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A catalogue of *Micranops* Cameron, with description of a new species from Tanzania (Coleoptera, Staphylinidae: Paederinae)

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Abstract

A species catalogue of the little-known genus *Micranops* Cameron, 1913 is presented. Based on the examination of primary types, 21 species are transferred to *Micranops* as new combinations: *Micranops aborensis* (Fagel, 1973), *M. brachyceroides* (Fagel, 1973), *M. brachycerus* (Fauvel, 1900), *M. caelebs* (Fagel, 1973), *M. chloroticus* (Sharp, 1876), *M. hoyoensis* (Fagel, 1973), *M. hustachei* (Coiffait, 1987), *M. lacustris* (Bernhauer, 1937), *M. longiceps* (Casey, 1886), *M. lwiroensis* (Fagel, 1973), *M. mabalianus* (Fagel, 1973), *M. mediicollis* (Lea, 1923), *M. myrmecophilus* (Bernhauer, 1921), *M. pallidulus* (Kraatz, 1859), *M. obscurellus* (Cameron, 1932), *M. planiusculus* (Kraatz, 1859), *M. pokharensis* (Coiffait, 1981), *M. ruwenzoricus* (Fagel, 1973), *M. subapterus* (Cameron, 1951), *M. upembanus* (Fagel, 1973), and *M. zambezianus* (Fagel, 1973). *Micranops bartolozzii* sp. n., a microphthalmous, flightless species, is described from the Udzungwa Mountains in southern Tanzania, and both its primary and secondary sexual characters are figured. Consequently, 32 species are currently assigned to *Micranops*.

Keywords *Micranops bartolozzii* sp. n. | *Geoscopaeus* | Tanzania | nomenclature | taxonomy

1. Introduction

The genus group taxon *Micranops* of the rove beetle subtribe Scopaeina Mulsant & Rey, 1878 is distributed in the tropics and subtropics of both the New and the Old Worlds, but total distribution and number of species are unknown. *Micranops* was erected by Cameron (1913: 250) for the microphthalmous, flightless species *brunneus* from Jamaica. Subsequent authors, however, did not consider *Micranops* for a long time until Frisch et al. (2002) picked it up in the course of a phylogenetic analysis of the West Palaearctic Scopaeina. *Micranops* is considered monophyletic judging from the furrow posterior of the eyes, where the temporal trichobothrium, an autapomorphic character of the Scopaeina, is located. This postocular furrow (Frisch et al. 2002: 30, Figs 1a, 1b) is an easily visible character to distinguish *Micranops* from the remaining genera of the Scopaeina. Both prior and subsequent to Cameron's description of *Micranops*, species of that genus had been described in other genera, most frequently in *Scopaeus*.

For the Afrotropical species of *Micranops*, Fagel (1973) adopted *Geoscopaeus*, which Coiffait (1960: 284) had introduced as replacement name for the preoccupied name *Stilpon* Coiffait, 1952, a subgenus of *Scopaeus*, and raised it to genus rank based on the setiferous temporal furrow of the species he erroneously believed to belong to *Geoscopaeus*. He transferred *Scopaeus brachycerus* Fauvel, 1900, *S. lacustris* Bernhauer, 1937, and *S. subapterus* Cameron, 1951 to *Geoscopaeus* and added nine new Afrotropical species. Many years later, however, Frisch et al. (2002: 46) synonymized *Geoscopaeus* with *Scopaeus*, because the type species of *Geoscopaeus*, *Scopaeus baudrimonti* Coiffait, 1952,

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turned out to be a junior synonym of *Scopaeus ryei* Wollaston, 1872 (Frisch 1998: 101), but they elected to not transfer the African species to *Micranops* at that time and they remained in *Scopaeus* as implicit new combinations, until now. In this contribution, 21 paederine species are transferred to *Micranops*, and – including the new species described herein - the number of valid species assigned to *Micranops* is raised to 32.

