

## Revision of *Afrocrania* (Coleoptera: Chrysomelidae: Galerucinae) Part II: Species in which the males lack head cavities or extended elytral extrusions

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**Abstract.** In this second part of the revision of Afrotropical *Afrocrania* Hincks, 1949 (= *Pseudocrania* Weise, 1892, not *Pseudocrania* McCoy, 1851), a group of Galerucinae restricted to Africa, additional material is revised. Herein, species in which the males lack deep head cavities, partly horned antennomeres, or extended elytral extrusions, but usually have small post-scutellar extrusions or depressions, are considered. Material of *Afrocrania pauli* (Weise, 1903), comb. n. (= *Candezea pauli* Weise, 1903), and *A. famularis* (Weise, 1904), comb. n. (= *Monolepta famularis* Weise, 1904; = *Candezea atripennis* Laboissière, 1931, syn. n.) is studied. Lectotypes are designated for *A. pauli*, *A. famularis* and *C. atripennis*. Six new species, *A. aequatoriana* sp. n., *A. minima* sp. n., *A. nigra* sp. n., *A. occidentalis* sp. n., *A. pallida* sp. n. and *A. weisei* sp. n. are described. Distribution patterns are mapped. Together with the already revised species there are 16 valid *Afrocrania* species are hitherto known. Its phylogenetic position within the Galerucinae is discussed, identification keys to males and females for all known taxa are presented.

### INTRODUCTION

The Afrotropical galerucine genus *Afrocrania* Hincks, 1949, a replacement name for *Pseudocrania* Weise, 1892 (not *Pseudocrania* McCoy, 1851 for Brachiopoda) was redescribed some years ago in the first part of the revision in this journal (Middelhaue & Wagner, 2001). Therein, species in which males are characterized by deep head cavities, partly horned antennomeres or extended elytral extrusions were revised. The type species of the genus, *A. foveolata* (Karsch, 1882), and furthermore *A. latifrons* (Weise, 1892) and *A. assimilis* (Weise, 1903) were confirmed to be valid species, including some synonyms. *Afrocrania kaethae* Middelhaue & Wagner, 2001, *A. luciae* Middelhaue & Wagner, 2001, *A. kakamegaensis* Middelhaue & Wagner, 2001, *A. longicornis* Middelhaue & Wagner, 2001 and *A. ubatubae* Middelhaue & Wagner, 2001 were newly described. In addition to the species described by Weise and Karsch, where males are characterized by deep cavities between labrum and antennal grooves, males of some recently described species, such as *A. kakamegaensis*, *A. longicornis*, and *A. ubatubae*, bear complex folded extrusions along the elytral suture.

In this, the second and final part of the revision of *Afrocrania*, species in which the males have (1) simple “hump-backed” elytral extrusions, (2) small, shallow depressions at the elytral base beyond the scutellum, or (3) almost no visible sexual dimorphic elytral structures, are revised or newly described. Some species share this sexual dimorphic character with some species of *Candezea* Chapuis, 1871, the Afrotropical taxa of which were also recently revised (Wagner & Kurtscheid, 2005), and some *Afrocandezea* Wagner & Scherz, 2002. Species of both genera can be easily distinguished by having broader

elytra, *Candezea* species are usually also larger and representatives of both genera differ significantly from *Afrocrania* in their genitalic structures. One common species from Central and Eastern Africa, which was originally described as *Candezea pauli* Weise, 1903, is herein transferred to *Afrocrania*. Furthermore, one species, which was originally described in *Monolepta* Chevrolat, 1837 (*Monolepta famularis* Weise, 1904 with its junior synonym *Candezea atripennis* Laboissière, 1931), is also transferred to *Afrocrania*. Apart from the redescrptions, a further six species are newly described.

### MATERIAL AND METHODS

The descriptions are based on 1674 labelled specimens from the following collections (Table 1): The Natural History Museum, London (BMNH); private collection Horst Kippenberg, Herzogenaurach, Germany (CK); private collection Lev Medvedev, Moscow, Russia (CM); Deutsches Entomologisches Institut, Müncheberg (DEI); Hungarian Natural History Museum, Budapest (HNHM); Institute Royal des Sciences Naturelles de Belgique, Brussels (IRSN); Museo Civico di Storia Naturale, Genova (MCSG); Musée National d’Histoire Naturelle (MNHN); Museum für Naturkunde der Humboldt Universität zu Berlin (MNHU); Musée Royal d’Afrique Centrale, Tervuren (MRAC); Museu Zoológico, Barcelona (MZBS); Naturhistorisches Museum, Wien (NHMW); Naturhistoriska Riksmuseet, Stockholm (NHRS); National Museum of Kenya, Nairobi (NMKE); Transvaal Museum of Natural History, Pretoria (TMSA) Zoologisches Forschungsmuseum Alexander Koenig, Bonn (ZFMK); Zoologisches Institut und Zoologisches Museum der Universität, Hamburg (ZMUH).

Morphometric measurements were made on the external characters. If available, six male and six female specimens of each species were measured. Measurements were made of (cf Fig. 1 in Middelhaue & Wagner, 2001): total length from labrum to apex of elytra (TL), length of elytron (EL), width of both elytra

TABLE 1. Depositories of revised material of *Afrocrania* (abbreviations see Material and Methods).

Collections	<i>A. pauli</i> (Weise, 1903)	<i>A. famularis</i> (Weise, 1904)	<i>A. aequatoriana</i> sp. n.	<i>A. minima</i> sp. n.	<i>A. nigra</i> sp. n.	<i>A. occidentalis</i> sp. n.	<i>A. pallida</i> sp. n.	<i>A. weisei</i> sp. n.	Total
BMNH	156	2		3		4	3	1	169
CK	14			4			1		19
CM						4			4
DEI		1							1
HMNH		3							3
IRSN	580	2		6			1	224	813
MCGD		1							1
MNHN	17	2					6		25
MNHU	21	12	1			12	10	31	87
MRAC	186	12	12	142	25		33	83	493
MZBS			1						1
NHMW							2		2
NHRS	1	3					2		6
NMKE	8								8
TMSA		1							1
ZFMK	10	8							18
ZMUH	21					1	1		23
Total	1014	47	14	155	25	21	59	339	1674

(EW) and width of pronotum (PW). Relative measurements are: length to width of pronotum, width of both elytra to length of elytron, length of second to third antennomere, length of third to fourth antennomere and length of basi-metatarsus to metatibia.

For each species a standard set of figures is given. Semi-schematic illustrations of the elytra, pronotum, head and right antenna of a male and close-up drawings of the four basal antennomeres 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 two to three different females in lateral view (for terminology of genital structures see Figs 9, 12 and 30 in Middelhaue & Wagner, 2001).

## RESULTS

Together with the material in the first revision (including some new records), 2100 specimens of *Afrocrania* were studied. They were allocated to 16 species (Table 2). About 60% of the material belong to *A. pauli*, 16% to *A. weisei* sp. n. and 10% to *A. kakamegaensis*, while the other 13 species comprise 25% together. Most specimens (76%), and species (13) are found in DR Congo, which is not surprising because of its large area and diversity of habitats. It is followed in terms of species richness by Cameroon (7 species, 5.6% of specimens), Uganda and Gabon (each 4 species, but only 0.3% and 0.6% of specimens) and Kenya (3 species, 9.0% of specimens). Most species are restricted to Central Africa. Only three (*A. famularis*, *A. occidentalis* sp. n., *A. pallida* sp. n.) occur also in West Africa west of Nigeria, only one

species (*A. pauli*) in Mozambique, Malawi and the coastal region of East Africa.

On the other hand, it is also not surprising that most material of *Afrocrania*, including some large series from single locations, herein revised is deposited in the museums in IRSN, Brussels (48%), and MRAC, Tervuren (29%) because of the historical links of Belgium with the Congo. Other large collections like BMNH, London (10%), and MNHU, Berlin (5.2%) have relatively little material (Table 1).

## Redescriptions of species

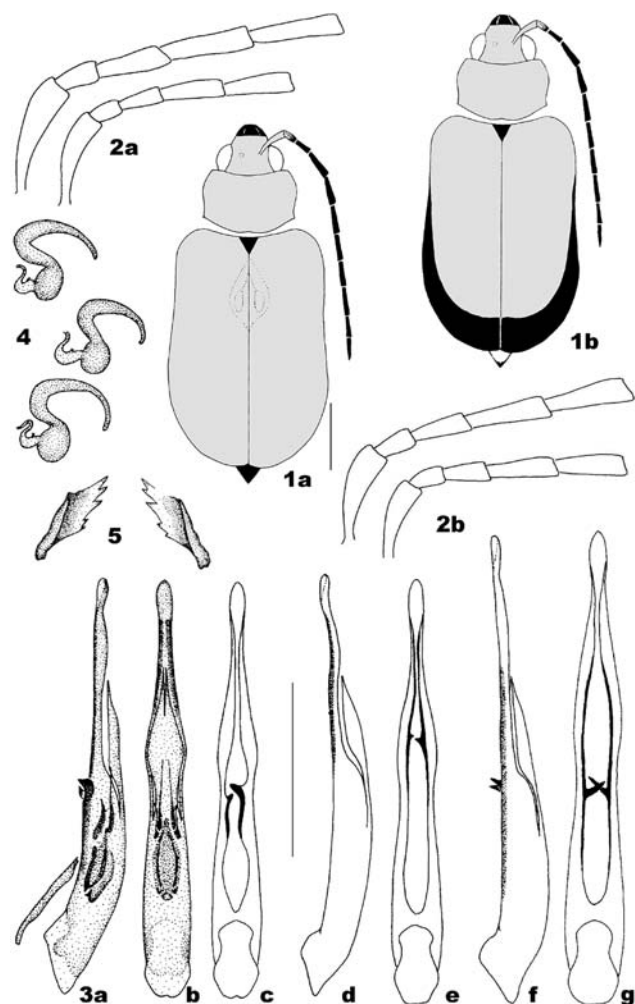
### *Afrocrania pauli* (Weise, 1903) comb. n.

*Candezea pauli* Weise, 1903: 214.

#### Redescription

**Total length.** Males: 5.20–6.05 mm (mean: 5.72 mm); females: 5.30–6.50 mm (mean: 6.03 mm).

**Head.** Yellowish-brown to pale brownish-red. Mouthparts and antennae with exception of the basal two or three antennomeres black (Fig. 1). Antennae slender (Fig. 2), ratio of length of antennomere 2 to 3: males:



Figs 1–5: Morphology of *A. pauli* (Weise, 1903). 1 – habitus, dorsal; 2 – basal antennomeres, female (a), male (b); 3 – median lobe, variation in three different males, lateral (a, d, f), dorsal (b), ventral (c, e, g), only a, b showing endophallic structures; 4 – spermathecae from three different females; 5 – bursa sclerites.

TABLE 2. Overview of the distribution and material studied of all known *Afrocrania* species.

	<i>A. latifrons</i> (Weise, 1982)	<i>A. foveolata</i> (Karsch, 1882)	<i>A. assimilis</i> (Weise, 1903)	<i>A. pauli</i> (Weise, 1903)	<i>A. famularis</i> (Weise, 1904)	<i>A. kathae</i> Middelhaue & Wagner, 2001	<i>A. luciae</i> Middelhaue & Wagner, 2001	<i>A. kakamegaensis</i> Middelhaue & Wagner, 2001	<i>A. longicornis</i> Middelhaue & Wagner, 2001	<i>A. ubatubae</i> Middelhaue & Wagner, 2001	<i>A. aequatoriana</i> sp. n.	<i>A. minima</i> sp. n.	<i>A. nigra</i> sp. n.	<i>A. occidentalis</i> sp. n.	<i>A. pallida</i> sp. n.	<i>A. weisei</i> sp. n.	Sum
Kenya				120	5			67									192
Uganda				1	1							3				1	6
Tanzania				52											2		54
Mocambique				31													31
Malawi				5													5
Burundi	1			1													2
Rwanda				1								1	1				3
DR Congo	48	3		801	10			154	12	13	12	151	24	1	37	286	1552
Angola					1												1
R Congo						68									4		72
CAR						6									1	13	20
Cameroon			28		20	4	13							8	5	39	117
Gabun		7	1			3									2		13
Equatorial Guinea											2				4		6
Nigeria					1												1
Togo					7									4	1		12
Ghana					1									4			5
Ivory Coast					1												1
Guinea														4	3		7
	49	10	29	1012	47	81	13	221	12	13	14	155	25	21	59	339	2100

0.65–0.73 (mean: 0.68), females: 0.57–0.65 (mean: 0.61); that of antennomere 3 to 4: males: 0.56–0.66 (mean: 0.61), females: 0.63–0.71 (mean: 0.67).

