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Revision of *Afrocrania* (Coleoptera: Chrysomelidae, Galerucinae) Part I: Species in which the males have head cavities or extended elytral extrusions

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Key words. Coleoptera, Chrysomelidae, Galerucinae, *Afrocrania*, Afrotropis, taxonomy, new species, revision, biogeography.

Abstract. Material of Afrotropical *Afrocrania* Hincks, 1949 (= *Pseudocrania* Weise, 1892, not *Pseudocrania* M'Coy, 1851) is revised, and a redescription of the genus is given. This publication is on *Afrocrania* species in which males have head cavities or extended elytral extrusions. Species without those sexual dimorphic organs will be revised in a subsequent paper. Material of *Pseudocrania latifrons* Weise, 1892, *Pseudocrania foveolata* (Karsch, 1882) (= *Monolepta africana* Jacoby, 1894, = *Pseudocrania nigricornis* Weise, 1895), and *Pseudocrania assimilis* Weise, 1903 was examined; *Pseudocrania basalis* Jacoby, 1907 is excluded from *Afrocrania; Afrocrania kaethae* sp. n., *A. luciae* sp. n., *A. kakamegaensis* sp. n., *A. longicornis* sp. n., and *A. ubatubae* sp. n. are newly described species.

INTRODUCTION

Galerucinae with slender legs, basi-metatarsus much longer than the remaining four metatarsal articles, and lack any pronotal depressions, are assigned to the "Sectio Monoleptites" sensu Wilcox (1973). The classification and the taxonomic status of the whole group is very unsatisfactory, and a revision of the afrotropical species was started recently (cf. Wagner, 1999). Three hundred and six species have been described from the Afrotropical region (excluding Madagascar), mostly in the genera *Monolepta* Chevrolat, 1837, (n = 173), *Candezea* Chapuis, 1879, (n = 39) and *Barombiella* Laboissière, 1931, (n = 42). Furthermore, some genera with few species also belong to this typological group. One of these is *Pseudocrania* Weise, 1892. Weise described a slender, brownish yellow Galerucinae with enlarged basi-metatarsus where males are characterized by a cavity on the head and curved fourth antennal articles, *Pseudocrania latifrons* Weise, 1892, which became type species of the genus by monotypy. Few years later, further species were described in this group: *Pseudocrania nigricornis* Weise, 1895, a species Weise later synonymized with *Monolepta africana* Jacoby, 1894 under *Monolepta foveolata* Karsch, 1882 (Weise, 1903). In that publication a third species, *Pseudocrania assimilis* Weise, 1903, was decribed and an identification key on *Pseudocrania* was given.

Only one other species was placed in this genus, *Pseudocrania basalis* Jacoby, 1907, but recent studies show, it is not closely related to the other species and belongs to another group. Furthermore, *Pseudocrania* Weise, 1892 is a junior homonym to *Pseudocrania* M'Coy, 1851, a fossil group of Brachiopoda, and so the name was changed to *Afrocrania* Hincks, 1949.

In his final study of this group, Weise "justified" *Pseudocrania* as it contains more than one species with males that have the characteristic and peculiar head cavities: "Die Aufstellung einer neuen Galerucinen-Gattung nach einer Art ist ein sehr gewagtes Unternehmen, denn man weiß bei diesen äußerst veränderlichen Tieren nicht, wie der Hase laufen wird, d.h. ob die benutzten Merkmale nichts weiter als auffällige sexuelle Modificationen irgendeiner bekannten Gattung oder wirklich generische Unterschiede sind" (Weise, 1903).

In addition to the species described by Weise, we found a further two species in which the males have head cavities. However, there are also species in which the males lack a head cavity, which need to be transferred to *Afrocrania* or described as new. These species have a peculiar sexual dimorphic character, there are complex folded extrusions along the suture at the elytral base in males. Furthermore, there are some species with simple, shallow "hump-backed" extrusions at the elytral base, which are a common sexual dimorphic character of some *Candezea* species. This paper deals with *Afrocrania* species from continental Africa, where the males are characterized by head cavities or complex elytral extrusions. A revision of other *Afrocrania* species and a key to all the species will be published later.

MATERIAL AND METHODS

The descriptions are based on 322 labelled specimens from the following collections (cf. Tab. 1): The Natural History Museum, London (BMNH; S. Shute, M. Brendell, M. Cox); Deutsches Entomologisches Institut, Eberswalde (DEI; L. Behne, L. Zerche); Institute Royal des Sciences Naturelles de

* 9 th contribution to the taxonomy, phylogeny and biogeografy of afrotropical Galerucinae.

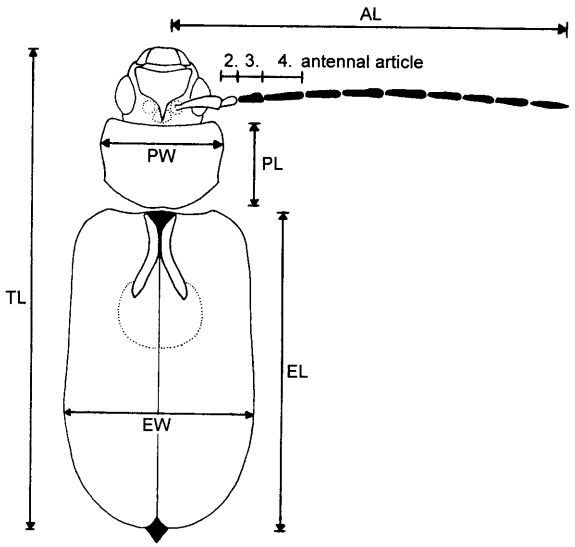


Fig. 1. Morphometric measurements made on the external characters. TL – total length; EL – elytral length; EW– maximum width of both elytra combined; PL– pronotal length; PW – pronotal width; AL – antennal length; 2./3.– length of second to third antennal article; 3./4.– length of third to fourth antennal article.

Belgique, Brussels (IRSNB; M. Cludts); Museo Civico di Storia Naturale, Genova (MCSG; R. Poggi); Museum für Naturkunde der Humboldt Universität zu Berlin (MNHU; H. Wendt, M. Uhlig); Musée Royal d'Afrique Centrale, Tervuren (MRAC; E. De Coninck, M. De Meyer); National Museums of Kenya, Nairobi (NMK; W. Kinuthia, K. Maes, M. Mungai); Naturkundemuseum, Erfurt (NME; M. Hartmann); Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn (ZFMK; K. Ulmen; M. Schmitt); Zoological Museum University of Copenhagen (ZMUC; M. Hansen, L. Sörensen); Zoologisches Institut und Zoologisches Museum der Universität, Hamburg (ZMUH; R. Abraham).

Morphometric measurements were made on the external characters. If available, 6 male and female specimens of each species were measured. Measurements were made of (Fig. 1): total length from labrum to apex of elytra (TL); length of elytron (EL); width of both elytra (EW); length of pronotum (PL); width of pronotum (PW); total length of antenna (AL). Relative measurements were: length to width of pronotum; width of both elytra to length of elytron; length of second to third antennal article; length of third to fourth antennal article; length of antenna to length of elytron.

For each species a standard set of figures is given. Semischematic illustrations of the elytra, pronotum, head and right antenna of a male and close-up drawings of the five basal antennal articles of two males and two females per species are presented. The genital characters are illustrated by drawings of the median lobe in lateral, dorsal and ventral view (latter without endophallic structures), the bursa-sclerites of one female in dorsal view and the spermathecae of three different females in lateral view (for terminology of genital structures see Figs 9, 12 and 30). For the description of the genotype, *Afrocrania latifrons* (Weise, 1892), illustrations of the female and male abdomen, pronotum (dorsal and ventral view), meso- and metathorax (ventral), right hind wing (dorsal) and the legs on the right side are given.

TABLE 1. Numbers of specimens of each species examined and the source collection.

Collections	*A. latifrons* (Weise, 1892)	*A. foveolata* (Karsch, 1882)	*A. assimilis* (Weise, 1903)	*A. kaethae* sp. nov.	*A. luciae* sp. nov.	*A. kakamegaensis* sp. nov.	*A. longicornis* sp. nov.	*A. ubatubae* sp. nov.	total
BMNH			3			8			11
DEI			12						12
MCSG				2					2
MNHU	2	6	4	7					19
IRSNB	39								39
MRAC	3			66		79	12	13	40
NME	1								1
ZFMK	2					38			40
ZMUC					13				13
ZMUH		1	5	6					12
total	47	7	24	81	13	125	12	13	322

Redescription of *Afrocrania* Hincks, 1949

Genus *Afrocrania* Hincks, 1949

Pseudocrania Weise, 1892: 400, not M'Coy, 1851 (Brachiopoda); cf. Wilcox (1973).

Type species. *Pseudocrania latifrons* Weise, 1892 (by monotypy).

Afrocrania Hincks, 1949: 608 (replacement name for *Pseudocrania* Weise, 1892).

Redescription

Body length. 3.60–7.00 mm; means of body lengths for the species range between 4.07–6.75 mm. Females are somewhat larger than males. Larvae and pupae unknown.

Head. Eyes convex and ovate. Frons and vertex occasionally yellow, usually brownish yellow. The males of some species have a cavity on the frons between the eyes. These cavities vary in depth and detail. Males of species without a head cavity and females of all species bear a roughly heart-shaped, flat extrusion on the frons. Maxillary and labial palpi brownish yellow to dark brown. Labrum occasionally yellow, usually brownish yellow to black. Antennae in a few species entirely yellow, in most species dark brown or black with the basal articles 1–3 sometimes yellow to brownish yellow. Antennae usually longer than elytra; mean antennal length to elytral length (for different species): 0.97 to 1.41. Antennae of males longer than those of females; mean antennal length in males: 3.25–5.80 mm, in females: 3.05–5.20 mm. Mean lengths of antennal articles 2 to 3 in males: 0.57–0.80, in females: 0.59–0.78; length of antennal articles 3 to 4 in males: 0.48–0.85, in females: 0.42–0.73. Males of species with a head cavity additionally have the fourth, fourth and fifth or fourth to sixth antennal articles enlarged, curved or horned (Fig. 5C).

Thorax. Pronotum, prosternum and hypomeron entirely yellow to brownish yellow. Mean pronotal width in males: 1.18–1.68 mm, in females: 1.24–1.76 mm; pronotal length to pronotal width in males: 0.61–0.67, females: 0.59–0.67. Pronotum strongly narrowed at base, the basal width significantly less than the width of elytra

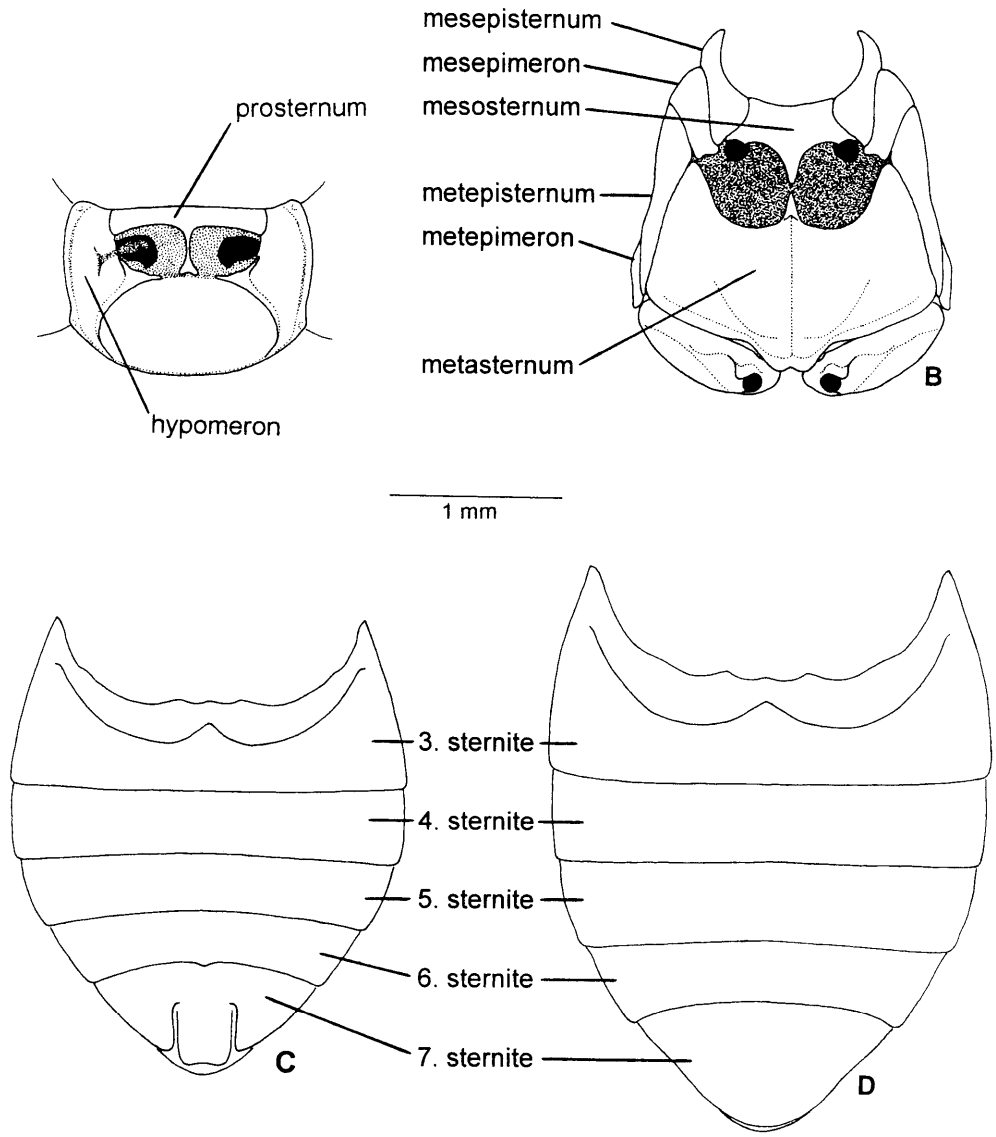


Fig. 2. Ventral view of thorax and abdomen of *Afrocrania latifrons* (Weise, 1892). A – prothorax, ventral; right side with trochantinus; B – meso– and metathorax (coxal cavities shaded, coxal openings black); C – abdomen, male; D – abdomen, female.

at humeri (Fig. 8). Prothorax with open coxal cavities behind (Fig. 2A). Mesothorax brownish yellow or dark brown to black. Metathorax very occasionally yellow, usually dark brown to black (Fig. 2B). Elytra elongated, yellow to brownish yellow; in some species a few specimens have brownish red elytra or large black elytral margins. Mean width of both elytra in males: 2.00–2.60 mm, in females: 2.18–2.90 mm, mean elytral length in males: 3.09–4.15 mm, in females: 3.27–4.75 mm. Width of both elytra to elytral length in males: 0.58–0.64, females: 0.57–0.66. Scutellum triangular, dark brown to black, occasionally yellow. Elytral humeri well-marked. Males without head cavity are usually characterized by species specific extrusions on the basal third of the elytra close to the suture. Epipleura enlarged in basal third of elytron. Alae fully developed (Fig. 3). Legs usually dark brown to black, some species with yellow legs or brownish yellow of varying extent (Fig. 4).

