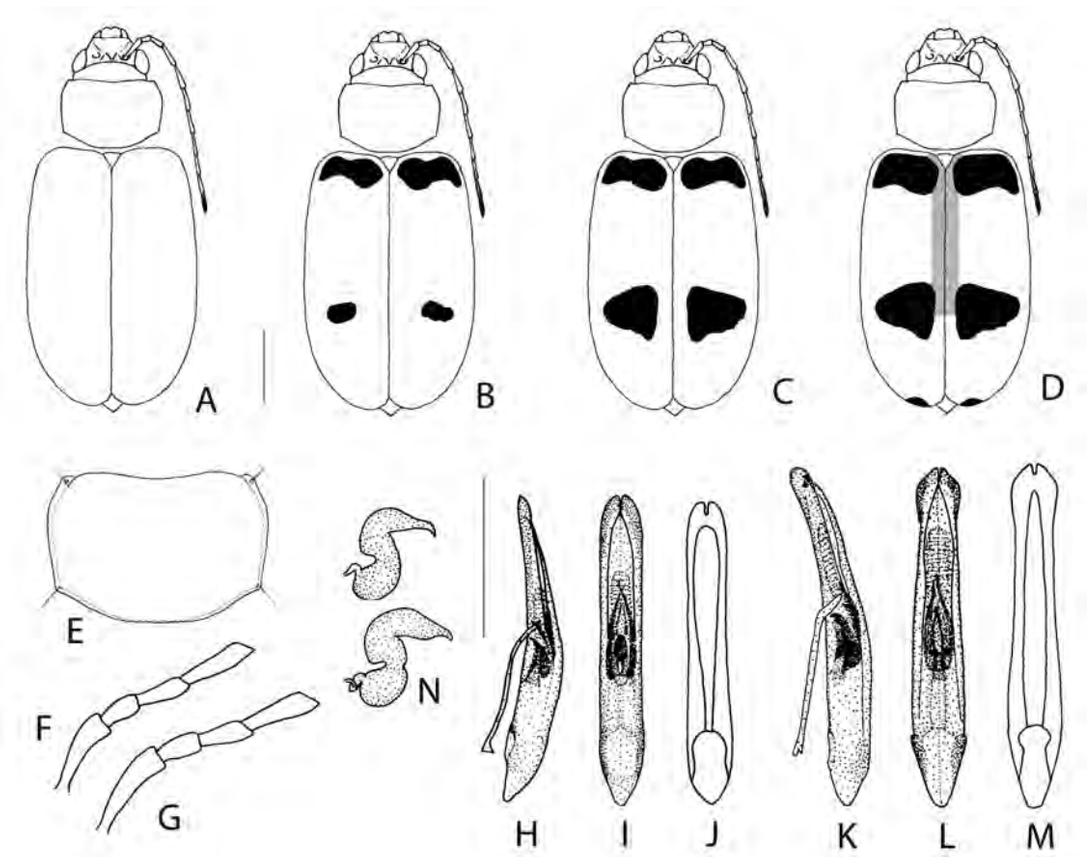

Fig. 10. Morphology of *Monoleptoides didyma* (Gerstaecker, 1871). **a–d.** Habitus showing typical colour variation. **e.** Pronotum, detail. **f, g.** Basal antennomeres one to four of male (f) and female (g). **h–j.** Median lobe of a typical specimen, lateral (h), dorsal (i), ventral, without endophallic structures (j). **k–m.** Median lobe of a large specimen, lateral (k), dorsal (l), and ventral, without endophallic structures (m). **n.** Spermathecae of two different females. Scale bars: 1 mm.

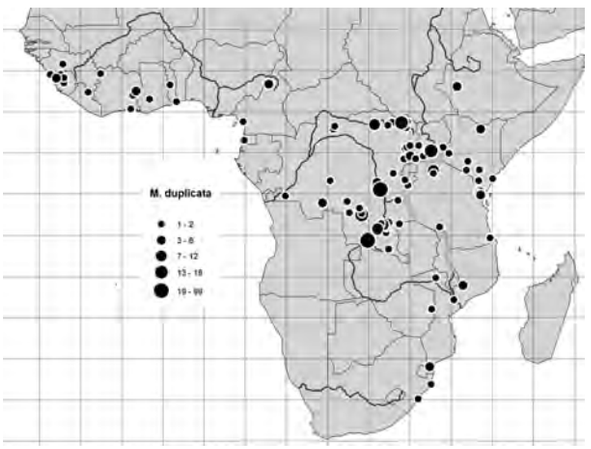

Fig. 11. Known distribution of *Monoleptoides duplicata* (Sahlberg, 1823).

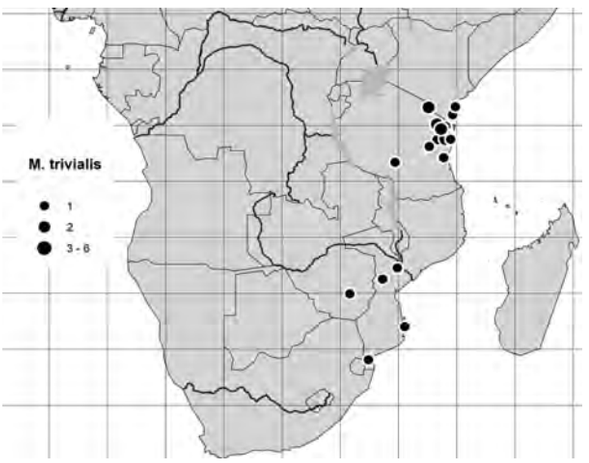

Fig. 12. Known distribution of *Monoleptoides trivialis* (Gerstaecker, 1855).