Like most Scopaeina, *Micranops* are thermo-hygrophilous dwellers of humid, sandy soil which usually inhabit banks of rivers and creeks with sparse pioneer vegetation (Frisch et al. 2002: 28). While most *Scopaeus* Erichson, 1839, by far the most speciose genus of the Scopaeina, live in the uppermost ground layer near the surface, the species of *Micranops* dwell in the interstice and show morphological adaptations to endogean way of life such as depigmentation and microphthalmy. As far as known presently, however, most species live in the upper interstice and many of them are able to fly or are wing-dimorphous and could be termed 'subendogean'. An example is the West Palaearctic *M. pilicornis* (Baudi, 1870) which is usually flightless but was also collected by car net (Frisch 2010: 161). Up to now, 'true' endogean and troglobitic *Micranops* are known only from the Canary Islands (Frisch & Oromí 2006), Spain (Outerelo & Gamarra 1989: 126), and Jamaica (Cameron 1913: 350). The new *Micranops* from Tanzania described herein shows the strongest adaptations to subterranean habitats amongst the Afrotropical species.

2. Material and methods

The specimens referred to in this contribution are stored in the following collections: **BMNH** – The Natural History Museum, London; **CUIC** – Cornell University Insect Collection, Ithaca; **FMNH** – Field Museum of Natural History, Chicago; **HNHM** – Hungarian Natural History Museum, Budapest; **ISNB** – Institut Royal des Sciences Naturelles de Belgique, Brussels; **MLZT** – Museo di Zoologia Sistematica della Universitata, Turin; **MNHN** – Muséum National d'Histoire Naturelle, Paris; **MZUF** – Museum of Zoology, University of Florence; **NHMW** – Naturhistorisches Museum, Wien; **RMCA** – Royal Museum for Central Africa, Tervuren; **SAMA** – South Australian Museum, Adelaide; **SDEI** – Senckenberg Deutsches Entomologisches Institut, Müncheberg; **TFMC** – Museo de Ciencias Naturales, Santa Cruz de Tenerife; **ULTS** – Universidad de La Laguna, Departamento Biología Animal, La Laguna, Tenerife; **USNM** – National Museum of Natural History, Smithsonian Institution, Washington.

Primary and secondary sexual characters of the species described herein are termed following Frisch et al. (2002: 30-35) and Frisch (2010). The habitus photographs were taken with a digital camera attached to a stereoscopic microscope and created with the montage software Helicon Focus. Transmitted-light microscopic images were made using the Zeiss Axioscope imaging system and the montage software Picolay. The images were made with the following magnifications: aedeagus, sclerites: 200x; spermatheca: 400x; habitus of *Micranops*: 50x.

Specimens were measured magnified 140x using a stereoscopic microscope with an eye-piece linear micrometer. Total length of specimens = interval from the (closed) mandibles to the apex of the abdomen, depending on the intensity of contraction of the abdomen; forebody length = interval from the (closed) mandibles to the posterior margin of the elytra at the suture; head length = interval from the anterior margin of the clypeus to the posterior margin of the head; elytral length = interval from the posterior tip of the scutellum to the posterior end of the elytra along suture; eye length and temporal length are measured in lateral view; length of antennomeres is measured without their thin basal stalk.

3. Catalogue of *Micranops* Cameron

The species of *Micranops* are listed in alphabetical order with their taxonomical and nomenclatural history. The new combinations presented herein are without exception based on the examination of primary types the depositories of which are included. For type localities see the original descriptions of the species. The subsequent distributional information is cited from the literature and usually needs confirmation.

Micranops Cameron, 1913

Micranops Cameron, 1913: 350; type species: *Micranops brunneus* Cameron, 1913.

Nivorus Herman, 1965a: 119; synonymized by Frisch et al. (2002: 46); type species: *Orus cameroni* Blackwelder, 1943.

Microscopaeus Coiffait, 1981: 19; synonymized by Frisch et al. (2002: 46); type species: *Scopaeus microphthalmus* Eppelsheim, 1888.

Micranops aborensis (Fagel, 1973) comb. nov.

Geoscopaeus aborensis Fagel, 1973: 33.

Scopaeus aborensis (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Democratic Republic of Congo.

Micranops bartolozzii Frisch & Herman sp. n.

Described herein. Distribution: Tanzania.

Micranops bifossicapitatus (Outerelo & Oromí, 1987)

Domene bifossicapitata Outerelo & Oromí, 1987: 136.

Scopaeus bifossicapitatus (Outerelo & Oromí, 1987); implicit combination by Outerelo & Gamarra 1989: 126.

Scopaeus bifossicapitata (Outerelo & Oromí, 1987); Hernández Pacheco 1990: 84.

Micranops bifossicapitatus (Outerelo & Oromí); Frisch & Oromí 2006: 26.
Holotype (TFMC). Distribution: Spain (Canary Islands: Tenerife, La Gomera).