**Thorax.** Upper surface yellowish-brown to pale brownish-red, pronotum broad, pronotal width: males: 1.50–1.80 mm (mean: 1.61 mm), females: 1.55–1.85 mm (mean: 1.71 mm); ratio pronotal length to width: males: 0.61–0.64 (mean: 0.63), females: 0.60–0.65 (mean: 0.62). Scutellum dark brown to black. Elytra yellowish-brown to brownish-red, sometimes with black outer margins, which are rarely extended as in Fig. 1b. Some specimens with reddish coloration on the posterior half of the elytral disc. Males with small hump-backed elytral extrusion (Fig. 1a). Elytral length: males: 3.70–4.55 mm (mean: 4.13 mm), females: 4.20–4.80 mm (mean: 4.54 mm); width of both elytra: males: 2.40–2.90 mm (mean: 2.71 mm), females: 2.50–3.20 mm (mean: 2.94 mm); width of both elytra to length of elytron: males: 0.62–0.66 (mean: 0.65), females: 0.63–0.68 (mean: 0.66). Meso- and meta-

thorax and legs black, ratio of length of basi-metatarsus to

metatibia: males: 0.43–0.50 (mean: 0.46); females: 0.40–0.48 (mean: 0.45).

**Abdomen.** Dark brown to black.

**Male genitalia.** Median lobe very slender, straight (Figs 3a, f) or rarely slightly bent ventrally at apex (Fig. 3d); enlarged in the middle, and very slightly at apex (Figs 3b, e, g). Tectum short and pointed (Figs 3a, b, d, f). Ventral groove with pair of long spurs (Figs 3a, c, f, g) which are rarely on the apical third (Fig. 3e). Endophallus with two pairs of spiculae, one is straight slender and long, the other on the ventral side is short, broad and slightly hooked (Figs 3a, b).

**Female genitalia.** Spermatheca with significantly widened nodulus; middle part broad and curved, cornu slender and more or less homogeneously curved (Fig. 4); bursa sclerites broad, with fine spines (Fig. 5).

**Diagnosis.** *Afrocrania pauli* is most similar to *A. occidentalis* sp. n. and *A. weisei* sp. n. These three species all have a yellowish-brown to reddish brown dorsal coloration. According to this character, the females of these species are also very similar to most of the species revised in

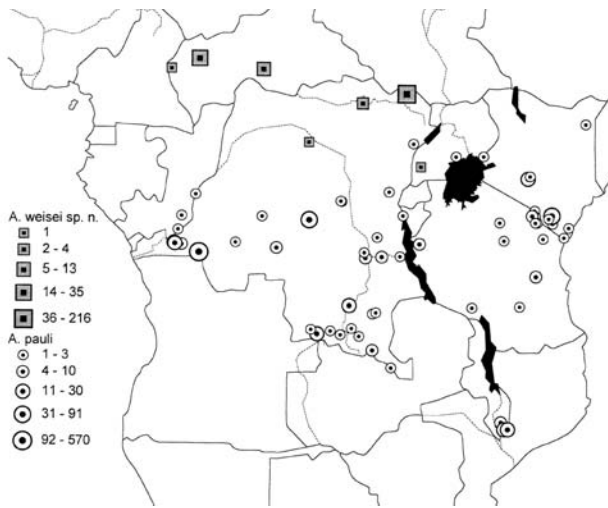


Fig. 6. Distribution of *A. pauli* (Weise, 1903) and *A. weisei* sp. n.

the first part of the revision (Middelhaue & Wagner, 2001), while males can be easily distinguished by their sexual dimorphic characters. *Afrocrania occidentalis* sp. n. is on average the smallest species (total length: 4.65–5.50 mm; *A. pauli*: 5.20–6.50 mm; *A. weisei* sp. n.: 4.30–6.05 mm); *A. weisei* sp. n. has on average the broadest, *A. occidentalis* sp. n. the narrowest elytra (width of both elytra to length of elytron for both species: *A. weisei* sp. n.: 0.66–0.71; *A. pauli*: 0.62–0.68; *A. occidentalis* sp. n.: 0.61–0.66). Specimens found west of Cameroon all belong to *A. occidentalis* sp. n., those from Tanzania and Mozambique all to *A. pauli*, but all three species show a large distributional overlap in Cameroon and Congo. Therefore, a reliable identification is only possible by the male genitalia, which show many distinctive differences (Figs 3, 31, 42).

**Type material examined.** Lectotype: ♂ “Mombo, Paul, VII.1909 / ex. coll. J. Weise” (MNHU). Paralectotypes: 1 ♀ “Usambara, v. Bom.? / ex. coll. J. Weise” (MNHU), 1 ♂ “Kwai, Paul W.” (NHRS). Type locality: Tanzania, 4.54S/38.18E. A lectotype is herein designated to fix the species identity on one specimen.

**Further material examined** (n = 1011). Burundi: 1 ex., Bujumbura, 3.22S/29.21E, iii.–iv.1969, P. Giraudin, ex coll. Breuning (MRAC). DR Congo: 21 ex., Kisanti, 5.07S/15.05E, P. Goossens (MRAC); 1 ex., Kabambare, 4.42S/27.43E, Delhaise (MRAC); 1 ex., Kindu, 2.57S/25.46E, L. Burgeon (MRAC); 13 ex., 150–200 miles W of Kambove, 10.50S/24.00E, x.1904, S.A. Neave (BMNH); 6 ex., Lualaba River, 6.00S/27.00E, v.1907, S.A. Neave (BMNH); 1 ex., Kambove, Katanga, 10.52S/26.38E, vi.1907, Neave coll. (BMNH); 1 ex., Elisabethville, 11.40S/27.28E, xi.1911, Miss. Agric. (MRAC); 1 ex., Mufunga, 9.26S/27.28E, xii.1911, Bequaert (MRAC); 1 ex., Lukangawa, 12.42S/28.39S, i.1912, Dr. Bequaert (MRAC); 1 ex., Kapiri, 10.18S/26.10E, x.1912, Miss. Agric. (MRAC); 1 ex., Albertville, 5.56S/29.12E, xii.1918, R. Mayné (MRAC); 1 ex., Bumbuli, 3.24S/20.31E, iv.1919, R. Mayné (MRAC); 2 ex., Kikwit, 5.02S/18.49E, xii.1920, P. Vanderijst (MRAC); 4 ex., Luebo, 5.21S/21.25E, ii.1923, L. Achten (MRAC); 1 ex., Luvu, Mayumbe, 5.24S/15.32E, x.1923, A. Collart (MRAC); 2 ex., Buhudem de Matenda à Biruwe, 2.30S/25.30E, ix.1929, A. Collart (IRSN); 65 ex., Sankuru,

Komi, 3.29S/23.29E, i.–ii., iv.–v.1930, J. Ghesquière (MRAC); 1 ex., Leopoldville, 4.18S/15.18E, 1930, A. Tinant (MRAC); 3 ex., Elisabethville, 11.40S/23.37E, ix.1931, J. Ogilvie (BMNH); 1 ex., Lulua, Kapanga, xii.1931, G.F. Overlaet (MRAC); 1 ex., Kunugu, 2.06S/16.26E, 1932, Réc. Nkele, coll. Schouteden (MRAC); 1 ex., Luashi, 10.26S/23.37E, xii.1933, Freyne (MRAC); 1 ex., Basin Lukuga, 5.40S/26.55E, iv.–vii.1934, de Saeger (MRAC); 4 ex., Niunzu, 5.57S/28.01E, 1935, H. de Saeger (MRAC); 7 ex., Mpese, 5.14S/15.32E, vi.1937, R.P.J. Cooreman (IRSN); 570 ex., Congo Belge, Kwango, Ngowa, 5.42S/16.35E, x.–xii.1937, xi.–xii.1938, ii., iv.1939, R.P.J. Mertens (IRSN); 2 ex., Elisabethville, i.1939, H.J. Brédo (IRSN); 23 ex., Mayidi, 5.11S/15.09E, 1942, 1945, P. van Eyen (MRAC); Parc National d’Upemba, Miss. G.F. de Witte: 1 ex., Kakunda, 1300 m, 8.50S/26.44E, xi.1947 (IRSN); 1 ex., Riv. Lukawe, 700 m, 12.12S/28.35E, xi.1947 (IRSN); 2 ex., Riv. Lupiala, 700 m, 8.50S/26.44E, x.1947 (IRSN); 1 ex., Riv. Konda, 700 m, 10.18S/24.58E, x.1947 (IRSN); 3 ex., Kaswabilenga, 700 m, 8.48S/26.41E, x.1947 (IRSN); 2 ex., Riv. Dipidi, 1700 m, 8.57S/27.06E, i.1948 (IRSN); 1 ex., Kabwe, 1320 m, 8.47S/26.52E, v.1948 (IRSN); 1 ex., Kabwekanono, 1815 m, 8.55S/27.05E, ix.1948 (IRSN); 21 ex., Kilwezi, 750 m, 9.06S/26.46E, viii.1948 (10 ex. IRSN, 11 ex. MRAC); 9 ex., Kiamokoto-Kiwakishi, 1070 m, 9.10S/27.04E, X.1948 (6 ex. IRSN, 3 ex. MRAC); 1 ex., Masombwe, 1120 m, 9.05S/27.12E, x.1948 (IRSN); 1 ex., Bukima, 2000 m, iv.1948, J.V. Leroy (MRAC); 1 ex., Kundelungu, 9.20S/27.40E, 1950, N. Leleup (MRAC); 3 ex., Kivu, Kavumu à Kabunga, 2.28S/28.48E, iv.–vii.1951, H. Bomans (MRAC); 2 ex., Kolwezi, 10.43S/25.28E, xi.1954, V. Allard (MRAC); 1 ex., Kivu, Kitutu, 1.06N/29.58E, 650 m, iv.1958, N. Leleup (MRAC); 14 ex., Kivu, Irangi, 1.54S/28.27E, 800 m, iv.1983, viii.1985, ii.1986, H. Mühle / G. v. Rosen (CK). Kenya: 4 ex., Tana, 1896 (NHMW); 1 ex., Distr. de Wa-Taita, Mwatate, 3.50S/38.38E, 1901, Ch. Alluaud (ZMUH); 4 ex., Voi, 600 m, 3.23S/38.35E, iv.1904, iii.1911, Alluaud & Jeannel (3 ex. MNHN, 1 ex. ZMUH); 1 ex., Itala, Maramas Distr. East of Mumias, 0.33N/34.30E, vi.1911, S.A. Neave (BMNH); 1 ex., Thika River, 1.03S/37.05E, x.1914, G. Babault (MNHN); 11 ex., Tana River, vi., viii.1915, G. Babault (8 ex. MNHN, 3 ex. ZMUH); 3 ex., Thika, XI.1928, A.F.J. Gedye (ZMUH); 1 ex., Massai (BMNH); 2 ex., Witu, Pokomonie, 2.24N/40.38E, G. Denhardt (MNHU); 1 ex., Witu, Tana-Gebiet, G. Denhardt (MNHU); 91 ex., Voi, 3.23S/38.35E, iii.1911, ii.1912, S.A. Neave (BMNH); 2 ex., Thika, 1.03S/37.05E, ix.1928, A.F.J. Gedye (NMKE); 1 ex., Loitokitok, 3.00S/37.30E, ii.1934 (NMKE); 1 ex., Makuyu, 0.52S/37.13E, xi.1937, C.D. Knight (BMNH). Malawi: 5 ex., Mlanje, 16.05S/35.29E, x.1913, S.A. Neave (BMNH). Mozambique: 16 ex., Mt. Chipirone, 16.30S/35.44E, xi.1913, S.A. Neave (BMNH); 15 ex., Kola Valley, E of Mt. Chipirone, 16.30S/35.58E, xi.1913, S.A. Neave (BMNH). Rwanda: 1 ex., Cyangugu, Pindura, viii.1984, H. Mühle (CK). Tanzania: 8 ex., Hecq (MRAC); 3 ex., Tandala, 4.55S/36.01E (ZMUH); 2 ex., 3.45S/35.35E, Parek, 1600 m, Chr. Schröder (MNHU); 1 ex., N-Nyassa-See, Ubena, Langenburg, 9.01S/33.39E, vi.1899, Goetze (MNHU); 1 ex., Langenburg, vii.1899, Fülleborn (MNHU); 4 ex., Kosi, Uvinsa, 5.08S/30.23E, x.–xi.1899, Glauning (MNHU); 1 ex., Kilimandjaro, Rivière Himo, 3.23S/37.32E, iii.1904, Ch. Alluaud (MNHN); 3 ex., Kilimandjaro, Kiboscho, 3.06S/37.26E, 1000 m, 1904, Ch. Alluaud (1 ex. MNHN, 2 ex. ZMUH); 1 ex., Kilimandjaro, 3.04S/37.25E, 1000 m, 1904, Ch. Alluaud (ZMUH); 3 ex., Papyrus-Sumpf, SE-Kilimandjaro, 3.45S/37.45E i.1906, Chr. Schröder (MNHU); 3 ex., Wa-Taita, Mwatate, 3.30S/38.23E, x.1909, Ch. Alluaud (MNHN); 1 ex., Mombasa, 4.04S/39.40E, xii.1910, S.A. Neave (BMNH); 1 ex., Kilimandscharo, 2500–3000 m, am Bis-

marckhügel oberh. Marangu, südl. Mawenzi, an Fuße der Hochweiden, 3.04S/37.22E, ii.1912, Chr. Schröder (MNHU); 1 ex., unteres Kihansi-Tal, xi.1912 (MNHU); 1 ex., Ruaha River, 8.57S/36.38E, xii.1912, S.A. Neave (BMNH); 1 ex., unterer Umba, 4.40S/39.20E, ix.1915, Methner (MNHU); 1 ex., Lake Rukwa area, 7000 ft., iv.1938, D.G. MacInnes (BMNH); 4 ex., Moshi, 3.20S/37.21E, i.–ii.1950, E. Pinhey (NMKE); 1 ex., Riv. Una, pres de Himo, 3.45S/37.32E, 1200 m, vii.1957, P. Basilewsky & N. Leleup (MRAC); 10 ex., Uluguru Mts., 7.05S/37.35E, x.2001, V. Clausnitzer (ZFMK). Uganda: 1 ex. Kampala, 0.19N/32.35E, iv.1926 (ZMUH).