Abdomen. Five sternites (ventrites) visible, usually dark brown to black, rarely brownish yellow (Fig. 2C and D).

Male genitalia. Median lobe symmetrical, straight or slightly ventrally curved in lateral view (Fig. 5E, F). Long and narrow with an enlarged middle section. Apex of median lobe usually dorso-ventrally compressed. Tectum arrow-shaped with pointed apex and narrowed base. Tegmum Y-shaped and attached in basal third of the median lobe. Parameres absent. Orifice varying in shape; ovate, nearly circular or with narrowed sides giving it a pear-shaped appearance. Ventral side of median lobe with shallow groove of varying length, sometimes carrying one spur on each side (Fig. 9C). Spurs are of varying size and location. Endophallus with one pair of slender hooked spiculae and one to two pairs of usually straight spiculae. One pair of straight spiculae is located between or slightly ventral of the hooked spiculae (ventral

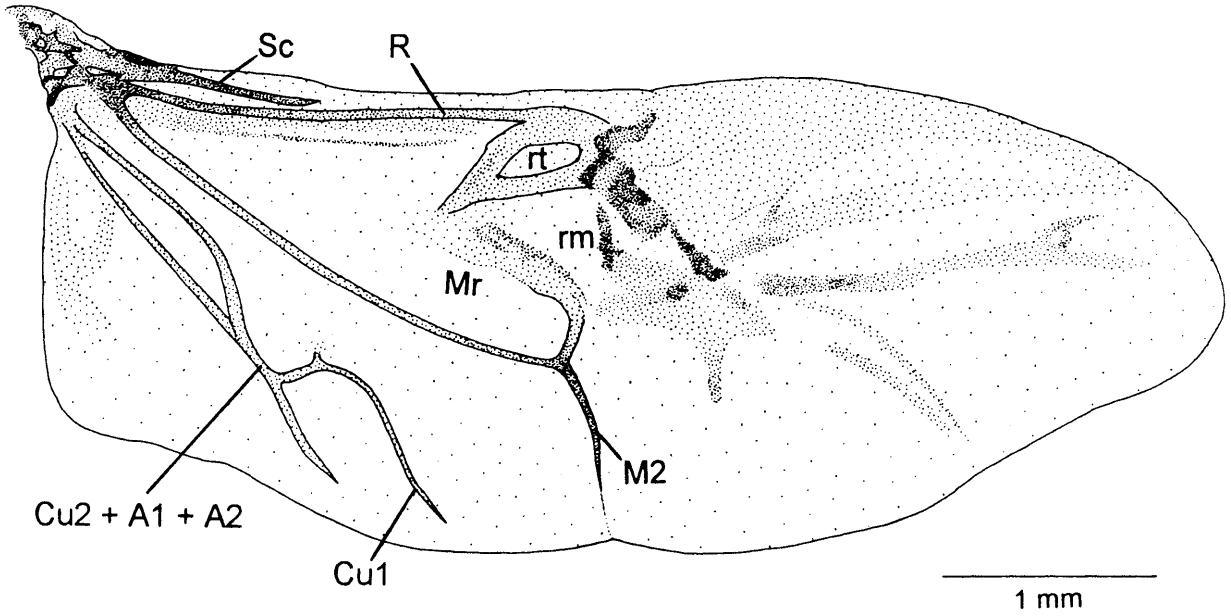


Fig. 3. Right hind wing of *Afrocrania latifrons* (Weise, 1892). A – analis, Cu – cubitus, M – media, R – radius, Sc – subcosta, rt – radial triangle, rm – cross vein.

spiculae) while the second pair is located dorsally and on the outer side of the hooked spiculae (dorsal spiculae; cf. Figs 9A, B; 30A, B). The dorsal spiculae are attached to the centre of the endophallus and are sometimes slightly curved ventrally.

Female genitalia. Spermatheca with slightly widened nodulus and curved middle part (Fig. 5D). Cornu homogeneously curved or proximally straight with a sharper curve in the second half. Bursa-sclerites larger than spermathecae, convex, strongly sclerotised, having 4-6 strong spines. Spines of left and right bursa-sclerites of the same individual often asymmetrical (Fig. 10).

Diagnosis. *Afrocrania* are mid-sized, dorso-ventrally compressed "Monoleptites" (sensu Wilcox, 1973) with parallel sided elytra. Colouration of the dorsum is homogeneously yellow, brown to reddish brown, occasionally with broader lateral black margins, but without any spots and bands, which are typical characters of most *Monolepta* and few *Candezea* species. The underside, legs and antennal articles 3–11 are usually dark brown or black, in a few species yellow. Head cavities on the frons, horned or curved antennal articles or complex extrusions on the elytral base, are sexual dimorphic characters, which are only found in males of *Afrocrania* species, and not in Afrotropical *Monolepta* or *Candezea*.

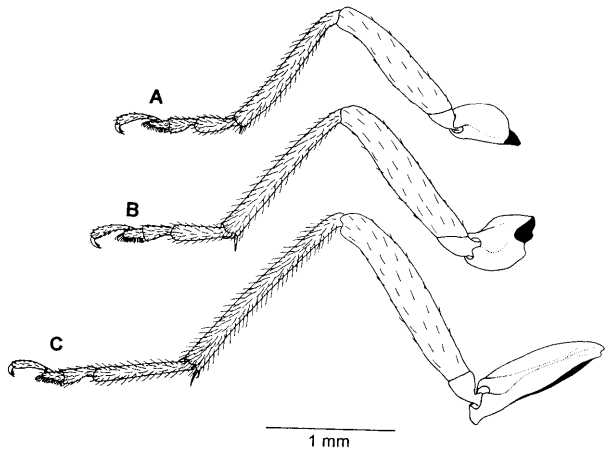


Fig. 4. Legs (right side) of *Afrocrania latifrons* (Weise, 1892). A – prothoracic; B – mesothoracic; C – metathoracic.

The third antennal article of *Afrocrania* is considerably longer than the second (Fig. 5C, lengths of antennal articles 2 to 3: 0.57–0.80). This is also typical of *Candezea* (Fig. 7C, lengths of antennal articles 2 to 3: 0.62–0.85, Wagner, 2000) but not *Monolepta* in which the second and third antennal articles are of approximately the same length (Fig. 6C, lengths of antennal article 2 to 3: 0.85–1.10).

Prothoracic coxal cavities in *Afrocrania* are open as in the type species of *Monolepta* and *Candezea*. *Afrocrania* has a narrower pronotum (length to width: 0.59–0.67; range of means for different species) than *Candezea* (0.46–0.57), and most *Monolepta* (0.52–0.65). Furthermore, *Afrocrania* are characterized by narrower elytra (width of both elytra to length of elytron: 0.57–0.65), than *Candezea* (0.62–0.70) and especially *Monolepta* (0.65–0.73). Pronotum of *Afrocrania* is significantly narrowed at base (Figs 5A, B), width at base is much smaller than the width of elytra at humeri (Fig. 8), while the pronotum of *Monolepta* and *Candezea* are usually wider at base (cf. Figs 6A, B and 7A, B).

Median lobe of *Afrocrania* is very characteristic and differs from that of *Monolepta* and *Candezea*. It is slender, apical part usually elongated, and apex often slightly enlarged (Figs 5E, F). The median lobe in *Mono-*

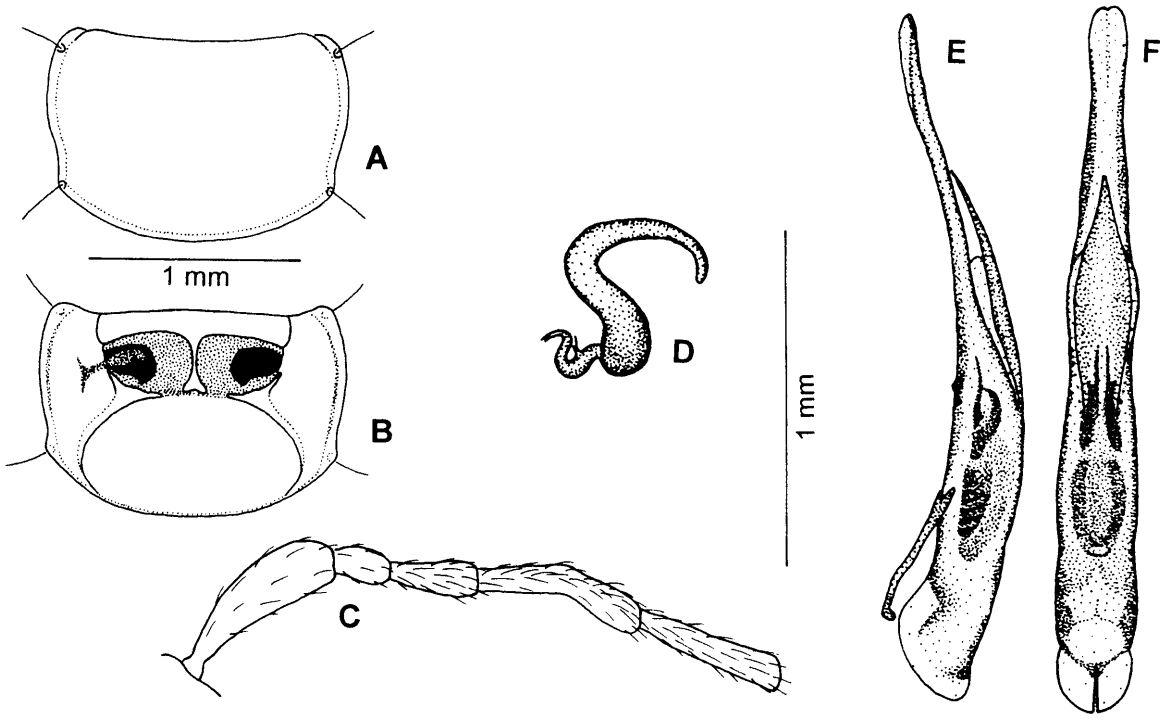


Fig. 5. Prothorax, basal antennal articles and genital structures of *Afrocrania latifrons* (Weise, 1892). A – prothorax, dorsal; B – prothorax, ventral, coxal cavities shaded, right side with trochantinus; C – five basal articles of antenna (male); D – spermatheca; E – median lobe, lateral; F – median lobe, dorsal.

lepta is usually broader, the apex dorso-ventrally compressed and not enlarged (Figs 6E, F, cf. Wagner 1999, 2000), while the median lobe in *Candezea* is cylindrical and slightly conical towards apex (Figs 7E, F). The tectum of median lobe in *Afrocrania* is pointed at apex, broad in the middle and narrowed at the base. It is usu-

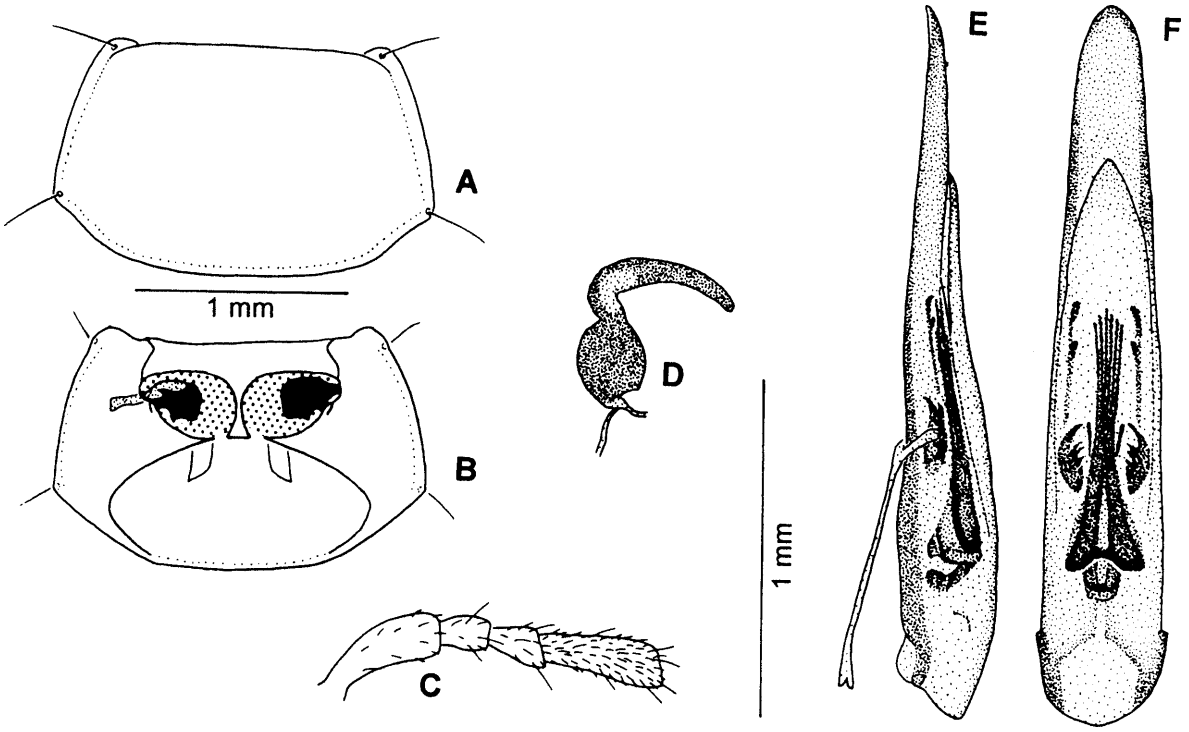


Fig. 6. Prothorax, basal antennal articles and genital structures of *Monolepta bioculata* (Fabricius, 1781). A – prothorax, dorsal; B – prothorax, ventral, coxal cavities shaded, right side with trochantinus; C – four basal articles of antenna (male); D – spermatheca; E – median lobe, lateral; F – median lobe, dorsal.