Micranops brachyceroides (Fagel, 1973) comb. nov.

Geoscopaeus brachyceroides Fagel, 1973: 23.

Scopaeus brachyceroides (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Chad, Ivory Coast, Mali (Fagel 1973: 24).

Micranops brachycerus (Fauvel, 1900) comb. nov.

Scopaeus brachycerus Fauvel, 1900: 70.

Geoscopaeus brachycerus (Fauvel, 1900); Fagel 1973: 21.
Lectotype (designated by Fagel 1973: 23; ISNB). Distribution: Angola (Cameron 1951: 27); Democratic Republic of Congo, Mali (Fauvel 1900: 70).

Micranops brunneus Cameron, 1913

Micranops brunneus Cameron, 1913: 350.
Holotype (BMNH). Distribution: Jamaica.

Micranops caelebs (Fagel, 1973) comb. nov.

Geoscopaeus caelebs Fagel, 1973: 36.

Scopaeus caelebs (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Democratic Republic of Congo, Gabon, Republic of Congo (Fagel 1973: 37).

Micranops cameroni (Blackwelder, 1943)

Orus (*Leucorus*) *cameroni* Blackwelder, 1943: 278.

Orus (*Nivorus*) *cameroni* Blackwelder, 1943; Herman 1965a: 120.

Micranops cameroni (Blackwelder, 1943); Frisch et al. 2002: 46.
Holotype (USNM). Distribution: Cuba, Grenada, Haiti, Jamaica (Blackwelder 1943: 278).

Micranops chloroticus (Sharp, 1876) comb. nov.

Scopaeus chloroticus Sharp, 1876: 251.
Holotype (BMNH). Distribution: Brazil.

Micranops hoyoensis (Fagel, 1973) comb. nov.

Geoscopaeus hoyoensis Fagel, 1973: 28.

Scopaeus hoyoensis (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Democratic Republic of Congo.

Micranops hustachei (Coiffait, 1987) comb. nov.

Scopaeus (*Hyposcopaeus*) *franzi* Coiffait, 1982: 96; primary homonym of *S. franzi* Coiffait, 1968: 416.

Scopaeus hustachei Coiffait, 1987: 497; replacement name.
Scopaeus (*Scopaeus*) *hustachei*; Smetana 2004: 617.
Holotype (NHMW). Distribution: Nepal.

Micranops lacustris (Bernhauer, 1937) comb. nov.

Scopaeus lacustris Bernhauer, 1937: 602.

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

Scopaeus fragilis Cameron, 1947: 95; synonymized by Fagel (1973: 24).
Syntype of *M. lacustris* (FMNH), syntype of *S. fragilis* (BMNH). Distribution: Angola (Cameron 1951: 27); Democratic Republic of Congo, Eritrea, Uganda (Fagel 1973: 25).

Micranops longiceps (Casey, 1886) comb. nov.

Leptorus longiceps Casey, 1886: 224.

Scopaeus longiceps (Casey, 1886); Casey 1905: 206.
Holotype (USNM). Distribution: USA.

Micranops lwiroensis (Fagel, 1973) comb. nov.

Geoscopaeus lwiroensis Fagel, 1973: 32.

Scopaeus lwiroensis (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Democratic Republic of Congo.

Micranops mabalianus (Fagel, 1973) comb. nov.

Geoscopaeus mabalianus Fagel, 1973: 27.

Scopaeus mabalianus (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Democratic Republic of Congo.

Micranops mediicollis (Lea, 1923) comb. nov.

Scopaeus mediicollis Lea, 1923: 27.
Holotype (SAMA). Distribution: Australia.

Micranops mlejneki Frisch & Oromí, 2006

Micranops mlejneki Frisch & Oromí, 2006: 30.
Holotype (ULTS). Distribution: Spain (Canary Islands: Tenerife).

Micranops myrmecophilus (Bernhauer, 1921) comb. nov.

Lathrobium myrmecophilum Bernhauer, 1921: 103.
Syntypes (2 specimens; FMNH). Distribution: Argentina.

Micranops obscurellus (Cameron, 1932) comb. nov.

Scopaeus obscurellus Cameron, 1932: 138.
Syntype (BMNH). Distribution: Malaysia.

Micranops pallidulus (Kraatz, 1859) comb. nov.