**Distribution.** Widely distributed in Central and Eastern Africa from the Central African Republic and the Congo Basin towards the coastal region of Kenya, Tanzania and northern Mozambique (Fig. 6). The most abundant of all known species of *Afrocrania*, about 60% of all material examined belong to this species.

***Afrocrania famularis* (Weise, 1904) comb. n.**

*Monolepta famularis* Weise, 1904: 51.

*Candezea atripennis* Laboissière, 1931: 33; syn. n.

**Redescription**

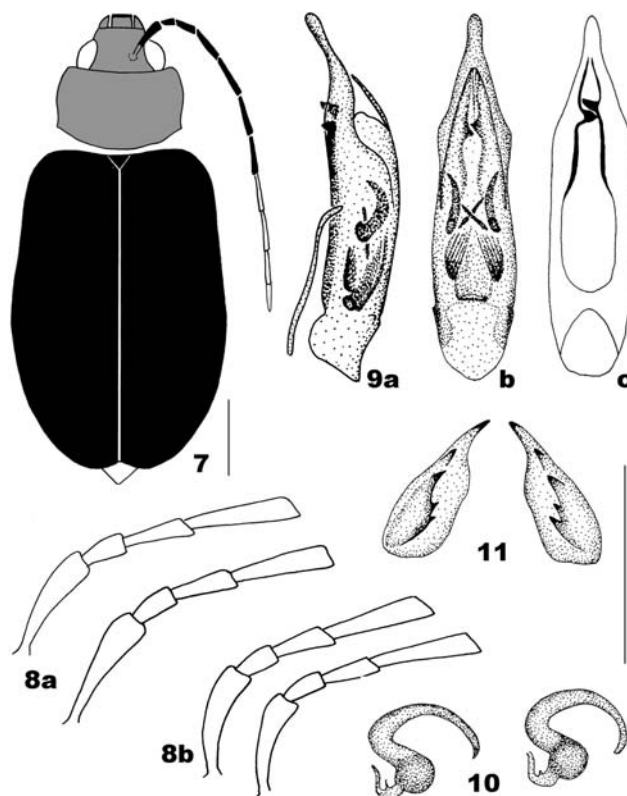
**Total length.** Males: 5.40–6.70 mm (mean: 5.98 mm); females: 5.50–7.50 mm (mean: 6.17 mm).

**Head.** Yellow to brownish-red. Mouth parts yellowish to brownish red, only labrum occasionally brown. Antenna very long, in about 15% of material examined (mostly from Togo) yellowish-red throughout, in most specimens characteristically bicoloured with antennomeres 5–7 reddish-brown to black and others yellow, tip of terminal antennomere darker (Fig. 7). Antennomeres very slender (Fig. 8), ratio of length of antennomere 2 to 3: males: 0.57–0.72 (mean: 0.65), females: 0.52–0.62 (mean: 0.56); that of antennomere 3 to 4: males: 0.57–0.63 (mean: 0.60), females: 0.65–0.72 (mean: 0.69).

**Thorax.** Pronotum yellow to brownish-red, broad, very bulged. Pronotal width: males: 1.65–1.95 mm (mean: 1.75 mm), females: 1.75–2.10 mm (mean: 1.81 mm); ratio pronotal length to width: males: 0.56–0.61 (mean: 0.59), females: 0.56–0.62 (mean: 0.58). Scutellum and elytra back (Fig. 7). Males with small subscutellar markings, which are neither bulged nor incised but visible as a dense micro-sculpture. Elytral length: males: 4.00–4.95 mm (mean: 4.33 mm), females: 4.20–5.00 mm (mean: 4.52 mm); width of both elytra: males: 2.90–3.60 mm (mean: 3.22 mm), females: 3.00–3.90 mm (mean: 3.38 mm); width of both elytra to length of elytron: males: 0.68–0.74 (mean: 0.71), females: 0.68–0.76 (mean: 0.72). Meso- and metathorax rarely reddish-brown, usually dark brown or black. Legs usually dark brown to black including coxae, knees light brown, legs rarely reddish-brown throughout. Ratio of length of basi-metatarsus to tibia: males: 0.38–0.42 (mean: 0.40); females: 0.39–0.43 (mean: 0.41).

**Abdomen.** Brownish-red to yellow, i.e. strongly contrasting with the often black meta-thorax and black elytra.

**Male genitalia.** Median lobe very short, broad, apical fifth bent ventrally (Fig. 9a), very slender (Figs 9b, c) can be even more slender than figured. Tectum comparatively long, broad (Fig. 9b). Ventral groove very broad with one large pair of heavily sclerotized spiculae (Fig. 9c). Endo-



Figs 7–11: Morphology of *A. famularis* (Weise, 1904). 7 – habitus, dorsal; 8 – basal antennomeres, female (a), male (b); 9 – median lobe, lateral (a), dorsal (b), ventral, without endophallic spiculae (c); 10 – spermathecae of two different females; 11 – bursa sclerites.

phallus with one pair of very strong, hooked spiculae and one smaller pair of crossed, slender, straight spiculae in between (Figs 9a, b).

**Female genitalia.** Spermatheca with significantly widened nodulus; middle part broad and curved, cornu slender and very long, homogeneously curved (Fig. 10); bursa sclerites broad and large (Fig. 11).

**Diagnosis.** Within *Afrocrania* unmistakable due to its broad, completely black elytra, yellow to reddish-brown head and pronotum (Fig. 7), large body size (total length: 5.40–6.70 mm) and very slender antennomeres (Fig. 8). The male genitalia with very short median lobe is also very distinctive. This species is presumably phylogenetically the most isolated from all other *Afrocrania* species. Only *A. nigra* sp. n. also has entirely black elytra, but differs in a black head (Fig. 23), very short antennomeres (Fig. 24) and is much smaller (total length: 3.40–4.30 mm).

**Type material examined.** *Monolepta famularis*: Lectotype: ♂ “Togo Amedzowe / ex coll J. Weise / Type / Monolepta famularis m.” (MNHU), type locality: Ghana: 6.53N/0.24E. Weise did not mention the number of specimens in his original description, but it can be derived that there was more than one from his description of the antennae “...Glied 11 fehlt den mir vorliegenden Stücken.” Paralectotype. 1 ♂ “Togo Amedzowe / Weise sp. n. Ws. 275” (MNHU). A lectotype is herein designated to fix the species identity on one specimen. *Candezea atripennis*: Lectotype: ♀ “Kamerun, Jaunde 4.–5.97, v. Carnap

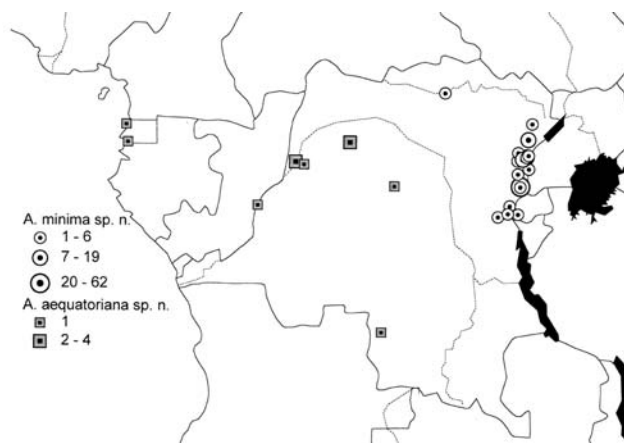
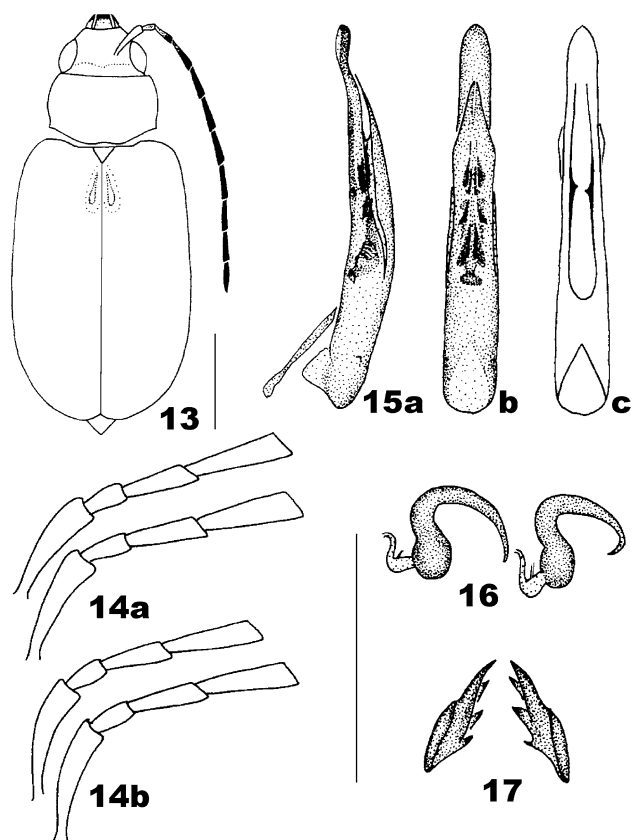


Fig. 12. Distribution of *A. aequatoriana* sp. n. and *A. minima* sp. n.

S.G. / Coll. R.I. Sc. N.B. ex. Coll. Laboissière / *Candezea atripennis* m 1931, V. Laboissière – Dét. / Holotype / Lectotypus *Candezea atripennis* Laboissière, 1931 Th. Wagner desig. / *Afrocrania famularis* (Weise, 1904) Th. Wagner det.” (IRSN), type locality: Cameroon, 3.51N/11.31E. Laboissière mentioned two females without designating a primary type. He mentions the strong similarity with *M. famularis*, but differentiated this species from *C. atripennis* by its entirely yellow antennae and red scutellum. Paralectotype: 1♀ “Kamerun, Conradt / coll. Kraatz / Syntype / Laboissière / *Candezea atripennis* m 1931, V. Laboissière – Dét. / Holotype / Paralectotypus *Candezea atripennis* Laboissière, 1931 Th. Wagner desig. / *Afrocrania famularis* (Weise, 1904) Th. Wagner det.” (DEI). A lectotype is herein designated to fix the species identity on one specimen.

