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Illustrated key to the genera and catalogue of Mymaridae (Hymenoptera) in the Afrotropical region

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Abstract

Separate identification keys for females, and for males where known, of the 40 genera of Mymaridae (Hymenoptera: Chalcidoidea) in the Afrotropical region are given. The subgenera of four genera are also included in the key to females. The genera are illustrated with over 300 photographs. The 122 named, valid species reported from the region are catalogued. Reliable host records are reported for 6 genera and 11 species from rearings undertaken in the region. An appendix lists the 27 species from northern Africa and offshore islands (Canary Islands, Madeira) but not recorded in the Afrotropical region as defined in this publication. *Camptoptera* (*Zemicamptoptera*) Ogloblin & Annecke, **syn. n.** is synonymized with *Camptoptera* (*Camptoptera*) Foerster. *Eofoersteria* Mathot, **syn. n.** is synonymized with *Camptoptera* Foerster and is treated as subgenus *C.* (*Eofoersteria*) Mathot, **stat. n.**; its type species *Eofoersteria camptopteroides* Mathot is transferred to *Camptoptera* as *C.* (*Eofoersteria*) *camptopteroides* (Mathot), **comb. n.** *Polynema megacephala* (Risbec) is transferred to *Lymaenon* as *L. megacephala* (Risbec), **comb. n.** *Limacis opuntiae* Risbec is transferred to *Encarsia* Foerster (Hymenoptera: Aphelinidae) as *E. opuntiae* (Risbec), **comb. n.** A few corrections to Huber *et al*. (2020) are given.

Key words: Chalcidoidea, egg parasitoid, biodiversity, Africa, Madagascar, literature citations, images

Introduction

Almost no revisionary work on Mymaridae (Hymenoptera: Chalcidoidea), which have the common name "fairyfly" in English, has been done for the Afrotropical region. Debauche (1949) published keys to genera of the Ethiopian region, as it was then named, and keys to species based on about 50 specimens mainly from the eastern part of the Democratic Republic of the Congo. For completeness, he also listed the fewer than 10 remaining species from the Afrotropical region described by other authors. Heqvist (1960) catalogued the African species but at the time there were still fewer than 60 valid species presently classified correctly in Mymaridae. Huber & Prinsloo (1990) described Australian species of *Anaphes* Haliday introduced into South Africa, but not all released, against the eucalyptus snout beetle, at the time identified as *Gonipterus scutellatus* Gyllenhal (Coleoptera: Curculionidae). Huber *et al*. (2010) revised *Ooctonus* Haliday species of Africa. Huber (2015) described a few new genera in Gonatocerini, some of which occur in the Afrotropical region. Triapitsyn (2017b) and van Noort & Triapitsyn (2018) described two remarkable species of *Polynema* Haliday from Madagascar and South Africa, respectively, and placed them in a separate species group within the nominal subgenus. Various authors added Afrotropical records of otherwise extralimital species. Huber (1986) reviewed the literature on taxonomy and biology of the family worldwide.

Fossil species from the Afrotropical region are: *Alaptus fructuosus* Meunier, 1909, in recent copal from Zanzibar, Tanzania; *Litus beneficus* Meunier, 1909, in recent copal from Madagascar; and a "*Limacis* sp." [= *Arescon* Walker] in recent copal, also from Zanzibar. No specific localities are given for these specimens. Their depositories are contradictory: Meunier (1909a) stated they were in his own collection but Meunier (1909b) indicated they were in the collection of M. Evers Junior of Altona-Barenfeld, Hamburg, Germany. Both fossils with species names are apparently lost.

In this paper we key the genera, and catalogue the extant species and the Afrotropical literature associated with them.

Methods

For the purpose of this work, the Afrotropical region is considered to be Africa south of 20ºN, which corresponds more or less to the 150 mm isohyet as mapped in van Noort *et al*. (2015), and includes the offshore islands between 30ºW and 60ºE. For Cynipoidea (Hymenoptera), van Noort *et al*. (2015) and van Noort (2021) treated the southwestern part of Saudi Arabia and Western Yemen as part of the Afrotropical region, but for Mymaridae we exclude this area because Huber *et al*. (2009) keyed the genera and listed the species for the entire Arabian Peninsula; Zeya *et al.* (2018) and Zeya & Amer (2019) added several more species from Saudi Arabia and Yemen, respectively. Greathead (1971) had a slightly more northern limit for the Afrotropical region, corresponding more closely to the Tropic of Cancer (23°26'12.9"N) and thus including the southern parts of Algeria, Egypt and Libya as well as the southern and western Arabian Peninsula. In the oceans around Africa the offshore islands north of about 20ºN (Ca-

nary Islands, Madeira) are treated as being in the Palaearctic region. North Africa and the offshore islands together have 27 recorded species, listed in the Appendix but not otherwise catalogued; the remaining islands or island groups are included in the Afrotropical region, and their species are catalogued below.

The format followed here is similar to that of Huber *et al*. (2020). Separate keys to females and males are given. The keys and generic diagnoses are supplemented with numerous images. In the key to males the images for females are usually used as most features illustrated are the same in both sexes. Images specifically of males are indicated in the captions. Morphological terms used in the text for body parts generally follow the standard terms used in Chalcidoidea, as illustrated and defined in Gibson (1997), with illustrations and a few changes for Mymaridae given in Huber (2015) and Huber *et al.* (2020). Generic synonyms are given only for the 15 Afrotropical genera not shared with the Nearctic region; Huber *et al.* (2020) gave a complete generic synonymy for the 21 shared genera, excluding the two genera in the Nearctic region now treated as subgenera. In the catalogue, the genera are listed alphabetically. If a genus does not yet have named species the country or countries from which specimens of the genus were examined are given under "Distribution". Within each genus the species and their Afrotropical synonyms are listed alphabetically, followed by the reference to the original description. The type locality is as given in the original description but with most French words translated into English. If the specific locality name has changed the current name is given in brackets, if it can be determined correctly. Type locality information is followed with the relevant Afrotropical literature. The current name of the country of origin is given in the Distribution section; it occasionally differs from the previous name(s) for the country, e.g., Belgian Congo and, later, Zaire, are now the Democratic Republic of the Congo and German East Africa is now Tanzania. The Universal Chalcidoidea Database (UCD) (Noyes 2019) was checked for literature as well as for geographic distributions of species in the Afrotropical region. Several species have a distribution over two or more biogeographic regions. Extralimital references to these are summarized elsewhere, e.g., for species in the Nearctic region (Huber *et al*. 2020). Extralimital synonyms are also excluded as well as most extralimital literature that does not specifically mention specimens from the Afrotropical region.

There are numerous references to *Anaphes nitens* (Girault) because of its success in controlling a major pest, so its mentions, often in yearly annual reports for the Departments of Agriculture or Forestry for some countries, e.g., Mauritius, are usually excluded. Such reports are often anonymous but the author of the relevant section may be mentioned, e.g., L.A. Moutia for Mauritius.

Abbreviations used in the keys are as follows: fl = flagellum (in males), fu = funicle (in females), gs = gastral sternum, gt = gastral tergum, mps = multiporous plate sensillum or sensilla (longitudinal sensilla, of authors), TL = type locality. Name-bearing (i.e., primary type) specimens of Afrotropical species are deposited in the following institutions. The codens follow Evenhuis (2020). If material was examined from them, the curator who made the loan or allowed us to examine material when we visited their institution is given.

ANIC	Australian National Insect Collection, CSIRO, Canberra City, Australian Capital Territory, Australia.
BPBM	Bernice P. Bishop Museum, Honolulu, Hawaii, USA. J. Boone.
CAS	California Academy of Sciences, San Francisco, California, USA. R. Zuparko.
CNC	Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario, Canada. J. Huber.
DEZA	Dipartimento di Entomologia e Zoologia Agraria "Filippo Silvestri", Università degli Studi di Napoli "Federico II", Portici, Italy. G. Viggiani.
INHS	Illinois Natural History Survey, Urbana, Illinois, USA.
ISZA	Istituto Sperimentale per la Zoologia Agraria, Florence, Italy.
MNHN	Muséum National d'Histoire Naturelle, Paris, France. C. Villemant.
MVMA	Museum of Victoria, Abbotsford, Victoria, Australia.
MZLU	Lund University, Lund, Sweden.
NHMUK	Natural History Museum, London, England, UK. N. Dale-Skey.
NHMW	Naturhistorisches Museum Wien, Vienna, Austria. D. Zimmermann and M. Vizek.
NMID	National Museum of Ireland, Dublin, Republic of Ireland. J. O'Connor.
ORST	Office de la Recherche Scientifique et Technique d'Outre-Mer, Bondy, France.
OUMNH	University Museum of Natural History, Oxford, England, UK. J. Hogan.
PPDD	Insect Collection, Ministry of Agriculture, Dokki, Cairo, Egypt.
QMBA	Queensland Museum, South Brisbane, Queensland, Australia. C. Burwell.
RBINS	Royal Belgian Institute for Natural Sciences, Brussels, Belgium. Y. Gérard.