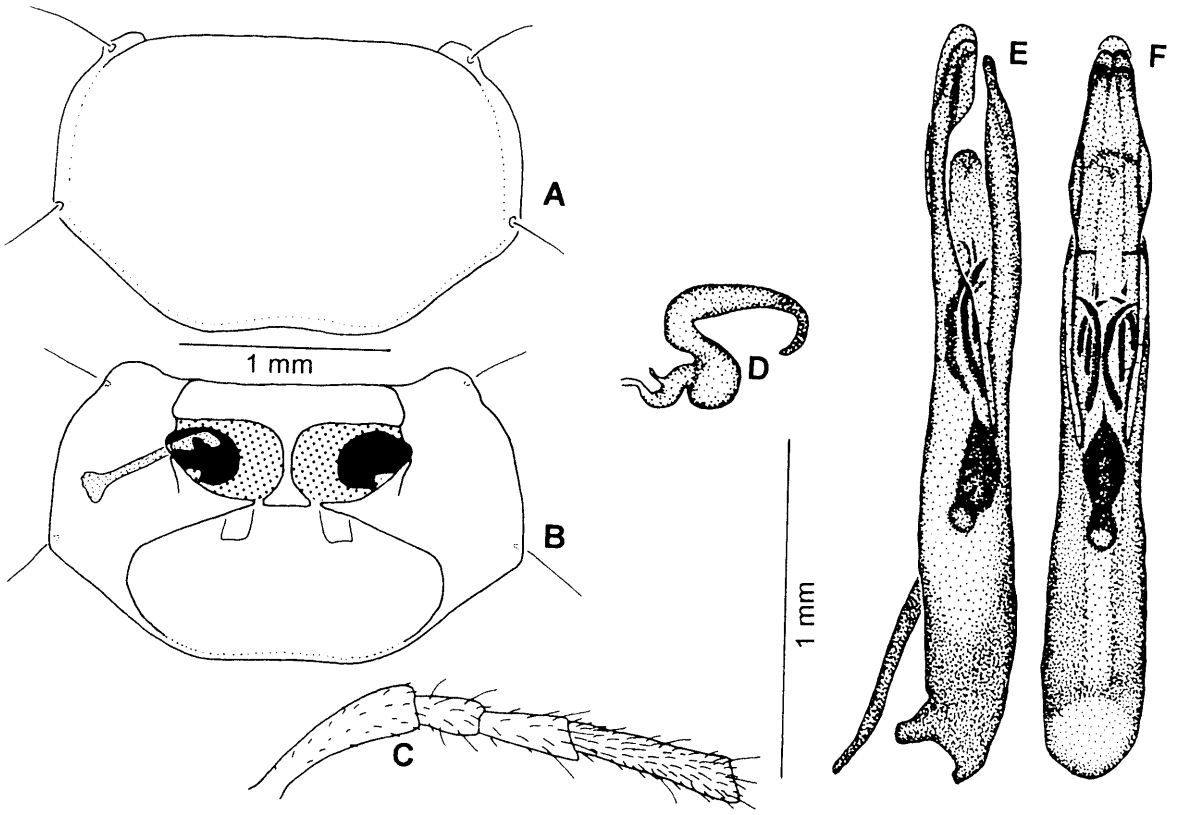


Fig. 7. Prothorax, basal antennal articles and genital structures of *Candezea occipitalis* (Reiche, 1847). A – prothorax, dorsal; B – prothorax, ventral, coxal cavities shaded, right side with trochantinus; C – four basal articles of antenna (male); D – spermatheca; E – median lobe, lateral; F – median lobe, dorsal.

ally much shorter than the apical part of the median lobe (Figs 5E, F). In contrast, the tectum in *Monolepta* is broader and wide at base (Figs 6E, F). In *Candezea* it nearly reaches the apex of the median lobe, is not pointed, and has a moderate incision at apex (Figs 7E, F). Ventral groove in the median lobe in *Afrocrania* usually with one pair of spurs (Fig. 9C), which is always absent in *Monolepta* and *Candezea*. Furthermore, *Afrocrania* is characterized by two types of endophallic spiculae: one pair of hooked spiculae and one pair or - in a few species - two pairs of slender usually straight spiculae (Figs 9A, B and 30A, B). *Monolepta* has three types of very different spiculae (Figs 6E, F, cf. also Wagner 2000) and *Candezea* has three similarly shaped pairs of very strongly hooked spiculae (Figs 7E, F).

Spermathecae and bursa-sclerites of *Afrocrania* are similar to those of *Candezea* but the spermathecal cornu is not as strongly curved as in *Candezea*. Males of many *Afrocrania* species can be distinguished very easily from all other afrotropical "Monoleptites" by their secondary sexual organs, the head cavity and the horned or curved basal antennal articles or complex elytral extrusions respectively. Since only males bear such distinctive characters, and many species are similarly coloured, females are often difficult to distinguish and determination of females to species level is sometimes impossible in the absence of syntopely occurring males.

Distribution. Distributed throughout the Afrotropical Region. All eight species herein revised are only known from Central and East Africa (mainly Cameroon, Gabon, Congo, Kenya, Tanzania). A few species are distributed throughout the region, but the distribution of most species seems to be restricted to western parts of Central Africa (Gabon and Cameroon) and to southern Congo.

Redescriptions of species and descriptions of new species

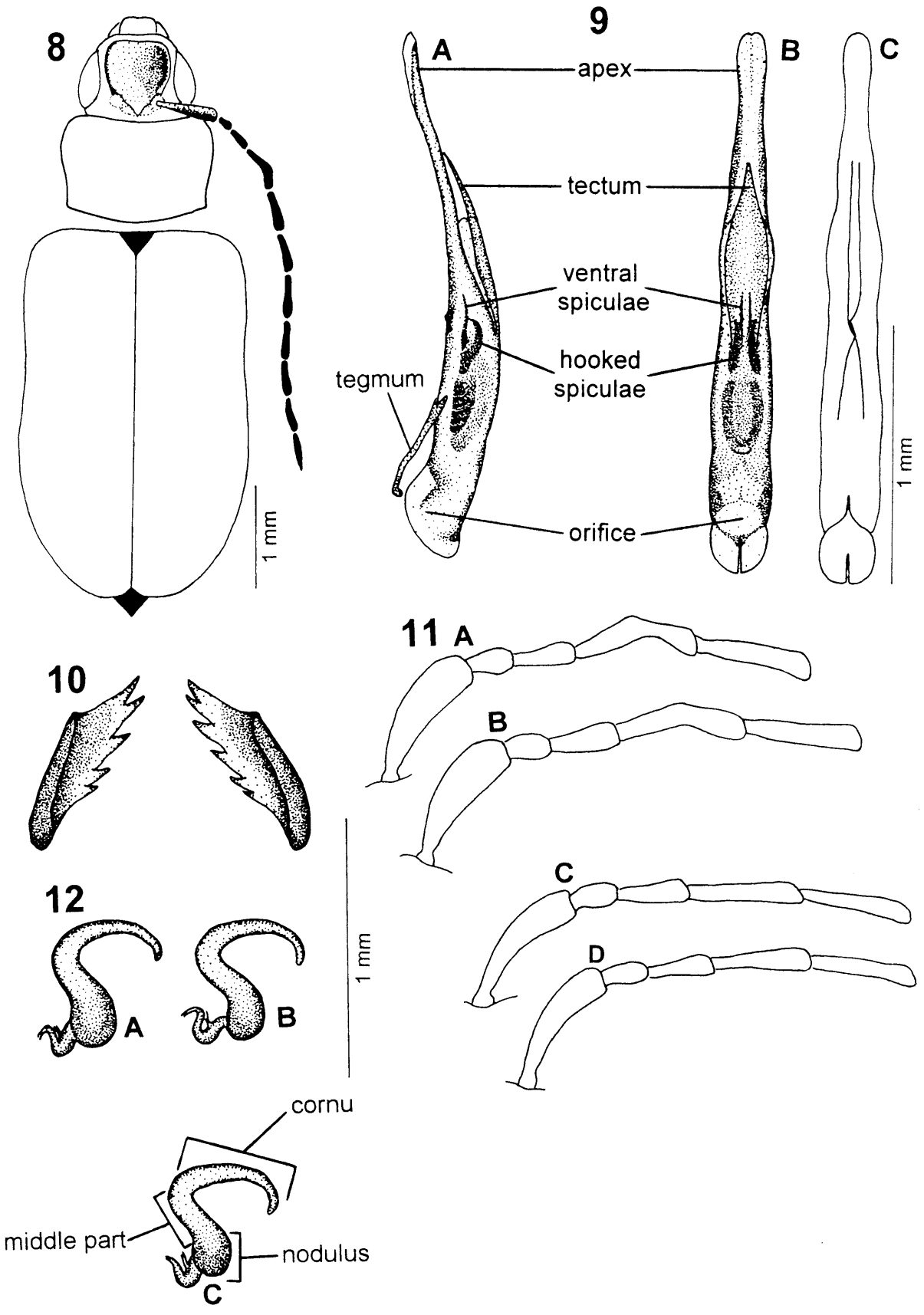
Afrocrania latifrons (Weise, 1892)

Pseudocrania latifrons Weise, 1892: 400.
Afrocrania latifrons: Hincks, 1949: 608.

Redescription

Total length. Males: 5.00–5.50 mm (mean: 5.21 mm); females: 5.20–6.20 mm (mean: 5.86 mm).

Head. Labial and maxillary palpi brown, mandibulae brownish with darker apex; labrum, frons and vertex brownish yellow to brown. Head cavity evenly very deep, margins of cavity elevated (Fig. 8). Antennae longer than elytra, total antennal length: males: 4.70–4.90 mm (mean: 4.80 mm), females: 4.45–4.70 mm (mean: 4.57 mm); antennal length to elytral length: males: 1.12–1.20 (mean: 1.16), females: 1.02–1.09 (mean: 1.06). Antennal articles 1 or 1 and 2 brownish yellow becoming darker distally; articles 2 and other or 3 and other dark brown. Article 1 long and much broader in males than in females (Fig. 11).



Figs 8–12: Morphology of *Afrocrania latifrons* (Weise, 1892). 8 – habitus, dorsal; 9 – median lobe, lateral (A), dorsal (B), ventral, without endophallic structures (C); 10 – bursa-sclerites, dorsal; 11 – basal antennal articles, male (A, B), female (C, D); 12 – spermathecae of three different females.

Fourth article in males significantly curved inwards (Figs 11A, B); length of antennal articles 2 to 3: males: 0.58–0.73 (mean: 0.64), females: 0.58–0.69 (mean: 0.65); length of articles 3 to 4: males: 0.44–0.60 (mean: 0.54), females: 0.57–0.66 (mean: 0.63).

Thorax. Pronotal length: males: 0.90–0.95 mm (mean: 0.92), females: 0.90–1.05 mm (mean: 0.97 mm); pronotal width: males: 1.40–1.50 mm (mean: 1.42 mm), females: 1.40–1.70 mm (mean: 1.55 mm); pronotal length to width: males: 0.63–0.68 (mean: 0.65), females: 0.60–0.66 (mean: 0.62). Elytra brownish yellow to brown, without any cavities or extrusions (Fig. 8), elytral length: males: 3.55–3.80 mm (mean: 3.67 mm), females: 3.75–4.40 mm (mean: 4.13 mm); width of both elytra: males: 2.20–2.40 mm (mean: 2.26 mm), females: 2.30–2.90 mm (mean: 2.62 mm); width of both elytra to length of elytron: males: 0.58–0.64 (mean: 0.62), females: 0.60–0.66 (mean: 0.63). Meso- and metathorax dark brown. Legs dark brown, tarsi sometimes paler.

Abdomen. Dark brown.

Male genitalia. Median lobe slender, homogeneously curved ventrally from base to apex; slightly enlarged in the middle, in the apical third and at apex (Figs 9B, C). Apex dorso-ventrally compressed (Fig. 9A). Ventral groove on each side with one spur near the middle of the median lobe (Fig. 9C); spurs with a very broad base. Orifice nearly ovate. Endophallus with paired hooked and straight ventral spiculae (Figs 9A, B).

Female genitalia. Spermathecae with widened nodulus; middle part broad and curved, cornu slender and more or less homogeneously curved (Fig. 12); bursa-sclerites (Fig. 10).

Diagnosis. Males of *A. latifrons* are characterized by a peculiar head cavity, a slightly curved fourth antennal article and lack of any elytral extrusions. Only *A. luciae* sp. n. has a similar sized head cavity, which in contrast to *A. latifrons* is not evenly deep (Fig. 29). Furthermore, *A. latifrons* has the fourth antennal article curved inwards and a regularly shaped fifth article, while *A. luciae* has both the fifth and sixth articles slightly curved (Fig. 32A, B). *A. luciae* is somewhat larger (total length: males: 5.90–6.35 mm, mean: 6.10 mm) than *A. latifrons* (total length: males: 5.00–5.50 mm, mean: 5.21 mm) and has the basitarsus of fore and middle legs enlarged (Fig. 31). Females of *A. latifrons* tend to be smaller (5.20–6.20 mm, mean: 5.86 mm) than those of other *Afrocrania* species, except those of *A. assimilis* (Weise, 1903), which on average are even smaller (5.45–6.10 mm, mean: 5.80 mm), and those of *A. kaethae* sp. n., which are only slightly larger (5.60–6.50 mm, mean: 6.00 mm).

Distribution. Recorded from three locations in western Congo, one in eastern Congo and one in Burundi (Fig. 23).

Material examined:

Type material. Lectotype: ♂ "Quango, Methon". Congo: Kwango: 6°29'S/18°13'E (MNHU); this designation. - Paralectotype: 1 ♀ "Quango, Methon, Quango, Pseudocrania latifrons m. 1892. 400" (MNHU); this designation. No holotype was designated, neither on the labelled specimens, nor in the original publication.

Other material examined. Burundi: 1 spec., Source du Nil, 3°29'S/29°56'E, 2000m, III.1992, Arndt (NME). - Congo: 2 spec., Irangi, 1°54'S/28°27'E, IX.1992, H. Hinkel (ZFMK); 3 spec., Kwango: Kasongo-Lunda, 6°30'S/16°51'E, IX.1972, V. van Haelst (MRAC); 39 spec., Bas-Congo: Ngowa, 5°42'S/16°55'E, XI.1938, R. P. J. Mertens (IRSNB); 1 spec., Kunungu, 2°06'S/16°26'E, 1932, R. Nkele (MRAC); 1 spec., Luebo, 5°21'S/21°25'E, VIII.1921, Ghesquière (MRAC).

Afrocrania foveolata (Karsch, 1882)

Monolepta foveolata Karsch, 1882: 400

Monolepta africana Jacoby, 1894: cf. Weise 1924: 163; Wilcox 1973: 597.

Pseudocrania nigricornis Weise, 1895: cf. Weise 1924: 163; Wilcox 1973: 597.