**Further material examined** (n = 41). Angola: 1♂ W. Gabela, 10.53S/14.22E, iii.1972, Southern African Exp. B.M. 1972-1, general sweeping (BMNH). Cameroon: 2 ex., Sjøstedt (NHRS); 1 ex. Joko (MNHU); 1 ex. Joko, 5.29N/12.19E, ex coll. Staudinger (MRAC); 1 ex., Neu-Kamerun, No. 3507–512, Tessmann (MNHU); 2 ex., Bibundi, 4.15N/8.58E, ix.1904, Tessmann (MNHU); 1 ex., Gr. Kamerunberg, Buca, 4.12N/9.10E, 1000–1200 m, xi.1910, E. Hintz (MNHU); 1 ex., Buca, 1050 m, ii.1956, K. Byström (NHRS); 6 ex., Kamerungeb. 600 m, Mueli Nordseite, 4.23N/9.08E, ii.1958, Hartwig (ZFMK); 1 ex., Nkolbisson, 3.25N/11.00E, Dept. Nyong-Sanaga, ix.1963, L.G. Segers (MRAC). DR Congo: 1 ex. Stanleyville a Kilo, 0.30N/25.12E, L. Burgeon (MRAC); 1 ex., Kasai, 3.00S/17.00E, 1913, A. Crida (MCGD); 1 ex., Mayumbe, Zobe, 5.07S/12.37E, i.1916, R. Mayné (MRAC); 1 ex., Mayumbe, vii.1917, R. Mayné (MRAC); 1 ex., Tshiobo, N’Goy, 7.34S/24.10E, i.1926, A. Collart (IRSN); 1 ex., Lundu, 4.45S/13.03E, Mayumbe, iii.1925, A. Collart (MRAC); 1 ex., Haut Uele, Yebo Moto, 2.27N/26.25E, ix.1926, L. Burgeon (MRAC); 2 ex., Mt. Kabobo, 5.07S/29.03E, terr. Albertville, Mt. Kiyambi, 1800 m, x.1958, N. Leleup, Biot. No 45, Humus forêt (MRAC); 1 ex., Wulu-Wulu, 15 km de Lemba (Mayumbe), iv.1970, P.M. Elsen (MRAC). Ghana: 1 ex., Volta Reg., Amedzofe, 6.51N/0.26E, viii.1976, S. Endrödy-Younga (TMSA). Ivory Coast: 1 ex., Amanikro, 6.00N/1.50W, 50 km NW Abengourou, xi.1962, J. Decelle (MRAC). Kenya: 3 ex., Kakamega Forest, 0.18N/34.53E, submontane rainforest, 1800 m, i.1992, O. Merkl & G. Várkonyi, singled & swept from the vegetation (HNHM). Nigeria: 1 ex., Lagos Distr., 6.00N/4.00E, v.1949, W.E.S. Merrett (BMNH). Togo: 2 ex. Togoland, 1892–1893, L. Conradt (MNHN); 5 ex., Misahöhe, 6.59N/0.40E, v.1894, E. Baumann (MNHU). Uganda: 1 ex.,



Figs 13–17: Morphology of *A. aequatoriana* sp. n. 13 – habitus, dorsal; 14 – basal antennomeres, female (a), male (b); 15 – median lobe, lateral (a), dorsal (b), ventral, without endophallic spiculae (c); 16 – spermathecae of two different females; 17 – bursa sclerites.

Budongo Forest, 1.45N/31.35E, Unyoro, xii.1911, S.A. Neave (BMNH).

**Distribution.** Known from the Guinea-Congo forest area from the Ivory Coast through the Congo Basin towards the westernmost part of Kenya (Fig. 28).

#### Description of new species

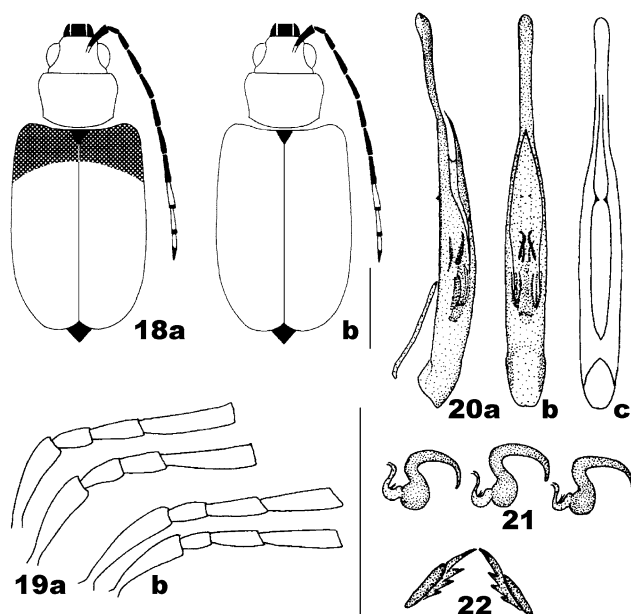
##### *Afrocrania aequatoriana* sp. n.

##### Description

**Total length.** Males: 4.80–5.30 mm (mean: 5.02 mm); females: 4.70–5.20 mm (mean: 4.90 mm).

**Head.** Including labial and maxillary palpi pale yellow, only labrum black at apex. Antennae pale yellow at base, antennomeres 4 to 11 usually brown to black (Fig. 13), rarely completely yellow. Ratio of length of antennomeres 2 to 3: males: 0.50–0.53 (mean: 0.52), females: 0.55–0.60 (mean: 0.57); that of antennomeres 3 to 4: males: 0.77–0.80 (mean: 0.79), females: 0.70–0.78 (mean: 0.74; Fig. 14).

**Thorax.** Prothorax yellow, meso- and metathorax yellow to light brown. Pronotal width: males: 1.45–1.60 mm (mean: 1.52 mm), females: 1.40–1.60 mm (mean: 1.53 mm); ratio pronotal length to width: males: 0.57–0.60 (mean: 0.58), females: 0.57–0.60 (mean: 0.59). Elytra pale yellow, elytral length: males: 3.50–3.95 mm (mean: 3.66 mm), females: 3.50–3.90 mm (mean: 3.68 mm); width of both elytra: males: 2.00–2.40 mm (mean:



Figs 18–22: Morphology of *A. minima* sp. n. 18 – habitus, dorsal; 19 – basal antennomeres, female (a), male (b); 20 – median lobe, lateral (a), dorsal (b), ventral, without endophallic spiculae (c); 21 – spermathecae of two different females; 22 – bursa sclerites.

2.31 mm), females: 2.10–2.50 mm (mean: 2.34 mm); width of both elytra to length of elytron: males: 0.62–0.65 (mean: 0.63), females: 0.63–0.66 (mean: 0.64). Males with slender, heart-shaped and shallow depression at elytral base (Fig. 13). Scutellum pale yellow. Legs usually yellow, last tarsomeres brownish, in 5% of material examined tibia and tarsus dark brown. Legs very slender, ratio of length of basi-metatarsus to metatibia: males: 0.45–0.53 (mean: 0.51); females: 0.46–0.55 (mean: 0.52).

#### Abdomen. Yellow.

**Male genitalia.** Median lobe broad and short, slightly bent ventrally (Fig. 15a), parallel sided with broad apex, tectum long, lanceolate and pointed (Fig. 15b). Ventral groove sub-parallel sided, with one pair of short spurs (Fig. 15c). Endophallus with two pairs of straight, slender and long spiculae (Fig. 15b).

**Female genitalia.** Spermatheca with small nodulus, broad middle part and evenly curved cornu (Fig. 16), bursa sclerites broad, with strong spines (Fig. 17).

**Diagnosis.** Close to *A. aequatoriana* n. sp. only two other species of *Afrocrania* possess an entirely pale yellow to pale brownish-yellow dorsum: *Afrocrania minima* sp. n. is smaller (total length: 3.60–4.70 mm; *A. aequatoriana* sp. n.: 4.70–5.30 mm), has yellow apical antennomeres (Fig. 18), a heart-shaped, more slender pronotum (Fig. 18; ratio pronotal length to width: 0.65–0.69; *A. aequatoriana* sp. n.: 0.57–0.60; Fig. 13), but similarly slender elytra (width of both elytra to length of elytron for both species: 0.62–0.66). The other entirely yellow species is *A. pallida* sp. n., which is easily distinguished as it is much larger (total length 5.50–7.00 mm), has yellow antennae, a much broader pronotum (Fig. 35; ratio pronotal length to width: 0.52–0.57) and broader elytra (width of both elytra to length of elytron: 0.65–0.72).

**Type material** (n = 14). Holotype: ♂ “Equateur, de Botenda á Golombo, X.1927, R.P. Hulstaert” (MRAC); type locality: Democratic Republic of Congo, 1.00N/21.00E. Paratypes: DR Congo: 4 ex., same labels as holotype (MRAC); 1 ex., Lulua, Kapanga, 8.21S/22.35E, i.1933, F.G. Overlaet (MRAC); 1 ex., Kunungu, Nkele, 2.06S/16.26E, 1938, coll. Schouteden (MRAC); 3 ex., Eala, 0.04N/18.17E, vi.1935, J. Ghesquière, x.1938, G. Couteaux (MRAC); 2 ex., Tshuapa, Bokuma, 0.06S/18.42E, ii.–iii.1954, P. Lootens (MRAC); 1 ex., Tshuapa, Ikela, 1.11S/23.16E, 1956, P. Lootens (MRAC). Equatorial-Guinea: 1 ex., Nkolentangan, x.1097–v.1908, G. Tessmann (MNHU); 1 ex., Bata, 1.55N/9.43E, viii.1958, Sabater (MZBS).

**Etymology.** Named after its distribution close to the equator.

**Distribution.** Known from Central DR Congo (one specimen from southern DR Congo), and Equatorial-Guinea (Fig. 12).

#### *Afrocrania minima* sp. n.

##### Description

**Total length.** Males: 3.60–4.40 mm (mean: 4.07 mm); females: 3.80–4.70 mm (mean: 4.42 mm).

**Head.** Yellow to brownish-yellow, in 8% of material examined brown. Labial palpi, maxillary palpi and labrum black. Antennae long and slender, antennomeres black, the three terminal ones usually annulate, pale yellow with black apex (Fig. 18). Ratio of length of antennomeres 2 to 3: males: 0.64–0.80 (mean: 0.57), females: 0.61–0.68 (mean: 0.64), third antennomeres in females very long and slender (Fig. 19b); that of antennomeres 3 to 4: males: 0.50–0.61 (mean: 0.57), females: 0.70–0.82 (mean: 0.78).

**Thorax.** Prothorax pale yellow to pale brownish-yellow, very rarely brown or black, narrow, bulged, significantly narrower at base (heart-shaped; Fig. 18). Pronotal width: males: 1.15–1.25 mm (mean: 1.18 mm), females: 1.15–1.40 mm (mean: 1.24 mm); ratio pronotal length to width: males: 0.65–0.68 (mean: 0.66), females: 0.65–0.69 (mean: 0.67). Scutellum dark-brown to black. Males without sexual dimorphic structure on elytra. Those of about 25% of the material examined pale yellow throughout (Fig. 18a), usually basal quarter brownish (Fig. 18b), very rarely (4% of specimens examined) with brown or black pronotum, and brown elytra, becoming paler towards apex. Elytra slender, elytral length: males: 2.75–3.30 mm (mean: 3.09 mm), females: 3.10–3.70 mm (mean: 3.27 mm); width of both elytra: males: 1.70–2.20 mm (mean: 2.02 mm), females: 1.90–2.60 mm (mean: 2.18 mm); width of both elytra to length of elytron: males: 0.62–0.65 (mean: 0.64), females: 0.63–0.66 (mean: 0.66). Legs black, knees usually pale brown. Length of basi-metatarsus to metatibia: males: 0.46–0.52 (mean: 0.48), females: 0.41–0.45 (mean: 0.42).

**Abdomen.** Dark brown to black.

**Male genitalia.** Median lobe slender, very narrow in the apical third (Figs 20b, c), straight, apical third bent ventrally (Fig. 20a), tectum short, lanceolate (Fig. 20b). Ventral groove narrow with two short spurs (Fig. 20c). Endophallus with two pairs of small, fine, slightly curved spiculae (Figs 20a, b).

**Female genitalia.** Spermatheca with small nodulus, slender middle part and short cornu (Fig. 21), bursa sclerites slender, small, with strong spines (Fig. 22).