RMCA	Musée Royal de l'Afrique Centrale, Tervuren, Belgium. E. De Coninck.
SAMC	Iziko South African Museum, Cape Town, South Africa. S. van Noort.
SANC	South African National Collection of Insects, Pretoria, South Africa. G. Prinsloo.
SCAC	South China Agricultural University, Wushan (Fuoshan), Guangdong, Guangzhou, China.
UCDC	R.M. Bohart Museum of Entomology, University of California, Davis, California, USA. S. Heydon.
UCRC	Entomology Research Museum, Department of Entomology, University of California, Riverside, California, USA. S. Triapitsyn.
USNM	National Museum of Natural History, Smithsonian Institution, Washington, District of Columbia, USA. M. Gates.
UUZM	Uppsala University, Uppsala, Sweden.
ZDAMU	Department of Zoology, Aligarh Muslim University, Aligarh, India.
ZMHB	Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.

Family diagnosis

Mymaridae specimens are distinguished from other Chalcidoidea by the head with bars of inrolled cuticle (trabeculae) and associated sutures on the vertex and dorsally on the face lateral to each torulus (Figs 1, 6, 9, 10, 16). Other features found in most but not all species of Mymaridae that are helpful in distinguishing them from species belonging to other families of Chalcidoidea are: toruli closer to eyes than to each other (Figs 1, 6, 16) except in species with an elongate head (Figs 94, 95, 142); fore wing venation usually less (Figs 3, 8, 13, 18), rarely equal to or longer (Figs 48, 54, 62, 139), than half length of wing; stigmal vein short, postmarginal vein almost always absent, marginal vein present or absent, and with a backwards projecting seta (hypochaeta) on ventral surface of costal cell just anterior to the parastigma (Figs 3, 24, 28). The easiest features to see, and therefore the most useful for quick recognition of almost all Mymaridae, is the hind wing with basal stalk consisting of venation only and the hind wing membrane, when present (Fig. 7) beyond the stalk, narrow and parallel sided (Figs 3, 8, 24), rarely wider (Figs 139, 221).

Mymaridae may be confused with other very small Chalcidoidea but are usually separated on the basis of their reduced fore wing venation and antenna longer than the entire body (Huber *et al.* 2020). Numerous short, closely spacedbars of inrolled cuticle occur in *Megaphragma* Timberlake (Trichogrammatidae) (Polilov 2017) but not in the same form or positions as in Mymaridae in which the inrolled cuticle form straight lines in a more or less H-like pattern (e.g., Figs 6, 16).

Hosts and biology

All but two described species of Mymaridae are parasitoids inside the eggs of other insects (Huber *et al.* 2006). There is at least one reliable host genus record for about 40% of the world genera of Mymaridae. In the Afrotropical region, only 10 species in 6 genera have recorded host species and 1 additional genus has a generic host record. This is only about 15% of the genera and 12% of the described species. The Afrotropical species have been reared from Curculionidae (Coleoptera), Auchenorrhyncha (Hemiptera) and Psocoptera.

Key to Afrotropical genera of Mymaridae. Females

[Antenna with apical segments wider than the remaining segments, forming a distinct 1- to 3-segmented clava (Figs 2, 11, 17)]. Females of of the former subgenus *Camptoptera* (*Zemicamptoptera*) Ogloblin & Annecke, **syn. n.**, treated here as a species group of *C.* (*Camptoptera*), are not separable from the latter subgenus, so are not included in the key; they have not yet been reported from Africa.

1 Wings short, at most extending to apex of mesosoma (Figs 81, 82), or wings absent (Fig. 85) 2

- Wings fully developed, extending beyond apex of gaster (Figs 50, 100, 102), if somewhat shortened then fore wing widest medially and tapering to narrow apex (Figs 147, 149) 5

2(1) Propodeum horizontal, in same plane as meso- and metathorax; petiole much wider than long, in lateral view at about same level as dorsal surface of mesosoma and barely distinguishable from it or from gaster (Figs 115, 116) . . . . . ***Dicopus***, part

- Propodeum strongly sloping, not in same plane as meso- and metathorax; petiole at least slightly longer than wide, in lateral view at much lower plane than dorsal surface of meso- and metathorax and clearly distinguishable (at least in slide mounts) . . . 3
3(2) Ocelli absent . . . ***Chrysoctonus***
- Ocelli present . . . 4
4(3) Funicle 8-segmented . . . ***Ooctonus***, part
- Funicle 6-segmented . . . ***Camptopteroides***
5(1) Tarsi 5-segmented . . . 6
- Tarsi 4-segmented . . . 23
6(5) Funicle 8-segmented . . . 7
- Funicle at most 7-segmented . . . 14
7(6) Propodeum with diamond-like pattern of carinae (Fig. 207); metasoma in lateral view with gt_1 distinctly longer than gt_2 (Fig. 209) . . . ***Ooctonus***, part
- Propodeum not as above, either with 2 longitudinal, more or less parallel submedian grooves, or carinae absent and propodeum almost smooth; metasoma in lateral view with gt_1 only slightly longer than gt_2 . . . 8
8(7) Fore wing venation (to apex of stigma) about 0.6× wing length; marginal and postmarginal veins present (Fig. 62); ovipositor with exserted part at least 2.0× as long as entire body (Fig. 59) . . . ***Borneomymar***
- Fore wing venation (to apex of stigma) at most about 0.4× wing length; marginal and postmarginal veins absent; ovipositor with exserted part at most almost as long as entire body . . . 9
9(8) Head in posterior view with curved, transverse groove extending above foramen from eye to eye, separating occiput from gena; ovipositor extending distinctly beyond posterior apex of gaster and each ovipositor sheath with 3 or more setae along its exserted length (Fig. 271) . . . ***Zeyanus***
- Head in posterior view without a transverse groove; ovipositor barely or not exserted and if distinctly exserted beyond posterior apex of gaster, each sheath with only one subapical seta . . . 10
10(9) Dorsellum strap-like, with anterior and posterior margins almost parallel (Figs 104, 172), and at least 7× as wide as its median length . . . 11
- Dorsellum rhomboidal (Fig. 153), with anterior and posterior margins distinctly diverging and at most about 3× as wide as its median length . . . 12
11(10) Metasoma with petiole at most 2× long as wide (Figs 172, 174); pronotum with lateral lobes widely separated by membranous median area (Fig. 172); propodeum with submedian lines well separated from each other (Fig. 172) . . . ***Lymaenon***, part
- Metasoma with petiole at least 3× as long as wide (Figs 106); pronotum with lateral lobes almost abutting (Fig. 106); propodeum with submedian lines almost in contact with each other (Fig. 106) . . . ***Cosmocomopsis***
12(10) Ovipositor exserted beyond posterior apex of gaster by length of almost entire body (Fig. 266) . . . ***Tanyxiphium***
- Ovipositor at most exerted beyond posterior apex of gaster by length of gaster . . . 13
13(12) Propodeum with longitudinal submedian carinae extending almost to dorsellum, and another carina between each submedian carina and metapleural suture (Fig. 189); fore wing wider (about 3.0× as long as wide), with apex somewhat truncate (Fig. 188) . . . ***Octomicromeris***
- Propodeum without carinae (Fig. 153) or, at most, with submedian grooves only (Fig. 172); fore wing narrower (at least 4.0× as long as wide), with rounded apex (Fig. 152) . . . ***Gonatocerus***
14(6) Funicle 7-segmented . . . 15
- Funicle at most 6-segmented . . . 21
15(14) Fore wing at most 5.0× as long as wide (Figs 160, 171); fl_2 not ring-like, about same length as fl_1 or fl_3 . . . 16
- Fore wing at least 8.0× as long as wide (Figs 66, 74, 77, 252); fl_2 often ring-like, much shorter than fl_1 or fl_3 (Figs 65, 73, 251) . . . 17
16(15) Face with subantennal grooves extending from toruli to mouth margin; fl_7 about as long as wide and about as long as fl_6 (Fig. 173) . . . ***Lymaenon***, part
- Face without subantennal grooves (Fig. 157); fl_7 about half as long as wide and less than half as long as fl_6 (Fig. 158) . . . ***Heptagonatocerus***
17(15) Metasoma joined to mesosoma by a distinct petiole much narrower than width of gaster anteriorly and about as long as wide (Fig. 70) . . . 18
- Metasoma joined to mesosoma by an indistinct petiole barely narrower than width of gaster anteriorly and much shorter than wide (Figs 67, 68a) . . . 19
18(17) Fore wing narrow, with at most 2 longitudinal rows of microtrichia beyond venation (Figs 70, 74, 77), exceptionally with more rows; propodeum almost always without translucent reticulated structures submedially and laterally (Figs 69, 77), rarely with such structures (Fig. 75); petiole ventrally and laterally without translucent reticulated structure; head in posterior view with coronal groove extending medially from vertex to a curved transverse groove above foramen (similar to Fig. 64b) . . . ***Camptoptera* (*Camptoptera*)**
- Fore wing wider, with several rows of microtrichia covering wing surface beyond venation; propodeum with large vertical translucent reticulated structures submedially and laterally; petiole ventrally surrounded by translucent reticulated structure; head in posterior view without longitudinal median groove . . . ***Stephanocampta***
19(17) Scutellum not separated by change in sculpture into anterior scutellum and posterior frenum (Fig. 67) . . . ***Callodicopus***
- Scutellum separated by transverse line or change in sculpture into anterior scutellum and posterior frenum (Figs 110, 115, 116) . . . 20
20(19) Head in anterior view distinctly narrowing ventrally, with mandibles pointing ventrally, not crossing each other, each with 1