Scopaeus pallidulus Kraatz, 1859: 131.
Holotype (SDEI). Distribution: India (Cameron 1931: 181); Indonesia (Fagel 1973: 18); Singapore (Cameron 1921: 403); Sri Lanka (Kraatz 1859: 131); Taiwan (Bernhauer 1922: 230).

Micranops pilicornis (Baudi, 1870)

Scopaeus pilicornis Baudi, 1870: 392.

Micranops pilicornis (Baudi, 1870); Frisch et al. 2002: 46.

Scopaeus microphthalmus Eppelsheim, 1888: 409; synonymized by Frisch (1997: 96).

Scopaeus (*Microscopaeus*) *microphthalmus*; Coiffait 1981: 19.
Lectotypes of *Scopaeus pilicornis* (MLZT) and *S. microphthalmus* (NHMW); designated by Frisch 1997: 96. Distribution: Albania, Azerbaijan, Cyprus, Greece, Hungary, Israel, Italy, Lebanon, Russia, Syria, Turkey, Turkmenistan (Frisch et al. 2002, electronic supplement); Iran (Frisch 2010: 161); Macedonia (Smetana 2004: 615); Ukraine (Gontarenko 2006: 54).

Micranops planiusculus (Kraatz, 1859) comb. nov.

Scopaeus planiusculus Kraatz, 1859: 132.
Syntypes (2 specimens; SDEI). Distribution: 'India Orient.' (Kraatz 1859: 132); Indonesia (Cameron 1930: 346); Myanmar (Fagel 1973: 18).

Micranops pokharensis (Coiffait, 1981) comb. nov.

Scopaeus (*Microscopaeus*) *pokharensis* Coiffait, 1981b: 332.

Scopaeus (*Scopaeus*) *pokharensis*; Smetana 2004: 618.
Holotype (MNHN). Distribution: Nepal.

Micranops ruwenzoricus (Fagel, 1973) comb. nov.

Geoscopaeus ruwenzoricus Fagel, 1973: 35.

Scopaeus ruwenzoricus (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Democratic Republic of Congo.

Micranops spelaeus Frisch & Oromí, 2006

Micranops spelaeus Frisch & Oromí, 2006: 33.
Holotype (ULTS). Distribution: Spain (Canary Islands: Tenerife).

Micranops subapterus (Cameron, 1951) comb. nov.

Scopaeus subapterus Cameron, 1951: 28.

Geoscopaeus subapterus (Cameron, 1951); Fagel 1973: 29.
Syntypes (10 specimens, BMNH, RMCA). Distribution: Angola (Cameron 1951: 28); Democratic Republic of Congo (Fagel 1973: 31).

Micranops subterraneus Frisch & Oromí, 2006

Micranops subterraneus Frisch & Oromí, 2006: 28.
Holotype (ULTS). Distribution: Spain (Canary Islands: La Gomera).

Micranops surinamensis (Herman, 1965b)

Orus (*Nivorus*) *surinamensis* Herman, 1965b: 87.

Micranops surinamensis (Herman, 1965b); Herman 2003: 4.
Holotype (CUIC). Distribution: Suriname.

Micranops upembanus (Fagel, 1973) comb. nov.

Geoscopaeus upembanus Fagel, 1973: 26.
Scopaeus upembanus (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Democratic Republic of Congo.

Micranops volans (Blackwelder, 1943)

Orus (*Leucorus*) *volans* Blackwelder, 1943: 277.

Orus (*Nivorus*) *volans* Blackwelder, 1943; Herman 1965a: 120.

Micranops volans (Blackwelder, 1943); Herman 2003: 4.
Holotype (USNM). Distribution: Jamaica.

Micranops yemenicus (Coiffait, 1981)

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

Micranops yemenicus (Coiffait, 1981); Herman 2003: 4.
Holotype (HNHM). Distribution: Yemen.

Micranops zambezianus (Fagel, 1973) comb. nov.

Geoscopaeus zambezianus Fagel, 1973: 31.

Scopaeus zambezianus (Fagel, 1973); implicit combination by Frisch et al. (2002).
Holotype (RMCA). Distribution: Zambia.

4. *Micranops bartolozzii* sp. n.