Redescription

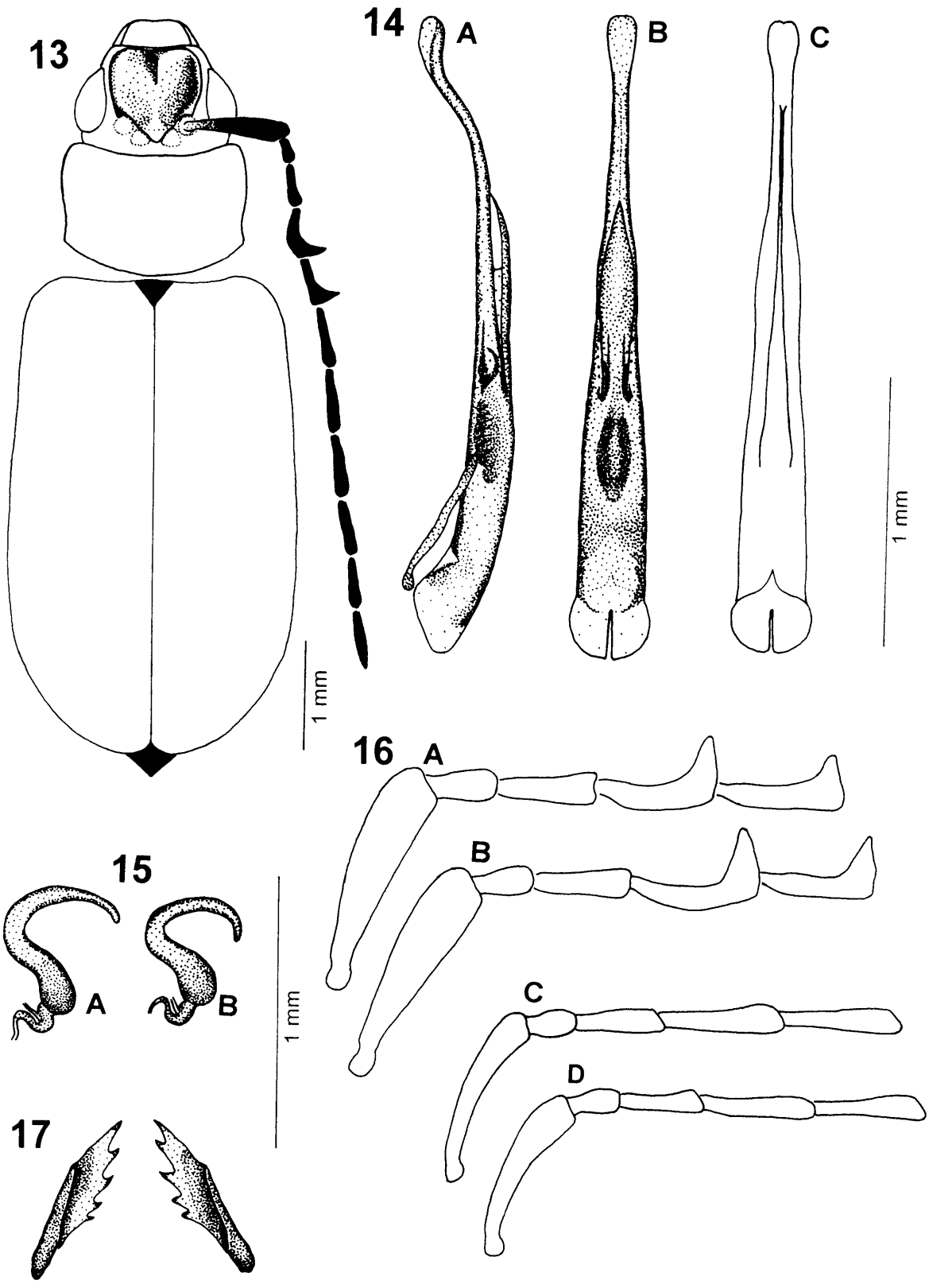
Total length. Males: 6.25–6.60 mm (mean: 6.41 mm); females: 6.10–6.70 mm (mean: 6.41 mm).

Head. Labial and maxillary palpi dark brown, mandibulae brownish yellow with darker apex; labrum, frons and vertex brownish yellow to brown. Head cavity deep, with median, longitudinal keel from above the labrum to the middle of the cavity; cavity margins elevated (Fig. 13). Antennae much longer than elytra, total antennal length: males: 5.45–5.60 mm (mean: 5.52 mm), females: 4.80–5.20 mm (mean: 5.00 mm); antennal length to elytral length: males: 1.26–1.33 (mean: 1.29), females: 1.07–1.15 (mean: 1.11). Antennal article 1 brownish yellow at base, becoming distally darker; article 2 and all other dark brown to black. Article 1 longer and much broader in males than in females (Fig. 16); fourth antennal article in males slightly curved and articles 4 and 5 with elongated distal edges (Figs 16A, B); length of antennal articles 2 to 3: males: 0.53–0.61 (mean: 0.57), females: 0.53–0.64 (mean: 0.59); length of antennal articles 3 to 4: males: 0.82–0.86 (mean: 0.85), females: 0.71–0.75 (mean: 0.73).

Thorax. Pronotal length: males: 1.05–1.10 mm (mean: 1.07 mm), females: 1.05–1.10 mm (mean: 1.07 mm); pronotal width: males: 1.60–1.65 mm (mean: 1.62 mm), females: 1.65–1.90 mm (mean: 1.75 mm); pronotal length to width: males: 0.63–0.66 (mean: 0.65), females: 0.63–0.64 (mean: 0.63). Elytra brownish yellow to brown, without any cavities or extrusions; length of elytron: males: 4.00–4.40 mm (mean: 4.15 mm), females: 3.95–4.45 mm (mean: 4.26 mm); width of both elytra: males: 2.50–2.65 mm (mean: 2.60 mm), females: 2.70–2.85 mm (mean: 2.78 mm); width of both elytra to length of elytron: males: 0.59–0.66 (mean: 0.62), females: 0.64–0.70 (mean: 0.65). Mesothorax brownish yellow, metathorax dark brown. Coxae and trochantera of hind legs and femora, tibiae and tarsi of all legs dark brown; coxae and trochantera of fore and middle legs brownish yellow.

Abdomen. Dark brown.

Male genitalia. Median lobe very slender, in dorsal view somewhat conical but significantly enlarged at apex. In lateral view straight with two ventral bends, one in the basal quarter shortly above the orifice and one in the apical quarter below the apex (Fig. 14A). Apex not dorso-



Figs 13–17: Morphology of *Afrocrania foveolata* (Karsch, 1882). 13 – habitus, dorsal; 14 – median lobe, lateral (A), dorsal (B), ventral, without endophallic structures (C); 15 – spermathecae of two different females; 16 – basal antennal articles, male (A, B), female (C, D); 17 – bursa-sclerites, dorsal.

ventrally compressed (Fig. 14A). Ventral groove without spurs (Fig. 14C). Orifice nearly circular. Endophallus

with paired hooked and straight ventral spiculae (Figs 14A, B).

Female genitalia. Spermatheca with slightly widened nodulus; middle part broad and curved; cornu slender and homogeneously curved (Fig. 15); bursa-sclerites slender and usually with 5 spines (Fig. 17).

Diagnosis. *A. foveolata* is characterized by a peculiar head cavity and horned antennal articles 4 and 5 of the males. There are two other *Afrocrania* species with a similar median keel in the head cavity, *A. assimilis* and *A. kaethae* sp. n. (Figs 18 and 24), but *A. foveolata* can be distinguished from them as it is the only species having antennal articles 4 and 5 with elongated distal edges ("horned"), whereas the fourth antennal article in *A. assimilis* and *A. kaethae* sp. n. is horned (Fig. 20A, B and 26A, B). Furthermore, the fourth antennal article of *A. foveolata,* in both males and females, is relatively shorter than in other *Afrocrania* species, i. e. length of antennal articles 3 to 4 is greater in *A. foveolata* (males: 0.82–0.86, mean: 0.85; females: 0.71–0.75, mean: 0.73). Females of *A. foveolata* have on average the broadest elytra of all *Afrocrania* species (elytral width to length: 0.64–0.70, mean: 0.65).

Distribution. Recorded only from Gabon and Congo. Very little material is available and for specimens collected in the Congo no exact location is given (Fig. 23).

Material examined:

Type material. *"Pseudocrania foveolata"*. Holotype: ♀ "61215, Chinchoxo, Falkenst., Type, *foveolata* Karsch" (MNHU). Gabon: Chinchoua: 0°2'S/9°48'E; examined.

"Monolepta africana". Lectotype: ♀ "Congo; Jacoby coll. 1909–28a" (BMNH); this designation. Paralectotypes: 3 females, same labels as lectotype (BMNH); this designation.

No holotype was designated, neither on the labelled specimens, nor in the original publication.

"Pseudocrania nigricornis". Lectotype: ♂ "Gabun, Stauding. *Pseudocrania nigricornis* Weise, *Pseudocrania foveolata* Karsch, *africana, nigricornis*" (MNHU); this designation. - Paralectotypes: 2 ♂ "Gabun, Stauding". (MNHU); 2 ♀, same labels as male paralectotypes (MNHU); this designation. No holotype was designated, neither on the labelled specimens, nor in the original publication.

Other material examined. Gabon: 1 spec. (ZMUH).

Afrocrania assimilis (Weise, 1903)

Pseudocrania assimilis Weise, 1903: 322.
Afrocrania assimilis: Wilcox, 1973: 597.

Redescription

Total length. Males: 5.50–5.95 mm (mean: 5.80 mm); females: 5.45–6.10 mm (mean: 5.80 mm).

Head. Labrum, labial and maxillary palpi dark brown, mandibulae brownish yellow with darker apices. Frons and vertex brownish yellow. Head cavity deep, with median, longitudinal keel from above the labrum to the middle of the cavity, cavity margins elevated (Fig. 18). Antennal article 1 brownish yellow at base, dark brown or black from middle to distal end; all distal articles also dark brown or black. Antennae longer than elytra, total antennal length: males: 5.40–5.60 mm (mean: 5.50 mm), females: 4.60–4.75 mm (mean: 4.67 mm); antennal length to elytral length: males: 1.28–1.29 (mean: 1.29), females: 1.07–1.12 (mean: 1.09). Article 1 much longer and broader in males than in females (Fig. 20). Fourth antennal article in males slightly curved and its distal end elongated (Figs 16A, B); length of antennal articles 2 to 3: males: 0.69–0.92 (mean: 0.80), females: 0.73–0.83 (mean: 0.77); length of antennal articles 3 to 4: males: 0.44–0.57 (mean: 0.50), females: 0.54–0.60 (mean: 0.57).

Thorax. Protonal length: males: 0.90–1.05 mm (mean: 0.96 mm), females: 0.90–1.00 mm (mean: 0.93 mm); pronotal width: males: 1.40–1.55 mm (mean: 1.48 mm), females: 1.35–1.55 mm (mean: 1.47 mm); pronotal length to width: males: 0.64–0.66 (mean: 0.65), females: 0.62–0.64 (mean: 0.63). Elytra brownish yellow, without any cavities or extrusions, elytral length: males: 3.55–3.90 mm (mean: 3.73 mm), females: 3.70–4.10 mm (mean: 3.87 mm); width of both elytra: males: 2.00–2.30 mm (mean: 2.19 mm), females: 2.00–2.30 mm (mean: 2.20 mm); width of both elytra to length of elytron: males: 0.55–0.62 (mean: 0.58), females: 0.50–0.62 (mean: 0.57). Mesothorax brownish yellow to brown, metathorax dark brown. Legs usually dark brown with femora distally and tibiae proximally somewhat paler. Sometimes coxae and trochantera also paler than femora.

Abdomen. Dark brown.

Median lobe slender, ventrally curved with basal three quarters uniformly bent, and one sharper subapical bend (Fig. 19A). Apex somewhat dorso-ventrally compressed. Ventral groove of median lobe without spurs (Figs 19A, C). Orifice nearly ovate. Endophallus with paired hooked and straight ventral spiculae (Figs 19A, B).

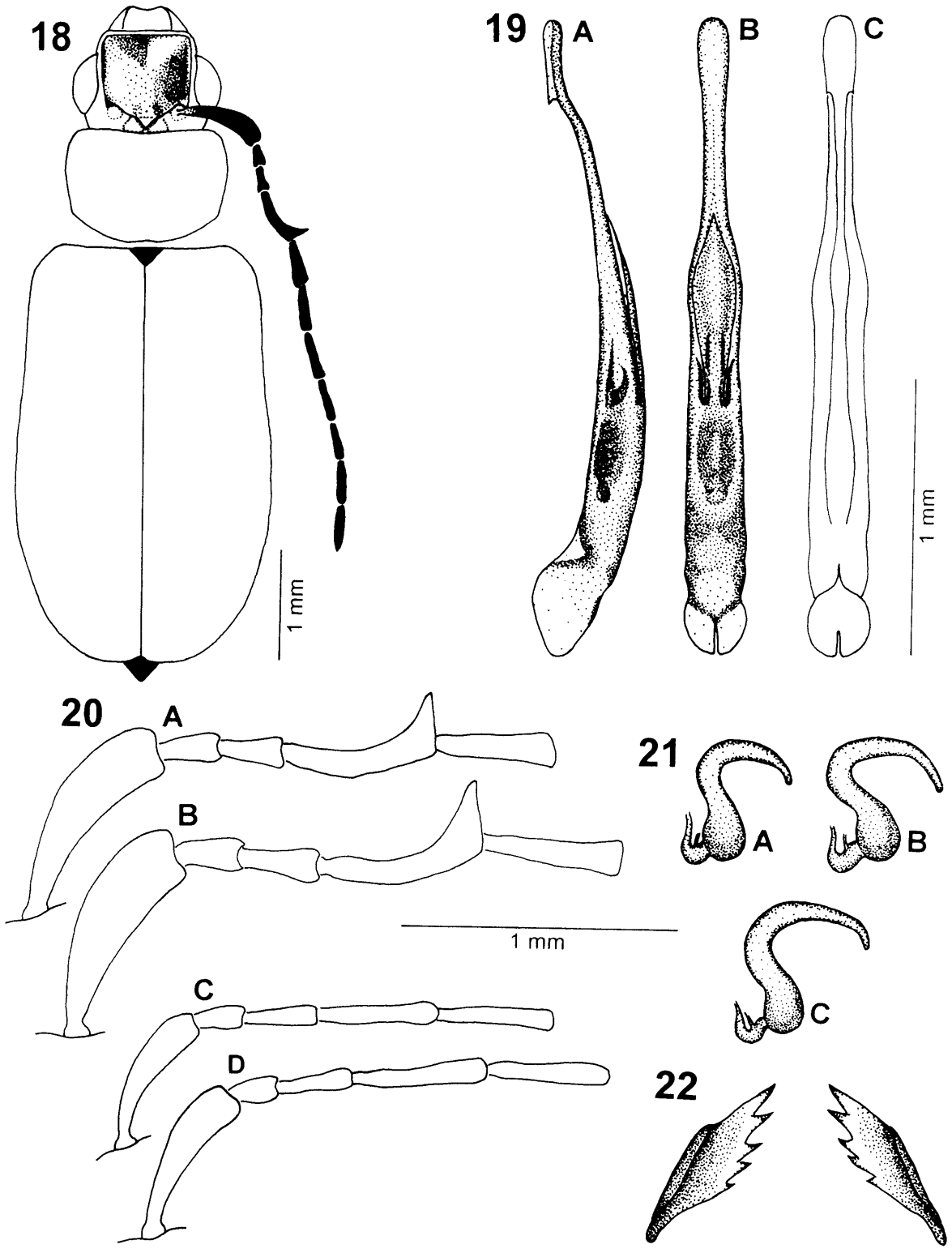
Female genitalia. Spermatheca with slightly widened nodulus; middle part broad and curved; cornu slender, homogeneously curved and of variable length (Fig. 21). Bursa-sclerites broad, usually with 5 spines (Fig. 22).