long and 1 short tooth (Fig. 112); fore wing extremely narrow beyond venation then widening distinctly to apex (Fig. 114) . . . . . ***Dicopus***, part

- Head in anterior view more quadrate (Fig. 107), with mandibles pointing inwardly, crossing (if long enough), each with 2 subequal teeth; fore wing more even in width along its entire length (Fig. 109) . . . . . ***Dicopomorpha***

21(14) Funicle 6-segmented; gaster compressed, higher than wide (Figs 167, 169); gt_1 much longer than each remaining tergum (Fig. 169) . . . . . ***Litus***

- Funicle 5-segmented; gaster slightly depressed, wider than high; gt_1 about same length as each remaining tergum 22

22(21) Fore wing with venation extending at least 0.6× wing length; marginal vein long (Fig. 48); fore wing with posterior margin behind venation not notched . . . . . ***Arescon***

- Fore wing with venation extending at most about 0.4× wing length, without marginal vein (Fig. 8); fore wing with posterior margin behind venation distinctly notched (Fig. 8) . . . . . ***Alaptus***

23(5) Funicle 8-segmented (Fig. 241); propodeum and gt_1 with large translucent reticulated structures (Figs 243, 244) . . . . . ***Ptilomymar***

- Funicle at most 6-segmented; propodeum without structures as described above 24

24(23) Clava 2- or 3-segmented 25

- Clava 1-segmented 33

25(24) Clava 2-segmented 26

- Clava 3-segmented 31

26(25) Funicle segments all more or less quadrate (Fig. 223); hind wing narrow, with anterior and posterior margins parallel (Fig. 224); setae along posterior margin more than 2× as long as greatest width of hind wing (Fig. 224) . . . . . ***Platystethynium* (*Platypatasson*)**

- At least some funicle segments distinctly longer than wide (Figs 218, 221); hind wing wider, with anterior and posterior margins not parallel; setae along posterior margin less than 0.5× as long as greatest width of hind wing (Fig. 221) 27

27(26) Head posteriorly with curved transverse groove extending above foramen from eye to eye (Fig. 220), separating occiput from gena . . . . . ***Paranaphoidea* (*Idiocentrus*)**

- Head posteriorly without transverse groove separating occiput from gena 28

28(27) Propodeum with median longitudinal groove (Fig. 41) and, in lateral view, strongly sloping relative to scutellum; metasoma uniformly black or dark brown (Fig. 42) . . . . . ***Anaphes* (*Patasson*)**

- Propodeum without median groove (Fig. 200) and, in lateral view, almost in same plane as scutellum; metasoma light brown or light coloured (white, yellow) at base, in contrast to darker brown on remainder of metasoma (Fig. 249) or almost entirely light coloured (Fig. 201) 29

29(28) Clava with apical finger-like projection (Fig. 196); ovipositor usually distinctly exserted beyond posterior apex of gaster (Fig. 201) . . . . . ***Omyomymar* (*Omyomymar*)**

- Clava without apical projection (Figs 11, 17); ovipositor at most slightly exserted beyond posterior apex of gaster (Figs 15, 20) 30

30(29) Mesophragma with apex straight or convex (Figs 14, 19), not notched medially; mandible with one distinct lower tooth separated by deep notch from upper apically serrate and wide tooth (Fig. 10) . . . . . ***Allanagrus***, part

- Mesophragma with apex concave, deeply notched medially (Figs 248, 249); mandible with 5 almost equal teeth . . . . . ***Schizophragma***

31(25) Ovipositor short, originating near posterior apex of gaster and not extending anteriorly under mesosoma; back of head without curved transverse groove separating occiput from gena 32

- Ovipositor long, originating near anterior apex of gaster and extending anteriorly under mesosoma and head; back of head with curved transverse groove extending above foramen from eye to eye, separating occiput from gena (as in Fig. 220) . . . . . ***Paranaphoidea* (*Paranaphoidea*)**, part

32(31) Funicle with all segments more or less quadrate, each about as long as wide (Fig. 228); head in lateral view strongly triangular, with face strongly bulging and angular anteriorly . . . . . ***Platystethynium* (*Platystethynium*)**

- Funicle with some segments distinctly longer than wide (Figs 11, 17); head in lateral view more rectangular, the face at most slightly bulging and rounded anteriorly . . . . . ***Allanagrus***, part

33(24) Petiole in dorsal view shorter than wide (Fig. 55) 34

- Petiole in dorsal view at least as long as wide, usually much longer (Fig. 4) 43

34(33) Ovipositor and sheaths distinctly exserted posterior to apex of gaster, the exserted portion of each sheath with several setae along its length (Figs 50, 56) . . . . . ***Australomymar***

- Ovipositor and sheaths either not exserted posterior to apex of gaster or, if exserted, the projecting portion of each sheath with one subapical seta 35

35(34) Mandible minute and barely visible, without teeth (Fig. 129); each maxilla longer than their combined width (presumably capable of performing like a mandible); gena in lateral view narrow behind eye (Fig. 133a), often apparently absent; dorsellum triangular, about as long as wide and extending posteriorly over anterior (dorsal) margin of propodeum (Fig. 131); hypopygium prominent, extending about to apex of gaster (Fig. 136) 36

- Mandible larger and clearly visible, with at least one but usually more distinct teeth; each maxilla shorter than their combined width (not capable of performing like a mandible); gena wider and visible behind eye; dorsellum either not distinct or, if distinct and triangular, wider than long and not extending posteriorly over anterior (dorsal) margin of propodeum; hypopygium inconspicuous, not extending to apex of gaster 37

36(35) Fore wing with anterior and posterior margins beyond venation diverging, the width near wing apex greater than width at apex of venation, membrane with a minute seta dorsally behind base of parastigma (near apex of hypochaeta) (Fig. 130) . . . . .

