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Micranops Cameron, 1913 in the Old World. New species, redescriptions, and new records (Coleoptera: Staphylinidae: Paederinae)

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Abstract

In this contribution on the taxonomy and biogeography of *Micranops* Cameron, 1913 (Staphylinidae: Paederinae: Lathrobiini: Scopaeina) in the Palearctic and Paleotropics, twenty new species are described, twelve species are redescribed, four lectotypes are designated, two new synonymies are established, new distributional data are published, and an identification key is presented.

New species: *M. angkorensis* sp. nov. (Cambodia), *M. australasiaticus* sp. nov. (Australia, Democratic Republic of Timor-Leste), *M. bhamoensis* sp. nov. (Myanmar), *M. cuccodoroi* sp. nov. (India), *M. cultifer* sp. nov. (Laos), *M. hermani* sp. nov. (Myanmar), *M. indicus* sp. nov. (India), *M. malukensis* sp. nov. (Indonesia), *M. manyarensis* sp. nov. (Tanzania), *M. nepalicus* sp. nov. (Nepal), *M. nyikensis* sp. nov. (Malawi), *M. orientasiaticus* sp. nov. (China, Japan), *M. palliduloides* sp. nov. (Indonesia, The Philippines), *M. rougemonti* sp. nov. (India), *M. sagittifer* sp. nov. (China), *M. siebertae* sp. nov. (Ruanda), *M. taiwanensis* sp. nov. (Taiwan), *M. transafricanus* sp. nov. (Afrotropics), *M. transversosetatus* sp. nov. (Thailand), *M. vietnamensis* sp. nov. (Vietnam).

A significant number of previously named species is redescribed: *M. brachyceroides* (Fagel, 1973) (Afrotropical Region), *M. brachycerus* (Fauvel, 1900) (Democratic Republic of the Congo), *M. caelebs* (Fagel, 1973) (Democratic Republic of the Congo), *M. hoyoensis* (Fagel, 1973) (Democratic Republic of the Congo), *M. lacustris* (Bernhauer, 1937) (Afrotropical Region), *M. obscurellus* (Cameron, 1932) (Malay Peninsula), *M. pallidulus* (Kraatz, 1859) (Paleotropics), *M. planiusculus* (Kraatz, 1859) (Mainland Southeast Asia), *M. pokharensis* (Coiffait, 1981) (Indian Subcontinent), *M. subapterus* (Cameron, 1951) (Angola), *M. upembanus* (Fagel, 1973) (Democratic Republic of the Congo), *M. viti* Assing, 2021 (Indian Subcontinent).

Lectotypes are designated for *M. brachycerus*, *M. obscurellus*, *M. planiusculus*, and *M. subapterus*.

New synonyms: *M. hustachei* (Coiffait, 1987), **syn. nov.** = *M. pokharensis*; *M. yemenicus* (Coiffait, 1981), **syn. nov.** = *M. pallidulus*.

Four species described by Fagel (1973) are for the first time illustrated by photographs of their holotypes:

M. lwiroensis (aedeagus), *M. mabalianus* (aedeagus), *M. ruwenzoricus* (aedeagus), *M. zambeziensis* (habitus). The previously unknown aedeagus of *M. spelaeus* Frisch & Oromí, 2006 is illustrated.

New country records: *M. brachyceroides* (Burkina Faso, Niger), *M. caelebs* (Kenya), *M. hoyoensis* (South Africa), *M. lacustris* (Burkina Faso, Cameroon, Gambia, Senegal, South Sudan), *M. pallidulus* (Cambodia, Cameroon, Cape Verde, Laos, Malaysia, Mali, Myanmar, Nepal, Thailand, Vietnam, Yemen), *M. planiusculus* (Cambodia, Vietnam), *M. pokharensis* (India, Sri Lanka), *M. upembanus* (Burundi), *M. viti* (India, Sri Lanka).

The infrageneric phylogeny of *Micranops* is discussed, and the current definition of the genus extended as follows: The trichobothrial cavity is not always separated from the posterior margin of the eye, but is connected to it in macrophthalmous, macropterous species. The dorsomidlongitudinal split of the aedeagus is absent or reduced in some species. Thus, both a trichobothrial cavity separated from the eye and the presence of a dorsomidlongitudinal, aedeagal split are present in many species, but not genus diagnostic.

Key words: Taxonomy, biogeography, identification key, new synonyms, lectotype designations

Introduction

Micranops Cameron, 1913, a genus-group taxon of the lathrobiine subtribe Scopaeina (Staphylinidae: Paederinae), is distributed world-wide in the tropics and subtropics, reaching the transition areas of the temperate climate zones. *Micranops* differs from the other genera of the Scopaeina, which are *Frischianus* Herman, 2025, *Hyperscopaeus* Coiffait, 1984, *Orus* Casey, 1885, *Scopaeus* Erichson, 1839, and *Trisunius* Assing, 2011, mainly by the shape and postocular position of the cephalic trichobothrial cavity, an apomorphy of the subtribe (Herman 2023: 122). The genus was erected by Cameron (1913: 350) for the flightless *M. brunneus* Cameron, 1913 from Jamaica and fell into oblivion until Frisch *et al.* (2002) reintroduced it following a hint from Lee Herman, American Museum of Natural History (see

Herman 2023: 126). Frisch & Oromí (2006: 24) and Frisch & Herman (2014) summarized the confused taxonomic history of *Micranops*. The latter authors transferred 21 species as new combinations to the genus and presented a catalog of 32 species. Later, Assing (2021) described *M. viti* from Pakistan and Guzman & Żyła (2023) added *M. bolivianus*. A detailed taxonomic history of *Micranops* and a species list is found in Herman (2023: 126–133).

However, both species diversity and phylogeography of *Micranops* are still insufficiently researched. According to Herman (2024: 132), it is probable that *Micranops* will be one of the speciose genera of the Scopaeina. The Nearctic and Neotropical species in particular are very poorly known, since only eight species are described from the Americas. Some “old” *Micranops* species cannot currently be identified due to their poor original descriptions from the 19th and early 20th centuries and require redescription. This also applies to nine Afrotropical species described by Fagel (1973), as their aedeagus illustrations are inaccurate and two of them were only described on the basis of females.

This article is intended to help improve this unsatisfactory situation for the Old World species. Over the years I have studied their type specimens, described some species, and examined a lot of unidentified material containing undescribed species and new biogeographical data. The results are presented herein: 20 new species, two new synonyms, redescriptions of twelve species, habitus and aedeagus photographs of additional “old” species, and many new country records. Thus, the number of named *Micranops* increases to 54.

Herman (2023: 122, 123) provided the first comprehensive description of *Micranops*. Based on characters of the species treated in this contribution, it was necessary to extend it in a few places.

Relationships within *Micranops* have barely been considered. Herman (2023: 131) compared species of the western and eastern hemispheres and found some structural variations of the trichobothrial cavity. In view of our poor knowledge of the genus’ diversity and the inconsistent distribution of some characters, I do not name informal species groups here, as was the case for *Frischianus* (Frisch & Herman 2025) and *Scopaeus* (Fagel 1973; Frisch *et al.* 2002; subsequent work of Frisch; Herman 2023). Nevertheless, I have made an attempt to identify monophyletic groups of *Micranops* in the Old World.

Material and Methods

Specimen depositories: The specimens this study is based on are stored in the following collections and were made available to me by the mentioned curators, collection managers, and private collectors: AMS—Australian Museum, Sydney (D. Britton, C. Reid, D. Smith); ANIC—Australian National Insect Collection, Canberra (T. Weir); APCE—Andreas Pütz Private Collection, Eisenhüttenstadt; DMNH—Ditsong National Museum of Natural History, Pretoria (S. Endrödy-Younga†, R. Müller); HECO—Hope Entomological Collections,

Oxford (D. Mann, C. O’Toole); FMNH—Field Museum of Natural History, Chicago (Alfred Newton, Margaret Thayer); ISNB—Institut Royal des Sciences Naturelles de Belgique, Brussels (Alain Drugmand, Poul Limbourg); HNHM—Hungarian Natural History Museum, Budapest (György Makranczy); MHNG—Muséum d’histoire naturelle, Geneva (Giulio Cuccodoro, Ivan Löbl); MFNB—Museum für Naturkunde Berlin (Bernd Jaeger, Joachim Willers); MMUM—Manchester Museum, University of Manchester (D. A. Buelvas); MSCB—Michael Schülke Collection, MFNB; MSNM—Museo Civico di Storia Naturale, Milan (F. Rigato); MZLU—Museum of Zoology, Lund University (Roy Danielsson); MZMB—Moravian Museum, Brno (Petr Banar); NBCL—Naturalis Biodiversity Center, Leiden (Hans Huibregts); NHMB—Naturhistorisches Museum Basel (Michel Brancucci†, Matthias Borer); NHMC—Natural History Museum and Institute, Chiba (Shun-Ichiro Naomi); NHML—Natural History Museum, London (Max Barclay, Roger Booth, Martin Brendell, Dmitry Telnov); NHMW—Naturhistorisches Museum, Wien (Harald Schillhammer); NMEC—Naturkundemuseum, Erfurt (Matthias Hartmann); RMCA—Royal Museum for Central Africa, Tervuren (M. de Meyer); SDEI—Senckenberg Deutsches Entomologisches Institut, Müncheberg (Vinicius Ferreira, Mandy Schröter, Lothar Zerche); SMNS—Staatliches Museum für Naturkunde, Stuttgart (Arnaud Faille, Wolfgang Schwaller); TWCF—Takashi Watanabe Private Collection, Fujisawa; ZMUC—Zoological Museum, Copenhagen (Alexey Solodovnikov).

Measurements: Specimens were measured magnified 140 x using a stereoscopic microscope with an eye-piece linear micrometer. Ten specimens per species were measured, if available. Total length of specimen—interval from apical denticles of labrum to posterior end of abdomen, depending on degree of contraction of abdomen; forebody length—interval from apical denticles of labrum to posterior margin of elytra at suture; head length—interval from anterior margin of clypeus to posterior margin in front of nuchal groove; head width—maximum distance between lateral margins including eyes; eye length—maximum distance from anterior most to posterior most point of ocular suture measured in lateral view; temporal length—distance from posterior most point of ocular suture to nuchal groove measured in lateral view; pronotal length—interval from anterior to posterior pronotal margin along midline; pronotal width—maximum distance between sinistral and dextral pronotal margin; elytral sutural length—interval from posterior end of scutellum to posterior end of suture; length of aedeagus measured longitudinally across median lobe to tip of ventral process if this protrudes over median lobe.

Photographs: The habitus photographs (Figs 1–4) are based on image stacks taken with a Sony 7R camera and a Mitutoyo macro lens 10x. The image stacks of the trichobothrial cavity (Figs 5–10) were made with the same camera and a 20x Mitutoyo macro lens. The transmitted light microscope images of the primary and secondary sexual features (Figs 11–181) were taken magnified 200



FIGURES 1–2. Habitus of *Micranops planiusculus*, Cambodia, Angkor: Preah-Kahn Temple (1); *M. pallidulus*, Vietnam, Than Húa (Ben En National Park) (2). Abdominal segments VIII–X in Fig. 2 removed for dissection.

x with a Leica imaging system consisting of a DM6 B transmitted light microscope with a K3C camera and operated with LasX software. The image stacks were processed into multifocus images with Helicon Focus.

Figures 182–190 depicting the habitus and the aedeagus of holotypes of *Micranops* species described by Fagel (1973) I took in the late 1990s with simple equipment under unfavorable conditions at RMCA. Despite their low quality and the missing scale bar, they support the identification of their respective species.

Figs 191 and 192 were taken at SMNS with equipment unknown to me.

Descriptions: Most species of *Micranops* are very similar in ectomorphological appearance, which

is particularly true for the flying species. Therefore the usual characters in species descriptions such as body ratios, punctation or microsculpture do not allow accurate species identification in this genus. The descriptions of the exoskeleton are therefore reduced to those few features that can help with species identification. The ranges of measurements and the derived ratios are artificially narrower for species of which only a few specimens are available compared to species represented by large series. This applies in particular to the eye length, which can vary considerably within species. Apart from the primary and secondary sexual features of the males, however, I am not aware of any morphological features that allow a reliable species identification. Consequently, the identification of



FIGURES 3–4. Habitus of *Micranops caelebs*, Kenya, Western: Kisere (Kakamega Forest National Reserve) (3); *M. nyikensis*, Malawi, Northern Region: Mt Mwenembwe (Nyika Plateau) (4). Abdominal segments VIII–X removed for dissection.

the females of most species is not possible at the current state of knowledge.

Elytral length: The length of the elytra is exactly measured only for micropterous, flightless species with obligately reduced elytra. Many species of *Micranops* are wing-dimorphic with variable length of the elytra and the metathoracic wings, overlapping even between the species. The length of the elytra is therefore useless for the identification of macropterous and wing-dimorphic species. In the latter, the palisade fringe of abdominal tergite VII, a tool of flight-capable species for cleaning and unfolding the metathoracic wings (Hammond 1979:

134–137), is present not only in macropterous, but also in micropterous specimens (Hammond 1985: 20). Therefore, the presence of a palisade fringe in micropterous individuals suggests that the species is actually wing-dimorphic and that macropterous specimens most probably exist (Frisch 2024: 75). On the other hand, many species are currently known only from macropterous specimens. As they were mostly collected with light traps, it is possible or even probable that micropterous specimens occur in these species as well.

Aedeagus: In contrast to *Scopaeus* Erichson, 1839, whose aedeagus usually exhibits a well-defined set of

0.2 mm



FIGURES 5–7. Examples of shape and position of the trichobothrial cavity in *Micranops*: *M. planiusculus*, Cambodia, Angkor: Preah-Kahn Temple (5); *M. pallidulus*, Vietnam, Than Húa (Ben En National Park) (6); *M. obscurellus*, paralectotype, Malaysia, Pahang: Bentong (7). Abbreviations: tc—trichobothrial cavity; ts—trichobothrial sensilla.

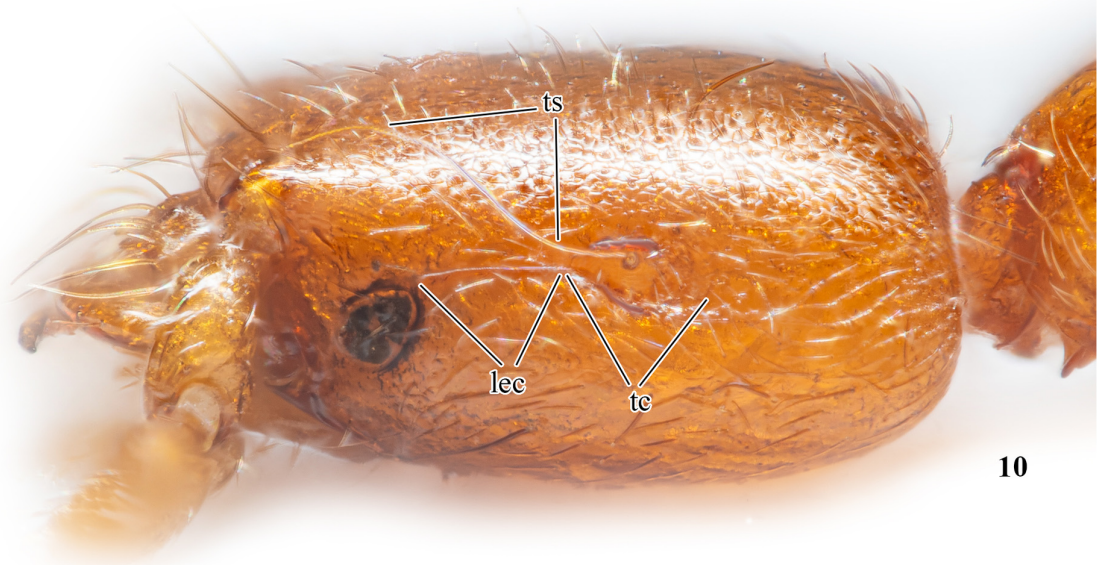
0.2 mm



8



9



10

FIGURES 8–10. Examples of shape and position of the trichobothrial cavity in *Micranops*: *M. caelebs*, Kenya, Western: Kisere (Kakamega Forest National Reserve) (8); *M. hermani*, paratype, Myanmar, Chin: Saw (9); *M. nyikensis*, Malawi, Northern Region: Mt Mwenembwe (Nyika Plateau) (10). Abbreviations: lec—line connecting eye and trichobothrial cavity; tc—trichobothrial cavity; ts—trichobothrial sensilla; vtc—ventral margin of trichobothrial cavity connected to eye.

strongly sclerotized distal lobes (Frisch *et al.* 2002: 31–34), the apical end of the aedeagus of *Micranops* is more or less membranous. This is why it is often difficult to distinguish the distal lobes in the transmitted-light microscopic images presented herein. However, as can be seen in the ink-drawings in Frisch *et al.* (2002: Figs 4–6) and Frisch & Oromi (2006: Figs 5–10), the aedeagus of *Micranops* also has a characteristic set of distal lobes, which are largely homologous to those in *Scopaeus* and usually exhibit species diagnostic characters. In the species descriptions herein, I distinguish paired, distolateral *apical lobes* (al), the unpaired *dorsal lobe* (dl), and an unpaired *ventral lobe* (vl), which, however, is absent in most species. The endophallic sclerites of *Micranops* are located in the apical portion of the aedeagus between the distal lobes. They usually consist of an unpaired, *ventromedial endophallic lobe* (vel) and lateral pairs of dorsal and ventral sclerites. These bilateral-symmetrical or rarely asymmetrical sclerite pairs are often species diagnostic, but their features are difficult to put into words and, moreover, look different in invaginated and evaginated state (e.g. Figs 41–46). Therefore, I do not describe them in detail and refer to the illustrations.

The aedeagus of *Micranops* often shows a narrow, membranous, ventral fissure separating the lobe-bearing apical portion with the endophallic sclerites from the phallobase (e.g. Fig. 20). In some microscopic images, the fissure is clearly present, but indistinct or absent in others. However, as this fissure is usually well visible in aedeagi with evaginated endophallic sclerites (e.g. Figs 44, 53) and less distinct or even invisible if the endophallus is invaginated, it seems that it opens when the endophallus evaginates. For this reason, I don't regard this fissure as a feature of taxonomic value.

The aedeagi are illustrated with the apical (distal) end pointing to the top of the page and the basal (proximal) end pointing downwards.

Material compilations: In the compilations of type material and additional specimens examined, the label data are not always cited verbatim, but standardized to make it easier for the reader to identify the localities. Historical locality names are placed in rectangular brackets following current names. Only the labels of old type specimens are cited verbatim in quotation marks. To shorten the material paragraphs, names of higher administrative units such as provinces are only mentioned once per paragraph.

Taxonomy

1. Key to *Micranops* of the Old World

The following key includes the named *Micranops* species of the Afrotropical, Australasiatic, Oriental, and Palearctic regions, except for *M. zambeziensis* (Fagel, 1973), Zimbabwe (Figs 183, 184), whose male is unknown and which I cannot distinguish from other Afrotropical species due to its average shape.

The key also serves as table of contents, as it leads to the page numbers on which the descriptions, redescrptions,

or illustrations of the species can be found. For species not described or redescrptions in this article, reference is made to illustrations in their descriptions or redescrptions. The key is moreover intended to replace differential diagnoses in the species descriptions. For the majority of the species, it only allows the identification of the males. For a reliable use of the key, I recommend to examine the aedeagus with a transmitted-light microscope.

It was not possible to construct the key phylogenetically throughout, as features that are well suited for species identification often do not reflect the presumed phylogenetic relationships. For this reason, some species appear in the key in a different order than in the species descriptions and figure plates, where I have tried to arrange the species according to their relationships.

- 1 Macrophthalmous, macropterous or wing-dimorphic species with palisade fringe on abdominal tergite VII (e.g. Figs 1–3, 182, 183). Trichobothrial cavity usually connected to eye (Figs 5–8)..... 2
- Microphthalmous or anophthalmous, micropterous species without palisade fringe on abdominal tergite VII (Figs 4, 184, 185, 191). Trichobothrial cavity far posterior of eye (Fig. 10)..... 33
- 2 Forebody nitid with medium fine punctation with puncture interspaces usually wider than puncture diameters (Frisch 2016: Fig. 1). Male characters unknown. Western Australia *mediicollis* (Lea, 1923).
- Forebody usually subnitid with finer, much denser punctation. Not in Western Australia..... 3
- 3 Subbasal ridge of male abdominal sternite VIII medioposteriorly extended in long, ventrally protruding process (Figs 171, 173)..... 4
- Subbasal ridge of male abdominal sternite VIII without such process (e.g. Figs 167, 181) 5
- 4 Abdominal sternite VII of male with transverse row of macrosetae and straight posterior margin without strong macrosetae (Fig. 172). Phallobase narrow, reduced dorsally and proximally (Figs 125–127). Thailand *transversosetatus* sp. nov. (p. 548)
- Abdominal sternite VII without transverse row of macrosetae, with strong macrosetae lateral of medioposterior emargination (Fig. 170). Phallobase normal size (Figs 122–124). Malaysia, Thailand *obscurellus* (Cameron, 1932) (p. 547)
- 5 Abdominal sternite VII of male with short, medioposterior macrosetae (e.g. Figs 143, 145, 149)..... 6
- Abdominal sternite VII of male without such macrosetae 17
- 6 Phallobase large, not shorter than ventral process of aedeagus, moderately to strongly extended proximally beyond postforamen. Ventral process of aedeagus without single, submedial, ventral denticle (e.g. Figs 11–19, 29–31) 7
- Phallobase vestigial, clearly shorter than ventral process of aedeagus, feebly extended proximally beyond postforamen. Ventral process of aedeagus with submedial, ventral denticle (Figs 128–142)..... 15
- 7 Macrosetae of male abdominal sternite VII on medioposterior projection (Fig. 145). India, Myanmar *hermani* sp. nov. (p. 511)

-	Macrosetae of male abdominal sternite VII in or laterad of medioposterior emargination (Fig. 143).....	8		
8	Aedeagus with ventral lobe, without ventromedial endophallic lobe (Figs 11, 14).....	9		
-	Aedeagus without ventral lobe, with ventromedial endophallic lobe (e.g. Figs 29, 32, 35, 38, 95, 122).....	10		
9	Ventral process of aedeagus not reaching apex of dorsal lobe by far (Fig. 11), in ventral view with oval apical portion three times as wide as at base (Fig. 12). Congo			
	.....<i>upembanus</i> (Fagel, 1973) (p. 509)			
-	Ventral process of aedeagus reaching apex of dorsal lobe (Frisch 1997: Figs 8–10), in ventral view with narrow apical portion (Frisch 1997: Fig. 8). West Palearctic			
	.....<i>pilicornis</i> (Baudi di Selve, 1869)			
10	Abdominal sternite VII of male with about six longer, medioposterior macrosetae at emarginate or straight posterior margin (Figs 149, 151, 153, 161). Abdominal sternite VIII of male with continuous subapical ridge (Figs 150, 152, 154, 162). Apical lobes of aedeagus without laterodistal setae. Ventral process narrow, not protruding over aedeagus laterally (Figs 30, 33, 39, 96).....	11		
-	Abdominal sternite VII of male with four short-oval macrosetae at slight, medioposterior projection (Fig. 163). Abdominal sternite VIII of male with medially interrupted subapical ridge (Fig. 164). Apical lobes of aedeagus with laterodistal setae (Figs 104–109). Ventral process broad, protruding over aedeagus laterally (Figs 106, 109).....	14		
11	Ventral process not reaching apex of aedeagus by far (Figs 29, 30). Ventromedial endophallic lobe on both sides with endophallic spine (Figs 29, 30). India			
	.....<i>cuccodoroi</i> sp. nov. (p. 515)			
-	Ventral process almost reaching or reaching apex of aedeagus (Figs 32, 38, 95). Ventromedial endophallic lobe without lateral, endophallic spines (e.g. Figs 32, 33).....	12		
12	Ventral process reaching apex of aedeagus (Figs 95–97). Ventromedial endophallic lobe hyaline, strongly bent distad, without dorsomedial tooth (Fig. 95). China, Japan.			
	.....<i>orientasiaticus</i> sp. nov. (p. 535)			
-	Ventral process almost reaching apex of aedeagus (Figs 32, 38). Ventromedial endophallic lobe pointing ventrad and with dorsomedial tooth (Figs 32, 35, 38)	13		
13	Ventral process of aedeagus in lateral view evenly narrowed toward slightly widened apex (Fig. 32). Ventromedial endophallic lobe with hyaline apical spine set-off sharply from sclerotized proximal portion of lobe (Fig. 32). Mainland Southeast Asia			
	.....<i>planiusculus</i> (Kraatz, 1859) (p. 517)			
-	Ventral process of aedeagus with dilated median portion and clearly widened apex (Fig. 38). Ventromedial endophallic lobe with sclerotized apical spine not set-off from proximal portion of lobe (Fig. 38). Indian Subcontinent			
	.....<i>pokharensis</i> (Coiffait, 1981) (p. 518)			
14	Apical lobes of aedeagus in lateral view with acute apex (Fig. 104), in dorsal view long rectangular (Fig. 106). Ventromedial lobe pointed (Fig. 104). Afrotropics			
	.....<i>transafricanus</i> sp. nov. (p. 540)			
-	Apical lobes of aedeagus in lateral view with rounded apex (Fig. 107), in dorsal view quadrate (Fig. 109). Ventromedial lobe with round apex (Fig. 107). Tanzania			
	.....<i>manyarensis</i> sp. nov. (p. 542)			
15	Forebody nitid with coarse, spacious punctation (Fig. 3). Medioposterior macrosetae of male abdominal sternite VII short setiform, arranged in single row (Fig. 178). Ventral process of aedeagus in lateral view weakly curved distad (Fig. 134). Congo, Kenya			
	.....<i>caelebs</i> (Fagel, 1973) (p. 552)			
-	Forebody subnitid with very fine, dense punctation (cf. Figs 1–2). Medioposterior macrosetae of male abdominal sternite VII short-oval, arranged in two or three rows (Figs 174, 180). Ventral process of aedeagus in lateral view straight (Fig. 128, 137, 140). Oriental Region	16		
16	Medioposterior macrosetae of male abdominal sternite VII arranged in three irregular rows of numerous macrosetae (Fig. 174). Ventral process of aedeagus in lateral view with subbasal ventral denticle and wide, subparallel apical portion (Fig. 128). India			
	.....<i>indicus</i> sp. nov. (p. 549)			
-	Medioposterior macrosetae of male sternite VII arranged as two groups of two macrosetae on lateral margins of posterior incision of sternite and group of two macrosetae shifted proximad (Fig. 180). Ventral process of aedeagus with medial ventral denticle, evenly tapered to thin apex (Figs 137, 140). Indian Subcontinent			
	.....<i>viti</i> Assing, 2021 (p. 553)			
17	Phallobase vestigial, much shorter than ventral process of aedeagus, feebly extended beyond postforamen (Figs 186, 187). Ventral process of aedeagus with strongly dilated basal half and thin distal half (Fig. 186). Congo			
	.....<i>mabalianus</i> (Fagel, 1973)			
-	Phallobase not vestigial, not shorter than ventral process of aedeagus, moderately to strongly extended beyond postforamen (e.g. Figs 20–28, 41–103, 110–121). Ventral process of aedeagus different	18		
18	Phallobase without dorsomidlongitudinal split, dorsally convex (e.g. Figs 20, 22). Circoforamen short, about 0.25 times as long as phallobase proximal of that and less than twice as long as median foramen (Figs 21, 24, 27). Dorsodistal opening of phallobase projecting dorsally (Figs 20, 23, 26).....	19		
-	Phallobase with dorsomidlongitudinal split, dorsally more or less collapsed (e.g. Figs 41, 44). Circoforamen longer, about 1.0–2.0 times as long as phallobase proximal of that and twice as long as median foramen at least (e.g. Figs 42, 45). Dorsodistal opening of phallobase not projecting dorsally (e.g. Figs 41, 44).....	20		
19	Ventral process of apical lobes longer, spiniform (Fig. 20). Congo			
	.....<i>hoyoensis</i> (Fagel, 1973) (p. 511)			
-	Ventral process of apical lobes shorter, lobiform (Figs 23, 26). Northern Afrotropical Region			
	.....<i>lacustris</i> (Bernhauer, 1937) (p. 513)			
20	Medioposterior incision of male abdominal sternite VIII deep, occupying 0.5 of sternite length (Figs 166, 169) ..	21		
-	Medioposterior incision of male abdominal sternite VIII short, occupying 0.1–0.3 of sternite length (e.g. Figs 155–159).....	22		
21	Ventral process of aedeagus narrower in lateral than in ventral view (Figs 113, 114, 116, 117). Nepal.....			
	.....<i>nepalicus</i> sp. nov. (p. 544)			
-	Ventral process of aedeagus wider in lateral than in ventral view (Figs 119, 120). Laos.....			
	.....<i>cultifer</i> sp. nov. (p. 544)			

22	Dorsal lobe long, strongly sclerotized, about 0.25–0.4 times as long as aedeagus (Figs 98, 101). Ventromedial lobe directed longitudinally, without spiniform medial or distomarginal sclerotization (Figs 98, 101). Afrotropical Region.....	23
-	Dorsal lobe short, less strongly sclerotized, about 0.1–0.2 times as long as aedeagus (Figs 41–91). Ventromedial lobe directed ventrally, with spiniform, medial or distomarginal sclerotization (Figs 41–91). Oriental Region	24
23	Ventromedial lobe of aedeagus smooth (Fig. 98). Ventral process protruding over aedeagus laterally (Figs 99, 100). Congo	<i>brachycerus</i> (Fauvel, 1900) (p. 537)
-	Ventromedial lobe of aedeagus serrate distally (Fig. 101). Ventral process not protruding over aedeagus laterally (Figs 102, 103). Northern Afrotropical Region	<i>brachyceroides</i> (Fagel, 1973) (p. 539)
24	Spiniform sclerotization of ventromedial endophallic lobe strongly recurved dorsodistad (e.g. Figs 65, 86)	25
-	Spiniform sclerotization of ventromedial endophallic lobe pointing ventrad (e.g. Figs 41, 47, 56) or recurved dorsoproximad (Fig. 53)	26
25	Apical lobes of aedeagus with straight or concave ventral margin (e.g. Figs 65, 68, 71). Ventral process reaching end of apical portion of aedeagus, in lateral view straight without ventral, subapical angle (e.g. Figs 65, 68, 71). Palaeotropics.....	<i>pallidulus</i> (Kraatz, 1859) (p. 529)
-	Apical lobes of aedeagus convex ventrally (Figs 86, 89). Ventral lobe protruding over apical portion of aedeagus, in lateral view with ventral, subapical angle, then slightly bent dorsad (Figs 86, 89). Philippines, Sulawesi	<i>palliduloides</i> sp. nov. (p. 533)
26	Spiniform sclerotization of ventromedial endophallic lobe hook-shaped, recurved dorsoproximad (Fig. 53). India	<i>rougemonti</i> sp. nov. (p. 524)
-	Spiniform sclerotization of ventromedial endophallic lobe directed ventrad (e.g. Figs 41, 47, 56).....	27
27	Spiniform sclerotization of ventromedial endophallic lobe with median tooth (Figs 41, 44)	28
-	Spiniform sclerotization of ventromedial endophallic lobe with few, minute denticles (Figs 47, 50, 56, 59, 62)	29
28	Ventral process of aedeagus in lateral view broader with less ventrad curved end (Fig. 41). Cambodia	<i>angkorensis</i> sp. nov. (p. 520)
-	Ventral process of of aedeagus in lateral view narrower with more strongly ventrad curved end (Fig. 44). Myanmar.....	<i>bhamoensis</i> sp. nov. (p. 520)
29	Spiniform sclerotization of ventromedial endophallic lobe with thick proximal portion and thin end (Figs 47, 50).....	30
-	Spiniform sclerotization of ventromedial endophallic lobe thin throughout (Figs 56, 59, 62).....	31
30	Ventral process broad, in lateral view about as wide as aedeagus at same level (Fig. 47), in ventral view with arrow-shaped distal portion protruding over aedeagus laterally (Fig. 48). China	<i>sagittifer</i> sp. nov. (p. 522)
-	Ventral process narrow, in lateral view about half as wide as aedeagus at same level (Fig. 50), not protruding over aedeagus laterally (Fig. 51). Taiwan.....	<i>taiwanensis</i> sp. nov. (p. 524)
31	Apical lobes of aedeagus with broad, almost subquadrate ventral extension and ventral group of subapical setules (Fig. 56, 57). Entire ventral process strongly laterally protruding over slender apical portion of aedeagus (Figs 57, 58). Vietnam	<i>vietnamensis</i> sp. nov. (p. 526)
-	Apical lobes of aedeagus with long-triangular ventral extension (Figs 59, 62) and numerous tiny, subapical, ventral setules (Figs 60, 63). Ventral process not over entire length laterally protruding over aedeagus	32
32	Ventral process protruding over aedeagus laterally (Figs 60, 61). Australia, Timor.....	<i>australasiaticus</i> sp. nov. (p. 526)
-	Ventral process not protruding over aedeagus laterally (Figs 63, 64). Maluku	<i>malukensis</i> sp. nov. (p. 527)
33	Anophthalmous, endogeal and troglobitic species of Canary Islands.....	34
-	Microphthalmous species of Afrotropical Region.....	37
34	Troglobitic with slender body and remarkably lengthened appendages; head 1.7 times as long as wide (Fig. 191, Frisch & Oromí 2006: Fig. 4). Body length 5.1 mm, forebody length 2.3 mm. Ventral process of aedeagus thin, considerably protruding over dorsal lobe apically (Fig. 192). Tenerife.....	<i>spelaeus</i> Frisch & Oromí, 2006
-	Endogeal without lengthened appendages. Body length 2.9–3.9 mm, forebody length 1.4–1.9 mm. Head 1.25–1.33 times as long as wide. Ventral process of aedeagus robust, slightly protruding over dorsal lobe apically (Aedeagus of one species unknown).....	35
35	Body medium brown to dark brown. Abdominal sternite VII of male with medioposterior macrosetae. Ventral process remarkably enlarged, not much protruding over dorsal lobe apically, in dorsal view about twice as wide as apical portion of aedeagus (Frisch & Oromí 2006: Figs 2, 5–7, 11, 12). La Gomera.....	<i>subterraneus</i> Frisch & Oromí, 2006
-	Body depigmented, light yellow brown	36
36	Larger, robust species. Body length 3.6 mm, forebody length 1.9 mm. Male characters unknown (Frisch & Oromí 2006: Fig. 1). Tenerife, La Gomera (?).....	<i>bifossicapitatus</i> (Outerelo & Oromí, 1987)
-	Smaller, delicate species. Body length 2.9–3.3 mm, forebody length 1.4–1.6 mm. Abdominal sternite VII of male with medioposterior macrosetae. Ventral process short, by far not reaching apex of apical lobe, in ventral view with slightly widened apical portion 0.7 times as wide as aedeagus at same level (Frisch & Oromí 2006: Figs 3, 8–10, 13, 14). Tenerife.....	<i>mleyneki</i> Frisch & Oromí, 2006
37	Nuchal groove narrow, 0.28 times as wide as greatest head width (Frisch & Herman 2014: Fig. 2). Male characters unknown. Congo.....	<i>aborensis</i> (Fagel, 1973)
-	Nuchal groove wider, 0.33–0.37 times as wide as greatest head width (e.g. Fig. 4).....	38
38	Phallobase not shorter than ventral process of aedeagus (Figs 92–94, 110–112). Abdominal sternite VII of male without medioposterior macrosetae.....	39
-	Phallobase vestigial, notably shorter than ventral process of aedeagus (Figs 131, 132). Abdominal sternite VII of male with medioposterior macrosetae (Fig. 176).....	41
39	Aedeagus with normal-sized apical portion and slender, straight ventral process reaching apex of aedeagus (Fig. 92).	

- Medioposterior incision of male abdominal sternite VIII occupying about 0.1 of sternite length (Fig. 160). Malawi*nyikensis* sp. nov. (p. 535)
- Apical portion of aedeagus vestigial, much shorter than strong ventral process (Figs 110, 112, 189). Medioposterior incision of male abdominal sternite VIII occupying about 0.3 of sternite length (Fig. 168)..... 40
- 40 Apical portion of ventral process with ventrad curved apex shorter, without dorsad pointing, distolateral teeth (Fig. 110). Ruanda.....*siebertae* sp. nov. (p. 542)
- Apical portion of ventral process with ventrad curved apex longer and with dorsad pointing, lateral teeth (Fig. 189). Congo*lwiroensis* (Fagel, 1973) (p. 544)
- 41 Ventral process of aedeagus in lateral view narrower, slightly undulate, not tapered apically, without medioventral denticle (Frisch & Herman 2014: Figs 3–6). Tanzania*bartolozzii* (Frisch & Herman, 2014)
- Ventral process of aedeagus in lateral view wider, not undulate, with medioventral denticle 42
- 42 Ventral process in lateral view straight, gradually tapered toward subacute apex (Fig. 131); body surface finely punctured. Angola.....*subapterus* (Cameron, 1951) (p. 550)
- Ventral process of aedeagus in lateral view moderately curved dorsad, parallel with round apex (Fig. 188); body surface coarsely punctured (Fig. 3). Rwenzori Mountains.*ruwenzoricus* (Fagel, 1973)

2. Species descriptions and redescrptions

Micranops upembanus (Fagel)

(Figs 11–13)

Geoscopaeus upembanus Fagel, 1973: 26, 27.

Micranops upembanus (Fagel, 1973); Frisch & Herman 2014: 71.