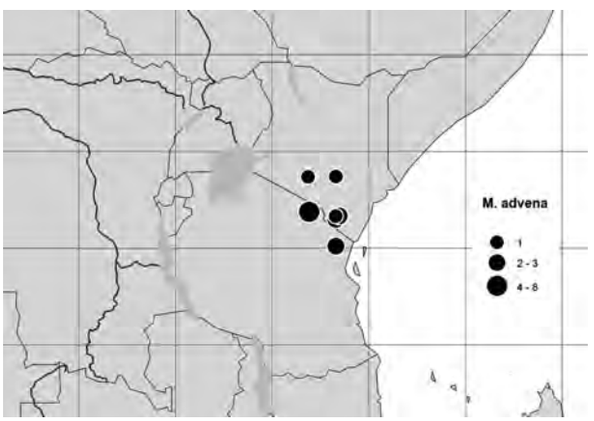

Fig. 13. Known distribution of *Monoleptoides advena* (Weise, 1909).

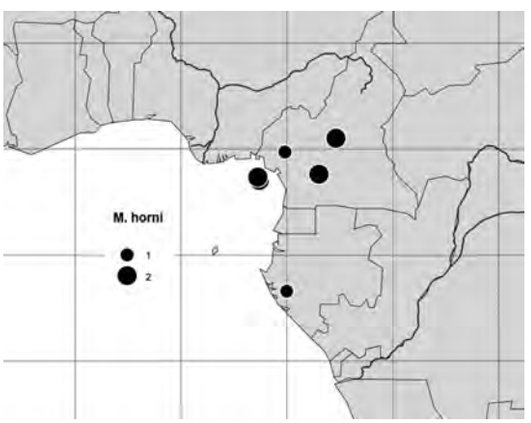

Fig. 14. Known distribution of *Monoleptoides horni* (Laboissière, 1931).

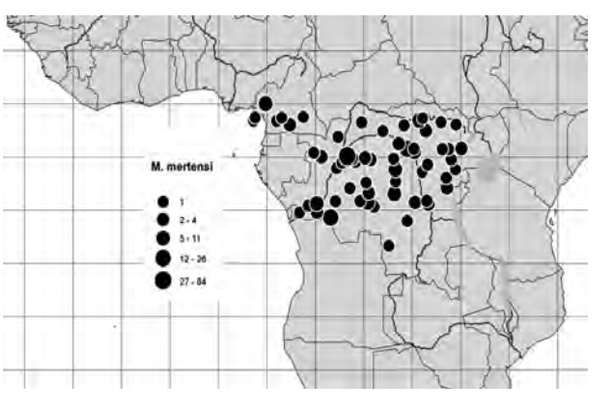

Fig. 15. Known distribution of *Monoleptoides mertensi* (Laboissière, 1940).

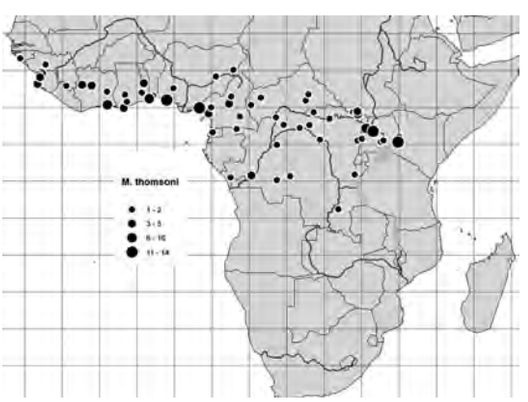

Fig. 16. Known distribution of *Monoleptoides thomsoni* (Allard, 1888).

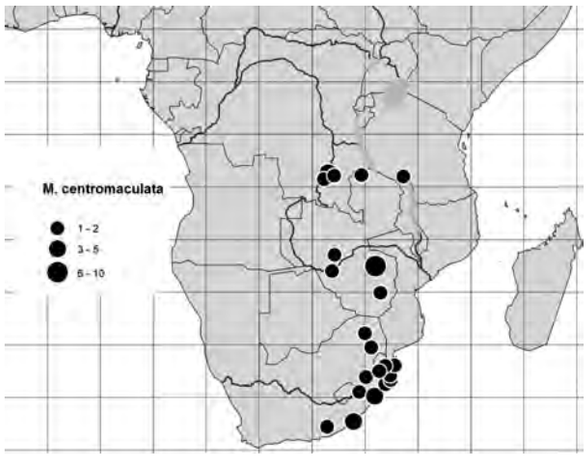

Fig. 17. Known distribution of *Monoleptoides centromaculata* (Jacoby, 1900).

Fig. 18. Known distribution of *Monoleptoides sulcata* (Laboissière, 1940).

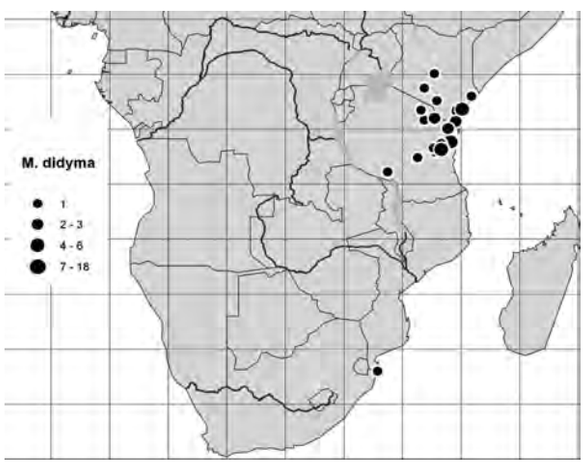

Fig. 19. Known distribution of *Monoleptoides didyma* (Gerstaecker, 1871).

most species in southern Africa, but this pattern is also rarely recorded in *M. duplicata* (Fig. 1d, e) and *M. thomsoni* (Fig. 7e). The elytra are on average broad (width of both elytra to length of elytron: 0.68–0.77; *M. duplicata* same range, but *M. thomsoni* on average narrower: 0.64–0.74). The latter species also has a narrower pronotum (pronotal length to maximum width: 0.66–0.74; *M. centromaculata*: 0.67–0.71). Antennae very slender in *M. centromaculata*. However, only the characteristic broad flat median lobe (Fig. 8g–i), most similar to the much smaller *M. trivialis* (Fig. 3g–i), allows clear differentiation from *M. duplicata* (Fig. 2i–n) and *M. thomsoni* (Fig. 7i–n), particularly in entirely yellow specimens.