. . . . . ***Erythmelus* (*Erythmelus*)**

- Fore wing with anterior and posterior margins beyond venation almost parallel, the width near wing apex about same as width at apex of venation, membrane without a minute seta dorsally behind base of parastigma (Fig. 134) . . . . . ***Erythmelus* (*Parallelaptera*)**

37(35) Frenum divided medially by longitudinal groove into paramedial plates (Figs 22, 29, 36) 38

- Frenum entire, not divided medially by longitudinal groove 40

38(37) Ocelli not surrounded by pale lines; fl_2 longer than any other funicle segment (Fig. 23) . . . . . ***Anagrus* (*Anagrella*)**

- Ocelli with grooves (seen as pale lines in slide mounts) extending between them and enclosing them like a crown (stemmaticum); fl_2 not longer than any other funicle segment (Figs 27, 32, 34) 39

39(38) Fl_1 as long as pedicel (Figs 32, 34); frenum with paramedial plates widely separated from each other (Fig. 36); metafemur length less than 2× trochanter length, the trochantellus incision usually almost half way between coxa-trochanter and femur-tibial articulation (Figs 31, 32) . . . . . ***Anagrus* (*Paranagrus*)**

- Fl_1 shorter than pedicel (Fig. 27); frenum with paramedial plates close together (Fig. 29); metafemur more than 2× trochanter length, the trochantellus incision almost one-third way between coxa-trochanter and femur-tibial articulation . . . . . ***Anagrus* (*Anagrus*)**

40(37) Propodeum with a median longitudinal groove (Fig. 41) . . . . . ***Anaphes* (*Anaphes*)**

- Propodeum without a median longitudinal groove 41

41(40) Clava as long as entire funicle and wide near base then gradually narrowing apically to almost to a point (Fig. 122) . . ***Dorya***

- Clava shorter than funicle, widest near middle and rounded apically 42

42(41) Funicle segments usually almost all wider than long or quadrate (Fig. 97); fore wing parallel sided for most of its length beyond venation (Fig. 96) . . . . . ***Cleruchus***

- Funicle segments mostly longer than wide (Fig. 88); fore wing widening for most of its length beyond venation (Fig. 90) . . . . . ***Cleruchoides***

43(33) Body small, its length less than 400 µm; petiole in dorsal view about as long as wide (Fig. 77); fore wing narrow, with posterior margin near apex concave so wing apex distinctly curved (Fig. 77) . . . . . ***Camptoptera* (*Eofoersteria*) stat. n.**

- Body much larger, its length usually much more than 800 µm; petiole in dorsal view longer than wide; fore wing wide, with posterior margin near apex straight or convex so wing apex not curved 44

44(43) Mandibles as long as head height and not crossing medially when closed (Fig. 142); head in lateral view triangular (Fig. 142) and with a large projection on face between toruli (Fig. 138) . . . . . ***Eubroncus***

- Mandibles much shorter than head height and crossing medially when closed; head in lateral view quadrate and without projection on face between toruli 45

45(44) Scape widest near base, narrowest medially, then widening again towards apex; fore wing extremely narrow and parallel-sided in basal half then widening considerably in apical half; hind wing either filamentous, without membrane, or narrow with only about 10 long setae along posterior margin beyond venation and at apex, or reduced to a short stub . . . . . ***Mymar***

- Scape widest near middle and narrower towards apices; fore wing gradually widening from base towards apex; hind wing in macropterous individuals with wider membrane, and with setae along both anterior and posterior margins and at apex 46

46(45) Fore wing cigar-like, with anterior and posterior margins strongly inrolled; pronotum slightly longer than length of mesoscutum + scutellum . . . . . ***Mymarilla***

- Fore wing flat, with anterior and posterior margins almost always in same plane (except in one species of *Ganomymar* De Santis); pronotum much shorter than length of mesoscutum + scutellum 47

47(46) Scape with inner surface rasp-like, the imbrications not much wider than long; mesothoracic spiracle closer to anterior apex of notaulus than to tegula; mesosoma smooth and shiny . . . . . ***Stephanodes***

- Scape with inner surface at most with faint oblique or transverse striations; mesosoma with at least some faint, usually engraved sculpture and dull 48

48(47) Propodeum with V-shaped carinae medially (Fig. 4) . . . . . ***Acmopolynema***

- Propodeum either smooth or with 1 median carina or 2 parallel submedian carinae 49

49(48) Petiole attached to gastral sternum posteriorly; fore wing usually widest in middle (Figs 147, 149) . . . . . ***Ganomymar***

- Petiole attached to gastral tergum posteriorly; fore wing widest towards apex 50

50(49) Face with small pit medially next to each torulus . . . . . ***Polynema* (*Doriclytus*)**

- Face without pit medially next to each torulus 51

51(50) Propleura meeting medially, separating prosternum from head . . . . . ***Palaeoneura***

- Propleura not meeting medially, not separating prosternum from head 52

52(51) Fore wing membrane without microtrichia behind apex of venation . . . . . ***Polynema* (*Dorypolynema*)**

- Fore wing membrane with microtrichia behind apex of venation . . . . . ***Polynema* (*Polynema*)**

Key to Afrotropical genera of Mymaridae. Males

[Antenna without clava, the flagellar segments all about equal in width (Figs 12, 46, 53, 89, 123, 159, 198, 199, 208)]. In the Afrotropical region, males are unknown for *Dorya, Camptoptera* (*Eofoersteria*), *Litus*, *Paranaphoidea*, *Platystethynium* and *Schizophragma*. Except for *Platystethynium*, whose males are micropterous and otherwise quite modified, they likely resemble females except for the antennae, genitalia and wings. Only *Litus* and *Schizophragma* are included in this key.

1(2) Wings short, not extending beyond apex of mesosoma, or absent . . . 2
- Wings fully developed, extending at least to apex of gaster . . . 3
2(1) Wings absent; flagellum 10-segmented; body minute . . . ***Dicopus***, part
- Wings present but short, extending about to base of gaster; flagellum 11-segmented; body larger . . . ***Polynema* (*Polynema*)**, part
3(1) Tarsi 5-segmented . . . 4
- Tarsi 4-segmented . . . 23
4(3) Fore wing venation (to apex of stigma) at most about 0.4× wing length; marginal vein absent so parastigma joined directly to stigmal vein at the distal macrochaeta; postmarginal vein absent . . . 5
- Fore wing venation (to apex of stigma) at least 0.6× wing length (Figs 48, 62); marginal vein present and about as long as or longer than parastigma so stigma vein joined to apex of marginal vein distal to distal macrochaeta (Fig. 48); postmarginal vein usually present . . . 21
5(4) Fore wing at most 5.0× as long as wide and usually almost completely covered beyond venation with many rows of microtrichia; face often with subantennal grooves extending from torulus to mouth margin (Figs 103, 150, 170a, 186a, 261) . . . 6
- Fore wing at least 8.0× as long as wide, rarely completely covered with microtrichia but if so these arranged only in a few rows; face without subantennal grooves . . . 14
6(5) Propodeum with diamond-like pattern of carinae (Fig. 207); metasoma in lateral view with gt_1 distinctly longer than gt_2 (Fig. 209) . . . ***Ooctonus***
- Propodeum not as above, either with 2 longitudinal, more or less parallel submedian grooves or carinae, these well separated (Figs 161, 172, 189, 264, 270) or almost united (Fig. 106), or carinae absent (Fig. 153) and propodeum almost smooth; metasoma in lateral view with gt_1 only slightly longer than gt_2 . . . 7
7(6) Head in posterior view with curved, transverse groove extending above foramen from eye to eye, separating occiput from gena . . . ***Zeyanus***
- Head in posterior view without transverse groove . . . 8
8(7) Dorsellum strap-like, with anterior and posterior margins parallel (Fig. 172) or almost so (Fig. 106) and at least 7× as wide as its median length . . . 9
- Dorsellum rhomboidal, with anterior and posterior margins distinctly diverging and at most about 3× as wide as its median length . . . 10
9(8) Metasoma with petiole at most 2× as long as wide; pronotum with lateral lobes widely separated by membranous median area (Fig. 172); propodeum with submedian lines well separated from each other (Fig. 172) . . . ***Lymaenon***
- Metasoma with petiole at least 3× as long as wide (Figs 102, 106); pronotum with lateral lobes almost abutting (Fig. 106); propodeum with submedian lines almost in contact with each other (Fig. 106) . . . ***Cosmocomopsis***
10(8) Face with subantennal grooves almost meeting each other at mouth margin; head relatively wide, and thin in lateral view . . . ***Tanyxiphium***
- Face with subantennal grooves, when present, wider apart at mouth margin, not meeting; head relatively narrow, and thicker in lateral view . . . 11
11(10) Face without subantennal grooves (Fig. 150) . . . ***Heptagonatocerus***
- Face with subantennal groove extending from each torulus to mouth margin . . . 12
12(11) Propodeum without carinae or at most only with faint longitudinal submedian grooves; fore wing narrower, with apex rounded (Fig. 153) . . . ***Gonatocerus***
- Propodeum with longitudinal submedian carina extending almost to dorsellum and another carina between each submedian carina and metapleural suture; fore wing wider with apex somewhat truncate (Fig. 188) . . . ***Octomicromeris***
13(5) Metasoma joined to mesosoma by a short, usually distinct and visible, petiole usually much narrower than anterior width of gaster (Figs 70, 77, 81, 254) [in *Callodicopus* not much narrower than width of gaster (Fig. 67)] . . . 14
- Metasoma joined to mesosoma by an indistinct petiole barely narrower than anterior width of gaster, or apparently so joined [in *Litus* the narrow but distinct petiole is completely hidden by wide base of gt_1] . . . 17
14(13) Propodeum with large translucent reticulated structures submedially and laterally (Fig. 253); petiole ventrally surrounded by translucent reticulated structure (Fig. 254) . . . ***Stephanocampta***
- Propodeum almost always without translucent reticulated structures submedially and laterally, rarely with them submedially (Fig. 75); petiole ventrally not surrounded by translucent reticulated structure . . . 15
15(14) Fore wing slightly but usually distinctly curved (posterior margin concave) near apex (Figs 74, 77), sometimes almost straight (Fig. 70); petiole visible (Figs 70, 77) . . . 16
- Fore wing straight (posterior margin straight or almost so) near apex (Fig. 109); petiole hidden (Figs 67, 83) . . . 17
16(15) Flagellum with 8 segments (excluding the ring segment) . . . ***Camptoptera* (*Camptoptera*)**
- Flagellum with 7 segments (excluding the ring segment) . . . ***Camptoptera* (*Camptoptera*)** [former subgenus *C.* (*Zemicamptoptera*)]