Type specimen examined: Holotype ♂, Democratic Republic of the Congo, Haut-Lomami: Mabwe (Lake Upemba), 585 m, 24.II.1949, Mission G. F. de Witte (RMCA).

The paratypes Fagel (1973: 27) designated, one from the type locality and three from Kivu, I did not see. However, I borrowed 17 specimens of *Micranops upembanus* from RMCA with the same locality label as the holotype. They originate from the same sample as the holotype, but were neither designated as paratypes by Fagel (1973: 27) nor do they bear Fagel's identification labels.

New records: Democratic Republic of the Congo: South Kivu, Mt Kahuzi, 2000 m, 27.V.1985, leg. Mühle (MFNB). **Burundi:** Bujumbura, 3.V.1985, leg. Mühle (MFNB).

Redescription: Macroptalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotal length and with functional metathoracic wings. Body color light brown to medium brown; appendages light brown. Body surface subnitid with extremely fine, dense, setose punctation. Head about 1.2

times longer than wide, with moderately convex temples and straight posterior margin. Eyes 0.48–0.54 times as long as temples. Nuchal groove 0.21–0.27 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna compact, from very slightly elongate pedicellus and antennomere 3 gradually widened toward transverse penultimate antennomeres; antennomere 10 about 0.6–0.7 times, antennomere 11 about 1.3–1.4 times as long as wide. Total body length 2.0–2.3 mm; forebody length 1.1–1.2 mm.

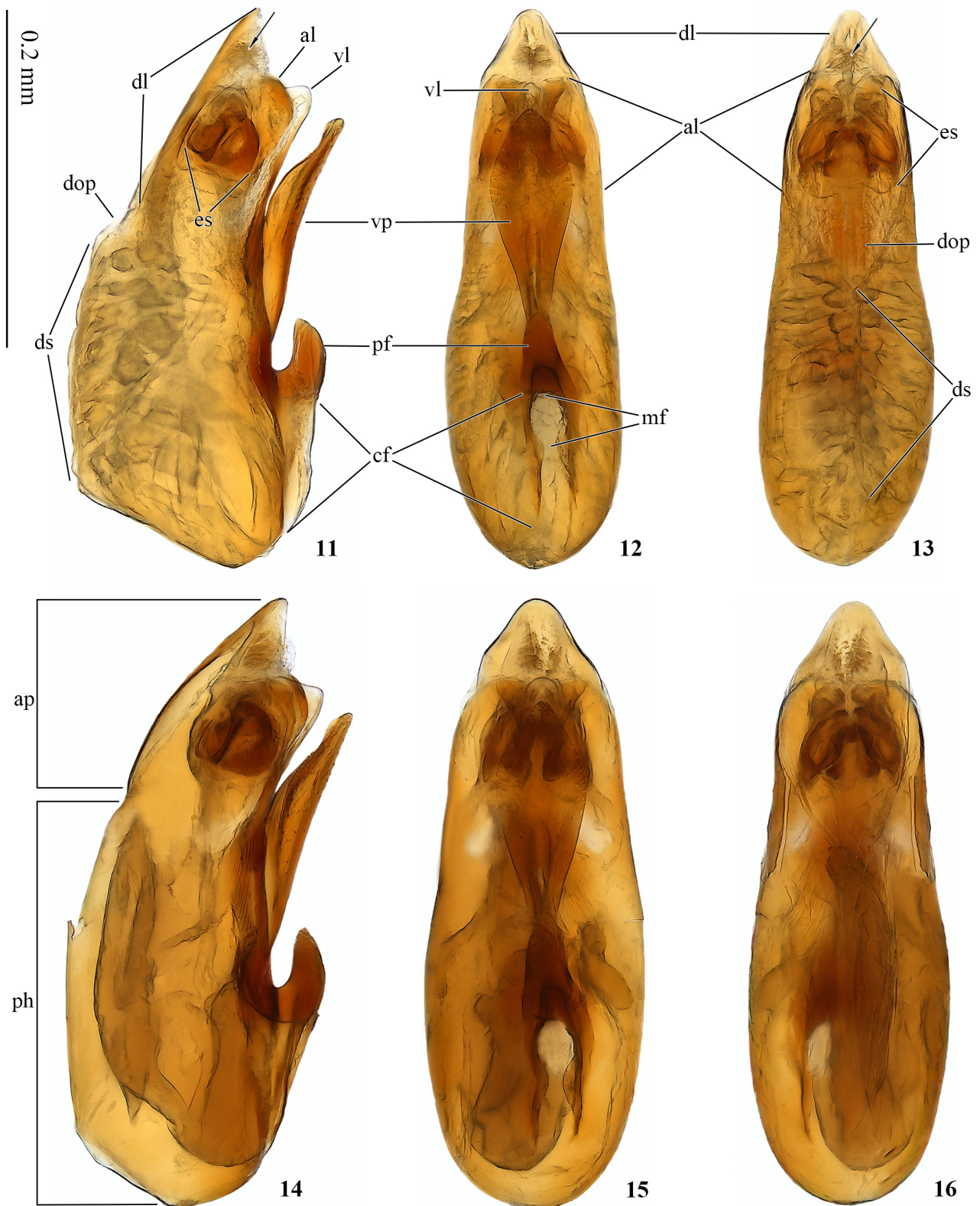
Male: Protarsomeres 1–4 not dilated, about as long as wide.

Abdominal sternite VII in about median 0.2 of somewhat triangularly extended posterior margin with shallow, triangular emargination with two adjacent groups of five short, thick macrosetae directed medioposteriorly (cf. Fig. 143).

Abdominal sternite VIII with subbasal ridge evenly curved posteriorly, posterior margin triangularly incised to approximately 0.25 of sternite length, and lateral setae long, up to 0.3 times as long as sternite length (cf. Fig. 144).

Aedeagus with lobe-bearing apical portion occupying about 0.4 of aedeagal length (Fig. 11); apical portion in lateral view broad, elongate subrectangular (Fig. 11); phallobase not extended beyond base of ventral process (Fig. 11); in dorsal view, aedeagus elongate-oval, about three times as long as wide, with slightly concave lateral margins narrowed distad (Fig. 13). Apical lobes in lateral view each with broad, convex, strongly sclerotized apex (Fig. 11), in ventral view with slightly convex lateral margins narrowed toward subtruncate ends (Fig. 12). Dorsal lobe notably protruding over apical lobes and ventral lobe and with subapical, medial brush of ventrad pointing setae (Figs 11–13), in lateral view straight except for slightly ventrad curved base and with triangular end strongly sclerotized dorsally but membranous ventrally (Fig. 11), in ventral and dorsal view subtriangular (Figs 12, 13). Ventral lobe with strongly sclerotized ventral margin and round apex, reaching apical end of lateral lobes (Fig. 11). Ventromedial endophallic lobe not discernible. Endophallic sclerites large, compact (Figs 11, 13). Ventral process not reaching apex of ventral lobe, in lateral view strongly tapered toward narrow, subacute apex and at widest point about 0.3 times as wide as aedeagus at same level (Fig. 11); in ventral view, ventral process widely lanceolate with subacute end, at base very narrow, only about 0.15 times as wide as aedeagus at same level, and at widest point at about distal third of length about 0.6 times as wide as aedeagus at same level (Fig. 12). Dorsodistal opening of phallobase widely triangular (Fig. 13), lengthened to form dorsomidlongitudinal split occupying most of length of phallobase (Figs 11, 13); latter therefore collapsed in dry specimens (Fig. 11). Postforamen strongly projecting distoventrad, hook-shaped (Fig. 11). Circoforamen about twice as long as median foramen (Fig. 12). Length of aedeagus 0.31–0.33 mm.

Female: Protarsomeres 1–4 not dilated, about as long as wide.



FIGURES 11–16. Aedeagus in lateral (11, 14), ventral (12, 15), and dorsal (13, 16) view of *Micranops upembanus*, Democratic Republic of the Congo, Haut-Lomami: Mabwe (Lake Upemba) (11–13); *M. cf. upembanus*, Republic of South Africa, KwaZulu-Natal: Ndumo Nature Reserve (14–16). Abbreviations: al—apical lobe; ap—lobe bearing apical portion; cf—circoforamen; dl—dorsal lobe; dop—dorsal opening of phallobase; ds—dorsomidlongitudinal split; es—endophallic sclerites; mf—median foramen; pf—postforamen; ph—phallobase; vl—ventral lobe; vp—ventral process. Arrow: subapical, medial brush of setules.

Distribution: *Micranops upembanus* is known from the west and south of the Democratic Republic of the Congo (Lakes Kivu and Upemba) and from Burundi (new country record). A possibly conspecific specimen from the Republic of South Africa (KwaZulu-Natal: Ndumo Nature Reserve, 23.11.2001, leg. Schüle; SMNS) with the same features of the male abdominal sternites VII and VIII (Figs 143, 144) has a larger (0.36 mm) and more robust aedeagus (Figs 14–16) than the specimens from Equatorial Africa.

***Micranops hermani*, sp. nov.**
(Figs 9, 17–19, 145, 146)

Type specimens: Holotype ♂, India, West Bengal, Darjeeling: Sevoke, 200 m, 7.X.1978, leg. Besuchet & Löbl (MHNG). Paratype ♂, Myanmar, Chin: Saw, 900–1500 m, 27./28.II.1996, leg. Kurbatov (MHNG).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; type specimens macropterous with elytral sutural length about as long as pronotum and with functional metathoracic wings. Body color light brown to light medium brown; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head about 1.1 times longer than wide, with moderately convex temples and slightly to moderately concave posterior margin. Eyes 0.38–0.39 times as long as temples. Nuchal groove 0.28–0.29 times as wide as greatest head width. Trichobothrial cavity guttiform, located about its own length behind eye, with angular ventral margin continuing to and widened toward dorsoposterior margin of eye (Fig. 9). Antenna compact; pedicellus slightly elongate, antennomere 3 as long as wide, antennomeres 4–10 increasingly transverse; antennomere 10 about 0.6–0.7 times, antennomere 11 about 1.0–1.2 times as long as wide. Total body length 2.2–2.4 mm; forebody length 1.1–1.2 mm.

Male: Protarsomeres 1–4 not dilated, about as long as wide.

Abdominal sternite VII in about median 0.25 of straight posterior margin with convex extension studded with six strongly modified, short-oval macrosetae (Fig. 145).

Abdominal sternite VIII with subbasal ridge medially triangularly extended posteriad; posterior margin with relatively wide triangular incision in approximately 0.2 of sternite length; lateral setae about 0.3 times as long as sternite length (Fig. 146).

Aedeagus with lobe-bearing apical portion occupying about 0.3 of aedeagal length (Fig. 17); apical portion in lateral view subquadrate (Fig. 17); phallobase not extended beyond base of ventral process (Fig. 17); in dorsal view, aedeagus narrow with subparallel lateral margins, about four times as long as wide measured without ventral process (Fig. 19). Apical lobes each with large, membranous, ventral extension (Fig. 17), in dorsal view somewhat convex laterally (Fig. 19). Dorsal lobe in lateral view moderately protruding distally, straight with slightly ventrad curved end strongly sclerotized dorsally

but membranous ventrally (Fig. 17), and with medial, subapical brush of ventrad pointing setae (Figs 17, 19); in dorsal view, dorsal lobe narrowed toward convex apex (Fig. 19). Ventral lobe situated between ventral extensions of apical lobes and strongly protruding over them distally, hyaline with strongly sclerotized ventral and dorsal margin, and tapered toward subacute end (Fig. 17). Ventromedial endophallic lobe not discernible (Fig. 17). Endophallic sclerites as in Figs 17, 19. Ventral process long, notably protruding beyond apical portion of aedeagus (Figs 17–19), in lateral view straight dorsally, moderately convex ventrally, at widest point near base about 0.5 times as wide as aedeagus at same level, and somewhat tapered toward narrow, round apex (Fig. 17), in ventral view narrow with subacute apex, at narrowest point near base about 0.3 times as wide as aedeagus at same level, and at widest point almost 0.5 times as wide as aedeagus at same level (Fig. 18). Dorsomidlongitudinal split including dorsodistal opening occupying most of length of phallobase (Figs 17, 19); latter therefore collapsed in dry specimens (Fig. 17). Postforamen strongly protruding ventrad, shortly hook-shaped (Fig. 17). Circoforamen about three times as long as median foramen (Fig. 18). Length of aedeagus 0.3 mm.

Female unknown.

Distribution: *Micranops hermani* is known from northeastern India (Darjeeling) and northwestern Myanmar (Chin State).

Etymology: With great gratitude I dedicate this new species to my dear friend Lee Herman, specialist of Paederinae at the American Museum of Natural History, New York, whose support and constant advice has accompanied me throughout my taxonomic career (epithet *hermani*: Latinized noun, derived from the surname Herman, masculine, genitive, singular).

***Micranops hoyoensis* (Fagel)**
(Figs 20–22, 147)

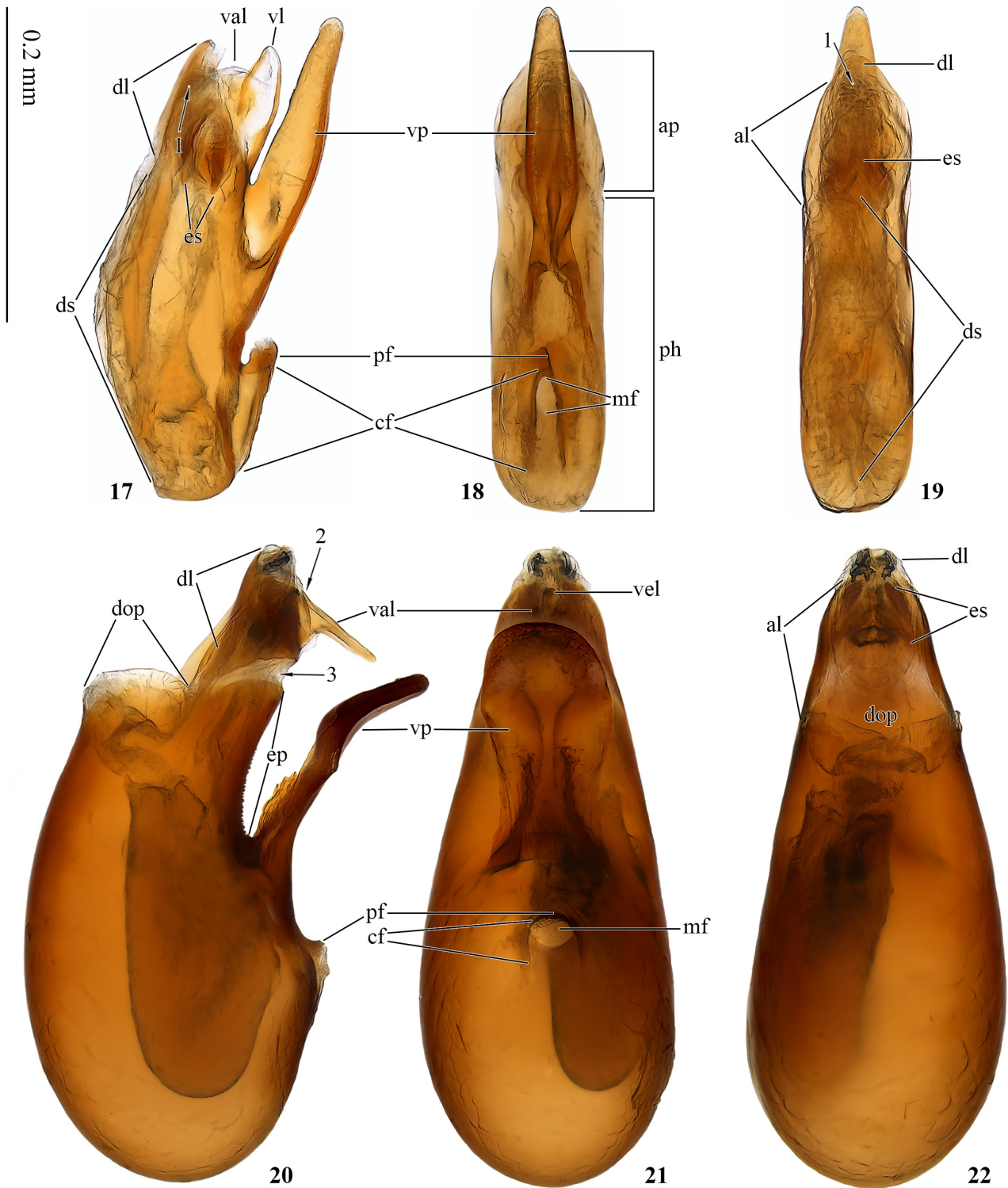
Geoscopaeus hoyoensis Fagel, 1973: 28, 29.

Micranops hoyoensis (Fagel, 1973); Frisch & Herman 2014: 69.

Type specimen examined: Holotype ♂, Democratic Republic of the Congo, Ituri, Mt Hoyo (cave Tala-Tala), 1,170 m, 7.–15.VII.1955, leg. Vanschuytbroeck (RMCA).

New records: Republic of South Africa: Mpumalanga: Sabi River (Kruger National Park) (24°57'S, 31°42'E), 22.II.1995, leg. Endrödy-Younga (DMNH, MFNB).

Redescription: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and with functionary metathoracic wings. Body color medium brown to dark brown with light brown appendages. Body surface subnitid with very fine, dense, setose punctation. Head about 1.2 times longer than wide, with slightly convex temples and straight to slightly convex posterior margin. Eyes 0.47–0.54 times as long as



FIGURES 17–22. Aedeagus in lateral (17, 20), ventral (18, 21), and dorsal (19, 22) view of *Micranops hermani*, holotype, India, West Bengal, Darjeeling: Sevoke (17–19); *M. hoyoensis*, Republic of South Africa, Mpumalanga: Sabi River (Kruger National Park) (20–22). Abbreviations: al—apical lobe; ap—lobe bearing apical portion; cf—circoforamen; dl—dorsal lobe; dop—dorsal opening of phallobase; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; ph—phallobase; val—ventral process/extension of apical lobe; vel—ventromedial endophallic lobe; vl—ventral lobe; vp—ventral process. Arrows: 1—subapical, medial brush of setules; 2—dorsal denticle of ventral extension of apical lobes; 3—ventral, membranous fissure.

temples. Nuchal groove 0.27 times as wide as greatest head width. Trichobothrial cavity long guttiform, about twice as long horizontally as vertically, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate pedicellus and antennomere 3 gradually wider toward moderately transverse penultimate antennomeres; antennomere 10 about 0.7–0.8 times, antennomere 11 about 1.4 times as long as wide. Total body length 2.2 mm; forebody length 1.3 mm.

Male: Protarsomeres 1–4 not dilated, about as long as wide.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to 0.1 of sternite length; lateral setae moderately long, up to about 0.25 times as long as sternite length (Fig. 147).

Aedeagus with lobe-bearing apical portion occupying about 0.25 of aedeagal length (Fig. 20), in dorsal view long-oval, about 2.5 times as long as wide (Fig. 22); phallobase distally extended beyond base of ventral process and there finely serrate and somewhat curved ventrad (Fig. 20); apical lobes each extended into long, thin spine strongly projecting ventrally and with distodorsad pointing denticle (Fig. 20), in dorsal view with concave lateral margins moderately narrowed distad (Fig. 22). Dorsal lobe with membranous apex narrow convex in lateral view (Fig. 20) but broader convex in dorsal view (Fig. 22). Ventral lobe absent. Ventromedial endophallic lobe short (Fig. 21). Endophallic sclerites as in Fig. 22. Ventral process reaching end of ventral, spiniform extension of apical lobes (Fig. 20); in lateral view, ventral process thin, in basal third with irregular, undulate, dorsal extension, in distal half first bent dorsad, then curved ventrad with straight apical portion (Fig. 20); ventral process in ventral view wide oval, gradually widening toward broadly convex apex, at base about half as wide as, at end as wide as aedeagus at same level (Fig. 21). Dorsodistal opening of phallobase strongly projecting dorsally (Fig. 20), in dorsal view occupying aedeagal width (Fig. 22), not lengthened to form dorsomidlongitudinal split; phallobase therefore completely sclerotized dorsally (Fig. 22) and evenly convex in lateral view (Fig. 20). Postforamen hardly projecting ventrally (Fig. 20). Circoforamen short, not much longer than small median foramen, thus phallobase posterior of circoforamen about four times as long as this (Figs 20, 21). Length of aedeagus 0.41 mm.

Female: Protarsomeres 1–4 not dilated, about as long as wide.

Distribution: *Micranops hoyoensis* is known from the Congo Basin and South Africa (new country record) and probably widespread in sub-Saharan Africa.

***Micranops lacustris* (Bernhauer)**

(Figs 23–28, 148)

Scopaeus lacustris Bernhauer, 1937: 602, 603.

Geoscopaeus lacustris (Bernhauer, 1937); Fagel 1973: 24, 25.

Micranops lacustris (Bernhauer, 1937); Frisch & Herman 2014: 69.

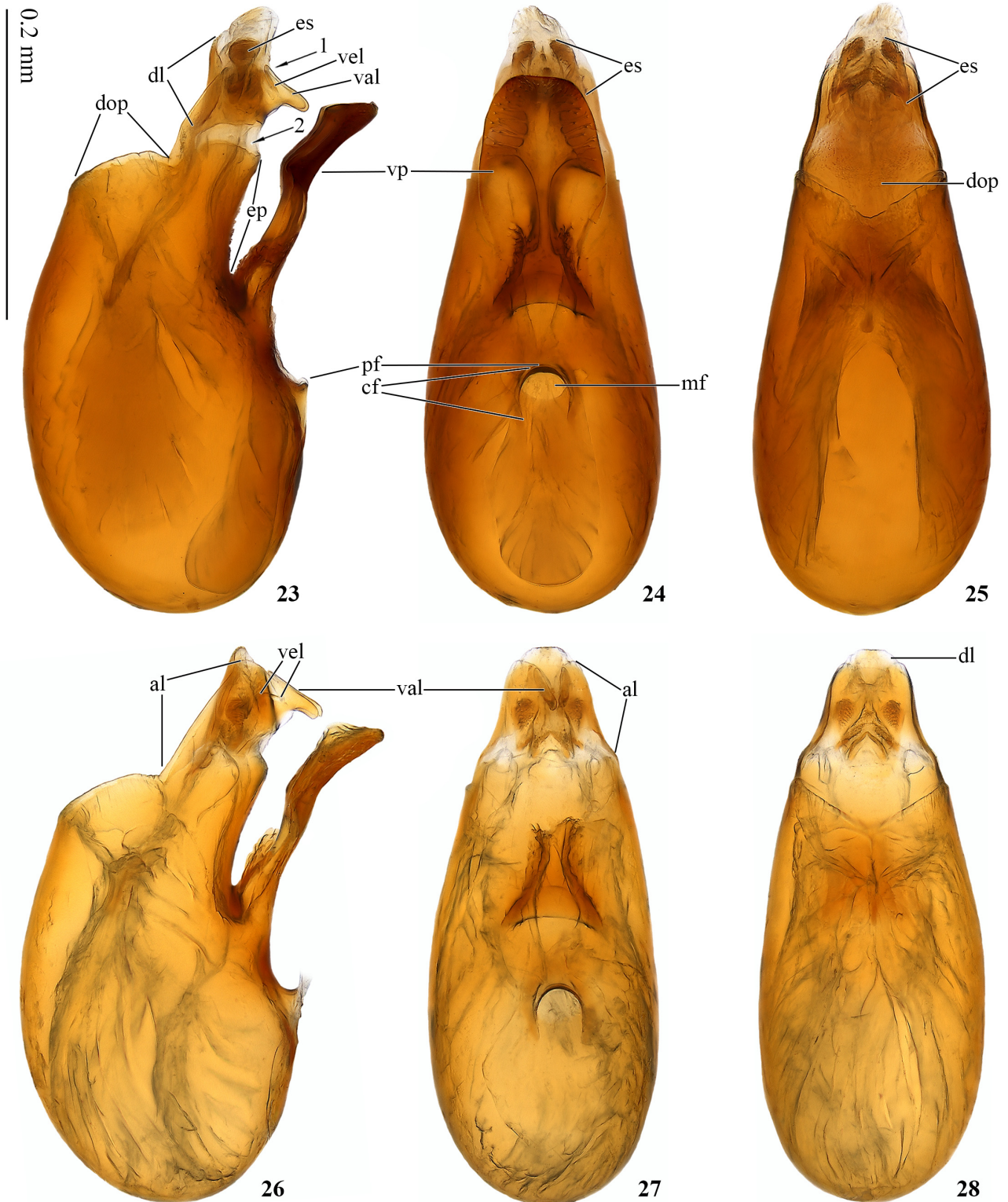
Scopaeus fragilis Cameron, 1947: 95, 96; synonymized by Fagel (1973: 24).

Type specimens examined: Syntype ♀, Uganda, Kalangala: Bugala Island (Lake Victoria), 1908, leg. Bayon (FMNH); labelled “VICTORIAN YANZA/ARCIP. DI SESSE / BUGALA...1908” (printed), “Mus. Civ. / Genova” (printed), “lacustris Brh / Cotyp” (handwritten), “lacustris/Brnh. Typ./Scopaeus” (handwritten), “Chicago NHMus / M.Bernhauer / Collection” (printed) (FMNH). Syntype ♀ of *Scopaeus fragilis*, Eritrea, Semienawi Kayih Bahri: Ghinda, 13.XII.1934, leg. Müller; labelled “Co- / Type” (round, yellow-edged label), “Ghinda, lumt [?] / Müll. 13.XII.1934” (handwritten), “Scopaeus / fragilis / COTYPE Cam.” (handwritten), “M. Cameron. / Bequest. / BM1955-147.” (printed) (NHML).

According to Bernhauer (1937: 603), syntypes of *Scopaeus lacustris* were deposited at the Museo di Storia Naturale Giacomo Doria, Genova, and in his own collection, which is today stored at FMNH, Chicago (Horn *et al.* 1990: 37). The Cameron collection was given to NHML, London (Horn *et al.* 1990: 65). I was loaned a female syntype of *S. lacustris* from FMNH and a female syntype of *S. fragilis* from NHML. Both specimens are authentic syntypes, because their locality data agree with the type localities, and their identification labels concur with the handwriting examples of both author’s in Horn *et al.* (1990: 477). I also examined a male at RMCA that Fagel had compared with a male syntype of *Scopaeus lacustris*. As I have not examined male syntypes, my interpretation of *Micranops lacustris* follows Fagel (1973: 25).

New records: Burkina Faso: Bam: Tikaré (13°17'N, 1°43'W), 25.X.2003, leg. Lott (HECO, MFNB). Nahouri: Bg de Kalieboulou (11°11'N, 1°30'W), 11.–13.X.2004, leg. Lott (HECO). **Cameroon:** Extrême-Nord: Maroua, X./XI.1965, leg. Schmitz (MFNB, RMCA). **Democratic Republic of the Congo:** Haut Uélé: Garamba National Park, 5.–10.V.1951, leg. J. Verschuere (ISNB). **Gambia:** West Coast Region: Abuko Nature Reserve (UTM 28PCK2181), 18.XI.1977, leg. Cederholm, Danielsson, Hammarstedt, Hedqvist & Samuelsson (MZLU); 5 km SSW Gunjur (UTM 28PCK0554), 13.XI.1977, leg. Cederholm, Danielsson, Hammarstedt, Hedqvist & Samuelsson (MZLU, MFNB); 3 km SW Brufut (Tanji River) (UTM 28PCK087773), 28.II.1977, leg. Cederholm, Danielsson, Larsson, Mireström, Norling & Samuelsson (MZLU). **Senegal:** Ziguinchor: 3 km SSW Toubakouta (UTM 28PCJ585782), 4.III.1977, leg. Cederholm, Danielsson, Larsson, Norling & Samuelsson (MZLU); 1 km NW Bignona (UTM 28PCK654170), 3.III.1977, leg. Cederholm, Danielsson, Larsson, Mireström, Norling & Samuelsson (MZLU). **South Sudan:** Liednum, III./IV.1955 (NHML).

Redescription: Macroptthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length as long as pronotum and with functionary metathoracic wings. Body color light brown to medium brown; pronotum in dark specimens lighter than head and elytra; appendages light brown. Body surface subnitid with very fine, dense,



FIGURES 23–28. Aedeagus in lateral (23, 26), ventral (24, 27), and dorsal (25, 28) view of *Micranops lacustris*, Burkina Faso, Nahouri: Bg de Barka (23–25); *M. lacustris*, South Sudan, Liednum (26–28). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; dop—dorsal opening of phallobase; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral process of apical lobe; vel—ventromedial endophallic lobe; vp—ventral process. Arrows: 1—dorsal denticle of ventromedial endophallic lobe; 2—ventral, membranous fissure.

setose punctation. Head about 1.2 times longer than wide with slightly convex temples and straight posterior margin. Eyes 0.5–0.59 times as long as temples. Nuchal groove 0.2–0.25 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate pedicellus and antennomere 3 gradually wider toward moderately transverse penultimate antennomeres; antennomere 10 about 0.7 times, antennomere 11 about 1.4 times as long as wide. Total body length 2.1–2.5 mm; forebody length 1.1–1.3 mm.

Male: Protarsomeres 1–4 not dilated, about as long as wide.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to 0.1 of sternite length; lateral setae moderately long, up to about 0.25 times as long as sternite length (Fig. 148).

Aedeagus with lobe-bearing apical portion occupying about 0.25 of aedeagal length (Figs 23, 26), in dorsal view long-oval, about 2.5 times as long as wide (Figs 25, 28); phallobase distally extended beyond base of ventral process, there indistinctly serrate (Fig. 23) or smooth (Fig. 26). Apical lobes each extended into moderately long, thin process strongly projecting ventrally and with distodorsad pointing denticle (Figs 23, 26), in dorsal view with slightly concave lateral margins moderately narrowed distad (Figs 25, 28). Dorsal lobe in lateral view with narrow convex apex (Figs 23, 26), in dorsal view broadly convex (Figs 25, 28). Ventral lobe absent. Ventromedial endophallic lobe short, not protruding over ventral processes of apical lobes, membranous with strongly sclerotized, spiniform distal margin (Figs 23, 26). Endophallic sclerites as in Figs 23–28. Ventral process reaching ventral processes of apical lobes; in lateral view, ventral process thin with irregular, undulate, dorsal extension in basal third, in apical half first strongly bent dorsad, then strongly bent distoventrad with dorsally triangularly widened end (Figs 23, 26); ventral process in ventral view wide oval with subtruncate apex, widest at about midlength, at base about half as wide as, at end about as wide as aedeagus at same level (Figs 24, 27). Dorsodistal opening of phallobase strongly projecting dorsally (Figs 23, 26), in dorsal view occupying aedeagal width (Figs 25, 28), not lengthened to form dorsomidlongitudinal split; phallobase therefore completely sclerotized dorsally (Figs 25, 28) and evenly convex in lateral view (Figs 23, 26). Postforamen hardly projecting ventrally (Figs 23, 26). Circoforamen short, not much longer than small median foramen, thus phallobase posterior of circoforamen about three times as long as this (Figs 24, 27). Length of aedeagus 0.36–0.39 mm.

Female: Protarsomeres 1–4 not dilated, about as long as wide.

Distribution: *Micranops lacustris* is widely distributed across northern sub-Saharan Africa and confirmed from Gambia and Senegal in the west to the north-east of the Congo, South Sudan, Eritrea, and Uganda (Lake Victoria). The reference specimen(s) for the record south of the equator (Angola: Cameron 1951: 27) are

unknown to me. *Micranops lacustris* is reported here for the first time for Burkina Faso, Cameroon, Gambia, Senegal, and South Sudan.

Bionomics: Capable of flight, *Micranops lacustris* was often collected with light traps, e.g. in Burkina Faso, Gambia, and Senegal.

Remarks: Fagel (1973: 24, 25) had redescribed *Scopaeus lacustris* as a species of *Geoscopaeus* Coiffait, 1960, a genus group name that was later synonymized with *Scopaeus* by Frisch *et al.* (2002: 46), and added *S. fragilis* as a synonym. On the basis of the female syntypes examined by me, it is not possible to confirm his taxonomic decisions. However, as Fagel (1973: 25) examined the “série typique de Bernhauer...in coll. Museo civico di Storia naturale de Genova et Field Museum of Natural History (Chicago)” and “1 ♂, 1 ♀..., cotypes de *Scopaeus fragilis* Cam. in coll. British Museum”, I have little doubt that he dissected male syntypes underlying both species group names and that his taxonomic conclusions are correct.

***Micranops cuccodoroi*, sp. nov.**
(Figs 29–31, 149, 150)

Type specimen: Holotype ♂, India, Madhya Pradesh, 4.5 km SW Pachmarhi: Vanshree Vihar (Mahadeo Hills) (22°26'34"N, 78°23'25"E), 950 m, 16.X.2000, leg. Cuccodoro (MHNG).

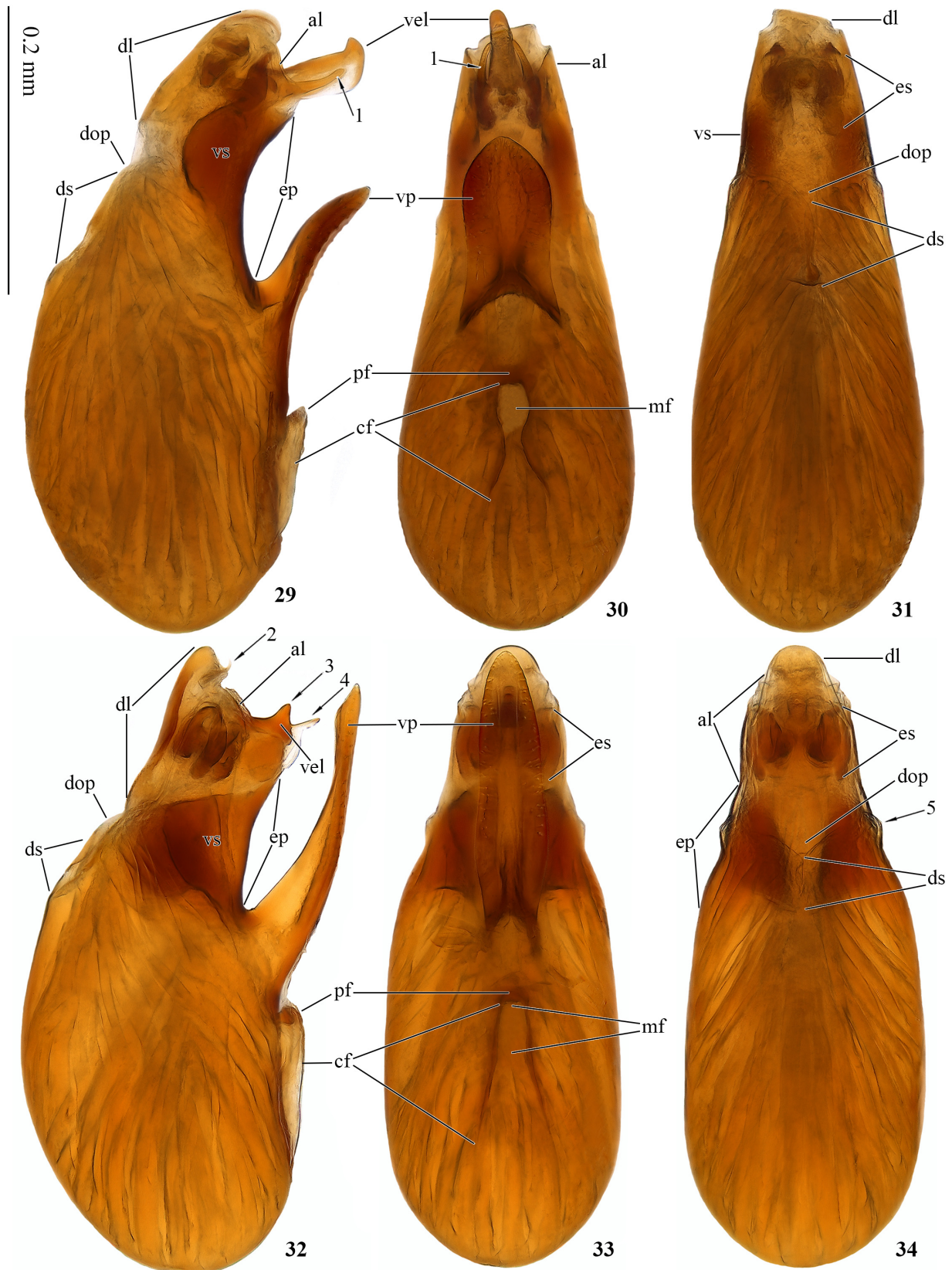
Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; holotype macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings. Body color light reddish brown with elytra slightly blackened; appendages light brown. Body surface subnitid with fine, dense, setose punctation. Head 1.15 times longer than wide with slightly convex temples and somewhat convex posterior margin. Eyes 0.5 times as long as temples. Nuchal groove 0.25 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate pedicellus and antennomere 3 gradually wider toward clearly transverse penultimate antennomeres; antennomere 10 about 0.6 times, antennomere 11 about 1.3 times as long as wide. Total body length 2.6 mm; forebody length 1.3 mm.

Male: Protarsomeres 1–4 not dilated, about as long as wide.

Abdominal sternite VII in about median 0.2 of somewhat convex posterior margin with hardly perceptible emargination and two submedial, adjacent rows of three short, thick macrosetae directed medioposteriorly and pointing toward each other (Fig. 149).

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to 0.1 of sternite length; lateral setae moderately long, up to about 0.25 times as long as sternite length (Fig. 150).