Distribution. Restricted to southern Africa from Katanga, Zambia and southern Tanzania towards the Eastern Cape Province (Fig. 17). Occurring from sea level up to montane areas in south-eastern South Africa.

Type material

Lectotype: ♂ "Malvern, Natal / Candezea centromaculata type Jac. / Jacoby Coll. 1909-28a / 107 / Type / Lectotypus Th. Wagner desig. 2005 Candezea centromaculata J." (BMNH; Fig. 20j). Type locality: South Africa, KwaZulu-Natal, Malvern, 29.53S/30.55E. – Paralectotypes: 1 ♀ "Malvern N 2 / 99 67a / Jacoby 1909-28a" (BMNH); 1 ♂ "Malvern Natal 14-10-02 / S. Africa Natal Malvern 14.X.1902 G. A. K. Marshall / Jacoby Coll. 1909-28a" (BMNH). Jacoby gave no number on the specimens his description based on. There are three specimens from the type locality "Natal, Malvern" available in his collection, and a lectotype is herein designated to fix the name on single specimen.

Further material examined

Congo (Zaire). 1 ♀, P. N. Upemba, R. Mubale, 8.44S/26.56E, 1480 m, V.1947, Miss. G. F. de Witte (IRSN); 1 ♀, P. N. Upemba, Kabwe sur Muye, 8.49S/26.49E, 1320 m, V.1948, Miss. G. F. de Witte (IRSN); 1 ♀, 4 ♂, P. N. Upemba, Mabwe, 8.39S/26.31E, 585 m, XI.1948, Miss. G. F. de Witte (IRSN); 2 ♀, P. N. Upemba, Kanonga, 9.15S/26.08E, 675 m, II.1949, Miss. G. F. de Witte (IRSN); 1 ♀, P. N. Upemba, Kabwekanono, 8.55S/27.05E, 1815 m, IV.1949, Miss. G. F. de Witte (IRSN). – **South Africa.** 1 ♂, Natal (MNHN); 2 ♀, Natal, Dr. Martin (ZFMK); 2 ♀, Natal, jan. / nov., Trgdh (NHRS); 1 ♀, 1 ♂, Natal, Malvern II.1896, II.1899 (BMNH); 1 ♀, Umkomaas Mts., 29.29S/29.27E, IX.1897, G. A. K. Marshall (BMNH); 1 ♀, East London, XII.1912, H. Thomsen (MNHU); 1 ♀, Weenen, 28.05S/30.06E, IX.1926, H. P. Thomasset (BMNH); 1 ♂, Colony du Cap, East London, 29.53S/30.55E, 1923, R. Ellenberger (MNHN); 1 ♀, van Staden Pass, 33.45S/25.10E, III.1954,

Fig. 20. Primary types; left: overview; right: detail, scale in mm. **a.** Holotype of *Crioceris duplicata* Sahlberg (1823); **b.** Lectotype of *Monolepta fasciaticollis* Laboissière, 1940a; **c.** Holotype of *Monolepta quinquepunctata* Laboissière, 1940. **d.** Holotype of *Monolepta trivialis* Gerstaecker, 1855. **e.** Holotype of *Candezea umbilicata* Laboissière, 1920. **f.** Holotype of *Monolepta didyma* Gerstaecker, 1871. **g.** Holotype of *Monolepta thomsoni* Allard, 1888. **h.** Lectotype of *Monolepta advena* Weise, 1909. **i.** Holotype of *Monolepta keniensis* Bryant, 1953. **j.** Lectotype of *Candezea centromaculata* Jacoby, 1900. **k.** Lectotype of *Candezea horni* Laboissière, 1931. **l.** Holotype of *Candezea mertensi* Laboissière, 1940. **m.** Holotype of *Candezea sulcata* Laboissière, 1940. **n.** Holotype of *Candezea sexplagiata* Laboissière, 1940.

clearing in native forest, J. Balfour-Browne (BMNH); 1 ♂, Zululand, Empangeni, 28.45S/31.54E, XI.1975, P. E. Reavall (TMSA); 1 ♀, Natal, St. Lucia, 28.22S/32.25E, III.1977, G. L. Prinsloo (SANC); 1 ♀, Yellow Wood Peak, 32.46S/26.25E, XII.1978 (SANC); 3 ♂, Transkei, Dwesa Forest Reserve, 32.17S/28.50E, II.1985, "beaten indigenous forest", S. Endrödy-Younga (TMSA); 1 ♂, Transvaal, Magoebaskloof, 23.54S/30.00E, III.1986, B. Grobbelaar (SANC); 1 ♂, Transvaal, Uitsoek, Groothloof, 25.15S/30.38E, IX.1988, Endrödy-Younga (TMSA); 1 ♀, Transvaal, Farm Kuleni, 27.54S/32.22E, 50 m, II.1990, B. Grobbelaar (SANC); 1 ♀, Natal, Kosi Bay NR, 26.58S/32.48E, 50 m, II.1990, B. Grobbelaar (SANC); 1 ♀, Natal, Banga Neck, 27.00S/31.53E, II.1990, N. Verheijen (SANC); 1 ♀, Kwa Zulu-Natal, Itala GR, 27.30S/31.20E, XII.1995, F. Koch (MNHU). – **Tanzania.** 1 ♀, Langenburg, Ineteyanur, 9.01S/33.39E, VI.1898, Fülleborn (MNHU); 1 ♀, Usegutva?, XII.1913, Coll. Eichelbaum (MNHU). – **Zambia.** 1 ♀, Tapina, Namoyea, 16.26S/27.08E, V.1914, H. C. Dollman (BMNH); 1 ♀, Mweru-Wantipa, 8.50S/29.40E, II.1944, H. J. Brédo (IRSN). – **Zimbabwe.** 1 ♀, Chirinda, 20.05S/31.28E, X.1905, G. A. K. Marshall (BMNH); 1 ♀, Gwaai River, 17.59S/26.52E, II.1921, C. E. Godman (BMNH); 5 ♀, 5 ♂, Mazowe Dam, 17.31S/30.59E, VII.1998, coll. Marlin E. Rice (TAMU).