17(15) Frenum and propodeum strongly reticulate (Fig. 83) . . . . . ***Camptopteroides***
- Frenum and propodeum smooth or almost so . . . . . ***Callodicopus***
18(13) Head in anterior view distinctly narrowing ventrally; mandibles pointing ventrally and not crossing each other, each with 1 long and 1 short tooth (Fig. 112); fore wing extremely narrow beyond venation then widening distinctly to apex (Fig. 114) . . . . . ***Dicopus***, part
- Head in anterior view not narrowing ventrally so appearing more quadrate; mandibles pointing inwardly and crossing if long enough, each with 2 subequal teeth (Figs 6, 107); fore wing wider along its entire length (Figs 8, 109) 19
19(18) Gaster compressed, slightly higher than wide and well sclerotized; gt_1 much longer than each remaining tergum (Fig. 167a, 169) . . . . . ***Litus***
- Gaster slightly depressed, wider than high and weakly sclerotized; gt_1 about same length as each remaining tergum (Figs 9, 111a) 20
20(19) Fore wing with posterior margin behind venation distinctly notched (Fig. 8) . . . . . ***Alaptus***
- Fore wing with posterior margin behind venation not or barely notched (Fig. 109) . . . . . ***Dicopomorpha***
21(4) Head with ocellar triangle surrounded by pale lines, forming a stemmaticum (Fig. 44); postmarginal vein at most as long as stigmal vein (Fig. 48) . . . . . ***Arescon***
- Head with ocelli not enclosed by stemmaticum; postmarginal vein much longer than stigmal vein (Fig. 62) 22
22(21) Pronotum in dorsal view extremely short, barely or not visible; mesoscutum without notauli . . . . . ***Chrysoctonus***
- Pronotum in dorsal view about 0.4× length of mesoscutum, clearly visible; mesoscutum with notauli (Fig. 63) ***Borneomymar***
23(3) Propodeum and gt_1 with translucent reticulated structures (Fig. 243) . . . . . ***Ptilomymar***
- Propodeum and gt_1 without translucent reticulated structures 24
24(23) Mandibles about as long as head height and not capable of crossing medially (mandibular movement is in anterior/posterior direction); head in lateral view triangular; face with a large truncate projection between toruli (Fig. 138) . . . . . ***Eubroncus***
- Mandibles much shorter than head height and crossing medially when closed; head in lateral view quadrate; face without projection between toruli 25
25(24) Petiole in dorsal view shorter than wide, and scarcely visible 26
- Petiole in dorsal view at least as long as wide but usually much longer, and clearly visible 34
26(25) Scape inner surface almost always with several thickened, peg-like setae (Fig. 198) . . . . . ***Omyomymar* (*Omyomymar*)**
- Scape inner surface without setae or, if setae present, these thin, not peg-like 27
27(26) Frenum completely divided medially by longitudinal groove into paramedial plates (Figs 29, 36) 28
- Frenum entire or not clearly or only partially divided medially by longitudinal groove 29
28(27) Frenum with each paramedial plate wider than long; second phragma with apex truncate or convex (Figs 22, 29, 36) . . . . . ***Anagrus***
- Frenum with each paramedial plate longer than wide; second phragma with apex notched medially . . . . . ***Schizophragma***
29(27) Fore wing with venation at least 0.5× wing length and with a distinct line of microtrichia extending from apex of venation obliquely towards posterior margin of wing (Fig. 54) . . . . . ***Australomymar***
- Fore wing with venation at most 0.4× wing length and without such a line of microtrichia 30
30(29) Mandible reduced to small stub without teeth (Fig. 129); maxillae elongate, together longer than wide; gena in lateral view narrow, almost absent; dorsellum projecting slightly over propodeum (Fig. 131), as best seen in lateral view; genitalia often considerably extruded in dead specimens . . . . . ***Erythmelus***
- Mandible not reduced and with teeth; maxillae more quadrate, together as wide as long; gena in lateral view wider; dorsellum not projecting over propodeum; genitalia not or only slightly extruded in dead specimens 31
31(30) Face in lateral view flat or only slightly curved, not bulging anterior to level of eye so head in lateral view more or less rectangular; most flagellomeres longer than wide; propodeum with median groove 32
- Face in lateral view angular and bulging anterior to level of eye so head in lateral view more or less triangular; all flagellomeres quadrate, as long as wide or only slightly rectangular; propodeum without median groove 33
32(31) Scutellum without a short seta at lateral margin (Fig. 41) . . . . . ***Anaphes***
- Scutellum with a short seta at lateral margin (Fig. 19) . . . . . ***Allanagrus***
33(31) Fore wing parallel-sided or almost so and without a distinct lobe behind apex of venation (Fig. 96); subantennal grooves about same colour as remainder of head . . . . . ***Cleruchus***
- Fore wing distinctly widening towards apex and with a distinct lobe behind apex of venation (Fig. 90); subantennal grooves black contrasting sharply with light coloured remainder of head (Fig. 87) . . . . . ***Cleruchoides***
34(25) Fore wing extremely narrow and parallel-sided in basal half then widening abruptly and considerably in apical half (Fig. 177); hind wing either filamentous, without membrane, or narrow with only about 10 long fringe setae along posterior margin beyond venation and at apex (Fig. 177), or reduced to a short stub . . . . . ***Mymar***
- Fore wing gradually widening from base towards apex; hind wing with wider membrane and fringe setae along both anterior and posterior margins and at apex 35
35(34) Fore wing cigar-like, with anterior and posterior margins strongly inrolled; pronotum slightly longer than length of mesoscutum + scutellum (Fig. 184); mesoscutum about 0.6× as long as scutellum . . . . . ***Mymarilla***
- Fore wing flat, with anterior and posterior margins in same plane; pronotum much shorter than length of mesoscutum + scutellum (Figs 147, 213, 234, 259); mesoscutum about as long as scutellum (Figs 147, 213, 234, 259) 36
36(35) Mesothoracic spiracle closer to anterior apex of notaulus than to tegula (Fig. 259); mesosoma smooth and shiny . . . . . ***Stephanodes***
- Mesothoracic spiracle closer to tegula than to anterior apex of notaulus (Figs 213, 234); mesosoma with at least some faint, usually engraved sculpture, and dull 37

37(35) Propodeum with V-shaped carinae medially (Fig. 4) . . . . . ***Acmopolynema***
- Propodeum either smooth or with 1 or 2 parallel median/submedian carinae 38
38(37) Petiole attached to gastral sternum posteriorly . . . . . ***Ganomymar***
- Petiole attached to gastral tergum posteriorly 39
39(38) Face with small pit medially next to each torulus . . . . . ***Polynema* (*Doriclytus*)**
- Face without pit medially next to each torulus 40
40(39) Propleura abutting medially anterior to prosternum (Fig. 215) . . . . . ***Palaeoneura***
- Propleura not abutting medially anterior to prosternum (Fig. 238) 41
41(40) Fore wing without discal microtrichia only beyond apex of venation (Fig. 236); scape with numerous thick setae on inner surface (Fig. 235) . . . . . ***Polynema* (*Dorypolynema*)**
- Fore wing with discal microtrichia also behind apex of venation; scape smooth or with cross-ridges . . . . . ***Polynema* (*Polynema*)**, part

Catalogue of Mymaridae in the Afrotropical region

ACMOPOLYNEMA Ogloblin, 1946

(Figs 1–5)

Acmopolynema Ogloblin, 1946: 286. Type species: *Stichothrix bifasciatipennis* Girault, 1908, by original designation. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Fore wing often with dark transverse bands and/or with some discal setae (especially on dark bands when present) modified, with enlarged bases; propodeum with V-shaped median carinae (Fig. 4); petiole attached to gastral sternum posteriorly.