(Figs 1, 3–11)

Description. Microphthalmous, flightless species with strongly shortened elytra (Fig. 1). Total length 2.5–2.6 mm; forebody length 1.3–1.4 mm. Body including appendages unicolorous brown, only middle of abdominal segments slightly darker. Body surface shiny; head and pronotum with dense, but superficial punctation embedded in superficial microreticulation; pronotum somewhat less densely, but more shallowly punctate than head; punctation of elytra comparatively coarse, granular; abdomen with fine, more widely separated punctures and indistinct microsculpture becoming more superficial towards posterior end. Head oblong, 1.15–1.2 times as long as wide, broadest across middle of length of tempora; posterior angles strongly rounded; posterior margin somewhat concave. Eyes minute, only 0.13–0.14 times as long as tempora, yellowish brown, flat, in dorsal view hardly projecting from dorsolateral carinae incipient posteriorly of point of insertion of antennae. Elytra strongly shortened with reduced, rounded humera, at suture only 0.54–0.59 times as long as pronotum, broadest across posterior angles, 1.04–1.06 times as wide as head and pronotum. Metathoracic wings reduced. Antennae short; antennomeres 2 and 3 quadrate; antennomere 4 a fifth wider than long; antennomeres 5–10 strongly transverse, up to twice as wide as long; antennomere 11 as long as wide. Tarsi slender; protarsomeres 1–3 in female about quadrate, in male slightly wider, less than 1.5 times as wide as long; protarsomere 5 more than three times as long as wide; metatarsomeres 1–3 the same length, about 1.5 times as long as wide.

Male: Posterior margin of sternite VII with very short emargination in about median sixth which is surrounded by five conspicuously short, thick, dark setae (Fig. 7). Sternite VIII with deep and narrow emargination in about posterior fourth (Fig. 8). Aedeagus (Figs 3–6) with median lobe strongly hyaline in apical portion, in dorsal view subparallel with truncate apex; inner structures with two lateroapicad pointing teeth (Fig. 5); ventral sclerite long, in lateral view subparallel, slightly curved and hardly narrowing towards end, in ventral view notably widening in proximal half, in distal half evenly tapering towards narrow, round end.

Female: Abdominal segments IX and X as in Fig. 11. Lateral gonocoxal plate approximately 3.5 times as long as wide, with conspicuous, unpigmented band which is incipient at anterior half of – in undissected position – mediad pointing margin and tapering in posterior direction (Fig. 10). General shape of spermatheca (Fig. 9) typical for *Micranops*; apical portion elongate and truncate distally.

Type specimens (MZUF). Holotype (♂), Tanzania, Morogoro Province near border Iringa - Morogoro provinces, Udzungwa Scarp: forest near Masisiwe (08°20’32’’S, 35°58’03’’E), 1700–1800 m, 12.–13.07.2004, leg. Sforzi & Bartolozzi; paratype (♀), same data as holotype.

Distribution and bionomics. *Micranops bartolozzii* sp. n. is hitherto known only from the type locality in the Udzungwa Scarp, Southwest Tanzania, the southwestern end of the Eastern Arc Mountains in East Africa. It was sifted from the upper layer (only some cm deep) of humid, sandy soil in a forest habitat in the vicinity of a stream (Luca Bartolozzi, pers. comm.).

Etymology. *Micranops bartolozzii* sp. n. is dedicated to Luca Bartolozzi, Florence, who discovered the new species in Tanzania and kindly lent it to us for description.

Comparative notes. *Micranops bartolozzii* sp. n. can easily be distinguished from all hitherto known Afrotropical *Micranops* by considerably smaller eyes and shorter elytra. It is most similar to *M. aborensis* (Fagel), the only known specimen of which (holotype

♀, Fig. 2) however differs as follows: Body colour lighter, light reddish brown. Eyes larger, 0.32 times as long as tempora, less flat and well visible in dorsal view. Elytra notably longer, 0.62 times as long as pronotum. Antennae somewhat slenderer; antennomere 5 a fifth wider than long; antennomere 6 0.7 times as long as wide; antennomere 11 elongate, 1.4 times as long as wide. Tarsi stouter; protarsomeres 1–3 strongly dilated, twice as wide as long; protarsomere 5 shorter, roughly twice as long as wide; metatarsomeres 1–4 increasingly shorter; metatarsomere 2 only slightly longer than wide; metatarsomere 3 quadrate.