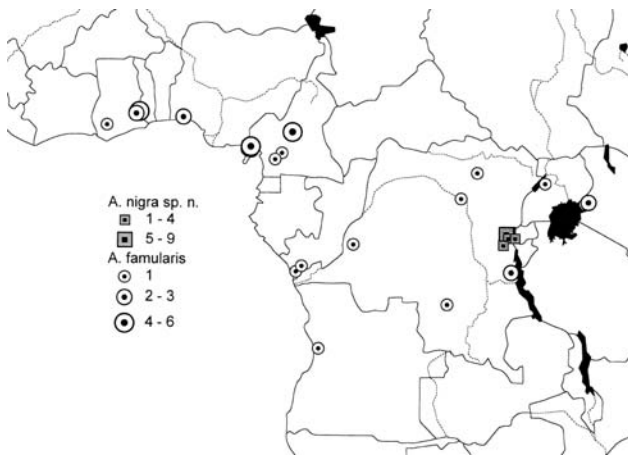
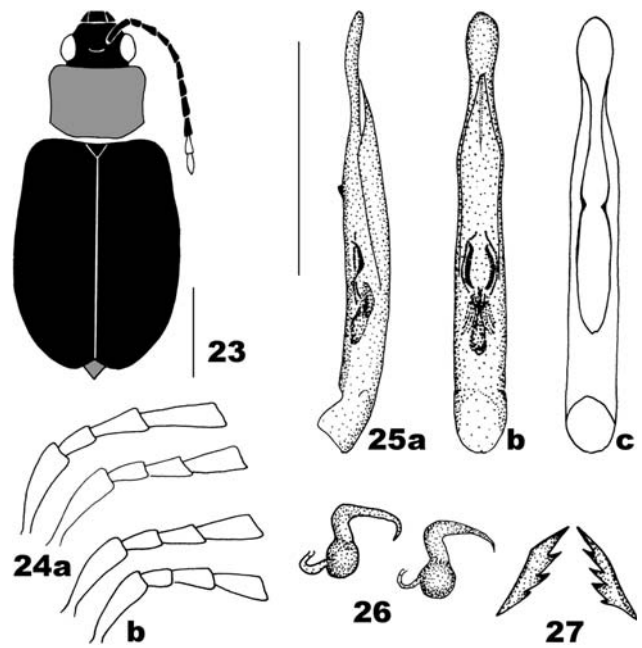


Fig. 28. Distribution of *A. famularis* (Weise, 1904) and *A. nigra* sp. n.

**Diagnosis.** Distinctive because of its small and slender body (total length: 3.60–4.70 mm; width of both elytra to length of elytron: 0.62–0.66) and pale to brownish yellow dorsum (Fig. 18b). Specimens with dark brown elytral base very distinctive within *Afrocrania*, since it is the only species showing such bicoloured elytra (Fig. 18a). Only *A. nigra* sp. n. is of similar small size (total length: 3.40–4.30 mm), but it has black elytra (Fig. 23), which are much broader (width of both elytra to length of elytron: 0.67–0.73). Furthermore, it has much shorter antennae (Figs 19, 24).

**Type material** (n = 155). Holotype: ♂ “Massif Ruwenzori, riv. Kiondo ya Kwanza affl. Butahu, 1800 m, Congo Belge, P.N.A., 8.I.1958, P. Vanschuytbroek VS 274b” (MRAC); Type locality: Democratic Republic of Congo, 0.22S/29.50E. Paratypes: DR Congo: 6 ex., Kivu, Rutshuru, 1.11S/29.27E, 1250 m, vii.1935, G.F. de Witte (IRSN); 56 ex., Terr. Rutshuru, iv.–v.1936, iv.1937, Miss. Prophylactique / L. Lippens (MRAC); 5 ex., Rutshuru, Fuku, 1.12S/29.27E, v.1936, L. Lippens (MRAC); 6 ex., Bambesa, 3.28N/25.43E, x.1938, J. Vrydagh (MRAC); 1 ex., Mongbwalu, 1.57N/30.02E, vii.1939, Mme Lepersonne (MRAC); 1 ex., Kivu, Matala, 2.39S/28.22E, v.1949, R. Laurent (MRAC); 2 ex., Kivu, T. Kalehe, Bitale riv. Tshinganda, 2.06S/28.55E, 2000 m, iii.1950, G. Marlier (MRAC); Parc National Albert: vii.–viii.1955, viii., xii.1956, xii.1957, P. Vanschuytbroek: 1 ex., Secteur Tschiaberimu, Mt. Musimba, 0.31S/29.20E, iii.1954, 2340 m (MRAC); 2 ex., Secteur Tschiaberimu, riv. Talia Nord, 0.31S/29.20E, iii.1954, 2340 m (MRAC); 2 ex., Kivu, Nyakasiba, riv. Luvimvi, 2.48S/28.49E, 1900 m, vii.1955, N. Leleup (MRAC); 1 ex., Secteur Nord, source riv. Rugetsi affl. dr. Semliki, 0.13N/29.40E, x.1956, 1380 m (MRAC); 13 ex., Secteur Nord, Ngokoi, 0.19N/29.45E, affl. Talya, xii.1956, 1250 m (MRAC); 4 ex., Secteur Nord, Bumali, 0.21N/29.45E, vill. pres Mutwanga, ii.1957, 1320 m (MRAC); 2 ex., Secteur Nord, riv. Talya, 0.31N/29.20E, 1100 m (MRAC); 18 ex., Mt. Hoyoy, 1.13N/29.49E, vii.–viii.1957, 1280 m (MRAC); 2 ex., Kalonge, 0.20N/29.48E, xi.1957, 1840 m (MRAC); 2 ex., Secteur Nord, vill. Nzenga, 0.21N/29.43E, 1200 m (MRAC); 19 ex., riv. Lume, 0.15N/29.34E, xii.1957, 1800 m (MRAC); 3 ex., riv. Kionde ya Kwanza, 0.01N/29.08E, affl. Butahu, 1800 m, i.1958 (MRAC); 1 ex., Secteur Nord, Mutsora, 0.19N/29.45E, 1160 m (MRAC); 1 ex., Kivu, Butembo, vallée de la Musosa, 0.09N/29.17E, v.1967, P. Lejeune (MRAC); 4 ex., Kivu, Irangi,



Figs 23–27: Morphology of *A. nigra* sp. n. 23 – habitus, dorsal; 24 – basal antennomeres, female (a), male (b); 25 – median lobe, lateral (a), dorsal (b), ventral, without endophallic spiculae (c); 26 – spermathecae of two different females; 27 – bursa sclerites.

1.54S/28.27E, ii.1986, H. Mühle (CK). Rwanda: 1 ex., Forêt de Nyungwe, 2.30S/29.20E, xi.1985, R. Jocque (MRAC). Uganda: 3 ex., Ruwenzori, 0.23N/29.50E, xii.1934–i.1935, B.M.E. Afr. Exp., Kilembe, 4500 ft, F.W. Edwards (BMNH).

**Etymology.** Named after its small body length (lat. minimus = small).

**Distribution.** Restricted to eastern Central Africa, abundant along the Albertine Rift in western Uganda and Rwanda, and eastern Kivu. Up to now only found at one other site on the Uele river apart from the main area (Fig. 12).

#### *Afrocrania nigra* sp. n.

##### Description

**Total length.** Males: 3.40–4.10 mm (mean: 4.02 mm); females: 3.60–4.30 mm (mean: 4.08 mm).

**Head.** Including palpi and labrum black. Antennae very short (Fig. 24), antennomeres, 1–9 black, the terminal two sharply contrasting yellowish (Fig. 23), rarely tip of ninth antennomere also yellowish. Ratio of length of antennomeres 2 to 3: males: 0.67–0.76 (mean: 0.71), females: 0.77–0.83 (mean: 0.79); that of antennomeres 3 to 4: males: 0.67–0.72 (mean: 0.70), females: 0.77–0.83 (mean: 0.79).

**Thorax.** Prothorax including pronotum reddish-brown, broader, bulged, significantly narrower at base (heart-shaped). Pronotal width: males: 1.05–1.15 mm (mean: 1.11 mm), females: 1.15–1.25 mm (mean: 1.18 mm); ratio pronotal length to width: males: 0.69–0.73 (mean: 0.71), females: 0.70–0.74 (mean: 0.72). Meso- and metathorax black, scutellum black (Fig. 23). Males with small heart-shaped, narrow depression beyond scutellum. Elytra black, ovate, elytral length: males: 2.50–3.05 mm (mean: 2.82 mm), females: 2.60–3.10 mm (mean: 2.85 mm); width of both elytra: males: 1.80–2.20



mm (mean: 2.02 mm), females: 1.90–2.40 mm (mean: 2.09 mm); width of both elytra to length of elytron: males: 0.66–0.73 (mean: 0.71), females: 0.67–0.73 (mean: 0.70). Legs including coxa and trochanter black, short. Ratio of length of basi-metatarsus to metatibia: males: 0.31–0.39 (mean: 0.36), females: 0.32–0.40 (mean: 0.37).

**Abdomen.** Dark brownish-red.

**Male genitalia.** Median lobe sub-cylindrical, apical part spoon-shaped enlarged (Figs 25b, c), tectum long, lanceolate (Fig. 25b). Ventral groove narrow with two short, strong spurs (Fig. 25c). Endophallus with two pairs of slightly curved spiculae, a shorter, broader pair in the middle and a longer, more slender lateral pair (Figs 25a, b).

**Female genitalia.** Spermatheca with small nodulus, slender middle part and short cornu (Fig. 26), bursa sclerites slender, with strong spines (Fig. 27).

**Diagnosis.** The only species of *Afrocrania* with a completely black head and elytra (Fig. 23). *Afrocrania familiaris* has also completely black elytra, but is much larger (total length: 5.40–6.70 mm; *A. nigra* sp. n.: 3.40–4.30 mm), has a reddish head (Figs 7, 23) and much longer antennae (Figs 8, 24). Of similar small size is *A. minima* sp. n., which is easily distinguished by the pale to brownish-yellow dorsum, or bicolorous elytra (Fig. 18). Also the rare morph of *A. minima* sp. n., with a dark brown head, has brown not black elytra. Furthermore, *A. minima* sp. n. has much longer antennae (Figs 19, 24).

**Type material** (n = 25). Holotype: ♂ “I.R.S.A.C. – Mus. Congo, Kivu: Terr. Kabare, Lwiro, 2000/2200 m, IX-1953, N. Leleup” (MRAC); type locality: Democratic Republic of Congo, 2.14S/28.48E. Paratypes: DR Congo: 9 ex., Kivu, T. Kalehe, Riv. Mukaba, S.O. Kahusi, 2.15S/28.39E, 2200 m, vii.–viii.1951, N. Leleup, Récolté humus Bambous et *Hagenia* (MRAC); 7 ex., same data as holotype (MRAC); 4 ex., Kivu, Kabare, S.E. Kahuzi, Tshibati, 2.29S/28.49E, 2000 m, ix.1953, N. Leleup (MRAC); 3 ex., Kivu, Tête de source de la Bukundji, Terr. Mwenga, 2250 m, ii.1957, N. Leleup (MRAC). Rwanda: 1 ex., Forêt de Nyungwé, 2.30S/29.20E, xi.1985, R. Joqué (MRAC).

**Etymology.** Named after its predominately black coloration (lat. niger / nigra = black).

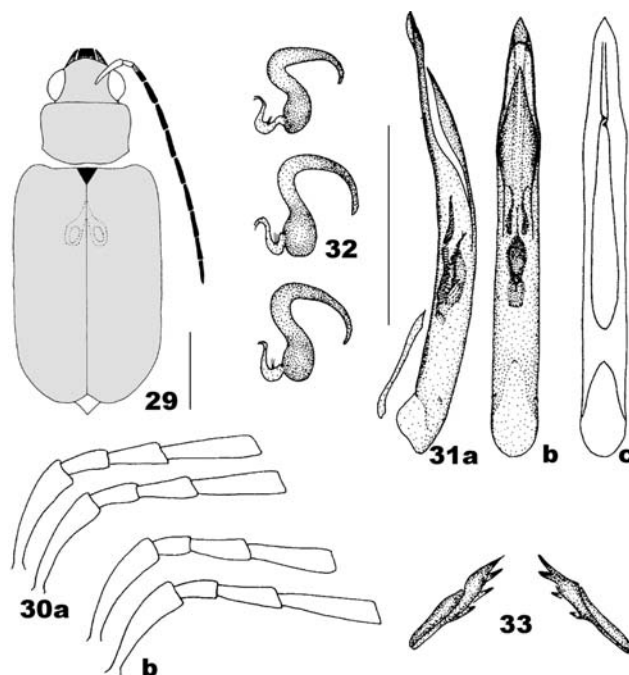
**Distribution and ecology.** Only known from a few montane sites in Kivu around Mt. Kahuzi and in the Nyungwe Forest, Rwanda, between 2000 and 2250 m (Fig. 28). Most labels indicate *Sinarundinaria-Hagenia* Forest as the habitat.

#### *Afrocrania occidentalis* sp. n.

Description

**Total length.** Males: 4.65–5.20 mm (mean: 4.91 mm); females: 5.00–5.50 mm (mean: 5.14 mm).

**Head.** Mouth parts including labrum brown to black. Head yellowish to reddish-brown, frons paler. Antennomeres slender (Fig. 30) at least scapus yellow, pedicellus yellow or brown, other antennomeres brownish to black. Ratio of length of antennomeres 2 to 3: males: 0.62–0.74 (mean: 0.65), females: 0.68–0.77 (mean: 0.74); that of antennomeres 3 to 4: males: 0.59–0.70 (mean: 0.62), females: 0.60–0.75 (mean: 0.68).