Aedeagus with lobe-bearing apical portion occupying about 0.25 of aedeagal length (Fig. 29), in dorsal view long-oval, more than 2.5 times as long as wide, and



FIGURES 29–34. Aedeagus in lateral (29, 32), ventral (30, 33), and dorsal (31, 34) view of *Micranops cuccodoroi*, holotype, India, Madhya Pradesh: Mahadeo Hills (29–31); *M. planiusculus*, lectotype, “India orientali” (32–34). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; dop—dorsal opening of phallobase; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; vel—ventromedial endophallic lobe; vp—ventral process; vs—ventrolateral sclerotization of phallobase. Arrows: 1—endophallic spine; 2—subapical setules of dorsal lobe; 3—median tooth of ventromedial endophallic lobe; 4—hyaline apical spine of ventromedial endophallic lobe; 5—laterally projecting margins of dorsal opening of phallobase.

with apical portion moderately narrowed distad (Fig. 31); phallobase distally extended beyond base of ventral process, here somewhat curved ventrad and with large, set-off ventrolateral sclerotization (Fig. 29). Apical lobes with weakly S-shaped apical margin convex dorsally but concave ventrally, without ventral extension (Fig. 29). Dorsal lobe in lateral view straight with round apex (Fig. 29), in dorsal view broadly truncate (Fig. 31). Ventral lobe absent. Ventromedial endophallic lobe long subrectangular, strongly projecting ventrodistad, slightly widened distad with round proximal end and short, triangular, dorsad pointing distal tooth (Figs 29, 30). Endophallic sclerites extended into two long spines strongly projecting ventrally lateral of ventromedial endophallic lobe and bent toward each other (Figs 29, 30). Ventral process short, directed distoventrad and moderately bent ventrad, in lateral view with subacute tip and slightly denticulate ventral margin (Fig. 29), in ventral view with slightly concave lateral margins and subtriangular apex, at base about half as wide as, in apical portion about 0.7 times as wide as aedeagus at same level (Fig. 30). Dorsodistal opening of phallobase slightly enlarged dorsally (Fig. 29), in dorsal view occupying aedeagal width and triangularly tapered to form short, dorsomidlongitudinal split occupying almost 0.2 of length of phallobase (Figs 29, 31); latter therefore predominantly sclerotized dorsally (Fig. 31) and evenly convex in lateral view (Fig. 29). Postforamen hardly projecting ventrally (Fig. 29). Circoforamen about twice as long as median foramen (Fig. 30). Length of aedeagus 0.43 mm.

Female unknown.

Distribution: *Micranops cuccodoroi* is only known from the Mahadeo Hills in central India.

Etymology: I dedicate this new species to its collector Giulio Cuccodoro, Muséum d'histoire naturelle, Geneva, in gratitude for his generous support during a recent visit to the Coleoptera collection there (epithet *cuccodoroi*: Latinized noun, derived from the surname Cuccodoro, masculine, genitive, singular).

***Micranops planiusculus* (Kraatz)**

(Figs 1, 5, 32–34, 151, 152)

Scopaeus planiusculus Kraatz, 1859: 132.

Micranops planiusculus (Kraatz, 1859); Frisch & Herman (2014: 70).

Type specimens examined: Lectotype ♂, Myanmar; labelled “India orient.” (handwritten), “Syntypus” (red label, printed), “coll. Kraatz” (printed), “Coll. DEI / Eberswalde” (printed), “LECTOTYPE / *Scopaeus planiusculus* / KRAATZ, 1859 / des. J. Frisch, 2025” (DEIC); here designated. Paralectotype ♀, Myanmar; labelled “82.” (handwritten), “India orient.” (handwritten), “Syntypus” (red label, printed), “Sc. planius= / culus Krtz” (handwritten), “coll. Kraatz” (printed), “Coll. DEI / Eberswalde” (printed), “PARALECTOTYPE / *Scopaeus planiusculus* / KRAATZ, 1859 / des. J. Frisch, 2025” (DEIC).

The number of specimens from which Kraatz (1859: 132) described *Scopaeus planiusculus* is not stated in the original description. Kraatz also did not designate a “type” [holotype by original designation (ICZN 1999: Article 73.1.1.)]. In the Kraatz collection at SDEI, there is a male and a female labelled as syntypes. To stabilize the name *Scopaeus planiusculus* according to ICZN 1999, Article 74.1., I designate the male syntype as the lectotype. Its locality label “India orient.” is in accordance with the original description, and it bears handwritten labels that agree with the example of Kraatz’s handwriting in Horn *et al.* (1990: 482). The strongly damaged lectotype is missing head and pronotum including their appendages and the left mesothoracic leg.

New records: **Cambodia:** Angkor: Preah-Kahn Temple, 31.V.2003, leg. Constant & Smets (ISNB, MFNB). **Vietnam:** Hanoi (ISNB). Ho-Chi-Minh City [Saigon] (NHML). Nam Cát Tiên National Park, 1.–15.V.1994, leg. Zacharda (MSCB); 30.VI.–4.VII.1995, leg. Napolov (NMEC). Vinh Long, I.1948 (MHNG).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings (Fig. 1). Body color light brown to dark brown; elytra often slightly blackened; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head about 1.1–1.2 times longer than wide with weakly convex temples and straight to feebly concave posterior margin. Eyes 0.53–0.67 times as long as temples. Nuchal groove 0.17–0.2 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end adjacent to dorsoposterior margin of eye (Fig. 5). Antenna relatively slender, from slightly elongate antennomeres 2 and 3 or 2–4 gradually wider toward moderately transverse penultimate antennomeres; antennomere 10 about 0.7–0.8 times, antennomere 11 about 1.4 times as long as wide. Total body length 2.1–2.5 mm; forebody length 1.2–1.4 mm.

Male: Protarsomeres 1–4 dilated, about twice as wide as long.

Abdominal sternite VII in about median 0.2 of slightly convex posterior margin with slight emargination studded with two submedial, adjacent rows of three short, thick macrosetae directed medioposteriorly and pointing toward each other (Fig. 151).

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.3 of sternite length; lateral setae short, up to 0.2 times as long as sternite length (Fig. 152).

Aedeagus with subquadrate lobe-bearing apical portion occupying about 0.25 of aedeagal length (Fig. 32), in dorsal view long-oval, about 2.5 times as long as wide (Fig. 34); phallobase distally extended beyond base of ventral process, there only slightly curved ventrad and with large, set-off, ventrolateral sclerotization (Fig. 32). Apical lobes in lateral view with strongly sclerotized, rounded distoventral angle (Fig. 32), in dorsal view with slightly convex lateral margins weakly narrowed distad (Fig. 34). Dorsal lobe projecting over apical lobes distally,

in lateral view slightly concave dorsally and with narrowly rounded apex bearing few subapical, ventrad pointing setules (Fig. 32), in dorsal view with apex rounded (Fig. 34). Ventral lobe absent. Ventromedial endophallic lobe large, strongly projecting ventrally, with triangular, distad pointing median tooth followed ventrally with hard transition by hyaline portion with thin, ventrad pointing apical spine (Fig. 32). Endophallic sclerites large, broad in ventral and dorsal view (Figs 32–34). Ventral process protruding distally over ventromedial endophallic lobe, but not reaching end of dorsal lobe, in lateral view thin, evenly, moderately curved distad, and evenly tapered toward end with moderate, subapical, dorsal dilatation (Fig. 32), in ventral view narrow, subparallel, about half as wide as apical portion of aedeagus, and with subacute apex (Fig. 33). Dorsodistal opening of phallobase feebly enlarged dorsally (Fig. 32), in dorsal view occupying aedeagal width with lateral margins moderately projecting from contour of aedeagus, and triangularly tapered to form short dorsomidlongitudinal split occupying about 0.15 of length of phallobase (Fig. 34); latter therefore predominantly sclerotized dorsally (Fig. 34) and evenly convex in lateral view (Fig. 32). Postforamen hardly projecting ventrally (Fig. 32). Circoforamen about twice as long as median foramen (Fig. 33). Length of aedeagus 0.43–0.47 mm.

Female: Protarsomeres 1–4 dilated, about twice as wide as long, as wide as in males.

Distribution: *Micranops planiusculus* is distributed in mainland Southeast Asia. It was most probably described from southern Myanmar, because the species that Kraatz (1859) described from “India orient” were collected by Helfer 1836–1839 in the very south of Myanmar between Dawei [Tavoy] and the Tenasserim Range (cf. Kraatz 1859: 3, Schmidt-Göbel 1849: III). The unverified record for Sumatra (Fort de Kock; Cameron 1930: 346, Frisch & Herman 2014: 70) far south of the confirmed distribution probably refers to a different species. *Micranops planiusculus* is here for the first time reported for Cambodia and Vietnam.

Bionomics: *Micranops planiusculus* is capable of flight. In Cambodia, the species was collected with a light trap.

Micranops pokharensis (Coiffait)

(Figs 35–40, 153, 154)

Scopaeus (Microscopaeus) pokharensis Coiffait, 1981: 332.

Scopaeus (Scopaeus) pokharensis; Smetana 2004: 618.

Micranops pokharensis (Coiffait, 1981); Frisch & Herman 2014: 70.

Scopaeus hustachei Coiffait, 1987: 497; replacement name for *Scopaeus (Hyposcopaeus) franzi* Coiffait, 1982: 96 (primary homonym of *S. franzi* Coiffait, 1968: 416); **syn. nov.**

Scopaeus (Scopaeus) hustachei; Smetana 2004: 617.

Micranops hustachei (Coiffait, 1987); Frisch & Herman 2014: 69.

Type specimens examined: *Micranops pokharensis*: Holotype ♂, Nepal, Gandaki, Pokhara: Dhampus-Kara

[Dhampus?], leg. Franz (MNHN); 4 paratypes, same data as holotype (MNHN). *Micranops hustachei*: Holotype ♂, Nepal, Narayani, Bara: Amlekhganj, 7.–10.X.1972, leg. Franz (NHMW). The ventral lobe of the aedeagus of both holotypes is missing.

New records: India: Himachal Pradesh: 25 km S Kullu, 3 km SW Aut (Kullu Valley), 600 m, 4.X.1996, leg. Schulz & Vock (NHMW). Madhya Pradesh: 5.5 km SW Pachmarhi: Tridhara (Mahadeo Hills (22°26'09"N, 78°23'01"E), 900 m, 18.X.2000, leg. Cuccodoro (MHNG). **Sri Lanka:** North-West Province: S Puttalam: Battulu Oya, 29.VI.1968, leg. Balogh (HNHM, MFNB).

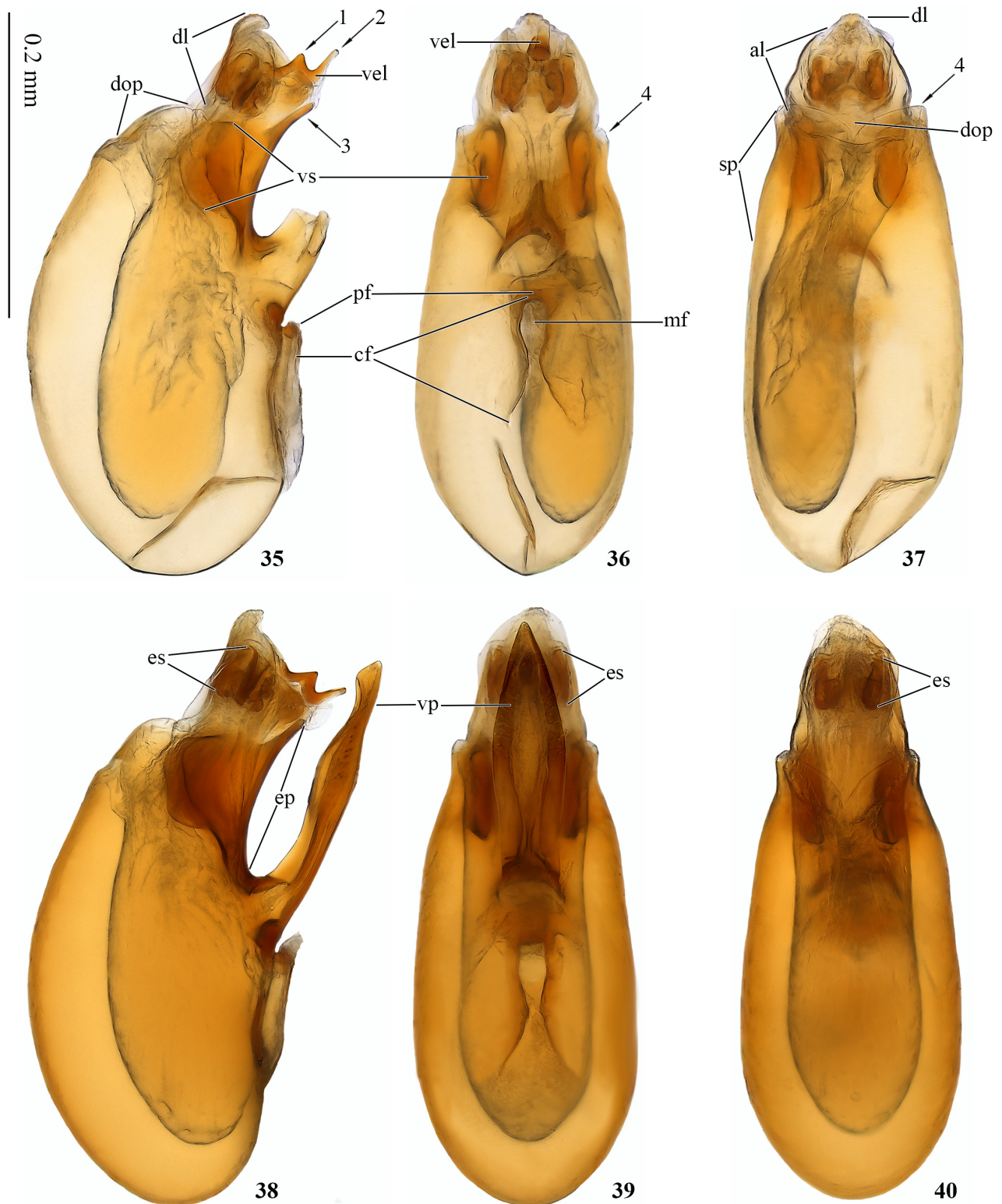
Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings. Body color light brown to medium brown; appendages light brown. Body surface subnitid with very fine, dense, setose punctation; head and pronotum more or less clearly microreticulated. Head about 1.2–1.3 times longer than wide with moderately convex temples and straight to slightly concave posterior margin. Eyes 0.39–0.48 times as long as temples. Nuchal groove 0.2–0.22 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate antennomeres 2 and 3 or 2–4 gradually wider toward transverse penultimate antennomeres; antennomere 10 about 0.7–0.8 times, antennomere 11 about 1.4 times as long as wide. Total body length 2.2–2.5 mm; forebody length 1.1–1.3 mm.

Male: Protarsomeres 1–4 slightly dilated, less than twice as wide as long.

Abdominal sternite VII in about median 0.2 of slightly convex posterior margin with slight emargination studded with two submedial, adjacent rows of three short, thick macrosetae directed medioposteriorly and pointing toward each other (Fig. 153).

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to about 0.2 of sternite length; lateral setae short, up to 0.2 times as long as sternite length (Fig. 154).

Aedeagus with subquadrate lobe-bearing apical portion occupying about 0.2–0.25 of aedeagal length (Figs 35, 38), in dorsal view long-oval, about 2.5 times as long as wide (Figs 37, 40); phallobase distally extended beyond base of ventral process, there somewhat curved ventrad and showing large, set-off ventrolateral sclerotization extended in spiniform, distoventrad directed prolongation (Figs 35, 38). Apical lobes in lateral view with broad, straight distal margin (Figs 35, 38), in dorsal view slightly narrowed distad (Figs 37, 40). Dorsal lobe membranous, in lateral view straight dorsally and with distally projecting, ventrad curved apex (Figs 35, 38), in dorsal view with rounded end (Figs 37, 40). Ventral lobe absent. Ventromedial endophallic lobe strongly projecting ventrad, made up of strongly sclerotized distal margin and hyaline proximal portion; distal margin of ventromedial endophallic lobe with triangular, distad pointing median tooth and thin, distoventrad pointing apical spine (Figs 35, 38). Endophallic sclerites as in Figs 35–40. Ventral



FIGURES 35–40. Aedeagus in lateral (35, 38), ventral (36, 39), and dorsal (37, 40) view of *Micranops pokharensis*, holotype of *M. hustachei* syn. nov., Nepal, Narayani, Amiekhganj: Therai (35–37); *M. pokharensis*, India, Himachal Pradesh: Kullu Valley (38–40). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; dop—dorsal opening of phallobase; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; vel—ventromedial endophallic lobe; vp—ventral process; vs—ventrolateral sclerotization of phallobase. Arrows: 1—median tooth of ventromedial endophallic lobe; 2—apical spine of ventromedial endophallic lobe; 3—spiniform, distoventral prolongation of ventrolateral sclerotization; 4—laterally projecting margins of dorsal opening of phallobase.

process somewhat protruding over ventromedial endophallic lobe, in lateral view thin, very slightly curved distad, with moderately dilated median portion and short, subapical, dorsal dilatation (Fig. 38), in ventral view narrow, lanceolate, and in median portion about half as wide as aedeagus at same level (Fig. 39). Dorsodistal opening of phallobase moderately enlarged dorsally (Figs 35, 38) and with lateral margins clearly projecting from contour of aedeagus (Figs 36, 39), triangularly tapered in dorsal view, but not proximally lengthened to form dorsomidlongitudinal split (Figs 37, 40); phallobase therefore sclerotized dorsally (Figs 37, 40) and evenly convex in lateral view (Figs 35, 38). Postforamen hardly projecting ventrally (Figs 35, 38). Circoforamen about three times as long as median foramen (Figs 36, 39). Length of aedeagus 0.39–0.41 mm.

Female unknown.

Distribution: *Micranops pokharensis* is distributed across the Indian subcontinent from Nepal to Sri Lanka. It is here for the first time recorded for India and Sri Lanka.

Remarks: Coiffait (1981, 1982) described *M. pokharensis* twice in two consecutive years. First, he assigned it to *Microscopaeus* Coiffait, 1981, a synonym of *Micranops* (Frisch *et al.* 2002: 46), but the synonym *M. hustachei* he described in *Hyposcopaeus* Coiffait, 1960, a synonym of *Scopaeus* Erichson, 1839 (Frisch *et al.* 2002: 46).

According to the original description (Coiffait 1981: 332), the holotype and some of the paratypes should be deposited in the Franz collection, today stored at NHMW. However, I borrowed the holotype from MNHN and consequently sent it back there.

Micranops angkorensis, sp. nov.

(Figs 41–43, 155)

Type specimens: Holotype ♂, Cambodia, Siem Reap, 22.V.2003, leg. Constant & Smets (ISNB). Paratypes (5 specimens): 3 ♀, same data as holotype (ISNB); 1 ♀, Cambodia: Siem Reap, road to Angkor, 22.V.2003 (ISNB); 1 ♂, Cambodia, Angkor: Preah-Kahn-Temple, 31.V.2003, leg. Constant & Smets (MFNB).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings. Body color medium brown to dark brown; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head about 1.1 times longer than wide with moderately convex temples and straight posterior margin. Eyes 0.58–0.65 times as long as temples. Nuchal groove 0.19–0.22 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate antennomeres 2 and 3 or 2–4 gradually wider toward moderately transverse penultimate antennomeres; antennomere 10 about 0.8–0.9 times, antennomere 11 about 1.4–1.5 times as long as wide. Total body length 2.3–2.6 mm; forebody length 1.2–1.4 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to about 0.2 of sternite length; lateral setae long, up to about 0.3 times as long as sternite length (Fig. 155).

Aedeagus with lobe-bearing apical portion occupying about 0.2 of aedeagal length (Fig. 41), in dorsal view long-oval, about three times as long as wide (Fig. 43); phallobase strongly extended beyond base of ventral process (Fig. 41), there concave laterally (Fig. 43). Apical lobes each ventrally extended into large, membranous, subtriangular lobe (Fig. 41), in dorsal view subtriangularly narrowed distad (Fig. 43). Dorsal lobe short, occupying about 0.15 of aedeagal length, in lateral view straight dorsally with ventrad curved apex (Fig. 41), in dorsal view with narrow, membranous, unevenly rounded end (Fig. 43). Ventral lobe absent. Ventromedial endophallic lobe strongly projecting between ventral extensions of apical lobes, membranous with strongly sclerotized distal margin extended in proximal and medial, distad pointing tooth (Fig. 41). Endophallic sclerites as in Figs 41, 43. Ventral process reaching ventral extensions of apical lobes, in lateral view strong with moderately ventrad curved, subacute apex (Fig. 41), in ventral view inverted ovoid, strongly widened from narrow base only about 0.3 times as wide as aedeagus at same level to widest point as broad as apical portion of aedeagus (Fig. 42). Dorsomidlongitudinal split including dorsodistal opening occupying about 0.6 of length of phallobase (Figs 41, 43); latter therefore over same length collapsed in dry specimens (Fig. 41). Postforamen moderately projecting distoventrad (Fig. 41). Circoforamen about three times as long as median foramen (Fig. 42). Length of aedeagus 0.33 mm.

Female: Protarsomeres 1–4 not dilated, slightly wider than long.

Distribution: *Micranops angkorensis* is known only from northwestern Cambodia.

Bionomics: *Micranops angkorensis* is able to fly. The type specimens were collected with light traps.

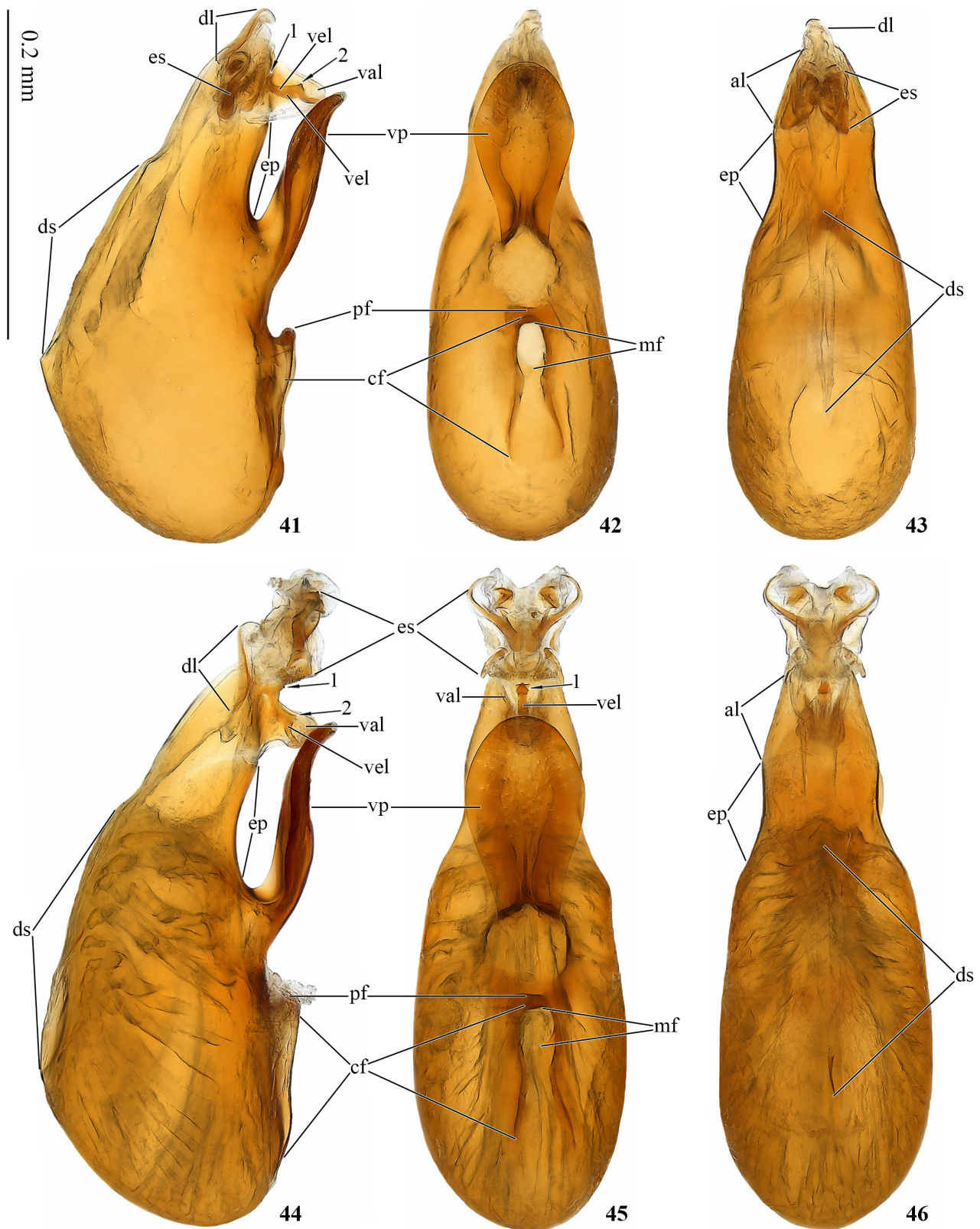
Etymology: The epithet *angkorensis* [Latinized adjective (“from Angkor”), derived from the locality name Angkor with the Latin suffix *-ensis* that describes the geographical origin] is chosen, because this new species was discovered in the Cambodian region of Angkor, famous for the Angkor Archaeological Park, where one of the paratypes was collected.

Micranops bhamoensis, sp. nov.

(Figs 44–46)

Type specimen: Holotype ♂, Myanmar, Kachin: Bhamo, VIII.1885, leg. Fea (ISNB).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; holotype macropterous with elytral sutural length about as long as pronotum and



FIGURES 41–46. Aedeagus in lateral (41, 44), ventral (42, 45), and dorsal (43, 46) view of *Micranops angkorensis*, holotype, Cambodia: Siem Reap (41–43); *M. bhamoensis*, holotype, Myanmar, Kachin: Bhamo (endophallic sclerites everted) (44–46). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vel—ventromedial endophallic lobe; vp—ventral process. Arrows: 1—proximal tooth of ventromedial endophallic lobe; 2—medial tooth of ventromedial endophallic lobe.

functionary metathoracic wings. Body color light brown; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head 1.17 times longer than wide with moderately convex temples and straight posterior margin. Eyes 0.63 times as long as temples. Nuchal groove 0.23 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate antennomeres 2 and 3 gradually wider toward transverse penultimate antennomeres; antennomere 10 about 0.7 times, antennomere 11 about 1.4 times as long as wide. Total body length 2.6 mm; forebody length 1.3 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.2 of sternite length; lateral setae long, up to about 0.3 times as long as sternite length (cf. Fig. 155).

Aedeagus similar to that of preceding *Micranops angkorensis* (Figs 41–43), but ventral, membranous extension of apical lobes narrower, ventromedial endophallic lobe with shortly recurved apex and clearer proximal margin, and ventral process longer, in lateral view narrower, and with more strongly ventrad curved apical half (Fig. 44). Endophallic sclerites of holotype in evaginated state shaped as in Figs 44–46. Length of aedeagus 0.33 mm.

Female unknown.

Distribution: *Micranops bhamoensis* is only known from the type locality in northern Myanmar.

Etymology: The epithet *bhamoensis* [Latinized adjective (“from Bhamo”), derived from the locality name Bhamo with the Latin suffix *-ensis* that describes the geographical origin] refers to the type locality of this new species.

Micranops sagittifer, sp. nov.

(Figs 47–49, 156)

Type specimens: Holotype ♂, China, Yunnan, Nujiang Lusi Autonomous Prefecture, 5 km S Fugong, road SS 228 km 223 (Salween River), 8.VI.2007, leg. Pütz (APCE). Paratypes (4 specimens): 1 ♂, 2 ♀, same data as holotype, but one specimen leg. Wrase (APCE, MFNB); 1 ♂, Laos, Xieng Khouang: 30 km NE Phonsavan (Phou Sane Mts) (19°38.2N, 103°20.2E), 1420 m, 10.–30.V.2009, leg. Brancucci (NHMB).

Description: Macrophthalmous, pterodimorphous species with palisade fringe of abdominal tergite VII; specimen from Laos macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings; specimens from China micropterous with elytral sutural length about 0.8 times as long as pronotum and reduced, non-functional metathoracic wings. Body color medium brown or more contrasted with lighter brown pronotum and blackened elytra

and abdomen; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head about 1.1–1.2 times longer than wide with moderately convex temples and straight posterior margin. Eyes 0.43–0.48 times as long as temples. Nuchal groove 0.27–0.3 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate antennomeres 2 and 3 or 2–4 gradually wider toward moderately transverse penultimate antennomeres; antennomere 10 about 0.7–0.8 times, antennomere 11 about 1.4 times as long as wide. Total body length 2.3–2.6 mm; forebody length 1.4–1.3 mm.

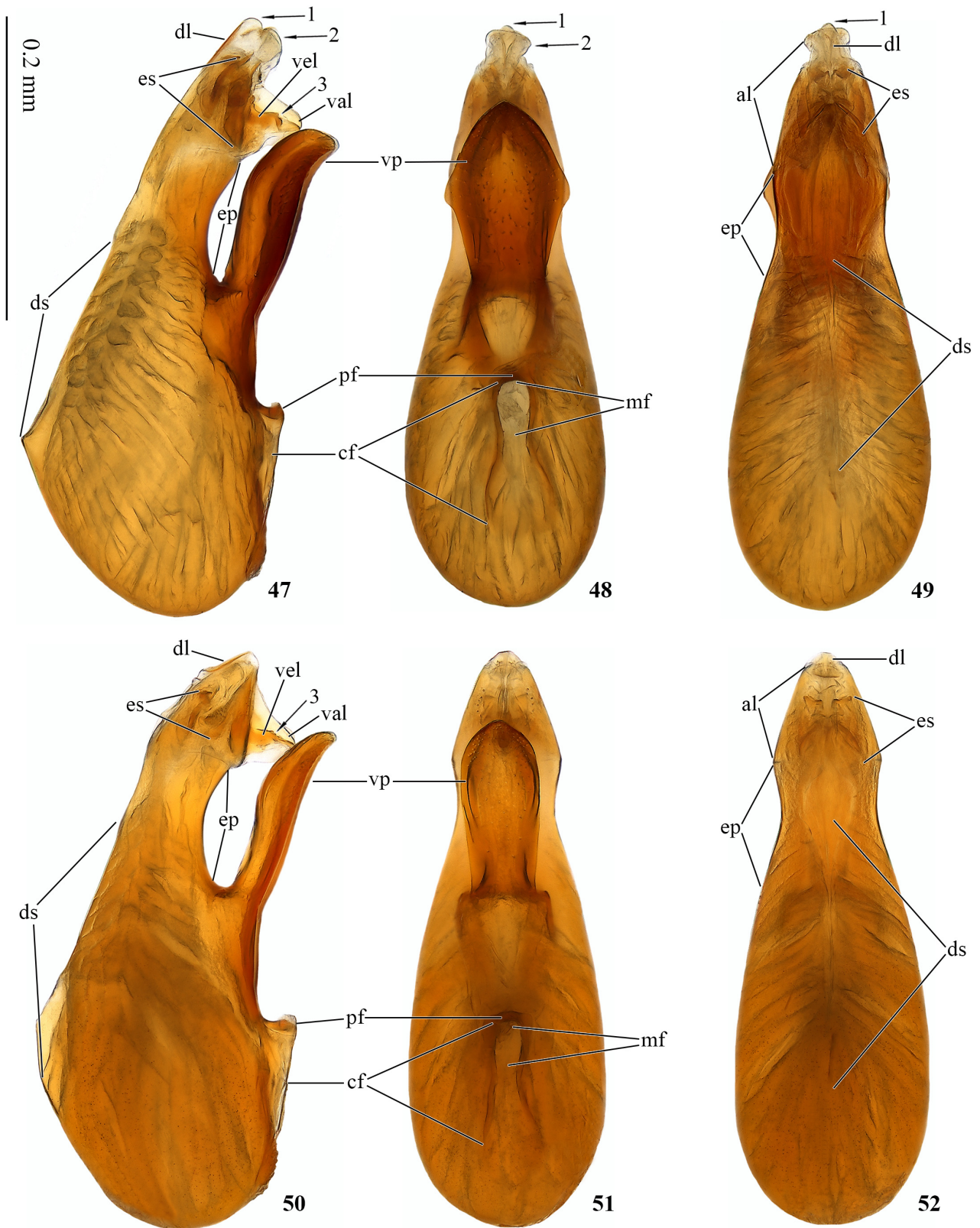
Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.1 of sternite length; lateral setae moderately long, up to about 0.25 times as long as sternite length (Fig. 156).

Aedeagus with lobe-bearing apical portion occupying about 0.25 of aedeagal length (Fig. 47), in dorsal view long-oval, about three times as long as wide (Fig. 49); phallobase strongly extended beyond base of ventral process, there concave ventrally (Fig. 47) and laterally (Figs 48, 49) and with weakly set off ventrolateral sclerotization (Fig. 47). Apical lobes ventrally extended into large, subhyaline, subtriangular lobe (Fig. 47); in dorsal view, apical lobes with straight lateral margins slightly narrowed distad (Fig. 49). Dorsal lobe in lateral view straight dorsally with narrow, rounded apex (Fig. 47), in dorsal view long triangular with subacute apex (Fig. 49). Membranous portion (extension of apical lobes?) situated ventral of and reaching end of dorsal lobe, in lateral view with rounded apex (Fig. 47), in ventral and dorsal view subrectangular and protruding over dorsal lobe laterally (Figs 48, 49). Ventral lobe absent. Ventromedial endophallic lobe strongly projecting between ventral extensions of apical lobes, with strongly sclerotized distal margin and membranous proximal portion; distal margin of ventromedial endophallic lobe with two minute, distad pointing median denticles and acute apex (Fig. 47). Endophallic sclerites as in Figs 47, 49. Ventral process reaching ventral extensions of apical lobes, in lateral view thick, only weakly tapered toward blunt, moderately ventrad curved apex, and at widest point about 0.7 times as wide as aedeagus at same level (Fig. 47), in ventral view broadly sagittiform, at base about 0.6 times as wide as aedeagus at same level, and at widest point at about midlength projecting laterally over contour of aedeagus (Fig. 48). Dorsomidlongitudinal split including dorsodistal opening occupying about 0.5 of length of phallobase (Figs 47, 49); latter therefore over same length collapsed in dry specimens (Fig. 47). Postforamen moderately projecting ventrad (Fig. 47). Circoforamen about three times as long as median foramen (Fig. 48). Length of aedeagus 0.3 mm. Length of aedeagus 0.37–0.4 mm.

Female: Protarsomeres 1–4 not dilated, slightly wider than long.



FIGURES 47–52. Aedeagus in lateral (47, 50), ventral (48, 51), and dorsal (49, 52) view of *Micranops sagittifer*, holotype, China, Yunnan: Nujiang Lisu (47–49); *M. taiwanensis*, holotype, Taiwan: Pingtung (50–52). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vel—ventromedial endophallic lobe; vp—ventral process. Arrows: 1—apex of dorsal lobe; 2—membranous portion ventral of dorsal lobe; 3—medial denticles of ventromedial endophallic lobe.

Distribution: *Micranops sagittifer* is recorded from the South Chinese province of Yunnan and northern Laos.

Bionomics: In Yunnan, *Micranops sagittifer* was found on a moist embankment under stones.

Etymology: The epithet *sagittifer* [adjective, Latin, composed of the noun *sagitta* (arrow) and the verb *ferre* (to carry)] refers to the—in ventral view—arrow-shaped apical end of the ventral aedeagus process of this new species.

***Micranops taiwanensis*, sp. nov.**

(Figs 50–52)

Type specimens: Holotype ♂, Taiwan, Pingtung [Akau], 1.–15.XII.1907, leg. Sauter (HNHM). Paratypes (7 specimens): 3 ♂, 4 ♀, same data as holotype (HNHM, MFNB, NBCL).

Description: Macrophthalmous, pterodimorphous species with palisade fringe of abdominal tergite VII; examined specimens micropterous with elytral sutural length about 0.8 times as long as pronotum and reduced, non-functionary metathoracic wings. Body color light brown to medium brown; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head about 1.1–1.2 times longer than wide, with moderately convex temples and straight to slightly concave posterior margin. Eyes 0.4–0.43 times as long as temples. Nuchal groove 0.28–0.3 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna compact, from very slightly elongate pedicellus and antennomere 3 gradually wider toward transverse penultimate antennomeres; antennomere 10 about 0.6–0.7 times, antennomere 11 about 1.2–1.3 times as long as wide. Total body length 2.4–2.6 mm; forebody length 1.1–1.3 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.1 of sternite length; lateral setae moderately long, up to 0.25 times as long as sternite length (cf. Fig. 156).

Aedeagus with lobe-bearing apical portion subtriangular in lateral view and occupying about 0.2 of aedeagal length (Fig. 50), in dorsal view long-oval, about three times as long as wide (Fig. 52); phallobase strongly extended beyond base of ventral process, there somewhat concave ventrally (Fig. 50) and laterally (Figs 51, 52). Apical lobes each ventrally extended into large, subhyaline, subtriangular lobe (Fig. 50). Dorsal lobe with very short, strongly sclerotized apical portion occupying about 0.1 of aedeagal length (Fig. 50), in ventral and dorsal view with rounded apex (Figs 51, 52). Ventral lobe absent. Ventromedial endophallic lobe strongly projecting between ventral extensions of apical lobes, with strongly sclerotized distal margin and membranous proximal portion; distal margin of ventromedial endophallic lobe

with very shallow, minutely denticulate median dilatation and thin apex (Fig. 50). Endophallic sclerites relatively weakly sclerotized (Figs 50–52). Ventral process reaching ventral extensions of apical lobes, in lateral view strong, moderately tapered toward subacute, moderately ventrad curved apex, and at widest point about 0.5 times as wide as aedeagus at same level (Fig. 50), in ventral view long-oval with blunt end, at base about 0.5 times as wide as aedeagus at same level, and at widest point at about distal third of length about 0.7 times as wide as aedeagus at same level (Fig. 51). Dorsomidlongitudinal split including dorsodistal opening occupying about 0.5 of length of phallobase (Figs 50, 52); latter therefore over same length collapsed in dry specimens (Fig. 50). Postforamen notably projecting ventrad (Fig. 50). Circoforamen about three times as long as median foramen (Fig. 51). Length of aedeagus 0.37–0.4 mm.