Diagnosis. *A. assimilis* is characterized by its head cavity and the horned fourth antennal article of the males. Two other *Afrocrania* species have a similarly keeled head cavity. *A. foveolata* can be distinguished by its horned antennal articles 4 and 5. *A. kaethae* sp. n. has only the fourth article horned (cf. Figs 20A, B, 26A, B and 13A, B), and can also be distinguished from *A. assimilis* by its shallow head cavity (cf. Figs 18 and 24). Furthermore, the fourth antennal article in males of *A. assimilis* (length of antennal articles 3 to 4: 0.44–0.57, mean: 0.50) is relatively much longer than in *A. kaethae* sp. n. (length of antennal articles 3 to 4: 0.50–0.83, mean: 0.69; cf. Figs 20A, B and 26A, B). It also differs from other *Afrocrania* species in having an apically and ventrally bent median lobe, a relatively short antennal article 3, in the shape of the spurless ventral groove, and in having ventral hooks at the apex of the median lobe.

Distribution. Recorded only from Cameroon (Fig. 23).

Material examined:

Type material. Lectotype: ♂ "Joh. Albr. Höhe". Cameroon: 4°37'N/9°26'E (MNHU); this designation. - Paralectotype: 1 ♀ "Joh. Albr. Höhe, *Pseudocrania assimilis* m. 1903" Conradt, Cameroon (MNHU); this designation. No holotype was designated, neither on the labelled specimens, nor in the original publication.



Figs 18–22: Morphology of *Afrocrania assimilis* (Weise, 1903). 18 – habitus, dorsal; 19 – median lobe, lateral (A), dorsal (B), ventral, without endophallic structures (C); 20 – basal antennal articles, male (A, B), female (C, D); 21 – spermathecae of three different females; 22 – bursa-sclerites, dorsal.

Other material examined. Cameroon: 12 spec., Conradt, coll. Kraatz (DEI); 1 spec., Conradt, le Moult vend. (ZMUH); 3 spec., le Moult vend. (ZMUH); 3 spec., Sjöstedt, coll. Jacoby (BMNH); 1 spec., Ngoko, river valley, 1°58'N/15°32'E, I.1900, le Moult vend. (ZMUH); 2 spec., Namiong near Lolodorf at Lokundje river, 3°17'N/10°50'E, O. Ulbrich (MNHU).

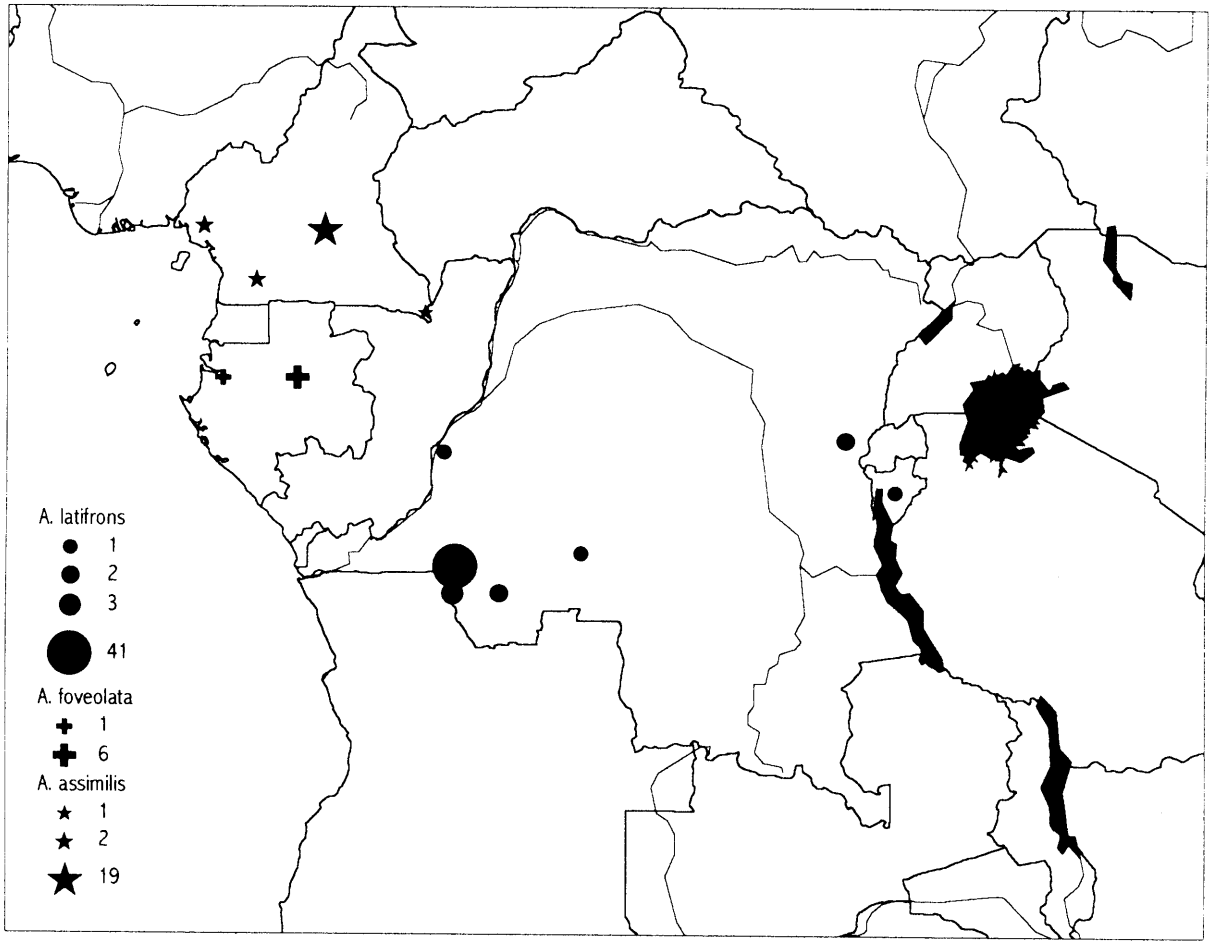


Fig. 23. Distribution of *A. latifrons* (Weise, 1892), *A. foveolata* (Karsch, 1882) and *A. assimilis* (Weise, 1903).

***Afrocrania kaethae* sp. n.**

Description.

Total length. Males. 5.30–5.95 mm (mean: 5.54 mm); females: 5.60–6.50 mm (mean: 6.00 mm).

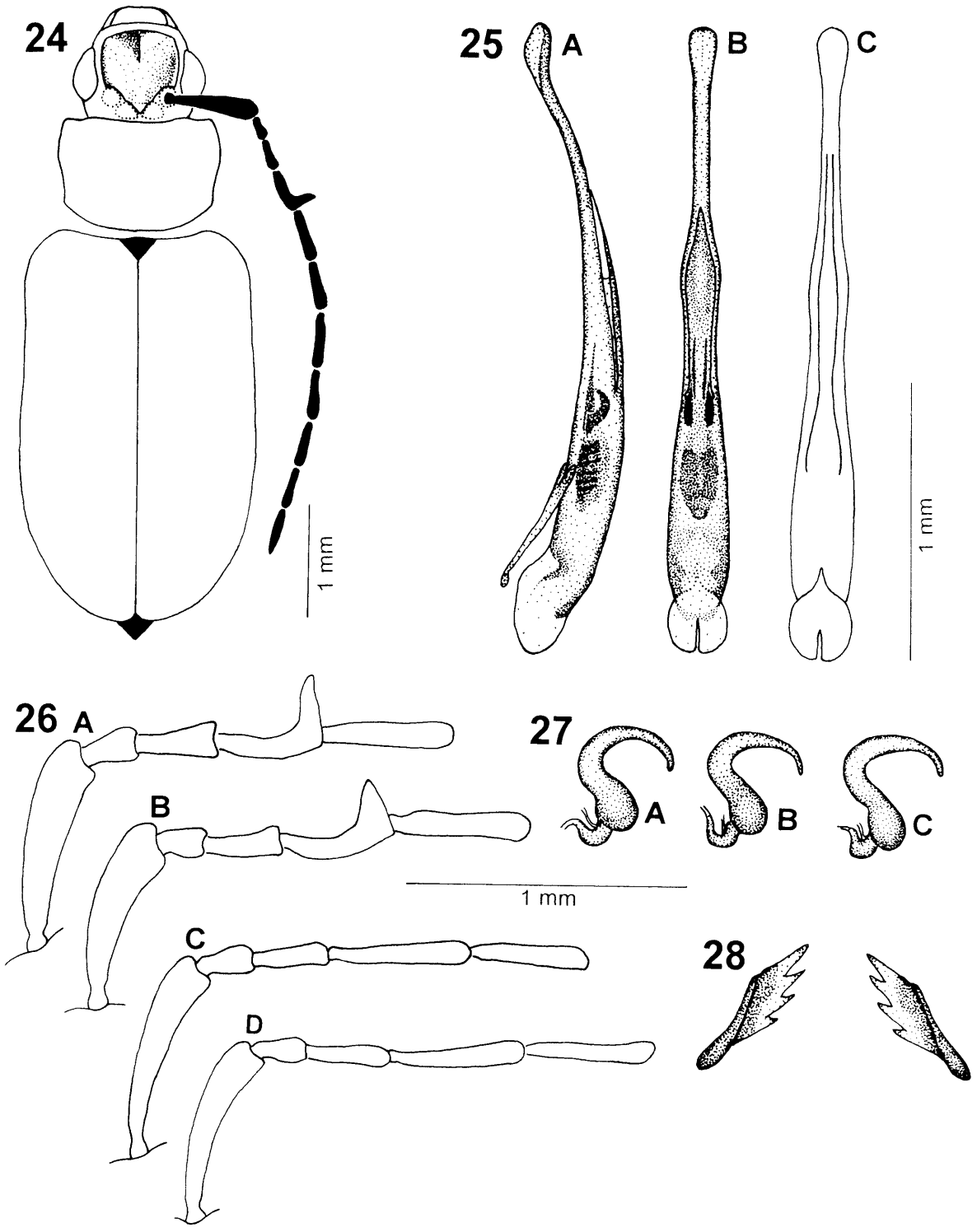
Head. Labrum, labial and maxillary palpi brown, mandibulae brownish yellow to brown. Frons and vertex yellow to brownish yellow; head cavity shallow, with small longitudinal median keel from above the labrum to the middle of the cavity; cavity margins slightly elevated (Fig. 24). Antennae dark brown or black from base to apex, usually longer than elytra; total antennal length: males: 4.65–5.00 mm (mean: 4.83 mm), females: 4.60–4.75 mm (mean: 4.67 mm); antennal length to elytral length: males: 1.28–1.40 (mean: 1.33), females: 0.97–1.10 (mean: 1.04). Antennal article 1 of males only somewhat broader than in females (Fig. 26). Fourth male antennal article slightly curved, distal edge elongated (Figs 26A, B); length of antennal articles 2 to 3: males: 0.66–0.90 (mean: 0.76), females: 0.61–0.83 (mean: 0.70); length of antennal articles 3 to 4: males: 0.50–0.83 (mean: 0.69), females: 0.62–0.76 (mean: 0.68).

Thorax. Pronotal length: males: 0.90–1.05 mm (mean: 0.96 mm), females: 0.90–1.05 mm (mean: 0.97 mm); pronotal width: males: 1.30–1.50 mm (mean: 1.44 mm), females: 1.45–1.65 mm (mean: 1.55 mm); pronotal length to width: males: 0.65–0.69 (mean: 0.67), females: 0.63–0.67 (mean: 0.64). Elytra yellow or brownish yellow, sometimes reddish, without any cavities or extrusions, length of elytra: males: 3.35–3.80 mm (mean: 3.52 mm), females: 3.60–4.40 mm (mean: 3.97 mm); width of both elytra: males: 2.10–2.35 mm (mean: 2.18 mm), females: 2.20–2.70 mm (mean: 2.47 mm); width of both elytra to length of elytron: males: 0.59–0.65 (mean: 0.62), females: 0.58–0.67 (mean: 0.62). Mesothorax usually brownish yellow, rarely dark brown; metathorax dark brown. Legs dark brown with coxae and trochantera often somewhat paler.

Abdomen. Dark brown.

Male genitalia. Median lobe very slender, more or less uniformly curved ventrally (Fig. 25A); apex not dorsoventrally compressed. Ventral groove without spurs (Figs 25A, C). Median lobe slightly enlarged in apical half and at apex (Figs 25B, C). Orifice nearly ovate. Endophallus with paired hooked and straight ventral spiculae (Figs 25A, B).

Female genitalia. Slightly widened nodulus of spermatheca; middle part broad and curved; cornu uniformly curved (Fig. 27A) or with a somewhat sharper bend near apex (Figs 27B, C), narrowed towards apices. Bursasclerites relatively small but still larger than spermatheca, with 4–5 spines (Fig. 28).



Figs 24–28: Morphology of *Afrocrania kaethae* sp. n. 24 – habitus, dorsal; 25 – median lobe, lateral (A), dorsal (B), ventral, without endophallic structures (C); 26 – basal antennal articles, male (A, B), female (C, D); 27 – spermathecae of three different females; 28 – bursa-sclerites, dorsal.

Diagnosis. Males of *A. kaethae* are characterized by a shallow head cavity and horned fourth antennal article. It is most similar to *A. assimilis,* which also has the fourth antennal article horned in males. However, these two species can be distinguished by the depth of their head cavity, which is much deeper in *A. assimilis* (cf. Figs 18 and 24), the fourth antennal article in males, which is longer in *A. assimilis* (length of antennal article 3 to 4: 0.44–0.57, mean: 0.50) than in *A. kaethae* sp. n. (length of antennal article 3 to 4: 0.50–0.83, mean: 0.69; cf. Figs 20A, B, 26A, B), and by the horned fifth antennal article in *A. assimilis*. In comparison to other *Afrocrania* species

studied here, both males and females of *A. kaethae* sp. n. have the narrowest pronotum (pronotal length to width: males: 0.65–0.69, mean: 0.67; females: 0.63–0.67, mean: 0.64).

Distribution. This species is mainly recorded from western Central Africa (Fig. 35).

Etymology. Named in honour of J. Middelhauve's late grandmother Käthe Maria Middelhauve.