Figs 29–33: Morphology of *A. occidentalis* sp. n. 29 – habitus, dorsal; 30 – basal antennomeres, female (a), male (b); 31 – median lobe, lateral (a), dorsal (b), ventral, without endophallic spiculae (c); 32 – spermathecae of three different females; 33 – bursa sclerites.

**Thorax.** Prothorax including pronotum yellow to yellowish-brown, narrowed at base (Fig. 29). Pronotal width: males: 1.35–1.55 mm (mean: 1.45 mm), females: 1.50–1.60 mm (mean: 1.52 mm); ratio pronotal length to width: males: 0.62–0.67 (mean: 0.64), females: 0.61–0.65 (mean: 0.64). Scutellum contrasting black (Fig. 29). Elytra yellow to brownish-yellow in some specimens with black outer posterior margins. Males possess a small keel-like post-scutellar extrusion on the elytral suture, which is accompanied by a shallow depression. Elytra very slender, elytral length: males: 3.50–4.05 mm (mean: 3.77 mm), females: 3.90–4.40 mm (mean: 4.06 mm); width of both elytra: males: 2.10–2.55 mm (mean: 2.35 mm), females: 2.40–2.80 mm (mean: 2.61 mm); width of both elytra to length of elytron: males: 0.61–0.65 (mean: 0.62), females: 0.63–0.66 (mean: 0.64). Meso- and metathorax brownish-yellow to dark brown, legs dark brown to black, trochanter usually yellowish, in 50% tibia and tarsus lighter brown. Ratio of length of basi-metatarsus to metatibia: males: 0.42–0.52 (mean: 0.49), females: 0.43–0.52 (mean: 0.48).

**Abdomen.** Black as underside of thorax, in 40% of material examined yellowish-brown throughout or with partly black analsternite.

**Male genitalia.** Median lobe slender, conical and pointed at apex (Figs 31b, c), slightly bent ventrally (Fig. 31a), tectum long, lanceolate, pointed (Fig. 31b). Ventral groove conical, with two very small spurs in the apical quarter (Fig. 31c). Endophallus with one pair of long, curved spiculae (Figs 31a, b).

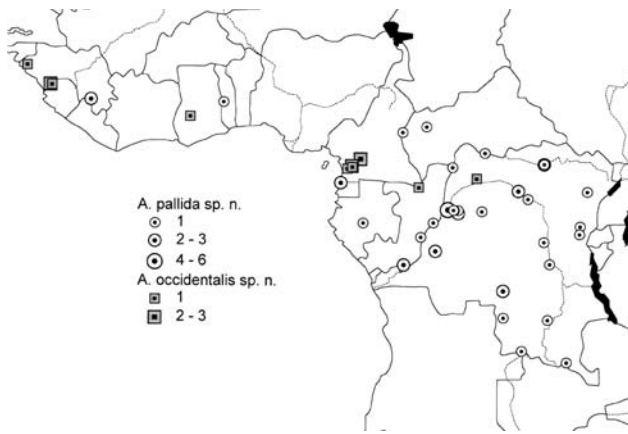


Fig. 34. Distribution of *A. pallida* sp. n. and *A. occidentalis* sp. n.

**Female genitalia.** Spermatheca with small nodulus, slender and long middle part and slender cornu (Fig. 32), bursa sclerites very slender, with strong spines (Fig. 33).

**Diagnosis.** *Afrocrania occidentalis* sp. n. is most similar in general coloration and body size to *A. pauli* and *A. weisei* sp. n. These three species have yellowish-brown to reddish-brown pronotum and elytra. *Afrocrania occidentalis* sp. n. is on average the smallest species (total length: 4.65–5.50 mm; *A. pauli*: 5.20–6.50 mm; *A. weisei* sp. n.: 4.30–6.05 mm) and has the narrowest elytra (width of both elytra to length of elytron: *A. occidentalis* sp. n.: 0.61–0.66; *A. pauli*: 0.62–0.68; *A. weisei* sp. n.: 0.66–0.71). Specimens found west of Cameroon and DR Congo must be dissected since only the male genitalia allow a reliable differentiation of these species (Figs 3, 31, 42).

**Type material** (n = 21). Holotype: ♂ “Neu-Kamerun, No. 2528–71, Tessmann S.G.” (MNHU). Type locality: Cameroon. Paratypes: Cameroon: 3 ex., Jaunde, 3.51N/11.31E, 800 m, Zenker (MNHU); 1 ex., Valles de la N’Goko, 1.40N/16.02E, i.1900, Jobit (ZMUH); 1 ex., Namiong b. Lolodorf, 3.17N/10.50E, O. Ulbrich (MNHU); 1 ex. Bipindi, 3.06N/10.30E, x.–xii.1896, C. Zenker (MNHU); 1 ex., Lolodorf, 3.17N/10.50E, 400 m, iii.1912, v. Rothkirch (MNHU). DR Congo: 1 ex., Binga, 2.23N/20.30E, vi.1915 (MNHU). Ghana: 3 ex., “Gold Coast” (BMNH); 1 ex., Ashanti, 7.07N/1.40W, A.E. Evans (BMNH). Guinea: 3 ex., Tabuna, 9.31N/12.26W, v.1983 (CM); 1 ex., Tanéné, 11.00N/14.15W, ii.1984, Murzin (CM). Togo: 4 ex., Bismarckburg, 8.15N/0.55E, iii.–iv.1893, L. Conradt (MNHU).

**Etymology.** Named after its occurrence in West Africa (lat. occidentis = West).

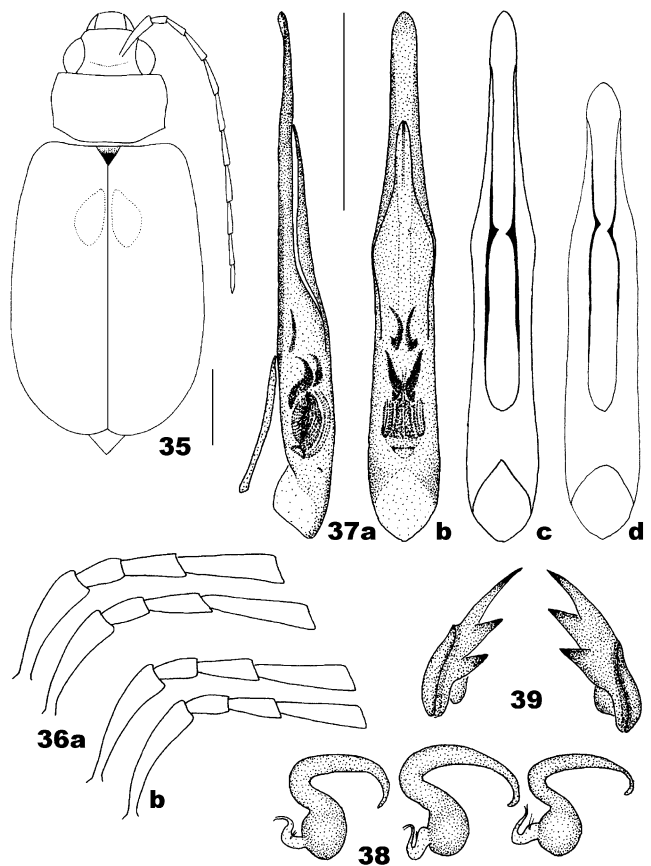
**Distribution.** Known from West and Central Africa from Guinea to the Congo Basin (Fig. 34).

#### *Afrocrania pallida* sp. n.

##### Description

**Total length.** Males: 5.50–7.00 mm (mean: 6.23 mm); females: 5.60–6.90 mm (mean: 6.25 mm).

**Head.** Including palpi and antennae pale yellow (Fig. 35). Antennomeres very slender (Fig. 36); ratio of length of antennomeres 2 to 3: males: 0.63–0.67 (mean: 0.65), females: 0.64–0.68 (mean: 0.66); that of antennomeres 3



Figs 35–39: Morphology of *A. pallida* sp. n. 35 – habitus, dorsal; 36 – basal antennomeres, female (a), male (b); 37 – median lobe, lateral (a), dorsal (b), ventral, without endophallic spiculae (c), ventral, without endophallic spiculae, variation with short apical part (d); 38 – spermathecae of three different females; 39 – bursa sclerites.

to 4: males: 0.60–0.63 (mean: 0.61), females: 0.63–0.65 (mean: 0.64).

**Thorax.** Prothorax including pronotum pale yellow, rarely light brownish-yellow. Pronotum very broad, posterior angles less pointed (Fig. 35). Pronotal width: males: 1.75–2.00 mm (mean: 1.93 mm), females: 1.70–2.10 mm (mean: 1.95 mm); ratio pronotal length to width: males: 0.52–0.57 (mean: 0.55), females: 0.53–0.56 (mean: 0.54). Scutellum yellow, with brown posterior half or completely black. Elytra pale yellow to light brownish-yellow, only two specimens with shadow-like reddish spot on the posterior half. Elytra broad, with less pointed humeral callus (Fig. 35); elytral length: males: 4.10–5.50 mm (mean: 4.75 mm), females: 4.40–5.50 mm (mean: 4.85 mm); width of both elytra: males: 2.80–3.50 mm (mean: 3.07 mm), females: 2.70–3.40 mm (mean: 2.98 mm); width of both elytra to length of elytron: males: 0.65–0.69 (mean: 0.67), females: 0.66–0.72 (mean: 0.68). Mesothorax pale yellow, metathorax usually contrasting brownish to black, usually with yellow margins. Legs pale yellow throughout. Ratio of length of basimetatarsus to metatibia: males: 0.43–0.50 (mean: 0.47), females: 0.43–0.52 (mean: 0.47).

**Abdomen.** Pale yellow to light brownish-yellow.

**Male genitalia.** Median lobe broad, significantly dorso-ventrally compressed, straight, slightly enlarged in the middle, apical third broad, sub-parallel (Figs 37a, c), about 20% of dissected males, and all specimens from Guinea, with short apex (Fig. 37d). Tectum broad in the middle, lanceolate and apical third slender (Fig. 37b). Ventral groove parallel-sided, broad, with strong spurs medially (Fig. 37c). Endophallic armature at the base on the median lobe, endopallus with one pair of strong, hook-like spiculae close to the endophallic brush and a more slender pair of spiculae ventral-medially (Figs 37a, b).

**Female genitalia.** Spermatheca with large nodulus, slender middle part and long, partly straight cornu (Fig. 38), bursa sclerites very large, with strong spines (Fig. 39).

**Diagnosis.** *Afrocrania pallida* sp. n. is the largest of the three *Afrocrania* species with completely pale yellow to pale brownish-yellow dorsum. At first sight it resembles *Candezea flaveola* (Gerstaecker, 1871), but this species is even larger, has much stronger bulged elytra and can be ultimately distinguished by the very different genitalic patterns of both sexes (cf. Wagner & Kurtscheid, 2005). The similarly coloured *Afrocrania minima* sp. n. is much smaller (total length: 3.60–4.70 mm), and *A. aequatoriana* sp. n. usually smaller (4.70–5.30 mm) than *A. pallida* sp. n. (5.50–7.00 mm). Furthermore, *A. pallida* sp. n. has predominantly yellow antennae (Fig. 35), while most antennomeres in *A. aequatoriana* sp. n. and *A. minima* sp. n. are black (Figs 13, 18). Its pronotum (Fig. 35) is broader than in any other *Afrocrania* species (ratio pronotal length to width: 0.52–0.57), and is a further distinctive character of *A. pallida* sp. n.