Female: Protarsomeres 1–4 somewhat dilated, less than twice as wide as long.

Distribution: *Micranops taiwanensis* is only known from Taiwan and probably endemic to this island.

Etymology: The epithet *taiwanensis* [Latinized adjective (“from Taiwan”), derived from the country name Taiwan with the Latin suffix *-ensis* that describes the geographical origin] refers to the distribution of this new species in the island of Taiwan.

***Micranops rougemonti*, sp. nov.**

(Figs 53–55, 157)

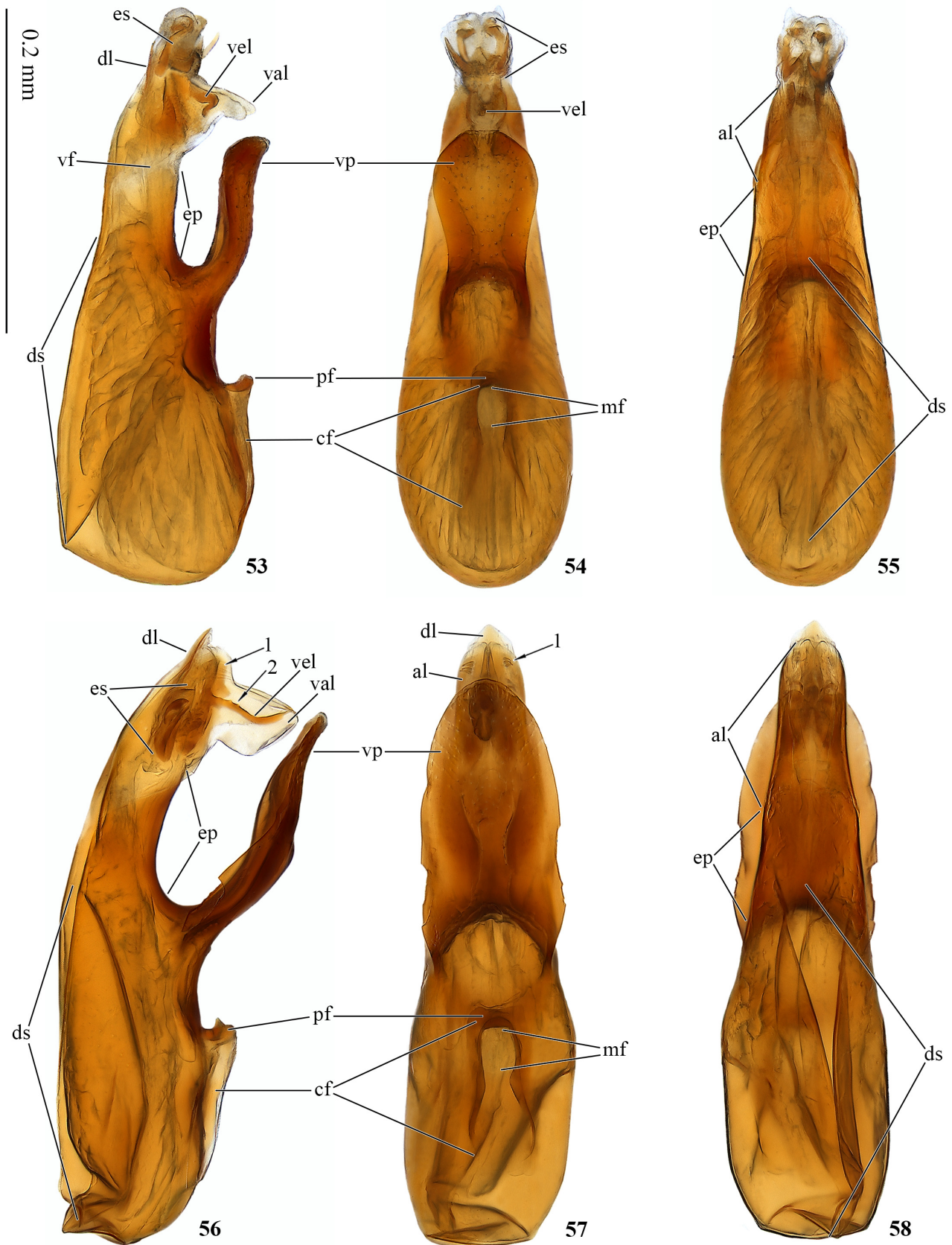
Type specimen: Holotype ♂, India, Assam, Tinsukia (Dibrugarh National Park), 3.VI.2006, leg. Rougemont (HECO).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; holotype macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings. Body color light medium brown with slightly darkened elytra and abdomen; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head 1.17 times longer than wide, with moderately convex temples and straight posterior margin. Eyes 0.4 times as long as temples. Nuchal groove 0.2 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from very slightly elongate pedicellus and antennomeres 3 gradually wider toward moderately transverse penultimate antennomeres; antennomere 10 about 0.8 times, antennomere 11 about 1.3 times as long as wide. Total body length 2.6 mm; forebody length 1.4 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.15 of sternite length; lateral setae very long, up to about 0.4 times as long as sternite length (Fig. 157).



FIGURES 53–58. Aedeagus in lateral (53, 56), ventral (54, 57), and dorsal (55, 58) view of *Micranops rougemonti*, holotype, India, Assam: Tinsukia (Dibrugarh National Park) (53–55); *M. vietnamensis*, holotype, Vietnam: Hanoi (56–58). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vel—ventromedial endophallic lobe; vf—ventral fissure; vp—ventral process. Arrows: 1—ventral, subapical setules of apical lobes; 2—medial denticles of ventromedial endophallic lobe.

Aedeagus with lobe-bearing apical portion occupying about 0.2 of aedeagal length (Fig. 53), in dorsal view long-oval, about three times as long as wide (Fig. 55); phallobase strongly extended beyond base of ventral process, there straight ventrally (Fig. 53) and laterally (Fig. 55). Apical lobes each ventrally extended into large, hyaline, subtriangular lobe with slender apical portion (Fig. 53), in dorsal view slightly, convexly narrowed distad (Figs 54, 55). Dorsal lobe in lateral view straight dorsally (Fig. 53). Ventral lobe absent. Ventromedial endophallic lobe subtriangular, projecting between ventral extensions of apical lobes but reaching only half of their length, and with sclerotized margin hook-shaped recurved dorsoproximad (Fig. 53). Endophallic sclerites in evaginated state as in Figs 53–55. Ventral process relatively short, not reaching ventral extensions of apical lobes, in lateral view strong, at base curved distad, aligned longitudinally, with moderately ventrad curved, stout apex, and at widest point about 0.6 times as wide as aedeagus at same level (Fig. 53), in ventral view broadly oval with subtruncate end, at base about 0.6 times as wide as aedeagus at same level, at widest point at about distal third of length slightly protruding over contour of aedeagus (Fig. 54). Dorsomidlongitudinal split including dorsodistal opening occupying most of length of phallobase (Figs 53, 55); latter therefore collapsed in dry specimens (Fig. 53). Postforamen notably projecting distoventrad (Fig. 53). Circoforamen almost three times as long as median foramen (Fig. 54). Length of aedeagus 0.36 mm.

Female unknown.

Distribution: *Micranops rougemonti* is only known from the type locality in the Indian state of Assam.

Etymology: This new species is named after its collector, the well-known French staphylinist Guillaume-Marie de Rougemont (1945–2020) (epithet *rougemonti*: Latinized noun, derived from the surname Rougemont, masculine, genitive, singular).

***Micranops vietnamensis*, sp. nov.**
(Figs 56–58)

Type specimen: Holotype ♂, Vietnam, Hanoi, 40 m, 3.X.1963, leg. Pócs (HNHM).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; holotype macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color medium brown; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head 1.17 times longer than wide, with moderately convex temples and straight posterior margin. Eyes 0.59 times as long as temples. Nuchal groove 0.26 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna relatively slender, with somewhat elongate antennomeres 2–4, round antennomeres 5–9, slightly transverse antennomere 10 about 0.9 times and antennomere 11 about 1.5 times as long as wide. Total body length 2.6 mm; forebody length 1.4 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.2 of sternite length; lateral setae very long, up to 0.4 times as long as sternite length.

Aedeagus with lobe-bearing apical portion occupying about 0.3 of aedeagal length (Fig. 56), in dorsal view narrow, about four times as long as wide (Fig. 55); phallobase strongly extended beyond base of ventral process, there concave ventrally (Fig. 56) and straight laterally (Fig. 58). Apical lobes each with longitudinal row of three or four sublateral, subapical setules (Figs 56, 57), ventrally extended into large, hyaline, subrectangular lobe somewhat extended proximoventrad (Fig. 56); in dorsal view, apical lobes narrow, slightly concave laterally, only at apical end convexly tapered (Fig. 58). Dorsal lobe straight dorsally with apex acute in lateral view (Fig. 56), but subtriangular in dorsal view (Fig. 58). Ventral lobe absent. Ventromedial endophallic lobe long-triangular, running between ventral extensions of apical lobes and reaching their distoventral angle, and crossed by strongly sclerotized stripe with longer proximal portion bearing three minute, shallow denticles and shorter, distad curved apical portion (Figs 56). Endophallic sclerites as in Figs 56, 58. Ventral process reaching apex of ventral extensions of apical lobes, in lateral view narrow, at widest point about 0.6 times as wide as aedeagus at same level, with distoventrad pointing proximal portion and distad curved apical portion gradually tapered toward narrow, subacute apex (Fig. 56); ventral process in ventral view very broad with subparallel lateral margins, at base nearly as wide as aedeagus at same level, for most of length about 1.4 times as wide as aedeagus and strongly protruding laterally over its contour (Figs 57, 58). Dorsomidlongitudinal split including dorsodistal opening occupying most of length of phallobase (Figs 56, 58); latter therefore collapsed in dry specimens (Fig. 56). Postforamen notably projecting ventrad (Fig. 56). Circoforamen about three times as long as median foramen (Fig. 57). Length of aedeagus 0.37 mm.

Female unknown.

Distribution: *Micranops vietnamensis* is only known from the type locality Hanoi, North Vietnam.

Bionomics: The species was collected with a light trap and is therefore able to fly.

Etymology: The epithet *vietnamensis* [Latinized adjective (“from Vietnam”), derived from the country name Vietnam with the Latin suffix *-ensis* that describes the geographical origin] refers to the distribution of this new species.

***Micranops australasiaticus*, sp. nov.**
(Figs 59–61)

Type specimens: Holotype ♂, Democratic Republic of Timor-Leste: Maupitine (8.47319S, 127.14378E),

24.V.2012 (AMS). Paratypes (2 specimens): 1 ♂, Australia, Northern Territory, Nourlangie Creek: 8 km N Mt Cahill (12.48S, 132.42E), 26.X.1972, leg. Britton (ANIC); 1 ♀, same data, leg. Colless (ANIC).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color medium brown with slightly lighter brown pronotum; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head about 1.2 times longer than wide, with moderately convex temples and straight posterior margin. Eyes 0.48–0.54 times as long as temples. Nuchal groove 0.25 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from moderately elongate pedicellus and antennomere 3 gradually wider toward somewhat transverse penultimate antennomeres; antennomere 10 about 0.8 times, antennomere 11 about 1.4 times as long as wide. Total body length 2.0–2.3 mm; forebody length 1.2–1.3 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.2 of sternite length; lateral setae long, up to 0.3 times as long as sternite length (cf. Fig. 158).

Aedeagus with lobe-bearing apical portion occupying about 0.25 of aedeagal length (Fig. 59), in dorsal view long-oval, about three times as long as wide (Fig. 61); phallobase extended beyond base of ventral process, there moderately concave ventrally (Fig. 59) and almost straight laterally (Fig. 61). Apical lobes each with sublateral, subapical group of very fine setules (Fig. 60), in ventral view with round, narrow apex (Fig. 60), and ventrally extended into long, subtriangular, hyaline lobe (Fig. 59); in dorsal view, apical lobes parallel laterally, but evenly, convexly narrowed toward round apex (Fig. 61). Dorsal lobe in lateral view occupying about 0.15 of aedeagal length (Fig. 59), in dorsal view triangular with subacute apex (Fig. 61). Ventral lobe absent. Ventromedial endophallic lobe long triangular with moderately distad curved, subacute apex, running between ventral extensions of apical lobes, and protruding beyond these extensions ventrally and proximally (Fig. 59); distal margin of ventromedial endophallic lobe strongly sclerotized and bearing two minute denticles (Fig. 59). Endophallic sclerites as in Figs 59–61. Ventral process reaching ventromedial endophallic lobe, in lateral view narrow, at widest point about 0.4 times as wide as aedeagus at same level, evenly curved distad, but in apical portion curved ventrad and gradually tapered toward narrow apical end (Fig. 59); in ventral view, ventral process at base about 0.5 times as wide as aedeagus at same level, after that gradually widened toward broad, subtruncate end with short, pointed median tip, widest subapically, here about 1.3 times as wide as aedeagus at same level (Fig. 60) and

notably protruding over contour of aedeagus (Figs 60, 61). Dorsomidlongitudinal split including dorsodistal opening occupying about 0.7 of length of phallobase (Figs 59, 61); latter therefore over same length collapsed in dry specimens (Fig. 59). Postforamen notably projecting distoventrad (Fig. 59). Circoforamen about 2.5 times as long as median foramen (Fig. 60). Length of aedeagus 0.37 mm.

Female: Protarsomeres 1–4 somewhat dilated, less than twice as wide as long.

Distribution: *Micranops australasiaticus* is known from northern Australia and the island of Timor and thus an Australasian faunal element.

Bionomics: *Micranops australasiaticus* was caught in flight with yellow pans and light traps.

Etymology: The epithet *australasiaticus* [Latinized adjective (“the Australasian”), derived from Australasia] refers to the distribution of this new species in the Australasian biogeographical region.

Micranops malukensis, sp. nov.

(Figs 62–64, 158)

Type specimen: Holotype ♂, Indonesia, Maluku, Tanimbar, Yamdena Bomaki, NW Saumlaki, 10.IX.1991, leg. Agosti (MHNG).

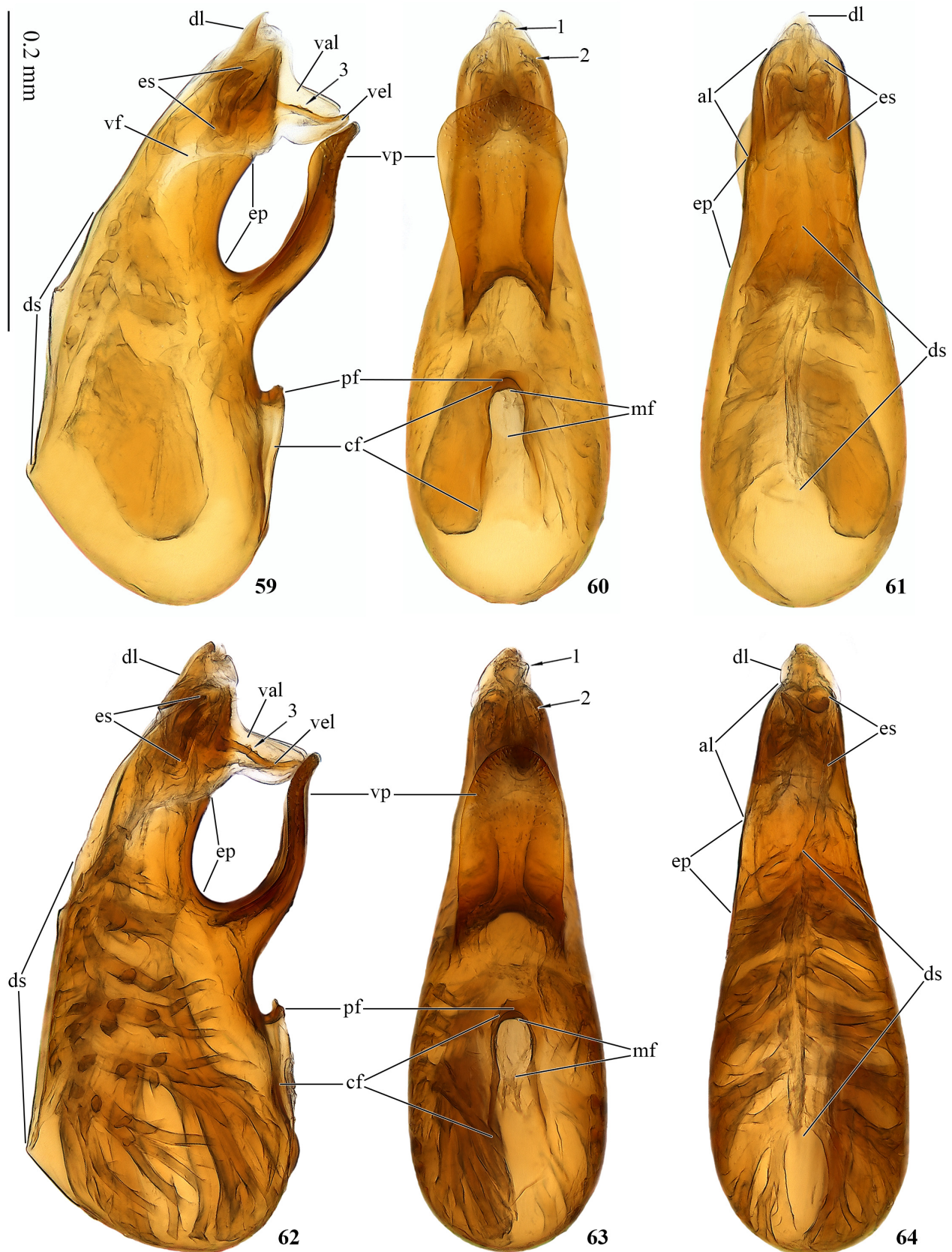
Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; holotype macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color medium brown; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head 1.17 times longer than wide, with moderately convex temples and straight posterior margin. Eyes 0.48 times as long as temples. Nuchal groove 0.27 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from very slightly elongate antennomeres 2–4 gradually wider toward moderately transverse penultimate antennomeres; antennomere 10 about 0.8 times, antennomere 11 about 1.3 times as long as wide. Total body length 2.6 mm; forebody length 1.3 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.2 of sternite length; lateral setae long, up to 0.3 times as long as sternite length (Fig. 158).

Aedeagus similar to that of above *M. australasiaticus*, but different as follows: Apical lobes in dorsal view narrower, more strongly tapered toward apex (Fig. 64). Both ventral extension of apical lobes and ventromedial endophallic lobe somewhat longer, more slender, not triangular, but long subrectangular (Fig. 62). Ventral process much more slender, in lateral view at midlength about 0.25 times as wide as aedeagus at same level (Fig. 62), in ventral view narrower, broadly subparallel with



FIGURES 59–64. Aedeagus in lateral (59, 62), ventral (60, 63), and dorsal (61, 64) view of *Micranops australasiaticus*, paratype, Australia, Northern Territory: Nourlangie Creek (59–61); *M. malukensis*, holotype, Indonesia, Maluc: Tanimbar (62–64). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vel—ventromedial endophallic lobe; vf—ventral fissure; vp—ventral process. Arrows: 1—tip of apical lobes; 2—ventral, subapical setules of apical lobes; 3—medial denticles of ventromedial endophallic lobe.

evenly convex end, at base about 0.8 times as wide as aedeagus, in subapical portion not projecting over contour of aedeagus (Fig. 63). Length of aedeagus 0.37 mm.

Female unknown.

Distribution: *Micranops malukensis* occurs on the Indonesian archipelago of the Moluccas.

Etymology: The epithet *malukensis* [Latinized adjective (“from Maluku”), derived from the Indonesian province name Maluku with the Latin suffix *-ensis* that describes the geographical origin] refers to the distribution of this new species.

Micranops pallidulus (Kraatz)

(Figs 2, 6, 65–85, 159)

Scopaeus pallidulus Kraatz, 1859: 131.

Micranops pallidulus (Kraatz, 1859); Frisch & Herman 2014: 70.

Scopaeus (*Microscopaeus*) *yemenicus* Coiffait, 1981: 19; **syn.**

nov.

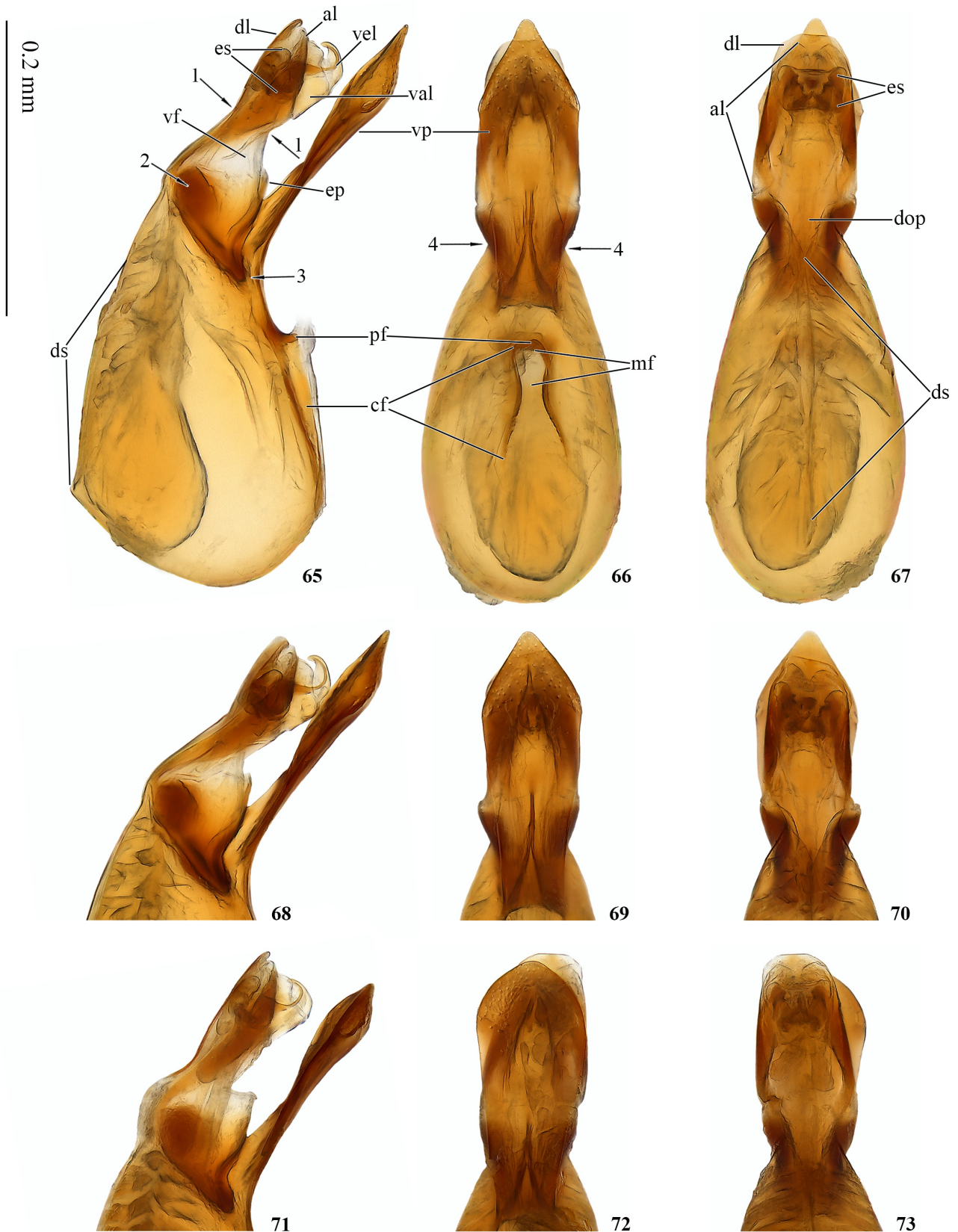
Micranops yemenicus (Coiffait, 1981); Frisch & Herman (2014: 71).

Type specimen examined: *Scopaeus pallidulus*: Holotype ♀ (by monotypy): Sri Lanka; labelled “Ceylon” (printed), “Holotypus” (printed, red label), “pallidulus” (handwritten), “Coll. Kraatz” (printed) (SDEI); “HOLOTYPE / *Scopaeus pallidulus* / Kraatz, 1859 / label by J. Frisch, 2025”. *Scopaeus yemenicus*: Holotype ♂, Yemen, Al-Hudeida: Wadi Zabid, VIII.1970, leg. Szalay-Marzso (HNHM); paratypes (4 ♀), same data as holotype, but VII.1970, X.1970, and XI.1970 (HNHM).

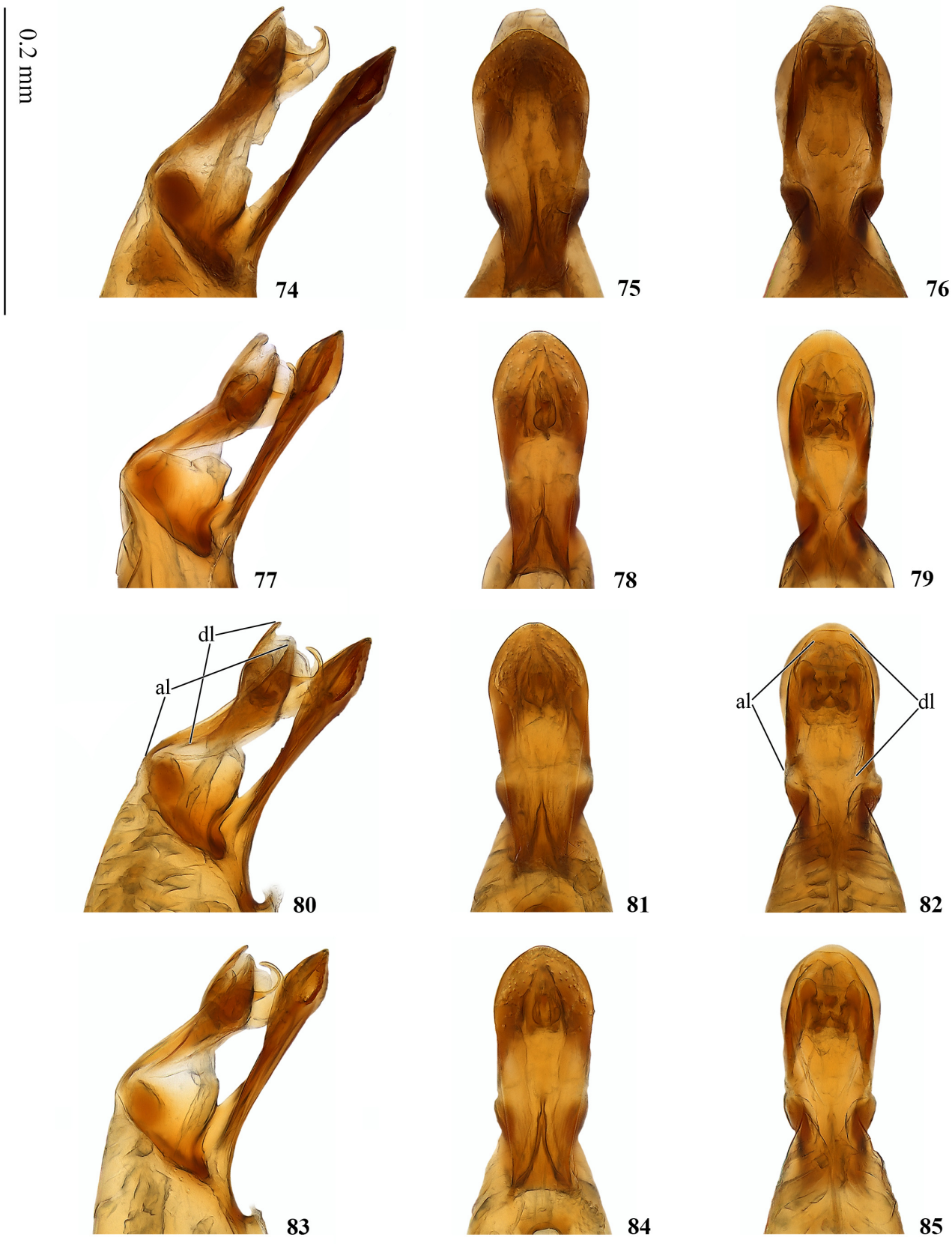
Kraatz (1859: 131) described *Scopaeus pallidulus* according to “Exemplar unicum in insula Ceylan lectum”, which is therefore a holotype by monotypy (ICZN, Article 73.1.2). In the Kraatz collection at SDEI there is a female with a subsequent, printed holotype label. Its locality label “Ceylon” is consistent with the original description, and its handwritten identification label agrees with the example of Kraatz’s handwriting in Horn *et al.* (1990: 482). The holotype lacks the left antennomeres 7–11, the left protarsomeres 3–5, and the left metathoracic leg.

New localities: **Cambodia:** Kampong Chhnang: Rolea B’ier, Oourung: Chreybak (12°11’59”N, 104°37’03”E), 20.–23.V.2018, leg. Bernardi, Kong & Rossi (NHMW). Siem Reap: Siem Reap City (13°21’N, 103°51’E), 4.I.1998 (MFNB, NHMB); Sre Noy: Along Vaeng, 29.V.2003, leg. Constant & Smets (ISNB, MFNB); Angkor: Preah Kahn Temple, 31.V.2003, leg. Constant & Smets (ISNB, MFNB). Kampong Thom, Baray: Boeng Khwing lake (12°43’52”N, 105°32’35”E), 25.V.2019, leg. Rossi & Kong (NHMW). **Cameroon:** Extrême-Nord: Maroua, X./XI.1965, leg. Schmitz (RMCA); Waza, 19.III.1972, leg. Gruwell (FMNH, MFNB). **Cape Verde:** Santiago: Sao Jorge dos Órgãos, III.1984, VII.1988, leg. v. Harten (MFNB, SMNS). **India:** Andaman and Nicobar Islands: Havelock Island: village no. 7 (11°59’N, 92°58’E), 22.IV.–14.V.1998, leg. Majer (MFNB, NHMB). Odisha: Lulung (Simlipal National Park) (21°56’N, 86°32’E), 25.V.–23.VI.1998, leg. Majer (MFNB, NHMB). West

Bengal: Kolkata [Calcutta], 3.V.–12.VI.1980, leg. Topál (HNHM, MFNB); Darjeeling: Debrapani, 1700 m, 31.V.1980, leg. Topál (HNHM); Nalbani (salt lake), 7.XII.1966, leg. Topál (HNHM). **Indonesia:** Java Barat: Bogor (Botanical Garden), 12.IV.1988, leg. Wrensch & Johnston (FMNH); Sukabumi, Sirnarasa: Cimaja River (S-slope of Mt Halimun) (06°51’32”S, 106°31’06”E), 670 m, 15.V.2016, leg. Frisch (MFNB). Sulawesi Tengah: Morowali (Ranu River Area), 27.I.–20.IV.1980, leg. Sutton & Rees (MFNB, NHML). Sumatera Barat: Talu: Simpang Empat, VII.1992, leg. Ullrich (NHMB). Sumatera Selatan: Benakat, 21.XI.1983, leg. Makihara (NHMC). Sumatera Utara: North Padang Lawas: Dolok-Merungir, 1.X.–14.XI.1984, leg. Kern (MFNB). **Laos:** Bokèo: Bokèo National Park (20°27’–28’N, 100°45’E), 500–700 m, 4.–18.V.2011, leg. Brancucci *et al.* (MFNB, NHMW). Houaphan: Phu Phan Mts (20°12’N, 104°01’E), 1750 m, 17.V.–3.VI.2007, leg. Kubán (NHMB). Khammouane: Ban Nasa, Boneng (18°01.166 N, 104°32.322 E), 180 m, 22.XI.2010, leg. Ihle (NMEC); Ban Khoun Ngeun, 300 m, 17.V.–6.VI.2007, leg. Štrba (SMNS); Ban Khoun Ngeun (18°07’N, 104°29’E), 200 m, 24.–29.IV.2001, leg. Pacholátko (NHMB); Ban Nasa: Boneng (18°01’N, 104°32’E), 180 m, 22.XI.2010, leg. Ihle (NMEC); Nakai (17°34’N, 106°10’E), 500 m, 14.–18.IV.2017, leg. Hergovits (MZMB). Luang Namtha: Ban Kone, 12.V.2004, leg. Watanabe (TWCF); Luang Namtha (21°00’N, 101°25’E), 600 m, 31.V.1997, leg. Kubán (NHMB). Luang Prabang: Thong Khan (19°35’N, 101°58’E), 750 m, 11.–21.V.2002, leg. Kubán (NHMB); 10 km N Luang Prabang (Mekong River), 250 m, IX.–XI.1992, leg. Somsy (MFNB, MSCB, NMEC). Vientiane: 50 km N Vientiane: Ban Pa Kho Resort, 90 m, 9.–14.VI.2007, leg. Štrba (SMNS); Vang Vieng (18°55’23”N, 102°26’55”E), 300 m, 10.V.–6.VI.2001, leg. Kolibáč (NHMB); Phou Khao Khoai (18°20’37”N, 102°48’52”E), 700–800 m, 25.–30.V.2008, leg. Solodovnikov & Pedersen (ZMUC). **Malaysia:** Cameron Highlands, 26.–30.III.1984, leg. Rougemont (GRCO). Lampoon, 16.VIII.1979, leg. Robert (MHNG). Sarawak: 20 km E Kuching, 850 m, 25.V.1994, leg. Löbl & Burckhardt (MHNG). Selangor: Sungai Buloh, 20.IX.1972, leg. Jaccoud (MHNG). **Mali:** Konoro, 6.XII.1972, leg. Stam (MHNG). I’ll buy you a beer for finding this. Mopti: Sévaré, 4.IX.1981, leg. Everts (NBCL). **Myanmar:** Sagaing (Alaungdaw Kathapa National Park) (22°19’N, 94°28’E), 350 m, 3.–13.V.2003, leg. Boukal & Schillhammer (NHMW). **Nepal:** Bagmati: Sauraha (Chitwan National Park), 4.VI.1983, leg. Brendell (NHML); Chitwan, Sauraha (Rapti River) (27°34’29”N, 84°29’55”E), 160 m, 7.VII.2009, leg. Weigel, 26.VI.–2.VII.2011, leg. Hartmann & Küßner (MFNB, NMEC), 5.–8.VII.2022, leg. Weigel (NMEC). Bheri: Nepalganj (28°04’97”N, 81°38’56”E), 140 m, 23.–25.VI.2011, leg. Hartmann (MFNB, NMEC). Mahakali: Kanchanpur: Mahendranagar (28°57’41”N, 80°12’51”E), 230 m, 2.VII.2017, leg. Weigel (NMEC). **Singapore:** Leg. Cameron (NHML). **Sri Lanka:** North-Central Province: Anuradhapura, Hunuwilagama: Wilpattu, 10.–19.III.1970, leg. Davis & Rowe (FMNH). North-West Province: Madampe: 20 mls N Negompo, 31.I.1962, leg.



FIGURES 65–73. Aedeagus in lateral (65, 68, 71), ventral (66, 69, 72), and dorsal (67, 70, 73) view of *Micranops pallidulus*: Cambodia: Siem Reap (65–67); Indonesia, Jawa Barat, Sukabumi: Sirnarasa (68–70); Sri Lanka, South Province: Galle (Kanneliya Jungle) (71–73). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; dop—dorsodistal opening of phallobase; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vel—ventromedial endophallic lobe; vf—ventral fissure; vp—ventral process. Arrows: 1—dorsoventral constriction of apical portion of aedeagus; 2—distolateral sclerotization of phallobase; 3—ventroproximal extension of distolateral sclerotization of phallobase; 4—lateral constriction of phallobase.



FIGURES 74–85. Aedeagus in lateral (74, 77, 80, 83), ventral (75, 78, 81, 84), and dorsal (76, 79, 82, 85) view of *Micranops pallidulus*; Nepal, Narayani: Sauraha (Chitwan National Park) (74–76); holotype of *M. yemenicus* syn. nov., Yemen, al-Hudaida: Wadi Zabid (77–79); Cameroon, Extrême-Nord: Maroua (80–82); Cape Verde, Santiago: Sao Jorge dos Órgãos (83–85). Abbreviations: al—apical lobe; dl—dorsal lobe.