Discussion. *Acmopolynema* belongs to the *Polynema* group of genera as defined and keyed by Triapitsyn & Berezovskiy (2007). In the Afrotropical region this group also includes *Ganomymar*, *Mymar*, *Mymarilla*, *Palaeoneura*, *Polynema* and *Stephanodes*. *Acmopolynema* is unique among these in having the propodeal carinae V-shaped (Fig. 4).

Afrotropical hosts. Unknown.

Important reference. Triapitsyn & Berezovskiy (2007).

Acmopolynema hazomanitrae (Risbec, 1952)

Caraphractus hazomanitrae Risbec, 1952: 433; lectotype ♀ (MNHN), designated by Triapitsyn, 2011: 26. **TL**: Madagascar, Toamasina [now in Alaotra-Mangoro Region], Périnet [= Andasibe], from galls on leaves of hazomanitra. Heqvist, 1960: 432 (catalogue).

Ceraphractus (*sic*) *hazomanitrae*: Paulian de Felice, 1962: 13 (host gall).

Acmopolynema hazomanitrae: Triapitsyn, 2011: 26 (generic transfer).

Stichothrix perineti Risbec, 1952: 434; holotype ♀ (MNHN). **TL**: Madagascar, Toamasina [Alaotra-Mangoro], Périnet [= Andasibe], from galls on leaves of hazomanitra (Rosaceae). Synonymy by Triapitsyn, 2011: 26. Heqvist, 1960: 432 (catalogue); Annecke & Doutt, 1961: 16 (misplaced generically); Paulian de Felice, 1962: 13 (host gall).

Acmopolynema perineti: Triapitsyn, 2011: 26 (generic transfer).

Afrotropical hosts. Unknown gall on *Cinnamomum zeylanicum* (Lauraceae).

Distribution. Madagascar.

Acmopolynema monicae Mathot, 1968

Acmopolynema monicae Mathot, 1968: 272; holotype ♂ (RMCA). **TL**: Democratic Republic of the Congo, Tshopo, Basoko.

Distribution. Democratic Republic of the Congo, South Africa [new record: Eastern Cape, Grahamstown, 33°19'S 26°31'E, 26.vi.1984, M.S. Harris (1 ♀ on card, SANC)].

ALAPTUS Westwood, 1839

(Figs 6–9)

Alaptus Westwood, 1839: 79. Type species: *Alaptus minimus* Westwood, 1839, by monotypy. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Head posteriorly with curved horizontal sulcus medially above foramen (Fig. 9); supraorbital trabecula with alternating sclerotized and unsclerotized sections (Figs 6, 9); mandible with 2 teeth (Fig. 6); female antenna with funicle 5-segmented (Fig. 7); fore wing posterior margin with an abrupt, recurved notch behind venation and, thereafter, posterior margin almost straight and gradually diverging from anterior margin almost to wing apex (Fig. 8); mesophragma projecting into gaster (Fig. 9); petiole much wider than long and almost indistinguishable from propodeum or gt_1; gt_1 longitudinally divided medially (Fig. 9). Male with flagellum 8-segmented.

Discussion. *Alaptus* belongs to the *Alaptus* group of genera. In the Afrotropical region this group also includes *Callodicopus, Dicopomorpha*, *Dicopus* and *Litus*. Among these *Alaptus* is the only genus with funicle 5-segmented.

Afrotropical hosts. Psocoptera.

Important reference. Triapitsyn (2017a).

Alaptus andersoni Ferrière, 1930

Alaptus andersoni Ferrière, 1930: 41; lectotype ♀ (NHMUK), designated by Triapitsyn, 2017a: 82. **TL**: Kenya, Kabete, from psocid eggs on coffee leaf. Ghesquière, 1939: 35 (compared with *A. nowickii* Ghesquière); Debauche, 1949: 10 (key), 13 (description); Heqvist, 1960: 429 (catalogue); Triapitsyn, 2017a: 82 (description).

Afrotropical hosts. Undetermined Psocoptera.

Distribution. Kenya.

Alaptus immaturus Perkins, 1905

Alaptus immaturus Perkins, 1905: 197; neotype ♀ (QMBA), designated by Triapitsyn, 2017a: 32. **TL**: Australia, Queensland, Nambour, Maroochy Research Station. Triapitsyn, 2017a: 8 (key), 32 (description, distribution).

Alaptus caecilii Girault, 1908: 189; lectotype ♀ (USNM), designated by Triapitsyn, 2017a: 34. **TL**: USA, Florida, Orlando. Synonymy by Triapitsyn, 2017a: 32. Ferrière, 1930: 42 (Kenya, on coffee); Ghesquière, 1939: 35 (comparison with *A. nowickii*); Debauche, 1949: 10 (key), 12 (description); Heqvist, 1960: 429 (catalogue); Viggiani & van Harten, 1996: 72 (Cape Verde).

Afrotropical hosts. Unknown.

Distribution. Cape Verde, Kenya, Mozambique, South Africa.

Extralimital synonyms. Triapitsyn (2017a) listed 2 synonyms.

Alaptus minimus Westwood, 1839

Alaptus minimus Westwood, 1839: 79; lectotype ♀ (NMID), designated by Hincks, 1959: 141. **TL**: UK, most likely England. Debauche, 1949: 10 (key); Heqvist, 1960: 429 (catalogue); Viggiani & van Harten, 1996: 72 (Cape Verde).

Afrotropical hosts. Unknown.

Distribution. Cape Verde.

Extralimital synonyms. Triapitsyn (2017a) listed 8 synonyms.

Alaptus nowickii Ghesquière, 1939

Alaptus nowickii Ghesquière, 1939: 33; type series of 10 ♀, 1 ♂ [7 paratype females on one slide, 4 females and 1 male, including the holotype female on another slide (RMCA)]. **TL**: Belgian Congo, North Kivu, Rutshuru. Debauche, 1949: 10 (key), 14 (description); Heqvist, 1960: 429 (catalogue); Triapitsyn, 2017a: 85 (descriptive notes, distribution).

Afrotropical hosts. Trichopsocidae: *Trichopsocus* sp.

Distribution. Democratic Republic of the Congo.

ALLANAGRUS Noyes & Valentine, 1989

(Figs 10–20)

Allanagrus Noyes & Valentine, 1989: 22. Type species: *Allanagrus magniclava* Noyes & Valentine, 1989, by original designation.

Diagnosis. Face with faint, partly incomplete subantennal sulcus extending from each torulus towards mouth margin (Fig. 10); ocelli not delimited by stemmaticum; mandible with ventral tooth separated by deep notch from wide, apically serrate upper tooth (in one described species) (Fig. 10) or, apparently, with 3 equal teeth (in another species); female antenna with clava 3-segmented or possibly 2-segmented (not clear so genus is keyed using both features) (Figs 11, 17); scutellum with campaniform sensilla abutting anterior margin of scutellum in one species (Fig. 14) or well separated from it in another species (Fig. 19); frenum entire; ovipositor and sheaths not extending forward under the mesosoma.

Discussion. *Allanagrus* belongs to the *Anagrus* group of genera, as previously classified by Noyes & Valentine (1989) and Lin *et al.* (2007). In the Afrotropical region the *Anagrus* group also includes *Anagrus*, *Dorya*, *Omyomymar*, *Paranaphoidea* and *Schizophragma*. Among these, *Allanagrus* and *Paranaphoidea* both have the clava 3-segmented though a species of *Allanagrus* with clava apparently 2-segmented (Fig. 11) is tentatively included in the genus. If correctly placed the corresponding male would be the first recorded for *Allanagrus*. The single known male in the Afrotropical region has the flagellum 10-segmented. Afrotropical *Allanagrus* species have the scutellum with a minute scutellar seta at its posterolateral angle, midway between the anterior and posterior margins. This seta is in addition to the axillar seta and occurs in several other genera inside the group, e.g., *Dorya* or outside the group, e.g., *Platystethynium*.