**Type material** (n = 59). Holotype: ♂ “Bambesa, V.1938, J. Vrydagh” (MRAC); Type locality: Congo, 3.28N/25.43E. Paratypes: Cameroon: 1 ex., 85.49 (BMNH); 2 ex., Cameroon, Sjøstedt (NHRS); 1 ex., Uelleburg, vi.–viii.1908, Tessmann (MNHU); 1 ex., Obersanga, Beri b. Garnot, 5.50N/14.46E, ii.–iii.1913, Tessmann (MNHU). Central African Republic: 1 ex., Weg nach Bosum, 6.19N/16.38E, iii.1914, Tessmann (MNHU). DR Congo: 1 ex., Riv. San Benito, 1885, Guiral (MNHU); 1 ex., 150–200 miles W of Kambove, 10.50S/24.00E, x.1907, Neave coll. (BMNH); 2 ex., Hemptinne-St. Benoit, 6.18S/22.32E, 1913, P. Callewaert (MRAC); 3 ex., Wombali, 3.16S/17.20E, ix.1913, P. Vanderijst (MRAC); 1 ex., Ilenge, 0.06S/18.46E, i.1918, R. Mayné (MRAC); 1 ex., Nyangwe, 4.13S/26.11E, iii.1918, R. Mayné (MRAC); 1 ex., Equateur, Boende, 0.13S/20.52E, 1928, P. Hulstaert (MRAC); 1 ex., 18 miles S of Elisabethville, 11.45S/27.28E, iii.1928, H.S. Evans (BMNH); 1 ex., Region L. Kivu, Kashewe, 1.19S/28.30E, 1930, G. Babault (MNHU); 1 ex., Banzyville, 4.18N/21.11E, i.1932, H.J. Brédo (MRAC); 3 ex., Equateur, Flandria, 0.20S/19.06E, iii.1932, P. Hulstaert (MRAC); 1 ex., Lulua, Kapanga, 8.21S/22.35E, i.1933, F.G. Overlaet (MRAC); 1 ex., Bolingo, Riv. Busira, 0.08S/19.06E, vii.1935, J. Ghesquière (MRAC); 6 ex., Eala, 0.04S/18.17E, iv.1936, J. Ghesquière (MRAC); 1 ex., Equateur, Bokuma, 0.06S/18.42E, 1938, P. Hulstaert (MRAC); 1 ex., same label as holotype (MRAC); 1 ex., Bambesa, 3.28N/25.43E, ii.1938, J. Vrydagh (MRAC); 1 ex., Lokandu, Ili Biawa, 2.31S/25.47E, vi.1939, Marée (MRAC); 1 ex., Lukolela, 1.03S/17.12E, x.1947, A. Fain (MRAC); 1 ex., Motenge Boma, 3.14N/18.39E, x.1947, R. Cremer & M. Neumann (IRSN); 1

ex., Parc National Upemba, Kankunda, 8.30S/26.00E, 1300 m, xi.1947, G.F. de Witte (MRAC); 2 ex., Basoko, Yamabuki, 1.23N/23.42E, iii.1948, P.L.G. Benoit (MRAC); 1 ex., Lac Leopold II, Bolobo, 2.10S/16.14E, 1950, Viccars (MRAC); 1 ex., Yangambi, 0.47N/24.28E, 1952, C. Donis (MRAC); 1 ex., Kibali-Ituri, Mambasa, 1.21N/29.03E, xii.1970, J. Taverniers (MRAC); 1 ex., Kivu, Irangi, 1.54S/28.27E, ii.1986, H. Mühle (CK). Congo-Brazzaville: 1 ex., Nkoemvane, Ebalovue, xii.1969, N. Berti (MNHU); 2 ex., Ile de Mbamou, 4.18S/14.52E, vi.1970, Grillot (MNHU); 1 ex., Fort Roussel, ii.1979, Cornic (MNHU). Equatorial Guinea: 4 ex., Nkolentangan, xi.1907–v.1908, G. Tessmann (MNHU). Gabon: 1 ex., Oogue (ZMUH); 1 ex., Lambaréné, 1.06S/11.44E, 1912, R. Ellenberger (MNHU). Guinea: 3 ex., Seredou, 8.23N/9.18W, lux, iv.–v.1975, Zott (MNHU). Tanzania: 2 ex., Ukaika, i.1911, Grauer (NHMW). Togo: 1 ex., Bismarckburg, 8.15N/0.55E, x.–xi.1892, L. Conradt (MNHU).

**Etymology.** Named after its overall pale coloration (lat. pallidus = pale).

**Distribution.** Widely distributed and known from Guinea through West Africa and the Congo Basin (Fig. 34) towards western Tanzania.

#### *Afrocrania weisei* sp. n.

##### Description

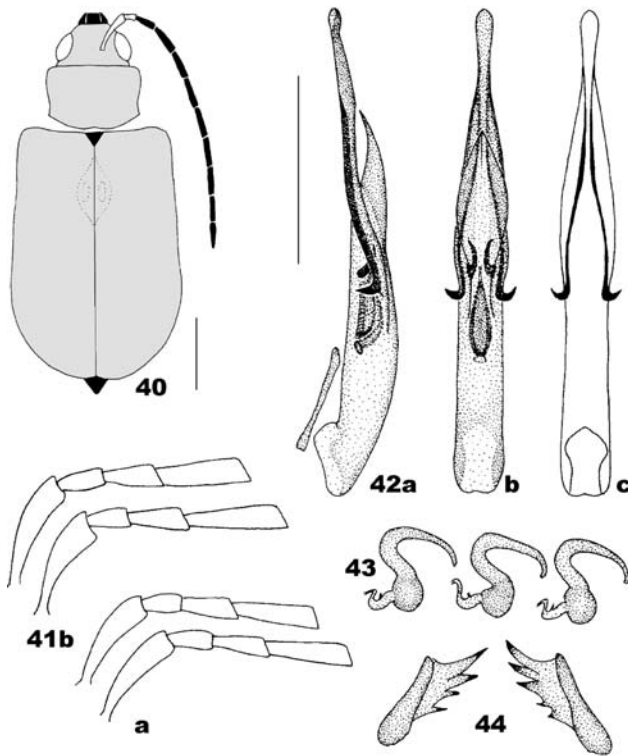
**Total length.** Males: 4.50–5.90 mm (mean: 5.09 mm); females: 4.90–6.05 mm (mean: 5.48 mm).

**Head.** Yellow to brownish-yellow, palpi and labrum brown to black, first antennomere yellow, second yellow or brown, antennomeres 3–11 brown to black (Fig. 40). Ratio of length of antennomeres 2 to 3: males: 0.63–0.73 (mean: 0.68), females: 0.64–0.70 (mean: 0.66); that of antennomeres 3 to 4: males: 0.57–0.72 (mean: 0.63), females: 0.63–0.70 (mean: 0.66).

**Thorax.** Yellow to yellowish-brown, pronotum broad, posterior angles pointed (Fig. 40). Pronotal width: males: 1.30–1.60 mm (mean: 1.49 mm), females: 1.40–1.75 mm (mean: 1.54 mm); ratio pronotal length to width: males: 0.60–0.66 (mean: 0.63), females: 0.57–0.66 (mean: 0.64). Scutellum black. Elytra usually brownish-yellow, broad, with pointed humeral callus, males with keel-like post-scutellar extrusion at suture, accompanied by a drop-shaped, shallow depression (Fig. 40). Elytral length: males: 3.35–4.40 mm (mean: 3.95 mm), females: 3.85–4.60 mm (mean: 4.19 mm); width of both elytra: males: 2.45–3.10 mm (mean: 2.76 mm), females: 2.60–3.30 mm (mean: 2.85 mm); width of both elytra to length of elytron: males: 0.67–0.71 (mean: 0.69), females: 0.66–0.71 (mean: 0.68). Meso- and metathorax and all legs dark brown to black. Length of basi-metatarsus to metatibia: males: 0.44–0.48 (mean: 0.46), females: 0.43–0.48 (mean: 0.46).

**Abdomen.** Brown to black.

**Male genitalia.** Median lobe slender, round in cross-section, cylindrical at base, enlarged in the middle and very slender beyond apex (Figs 42b, c), tectum very broad, lanceolate, pointed (Fig. 42b). Ventral groove broad at base but strongly narrowed towards apex, margins in the apical half strongly sclerotized, spurs very strong, hook-like curved outside (Figs 42a, b, c). This is a unique character in *Afrocrania* and resembles the strong endophallic spurs of *Afrocandezea* (Scherz & Wagner



Figs 40–44: Morphology of *A. weisei* sp. n. 40 – habitus, dorsal; 41 – basal antennomeres, female (a), male (b); 42 – median lobe, lateral (a), dorsal (b), ventral, without endophallic spiculae (c); 43 – spermathecae of three different females; 44 – bursa sclerites.

2002), but they are always asymmetrically arranged and must be homologised with other structures. Endophallus with one pair of strong, hook-like spiculae (Figs 42a, b.).

**Female genitalia.** Spermatheca with small nodulus, long and slender middle part and slender cornu (Fig. 43), bursa sclerites very large, of typical shape, with strong spines (Fig. 44).

**Diagnosis.** *Afrocrania weisei* sp. n. is most similar in general coloration and body size to *A. pauli* and *A. occidentalis* sp. n. These three species have yellowish-brown to reddish-brown pronotum and elytra. *Afrocrania weisei* sp. n. has the broadest elytra (width of both elytra to length of elytron for both species: *A. weisei* sp. n. 0.66–0.71; *A. occidentalis* sp. n.: 0.61–0.66; *A. pauli*: 0.62–0.68). The post-scutellar structure in males is sharply bulged, while flatter in *A. pauli* and only insignificantly bulged in *A. occidentalis* sp. n. However, a reliable identification is only possible using male genitalic characters (Figs 3, 31, 42).

**Type material** (n = 339). Holotype: ♂ “Uamgebiet, Bosum, 11.–20.3.14, Tessmann S.” (MNHU); Type locality: Central African Republic, 6.19N/16.38E. Paratypes: Cameroon: 4 ex., Tessmann (MNHU); 1 ex., Oberssanga, C(G)arnot, ii.1914, Tessmann (MNHU). Central African Republic: 30 ex., same data as holotype (MNHU); 1 ex., same labels as holotype, but 11.–20.iii.14 (MNHU); 1 ex., same label as holotype, but 1.–10.iv.14 (MNHU); 1 ex., Oberssanga, Babua, 5.48N/14.49E, ii.1914, Tessmann (MNHU); 13 ex., Bambari, 5.40N/20.37E, iii.1966, G. Pirrard (MRAC). DR Congo: 1 ex., W. v. Albert See, Route Mawambi, Awakubi a. Aruwimi, 1.13N/23.26E,

iv.1908, Exp. Herzog A.F. z. Mecklenburg (MNHU); 4 ex., Amadi (brousse), 3.35N/26.47E, iii.1913, P. van den Plas (MRAC); 280 ex., Garamba National Park, several locations, 4.10N/29.30E, ii., iv.–vi., vii.1950, Miss. H. de Saeger, H. de Saeger (215 ex. IRSN; 65 ex. MRAC)). Uganda: 1 ex., Plain NE of Lake Edward, 0.25S/30.35E, 3200 ft, x.1911, S.A. Neave (BMNH).

**Etymology.** Dedicated to Julius Weise (1844–1925) the well known chrysomelid specialist, who described about 300 Afro-tropical galerucine species.

**Distribution.** Restricted to Central Africa from eastern Cameroon through the Congo Basin towards the Albertine Rift in Uganda (Fig. 6).

#### Identification key

In most species of *Afrocrania*, the males are significantly different and easy to identify to species. The situation is different in females, which often show no significant differences in both external and genital morphology between species. Their identification is difficult, if not impossible, for some taxa. Therefore, the key is split into two parts and only that for males lead to clear results for each species. Males are easily distinguished from females by two deep sub-lateral incisions on the last visible sternite (cf. Figs 2c, d in Middelhaue & Wagner 2001). References to figures in the first part of the revision are given in small letters “fig.” and those in the second part start with a capital letter “Fig.”. Some *Afrocrania* species can be confused with some *Candezea* or *Afrocandezea* (cf. Wagner & Scherz, 2002), and allocation to genus must be justified, e.g. by using the key given in Wagner & Kurtscheid (2005).