Brinck, Andersson & Cederholm (MZLU); Puttalam, Talawila (Wilpattu Park), 9.–10.IV.1973, leg. Baumann & Cross (FMNH). Sabaragamuwa: Ratnapura, Kalu Ganga (Induruwa Jungle), 23.III.1973, leg. Baumann & Cross (FMNH); Ratnapura, Gilimale Lumber Mill, 7.VIII.1973, leg. Ekis (FMNH). South Province: Galle (Kanneliya Forest), 1973, 1975, leg. Baumann, Cross, Fernando, Fernandino, Karunaratne & Krombein (FMNH, MFNB). **Thailand:** Bangkok (NHML). Chiang Mai: Chiang Dao (19°22'N, 98°57'E), 350 m, 9.–14.V.1991, leg. Kubán (MFNB, NHMB); Chiang Dao (19°25'N, 98°52'E), 1000 m, 17.–24.V.1991, leg. Kubán (NHMB); Chiang Mai City, 320 m, 12.VI.1986, leg. Schwendinger (MHNG); Doi Inthanon, 1000 m, 16.VI.1990, leg. Watanabe (TWCF); Chom Thong, 24.–27.IV.1991, leg. Horák (MZMB); Fang (19°55'N, 99°12'E), 300 m, 25.V.1991, leg. Kubán (NHMB); Palong (19°55'N, 99°06'E), 750 m, 26.–28.V.1991, leg. Král (NHMB). Chiang Rai: Phu Chai Rai Resort (20°12'N, 99°47'E), 22.X.2010, leg. Rougemont (GRCO). Chumphon: Phato (09°48'N, 98°47'E), 27.III.–14.IV.1996, leg. Majer (NHMB). Chon Buri: Khao Khio Wildlife Sanctuary, 25.V.1984, leg. Hämäläinen (NBCL). Loei: Na-Haeo, 15.–19.V.2003, leg. Constant, Smets & Grootaert (ISNB). Uthai Thani: 25 km NW Lan-Sak, 110 m, IX.1990 (MFNB). Kanchanaburi: Erawan National Park, 17.X.1982, leg. Hämäläinen (NBCL); Erawan National Park (Kwae Yai River), 13.II.1994, leg. Mahunka (HNHM); Thongpapoom, 10.–12.VII.2009, leg. Quicke & Butcher (NHML). Khon Kaen: Tha Phra, 19.–23.VII.1969, leg. Knapp (FMNH). Phetchabun: 40 km N Phetchabun: Lom Sak, 120 m, VIII.1987, leg. Thielen (SMNS). Phetchaburi: Kaeng Krachan National Park, 16.X.1982, leg. Hämäläinen (NBCL); Kaeng Krachan National Park, 5.II.1994, leg. Mahunka (HNHM). Prachuap Khiri Khan: Huey Yang: Vanakorn Beach, 14.X.1982, leg. Hämäläinen (NBCL). Ratchasima: Khao Yai National Park (headquarters), 14.VI.1984, leg. Hämäläinen (NBCL). Uthai Thani: 3 km W Ban-Rai, 150 m, IX.1991, leg. Thielen (MFNB). **Vietnam:** Bìn Duong: Bìn Cát (GRCO). Dong Nai: Cat Tien National Park, 1.–15.V.1994, leg. Pacholatko & Dembicky (NHMW); Cat Tien National Park, 30.VI.–4.VII.1995, leg. Napolov (NMEC). Hanoi: Hanoi City, 40 m, 29.VIII.–31.X.1963, leg. Pócs (HNHM). Hà Tĩnh: Hu'ông So'n, 150 m, 15.VIII.1963, leg. Pócs (HNHM). Ho Chi Minh [Saigon] (MMUM, MSNM, NHML). Lâm Đông: 15 km N Thanh Loc, 12.X.1988, leg. Vasarhelyi (HNHM). Lào Cai: Lào Cai, 300 m, 21.IX.1963, leg. Pócs (HNHM). Nghệ An: Quý Châu, 200 m, 28.VIII.1963, leg. Pócs (HNHM). Than Hóa: Ben En National Park, 50 m, V.–VIII.1997, leg. Napolov (MFNB, NMEC). Tuyên Quang: NE Na Hang, 150–200 m, 26.V.–14.VI.1996, leg. Napolov & Roma (MFNB, MNEC). Vientiane: Vang Vieng, 14.–16.V.1997, leg. Bečvar (MSCB). **Yemen:** Al-Hudaida: 3 km N Bayt al Faqih (14°30'N, 43°13'E), 4.XI.1996, leg. Hacker (MFNB); Jabal Bura National Park (14°52'N, 43°24.6–25.2'E), 240–350 m, 4.XI.2010, leg. Bezděk (NMPC); Wadi Anis (15°00'N, 44°09'E), 1520 m, 7.X.2005, leg. Kadlec (MFNB); Zabid: Wadi Zabid (14°09'N, 43°31'E), 330 m, 22.III.2007, leg. Rejzek (MSCB).

Redescription: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings (Fig. 2). Body color pale light brown to medium brown; appendages pale yellow brown to light brown. Body surface subnitid with extremely fine, dense, setose punctation. Head about 1.1–1.2 times longer than wide, with slightly to moderately convex temples and straight to slightly concave posterior margin. Eyes 0.35–0.67 times as long as temples. Nuchal groove 0.16–0.21 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye (Fig. 6). Antenna slender, from elongate antennomeres 2–5 very slightly widened toward subquadrate or somewhat transverse penultimate antennomere 10 about 0.8–1.0 times as long as wide; antennomere 11 about 1.3–1.4 times as long as wide. Total body length 2.0–2.7 mm; forebody length 1.2–1.4 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin widely triangularly emarginate to approximately 0.1 of sternite length, in posterior half sparsely setose with setae directed somewhat medioposteriorly; lateral setae long, up to about 0.3 times as long as sternite length (Fig. 159).

Aedeagus (Figs 65–85) with lobe-bearing apical portion slender in lateral view, occupying about 0.3 of aedeagal length, somewhat directed ventrad, and close to base with dorsoventral constriction (Fig. 65); phallobase large, about as long as ventral process, and shortly extended beyond base of ventral process (Fig. 65); apical portion distal of subbasal taper inverted subtriangular in lateral view (Fig. 65), separated from phallobase by wide open, ventral fissure followed proximally by strong, lateral sclerotization strongly extending ventroproximad beyond base of ventral process (Fig. 65); aedeagus in dorsal view with apical portion elongate subrectangular and separated from oval phallobase by lateral constriction (Fig. 67). Apical lobes with moderately concave ventral margin (Fig. 65). Dorsal lobe in lateral view slightly convex dorsally (Fig. 65) with narrow, subacute apex, in dorsal view elongate subrectangular with truncate apex (Fig. 67). Ventral lobe absent. Ventromedial endophallic lobe long, projecting strongly beyond ventral margin of apical lobes, hyaline with thin, strongly sclerotized median stripe, strongly curved distad, and gradually tapered toward dorsad curved apex (Fig. 65). Endophallic sclerites as in Figs 65, 67. Ventral process showing clinal variation with apical portion becoming shorter and less pointed from east (Indonesia) to west (Cape Verde; Figs 83–85), in lateral view long and slender, reaching apical end of aedeagus, from narrow basal third gradually widened to distal third narrowing toward pointed apex, and at widest point about 0.6 times as wide as aedeagus at same level (Fig. 65); in ventral view, ventral process at base about 0.5 times as wide as aedeagus at same level, after that

widened with broad, triangular (Cambodia, Indonesia; Figs 65–70), subacute (Nepal, Sri Lanka; Figs 71–76), or rounded (Africa, Cape Verde; Figs 77–85) apical end; in dorsal view, ventral process moderately projecting over contour of aedeagus both laterally and apically (Fig. 66). Dorsodistal opening of phallobase occupying about median half of aedeagal width, triangularly narrowed toward dorsomidlongitudinal split occupying about 0.7 of length of phallobase (Figs 65, 67); latter therefore over same length collapsed in dry specimens (Fig. 65). Postforamen moderately projecting distoventrad (Fig. 65). Circoforamen about three times as long as median foramen (Fig. 66). Length of aedeagus 0.33–0.36 mm.

Female: Protarsomeres 1–4 dilated, less than twice as wide as long.

Distribution: *Micranops pallidulus* has a wide distribution in the Paleotropics. The easternmost records come (from north to south) from Vietnam, Sulawesi, and Java. *Micranops pallidulus* is widespread in Indochina and on the Indian subcontinent from Nepal south to Sri Lanka. Further west, the species is known from the southern Arabian Peninsula (Yemen) and northern sub-Saharan Africa (Cameroon, Mali) to the Cape Verde Islands. The records for Cambodia, Cameroon, Cape Verde, Laos, Malaysia, Mali, Myanmar, Nepal, Thailand, Vietnam, and Yemen are the first for these countries.

Bionomics: *Micranops pallidulus* is extremely vagile and dispersive and often found in high abundance in light-trap samples, which could explain its wide distribution in tropical and subtropical Africa and Asia. However, this species is no exception for the Scopaeina, as *Scopaeus filiformis* and *S. subfasciatus*, which are also very active fliers, have similarly large distribution areas in the Paleotropics (Frisch 1999: 371, 372; 2003: 680–682).

The great variability of the eye size of *M. pallidulus* is not geographically determined, since I measured the smallest and largest eye diameter in the same sample from Yemen, the type series of *M. yemenicus* syn. nov..

Hundreds of specimens of *M. pallidulus* were examined for this study. Since (almost ?) all of them were collected with light traps, it is not surprising that they have functional metathoracic wings. However, as with other flying species that have only been collected at light, flightless specimens with reduced metathoracic wings may occur as well.

***Micranops palliduloides*, sp. nov.**
(Figs 86–91)

Type specimens: Holotype ♂, Indonesia, Sulawesi Tengah: Morowali (Ranu River Area), 27.I.–20.IV.1980, leg. Sutton & Rees (NHML). Paratypes (3 specimens): 2 ♂, same data as holotype (MFNB, NHML); 1 ♂, The Philippines, Palawan, Brookes Point: Oring-orang, 30.VIII.1961, leg. Noona Dan Expedition (ZMUC).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens

macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color pale light brown to medium brown; appendages pale yellow brown to light brown. Body surface subnitid with extremely fine, dense, setose punctation. Head 1.1 times longer than wide, with slightly to moderately convex temples and straight to very slightly concave posterior margin. Eyes 0.45–0.46 times as long as temples. Nuchal groove 0.17–0.22 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly to moderately elongate antennomeres 2–4 somewhat widened toward moderately transverse penultimate antennomeres; antennomere 10 about 0.8–0.9 times, antennomere 11 about 1.3–1.4 times as long as wide. Total body length 2.3–2.4 mm; forebody length 1.2 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternites VII and VIII as in *Micranops pallidulus*, but lateral setae of abdominal sternite VIII shorter, only 0.2 times as long as sternite length (cf. Fig. 159).

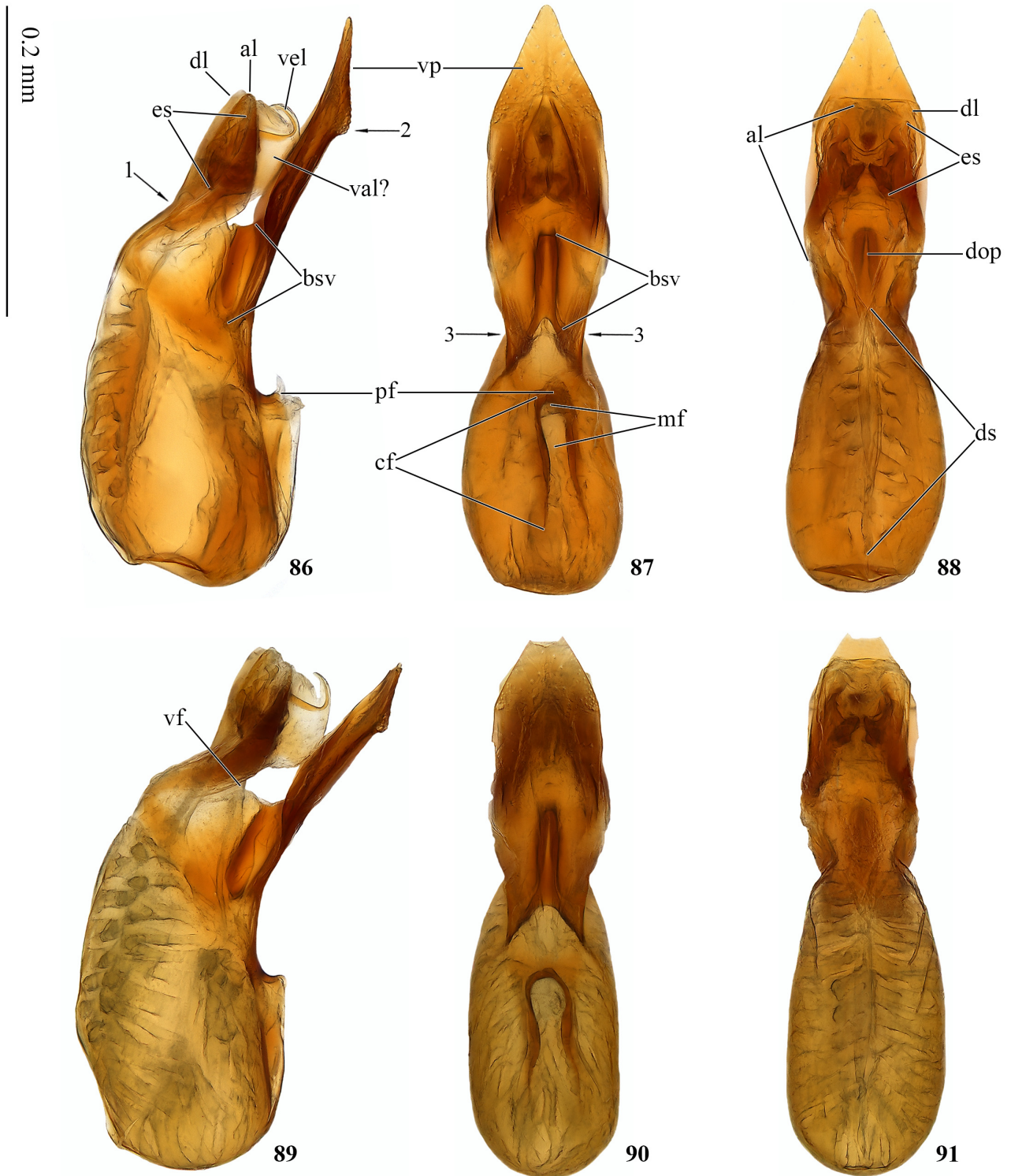
Aedeagus similar to that of preceding *Micranops pallidulus* (Figs 65–85), but different as follows: Lobe-bearing apical portion of aedeagus shorter with broader distal portion, occupying about 0.25 of aedeagal length (Figs 86, 89), in dorsal view shorter subrectangular with broadly truncate apex of dorsal lobe (Figs 88, 91). Phallobase smaller, about 0.8 times as long as ventral process, not distally extended beyond base of ventral process (Figs 86, 89). Ventromedial endophallic lobe in narrower curve bent dorsodistad (Figs 86, 89). Strong, wide, weakly sclerotized, convex lobe ventrally of apical lobes extension of either apical lobes or ventromedial endophallic lobe (not recognizable in Figs 86, 89). Endophallic sclerites different as in Figs 86, 88, 89, 91. Ventral process at base with strong, longitudinal sclerotization, projecting beyond apical portion of aedeagus, in lateral view with shorter basal portion, not subapically widened, but with short, ventral, subapical dilatation, and longer, narrower tip (Figs 86, 89). Aedeagus somewhat larger, length 0.39–0.41 mm.

Female unknown.

Distribution: *Micranops palliduloides* is known from Palawan and Sulawesi. In Sulawesi Tengah, it occurs sympatrically with the closely related *M. pallidulus*. Both species were found there in the same light trap sample.

Bionomics: *Micranops palliduloides* is able to fly, as the type specimens were collected at light and with Malaise traps.

Etymology: The epithet *palliduloides* [Adjective, Latin (“similar to *pallidulus*”), derived from the epithet *pallidulus* with the Latin suffix *-oides* that expresses similarity] was chosen for the new species in view of its similarity to *Micranops pallidulus*.



FIGURES 86–91. Aedeagus in lateral (86, 89), ventral (87, 90), and dorsal (88, 91) view of *Micranops palliduloides*, holotype, Indonesia, Sulawesi Tengah: Morowali (86–88); *M. palliduloides*, paratype, The Philippines, Palawan, Brookes Point: Oringoring (89–91). Abbreviations: al—apical lobe; bsv—basal sclerotization of ventral process; cf—circoforamen; dl—dorsal lobe; dop—dorsodistal opening of phallobase; ds—dorsomidlongitudinal split; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vel—ventromedial endophallic lobe; vf—ventral fissure; vp—ventral process. Arrows: 1—dorsoventral constriction of apical portion of aedeagus; 2—subapical, ventral dilatation of ventral process; 3—lateral constriction of phallobase.

***Micranops nyikensis*, sp. nov.**
(Figs 4, 10, 92–94, 160)

Type specimen: Holotype ♂, Malawi, Northern Region: Mt Mwenembwe (Nyika Plateau), 2300–2400 m, 17.XII.1981, leg. Jocqué (RMCA).

Description: Microphthalmous, micropterous species without palisade fringe of abdominal tergite VII (Fig. 4). Body color including appendages light brown. Surface of head and pronotum nitid with medium fine, setose punctation and superficial microreticulation; puncture interspaces on head about as wide as puncture diameters, on pronotum as wide as or wider than puncture diameters; elytra subnitid, notably more coarsely punctured than head and pronotum, without clear microreticulation; abdomen nitid with punctation of tergites III–V almost as coarse as elytral punctation, but noticeably more finely punctured posteriorly, indistinctly microreticulated. Head 1.18 times longer than wide, with clearly convex temples and somewhat concave posterior margin. Nuchal groove 0.27 times as wide as greatest head width. Eyes considerably reduced, comprising 4–5 ommatidia, 0.16 times as long as temples. Trichobothrial cavity guttiform, due to eye reduction located for almost twice its length posterior of eye, with tapered anterior end connected to eye by shallow ridge with dorsally adjacent, angustate groove (Fig. 10). Antenna compact; pedicellus subquadrate, antennomere 3 very slightly elongate, antennomere 4 round, antennomeres 5–10 increasingly transverse; antennomere 10 about 0.7 times, antennomere 11 about 1.4–1.6 times as long as wide. Elytra narrow, across shoulders somewhat narrower than pronotal width, along suture 0.59 times as long as pronotal length. Total body length 2.6 mm; forebody length 1.1 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic character.

Abdominal sternite VIII with straight subbasal ridge; posterior margin with short, triangular incision occupying approximately 0.1 of sternite length; lateral setae long, up to about 0.3 times as long as sternite length (Fig. 160).

Aedeagus with lobe-bearing apical portion occupying about 0.25 of aedeagal length (Fig. 92), in dorsal view long-oval, about three times as long as wide (Fig. 94); phallobase moderately extended beyond base of ventral process, there slightly concave ventrally (Fig. 92) and straight laterally (Fig. 94). Apical lobes seemingly without subapical setules, each extended ventrally into convex lobe with straight distal margin (Fig. 92). Dorsal lobe not discernible due to evaginated endophallic sclerites of holotype. Ventral lobe absent. Ventromedial endophallic lobe long subrectangular, running between ventral extensions of apical lobes, protruding beyond them ventrally, and extended in apical tooth reaching ventral process (Fig. 92). Endophallic sclerites as in Figs 92–94 (evaginated). Ventral process slender, reaching end of apical lobes, in lateral view straight, very slightly tapered from base to dorsal, subapical tooth, after that gradually tapered toward narrow, slightly ventrad curved, subacute apical end, and at midlength about 0.5 times as wide

as aedeagus at same level (Fig. 92); ventral process in ventral view slender and subparallel except for moderately tapered, convex end, in middle of length only 0.3 times as wide as aedeagus at same level (Fig. 93). Dorsodistal opening of phallobase triangularly narrowed toward dorsomidlongitudinal split occupying most of length of phallobase (Figs 92, 94); latter therefore collapsed in dry specimens (Fig. 92). Postforamen slightly projecting ventrad (Fig. 92). Circoforamen about twice as long as median foramen (Fig. 93). Length of aedeagus 0.34 mm.

Female unknown.

Distribution: This microphthalmous, micropterous Afrotropical species is probably endemic to the Nyika Plateau, Malawi.

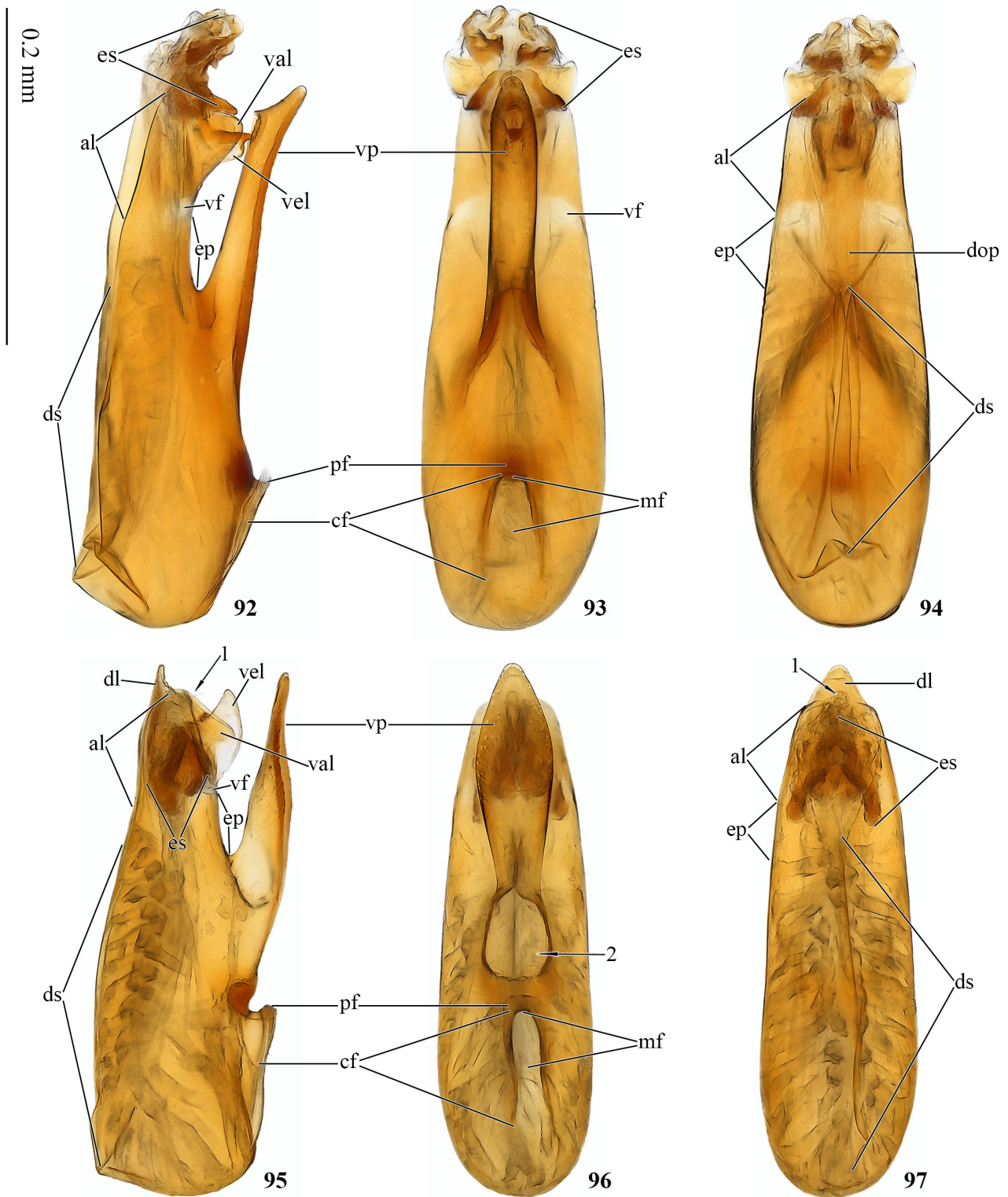
Etymology: The epithet *nyikensis* [Latinized adjective (“from Nyika”), derived from the locality name Nyika Plateau with the Latin suffix *-ensis* that expresses the geographical origin] refers to the type locality of this new species.

***Micranops orientasiaticus*, sp. nov.**
(Figs 95–97, 161, 162)

Type specimens: Holotype ♂, China, Hebei: Yongnian (36°47'N, 114°30'E), 6.XI.1995, leg. Shuiqiang Li (MSCB). Paratypes (19 specimens): 6 ♂, 6 ♀, same data as holotype (MFNB, MSCB); 1 ♀, Shaanxi, 57 km W Xian (riverbank at Autoroute 100) (34°09'N, 108°20'E), 16.VIII.1995, leg. Schülke (MSCB); 2 ♀, Shaanxi, 57 km W Xian (riverbank at Autoroute 100) (34°09'N, 108°20'E), 16.VIII.1995, leg. Pütz (APCE); 1 ♀, Shaanxi, 7 km E Zouzhi (riverbank at Autoroute 100) (34°09'N, 108°17'E), 400 m, 24.VIII.1995, leg. Pütz (APCE); 1 ♀, Shaanxi, 100 km SW Xian at Autoroute km 63, S Zhouzhi (33°53'N, 108°00'E), 1.IX.1995, leg. Schülke (MSCB); 1 ♂, Shaanxi, 31 km E Xian, Lingtong: Li Shan (34°20'N, 109°16'E), 1000–1200 m, 25.VIII.1995, leg. Schülke (MSCB); 1 ♂, Japan, Kyoto, 7./8.VIII.1980, leg. Besuchet (MHNG).

Description: Macrophthalmous, pterodimorphous species with palisade fringe of abdominal tergite VII; most type specimens micropterous with reduced elytra along suture about 0.8 times as long as pronotum and with non-functional metathoracic wings. Body color light brown to medium brown; appendages light brown. Body surface subnitid with very fine, dense, setose punctation. Head about 1.1–1.2 times longer than wide, with moderately convex temples and straight to feebly concave posterior margin. Eyes 0.41–0.47 times as long as temples. Nuchal groove 0.28–0.31 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate antennomeres 2–3 or 2–4 gradually widened toward moderately transverse antennomere 10 about 0.8–0.9 times as long as wide; antennomere 11 about 1.3–1.4 times as long as wide. Total body length 2.1–2.6 mm; forebody length 1.1–1.3 mm.

Male: Protarsomeres 1–4 dilated, almost twice as wide as long.



FIGURES 92–97. Aedeagus in lateral (92, 95), ventral (93, 96), and dorsal (94, 97) view of *Micranops nyikensis*, holotype, Malawi, Northern Region: Mt Mwenembwe (Nyika Plateau) (92–94); *M. orientasiaticus*, holotype, China, Hebei: Yongnian (95–97). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; dop—dorsodistal opening of phallobase; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vel—ventromedial endophallic lobe; vf—ventral fissure; vp—ventral process. Arrows: 1—medial, subapical setules of dorsal lobe; 2—ventral window of phallobase.

Abdominal sternite VII in about median 0.25 of somewhat convex posterior margin with barely perceptible emargination and two submedial, adjacent groups of three short, thick macrosetae directed medioposteriorly and pointing toward each other (Fig. 161).

Abdominal sternite VIII with subbasal ridge evenly curved posteriorly and posterior margin triangularly incised to approximately 0.2 of sternite length; lateral setae long, up to 0.3 times as long as sternite length (Fig. 162).

Aedeagus with lobe-bearing apical portion occupying about 0.25 of aedeagal length (Fig. 95), in dorsal view long-oval, about 3.5 times as long as wide (Fig. 97); phallobase extended beyond base of ventral process, there slightly convex ventrally (Fig. 95) and straight laterally (Fig. 97). Apical lobes with few median, subapical setules (Figs 95, 97); each apical lobe from widely convex apex ventrally extended into hook-shaped lobe with proximad pointing tip (Fig. 95). Dorsal lobe in lateral view straight dorsally with thin, pointed tip (Fig. 95), in dorsal view subtriangular with truncate tip (Fig. 97). Ventral lobe absent. Ventromedial endophallic lobe long, weakly sclerotized, strongly curved distad and tapered toward subacute end, running between and considerably protruding beyond hooked, ventral extensions of apical lobes (Fig. 95). Endophallic sclerites large (Figs 95, 97). Ventral process aligned longitudinally, almost reaching tip of dorsal lobe, in lateral view straight, in basal half about 0.5 times as wide as aedeagus at same level, after that evenly tapered toward thin apical fifth (Fig. 95); ventral process in ventral view narrow lanceolate with subacute end, at narrow base about 0.3 times as wide as aedeagus at same level, at widest point 0.7 times as wide as aedeagus at same level (Fig. 96); proximal ends of ventral process lengthened to frame large, oval, ventral window almost reaching postforamen (Fig. 96). Dorsodistal opening of phallobase gradually narrowed toward dorsomidlongitudinal split occupying most of length of phallobase (Fig. 95, 97); latter therefore collapsed in dry specimens (Fig. 95). Postforamen moderately projecting distoventrad (Fig. 95). Circoforamen about twice as long as median foramen (Fig. 96). Length of aedeagus 0.31–0.33 mm.

Female: Protarsomeres 1–4 dilated, almost twice as wide as long.

Distribution: *Micranops orientasiaticus* is distributed in the East Palearctic and recorded from China (Qin Mountains) and Japan (Honshu).

Bionomics: *Micranops orientasiaticus* is a riparian species, as it has been repeatedly sifted from phytodebris on riverbanks.

Remark: *Micranops orientasiaticus* is the only known species of the genus whose protarsomeres 1–4 are equally strongly dilated in both sexes.

Etymology: The epithet *orientasiaticus* [adjective, Latin (“the East Asian”), composed of the Latin adjective *orientalis* (eastern) and the Latin noun *Asia* (Asia)] refers to the East Asian distribution of this new species.

Micranops brachycerus (Fauvel) (Figs 98–100)

Scopaeus brachycerus Fauvel, 1900: 70.

Geoscopaeus brachycerus (Fauvel, 1900); Fagel 1973: 21–23.

Micranops brachycerus (Fauvel, 1900); Frisch & Herman 2014: 69.

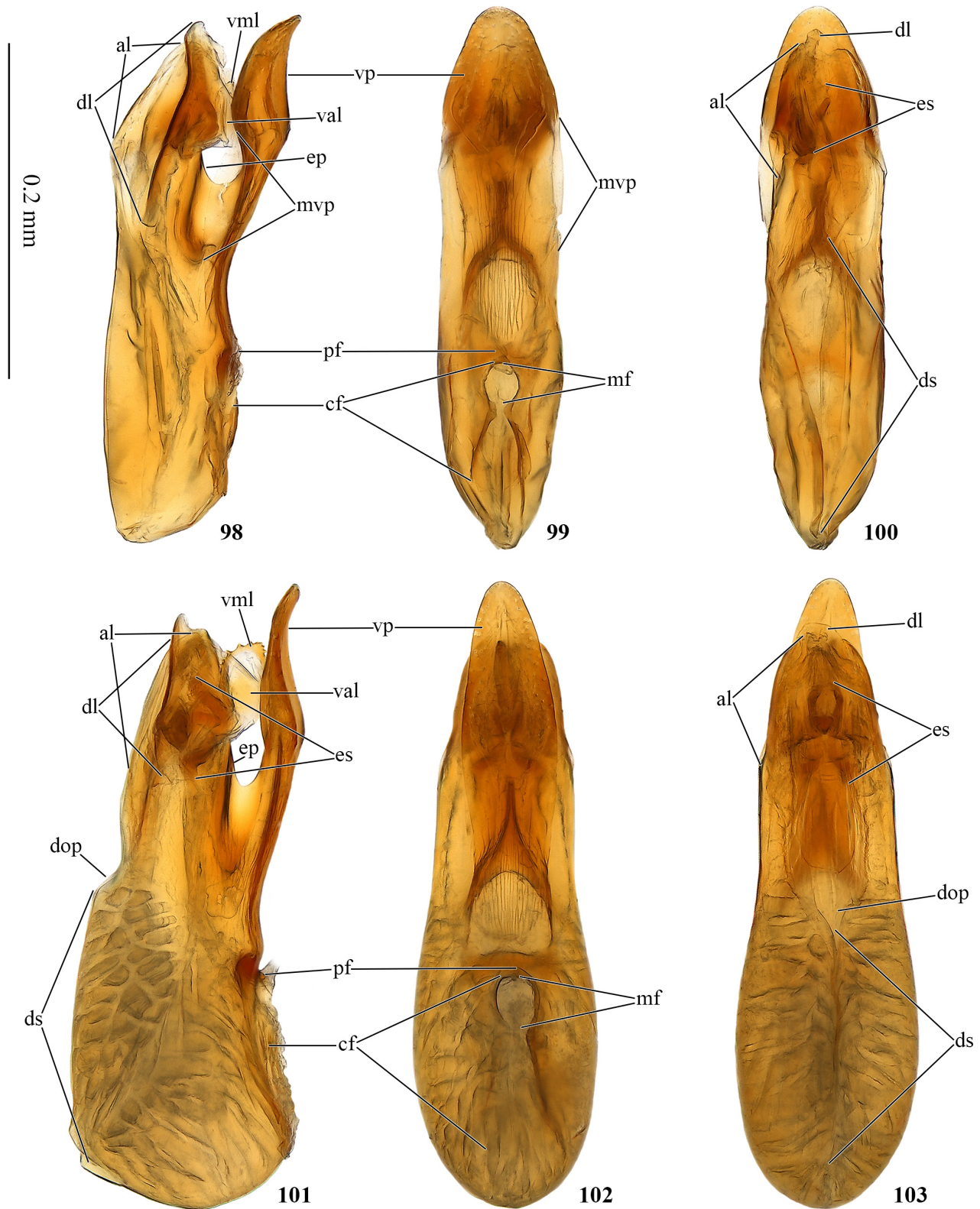
Type specimen examined: Lectotype ♂, Democratic Republic of the Congo: Kinshasa (ISNB); labelled “Kinshasa / Congo 10, 11” (handwritten), “brachycerus / Fvl.” (handwritten), “Ex-Typis” (printed with red letters), “Coll. et det. A. Fauvel / Scopaeus / brachycerus Fvl / R. I. Sc. N. B. 17479” (printed label, genus name and epithet handwritten); “G. Fagel det. 1970 / Geoscopaeus / brachycerus Fvl.” (printed, epithet handwritten), “LECTOTYPE / *Scopaeus brachycerus* / FAUVEL, 1900 / des. J. Frisch, 2025” (printed, red); here designated.

Fauvel (1900: 70) based the description of *Scopaeus brachycerus* on specimens from “Haut-Sénégal: Badumbé; Congo: Kinshasa, 10, 11”. Fagel (1973: 23) designated a lectotype for *Scopaeus brachycerus*, because he (Fagel 1973: 24) identified a syntype from Badumbé, which I have not seen, as a new species he described as *Geoscopaeus brachyceroides* (see below). However, this lectotype designation is based on a non-syntype and therefore invalid (ICZN 1999, Article 74.2).

I borrowed four conspecific specimens from the Fauvel collection at ISNB, all from Kinshasa, which are labelled “Ex-Typis” and identified as *Geoscopaeus brachycerus* by Fagel, among them the specimen that Fagel (1973: 23) designated as the lectotype. The small series contains a specimen with the locality label “Kinshasa / Congo 10, 11” that is congruent with the type specimen information in Fauvel (1900: 70). However, the lectotype is labelled “Kinshasa / Waelbroeck / 20Oct 1896”. Another specimen of this series is labelled “Kinshasa / Congo 3” and not mentioned in the original description as well. This proves that Fauvel (1900: 70) gave the exact label data of the syntypes, that of the four specimens from Kinshasa only the specimen with the label “Kinshasa / Congo 10, 11” is a type, and that the designation of the lectotype is therefore not based on a type specimen.

Beside the male that he designated as the syntype, Fagel (1973: 23) mentioned two female syntypes from Kinshasa in the Fauvel collection at ISNB. Indeed, two specimens of the historical series, among them the only true syntype, bear a printed, subsequent label “♀”. I dissected them and the syntype turned out to be a male. So Fagel obviously selected the male non-syntype as the lectotype because he thought it is the only available male.

A lectotype designation is necessary to stabilize the name *S. brachycerus* (ICZN 1999, Article 74.1.), because the syntypes are not conspecific (see Fagel 1973: 23, 24). I therefore replace the invalid lectotype and designate as the new lectotype the specimen labeled “Kinshasa / Congo 10, 11”, because it is the only available syntype that corresponds to Fagel’s (1973: 21–23) interpretation of *S. brachycerus*. Its handwritten locality and identification



FIGURES 98–103. Aedeagus in lateral (98, 101), ventral (99, 102), and dorsal (100, 103) view of *Micranops brachycerus*, lectotype, Democratic Republic of the Congo: Kinshasa (98–100); *M. brachyceroides*, Mali, Mopti: Sévaré (101–103). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; dop—dorsodistal opening of phallobase; ds—dorsomidlongitudinal split; ep—distal extension of phallobase; es—endophallic sclerites; mf—median foramen;.mvp—membranous lateral margin of ventral process; pf—postforamen; val—ventral extension of apical lobes; vml—ventromedial lobe of apical lobes; vp—ventral process.

labels are moreover consistent with the label example of Fauvel in Horn *et al.* (1990: 481).

Redescription: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color light orange brown to medium brown; appendages light brown. Body surface subnitid with extremely fine, dense, setose punctation. Head about 1.2 times longer than wide, with parallel or slightly convex temples and straight posterior margin. Eyes 0.48–0.58 times as long as temples. Nuchal groove 0.21 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from subquadrate or very slightly elongate antennomeres 2–4 slightly widened toward weakly transverse penultimate antennomeres; antennomere 10 about 0.8–0.9 times, antennomere 11 about 1.5–1.6 times as long as wide. Total body length 2.1–2.2 mm; forebody length 1.2 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge straight and posterior margin triangularly incised to approximately 0.15 of sternite length; lateral setae long, up to 0.3 times as long as sternite length (cf. Fig. 167).