***Monoleptoides sulcata* (Laboissière, 1940)**, comb. nov.
Candezea sulcata Laboissière, 1940a: 76.
Candezea sexplagiata Laboissière 1940a: 79; syn. nov.

Head. Pale yellow, yellow to brownish-red, vertex usually much darker than the frons (Fig. 9b, c). Palpi and antennae pale yellow, usually only terminal antennomere brown to black (Fig. 9a–c), scape and pedicel rarely pale brown dorsally. Length of second to third antennomere 0.75–0.86 (mean: 0.83), length of third to fourth antennomere 0.52–0.63 (mean: 0.58; Fig. 9e, f).

Thorax. Pronotum reddish-yellow to brownish-red in about 66 % of material examined, with two large dark brown spots, one on either side of the pronotal disc (Fig. 9b), or saddle-like colouration when the spots reach the lateral margins (Fig. 9c). Pronotum very broad, median pronotal length to width 0.56–0.61 (mean: 0.59), with a distinct, medially interrupted, transverse depression (Fig. 9d). Elytra ovate, length of elytron 3.80–4.80 mm (mean 4.34), maximum elytral width 2.80–3.36 mm (mean: 3.06); maximum width of both elytra to length of elytron 0.65–0.78 (mean: 0.72). Elytra in two specimens entirely black; whereas about 50 % of material examined have black elytra which are yellowish to brownish-red apically, sometimes covering up to the terminal quarter of the elytra (Fig. 9a); 20 % of specimens are yellow with broad transverse black bands at base of elytra and beyond the second third, also usually black apically (Fig. 9c); in the remaining specimens black colouration is more robust and the elytra have black outer margins, and often a black suture too (Fig. 9b). Scutellum yellow to red. Legs pale yellow, femora often slightly reddish, distal part of femora and basal part of tibae rarely dark brown or tarsi a pale brownish colour.

Abdomen. Abdominal segments and pygidium yellow to brownish-red.

Male genitalia. Aedeagus comparatively wide and short. Median lobe parallel-sided, robust, bluntly rounded apically (Fig. 9h, i), widening distinctly after the apical third in lateral view, (Fig. 9g). Tectum very short, almost constantly converging towards the apex. Endophallic structures with distinct hooks and one pair of long spiculae in the apical third.

Female genitalia. Spermatheca with large, nearly spherical nodulus, and slender, distinctly curved cornu (Fig. 9j).

Diagnosis. Despite the colouration showing great variability, the species can easily be recognized simply by colour patterns. Black elytra with a reddish apex, as in the type of *M. sulcata* (Fig. 9a), or specimens with lateral pronotal spots, as in the type of *M. sexplagiata* (similar to Fig. 9b); do not occur in any other species of *Monoleptoides*. Specimens with black elytra and a red elytral tip are, at first glance similar to some species of *Monolepta*, and some type specimens of *Monolepta bifossulata* Laboissière, 1940 actually belong to *M. sulcata*. The sympatrically occurring *Monolepta mpangae* Wagner, 2000 and *Monolepta apicaloides* Wagner, 2003b are also similar, but the shorter third antennomere and the pronotum which lacks a distinct transverse depression, allow easy differentiation of these species from *M. sulcata*. In doubtful cases the genital patterns of both sexes allow a clear differentiation between *Monolepta* species and *Monoleptoides sulcata*.

Distribution. Restricted to the Albertine Rift Region in eastern DRC (Kivu), Uganda and up into western Kenya (Fig. 18).

Type material

Candezea sulcata: Holotype, ♂, "Musée du Congo, Forêt Mayumbu (2100) (Nyamuragira), 14-26-VI-35 de Witte, Parc Nat Albert, 15, 38. / Type ♂ C. sulcata / Type ♂ [Laboissière`s label] / R. Dét. B 4589 / Candezea sulcata m. V. Laboissière – Dét." (MRAC; Fig. 20m). Type locality: Democratic Republic of the Congo, Kivu, 1.42S/29.20E. – Paratype. 1 ♀, same data as holotype (IRSN). Laboissière mentioned one male and one female

Table 1. Numbers of material studied sorted after collections (details and legend for abbreviations see chapter methods).

	M. duplicata	*M. trivialis*	*M. didyma*	*M. thomsoni*	*M. advena*	*M. centromaculata*	*M. horni*	*M. mertensi*	*M. sulcata*	Σ
BMNH	34	1	5	44	4		9	1	7	**105**
DIES	1			4		1				**6**
HMNH	1									**1**
IRSN	70	1	1	19		10	3	55	4	**163**
MCGD				2				2		**4**
MIZT				1						**1**
MMMU	6			1						**7**
MNCN							6			**6**
MNHN	18	7	6	45		2	1	33		**112**
MNHU	27	11	12	10	7	4	5	1		**77**
MRAC	238	1		39				201	28	**507**
MZHF			2							**2**
MZSF	1	1	9							**11**
NHMB				1						**1**
NHMW		1						1	1	**3**
NHRS	4	1		1	2	2		1	1	**12**
NMK	32		2		2				2	**38**
NNML	1									**1**
OUMNH	1									**1**
priv. coll.	7	1	7	11				1	6	**33**
SANC	1		1			5				**7**
TAMU	1			3		10				**14**
TMSA	2	1				4				**7**
USMN	1									**1**
ZFMK	3		12	25	1	2				**43**
ZISP	2									**2**
ZMUC	5	1								**6**
ZMUH	5	1	1	8			1	1	2	**19**
Σ	**461**	**28**	**58**	**213**	**17**	**48**	**17**	**297**	**51**	**1190**

specimen in his original description. Since only the male has an additional „Type“ label, it can be treated as holotype by inference.