Afrotropical hosts. Unknown.

Important references. Huber & Triapitsyn (2017), Palanivel *et al*. (2017).

Allanagrus occidentalis Huber & Triapitsyn, 2017

Allanagrus occidentalis Huber & Triapitsyn, 2017: 56; holotype ♀ (NHMUK). **TL**: Gabon, Mondah Forest, 15–25 km N. of Libreville.

Distribution. Gabon.

ANAGRUS Haliday, 1833

(Figs 21–37)

Anagrus Haliday, 1833a: 268; 1833b: 346. Type species: *Ichneumon atomus* Linnaeus, 1767, by subsequent designation by Westwood, 1839: 78. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Face without subantennal sulci (Figs 21, 26, 33); ocelli usually (except in subgenus *Anagrella*) delimited by stemmaticum (Fig. 33); female antenna with clava 1-segmented (Figs 23, 27, 34), in lateral view often clearly asymmetrical, with dorsal margin usually strongly curved and ventral margin almost straight (Figs 23, 27); frenum longitudinally divided by narrow or wide sulcus into paramedial plates, each shorter than wide (Figs 22, 29, 36); ovipositor and sheaths not extending forward under mesosoma.

Discussion. *Anagrus* belongs to the *Anagrus* group of genera. In the Afrotropical region this group also includes *Allanagrus*, *Dorya*, *Omyomymar*, *Paranaphoidea* and *Schizophragma*. The Afrotropical region has species in the three subgenera: *A*. (*Anagrus*), *A*. (*Anagrella*) and *A*. (*Paranagrus*). Members of the *atomus* species group of *A*. (*Anagrus*) are dominant and very diverse in the entire continent (Triapitsyn *et al.* 2020b), while the subgenus *A*. (*Anagrella*) is quite speciose in the humid environments of tropical continental Africa (Triapitsyn 2015).

Afrotropical hosts. Hemiptera.

Important references. Mathot (1968). Viggiani & Jesu (1995) keyed 8 African species. Triapitsyn (2015) keyed the world species.

Anagrus (*Anagrus*) *atomus* (Linnaeus, 1767)

Ichneumon atomos Linné [Linnaeus], 1767: 941, neotype ♀ (UUZM), designated by Chiappini & Triapitsyn, 2007: 2. **TL**: Sweden, Uppsala, Hågadalen.

Anagrus (*Anagrus*) *atomus*: Triapitsyn, 2015: 10 (key), 19 (description, Cape Verde).

Anagrus proscassellatii Viggiani & Jesu, 1995: 95; holotype ♀ (DEZA). **TL**: Cape Verde, Fogo Island, San Jorge. Synonymy by Triapitsyn, 2015: 41. Viggiani & Jesu, 1995: 98 (key); Viggiani & van Harten, 1996: 73 (list); Jesu & Viggiani, 2007: 76 (key).

Afrotropical hosts. Unknown.

Distribution. Cape Verde.

Extralimital synonyms. Triapitsyn *et al.* (2020b) listed 18 synonyms.

Anagrus (*Anagrus*) *brevifuniculatus* Viggiani & Jesu, 1995

Anagrus brevifuniculatus Viggiani & Jesu, 1995: 93; holotype ♀ (DEZA). **TL**: Cape Verde, Fogo Island, San Jorge. Viggiani & Jesu, 1995: 98 (key); Viggiani & van Harten, 1996: 73 (list); Jesu & Viggiani, 2007: 76 (key).

Anagrus (*Anagrus*) *brevifuniculatus*: Triapitsyn, 2015: 10 (key), 20 (description, Cape Verde).

Afrotropical hosts. Unknown.

Distribution. Cape Verde.

Anagrus (*Anagrus*) *fennicus* Soyka, 1956

Anagrus fennicus Soyka, 1956a: 26; lectotype ♀ (NHMW), effectively designated by Chiappini, 1989: 112. **TL**: Finland, no locality given. Soyka, 1956a: 26 (key).

Anagrus (*Anagrus*) *fennicus*: Triapitsyn, 2015: 14 (key), 31 (description).

Anagrus capensis Heqvist, 1960: 426; holotype ♀ (MZLU). **TL**: South Africa, Cape Province, 10 mi. N. of Citrusdal. Synonymy by Triapitsyn, 2015: 42. Mathot 1968: 272 (key); Viggiani & Jesu, 1995: 98 (key).

Anagrus (*Anagrus*) *capensis*: Triapitsyn, 2015: 42 (listed under *A. fennicus*).

Afrotropical hosts. Unknown.

Distribution. South Africa (probably unintentionally introduced from Europe, as no other, native members of the *incarnatus* species group of *A*. (*Anagrus*) have been recorded yet from the continental Afrotropical region.)

Anagrus (*Anagrus*) *frequens* Perkins, 1905

Anagrus frequens Perkins, 1905: 198, lectotype ♀ (BPBM), invalidly designated by Triapitsyn & Beardsley, 2000: 32; validated by Triapitsyn, 2001: 279. **TL**: Australia, Queensland, Bundaberg. Triapitsyn, 1998: 142 (Congo).

Anagrus (*Anagrus*) *frequens*: Triapitsyn, 2015: 22 (description, Democratic Republic of the Congo, South Africa).

Anagrus cicadulinae Ferrière, 1930: 40; lectotype ♀ (NHMUK), invalidly designated by Triapitsyn & Beardsley, 2000: 32; validated by Triapitsyn, 2001: 279. **TL**: South Africa, Natal [KwaZulu-Natal], Durban. Synonymy by Triapitsyn & Beardsley, 2000: 32. Heqvist, 1960: 430 (catalogue); Mathot, 1968: 272 (key); Triapitsyn, 2015: 42 (as *A. frequens*, South Africa).

Afrotropical host. Cicadellidae: *Cicadulina mbila* (Naudé) on *Zea mays*.

Distribution. Democratic Republic of the Congo, South Africa.

Remarks. While the record of *A. frequens* from the Democratic Republic of the Congo by Triapitsyn (1998, 2015) is not in doubt, that cannot be said about the synonymy of *A. cicadulinae* with *A. frequens* by Triapitsyn & Beardsley (2000). Despite their morphological similarity, it is quite possible that *A. cicadulinae* is a good species, one of the many described and undescribed members of the *atomus* species group of *A*. (*Anagrus*) that are so diverse and speciose in the Afrotropical region. All other, reliable host records of *A. frequens* outside of Africa are from eggs of Delphacidae (Triapitsyn & Beardsley 2000), so the original record of *A. cicadulinae* from eggs of the maize leafhopper *Cicadulina mbila* (Ferrière 1930) may indicate the validity of *A. cicadulinae*. The type series of *A. cicadulinae* is very poorly mounted, making its proper recognition difficult so fresh specimens need to be reared from the same host in South Africa and compared both morphometrically and genetically to authoritatively identified specimens of *A. frequens* from the Australasian and Oriental regions.

Anagrus (*Anagrella*) *funebris* Mathot, 1968

Anagrus funebris Mathot, 1968: 270; holotype ♀ (RBINS), examined. **TL**: Congo, Tshopo, Yangambi, Isalowe River. Mathot 1968: 272 (key); Triapitsyn, 1998: 142 (types).
Anagrus (*Anagrella*) *funebris*: Triapitsyn, 2015: 8 (key), 14 (description, Democratic Republic of the Congo).

Afrotropical hosts. Unknown.

Distribution. Democratic Republic of the Congo.

Anagrus (*Anagrella*) *humicola* Mathot, 1968

Anagrus humicola Mathot, 1968: 269; holotype ♀ (RMCA), examined. **TL**: Uganda, Bugiri, 1400 m, in humus, vestige of shade-loving forest. Mathot, 1968: 272 (key).
Anagrus (*Anagrella*) *humicola*: Triapitsyn, 2015: 8 (key), 16 (description, Ivory Coast).

Afrotropical hosts. Unknown.

Distribution. Ivory Coast, Uganda.