Aedeagus with large lobe-bearing apical portion occupying about 0.4 of aedeagal length (Fig. 98), in dorsal view narrow, about 3.5 times as long as wide measured without ventral process (Fig. 100); phallobase somewhat extended beyond base of ventral process (Fig. 98). Apical lobes by forming dorsoproximal curve moderately bent ventrad, then straight toward convex apical end; each apical lobe with ventral, subtriangular extension reaching between dorsad curved lateral margins of ventral process (Fig. 98); dissection shows that ventral extensions of apical lobes connect to form ventromedial lobe; ventromedial lobe longitudinally oblong in lateral view with subacute apex weakly protruding over distal margin of ventral extensions of apical lobes (Fig. 98). Dorsal lobe long, somewhat shifted ventrad, in lateral view with dorsal margin notably concave in distal half and membranous, subacute apex (Fig. 98), and irregularly shaped in dorsal view (Fig. 100). Ventral lobe and ventromedial endophallic lobe absent. Endophallic sclerites seemingly asymmetrical (Figs 98, 100). Ventral process robust, slightly protruding over tip of dorsal lobe, in lateral view with proximal half directed distoventrad and apparently narrow due to broad, hyaline, barely visible dorsolateral margins, then bent distad with strongly thickened median portion, then evenly tapered toward ventrad curved, acute end (Fig. 98); in ventral and dorsal view, ventral process broad, parallel, moderately protruding over contour of aedeagus for its entire length, in distal half moderately narrowed toward round apical end (Figs 99, 100); basal portion of ventral process in ventral view with fine, longitudinal lines almost reaching postforamen (Fig. 99). Dorsomidlongitudinal split including dorsodistal opening occupying most of

length of phallobase (Fig. 100); latter therefore collapsed in dry specimens (Fig. 98). Postforamen not projecting ventrad (Fig. 98). Circoforamen almost three times as long as median foramen (Fig. 99). Length of aedeagus 0.31–0.33 mm.

Female: Protarsomeres 1–4 somewhat dilated, less than twice as wide as long.

Distribution: *Micranops brachycerus* is known only from the type locality Kinchasa in the Congo Basin, Democratic Republic of the Congo. The record for Angola (Cameron 1951: 27) must be confirmed by examination of the underlying specimen(s). The record for Mali (Fauvel 1900: 70) refers to *M. brachyceroides* (see following species chapter). These unconfirmed or incorrect records were adopted by Frisch & Herman (2014: 69).

Micranops brachyceroides (Fagel) (Figs 101–103, 167)

Geoscopaeus brachyceroides Fagel, 1973: 23, 24.

Micranops brachyceroides (Fagel, 1973); Frisch & Herman 2014: 69.

Type specimen examined: Holotype ♂, Ivory Coast, Savanes: Ferkessédougou, 10.–20.V.1964, leg. Decelle (RMCA).

New records: **Burkina Faso:** Centre Nord: Barn: Tikare (13°17'N, 1°34'E), 22.–25.X.2003, leg. Lott (HECO). **Mali:** Mopti: Sévaré, 4.IX.1981, leg. Everts (MFNB, NBCL). **Niger:** Niamey, IX.1988, leg. Yongema (NBCL).

Redescription: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color pale light brown to medium brown; appendages light brown. Body surface subnitid with extremely fine, dense, setose punctation. Head about 1.2 times longer than wide, with parallel or slightly convex temples and straight posterior margin. Eyes 0.48–0.57 times as long as temples. Nuchal groove 0.22–0.23 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate antennomeres 2–4 or 2–5 gradually widened toward moderately transverse penultimate antennomeres; antennomere 10 about 0.8–0.9 times, antennomere 11 about 1.4–1.6 times as long as wide. Total body length 2.4–2.6 mm; forebody length 1.3 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternites VII without diagnostic characters.

Abdominal sternite VIII (Fig. 167) as in *Micranops brachycerus*.

Aedeagus with large lobe-bearing apical portion occupying about 0.4 of aedeagal length (Fig. 101), in dorsal view long-oval, about 3 times as long as wide measured without ventral process (Fig. 103); phallobase somewhat extended beyond base of ventral process (Fig.

101). Apical lobes straight dorsally with round apical end, each with ventral, triangular extension reaching between dorsad bent lateral margins of ventral process (Fig. 101); ventral extensions of apical lobes connect to form medioventral lobe; medioventral lobe in lateral view elongated subcircular with serrate distal margin, strongly protruding over distal margins of ventral extensions of apical lobes (Fig. 101). Dorsal lobe in lateral view with moderately concave dorsal margin and subacute apex (Fig. 101), in dorsal view with apex rounded (Fig. 103). Ventral lobe and ventromedial endophallic lobe absent. Endophallic sclerites as in Figs 101, 103, symmetrical. Ventral process long, strongly protruding beyond apex of dorsal lobe, in lateral view with narrow, distoventrad pointing proximal third, then bent distad and weakly thickened, at widest point about half as wide as aedeagus at same level, then evenly tapered toward somewhat ventrad curved, thin end (Fig. 101); in ventral view, ventral process lanceolate, at widest point at middle of length about 0.9 times as wide as aedeagus at same level, thus not projecting over contour of aedeagus laterally, and in basal portion with fine, longitudinal lines almost reaching postforamen (Fig. 102). Dorsodistal opening of phallobase somewhat projected dorsad, narrowed toward dorsomidlongitudinal split occupying most of length of phallobase (Figs 101, 103); latter therefore collapsed in dry specimens (Fig. 101). Postforamen feebly projecting ventrad (Fig. 101). Circoforamen almost three times as long as median foramen (Fig. 102). Length of aedeagus 0.36–0.39 mm.

Female: Protarsomeres 1–4 somewhat dilated, less than twice as wide as long.

Distribution: *Micranops brachyceroides* is a northern Afrotropical species whose known distribution pattern roughly follows the Sahel Zone in a narrow strip from Chad (Dérésia) in the east over Niger and Burkina Faso (Badoumbé) to Mali in the west. It is here for the first time recorded for Burkina Faso and Niger.

Bionomics: The flying species was collected with light traps in Burkina Faso and Mali.

Micranops transafricanus, sp. nov.

(Figs 104–106, 163, 164)

Type specimens: Holotype ♂, Namibia, Kavango East: Buffalo Camp (Kavango River) (18°09'S, 21°42'E), 28.II.1992, leg. Uhlig (MFNB). Paratypes (13 specimens): 1 ♂, same data as holotype (MFNB); 1 ♀, Namibia, Kavango East: Mahango Game Reserve (18°17'S, 21°43'E), 28.II.1992, leg. Uhlig (MFNB); 1 ♀, Namibia, Otjozondjupa: Klein Dobe (Bushmanland) (19°25'S, 20°21'E), 19.–21.II.1992, leg. Uhlig (MFNB); 2 ♀, Namibia, Kavango East: Kaudom Camp (18°31'S, 20°43'E), 22.–25.II.1992, leg. Uhlig (MFNB); 1 ♂, Zambia, Lusaka, SE Kafue: Rimo-Marine Motel (Kafue River) (15°49'07"S, 28°12'03"E), 17.III.1993, leg. Uhlig (MFNB); 2 ♂, 3 ♀, Ethiopia: Addis Abeba, VII./VIII.1941, leg. Patrizi (NHML); 2 ♂, South Sudan: Liednum, III./IV.1955 (NHML).

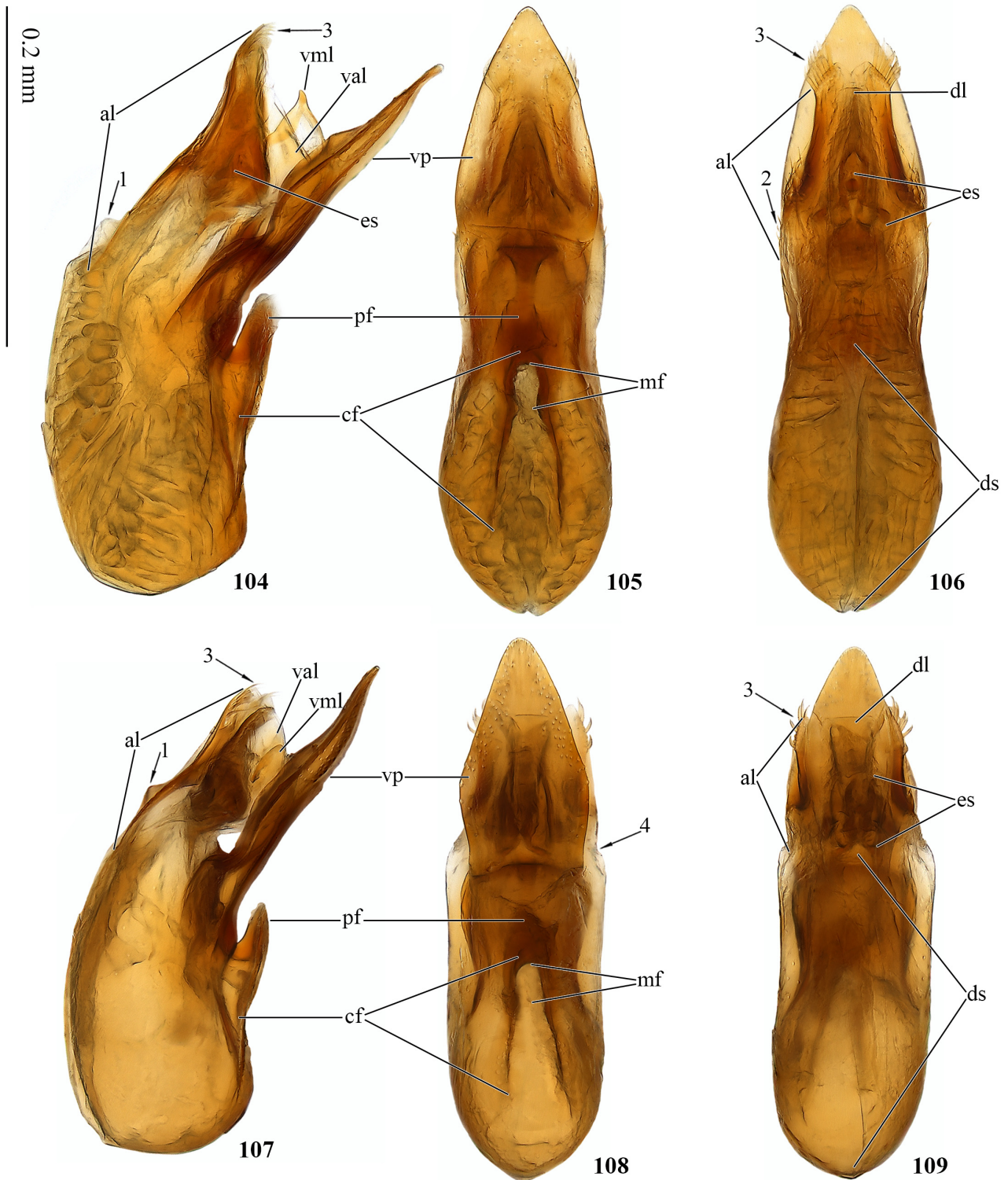
Description: Macrophthalmous species with palisade fringe of abdominal tergite VII, examined specimens macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color light brown to dark brown; elytra usually lighter, pale yellow brown to medium brown; appendages light brown. Body surface subnitid with extremely fine, dense, setose punctation. Head about 1.1–1.2 times longer than wide, with slightly to moderately convex temples and straight posterior margin. Eyes 0.42–0.48 times as long as temples. Nuchal groove 0.2–0.23 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna from slightly elongate antennomeres 2–3 or 2–4 somewhat widened toward moderately transverse penultimate antennomeres; antennomere 10 about 0.8 times, antennomere 11 about 1.4–1.5 times as long as wide. Total body length 2.5–2.8 mm; forebody length 1.3–1.4 mm.

Male: Protarsomeres 1–4 strongly dilated, more than twice as wide as long.

Abdominal sternite VII with posterior margin weakly emarginate lateral of somewhat produced, very shortly emarginate median third with two submedial, adjacent groups of two strongly modified, short-oval macrosetae directed medioposteriorly (Fig. 163).

Abdominal sternite VIII with subbasal ridge medially interrupted with inner ends somewhat extended posteriorly, and with posterior margin triangularly incised to approximately 0.25 of sternite length; lateral setae very long, up to 0.4 times as long as sternite length (Fig. 164).

Aedeagus with large lobe-bearing apical portion occupying about 0.45 of aedeagal length (Fig. 104), in dorsal view about three times as long as wide measured without ventral process and with concave taper at midlength (Fig. 106); phallobase with small, dorsodistal dilatation, not extended beyond base of ventral process (Fig. 104). Apical lobes large, for most part strongly sclerotized; sclerotized part concave dorsally, convexly enlarged ventrally, and running out in long, triangularly tapered distal half with ventrad curved apex (Fig. 104); in dorsal view, apical lobes together shaped like elongate rectangle slightly narrowed distad, each with few subbasal setules and apicolateral row of six or seven strong, ventrolaterally directed setae (Fig. 106); each apical lobe with large, hyaline, ventral enlargement set off against sclerotized portion, reaching between dorsad bent lateral margins of ventral process, and gradually narrowed distad (Fig. 104); dissection shows that ventral extensions of apical lobes connect to form distad pointing, ventromedial lobe ending in slightly dorsad curved tooth (Fig. 104). Dorsal lobe membranous, invisible in lateral view, in dorsal view slender, not reaching apical ends of apical lobes, and with narrow, subtruncate apex (Fig. 106). Ventral lobe and ventromedial endophallic lobe absent. Endophallic sclerites as in Figs 104, 106. Ventral process pointing distoventrad, protruding beyond apex of apical lobes (Figs 105, 106), in lateral view straight with dorsad bent lateral margins interrupted by subbasal emargination and evenly tapered apical portion ending in thin apex (Fig.



FIGURES 104–109. Aedeagus in lateral (104, 107), ventral (105, 108), and dorsal (106, 109) view of *Micranops transafricanus*, paratype, Ethiopia: Addis Abeba (104–106); *M. manyarensis*, holotype, Tanzania, Arusha: Lake Manyara (107–109). Abbreviations: al—apical lobe; cf—circoforamen; dl—dorsal lobe; ds—dorsomidlongitudinal split; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vml—ventromedial lobe of apical lobes; vp—ventral process. Arrows: 1—dorsodistal dilatation of phallobase; 2—subbasal setules of apical lobes; 3—distolateral setae of apical lobes; 4—distolateral angles of phallobase.

104), at level of subbasal emargination with conspicuous, dorsal dilatation; in ventral view, ventral process broad lanceolate, at base about 0.8 times as wide as aedeagus at same level (Fig. 105), in apical portion strongly projecting over contour of apical lobes both laterally and apically (Figs 105, 106). Dorsomidlongitudinal split including dorsodistal opening occupying most of length of phallobase (Fig. 106); latter therefore collapsed in dry specimens (Fig. 104). Postforamen considerably lengthened distad, straight in lateral view (Fig. 104). Circoforamen almost four times as long as median foramen (Fig. 105). Length of aedeagus 0.31–0.34 mm.

Female: Protarsomeres 1–4 dilated, about twice as wide as long, not much narrower than in male.

Distribution: *Micranops transafricanus* is widely distributed in the Afrotropics. It is reported from two widely separated areas, South Sudan and Ethiopia in the north and Namibia and Zambia in the south, but this is more likely a collecting artifact and does not imply a disjunct distribution.

Bionomics. *Micranops transafricanus* is a flying species that was collected with light traps in Namibia. The riparian species was repeatedly sifted from phytodebris on moist riverbanks.

Etymology: The epithet *transafricanus* [Latinized adjective (“the trans-African”), composed of the prefix *trans-* (across, over) and the adjective *africanus* (African)] refers to the wide distribution of this new species across the Afrotropics.

***Micranops manyarensis*, sp. nov.**
(Figs 107–109)

Type specimen: Holotype ♂, Tanzania, Arusha: 2 miles to Lake Manyara (SE shore), 960 m [3150 feet], 1.–26.VI.1965, leg. Szunyogy (HNHM).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; holotype macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings. Body color medium brown; appendages light brown. Body surface subnitid with extremely fine, dense, setose punctation. Head about 1.1 times longer than wide, with slightly convex temples and straight posterior margin. Eyes 0.54 times as long as temples. Nuchal groove 0.22 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna slender, from moderately elongate antennomeres 2–4 somewhat widened toward moderately transverse penultimate antennomere 10 about 0.9 times as long as wide; antennomere 11 about 1.6 times as long as wide. Total body length 2.4 mm; forebody length 1.3 mm.

Male: Protarsomeres 1–4 strongly dilated, approximately twice as wide as long.

Abdominal sternites VII and VIII as in *M. transafricanus* (cf. Figs 163, 164).

Aedeagus with lobe-bearing apical portion occupying about 0.3 of aedeagal length (Fig. 107), in dorsal view about three times as long as wide measured without ventral

process (Fig. 109); phallobase with small, dorsodistal dilatation, slightly extended beyond base of ventral process (Fig. 107), in dorsal view subparallel and by forming obtuse “shoulders” somewhat narrowed toward apical portion of aedeagus (Fig. 109). Apical lobes in lateral view somewhat concave dorsally, with about right-angled apex and more weakly sclerotized, broadly convex ventral dilatation reaching between dorsad bent lateral margins of ventral process (Fig. 107); ventral dilatations of apical lobes like in closely related *M. transafricanus* probably connected to form distad pointing, elongated, ventromedial lobe (Fig. 107); in dorsal view, apical lobes together shaped subquadrate, each with apicolateral row of about six, ventrolaterally pointing setae (Fig. 109). Dorsal lobe membranous, in dorsal view with broad, truncate apex (Fig. 109). Ventral lobe and ventromedial endophallic lobe absent. Endophallic sclerites as in Figs 107, 109. Ventral process pointing distoventrad and strongly protruding beyond apex of apical lobes, in lateral view somewhat dilated dorsally due to dorsad bent lateral margins except for slightly dorsad bent, evenly tapered apical portion ending in acute, slightly ventrad curved tip (Fig. 107); in ventral view, ventral process broadly lanceolate, at broad base about 0.7 times as wide as aedeagus at same level, at widest point at about midlength protruding over apical lobes laterally, and with subtriangular distal half strongly protruding over apex of apical lobes (Figs 108, 109). Dorsomidlongitudinal split including dorsodistal opening occupying most of length of phallobase (Fig. 109); latter therefore collapsed in dry specimens (Fig. 107). Postforamen considerably lengthened distad, hook-shaped (Fig. 107). Circoforamen about three times as long as median foramen (Fig. 108). Length of aedeagus 0.33 mm.

Female unknown.

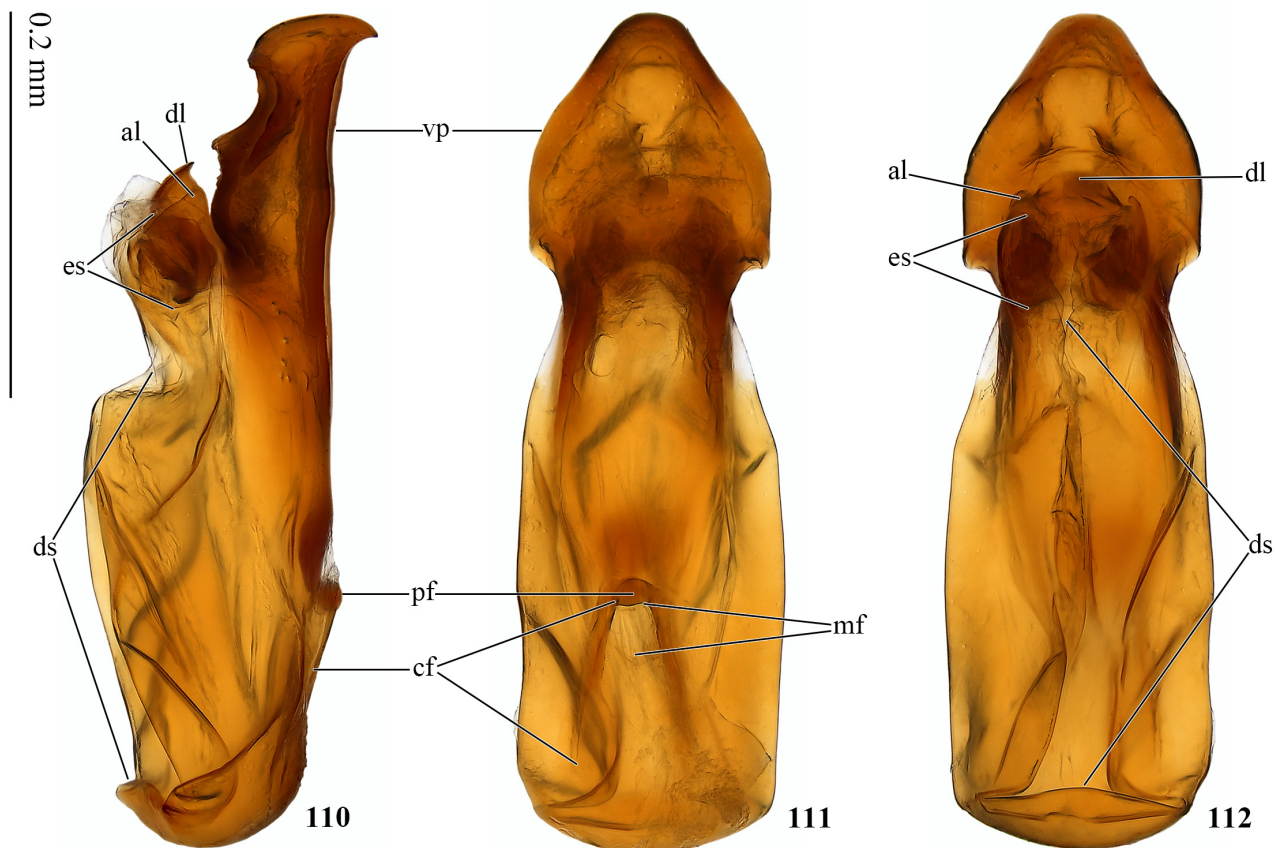
Distribution: *Micranops manyarensis* is only known from the type locality at Lake Manyara, Tanzania.

Etymology: The epithet *manyarensis* [Latinized adjective (“from Manyara”), derived from the locality name Lake Manyara with the Latin suffix *-ensis* that expresses the geographical origin] refers to the type locality of this new species near Lake Manyara in Tanzania.

***Micranops siebertae*, sp. nov.**
(Figs 110–112, 168)

Type specimen: Holotype ♂, Ruanda, Southern Province, Butare [labelled “Conge Belge, Prov. Kivu, Kamambuye”], 22.X.1953, leg. Patrizi (NHML).

Description: Microphthalmous, micropterous species without palisade fringe of abdominal tergite VII. Body color including appendages light brown. Body surface subnitid with medium fine, setose punctation; head and pronotum with puncture interspaces about as wide as puncture diameters and clear microreticulation; elytra notably more coarsely and somewhat irregularly punctured compared to head and pronotum, without distinct microreticulation; abdomen as finely and densely punctate as head and pronotum, indistinctly microreticulated. Head



FIGURES 110–112. Aedeagus in lateral (110), ventral (111), and dorsal (112) view of *Micranops siebertae*, holotype, Ruanda, Southern Province, Butare: Kamambuye. Abbreviations: al—apical lobe; cf—circforamen; dl—dorsal lobe; ds—dorsomidlongitudinal split; es—endophallic sclerites; mf—median foramen; pf—postforamen; vp—ventral process.

1.15 times longer than wide, with clearly convex temples and straight posterior margin. Nuchal groove 0.23 times as wide as greatest head width. Eyes strongly reduced, 0.3 times as long as temples, as wide as diameter of trichobothrial cavity, in longitudinal diameter comprising 4–5 ommatidia. Trichobothrial cavity guttiform, due to eye reduction situated far posterior of small eye, with tapered anterior end connected to eye by dark line (ridge?) with dorsally adjacent, narrow groove about as long as diameter of eye. Antenna compact; pedicellus and antennomere 3 as long as wide, antennomeres 4–10 increasingly transverse; antennomere 10 about 0.8 times, antennomere 11 about 1.4 times as long as wide. Elytra narrow, across shoulders somewhat narrower than pronotal width, along suture 0.56 times as long as pronotal length. Total body length 2.4 mm; forebody length 1.1 mm.

Male: Protarsomeres 1–4 dilated, approximately twice as wide as long.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with straight subbasal ridge and posterior margin triangularly incised to about 0.3 of sternite length; lateral setae long, up to 0.3 times as long as sternite length (Fig. 168).

Aedeagus with vestigial lobe-bearing apical portion and conspicuously robust ventral process (Figs 110–112); apical portion in lateral view set-off from phallobase by

strong, dorsal taper (Fig. 110); in dorsal view, aedeagus long-oval, about 2.5 times as long as wide measured without ventral process, and notably narrowed toward small apical portion (Fig. 112). Apical lobes short, not reaching apex of dorsal lobe, subtriangular in lateral view (Fig. 110). Dorsal lobe in lateral view short subtriangular, convex dorsally, and ending in distoventrad curved apical tooth (Fig. 110), in dorsal view broad with convex apex (Fig. 112). Ventromedial endophallic lobe and ventral lobe indiscernible, possibly absent. Endophallic sclerites as in Figs 110, 112. Ventral process aligned longitudinally, considerably protruding over apical portion of aedeagus both laterally and distally (Figs 110–112), in lateral view at widest point about as wide as apical portion of aedeagus, ventrally straight, dorsally with strong, subapical emargination delimited proximally by two short, dorsoproximad pointing teeth in median third of width, and shortly tapered toward ventrad curved, acute apex (Fig. 110); ventral process in ventral view with parallel proximal half and—by forming lateroproximal angles—strongly dilated, subtriangular distal half convexly tapered toward round end (Fig. 111); ventral process in ventral view at base about 0.7 times as wide as aedeagus at same level (Fig. 111), across lateroproximal angles of distal half about 1.6 times as wide as apical portion of aedeagus (Fig. 112). Dorsomidlongitudinal split including dorsodistal opening occupying length of phallobase (Figs

110, 112); latter therefore collapsed in dry specimens (Fig. 110). Postforamen slightly projecting ventrad (Fig. 110). Circoforamen about three times as long as median foramen (Fig. 111). Length of aedeagus 0.44 mm.

Female unknown.

Distribution: *Micranops siebertae* is known only from the type locality in southern Rwanda. Judging by its inability to fly, the species is probably not widespread.

Etymology: I dedicate this new species to Elke Siebert, scientific illustrator at Museum für Naturkunde Berlin, in gratitude for her dedicated support over the years (epithet *siebertae*: Latinized noun, derived from the surname Siebert, feminine, genitive, singular).

Comparative note: *Micranops siebertae* is closely related to *M. lwiroensis* (Figs 189, 190), which Fagel (1973: 32, 33) described from Lwiro in Kabare Territory, South Kivu Province of the Democratic Republic of the Congo. The new species is distinguished from *M. lwiroensis* by the much more robust ventral process of the aedeagus with more shortly ventrad curved apex, without distinct dorsal, subapical emargination, and without dorsad pointing, distolateral teeth (Figs 110, 112).

Micranops nepalicus, sp. nov.

(Figs 113–118, 165, 166)

Type specimens: Holotype ♂, Nepal, Koshi: Arun Valley, 1100 m, 21.IV.1984, leg. Löbl & Smetana (MHNG). Paratype ♂, Nepal, Lamobagar Gao [Lamabagar?], 1400 m, 28.–31.V.1980, leg. Wittmer (NHMB).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; type specimens macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings. Body color including appendages light brown. Body surface subnitid with fine, dense, setose punctation. Head about 1.1 times longer than wide, with moderately convex temples and straight posterior margin. Eyes 0.48–0.5 times as long as temples. Nuchal groove 0.29–0.32 times as wide as greatest head width. Trichobothrial cavity guttiform with sharply edged ventral and rounded dorsal margin; ventral margin of trichobothrial cavity connected to dorsoposterior margin of eye at level of latter, thus trichobothrial cavity situated dorsoposterior of eye. Antenna compact; pedicellus subquadrate, antennomeres 3 as long as wide, antennomeres 4–10 increasingly transverse; antennomere 10 about 0.7 times, antennomere 11 about 1.1–1.2 times as long as wide. Total body length 2.4 mm; forebody length 1.2–1.3 mm.

Male: Protarsomeres 1–4 dilated, about twice as wide as long.

Abdominal sternite VII with slightly concave posterior margin, in median third of posterior two-thirds of sternite length depressed and comprised of longitudinal, asetose median field bordered by two lateral strips of moderately strong macrosetae directed slightly medioposteriorly; posterior sternite margin with two very slight, convex, submedial curves where setose stripes end (Fig. 165).

Abdominal sternite VIII with subbasal ridge strongly

curved toward basal ridge and medially interrupted with inner ends curved posteriad; posterior margin with deep, narrow incision occupying almost 0.5 of sternite length; lateral setae very long, up to 0.45 times as long as sternite length (Fig. 166).

Aedeagus with lobe-bearing apical portion occupying about 0.35–0.4 of aedeagal length, subcircular in lateral view, and set off from phallobase by dorsal constriction (Figs 113, 116); phallobase in dorsal view long-oval, about 3.5 times as long as wide (Figs 115, 118), strongly extended beyond base of ventral process, there straight ventrally (Figs 113, 116). Lobes of apical portion of aedeagus largely membranous, not distinguishable without dissection. Apical portion of aedeagus widely convex dorsally with membranous, irregularly shaped apical end, ventrally extended into semicircular lobe, probably of apical lobes (Figs 113, 116). Ventromedial endophallic lobe not discernible. Endophallic sclerites as in Figs 113, 115, 116, 118. Ventral process reaching membranous end of apical portion, in lateral view thin with basal half aligned distoventrad and distal half moderately curved distad, in middle of length with few, ventrolateral denticles (Figs 113, 116); ventral process in ventral view broadly lanceolate with round end, at base about 0.5–0.6 times as wide as aedeagus at same level, at widest point about as wide as aedeagus at same level (Figs 114, 117). Dorsomidlongitudinal split including dorsodistal opening occupying most of length of phallobase (Figs 115, 118); latter therefore collapsed in dry specimens (Figs 113, 116). Postforamen strongly projecting distoventrad, hook-shaped (Figs 113, 116). Circoforamen about twice as long as median foramen (Figs 114, 117). Length of aedeagus 0.31–0.34 mm.

Female unknown.

Distribution: *Micranops nepalicus* is recorded from the southern foothills of the Himalayas in eastern Nepal.

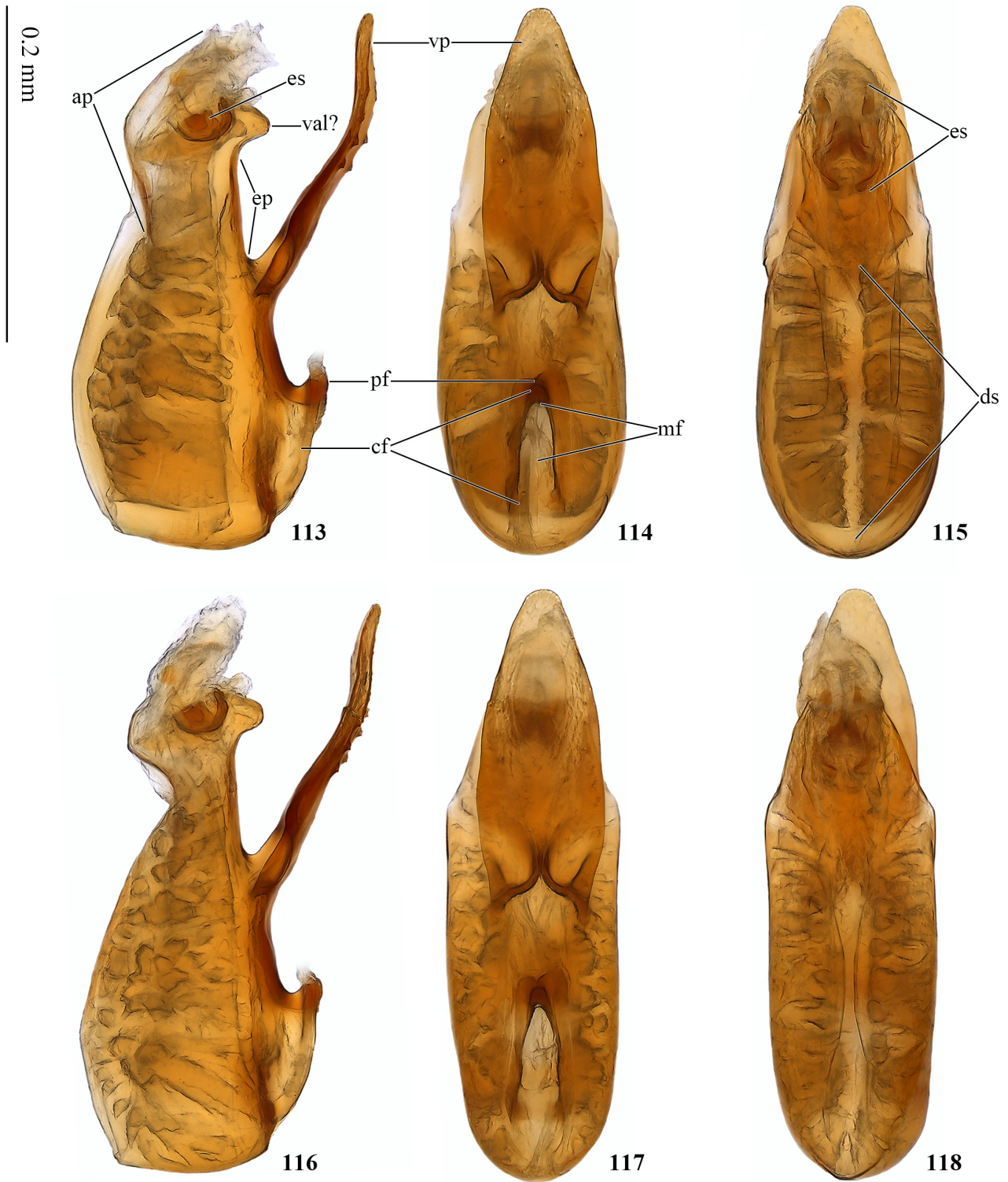
Etymology: The epithet *nepalicus* [Latinized adjective (“the Nepalian”), derived from the country name *Nepal*] refers to the distribution of this new species.

Micranops cultifer, sp. nov.

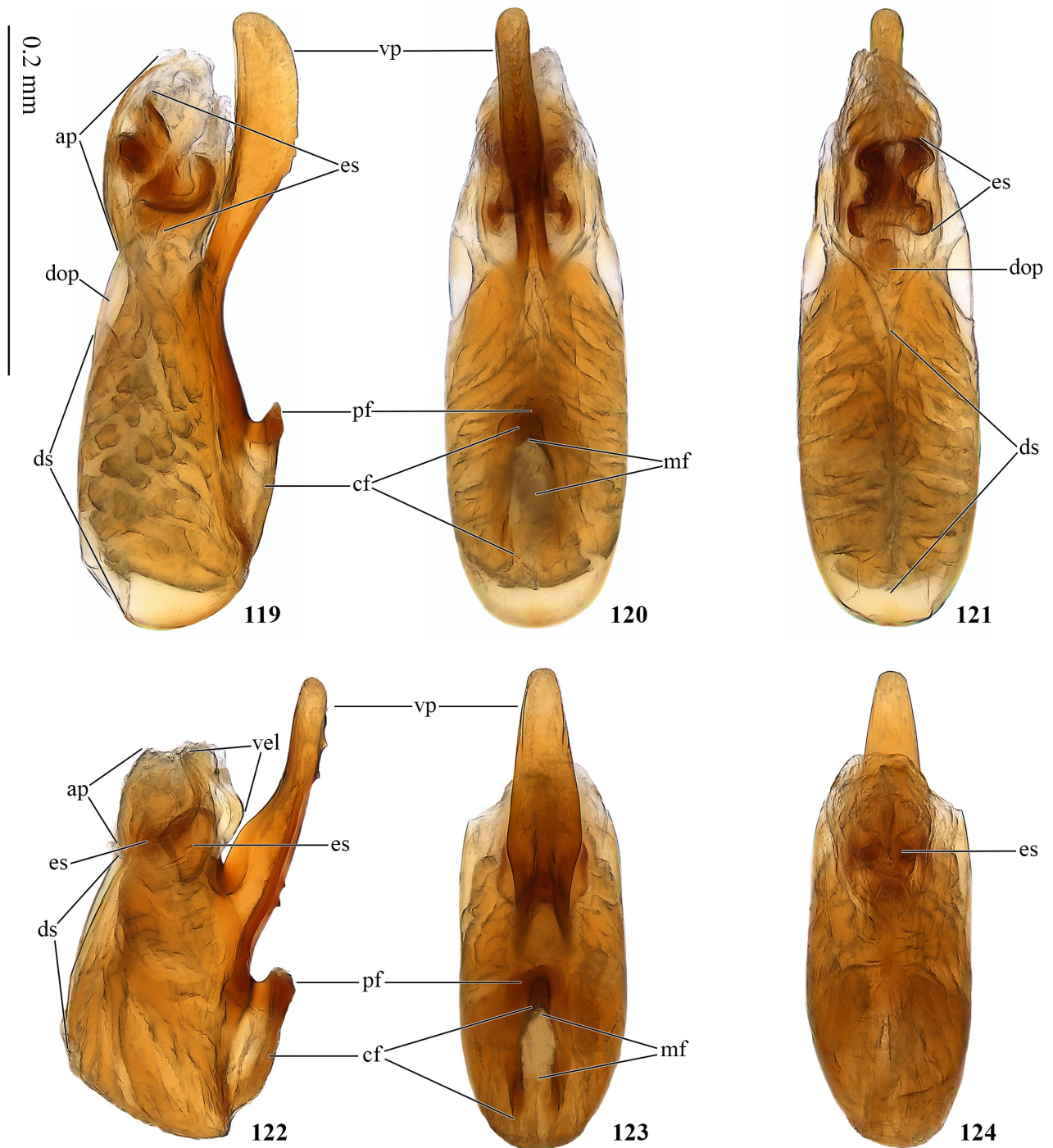
(Figs 119–121, 169)

Type specimen: Holotype ♂, Laos, Champasak, Muang Paxong, Ban Heuyayteuy: Mt Phu Din (Bolaven Plateau) (15°03.171'N, 106°17.397'E), 1100 m, 13./14.VI.2008, leg. Solodovnikov & Pedersen (ZMUC).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; type specimens macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings. Body color medium brown; appendages light brown. Body surface subnitid with fine, setose punctation; head and pronotum with clear microreticulation; cephalic punctation extremely fine, hardly perceptible due to microreticulation; pronotal punctation less fine than cephalic punctation; elytra more coarsely than head and pronotum and somewhat granularly punctate, without distinct microreticulation; abdomen very finely punctate, indistinctly microreticulate. Head about



FIGURES 113–118. Aedeagus in lateral (113, 116), ventral (114, 117), and dorsal (115, 118) view of *Micranops nepalicus*, holotype, Nepal, Koshi: Arun Valley (113–115); *M. nepalicus*, paratype, Nepal, Koshi: Lamobagar Gola (116–118). Abbreviations: ap—apical portion of aedeagus; cf—circoforamen; ds—dorsomidlongitudinal split; es—endophallic sclerites; mf—median foramen; pf—postforamen; val—ventral extension of apical lobes; vp—ventral process.