#### Key to male *Afrocrania*

- 1 Frons with significant depression or cavity between eyes (Figs 8, 13, 18, 24, 29); fourth antennomere with processus, i.e. “horned “ (Figs 16, 20, 26) or significantly bent (Figs 11, 32; all figures refer to Middelhaue & Wagner, 2001) . . . 2
  - Frons without such a depression; third to terminal antennomere straight. . . . . 6
- 2 Fourth antennomere with processus (Figs 16, 20, 26). . . . . 3
  - Fourth antennomere without processus, but significantly bent (Figs 11, 32). . . . . 5
- 3 Also fifth antennomere with processus (Fig. 16); large species (total length: 6.25–6.60 mm) with broad pronotum and slender elytra (Fig. 13); restricted to Gabon. . . . . *A. foveolata* (Karsch, 1882)
- Fifth antennomere straight (Figs 20, 26); smaller (total length: 5.30–5.95 mm), pronotum on average narrower . . . 4
- 4 Fourth antennomere very elongate, on average more than twice the length of the third (ratio of length of antennomeres 3 to 4: 0.44–0.57) and much longer than fifth (Fig. 20); pronotum broad (ratio pronotal length to width: 0.64–0.66); median lobe elongated, ventrally with keel-like hook at apex (Fig. 19a); only known from Cameroon. . . . . *A. assimilis* (Weise, 1903)
- Fourth antennomere shorter, less than twice the length of the third (ratio of length of antennomeres 3 to 4: 0.50–0.83) and same length as the fifth (Fig. 26); pronotum narrow (ratio pronotal length to width: 0.65–0.69); median lobe very elongated, very slender at apex, without keel (Fig. 25a); Cameroon and DR Congo. . . . . *A. kaethae* Middelhaue & Wagner, 2001

- 5 Large (total length: 5.90–6.35 mm) with very broad pronotum (Fig. 29; ratio pronotal length to width: 0.59–0.63), fourth antennomere broad, only slightly bent (Fig. 32), basiprotarsus enlarged (Fig. 31a); apex of median lobe broad, spatula-like (Fig. 30b); only known from one location in Cameroon. . . . . *A. luciae* Middelhaue & Wagner, 2001
- Small (total length: 5.00–5.50 mm), pronotum narrow (Fig. 8; ratio pronotal length to width: 0.63–0.68), fourth antennomere slender, strongly bent backwards (Fig. 11), basiprotarsus not enlarged (Fig. 31b); apex of median lobe parallel-sided (Fig. 8b); recorded from DR Congo and Burundi. . . . . *A. latifrons* (Weise, 1892)
- 6 Elytra with complex folded structures (Fig. 36) or one pair of elongated extrusions beyond scutellum (Figs 41, 46) . . . 7
- Elytra without large sub-scutellar structures, only with a small hump-backed extrusion, shallow, often micro-sculptured depressions, or virtually lacking a sub-scutellar structure. . . . . 9
- 7 Elytra with small protruding bulges close to the scutellum and a large ovate elevation posteriorly (Fig. 36); fourth antennomere very elongated (Fig. 38; ratio of length of antennomeres 3 to 4: 0.53–0.60); northern DR Congo and western Kenya. . . . .
- . . . . . *A. kakamegaensis* Middelhaue & Wagner, 2001
- Elytra with one pair of narrow, longitudinal extrusions beyond scutellum (Figs 41, 46); fourth antennomere relatively short (Figs 43, 48; length of length of antennomeres 3 to 4: 0.59–0.65). . . . . 8
- 8 Antennae very long (Figs 41, 43; ratio of length of antennomeres 3 to 4: 0.64–0.65); pronotum on average broader (ratio pronotal length to width: 0.60–0.61); median lobe straight, with one pair of strong spurs in the middle of the ventral side (Fig. 42c); known from only one location in southern DR Congo. . . . .
- . . . . . *A. longicornis* Middelhaue & Wagner, 2001
- Antennae short (Figs 46, 48; ratio of length of antennomeres 3 to 4: 0.59–0.64); pronotum narrower (ratio pronotal length to width: 0.61–0.67); median lobe slightly bent at apex, with one pair of small spurs in the apical third of the ventral side (Fig. 47c); southern DR Congo. . . . .
- . . . . . *A. ubatubae* Middelhaue & Wagner, 2001
- 9 Elytra black (Figs 7, 23). . . . . 10
- Elytra pale yellow to brown (Figs 1a, 13, 18, 29, 35, 40), outer margins rarely black (Fig. 1b). . . . . 11
- 10 Very large (total length: 5.40–6.70 mm), pronotum very broad (Fig. 7; ratio pronotal length to width: 0.56–0.61), head yellow to reddish-brown; Guineo-Congolian forest area from Ivory Coast through Congo Basin to western Kenya. . . . . *A. famularis* (Weise, 1904)
- Very small (total length: 3.40–4.10 mm), pronotum very slender, heart-shaped (Fig. 23; ratio pronotal length to width: 0.69–0.73), head black; only known from montane areas in Kivu (Mt. Kahuzi) and western Rwanda. . . . .
- . . . . . *A. nigra* sp. n.
- 11 Elytra pale yellow (Figs 13, 18, 35), sometimes with broad dark brown base (Fig. 18a). . . . . 12
- Elytra brownish-yellow, pale brown, or dark brown (Figs 13, 18, 35). . . . . 14
- 12 Large (total length: 5.50–7.00 mm), pronotum very broad (Fig. 35; ratio pronotal length to width: 0.52–0.57); median lobe broad and straight, with two pairs of strongly hooked spiculae (Fig. 37); Guinea through Congo Basin towards western Tanzania . . . . . *A. pallida* sp. n.
- Small (total length: 3.60–5.30 mm), pronotum slender (ratio pronotal length to width: 0.57–0.68); antennae predominantly black (Figs 13, 18); endophallic spiculae smaller and straight (Figs 15, 20) . . . . . 13
- 13 Very small (total length: 3.60–4.40 mm), pronotum slender, heart-shaped (Fig. 18; ratio pronotal length to width: 0.65–0.68), elytra often with broad brownish base (Fig. 18a); antennae black, last three antennomeres usually yellow (Fig. 18); median lobe with a very elongated and slender apical part (Fig. 20); restricted to montane areas of eastern Central Africa along the Albertine Rift. . . . .
- . . . . . *A. minima* sp. n.
- Large (total length: 4.80–5.30 mm), pronotum broad (Fig. 13; ratio pronotal length to width: 0.57–0.60), elytra pale yellow throughout (Fig. 13), terminal antennomeres black (Fig. 13); median lobe with short and broad apical part (Fig. 15); known from Central Congo and Equatorial Guinea. . . . .
- . . . . . *A. aequatoriana* sp. n.
- 14 Small (total length: 3.60–4.40 mm), elytra dark brown, pronotum dark brown or black; rare colour variation of. . . . .
- . . . . . *A. minima* sp. n.
- Large (total length: 4.50–6.05 mm), elytra brownish-yellow, pale brown, or brownish-red; the following three species cannot be reliably identified by external characters. It is necessary to check the genitalia. . . . . 15
- 15 On average small (total length: 4.65–5.50 mm), elytra narrow (width of both elytra to length of elytron: 0.61–0.66); specimens found west of Cameroon belong to this species, those from Cameroon and DR Congo must be dissected; median lobe with broad, spatula-like apical part, tectum nearly reaches apex (Fig. 31); West and Central Africa. . . . . *A. occidentalis* sp. n.
- On average large (total length: 4.50–6.05), elytra broad (width of both elytra to length of elytron: 0.62–0.71); median lobe with long, slender apical part, tectum shorter (Figs 3, 42). . . . . 16
- 16 Elytra on average broad (width of both elytra to length of elytron: 0.67–0.71), humerus more pointed (Fig. 40); ventral spurs of median lobe very strong, curved outwards, one pair of strongly curved endophallic spiculae (Fig. 42); eastern Cameroon through Congo Basin to western Uganda. *A. weisei* sp. n.
- Elytra on average narrow (width of both elytra to length of elytron: 0.62–0.66), humerus less pointed (Fig. 1); ventral spurs of median lobe small, straight, not curved outwards, two pairs of endophallic spiculae, one straight, one slightly curved (Fig. 3); Central to East Africa, only *Afrocrania* species found in eastern Kenya, Tanzania and Mozambique. . . . .
- . . . . . *A. pauli* (Weise, 1903)

### Key to female *Afrocrania*

The following key enables one to quickly identify some *Afrocrania* females, but others cannot be identified reliably. Syntopically occurring males can be used to reliably identify these species. However, some species with very similar females co-occur at some sites. Further data on morphology and distribution can be found in the key for males.

- 1 Elytra black throughout (Figs 7, 23). . . . . 2
- Elytra pale yellow to brown, outer margins rarely black (Fig. 1b). . . . . 3
- 2 Very large (total length: 5.50–7.50 mm), pronotum very broad (Fig. 7), head yellow to reddish-brown. . . . .
- . . . . . *A. famularis* (Weise, 1904)

- Much smaller (total length: 3.60–4.30 mm), pronotum very slender, heart-shaped (Fig. 23), head black . . . *A. nigra* sp. n.
- 3 Elytra pale yellow (Figs 13, 18b, 35), or pale yellow with broad brownish base (Fig. 18a) . . . . . 4
- Elytra brownish-yellow, pale brown to brown, outer margins rarely black (Fig. 1b) . . . . . 6
- 4 Large (total length: 5.60–6.90 mm), pronotum very broad (Fig. 35; ratio pronotal length to width: 0.53–0.56), antennae pale yellow; spermatheca with large nodulus and long cornu (Fig. 38) . . . . . *A. pallida* sp. n.
- Small (total length: 3.80–5.20 mm), pronotum slender (ratio pronotal length to width: 0.57–0.69); antennae predominantly black (Figs 13, 18); spermatheca small, cornu short (Figs 16, 21) . . . . . 5
- 5 Very small (total length: 3.80–4.70 mm), pronotum slender, heart-shaped (Fig. 18), elytra often with broad brownish base (Fig. 18a); antennae black, usually last three antennomeres yellow (Fig. 18) . . . . . *A. minima* sp. n.
- Large (total length: 4.70–5.20 mm), pronotum broad (Fig. 13), elytra pale yellow throughout, terminal antennomeres black (Fig. 13) . . . . . *A. aequatoriana* sp. n.
- 6 Small (total length: 3.80–4.70 mm), elytra dark brown, pronotum dark brown or black; rare colour variety of . . . . . *A. minima* sp. n.
- Large (total length: 4.70–7.50 mm), elytra brownish-yellow, pale brown, or brownish-red, pronotum of same colour as elytra, not dark brown or black; following are difficult to identify to species . . . . . 7
- 7 Antennomere 3 and 4 very elongated compared to 2 (ratio of length of antennomeres 2 to 3: 0.70–0.83; that of antennomeres 3 to 4: 0.53–0.60); Cameroon only . . . . . 8
- Antennomere 3 and 4 shorter compared to 2 (ratio of length of antennomeres 2 to 3: 0.53–0.78; that of antennomeres 3 to 4: 0.57–0.76); West, Central and East Africa . . . . . 9
- 8 Pronotum and elytra broad (Fig. 26; ratio of pronotal length to width: 0.60–0.63; width of both elytra to length of elytron: 0.59–0.62); large (total length: 6.30–6.85 mm) . . . . . *A. luciae* Middelhaue & Wagner, 2001
- Pronotum and elytra narrow (Fig. 18; ratio of pronotal length to width: 0.62–0.64; that of width of both elytra to length of elytron: 0.50–0.62); small (total length: 5.45–6.10 mm) . . . . . *A. assimilis* (Weise, 1903)
- 9 Antennomere 3 very long compared to 4 (ratio of length of antennomeres 3 to 4: 0.71–0.75); large (total length: 6.10–6.70); Gabon only . . . . . *A. foveolata* (Karsch, 1882)
- Antennomere 3 shorter compared to 4 (ratio of length of antennomeres 3 to 4: 0.57–0.75); of same length or much smaller (total length: 4.90–6.70) . . . . . 10
- 10 Elytra broader (ratio of width of both elytra to length of elytron: 0.66–0.71), humerus pointed (Fig. 40); Central Africa only . . . . . *A. weisei* sp. n.
- Elytra on average narrow (ratio of width of both elytra to length of elytron: 0.57–0.66), humerus less pointed; also found in West and East Africa, females of the following species cannot be differentiated . . . . . 11
- 11 Guinea to Cameroon, only . . . . . *A. occidentalis* sp. n.
- Kenya, Tanzania and Mozambique only east of 34°E . . . . . *A. pauli* (Weise, 1903)
- Central and western East Africa (DR Congo, Congo, Uganda, western Kenya) . . . . . *A. kakamegaensis*, *A. latifrons*, *A. longicornis*, *A. ubatubae*, *A. pauli*

### Phylogenetic aspects

Phylogenetic studies that are exclusively based on morphological (Wagner, 2004) and on both morphological

and molecular data (Stapel et al., in prep.), indicate that *Afrocrania* is a monophyletic group. It is characterized by a slender median lobe with apically slightly incised tectum, one to three pairs of symmetrically arranged endophallic spiculae of “simple type” (cf. Wagner, 2004) and one pair of strongly sclerotized bursa sclerites with strong spurs. The most closely related genera are *Candezea* and *Afrocandezea*, which have a very similar shaped median lobe, endophallic armature and type of spermatheca. In terms of external characters, the genus can be distinguished by its slender pronotum and elytra and in males of some species sexual dimorphism.

One pair of spurs on the ventral surface of the median lobe is a very distinctive character of *Afrocrania*, which does not occur in any other group of Afrotropical Galeucinae that has an elongated basi-metatarsus and slender elytra. Only the three species with horned fourth antennomeres, and a very slender median lobe (*A. assimilis*, *A. foveolata*, *A. kaethae*), lack this structure. It might be an apomorphic character, but to resolve this further phylogenetic studies, including more species are necessary.

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