Material examined:

Type material. Holotype: ♂ "Tshela, 8–3–24, le Moult vend., via Reinbeck, Eing. 1–1957". Congo-Brazzaville: Mayumbe: Tshela, 4°57'S/12°57'E (ZMUH). - Paratypes: Cameroon: 2 spec., Batouri, 4°26'N/14°27'E, Naumann (MNHU); 2 spec., Ebolowa, 2°56'N/11°11'E, IV.1912, S. G. v. Rothkirch (MNHU). - Central African Republic: 3 spec., Uam, 6°16'N/16°22'E, V.1914, Tessmann (MNHU); 3 spec., Obersanga, 4°1'N/16°7'E, Naumann (MNHU). - Congo: 1 spec., Albertville, 5°56'S/29°12'E, XII.1918, R. Mayné (MRAC); 1 spec., Lukuga, river basin, 5°40'S/26°55'E, VII.1934, de Saeger (MRAC); 11 spec., Kabinda: Seke, 5°08'S/25°44'E, VI.1911, R. Mayné (MRAC); 1 spec., Kambaye, 6°53'S/23°44'E, IX.1930, P. Quarré (MRAC); 1 spec., Mutombo-Mukulu, 7°58'S/24°0'E, VI.1913, P. Quarré (MRAC). - Congo-Brazzaville: 1 spec., Mayumbe, 4°30'S/12°30'E, 1931, R. P. Vanderyst (MRAC); 2 spec., Tshela, 4°57'S/12°57'E, III.1924, (ZMUH); 6 spec., Tshela, 4°57'S/12°57'E, X.1923, IX.1924, V.1925, A. Collart (MRAC); 9 spec., Ganda-Sundi, 4°47'S/12°54'E, VII.1911, R. Mayné (MRAC); 1 spec., Luvu, 5°24'S/15°32'E, X.1923, A. Collart (MRAC); 1 spec., Kwimba, 4°30'S/12°30'E, X.1924, A. Collart (MRAC); 2 spec., Zobe, 5°07'S/12°37'E, I.1916, R. Mayné (MRAC); 13 spec., Lukula, 5°23'S/12°57'E, 1911, Daniel (MRAC); 1 spec., Lemfu, 5°18'S/15°13'E, 1930, R. P. van Eyden (MRAC); 1 spec., Lukula, 5°23'S/12°57'E, IX.1920, H. Schouteden (MRAC); 14 spec., M'sessé par Loango, 5°0'S/13°30'E, 1912, coll. E. Cordier (IRSNB); 1 spec., Kiniati, 5°20'S/12°56'E, XII.1915, R. Mayné (MRAC); without further location specification: 1 spec., 5°0'S/13°30'E, (ZMUH). - Equatorial Guinea: 1 spec., 1946–1948, J. Palau (MRAC). - Gabon: 1 spec., Ogoué, 1°0'S/9°25'E (ZMUH); 2 spec., Ndjolé, 0°07'S/10°45'E, XI.1902, L. Fea (MCSG).

Afrocrania luciae sp. n.

Description.

Total length. Males: 5.90–6.35 mm (mean: 6.10 mm); females: 6.30–6.85 mm (mean: 6.50 mm).

Head. Labrum, labial and maxillary palpi brownish yellow to brown; mandibulae brownish yellow, darker towards apices. Frons and vertex yellow to brownish yellow. Head cavity without keel but not evenly deep (Fig. 29). First to third antennal articles in males brownish yellow, all other articles dark brown (Fig. 29). Female antennae with first article brownish yellow, articles 2 and 3 proximally yellow-brown, distally dark brown, all other articles dark brown. Antennae longer than elytra, total antennal length: males: 5.00–5.15 mm (mean: 5.07 mm), females: 4.70–4.90 mm (mean: 4.80 mm); antennal length to elytral length: males: 1.21–1.25 (mean: 1.23), females: 1.09–1.13 (mean: 1.11). First article in males slightly broader than in females (Fig. 32); articles 4–6 in males slightly curved (Figs 29, 32A, B); length of antennal articles 2 to 3: males: 0.71–0.83 (mean: 0.78), females: 0.70–0.80 (mean: 0.75); length of antennal articles 3 to 4: males: 0.46–0.50 (mean: 0.49), females: 0.53–0.60 (mean: 0.57).

Thorax. Pronotal length: males: 0.95–1.05 mm (mean: 0.99 mm), females: 1.00–1.15 mm (mean: 1.05 mm); pronotal width: males: 1.6–1.75 mm (mean: 1.67 mm), females: 1.65–1.80 mm (mean: 1.71 mm); pronotal length to width: males: 0.59–0.63 (mean: 0.61), females: 0.60–0.63 (mean: 0.62). Elytra yellow to brownish yellow, without cavities or extrusions, elytral length: males: 3.90–4.25 mm (mean: 4.09 mm), females: 4.30–4.60 mm (mean: 4.37 mm); width of both elytra: males: 2.30–2.50 mm (mean: 2.44 mm), females: 2.55–2.80 mm (mean: 2.67 mm); width of both elytra to length of elytron: males: 0.57–0.64 (mean: 0.60), females: 0.59–0.62 (mean: 0.60). Mesothorax brownish yellow to brown, metathorax dark brown. Legs dark brown with femora being distally and tibiae proximally brownish yellow; basitarsus of fore and middle legs in males strongly enlarged (Fig. 31).

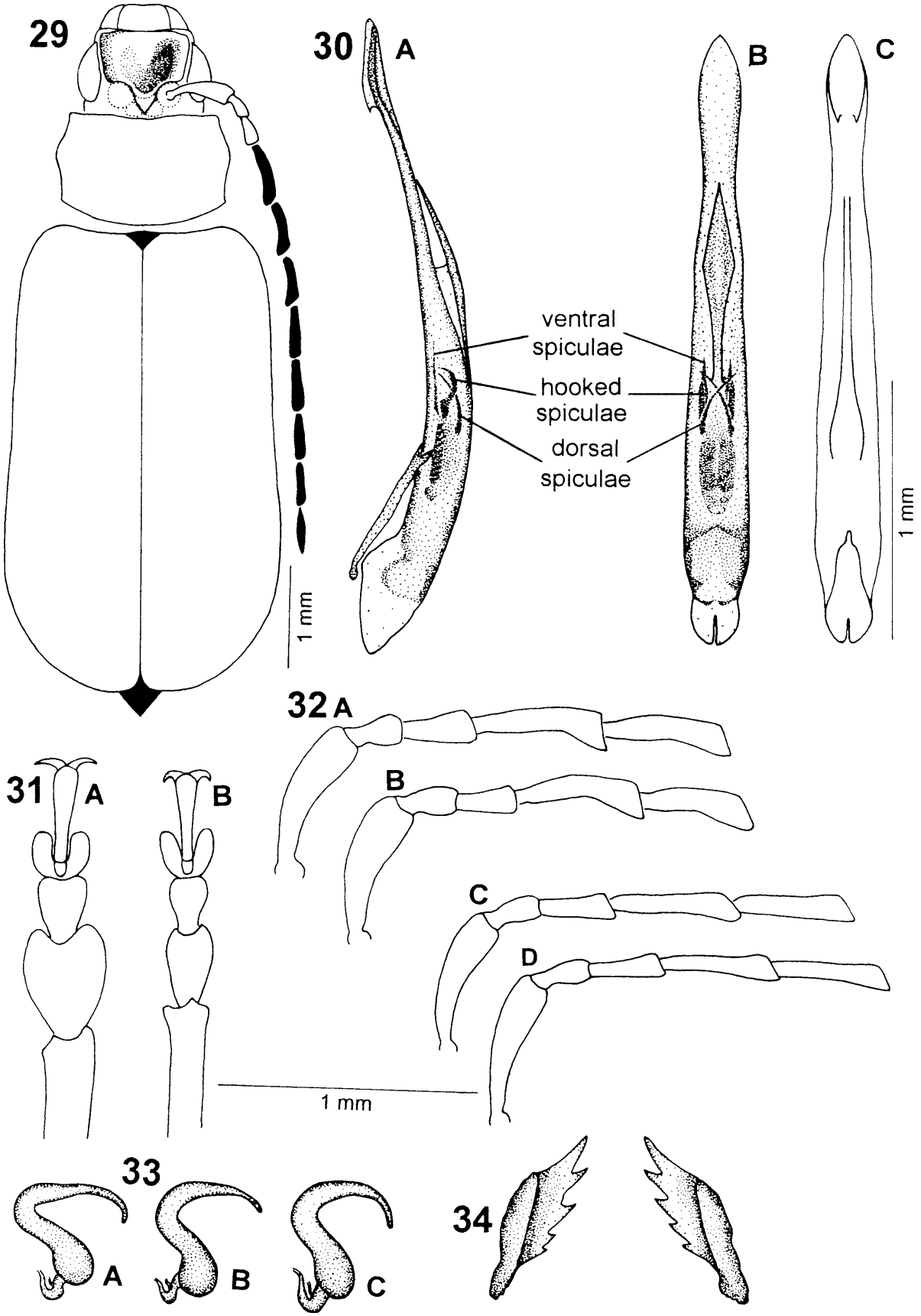
Abdomen. Dark brown.

Male genitalia. Median lobe slender, apically enlarged and strongly dorso-ventrally compressed, spatula-like; more or less uniformly curved ventrally (Fig. 30A). Margin of apex ventrally with two symmetrical ledges forming small hooks (Figs 30A, C); apex pointed. Ventral groove without spurs, relatively short (Figs 30C). Tectum narrow, especially at base. Orifice with narrowed margins, giving the opening a pear-like appearance (Fig. 30C). Endophallus with paired hooked, straight ventral as well as dorsal spiculae, which are curved ventrally and inwards, sometimes crossing (Figs 30A, B).

Female genitalia. Spermatheca with slightly widened nodulus; middle part broad and curved; cornu varying in length and curvature, narrowed towards the apex (Fig. 33); bursa-sclerites (Fig. 34).

Diagnosis. Males of *A. luciae* sp. n. can be easily distinguished by external characters from those of other *Afrocrania* species. A head cavity without a keel is found also in *A. latifrons*, but it differs in shape and outline. Curved antennal articles in males also occur in *A. latifrons,* but only the fourth article is of this shape (Figs 11A, B and 32A, B). Other differences between males of *A. luciae* sp. n. and *A. latifrons* are the basitarsus of the fore and middle legs, which are enlarged in *A. luciae* (Fig. 31A), total length (*A. latifrons*: 5.00–5.50 mm, mean: 5.21 mm; *A. luciae* sp. n.: 5.90–6.35 mm, mean: 6.10 mm), and the spatula-like apex of the median lobe in *A. luciae* sp. n. In contrast to other *Afrocrania* species, and

Figs 29–34: Morphology of *Afrocrania luciae* sp. n. 29 – habitus, dorsal; 30 – median lobe, lateral (A), dorsal (B), ventral, without endophallic structures (C); 31– tarsus and distal part of tibia of prothoracic leg in males of *A. luciae* (A) and *A latifrons* (B); 32 – basal antennal articles, male (A, B), female (C, D); 33 – spermathecae of three different females; 34 – bursa-sclerites, dorsal.


29
30
A
B
C
ventral spiculae
hooked spiculae
dorsal spiculae
1 mm
1 mm
31
A
B
32
A
B
C
D
1 mm
33
A
B
C
34

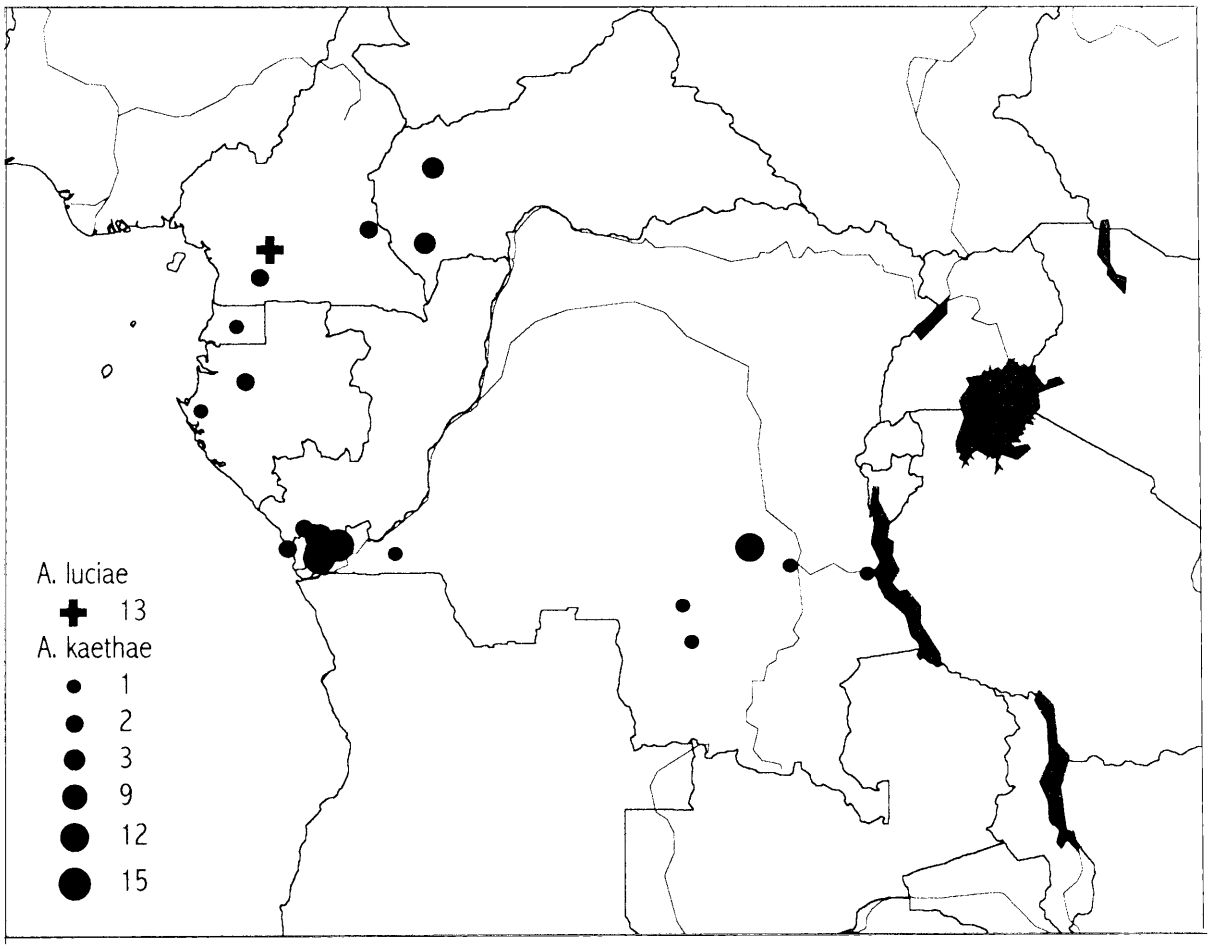


Fig. 35. Distribution of *A. kaethae* sp. n., and *A. luciae* sp. n.

similar to *A. assimilis*, both males and females of *A. luciae* sp. n. have relatively short third antennal articles.

Distribution. *A. luciae* sp. n. is recorded from only one location in central Cameroon (Fig. 35).

Etymology. Named in honour to J. Middelhauve's late grandmother Antonie Lucie Perleß.

Material examined:

Type material. Holotype: ♂ "Cameroun, 1949–50, 15/2–768, Lok. RFN, J.B.-S., J.D.– Nyong (ZMUC). - Paratypes: Cameroon: 12 spec., Nyong, 3°51'N/11°31'E, J.B.-S. (ZMUC).