Candezea sexplagiata: Holotype, ♂ ”Musée du Congo, Kamatembe (2100 m.), 7-23-I-1935 G.F. de Witte, Parc Nat. Albert, 992. / Type C. sexplagiata / Type [Laboissière`s label] / R. Dét. A 4589 / Candezea sexplagiata m. V. Laboissière – Dét. / Holotypus” (MRAC; Fig. 20n). Type locality: Democratic Republic of the Congo, Kivu, 1.32S/29.10E. Holotype by original designation.

Monolepta bifossulata Laboissière, 1940: In a recent revision of this species (Wagner 2003b) a lectotypus was designated. However, six specimens of the original series of syntypes belong as paralectotypes to *Monoleptoides sulcata*: 5 ex., Kivu, Ruwenzori, Kalonge, 2050 m, 0.33N/29.80E, VII.–VIII.1932, L. Burgeon (MRAC); 1 ex., Kivu, Ruwenzori, Valley Butagu, 2000 m, 0.35N/29.72E, XI.1931, Mme L. Lebrun (MRAC).

Further material examined.

Congo (Zaire). 1 ex. Birunga, Nied., Pr. W. Exp. Gyld. „Semicincta Sahlberg“ (NHRS); 1 ex., Mawakota, 2.58N/26.44E, VI.1931, van Someren (NMK); 1 ex., Kivu, Volc. Mikeno, Rweru, Bambous, 2400 m, 1.45S/29.43E, VII.1934, G. F. de Witte (IRSN); 1 ex., Kivu, Sake, 1.57S/29.05E, V.1937, J. Ghesquière (MRAC); 1 ex., Kivu, Costermansville, 2.27S/28.51E, VII.1937, H. J. Bredo (MRAC); 1 ex., Kivu, Nzombe, Amont, 200 m près de Mwana, 3.18S/28.53E, 1952, Froidebise (MRAC); 1 ex., Kivu, Rwankwi, 1.32S/29.32E, VII.1951, J. V. Leroy (MRAC); 2 ex., Kivu, Ibanda, 1952, M. Vandelanotte (MRAC); 1 ex., Kivu, Terr. Mwenga, S. O. Itombwe, Luiko, 1900 m, 3.46S/28.43E, I.1952, L. Leleup (IRSN); 1 ex., P. N. A., Massif Ruwenzori, Kivu, Kalonge, 2210 m, 0.20N/29.51E, VIII.1952, P. Vanschuytbroeck & J. Kekenbosch (MRAC); 1 ex., P. N. A., Massif Ruwenzori, Kikybe près Kalonge, 2180 m, IX.1952, P. Vanschuytbroeck & J. Kekenbosch (MRAC); 1 ex., P. N. A., Massif Ruwenzori, Kalonge, Kiondo ya Kwanza, 2030 m, 0.22N/29.53E, X.1952, P. Vanschuytbroeck & J. Kekenbosch (MRAC); 1 ex., P. N. A., Massif Ruwenzori, Kalonge, Riv. Kamahoro, aff. Butahu, 2010 m, 0.02N/29.13E, II.1953, P. Vanschuytbroeck & J. Kekenbosch (MRAC); 1 ex., P. N. A., Massif Ruwenzori, Kalonge, 2000 m, Ruiss. Katsambu, affl. Butahu, 0.02N/29.13E, I.1953, P. Vanschuytbroeck & J. Kekenbosch (MRAC); 1 ex., P. N. A., Massif Ruwenzori, Mont Ibale près Kyandolire, 1800 m, 0.05N/29.43E, III.1953, P. Vanschuytbroeck & J. Kekenbosch (MRAC); 3 ex., Kibali-Ituri, Nioka, 2.17N/30.40E, VI.1953, J. Hecq (MRAC); 1 ex., P. N. A., Massif Ruwenzori, Kikyb près Kalonge, 2180 m, 0.21N/29.50E, II.1955, P. Jolivet & R. Fonteyne (MRAC); 1 ex., P.N.A., Massif Ruwenzori, Kalonge, Gîte Ruwenzori, 2080 m, II.1955, P. Jolivet & R. Fonteyne (MRAC); 1 ex., Kivu, Butembo, Musai, 0.15N/29.28E, VII.1953, H. J. Brédo (MRAC); 3 ex., Kivu, Butembo, vallée de la musosa, 0.15N/29.28E, V.1967, R. P. Lejeune (MRAC). – **Kenya.** 1 ex., Brit. E. Africa, Yala R., S. edge Kakumga forest, 4800–5300 ft, 0.12N/34.27E, V.1911, S. A. Neave (BMNH). – **Rwanda.** 1 ex., Mt. Mbude, S. du Lac Luhondo, 2000 m, 1.38S/29.45E, I.1953, P. Basilewski (MRAC); 1 ex., Cyangugu, Gishoma, 2.28S/28.56E, II.1983, leg. H. Mühle (CHK); 4 ex., Nyakabuye, 1.58S/29.59E, XII.1985, H. Mühle (CHK). – **Tanzania.** 4 ex., N. W. Tanganika, 1910, Grauer (NHMW). – **Uganda.** 1 ex., brit. Ost-Afrika, Kampala, Kabule, 0.32N/32.58E, VI.1911, Dr Nägele (MNHU); 1 ex., Mpanga forest, Toro, 4800 ft, 0.25N/32.08E, XI.1911, S. A. Neave (BMNH); 1 ex., Shores of L., Isolt or Wamala, 3800 ft, 0.05N/31.52E, I.1912, S. A. Neave (BMNH); 3 ex., between Mitiana & Entebbe, 3.800 ft, 0.40N/32.05E, I.1912, S. A. Neave (BMNH); 1 ex., Kampala, 0.32N/32.58E, 1916, C. C. Gowdey (BMNH); 1 ex., Kampala, 0.17N/32.28E, XI.1938 A. F. J. Gedye (NMK); 2 ex., Kibale Forest, U. Kanyawara, 0.50N/31.06E, VII.–VIII.1998, L. Schmidt (ZFMK).