FIGURES 119–124. Aedeagus in lateral (119, 122), ventral (120, 123), and dorsal (121, 124) view of *Micranops cultifer*, holotype, Laos, Champasak: Mt Phu Din (Bolaven Plateau) (119–121); *M. obscurellus*, Thailand, Trang: Khao Ka Chong (122–124). Abbreviations: ap—apical portion of aedeagus; cf—circoforamen; dop—dorsodistal opening of phallobase; ds—dorsomidlongitudinal split; es—endophallic sclerites; mf—median foramen; pf—postforamen; vel—ventral, endophallic lobe; vp—ventral process.

1.1 times longer than wide, with distinctly convex temples and straight posterior margin. Eyes 0.37 times as long as temples. Nuchal groove 0.28 times as wide as greatest head width. Trichobothrial cavity subparallel with edged dorsal and ventral margins, about twice as long as wide, in almost anterior half adjacent to dorsoposterior margin of eye. Antenna compact; pedicellus slightly elongate,

antennomeres 3 and 4 as long as wide, antennomeres 5–10 increasingly transverse; antennomere 10 about 0.7 times, antennomere 11 about 1.1 times as long as wide. Total body length 2.6 mm; forebody length 1.4 mm.

Male: Protarsomeres 1–4 not dilated.

Abdominal sternite VII without diagnostic characters.

Abdominal sternite VIII with subbasal ridge medially shortly triangularly extended posteriorly; posterior margin with deep, narrow incision occupying almost 0.5 of sternite length; lateral setae moderately long, up to 0.3 times as long as sternite length (Fig. 169).

Aedeagus with lobe-bearing apical portion occupying about 0.35 of aedeagal length, oblong in lateral view, and set off from phallobase by dorsal taper (Fig. 119); phallobase not extended beyond base of ventral process (Fig. 119). Lobes of apical portion of aedeagus not distinguishable without dissection due to membranosity. Apical portion long convex dorsally, membraneous ventrally and apically (Fig. 119). Ventromedial endophallic lobe not discernible. Endophallic sclerites large with characteristic shape (Figs 119–121). Ventral process protruding over apical portion of aedeagus, in lateral view knife-shaped, at narrow base about 0.3 times as wide as aedeagus at same level, then moderately bent dorsad, somewhat widened ventrally with broadly convex apex, and with few, shallow, ventral denticles at about middle of length (Fig. 119); ventral process in ventral view narrow subparallel with round end, at base only 0.2 times as wide as aedeagus at same level (Fig. 120). Dorsodistal opening of phallobase occupying width of aedeagus, triangularly narrowed toward dorsomidlongitudinal split occupying length of phallobase (Figs 119, 121); latter therefore collapsed in dry specimens (Fig. 119). Postforamen strongly projecting distoventrad, hook-shaped (Fig. 119). Circoforamen almost three times as long as median foramen (Fig. 120). Length of aedeagus 0.36 mm.

Female unknown.

Distribution: *Micranops cultifer* is only known from the type locality on the Bolaven Plateau in the south of Laos.

Etymology: The epithet *cultifer* [adjective, Latin, composed of the noun *culter* (knife) and the verb *ferre* (to carry)] refers to the—in lateral view—knife-shaped ventral aedeagus process of this new species.

***Micranops obscurellus* (Cameron)**

(Figs 7, 122–124, 170, 171)

Scopaeus obscurellus Cameron, 1932: 138.

Micranops obscurellus (Cameron, 1932); Frisch & Herman 2014: 70.

Type specimens examined: Lectotype ♀, Malaysia, Pahang: Bentong; labelled “Type” (round, printed, red edged label), “Fungus” (printed), “The Gap, / Selangor, F.M.S. / Dr. Cameron.” (printed), “S. / obscurellus / TYPE Cam.” (handwritten, “TYPE” in red), “M. Cameron / Bequest / B.M.1955-147.” (printed), “NHMUK015009827” (printed), “LECTOTYPE / *Scopaeus obscurellus* / CAMERON, 1932 / des. J. Frisch, 2025”; here designated. Paralectotype ♀, Malaysia, Pahang: Bentong; labelled “debris” (printed), “Bank of Stream” (printed), “The Gap, / Selangor, F.M.S. / Dr. Cameron.” (printed), “M. Cameron / Bequest / B.M.1955-147.” (printed), “NHMUK015009821” (printed), “PARALECTOTYPE /

Scopaeus obscurellus / CAMERON, 1932 / des. J. Frisch, 2025”

The original description of *Scopaeus obscurellus* (Cameron 1932: 138) contains no information regarding the number of underlying specimens nor does it specify a holotype by original designation (ICZN 1999: Article 73.1.1.). At NHML, where the Cameron collection is stored (Horn *et al.* 1990: 65), there are two specimens under the name *S. obscurellus*, one of them was labelled as the “type” of *S. obscurellus* by Cameron, as evidenced by the example of Cameron’s handwriting in Horn *et al.* (1990: 477), but the other one bears no identification or type label. Their locality *The Gap* in the Malay province of Selangor does not correspond to the published type locality Bentong in the Malay province of Pahang, but *The Gap* is the highest point of the pass that marks the border between Selangor and Pahang in the Titiwangsa Mountains. Since the two specimens agree with the original description, Cameron himself had labelled one of them as the type of *S. obscurellus*, and no specimens of *S. obscurellus* with the locality label Bentong were found at NHML (D. Telnov, pers. comm.), I accept them as syntypes.

Since no male syntypes exist, I designate as the lectotype the female from the Cameron collection at NHML, which was labelled as the type by Cameron, to stabilize the name *S. obscurellus* according to ICZN 1999, Article 74.1. The designation of a female lectotype is justified, because the species can be distinguished according to exoskeletal features.

New records: Thailand: Trang: Khao Ka Chong (Kaehong Research Station), 200 m, 19.VIII.1970, leg. Franz (NHMW).

Redescription: Macrophthalmous, probably pterodimorphous species with palisade fringe of abdominal tergite VII; elytral sutural length about 0.8–0.9 times as long as pronotal length; metathoracic wings not examined, probably non-functional judging from short elytra. Body color medium brown; appendages light brown. Body surface subnitid with fine, setose punctation; head and pronotum shinier and less densely punctate than elytra and abdomen. Head 1.06–1.1 times longer than wide, with convex temples and moderately concave posterior margin. Eyes 0.35–0.41 times as long as temples. Nuchal groove 0.29–0.31 times as wide as greatest head width. Trichobothrial cavity subparallel, 2.5–3.0 times as long horizontally as vertically, slightly tapered toward eye, and connected to it dorsoposteriorly (Fig. 7). Antenna compact, from slightly elongate antennomeres 2–3 gradually widened toward transverse penultimate antennomeres; antennomere 10 about 0.6–0.7 times, antennomere 11 about 1.2–1.3 times as long as wide. Total body length 2.3–2.6 mm; forebody length 1.2–1.3 mm.

Male: Protarsomeres 1–4 narrow, slightly wider than long.

Abdominal sternite VII with subtriangular emargination occupying medial 0.17 of posterior sternite width and 0.13 of sternite length; posterior sternite margin somewhat extended toward emargination; sternite with

asetose field proximal of medioposterior emargination, five strong, posterior macrosetae lateral of medioposterior emargination, and strip of macrosetae in about median third of sternite width that includes posterior emargination and asetose field and becomes narrower proximad (Fig. 170).

Abdominal sternite VIII with subbasal ridge extended in long, narrow, parallel, medioposterior process with round end somewhat projecting ventrad; posterior margin with deep, narrow triangular incision occupying about 0.4 of sternite length; lateral setae long, up to 0.36 times as long as sternite length (Fig. 171).

Aedeagus with reduced lobe-bearing apical portion (Figs 122–124), in dorsal view about 2.4 times as long as wide measured without ventral process (Fig. 124). Apical portion roughly circular in lateral view (Fig. 122), with irregular convex apex in dorsal view (Fig. 124); membranous lobes not clearly distinguishable without dissection. Endophallic sclerites as in Figs 122–124; broad, ventral, dorsad curved lobe probably of endophallic origin reaching distal end of apical portion of aedeagus (Fig. 122). Ventral process considerably protruding over apical portion of aedeagus, aligned distoventrad and slightly bent distad, in lateral view with broad basal third about half as wide as aedeagus at same level, then tapered dorsally toward narrow, parallel apical third about half as wide as basal third (Fig. 122), in ventral view lanceolate, at base about third as wide as aedeagus, then moderately dilated followed by gradually tapered distal two-thirds, and with obtuse apical end (Fig. 123); ventral process ventrally with two close denticles in basal third and two less close denticles in apical third (Fig. 122). Dorsomidlongitudinal split occupying most of length of phallobase (Fig. 122). Postforamen strongly projecting distoventrad (Fig. 122). Circoforamen not much longer than median foramen (Fig. 123). Length of aedeagus 0.24 mm.

Female: Protarsomeres 1–4 narrow, slightly wider than long.

Distribution: *Micranops obscurellus* is native to the Malay Peninsula and recorded from the very south of Thailand (Trang) and the Titiwangsa Mountains, Malaysia.

Micranops transversosetatus, sp. nov.

(Figs 125–127, 172, 173)

Type specimen: Holotype ♂, Thailand, Chanthaburi: Khao Sabap National Park, 150–300 m, 23./24.XI.1985, leg. Burckhardt & Löbl (MHNG).

Description: Macrophthalmous species with palisade fringe of abdominal tergite VII; holotype macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color medium brown with blackened elytra; appendages light brown. Body surface subnitid with fine, dense, setose punctation. Head 1.08 times longer than wide, with slightly convex

temples and feebly concave posterior margin. Eyes 0.48 times as long as temples. Nuchal groove 0.27 times as wide as greatest head width. Trichobothrial cavity narrow with subparallel dorsal and ventral margins, about twice as wide as long, slightly tapered anteriorly, and connected to dorsoposterior margin of eye. Antenna short, compact; pedicellus slightly elongate, antennomere 3 and 4 as long as wide, antennomeres 5–10 increasingly transverse; antennomere 10 about 0.6 times, antennomere 11 only 0.9 times as long as wide. Total body length 2.6 mm; forebody length 1.3 mm.

Male: Protarsomeres 1–4 not dilated, about as wide as long.

Abdominal sternite VII with slight emargination in about medial 0.15 of slightly convex posterior margin and transverse, undulate row of macrosetae at posterior end of basal third of sternite length occupying approximately medial 0.6 of sternite width (Fig. 172).

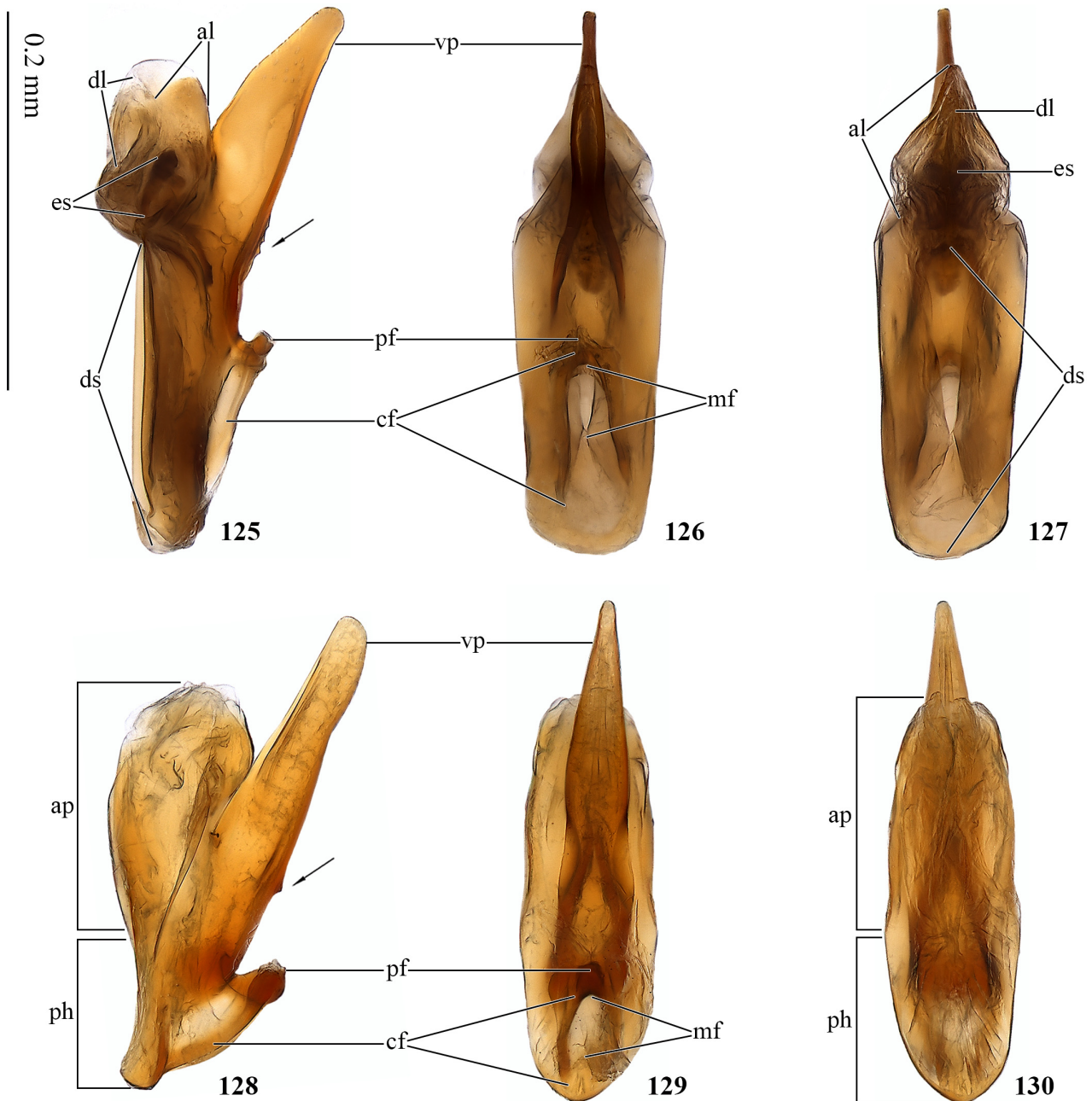
Abdominal sternite VIII with subbasal ridge extended in long, narrow, parallel medioposterior process with truncate end strongly projecting ventrad; posterior margin with triangular incision occupying about 0.3 of sternite length; lateral setae long, up to 0.36 times as long as sternite length (Fig. 173).

Aedeagus in lateral view with elongate-subcircular apical portion strongly projecting dorsally over narrow phallobase (Fig. 125), in dorsal view about three times as long as wide measured without ventral process, with apical portion subtriangular and set-off from phallobase by lateral constriction (Fig. 127). Distal lobes of apical portion of aedeagus membranous, not clearly distinguishable; apical lobes apparently enclosing dorsal lobe (Figs 125, 127). Ventromedial endophallic lobe absent. Endophallic sclerites as in Figs 125, 127. Ventral process about as long as phallobase, aligned distoventrad, projecting strongly beyond apical portion of aedeagus, in lateral view broadly knife-shaped with straight, proximally denticulate ventral margin and slightly convex dorsal margin gradually narrowed toward round apex (Fig. 125), in ventral view slender with dilated basal third about half as wide as phallobase at same level and thin, parallel apical end (Fig. 126). Dorsodistal opening of phallobase merging into wide-open, dorsomidlongitudinal split occupying length of phallobase (Figs 125, 127); latter therefore collapsed in dry specimens (Fig. 125). Postforamen notably projecting distoventrad (Fig. 125). Circoforamen about twice as long as median foramen (Fig. 126). Length of aedeagus 0.3 mm.

Female unknown.

Distribution: *Micranops transversosetatus* is only known from the Khao Sabap National Park in eastern Central Thailand.

Etymology: The epithet *transversosetatus* [adjective, Latin, composed of the adjectives *transversus* (transverse) and *setatus* (setate)] refers to the transverse row of setae of the male abdominal sternite VII, which is unique in *Micranops* so far.



FIGURES 125–130. Aedeagus in lateral (125, 128), ventral (126, 129), and dorsal (127, 130) view of *Micranops transversosetatus*, holotype, Thailand, Chanthaburi (Khao Sabap National Park) (125–127); *M. indicus*, holotype, India, Tamil Nadu, Nilgiri: E Coonoor (128–130). Abbreviations: al—apical lobe; ap—apical portion of aedeagus; cf—circoforamen; dl—dorsal lobe; ds—dorsomidlongitudinal split; es—endophallic sclerites; mf—median foramen; pf—postforamen; ph—phallobase; vp—ventral process. Arrow—ventral denticle(s) of ventral process.

***Micranops indicus*, sp. nov.**

(Figs 128–130, 174, 175)

Type specimens: India: Holotype ♂, Tamil Nadu, Nilgiri: 20 km E Coonoor, 650 m, 19.XI.1972, leg. Besuchet, Löbl, Mussard (MHNG). Paratypes (20 specimens): 1 ♂, 1 ♀, same data as holotype (MFNB, MHNG); 2 ♂, 3 ♀, same data as holotype, but 900 m (MFNB, MHNG); 1 ♂, 2 ♀, Goa, Canacona: Cortigao Sanctuary, 1000 m, 6.–10.I.1997, leg. Schulz & Vock (MFNB, NHMW); 1 ♂, Kerala: 30 km NNE Trivandrum: Kallar Bridge (08°45'N,

77°05'E), 400 m, 31.XII.1998, leg. Boukal (NHMW); 5 ♂, 1 ♀, Madhya Pradesh, 4.5 km SW Pachmarhi: Vanshree Vihar (Mahadeo Hills) (22°26'34"N, 78°23'25"E), 950 m, 16.X.2000, leg. Cuccodoro (MFNB, MHNG); 1 ♂, 2 ♀, Tamil Nadu: Coonoor, 600 m, 16.I.1972, leg. Mussard (MHNG).

Description: Macrophthalmous, pterodimorphous species with palisade fringe of abdominal tergite VII; type series includes approximately equal numbers of macrophthalmous specimens with elytral sutural length about as long as pronotum and functional metathoracic

wings and of micropterous specimens with shorter elytra, along suture 0.8 times as long as pronotum, and reduced, non-functional metathoracic wings. Body color medium brown, often with slightly darker brown head and more or less blackened elytra except for medium brown shoulders and yellow brown posterior sixth of lateral elytral length; appendages light brown. Body surface subnitid with fine, dense, setose punctation; head and pronotum distinctly microreticulate. Head 1.1–1.2 times longer than wide, with moderately convex temples and straight posterior margin. Eyes 0.39–0.5 times as long as temples. Nuchal groove 0.29–0.3 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna short, compact; pedicellus subquadrate or very slightly elongate, antennomere 3 and 4 as long as wide, antennomeres 5–10 increasingly transverse; antennomere 10 about 0.6 times, antennomere 11 about 1.1–1.2 times as long as wide. Total body length 2.4–2.7 mm; forebody length 1.2–1.4 mm.

Male: Protarsomeres 1–4 not dilated, about as wide as long.

Abdominal sternite VII with slight emargination in about medial 0.3 of slightly convex posterior margin bordered by three irregular rows of strongly modified, short-oval macrosetae (Fig. 174).

Abdominal sternite VIII with subbasal ridge indistinct and triangularly extended medioposteriad and posterior margin narrowly incised to about 0.3 of sternite length; lateral setae very short, up to 0.17 times as long as sternite length (Fig. 175).

Aedeagus in lateral view with elongate, apically rounded apical portion and vestigial phallobase with tapered, truncate end feebly extended over circoforamen posteriorly (Fig. 128); in dorsal view, aedeagus long-oval with round apex, about three times as long as wide (Fig. 130). Distal lobes of apical portion of aedeagus membranous apically, not distinguishable without dissection, convex ventrally (Figs 128, 130). Ventromedial endophallic lobe and strongly sclerotized endophallic sclerites absent. Ventral process aligned distoventrad, projecting strongly beyond apical portion of aedeagus, in lateral view slender knife-shaped with subbasal, ventral denticle and slightly tapered toward subparallel apical third ending with broad, round tip (Fig. 128), in ventral view narrow, at base about half as wide as aedeagus at same level, and evenly tapered toward narrow, subacute end (Fig. 129). Dorsodistal opening of phallobase and dorsomidlongitudinal split indistinct. Postforamen strongly projecting distoventrad (Fig. 128). Circoforamen slightly longer than median foramen (Fig. 129). Length of aedeagus 0.24–0.27 mm.

Female: Protarsomeres 1–4 not dilated, about as wide as long.

Distribution: *Micranops indicus* is widespread in the Indian subcontinent and recorded from Madhya Pradesh south to Tamil Nadu.

Bionomics: *Micranops indicus* was sifted from leaf litter near a stream in Madhya Pradesh.

Etymology: The epithet *indicus* [adjective, Latin (“the Indian”), derived from the Latin country name

India] was chosen in view of the wide distribution of this new species in the Indian subcontinent.

Micranops subapterus (Cameron)

(Figs 131–133, 176, 177)

Scopaeus subapterus Cameron, 1951: 28.

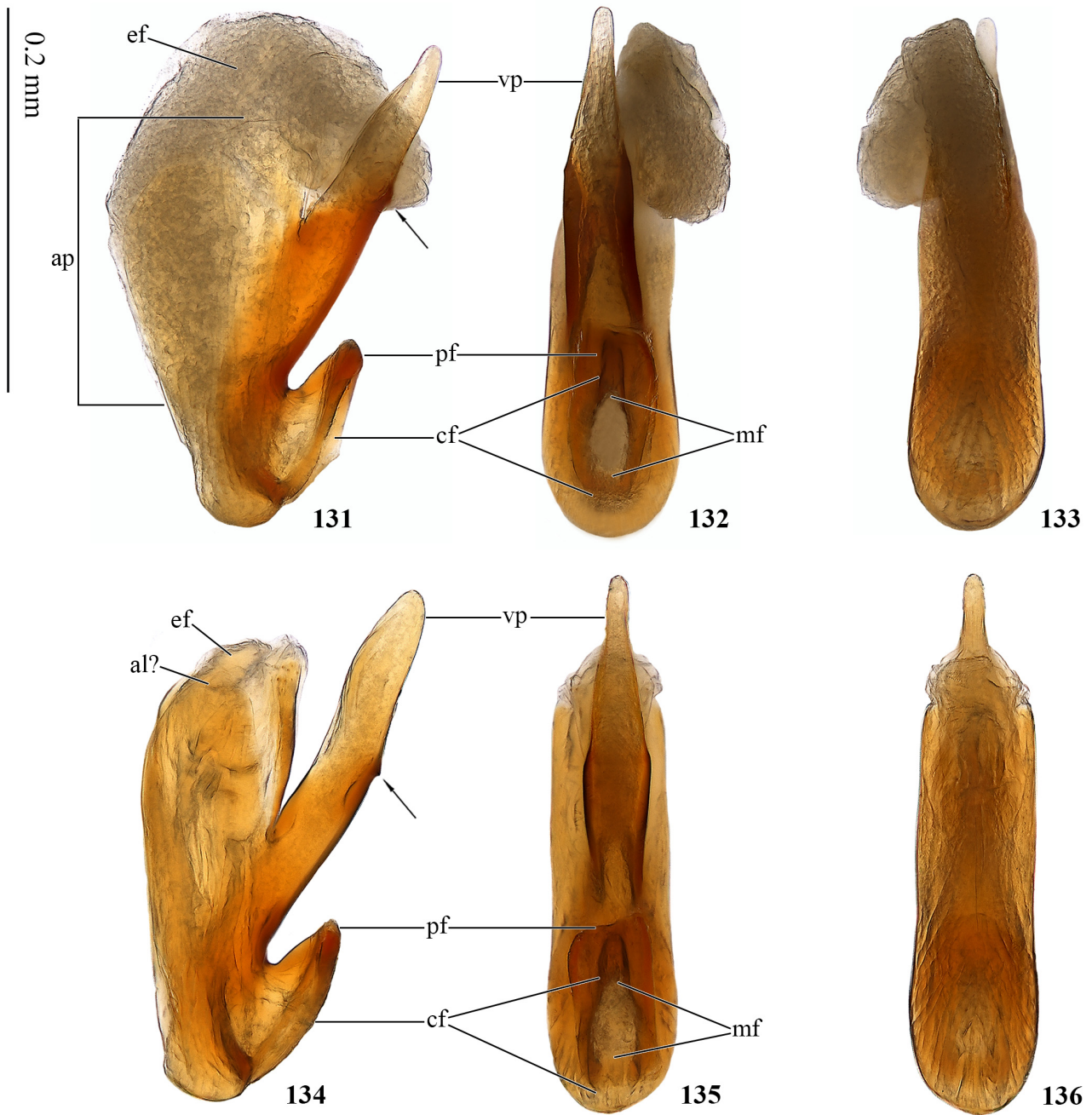
Geoscopaeus subapterus (Cameron, 1951): Fagel 1973: 29.

Micranops subapterus (Cameron, 1951); Frisch & Herman 2014: 70.

Type specimens examined: Lectotype ♂, Angola, Lunda Sul: Chiumbe River; labelled “Para- / type” (round, printed, yellow edged label), “ANGOLA / R. Chiumbe / 15.5.49” (handwritten), “Ang. 1493.13” (handwritten), “M. Cameron / Bequest / B.M.1955-147.” (printed), “LECTOTYPE / *Scopaeus subapterus* / CAMERON, 1951 / des. J. Frisch, 2025”; here designated. Paralectotypes: 1 ♂, 7 ♀, same labels as lectotype, but “M. Cameron det., 1950 / Scopaeus / subapterus / COTYPE Cam” (handwritten except for first line), “PARALECTOTYPE / *Scopaeus subapterus* / CAMERON, 1951 / des. J. Frisch, 2025”.

The original description of *Scopaeus subapterus* (Cameron 1951: 28) contains no information regarding the number of underlying specimens. In the NHML collection there are two males and seven females of *S. subapterus* that bear the round, subsequent type label of that collection. However, they are syntypes, as Cameron (1951: 28) did not specify a holotype by original designation (ICZN 1999: Article 73.1.1.). Their locality labels are handwritten by Cameron (cf. handwritten label example in Horn *et al.* 1990: 447) and agree with the type locality published in the original description. To stabilize the name *S. subapterus* according to ICZN 1999, Article 74.1., I designate as lectotype a male that Cameron had marked by a handwritten ♂ on the mounting card. It is probably the specimen that Cameron (1951: 28) referred to when describing the male features.

Redescription: Microphthalmous, micropterous species without palisade fringe of abdominal tergite VII. Body color including appendages light yellow brown. Body surface subnitid with relatively fine, setose punctation; head and pronotum with puncture interspaces about as wide as puncture diameters and more or less distinctly microreticulated. Head approximately 1.1–1.2 times longer than wide, with moderately convex temples and straight posterior margin. Eyes strongly reduced, 0.27–0.32 times as long as temples, in longitudinal diameter comprising 4–5 ommatidia. Nuchal groove broad, 0.35–0.37 times as wide as greatest head width. Trichobothrial cavity subparallel, about 1.5 times as long as wide, due to eye reduction located about its length posterior of eye, but connected to it by fine line (groove?). Antenna short, compact; pedicellus and antennomere 3 subquadrate or slightly elongate, antennomeres 4–10 increasingly transverse; antennomere 10 about 0.5 times, antennomere 11 about 1.0–1.1 times as long as wide. Elytra narrow, across shoulders somewhat narrower than pronotal width, along suture 0.65–0.71 times as long as pronotal length.



FIGURES 131–136. Aedeagus in lateral (131, 134), ventral (132, 135), and dorsal (133, 136) view of *Micranops subapterus*, lectotype, Angola, Lunda Sul: Chiumbe River (131–133); *M. caelebs*, Kenya, Western: Kakamega Forest (134–136). Abbreviations: al—apical lobe; ap—apical portion of aedeagus; cf—circoforamen; ef—endophallus; mf—median foramen; pf—postforamen; vp—ventral process. Arrow—ventral denticle of ventral process.

Total body length 2.1–2.5 mm; forebody length 1.0–1.1 mm.

Male: Protarsomeres 1–4 not dilated, about as wide as long.

Abdominal sternite VII in about median third of straight posterior margin with slight emargination with two submedial rows of three short macrosetae pointing medioposteriorly, and with distinct, oval depression in almost posterior half of sternite length and medial fourth of posterior sternite width (Fig. 176).

Abdominal sternite VIII with subbasal ridge in median

third curved posteriad and posterior margin triangularly incised to about 0.3 of sternite length; incision of posterior sternite margin with noticeably concave lateral margins; lateral setae very long, up to about 0.4 times as long as sternite length (Fig. 177).

Aedeagus in lateral view with short, wide, dorsally convex apical portion; ventral margin of apical portion straight, more strongly sclerotized than remainder of apical portion, and almost 0.5 times as long as dorsal length of ventral process (Fig. 131); phallobase vestigial with broadly convex end feebly extended beyond circoforamen (Fig.

131); in dorsal view, aedeagus long-oval, about three times as long as wide measured without ventral process (Fig. 133). Distal lobes of apical portion of aedeagus membranous apically, not clearly distinguishable in Figs 131–133, also due to everted endophallus. Ventromedial endophallic lobe and strongly sclerotized endophallic sclerites absent. Ventral process slender, straight, aligned distoventrad, projecting strongly beyond apical portion of aedeagus, in lateral view with shallow, ventral denticle slightly distally of middle of ventral length, and slightly tapered toward narrow, round apex (Fig. 131); in ventral view, ventral process at base about 0.6 times as wide as aedeagus at same level, parallel in basal portion up to ventral tooth, then gradually tapered toward narrow apex (Fig. 132). Dorsodistal opening of phallobase and dorsomidlongitudinal split indistinct. Postforamen considerably projecting distoventrad, long triangular in lateral view (Fig. 131). Circoforamen slightly longer than median foramen (Fig. 132). Length of aedeagus 0.27–0.29 mm.

Female: Protarsomeres 1–4 not dilated, about as wide as long.

Distribution: *Micranops subapterus* is only known from the type locality at the Chiumbe River in northeastern Angola. The micropterous, flightless species is probably not widespread.

Micranops caelebs (Fagel)

(Figs 3, 8, 134–136, 178, 179, 182, 183)

Geoscopaeus caelebs Fagel, 1973: 36.

Micranops caelebs (Fagel, 1973); Frisch & Herman (2014: 69).

Type specimen examined: Holotype ♀, Democratic Republic of the Congo: Yangambi, XII.1959, leg. Decelle (RMCA).

New records: Democratic Republic of the Congo:

Tsopo: Yangambi (NHMW); Yangambi: Gazi (NHMW).

Kenya: Western: Kisere (Kakamega Forest National Reserve) (0°23'17"N, 34°53'42"E), 31.VIII.2006, leg. Fischer (MFNB, MHNG); Kaimosi (Kakamega Forest National Reserve) (0°07'41"N, 34°50'24"E), 4.I.2006, leg. Fischer (MHNG).

Redescription: Macrophthalmous species with palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functionary metathoracic wings (Figs 3, 182, 183). Body color light brown to medium brown with orange brown pronotum and more or less blackened head; appendages light brown. Body surface nitid with coarse, setose punctation; head with puncture interspaces usually narrower than puncture diameters and indistinct microreticulation; pronotum polished, somewhat irregularly punctured with puncture interspaces narrower to wider than puncture diameters; elytral punctation as coarse as cephalic and pronotal punctation, somewhat irregular; abdominal surface considerably more finely punctured than forebody. Head about 1.2 times longer than wide, with slightly convex temples and straight or slightly convex posterior margin. Eyes 0.34–0.43 times

as long as temples. Nuchal groove 0.33–0.36 times as wide as greatest head width. Trichobothrial cavity long guttiform with sharp ventral margin, tapered anteriorly, and connected to dorsoposterior margin of eye (Fig. 8). Antenna compact; pedicellus and antennomere 3 slightly elongate, antennomeres 4–10 increasingly transverse; antennomere 10 about 0.6 times, antennomere 11 about 1.3 times as long as wide. Total body length 2.4–2.6 mm; forebody length 1.2–1.3 mm.

Male: Protarsomeres 1–4 not dilated, about as wide as long.

Abdominal sternite VII in about median 0.15 of moderately convex posterior margin with short, triangular incision followed anteriorly by narrow, clearly depressed, asetose, longitudinal median strip occupying about posterior two-thirds of sternite length; posterior, triangular incision bordered by two curved, submedial rows of four to five short macrosetae pointing medioposteriorly, becoming longer laterad, and therefore not clearly set off from “normal” submarginal macrosetae (Fig. 178).

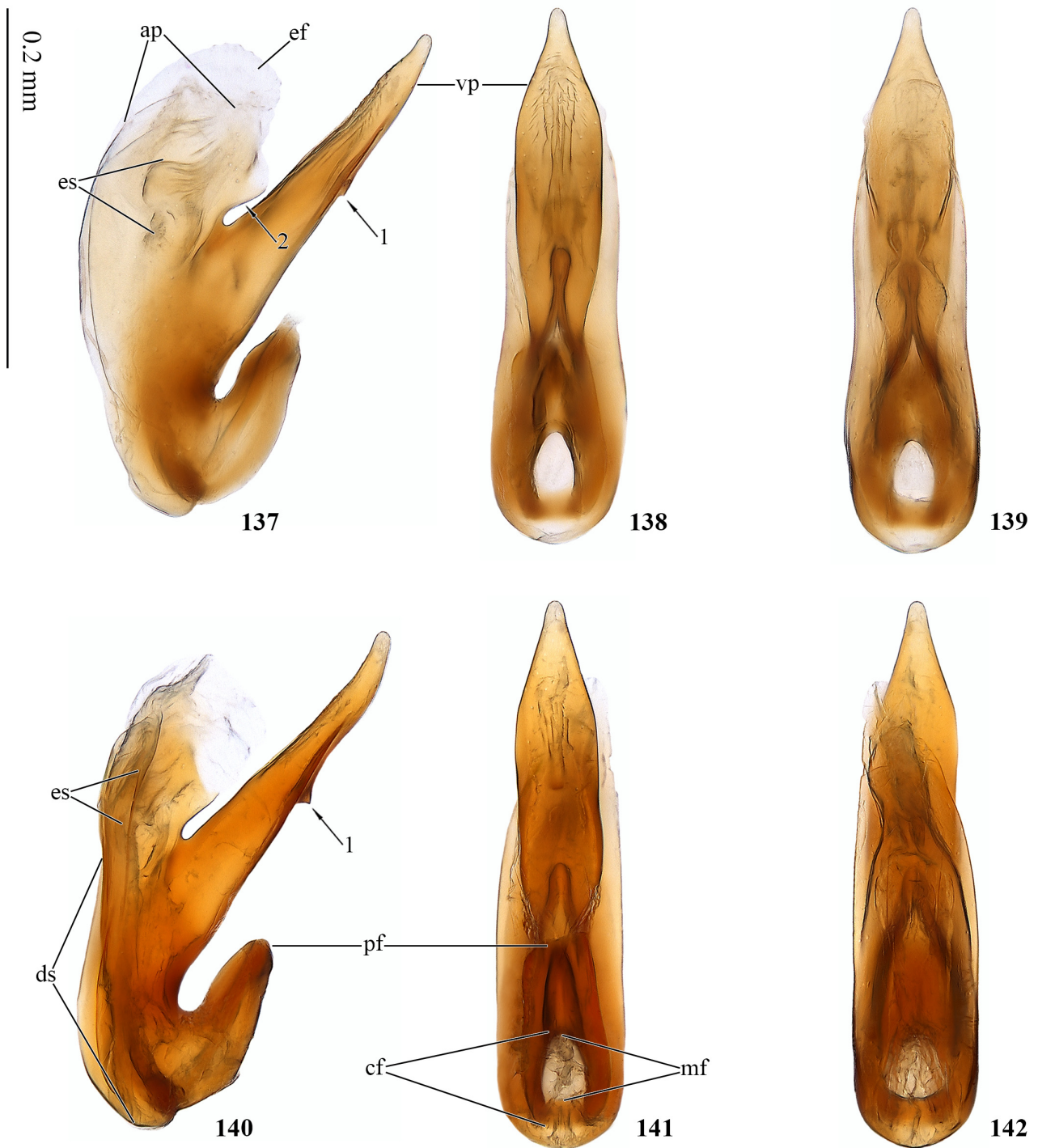
Abdominal sternite VIII with subbasal ridge in median third clearly curved posteriad and posterior margin triangularly incised to about 0.35 of sternite length; incision of posterior sternite margin with somewhat concave lateral margins; lateral setae extremely long, up to about 0.5 times as long as sternite length (Fig. 179).