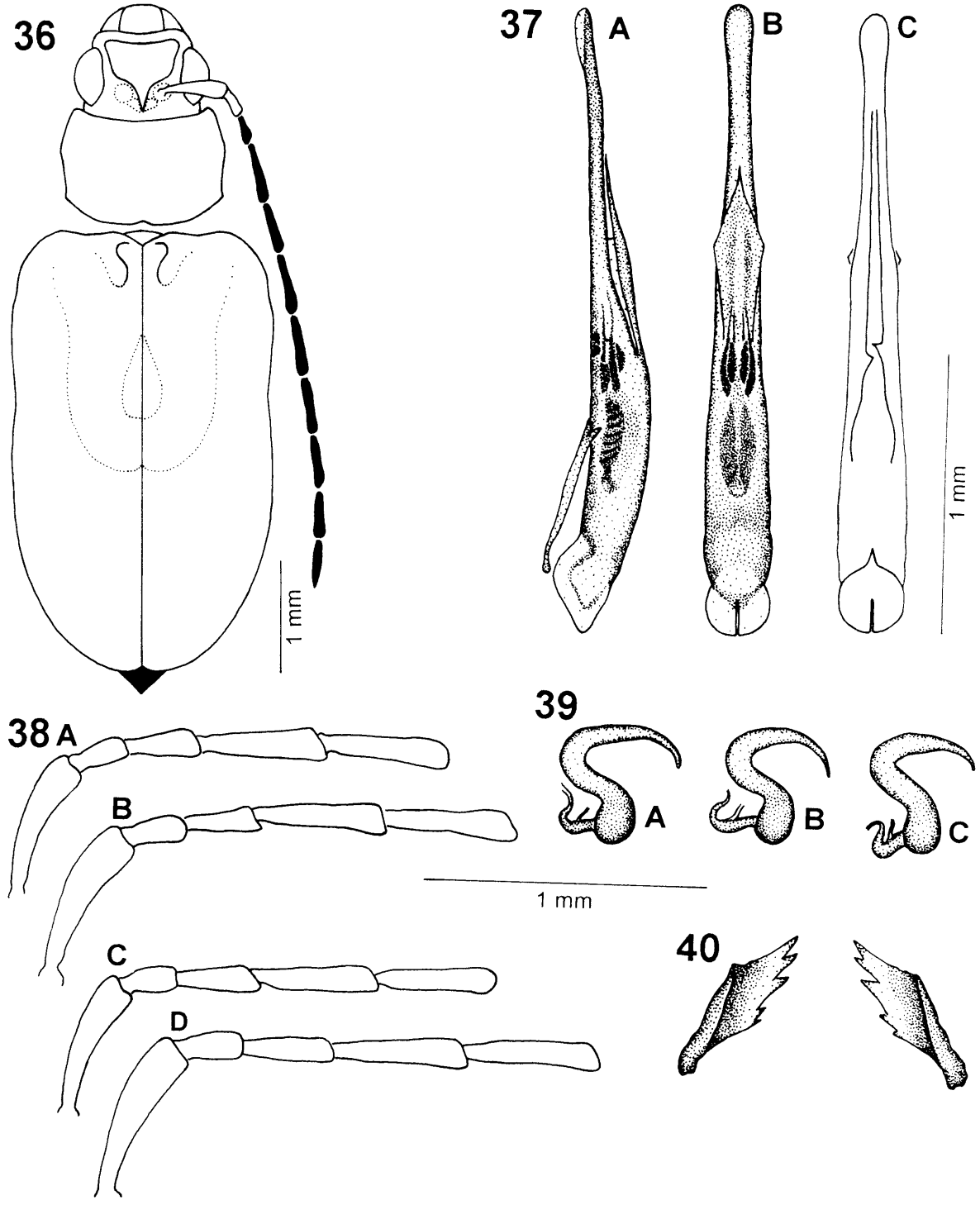
Afrocrania kakamegaensis sp. n.

Description.

Total length. Males: 5.60–5.90 mm (mean: 5.75 mm); females: 6.00–6.70 mm (mean: 6.25 mm).

Head. Labrum black, labial and maxillary palpi brown; mandibulae brownish yellow to brown with darker apices. Frons and vertex brownish yellow to brown. Head cavity absent, but frons between eyes slightly elevated (Fig. 36). First and second antennal article yellow, all other articles dark brown to black, or first article yellow, brown distally, second article brown and others black. Length of antennae: males: 4.75–4.80 mm (mean: 4.77 mm), females: 4.50–4.80 mm (mean: 4.65 mm). Antennae of males longer than elytra (antennal length to elytral length: 1.18–1.28, mean: 1.23), antennae of females more or less same length as elytra (antennal length to elytral length: 1.00–1.06, mean: 1.03). Antennae in males slender, without curved or horned articles. Article 1 not broader than in females (Fig. 38); length of antennal articles 2 to 3: males: 0.62–0.69 (mean: 0.67), females: 0.64–0.73 (mean: 0.69); length of antennal articles 3 to 4: males: 0.53–0.60 (mean: 0.57), females: 0.62–0.67 (mean: 0.65).

Thorax. Pronotal length: males: 0.95–1.00 mm (mean: 0.97 mm), females: 1.00–1.10 mm (mean: 1.04 mm); pronotal width: males: 1.55–1.65 mm (mean: 1.60 mm), females: 1.60–1.75 mm (mean: 1.70 mm); pronotal length to width: males: 0.60–0.63 (mean: 0.62), females: 0.60–0.63 (mean: 0.61). Elytra brownish yellow to brown, sometimes even reddish; at base deepened, with two small protruding bulges close to the scutellum. In addition, the basal half of the elytra has a distally ovate elevation, which has a shallow groove in its centre (Fig. 36). Length of elytra: males: 3.75–4.05 mm (mean: 3.88 mm), females: 4.05–4.70 mm (mean: 4.30 mm); width of both elytra: males: 2.40–2.50 mm (mean: 2.47 mm), females: 2.60–2.80 mm (mean: 2.68 mm); width of both elytra to length of elytron: males: 0.60–0.66 (mean: 0.63), females: 0.60–0.67 (mean: 0.62). Meso- and metathorax dark brown. Legs in females completely black, in males



Figs 36–40: Morphology of *Afrocrania kakamegaensis* sp. n. 36 – habitus, dorsal; 37 – median lobe, lateral (A), dorsal (B), ventral, without endophallic structures (C); 38 – basal antennal articles, male (A, B), female (C, D); 39 – spermathecae of three different females; 40 – bursa-sclerites, dorsal.

black with femora being distally and tibiae proximally brownish yellow.

Abdomen. Dark brown.

Male genitalia. Median lobe slender and nearly straight, in lateral view curved at orifice. Ventral groove with spurs near the middle of the median lobe (Fig. 37C). Position of these spurs somewhat variable in different populations. Apex of median lobe slightly enlarged (Figs 37B, C). Tectum broad, maximum width exceeds median lobe at its widest point. Orifice nearly circular (Fig. 37C). Endophallus with paired hooked, straight ventral and more or less straight dorsal spiculae (Figs 37A, B).

Female genitalia. Spermatheca with slightly widened nodulus; middle part broad and curved; curvature of cornu varying, narrowed towards apex (Fig. 39); bursa-sclerites (Fig. 40).

Distribution. *A. kakamegaensis* sp. n. is recorded from two locations in western Kenya and from several locations in northern Congo (Fig. 51).

Diagnosis. Males of *A. kakamegaensis* sp. n. can be easily distinguished from other *Afrocrania* species by their characteristic elytral extrusions. *A. longicornis* sp. n. and *A. ubatubae* sp. n. similarly lack a head cavity and horned or curved antennal articles but have different types of elytral extrusions (cf. Figs 36, 41 and 46).

Etymology. Named after the type locality Kakamega Forest, Kenya, where many specimens were recently collected.

Material examined:

Type material. Holotype: male "Kenya, Kakamega F., 0°22'N/34°50E, 1800 m, 7.–11.II.99, Th. Wagner leg." (NMK). - Paratypes: Congo: 1 spec., Dingila, 3°39'N/26°04'E, IX.1933, J. V. Leroy (MRAC); 1 spec., Bambesa, 3°28'N/25°43'E, VI.1937, J. Vrydagh (MRAC); 75 spec., Uelé: P.N.G., 3°47'N/23°05'E, IV.-XI.1950. Réc. G. Demoulin, Miss. de Saeger (MRAC); 1 spec., Mako-Moto, 2°57'N/29°22'E, L. Burgeon (MRAC). - Kenya: 8 spec., Maramas: Ilala, 20km east of Mumias, 0°20'N, 34°29'E, 1500m, VI.1911, S. A. Neave (BMNH); 37 spec., Kakamega Forest, 0°22'N/34°50E, II.1999, Th. Wagner (10 NMK, 27 ZFMK).

Afrocrania longicornis sp. n.

Description.

Total length. Males: 6.05–6.30 mm (mean: 6.17 mm); females: 6.10–6.80 mm (mean: 6.48 mm).

Head. Labrum dark brown, labial and maxillary palpi brown; mandibulae dark brown, becoming black towards apices. Frons and vertex brownish yellow to brown. Head cavity absent, frons between eyes slightly elevated (Fig. 41). First and second antennal article brownish yellow, third article somewhat darker and fourth to eleventh article dark brown. Antennae of males slightly enlarged, total antennal length: 5.65–5.80 mm (mean: 5.72 mm), total length of female antennae: 4.70–5.20 mm (mean: 4.95 mm). Antennae of males much longer than elytra; antennal length to elytral length: 1.38–1.41 (mean: 1.40); antennae of females slightly longer than elytra; antennal length to elytral length: 1.09–1.15 (mean: 1.12). Antennae in males relatively broad, without curved or horned articles. Article 1 much broader than in females (Fig. 43); length of antennal articles 2 to 3: males: 0.65–0.68 (mean: 0.66), females: 0.62–0.66 (mean: 0.64); length of antennal articles 3 to 4: males: 0.64–0.65 (mean: 0.65), females: 0.67–0.69 (mean: 0.68).

Thorax. Pronotal length: males: 1.00–1.05 mm (mean: 1.02 mm), females: 0.85–1.10 mm (mean: 1.00 mm); pronotal width: males: 1.65–1.70 mm (mean: 1.69 mm), females: 1.65–1.90 mm (mean: 1.75 mm); pronotal length to width: males: 0.60–0.61 (mean: 0.61), females: 0.56–0.62 (mean: 0.59). Elytra brownish yellow to brown, with longitudinal extrusions in the basal third near the suture, and lack a well-marked w-shaped elevation behind (Fig. 41); elytral length: males: 4.00–4.20 mm (mean: 4.10 mm), females: 4.00–4.55 mm (mean: 4.36 mm); width of both elytra: males: 2.50–2.70 mm (mean: 2.60 mm), females: 2.65–2.90 mm (mean: 2.73 mm); width of both elytra to length of elytron: males: 0.62–0.65 (mean: 0.63), females: 0.60–0.65 (mean: 0.63). Mesothorax brownish yellow to dark brown, metathorax dark brown. Legs dark brown with femora distally and tibiae proximally brownish yellow.

Abdomen. Brownish yellow to brown, usually paler than metathorax.

Male genitalia. Median lobe slender and nearly straight, in lateral view slightly curved at orifice; apex of median lobe slightly enlarged (Figs 42B, C). Ventral groove with strong spurs near the middle of the median lobe (Fig. 42C). Orifice with narrowed sides, pear-shaped (Fig. 42C). Endophallus with paired hooked spiculae, straight ventral spiculae, and slightly ventrally curved dorsal spiculae (Figs 42A, B).

Female genitalia. Spermatheca with slightly widened nodulus; middle part broad and curved; curvature of cornu varies, narrowed towards the apex (Fig. 44); bursa-sclerites like Fig. 45.

Diagnosis. Males of *A. longicornis* sp. n. are characterized by their long antennae and the peculiar shape of the elytral base. *A. longicornis* sp. n. is very similar to *A. ubatubae* sp. n., which also has longitudinal extrusions on the elytral base and lacks a head cavity and horned or curved antennal articles (cf. Figs 41 and 46). However, these two species can be distinguished easily since *A. ubatubae* sp. n. has significantly shorter and more slender antennae (antennal length to elytral length in males: *A. ubatubae* sp. n.: 1.22–1.28, mean: 1.25; *A. longicornis* sp. n.: 1.38–1.41, mean: 1.40; cf. Figs 43A, B and 48A, B). Males of *A. longicornis* sp. n. have the longest antennae of all *Afrocrania* species, whereas those of the females are not significantly longer than those of other *Afrocrania* species. However, both males and females of *A. longicornis* sp. n. have a yellow to brownish yellow abdomen, which distinguishes them from all other *Afrocrania* species herein revised. Furthermore, females of *A. longicornis* sp. n. have on average the broadest pronotum of all *Afrocrania* species (pronotal length to width 0.56–0.62, mean: 0.59).

Distribution. *A. longicornis* sp. n. is recorded from only one location in southern Congo (Fig. 51).

Etymology. This species is named after the very long antennae of the males.