***Monoleptoides didyma* (Gerstaecker, 1871)**, comb. nov.
Monolepta didyma Gerstaecker, 1871: 83.

Total length. 3.90–4.90 mm (mean: 4.52 mm; n = 18).

Head. Pale yellow, yellow or rarely reddish-yellow. Palpi and antennae pale yellow, terminal antennomere dark brown to black, one to three sub terminal antennomeres brownish, each becoming darker towards apex (Fig. 10a–d). Length of second to third antennomere 0.65–0.76 (mean: 0.71), length of third to fourth antennomere 0.67–0.77 (mean: 0.71) (Fig. 10f, g).

Thorax. Pronotum pale yellow, rarely reddish-yellow, distinctly transverse (Fig. 10e), median length to maximum width 0.62–0.68 (mean: 0.64). Elytra sub parallel (Fig. 10a–d), coarsely punctuated, slightly flattened dorsally (in lateral view), length of elytron 2.90–3.60 mm (mean 3.33), maximum elytral width 1.85–2.70 mm (mean: 2.24); maximum width of both elytra to length of elytron 0.62–0.71 (mean: 0.66). Elytra in about 30 % of material examined pale yellow, specimens thus have a completely pale yellow dorsum (Fig. 10a); other specimens with a black elytral base which does not spread to either elytral margin (Fig. 10b–d), and can rarely be separated into a humeral and a parascutellar spot; elytra of 60 % of material examined have a black spot in the apical half (Fig. 10b–d); 40 % have a black elytral tip (Fig. 10d); only three of the specimens studied have brownish-red colouration along the basal two-thirds of the suture (Fig. 10d). The entire spectrum of colour polymorphism, from completely yellow, to specimens with all the spots and partly brownish-red suture, can occur within one population e. g. specimens collected in Arabuko Sokoke Forest. Legs pale yellow.

Abdomen. Pale yellow.

Male genitalia. Median lobe sub parallel, short, apical part of the median lobe parallel (Fig. 10h–j) or widening slightly apically (Fig. 10k–m), particularly in large specimens where the apex is robust and bluntly rounded. Tectum parallel-sided in the basal two thirds, converging constantly from there towards the apex. Endophallus with one pair of robust spiculae (Fig. 10h–m).

Female genitalia. Spermatheca with small nodulus, and broad cornu (Fig. 10n).

Diagnosis. *Monoleptoides didyma* is the smallest species in this group. Its colouration is very similar to the sympatrically occurring *M. trivialis*, but in specimens with ely-

tral spots, *M. didyma* has a single spot in the apical third of each elytron, whereas *M. trivialis* has two spots with very few exceptions (Figs 3b, c, 10b–d). Both species can be distinguished by the shape of the pronotum (Figs 3d, 10e) and the length of the basal antennomeres (Figs 3f, 10f, g) (see morphometric data under *M. trivialis*). In doubtful cases, males of both species can easily be distinguished by the shape of the median lobe (Figs 3g–i, 10h–m).

Distribution. Most specimens collected in the coastal regions of Kenya, Tanzania, southwards to KwaZulu-Natal (Fig. 19), with only a few from the interior of those countries.

Type material examined

Holotype, probably ♂ (abdomen absent), "Didyma Gerst., Wanga, v. d. Decken / 56684" (MNHU; Fig. 20f). Type locality: Kenya, Wangi, 2.00S/40.55E. Holotype by inference, since there is only one specimen listed under this label number in the "Eingangsbuch" in MNHU.