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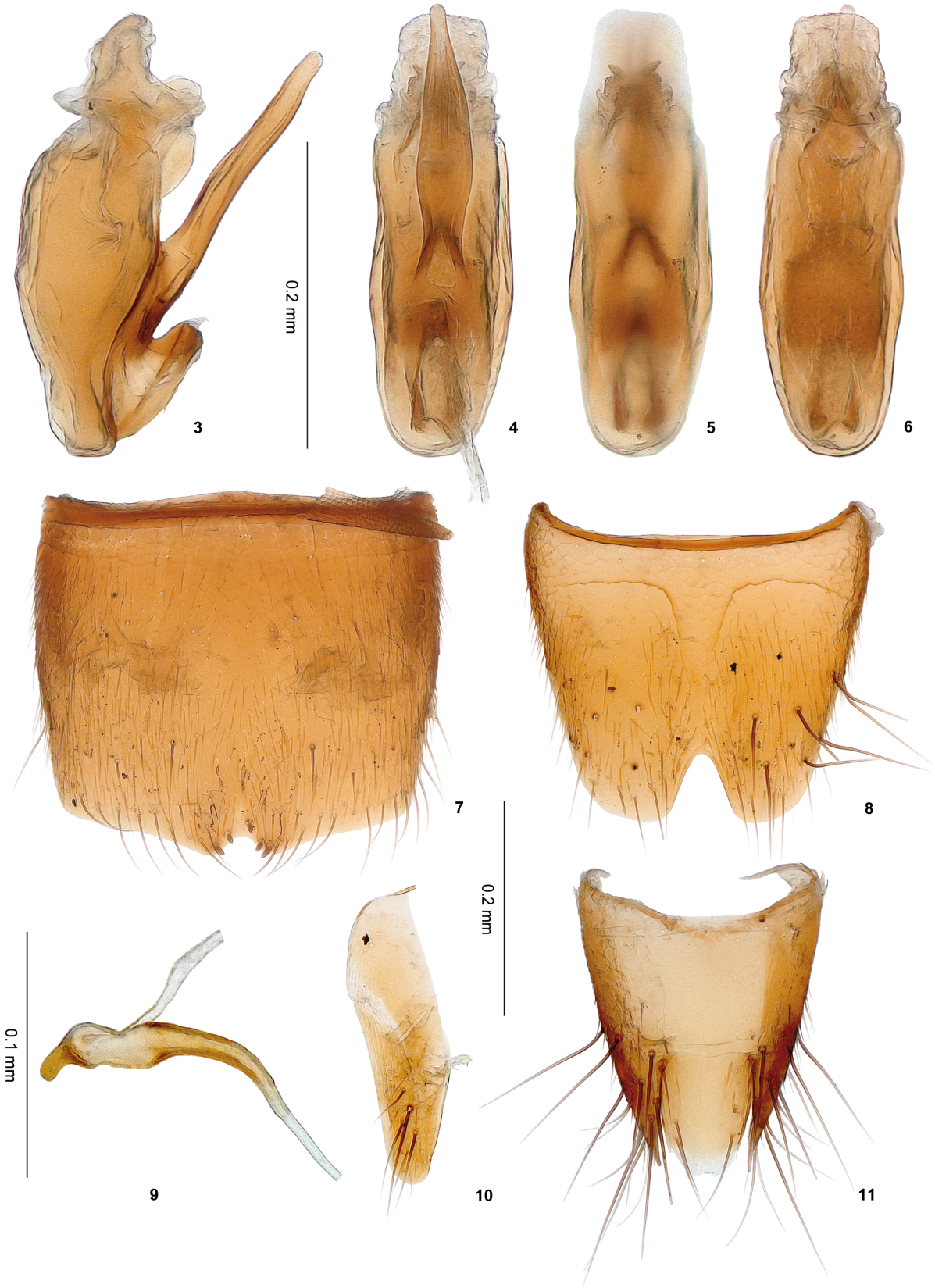
Figures 1–2. Paratype (♀) of *Micranops bartolozzii* (**1**), holotype (♀) of *M. aborensis* (**2**).



Figures 3–11. Primary and secondary sexual characters of *Micranops bartolozzii*: Holotype (♂): aedeagus in lateral (**3**), ventral (**4, 5**), dorsal (**6**) view, sternite VII (**7**), sternite VIII (**8**). Paratype (♀): spermatheca (**9**), lateral gonocoxal plate (**10**), abdominal segments IX and X (**11**).

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