Aedeagus similar to that of *Micranops subapterus* (Figs 131–133) but different as follows: Lobe-bearing apical portion of aedeagus longer with more strongly sclerotized ventral margin about 0.7 times as long as dorsal length of ventral process (Fig. 134). Ventral process in lateral view parallel, not tapered with broad, round apex, moderately curved dorsad but with apical end slightly bent ventrad (Fig. 134), in ventral view widest at about midlength with proximal portion moderately narrowed toward base (Fig. 135). Length of aedeagus 0.24–0.27 mm.

Female: Protarsomeres 1–4 not dilated, about as wide as long.

Distribution: *Micranops caelebs* is known from the Congo Basin and the Kakamega Forest east of Lake Victoria. It is here for the first time recorded for Kenya.

Comparative note: *Micranops caelebs* is closely related to *M. ruwenzoricus*, which Fagel (1973: 35, 36) described from the Rift Valley (Rwenzori Mountains). He emphasized the great similarity of both species with regard to the coarsely punctured forebody, but distinguished *M. ruwenzoricus* by lighter coloration, smaller size (1.9–2.0 mm), smaller eyes (0.18 times as long as temples), shorter elytra, and the lack of the palisade fringe of abdominal sternite VII. I saw the holotype of *M. ruwenzoricus* years ago, but only photographed the aedeagus, which differs from that of *M. caelebs* in having a longer, narrower ventral process (Fig. 188). Although both species have similar aedeagi, I accept them as different mainly due to the presence versus absence of the palisade fringe of abdominal sternite VII. In contrast to the macropterous *M. caelebs*, *M. ruwenzoricus* is a microphthalmous, micropterous species that lacks the palisade fringe of abdominal sternite VII.



FIGURES 137–142. Aedeagus in lateral (137, 140), ventral (138, 141), and dorsal (139, 142) view of *Micranops viti*, holotype, Pakistan, Punjab: Rawal Lake (137–139); *M. viti*, India, Tamil Nadu, S Udumalpet: Amaravathi Dam (140–142). Abbreviations: ap—apical portion of aedeagus; cf—circoforamen; ds—dorsomidlongitudinal split; ef—endophallus; es—endophallic sclerites; mf—median foramen; pf—postforamen; vp—ventral process. Arrows: 1—ventral denticle of ventral process; 2—ventral margin of apical portion of aedeagus.

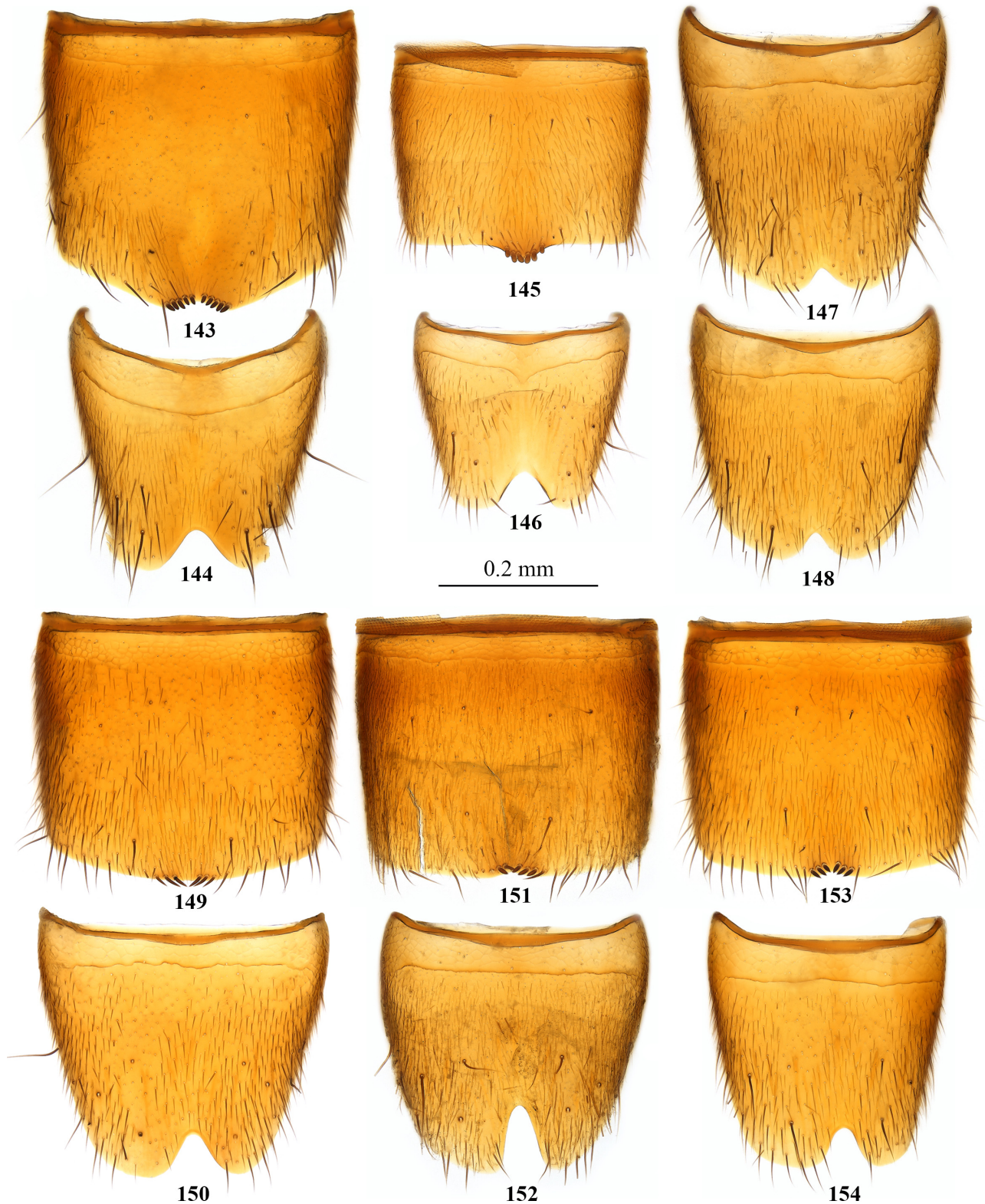
***Micranops viti* Assing**
(Figs 137–142, 180, 181)

Micranops viti Assing, 2021: 271–274.

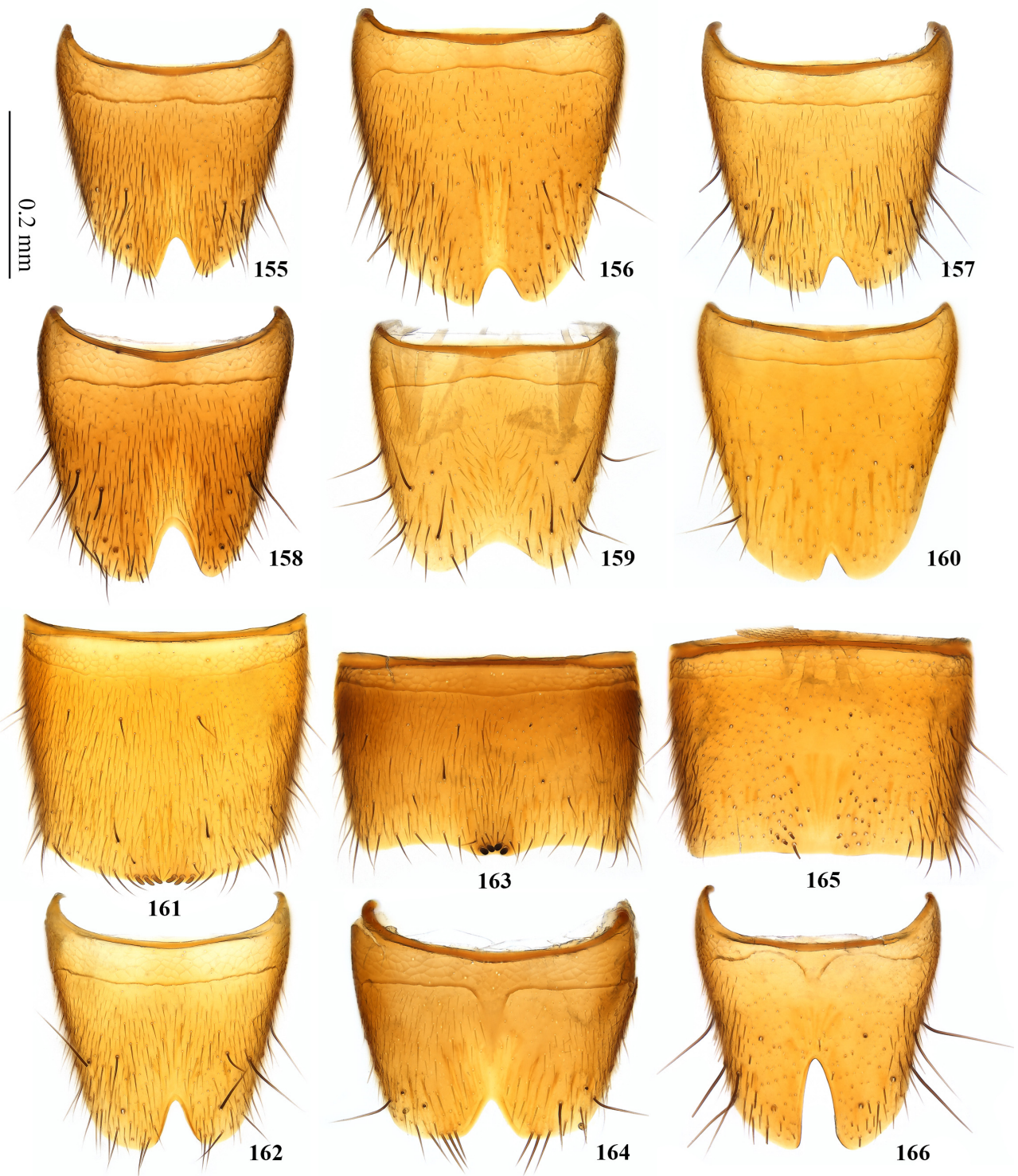
Type specimen examined: Holotype ♂, Pakistan, Punjab: Rawal Lake, 3.IV.1986, leg. Vit (NHMW).

New records: India: Tamil Nadu: Amaravathi Dam, 26.XI.1972, leg. Besuchet, Löbl, Mussard (MHNG). **Sri Lanka:** Eastern Province: Kantalai, 2.II.1970, leg. Mussard, Besuchet, Löbl (MHNG). North Western Province: S Puttalam (Battulu Oya), 29.VI.1968, leg. Balogh (HNHM).

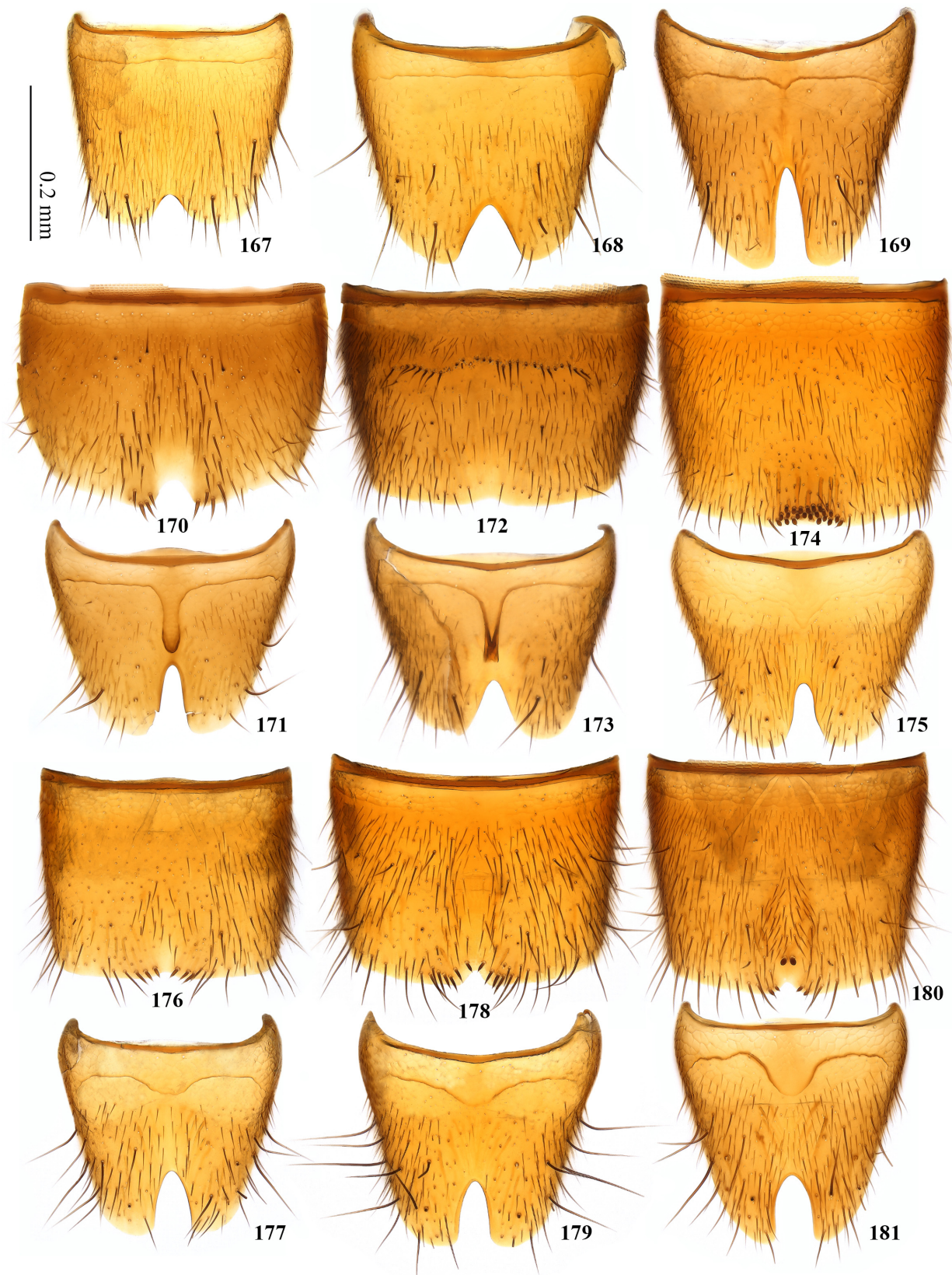
Redescription: Macrophthalmous species with



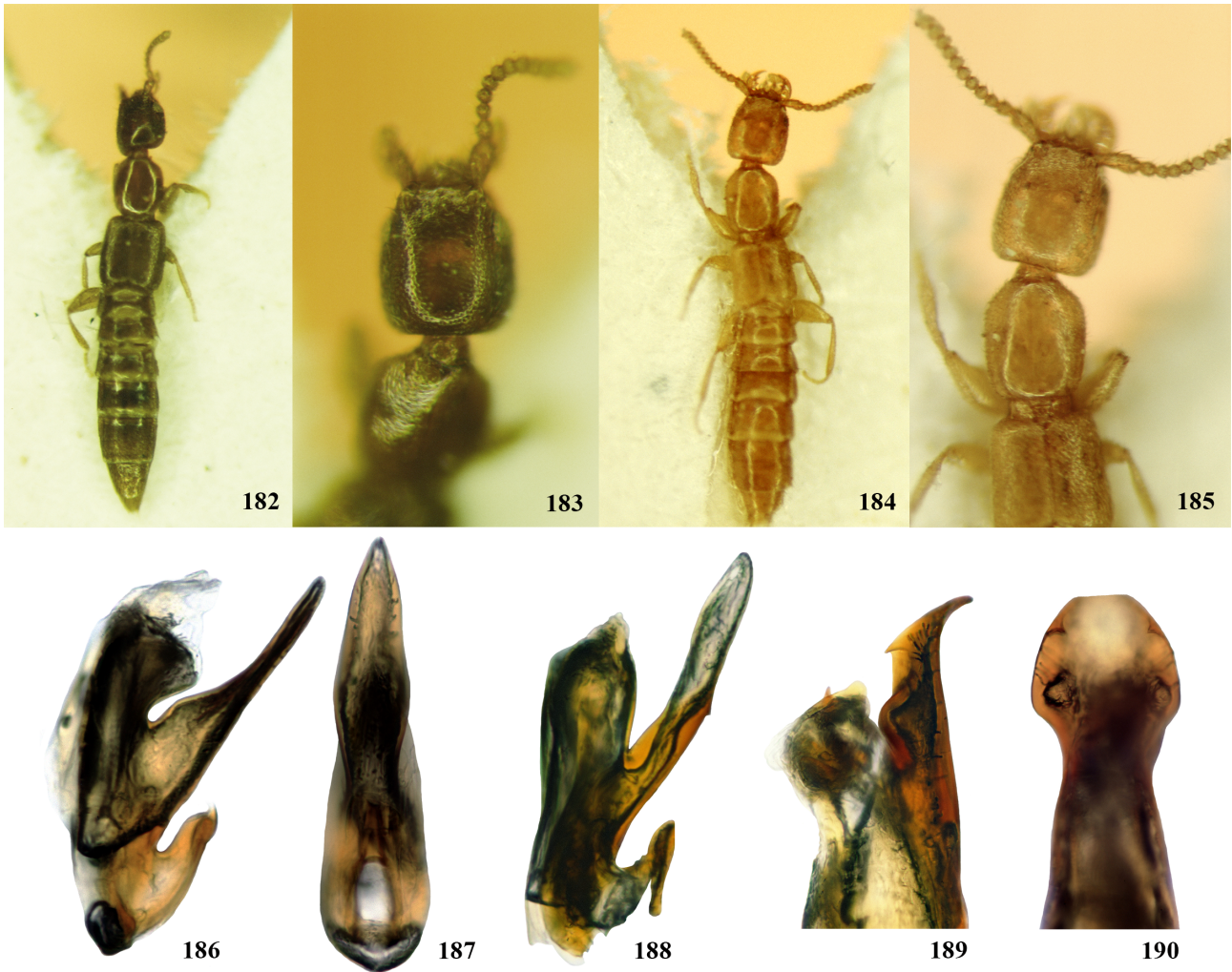
FIGURES 143–154. Abdominal sternite VII of ♂ (143, 145, 149, 151, 153) and abdominal sternite VIII of ♂ (144, 146–148, 150, 152, 154) of *Micranops* cf. *upembanus*, Republic of South Africa, KwaZulu-Natal: Ndumo Nature Reserve (143, 144); *M. hermani*, holotype, India, West Bengal, Darjeeling: Sevoke (145, 146); *M. hoyoensis*, Republic of South Africa, Mpumalanga: Sabi River (Kruger National Park) (147); *M. lacustris*, Burkina Faso, Nahouri: Bg de Barka (148); *M. cuccodoroi*, holotype, India, Madhya Pradesh: Mahadeo Hills (149, 150); *M. planiusculus*, lectotype, “India orientali” (151, 152); *M. pokharensis*, India, Himachal Pradesh: Kullu Valley (153, 154).



FIGURES 155–166. Abdominal sternite VII of ♂ (161, 163, 165) and abdominal sternite VIII of ♂ (155–160, 162, 164, 166) of *Micranops angkorensis*, holotype, Cambodia: Siem Reap (155); *M. sagittifer*, holotype, China, Yunnan: Nujiang Lisu (156); *M. rougemonti*, holotype, India, Assam: Tinsukia (Dibrugarh National Park) (157); *M. malukensis*, holotype, Indonesia, Maluc: Tanimbar (158); *M. pallidulus*, Sri Lanka, South Province: Galle (Kanneliya Jungle) (159); *M. nyikensis*, holotype, Malawi, Northern Region: Mt Mwenembwe (Nyika Plateau) (160); *M. orientasiaticus*, paratype, China, Hebei: Yongnian (161, 162); *M. transafricanus*, holotype, Namibia, Kavango East: Buffalo Camp (Kavango River) (163, 164); *M. nepalicus*, paratype, Nepal, Koshi: Lamobagar Gola (165, 166).



FIGURES 167–181. Abdominal sternite VII of ♂ (170, 172, 174, 176, 178, 180) and abdominal sternite VIII of ♂ (167–169, 171, 173, 175, 177, 179, 181) of *Micranops brachyceroides*, Mali, Mopti: Sévaré (167); *M. siebertae*, holotype, Ruanda, Southern Province, Butare: Kamambuye (168); *M. cultifer*, holotype, Laos, Champasak: Mt Phu Din (Bolaven Plateau) (169); *M. obscurellus*, Thailand, Trang: Khao Ka Chong (170, 171); *M. transversosetatus*, holotype, Thailand, Chanthaburi: Khao Sabap National Park (172, 173); *M. indicus*, holotype, India, Tamil Nadu, Nilgiri: E Coonoor (174, 175); *M. subapterus*, lectotype, Angola, Lunda Sul: Chiumbe River (176, 177); *M. caelebs*, Kenya, Western: Kakamega Forest (178, 179); *M. viti*, holotype, Pakistan, Punjab: Rawal Lake (180, 181).



FIGURES 182–190. Habitus (182–185) and aedeagus (186–190) of *Micranops caelebs*, holotype (182, 183); *M. zambezianus*, holotype (184, 185); *M. mabalianus*, holotype (186, 187); *M. ruwenzoricus*, holotype (188); *M. hwiroensis*, holotype (189, 190).

palisade fringe of abdominal tergite VII; examined specimens macropterous with elytral sutural length about as long as pronotum and functional metathoracic wings. Body color light medium brown, often with slightly darker brown head and elytra; appendages light brown. Body surface subnitid with fine, dense, setose punctation; head and pronotum distinctly microreticulated. Head about 1.1 times longer than wide, with moderately convex temples and straight to moderately concave posterior margin. Eyes around 0.43–0.52 times as long as temples. Nuchal groove 0.31–0.32 times as wide as greatest head width. Trichobothrial cavity guttiform, with tapered anterior end connected to dorsoposterior margin of eye. Antenna compact; pedicellus and antennomere 3 very slightly elongate, antennomere 4 as long as wide, antennomeres 5–10 increasingly transverse; antennomere 10 about 0.6 times, antennomere 11 about 1.3 times as long as wide. Total body length 2.4–2.7 mm; forebody length 1.3–1.4 mm.

Male: Protarsomeres 1–4 dilated, about twice as wide as long.

Abdominal sternite VII in about median 0.15 of

somewhat convex posterior margin with short, triangular incision continued anteriorly in long-oval depression with lateroposteriorly directed setation occupying about posterior half of sternite length; posterior triangular incision bordered by two submedial rows of strongly modified, short macrosetae comprised of two pairs of two slim, long-oval, pointed macrosetae laterally of triangular incision and pointing medioposteriorly, and a median pair of thick, short-oval macrosetae widely shifted anteriorly, directed lateroposteriorly; area between incision of posterior margin and pair of anteriorly shifted macrosetae asetose (Fig. 180).

Abdominal sternite VIII with subbasal ridge in median third considerably curved posteriorly and posterior margin triangularly incised to about 0.3 of sternite length; incision of posterior sternite margin with clearly concave, posteriorly parallel lateral margins; lateral setae very long, up to 0.4 times as long as sternite length (Fig. 181).

Aedeagus in lateral view with apically rounded apical portion and vestigial phallobase with broadly convex end feebly extended beyond circoforamen (Figs 137, 140); in dorsal view subparallel, about three times as long as wide



FIGURES 191–192. Habitus (191) and aedeagus (192) of *Micranops spelaeus*, Teneriffe, Cueva Felipe Reventon (type locality).

measured without ventral process (Fig. 139, 142). Distal lobes of apical portion of aedeagus membranous apically, not clearly distinguishable without dissection, in lateral view with ventral margin bent ventrad and about 0.2 times as long as dorsal margin of ventral process (Fig. 137, 140). Ventromedial endophallic lobe absent. Endophallic sclerites present, weakly sclerotized (Figs 137, 140). Ventral process slender, aligned distoventrad, straight except for slightly dorsad bent apex, and projecting beyond apex of aedeagus, in lateral view with ventral denticle proximal of ventral midlength, and gradually tapered toward narrow, subacute apical end (Figs 137, 140); in ventral view, ventral process at base about 0.5 times as wide as aedeagus at same level, shortly widened to subparallel median portion, and gradually tapered toward long-subtriangular apical portion (Figs 139, 142). Dorsomidlongitudinal split well visible in lateral view, occupying length of phallobase (Figs 137, 140). Postforamen considerably projecting distoventrad (Figs 137, 140). Circoforamen slightly longer than median foramen (Figs 138, 141). Length of aedeagus 0.27–0.29 mm.

Female: Protarsomeres 1–4 dilated, about twice as wide as long, somewhat narrower than in males.

Distribution: *Micranops viti* is widespread in the Indian subcontinent. The species was described from Pakistan and is reported here for the first time from southern India and Sri Lanka.

Remark: Although *Micranops viti*, unlike the other species redescribed here, can be accurately identified with Assing's description, I have decided to formally redescribe it here to introduce additional features and to describe the variability based on the new samples of the species.

Discussion

1. Genus-group characters of *Micranops*

Herman (2023: 121–133) provided a thorough, valid diagnosis and description of *Micranops*, followed by detailed information on the taxonomic history and bionomics of the genus, such as the wing dimorphism of some species. However, the examination of the Old World species requires slight modifications of this description.

Undoubtedly, the postocular position of the trichobothrial cavity is the most important diagnostic feature and apomorphy of *Micranops*. According to Herman (2023: 122), this cavity is separated from the posterior margin of the eye. However, in the species descriptions and redescriptions above, I point out for the macrophthalmous species that their trichobothrial cavity is usually connected to the dorsoposterior margin of the eye (Figs 6–8). In few species the narrow, anterior end of the cavity is even adjacent to the dorsoposterior eye margin (Fig. 5). According to my observations, the position of the trichobothrium at the temples is more or less the same in all *Micranops*, so its distance from the eyes only depends on the eye size—in macrophthalmous species the large

eyes extend to the trichobothrial cavity (Figs 5–7), while the reduced eyes of the microphthalmous species are separated from the cavity, but still connected to it by a line-like structure (Figs 9, 10), which in the SEM-images in Herman (2023) is visible as a line or suture (Figs 266, 267) or a canal (Fig. 282).

According to Herman (2023: 123), the dorsal surface of the aedeagus of *Micranops* is midlongitudinally divided—the character herein named the dorsomidlongitudinal split. This plesiomorphic character for the Scopaeina (Frisch & Herman 2025: 286) is actually present in most *Micranops* species (e.g. Figs 56, 58), but absent or shortened in some and therefore not diagnostic for the genus. In *M. hoyoensis*, *M. lacustris*, and *M. pokharensis* the dorsomidlongitudinal split is absent (Figs 20–28, 35–40), in *M. cuccodoroi* and *M. planiusculus* it is reduced to a short fragment (Figs 29–34), and in many species it falls far short of reaching the proximal end of the phallobase (e.g. Figs 41, 43).

2. Relationships of *Micranops* of the New and Old World

I have not examined types or other specimens of *Micranops* from the Americas. Herman (2023: 124) noted small differences in the structure of the trichobothrial cavity and its position relative to the eye, but pointed out that more species need to be studied to determine whether these features can be attributed to the two hemispheres. However, the Old World species already exhibit some variation in the shape and position of the trichobothrial cavity (Figs 5–10).

Herman (2023: 131, 132) further compared the width of the neck, measured across the nuchal groove, of some New and Old World *Micranops*. He found that, on average, the species of the Old World have a narrower neck (0.18–0.4 times the greatest postocular width; $\bar{\text{O}}$ 0.25) than the New World species (0.28–0.4; $\bar{\text{O}}$ 0.32), but the measurements overlap. In particular, some Afrotropical species have necks as wide as those of the American species. The widest neck I measured was in *M. subapterus* from Angola, whose nuchal groove is up to 0.37 times as wide as the head.

Little is known about the genital morphology of the New World *Micranops*. Only the aedeagi of *M. bolivianus* (Guzman & Żyła 2024: 156) and *M. surinamensis* (Herman 1965: 82) are published, but their internal structures are not illustrated. I also have not found any equivalent to the characteristic set of stout, medioposterior macrosetae of the abdominal sternite VII of the males of many Old World species in the descriptions of the Western Hemisphere species (Bernhauer 1921: 103; Blackwelder 1934: 278, 279; Casey 1886: 224, 225; Sharp 1876: 251, 252).

It must be concluded that the relationships between the *Micranops* species of the Old and New World are still obscure.

3. Infrageneric relationships of *Micranops* in the Old World

Compared to *Scopaeus* (e.g. Frisch *et al.* 2002) and *Frischianus* (Frisch & Herman 2025), *Micranops* is much more uniform in terms of exoskeleton and sexual features, making it difficult to establish a robust hypothesis about the infrageneric phylogeny of the genus on the basis of morphological characters alone. Nevertheless, an attempt is made to propose informal species groups on the basis of supposedly derived characters.

Some, actually conspicuous, characters of *Micranops* are not useful for phylogeny-based classification because their distribution among the species is not consistent with presumed monophyletic groups. In other words, the species that exhibit these characters do not share convincing morphological synapomorphies. These features are the shape of the cephalic trichobothrial cavity, the degree of dilation of the protarsomeres, and the presence or absence of medioposterior macrosetae of the abdominal sternite VII of the males. The latter character is widespread in the Old World species, so it might be a groundplan character that has been lost in some lineages. *Micranops* tend to develop flightlessness as an adaptation to endogean and subterranean habitats in dry environments (Frisch & Herman 2014: 68; Frisch & Oromí 2006: 35) or in high mountains (Guzman & Żyła 2024)—a phenomenon found in different phylogenetic lineages.

The following discussion of the relationships of the Old World *Micranops* is mainly based on apparently phylogenetically informative characters of the aedeagus. As their males are unknown, *M. aborensis*, *M. bifossicapitatus*, *M. mediicollis*, and *M. zambezianus* cannot be considered in the following.

A distinct lineage of *Micranops* is defined by a long ventral lobe of the phallobase, which must not be confused with the ventral process, and a ventromedial, subapical brush of setae of the dorsal lobe. It comprises both macropterous and micropterous species, which are the Afrotropical *M. upembanus* (Fig. 11), the Oriental *M. hermani* (Fig. 17), and in the West Palearctic *M. pilicornis* (Frisch 1997: Figs 8–10) and the anophthalmous, micropterous Canarian *M. mlejneki* (Frisch & Oromí 2006: Figs 8–10) and *M. subterraneus* (Frisch & Oromí 2006: Figs 5–10). All of them exhibit the medioposterior macrosetae of the male abdominal sternite VII (Figs 143, 145).

The ventral lobe of the phallobase is absent in the following lineages.

A speciose lineage of *Micranops* exhibits an endophallic process that projects ventrad, termed the ventromedial endophallic lobe. I consider this a derived feature that establishes a monophyletic group. It comprises the following sublineages:

a. *Micranops hoyoensis* and *M. lacustris* constitute adelphotaxa in the Afrotropics. Apomorphies of this sublineage are the remarkable, dorsally projecting dorsal opening of the phallobase, the absence of the dorsomidlongitudinal split, the short circumforamen, and the characteristic shape of the ventral process of the apical

lobes (Figs 20–28). This lineage lacks the medioposterior macrosetae of the male abdominal sternite VII.

b. *Micranops planiusculus* from Mainland Southeast Asia and the Indian *M. pokharensis* and *M. cuccodoroi* are closely related based on the strongly sclerotized, ventrolateral “shield” of the apical portion of the phallobase and its very short or absent dorsomidlongitudinal split (Figs 29–40). This South Asian sublineage has the medioposterior macrosetae of the male abdominal sternite VII (Figs 149, 151, 153). *Micranops planiusculus* and *M. pokharensis* are sister species that share the distomedial denticle of the ventromedial endophallic lobe and the long, distad curved ventral process (Figs 32, 35, 38), whereas *M. cuccodoroi* differs by the long-rectangular ventromedial endophallic lobe with lateral endophallic spines and the short, ventrad curved ventral process (Fig. 29).

c. *Micranops angkorensis*, *M. australasiaticus*, *M. bhamoensis*, *M. malukensis*, *M. pallidulus*, *M. palliduloides*, *M. rougemonti*, *M. sagittifer*, *M. taiwanensis*, and *M. vietnamensis* constitute a speciose sublineage in Southeast Asia, the eastern Palearctic, and Australasia. The clade is also present in Africa, since the vagile *M. pallidulus* has spread across the northern Afrotropics west to the Cape Verde Islands. Apomorphies are hyaline, triangular or rectangular, ventral extensions of the apical lobes enclosing the ventromedial endophallic lobe, and the shortened dorsomidlongitudinal split, which usually extends for about half the length of the phallobase (e.g. Figs 41, 56, 65). *Micranops pallidulus* and *M. palliduloides* constitute adelphotaxa separated from the other species mainly by the dorsad curved ventromedial endophallic lobe, the reduced or lacking distal extension of the phallobase, and a dorsoventral constriction of its apical portion (e.g. Figs 65, 86). This sublineage does not exhibit the medioposterior macrosetae of the male abdominal sternite VII.

d. *Micranops orientasiaticus* from China and Japan differs from the previous sublineage due to the hyaline, distad curved ventromedial endophallic lobe (Fig. 95) and the presence of the medioposterior macrosetae of the male abdominal sternite VII (Fig. 161).

e. *Micranops nyikensis* from Malawi, the only microphthalmous, micropterous species of the clade with the ventromedial endophallic lobe, represents a separate sublineage due to the narrow, parallel ventral process in ventral view of the aedeagus (Fig. 93) and the extraordinarily short posterior incision of the male abdominal sternite VIII (Fig. 160).

Micranops brachycerus, *M. brachyceroides*, *M. transafricanus*, and *M. manyarensis* form a distinct lineage in the Afrotropical Region with fused ventral extensions of the apical lobes, which form an apomorphic, ventromedial, distad directed lobe (Figs 98–109). *Micranops brachycerus* and *M. brachyceroides* (Figs 98–103) as well as *M. transafricanus* and *M. manyarensis* (Figs 104–109) correspond in the general shape of the aedeagus and are probably adelphotaxa. The first pair of species lost the medioposterior macrosetae of the male abdominal sternite VII—synapomorphies of the latter are the dorsodistal dilatation of the phallobase, the

hook-shaped elongated postforamen, and robust, strongly sclerotized apical lobes with distolateral brushes of setae.

The East African, micropterous mountane species *M. lwiroensis* and *M. siebertae*, both from Kivu, are adelphotaxa based on the highly derived shape of the aedeagus with vestigial apical portion and enlarged ventral process (Figs 110–112, 189, 190). This lineage does not have the medioposterior macrosetae of the male abdominal sternite VII.

Another South Asian phylogenetic lineage is formed by *M. cultifer* and *M. nepalicus* mainly based on the unusually deep posterior incision of the male abdominal sternite VIII that occupies about 0.5 of the sternite length (Figs 166, 169). The species also share membranous distal lobes of the aedeagus (Figs 113–121) and the absence of medioposterior macrosetae of the male abdominal sternite VII.

Micranops obscurellus and *M. transversosetatus* from Thailand and the Malay Peninsula have in common the remarkable, ventrally projecting medioposterior process of the subbasal ridge of the male abdominal sternite VIII, a putative synapomorphy (Figs 171, 173). Even though their aedeagi look quite different, they share membranous distal lobes and a reduced phallobase (Figs 122–127). Both species have medioposterior macrosetae of the male abdominal sternite VII (Figs 170, 172).

A distinct clade of *Micranops*, separated by the vestigial phallobase with hook-shaped extended postforamen, membranous distal lobes, the long, slender ventral process, and indistinct endophallic sclerites, comprises the Afrotropical *M. bartolozzii* (Frisch & Herman 2014: Figs 3–6), *M. caelebs* (Figs 134–136), *M. mabalianus* (Figs 186, 187), *M. ruwenzoricus* (Fig. 188), and *M. subapterus* (Figs 131–133), and the Indian *M. indicus* (Figs 128–130) and *M. viti* (Figs 137–142). These species are also connected by the medioposterior extension of the subbasal ridge of the male abdominal sternite VII (Figs 175, 177, 179, 181). While *M. indicus* differs by three rows of short-oval, medioposterior macrosetae of the male abdominal sternite VII (Fig. 174) and the rectangular posterior end of the phallobase (Fig. 128), *M. bartolozzii*, *M. caelebs*, *M. ruwenzoricus*, *M. subapterus*, and *M. viti* share a broad nuchal groove (0.31–0.37 of head width) and differ from all known Old World *Micranops* by the lengthened lateral setae of the abdominal sternite VIII (Figs 177, 179, 181; Frisch & Herman 2014: Fig. 11). These characters were not examined in *M. mabalianus*.

The troglobitic *M. spelaeus* from Tenerife is probably phylogenetically well separated from the other *Micranops* clades. It differs strongly by the typical slender habitus of a cave-dwelling species (Fig. 191) and the aedeagus with a long, slender ventral process with broad base, a strong, ventral endophallic lobe of characteristic shape, and long, ventral setae of the apical portion (Fig. 192).

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