Further material examined

Kenya. 1 ♂, Lower Tana, Sabaki, 3.09S/40.07E, IV.–V.1932, Turner & McArthur (NMK); 1 ♂, Meru, 0.03N/37.42E, V.1936, N. H. L. Krauss (BMNH); 1 ♀, 1 ♂, Arabuko Sokoke, 3.20S/39.52E, VI.1940, T. H. E. Jackson (BMNH); 1 ♀, 1 ♂, Diani Beach, 4.18S/39.35E, VII.1951, N. L. H. Kraus (BMNH); 1 ♂, Nairobi, 1.17S/36.50E, II.1973, ad lucem, H. Silfverberg (MZHF); 1 ♂, Shimba Hills NR, Makadara Forest, 4.13S/39.25E, XI.1982, M. Clifton (NMK); 1 ♂, Kibwazi, Tsavo, Paro, 2.25S/37.58E, 1300 m, XII.1989, Werner (CMD); 2 ♀, 3 ♂, Dint. di Malindi, 3.13S/40.07E, XI.–XII.1989, L. Bartolozzi et al. (MZSF); 1 ♀, Malindi, Gede Forest, V.1990, Werner (CMD); 2 ♀, 2 ♂, Kilifi distr., Arabuko Sokoke, Forest Reserve, IX.–X.1992, V.–VI.1994, L. Bartolozzi et al. (MZSF); 1 ♂, Diani Beach, II.2001, A. Drugmont & N. Warzée (IRSN); 6 ♀, 6 ♂, Arabuko Sokoke, 3.20S/39.52E, V. Clausnitzer (ZFMK). – **South Africa.** 1 ♀, Kosi Bay, Banga Nek, 27.00S/32.53E, 50 m, II.1990, B. Grobbelaar (SANC). – **Tanzania.** 1 ♀, Zanzibar, 6.10S/39.12E, coll. Raffray (MNHN); 3 ♀, 3 ♂, Zanguebar, Mhonda Ouzigoua, A. Hacquard Mis. ap. 1879, 1.Trim. 1880 (1 ex. MNCN, 5 ex., MNHN); 2 ♀, 1 ♂, Pare Berge, 4.00S/37.45E, 1600 m, 1903/1906, Chr. Schroeder (MNHU); 1 ♂, Arusha, 3.22S/36.38E, II.1905, Abel (MNHU); 1 ♀, 1 ♂, Pugu, 6.59S/37.49E, XII.1913, Methner (MNHU); 1 ♀, 1 ♂, Tanga, 5.07S/39.05E, III.1916, Methner (MNHU); 1 ♀, 1 ♂, Narobi bei Tanga, 4.57S/38.56E (MNHU); 1 ♀, Sansibar "60586", Hildebrandt (MNHU); 1 ♀, Bagamoyo, 6.19S/38.20E, Le Moult vend., via Reinbek (ZMUH); 1 ♂, Morogoro, 6.49S/37.40E, I.1974, H. Silfverberg (MZHF); 4 ♂, pres Pwani, 70 km E of Morogoro, 6.50S/38.20E, 300 m, 6.38S/38.08E, XII.2006, F. Kantner (CK); 1 ♂, 80 km NE of Iringa, 650 m, 7.37S/36.18E, I.2007, F. Kantner (CK).

IDENTIFICATION KEY

Most species of *Monoleptoides* gen. nov. are characterized by high polychromatism which made the identification complicated. In eight of the nine species, completely yellow specimens occur and in these cases often the male genitalia only allow a reliably identification. Females without males from the same locality are often hardly, if not impossible to identify, since the spermatheca between most species show no significant differences. On the other hand, specimens with dorsal pattern can often be identified quite easily and thus it seems to be appropriate, to split the key into two parts, one for the entirely yellowish ones that is mainly based on male genitalic patterns, and a second part for specimens with different dorsal colouration.

1 Specimen entirely yellow, dissection of male genitalia is necessary for a reliable identification..... **15**
– Specimen with elytra bearing black, brownish-red or red colouration, such as: black spots (e. g. Figs 2b, 3b, 4b, 10b, 6b), transverse bands (e. g. Figs 2c, 6c, 7c, 8b), and rarely longitudinal stripes (Fig. 4c); sometimes combined with a reddish suture (Figs 4d, 10d); sometimes with only a brownish-red base (Fig. 7b); rarely combined with a small sub apical black spot (Fig. 6a), or the elytra mainly black with the apical third red (Fig. 9a), or with yellow spots (Fig. 9b) **2**

2 Elytra predominantly yellow, pronotum pale yellow to reddish, rarely with median spot (Fig. 2d) that can be enlarged to a longitudinal stripe (Fig. 8c) **3**
– Elytra predominantly black with the apical third red (Fig. 9a), or yellow spots (Fig. 9b), pronotum always red, often with two black discal patches (Fig. 9b, c); restricted to the Albertine Rift, Uganda and western Kenya ..... ***M. sulcata***

3 Elytra with reddish to brownish-red base, tip or suture, often also with black spots **4**
– Elytra with yellow and black colouration only **7**

4 Elytra with reddish to brownish-red base and tip (Figs 7b, 6a) **5**
– Elytra with reddish to brownish-red suture (Fig. 4d) **6**

5 Smaller, pronotum narrow (pronotal length to width 0.66–0.74; Fig. 7f), always without sub apical spot (Fig. 7b); mainly Nigeria and adjacent countries, rare colouration of ..... ***M. thomsoni***
– Larger, pronotum wider (pronotal length to width 0.58–0.68; Fig. 6d), without or with sub apical black spot (Fig. 6a); restricted to Cameroon and the Congo basin ..... ***M. mertensi***

6 Smaller (total length 3.90–4.90 mm), fourth antennomere short (length of third to fourth antennomere 0.67–0.77; Fig. 10f, g); coastal regions from Kenya to KwaZulu-Natal, rare colouration of ..... ***M. didyma***
– Larger (total length 5.00–6.70 mm), fourth antennomere long (length of third to fourth antennomere 0.57–0.66; Fig. 4f, g); montane areas of northern Tanzania and Kenya ..... ***M. advena***

7 Elytra have smaller black spots at humerus and usually also in the apical third that do not reach the suture, anterior margin or epipleura (Figs 2b, 3b, c, 4b, 10b, c) **8**
– Elytra have a more or less broad black transverse bands (rarely only humeral spots, at the base that reach suture), anterior margin and extend onto the epipleura..... **11**

8 Only circular humeral spots and small transverse sub apical spots (Fig. 2b), examination of median lobe necessary (Fig. 2i–n); colouration type predominant and commonly found in the Congo basin ..... ***M. duplicata***
– Humeral or sub humeral elytral spots larger, circular or transverse, sub apical spots of different shape and size (Figs 3b, c, 4b, 10b, c), rarely connected with the sub humeral spot (Fig. 4c) **9**

9 Larger (total length 5.00–6.70 mm), with circular sub humeral spots (Fig. 4b), rarely with longitudinal stripes (Fig. 4c), pronotum very broad (pronotal length to width 0.57–0.66; Fig. 4e); from montane areas of northern Tanzania and Kenya ..... ***M. advena***
– Smaller (total length 3.90–5.40 mm), with transverse basal spots (Figs 3b, c, 10b, c); pronotum in larger specimens much narrower (Fig. 3d); mainly from coastal regions extending from Kenya to KwaZulu-Natal..... **10**