Material examined:

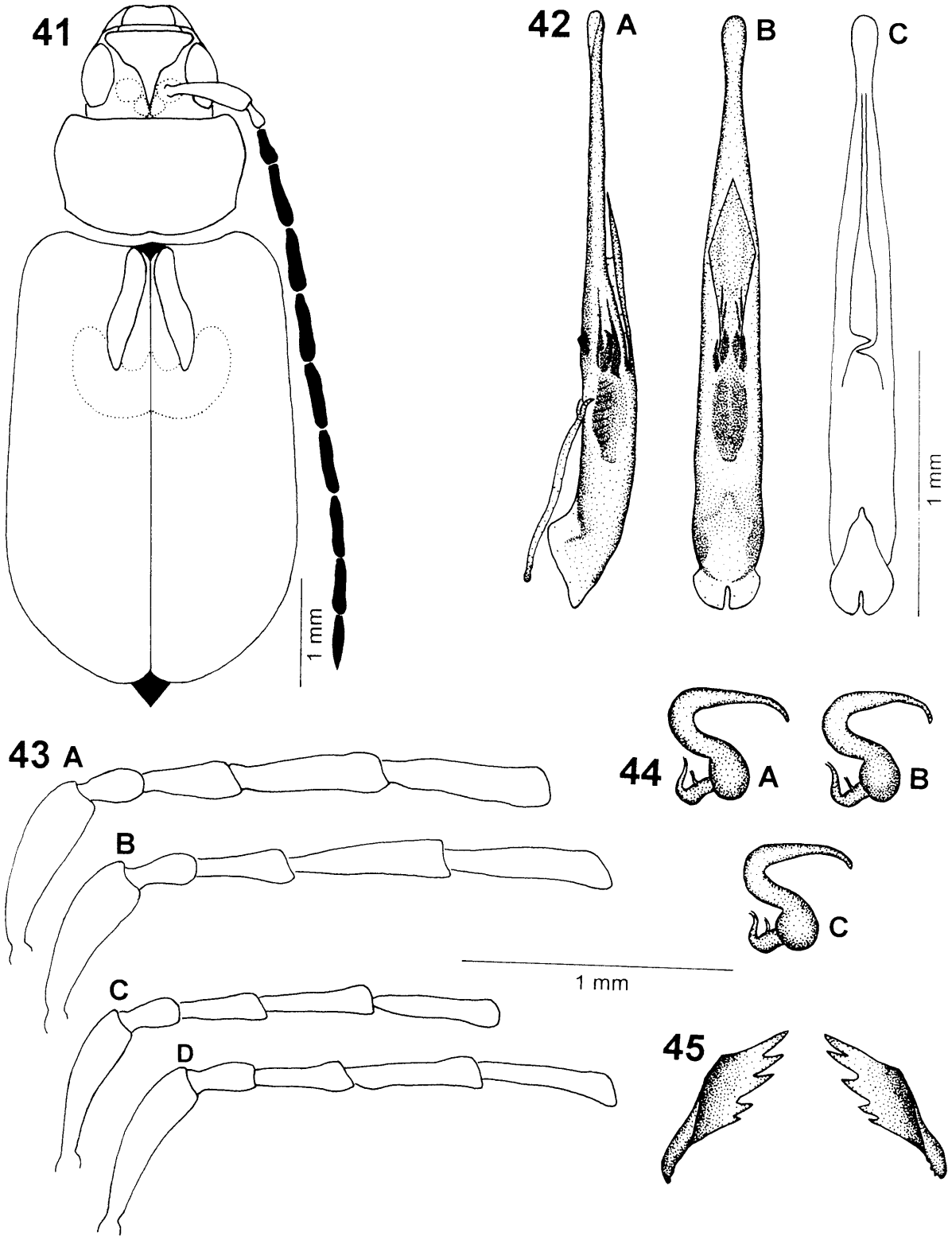
Type material. Holotype: ♂ "Musée du Congo, Sandoa, I-1932, G. F. Overlaet", Congo: Lulua: Sandoa, 9°41'S/22°52'E, (MRAC). - Paratypes: Congo: 11 spec., Lulua: Sandoa, 9°41'S/22°52'E, I.1932, G. F. Overlaet (MRAC).

Afrocrania ubatubae sp. n.

Description.

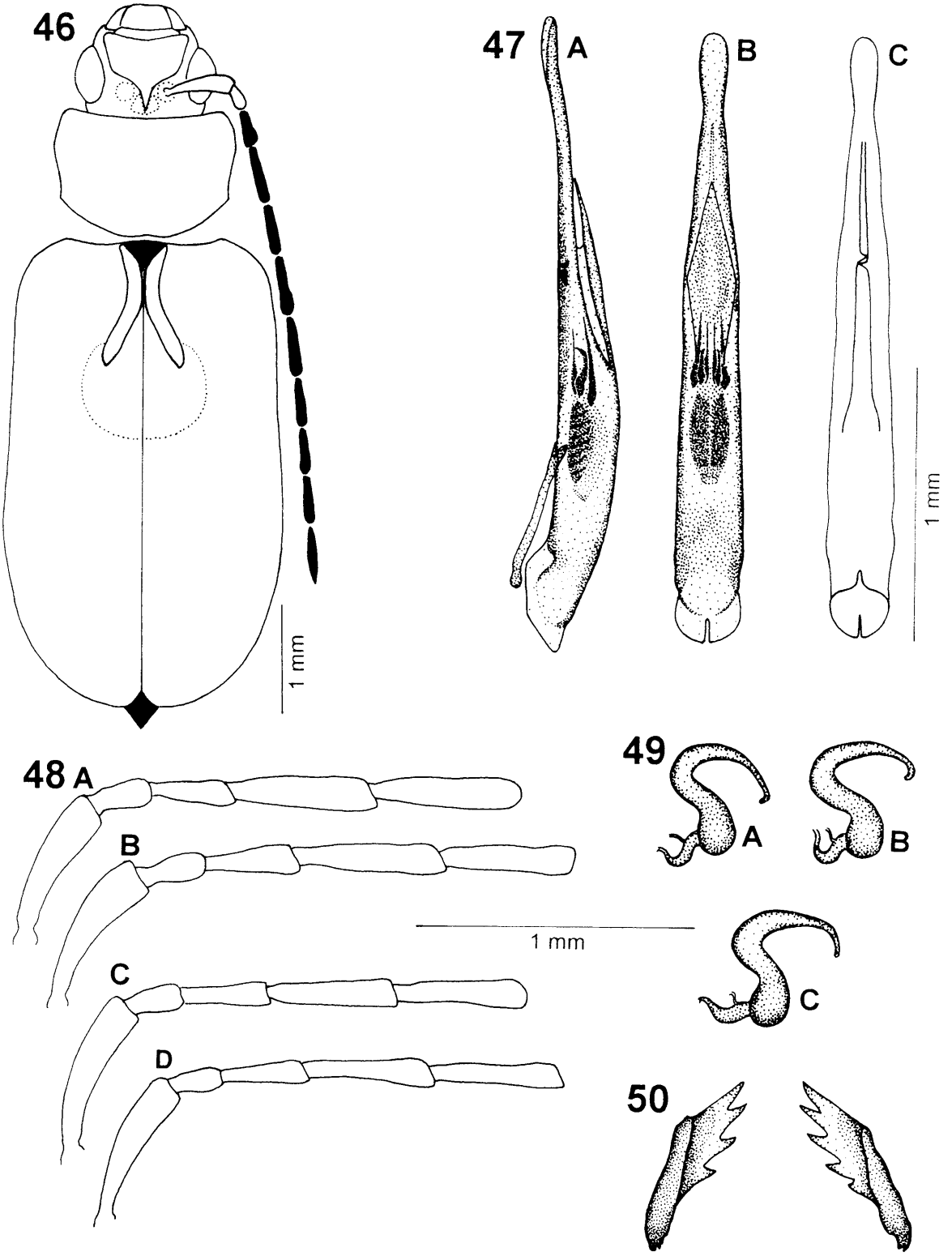
Total length. Males: 5.70–6.15 mm (mean: 5.92 mm); females: 6.70–6.80 mm (mean: 6.75 mm).

Head. Labrum, labial and maxillary palpi dark brown to black, mandibulae black. Frons and vertex brownish yellow to brown. Head cavity absent; frons between eyes slightly elevated (Fig. 46). First and second antennal arti-



Figs 41–45: Morphology of *Afrocrania longicornis* sp. n. 41 – habitus, dorsal; 42 – median lobe, lateral (A), dorsal (B), ventral, without endophallic structures (C); 43 – basal antennal articles, male (A, B), female (C, D); 44 – spermathecae of three different females; 45 – bursa-sclerites, dorsal.

cles brownish yellow to brown, third article somewhat darker and article 4 to 11 dark brown. Antennae longer than elytra, total antennal length: males: 5.00–5.20 mm (mean: 5.10 mm), females: 4.70–4.80 mm (mean: 4.75 mm); antennal length to elytral length: males: 1.22–1.28 (mean: 1.25); females: 1.09–1.13 (mean: 1.11). Antennae in males slender, without curved or horned articles. Article 1 in males not significantly broader than in



Figs 46–50: Morphology of *Afrocrania ubatubae* sp. n. 46 – habitus, dorsal, 47 – median lobe, lateral (A), dorsal (B), ventral, without endophallic structures (C); 48 – basal antennal articles, male (A, B), female (C, D); 49 – spermathecae of three different females; 50 – bursa-sclerites, dorsal.

females (Fig. 48); length of antennal articles 2 to 3: males: 0.62–0.73 (mean: 0.68), females: 0.62–0.66 (mean: 0.64); length of antennal articles 3 to 4: males: 0.58–0.64 (mean: 0.61), females: 0.63–0.66 (mean: 0.65).

Thorax. Pronotal length: males: 1.00–1.05 mm (mean: 1.02 mm), females: 1.05–1.15 mm (mean: 1.10 mm); pronotal width: males: 1.55–1.65 mm (mean: 1.60 mm), females: 1.65–1.90 mm (mean: 1.77 mm); pronotal length

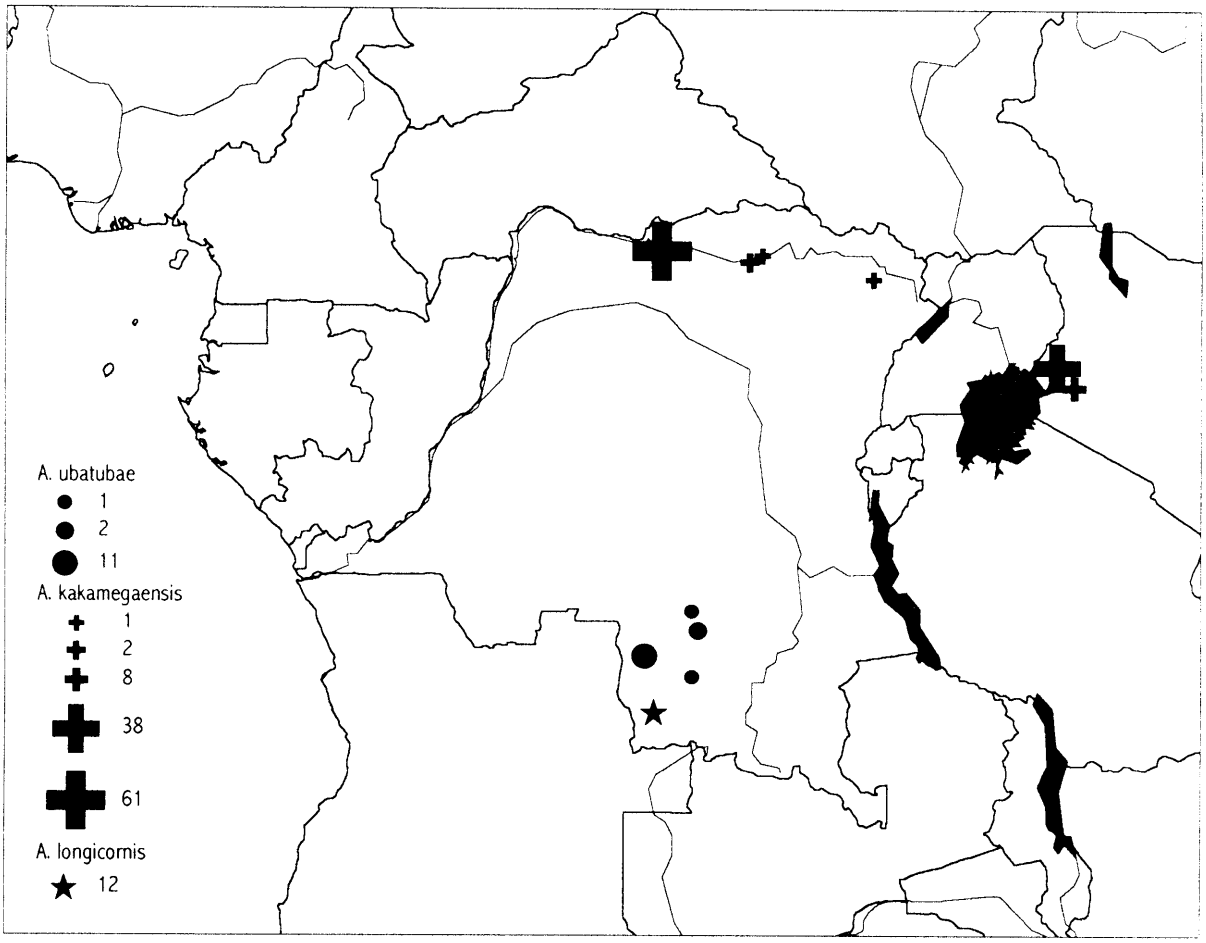


Fig. 51. Distribution of *A. kakamegaensis* sp. n., *A. longicornis* sp. n., and *A. ubatubae* sp. n.

to width: males: 0.61–0.67 (mean: 0.64), females: 0.61–0.65 (mean: 0.63). Elytra brownish yellow to brown; basal third with longitudinal, bulging extrusions, which are close to suture at base and are proximally curved outwards. Additionally, basal third of elytra with a more or less circular elevation (Fig. 46); length of elytra: males: 3.80–4.20 mm (mean: 3.99 mm), females: 4.70–4.80 mm (mean: 4.75 mm); width of both elytra: males: 2.40–2.60 mm (mean: 2.53 mm), females: 2.7–3.00 mm (mean: 2.90 mm); width of both elytra to length of elytron: males: 0.58–0.67 (mean: 0.63), females: 0.57–0.63 (mean: 0.61). Meso- and metathorax dark brown to black. Legs dark brown, sometimes with femora distally and tibiae proximally somewhat paler.

Abdomen. Dark brown to black.

Male genitalia. Median lobe slender and nearly straight; in lateral view curved at orifice. Ventral groove of median lobe with asymmetrical, small spurs in the apical half (Fig 47C). Apex of median lobe slightly enlarged (Figs 47B, C). Orifice ovate (Fig. 47C). Endophallus with paired hooked, straight ventral and straight dorsal spiculae (Figs 47A, B).

Female genitalia. Spermatheca with slightly widened nodulus; middle part broad and curved; curvature of cornu varying strongly, with a sharper bend near the apex (Fig. 49); bursa-sclerites (Fig. 50).

Diagnosis. Males of *A. ubatubae* sp. n. can easily be distinguished from those of other *Afrocrania* species by the characteristic extrusions on the elytra, but are similar to *A. kakamegaensis* sp. n. and *A. longicornis* sp. n. (cf. Figs 36, 41 and 46). *A. ubatubae* sp. n. is very similar to *A. longicornis* sp. n. in its elytral extrusions, and the shape of the median lobe, but has significantly slenderer and shorter antennae (antennal length to elytral length in males: *A. ubatubae*: 1.22–1.28, mean: 1.25; *A. longicornis*: 1.38–1.41, mean: 1.40; cf. Figs 43A, B and 48A, B). Females of *A. ubatubae* sp. n. are the largest of all *Afrocrania* species herein revised (total length: 6.70–6.80 mm, mean: 6.75 mm).

Distribution. *A. ubatubae* sp. n. is recorded from several locations in southern Congo (Fig. 51) where it occurs syntoply with *A. longicornis* sp. n.

Etymology. Named after a secret place where time does not exist.

Material examined:

Type material. Holotype: male "Musée du Congo, Lulua: Kapanga, III-1933, F.G. Overlaet" (MRAC), Congo, 8°21'S/22°35'E. - Paratypes: Congo: 2 spec., Lomami, Kaniama, 7°34'S/24°11'E, VI.1932, R. Massart (MRAC); 1 spec., Lomami, Kambaye, 6°53'S/23°44'E, IX.19301, P. Quarré (MRAC); 1 spec., Lulua: Muteba, 9°22'S/22°46'E, XI.1931, F. G. Overlaet (MRAC); 8 spec., Lulua, Kapanga, 8°21'S/22°35'E, X.-XII.1932, I., IV., XI.1933 F. G. Overlaet (MRAC).

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