10 Smallest species of the group (total length 3.90–4.90 mm), pronotum broad (pronotal length to width 0.63–0.68; Fig. 10e), elytra with small transverse (Fig. 10b) or triangular (Fig. 10c) sub apical spot, median lobe slender, with blunt apex (Fig. 10h–m) ..... ***M. didyma***
– On average larger (total length 4.10–5.40 mm), pronotum slender, lateral margins slightly sigmoidal (pronotal length to width 0.69–0.74; Fig. 2d), each elytron usually with two sub apical spots (Fig. 3b, c) that can rarely be absent, median lobe broad, widening sub apically (Fig. 3g–i) ..... ***M. trivialis***

11 Pronotum yellow to yellowish-red, rarely with median spot, triangle or stripe (Figs 2e, 7e, 8b) **12**
– Pronotum red with two latero-discal black patches (Fig. 9b); restricted to the Albertine Rift, Uganda and western Kenya ..... ***M. sulcata***

12 Largest species of the group (total length 5.00–7.20 mm), third antennomere very elongate (length of second to third antennomere 0.53–0.66; Fig. 6e, f); black colouration on elytra at humerus, in the apical third and also at the elytral apex (Fig. 6b), in specimens with a broad sub apical transverse band these can be enlarged (Fig. 6c); interrupted transverse pronotal depression distinct; from Cameroon and Congo basin ..... ***M. mertensi***
– On average smaller (total length 4.30–5.90 mm), third antennomere relatively short (length of second to third antennomere 0.64–0.85); black anterior elytral colouration more robust (Figs 2c–e, 7c–e, 8b, c), interrupted transverse pronotal depression less distinct; three species with high overlap in morphological characters that can be only distinguished by male genital pattern **13**

13 Pronotum on average broader (pronotal length to width 0.63–0.68; Fig. 2f), median lobe with bluntly rounded apex (Fig. 2i–n); distributed virtually throughout the Afrotropical region ..... ***M. duplicata***
– Pronotum on average narrower (pronotal length to width 0.66–0.74; Figs 7f, 8d), median lobe pointed apically (Figs 7i–n, 8g–i) **14**

14 Median lobe slender, nearly parallel-sided (Fig. 7i–n); known from West, Central and East Africa ..... ***M. thomsoni***
– Median lobe widening distinctly at base and apex (Fig. 8g–i; known from South Africa northwards to the southern Democratic Republic of the Congo ..... ***M. centromaculata***

15 Fourth to eighth antennomeres black in contrast with those at base and apex of antenna which are pale yellow (Fig. 5a); found in Equatorial Guinea, Gabon and Cameroon ..... ***M. horni***
– Fourth to eighth antennomeres yellow..... **16**

16 Median lobe bluntly rounded apically (Figs 2i–n, 4h–j, 10h–j)..... **17**
– Median lobe pointed apically (Figs 3g–i, 7i–n, 8g–I, 10k–m)..... **19**

17 On average smaller (total length 3.90–4.90 mm), fourth antennomere short (length of third to fourth antennomere 0.67–0.77; Fig. 10f, g), median lobe short, parallel-sided (Fig. 10h–j), in large specimens slightly enlarged sub apically (Fig. 10k–m), but always bluntly rounded; found in the coastal regions from Kenya to KwaZulu-Natal ..... ***M. didyma***

– On average larger (total length 4.30–6.70 mm), fourth antennomere longer (length of third to fourth antennomere 0.54–0.65), median lobe short more elongated (Figs 2i–n, 4h–j) **18**

18 On average smaller (total length 4.30–5.50 mm), pronotum narrower (pronotal length to width 0.63–0.68; Fig. 2f), median lobe very slender, slightly conical at apex (Fig. 2i–k) often narrowing sub apically in small specimens (Fig. 2l–n); nearly pan-Afrotropical ..... ***M. duplicata***

– On average larger (total length 5.00–6.70 mm), pronotum very broad (pronotal length to width 0.57–0.66; Fig. 4e), median lobe broad (Fig. 4h–j); only known from montane regions in Kenya and northern Tanzania ..... ***M. advena***

19 On average larger (total length 5.00–7.20 mm), pronotum very broad (pronotal length to width 0.58–0.68; Fig. 6d), third antennomere elongate (length of second to third antennomere 0.53–0.66; Fig. 6e, f), transverse interrupted pronotal depression distinct, endophallus with many slender spiculae (Fig. 6g–i); known from Cameroon and the Congo basin ..... ***M. mertensi***

– On average smaller (total length 4.10–6.00 mm), pronotum not as broad (pronotal length to width 0.66–0.74), third antennomere relatively short (length of second to third antennomere 0.64–0.88), interrupted transverse pronotal depression indistinct..... **20**

20 Median lobe parallel-sided (Fig. 7m, n) or slightly enlarged pre apically (Fig. 7i–l); distributed in West, Central and East Africa ..... ***M. thomsoni***

– Median lobe distinctly enlarged pre apically and in the basal quarter (Figs 3g–i, 8g–i) **21**

21 On average smaller, pronotum very narrow (pronotal length to width 0.69–0.74) with slightly sigmoidal lateral margins (Fig. 3d), median lobe narrower, with one pair of robust spiculae (Fig. 3g–i); distributed mainly in the coastal regions from Kenya to Mozambique, and in Zimbabwe ..... ***M. trivialis***

– On average larger, pronotum broad (pronotal length to width 0.67–0.71), more transverse (Fig. 8d), median lobe very broad, with several slender spiculae (Fig. 8g–i); distributed from southern Africa northwards to the southern Democratic Republic of the Congo ..... ***M. centromaculata***

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