Anagrus (*Anagrus*) *incarnatus* Haliday, 1833

Anagrus incarnatus Haliday, 1833b: 347; lectotype ♀ (NMID), designated by Graham, 1982: 200. **TL**: UK or Ireland.
Anagrus flaveolus Waterhouse, 1913: 87 (misidentifications): Williams, 1957: 78 (biology, Mauritius); Williams, 1958: 113 (list, host, Mauritius); Williams & Mamet, 1962: 3 (hosts, Mauritius); Williams, 1974: 4, 14, 15 (hosts, Mauritius); Williams, 1978: 2, 3 (hosts, Mauritius); Williams, 1980: 5, 19 (hosts, Mauritius); Ganeshan & Williams, 2001: 8, 22 (host, Mauritius); Ganeshan, 2001: 15 (host, Mauritius).
Anagrus nilaparvatae Pang & Wang, 1985: 176, holotype ♀ (SCAC). **TL**: China, Guangdong, Fuoshan. Synonymy by Triapitsyn *et al*., 2018: 2803.
Anagrus (*Anagrus*) *nilaparvatae*: Triapitsyn, 2015: 36 (description, Mauritius).

Afrotropical hosts. Delphacidae: *Dicranotropis muiri* Kirkaldy, *Peregrinus maidis* (Ashmead), *Perkinsiella saccharicida* Kirkaldy (for the misidentified *A. flaveolus* in Mauritius).

Distribution. Mauritius.

Extralimital synonyms. Triapitsyn *et al*. (2018) listed 18 synonyms.

Anagrus (*Anagrus*) *nedotepae* Triapitsyn, 2017

Anagrus nedotepae Triapitsyn in Triapitsyn *et al*., 2017: 134; holotype ♀ (UCRC). **TL**: Ivory Coast, Lagunes, Yaokro. Triapitsyn *et al.*, 2017: 136 (key).

Afrotropical host. Cicadellidae: *Nedotepa curta* Dmitriev.

Distribution. Ivory Coast.

Anagrus (*Paranagrus*) *optabilis* (Perkins, 1905)

Paranagrus optabilis Perkins, 1905: 199; lectotype ♀ (BPBM), invalidly designated by Triapitsyn & Beardsley, 2000: 28; validated by Triapitsyn, 2001: 274. **TL**: Australia, Queensland, Bundaberg. Williams, 1957: 78 (biology, Mauritius); Williams, 1958: 113 (list, host, Mauritius); Sigwalt, 1962: 604 (parasitism rate, Madagascar); Williams & Mamet, 1962: 3 (hosts, Mauritius); Brénière, 1965: 345 (list, Madagascar); Williams, 1974: 4, 14, 15 (hosts, Mauritius); Williams, 1978: 2, 3 (hosts, Mauritius); Williams, 1980: 5, 18, 19 (hosts, Mauritius); Ganeshan & Williams, 2001: 8, 22 (host, Mauritius); Ganeshan, 2001: 15 (host, Mauritius).

Anagrus (*Paranagrus*) *optabilis*: Triapitsyn, 1997: 2 (key), 3 (South Africa); Triapitsyn, 2015: 17 (description, Cape Verde, Madagascar, Mauritius, Réunion, South Africa).

Anagrus prounilinearis Viggiani & Jesu, 1995: 96; holotype ♀ (DEZA). **TL**: Cape Verde, Fogo Island, San Jorge. Synonymy by Triapitsyn, 2015: 43. Viggiani & Jesu, 1995: 98 (key); Viggiani & van Harten, 1996: 73 (list); Jesu & Viggiani, 2007: 76 (key).

Afrotropical hosts. Delphacidae: *Dicranotropis muiri* Kirkaldy, *Peregrinus maidis* (Ashmead), *Perkinsiella saccharicida* Kirkaldy.

Distribution. Cape Verde, Madagascar, Mauritius, Réunion, South Africa.

Anagrus (*Anagrus*) *scassellatii* Paoli, 1930

Anagrus scassellatii Paoli, 1930: 235; syntypes 4 ♀, 4♂ (ISZA), lost. **TL**: Somalia, Villagio Duca degli Abruzzi [Jowhaar]. Viggiani & Jesu, 1995: 98 (key), 95 (mention, Cape Verde); Jesu & Viggiani, 2007: 76 (key, Sudan).

Anagrus scassellati [*sic*]: Heqvist, 1960: 430 (catalogue); Mathot 1968: 272 (key).

Anagrus (*Anagrus*) *scassellatii*: Triapitsyn, 2015: 8 (key), 26 (description, Sudan); Triapitsyn *et al*., 2017: 136 (key).

Afrotropical hosts. Cicadellidae: *Empoasca* (*Matsumurasca*) *dolichi* Paoli, *Jacobiasca fascialis* (Jacobi).

Distribution. Cape Verde, Somalia, Sudan.

Anagrus (*Anagrus*) *sensillatus* Viggiani & Jesu, 1995

Anagrus sensillatus Viggiani & Jesu, 1995: 97; holotype, ♀ (DEZA). **TL**: Cape Verde, Fogo Island, San Jorge. Viggiani & Jesu, 1995: 98 (key); Viggiani & van Harten, 1996: 73 (list); Jesu & Viggiani, 2007: 76 (key).

Anagrus (*Anagrus*) *sensillatus*: Triapitsyn, 2015: 8 (key), 26 (description, Gabon); Triapitsyn *et al*., 2017: 136 (key).

Afrotropical hosts. Unknown.

Distribution. Cape Verde, Gabon.

Anagrus (*Paranagrus*) *unilinearis* Soyka, 1950

Anagrus unilinearis Soyka, 1950: 124; holotype ♀ (PPDD), lost. **TL**: Egypt, Shareh-El-Haram. Heqvist, 1960: 431 (catalogue).

Anagrus (*Paranagrus*) *unilinearis*: Triapitsyn, 1997: 2 (key), 3 (South Africa); Triapitsyn, 2015: 18 (description, South Africa).

Afrotropical hosts. Unknown.

Distribution. South Africa.

ANAPHES Haliday, 1833

(Figs 38–42)

Anaphes Haliday, 1833a: 268, 1833b: 346. Type species: *Anaphes fuscipennis* Haliday, 1833, by designation under the plenary powers of the International Commission on Zoological Nomenclature, 2017: 122 (ICZN 2017). See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Body almost always uniformly black or dark brown (Fig. 41); fore wing with posterior margin straight to distinctly concave, with apex slightly asymmetrical (anterior margin usually more curved than posterior margin), and with membrane almost always uniformly covered with microtrichia except for two more or less distinct bare areas, the marginal and medial spaces [very small in *A. nitens* (Girault)], separated by an oblique row of microtrichia extending from just behind apex of stigmal vein towards wing apex (Fig. 40); retinaculum with a socketed seta near apex; petiole a thin, narrow and almost vertical crescent longitudinally divided medially; gt_1 divided medially by a longitudinal sulcus; ovipositor base sometimes enclosed in a somewhat membranous gastral sac projecting anteriorly ventral to mesosoma.

Discussion. *Anaphes* belongs to the *Anaphes* group of genera, a rather poorly defined group (Lin *et al.* 2007). In the Afrotropical region this group also includes *Erythmelus*. *Anaphes* differs from *Erythmelus* in having normal mandibles, crossing when closed, and with at least 3 well developed teeth, whereas *Erythmelus* has greatly reduced mandibles without teeth.

The most well known species of fairyfly in the Afrotropical region is *Anaphes nitens*, imported from Australia into South Africa to control an introduced *Gonipterus* sp. (Coleoptera: Curculionidae) on *Eucalyptus* spp. An additional Australian species was more recently imported for the same purpose but apparently but was not yet released.

Afrotropical hosts. Coleoptera.

Important reference. Huber & Thuróczy (2018).

Anaphes (*Patasson*) *comosipennis* Girault, 1917

Anaphes comosipennis Girault, 1917b: 17; holotype ♀ (ZMHB), lost? **TL**: German East Africa, no locality given.

Afrotropical hosts. Unknown.

Distribution. Tanzania.

Anaphes (*Patasson*) *inexpectatus* Huber & Prinsloo, 1990

Anaphes inexpectatus Huber & Prinsloo, 1990: 340; holotype ♀ (ANIC). **TL**: Laboratory stock originating from Australia, Hobart (Tasmania) and Fingal (Victoria).

Note. This species is being reared in quarantine in South Africa and may be released as an additional biological control agent against *Gonipterus* sp. In anticipation that it will indeed be released and established in southern Africa the species is included here.

Anaphes (*Patasson*) *nitens* (Girault, 1928)

Anaphoidea nitens Girault, 1928: 262; lectotype ♀ (MVMA), designated by Huber & Prinsloo, 1990: 336. **TL**: Australia, Victoria, Ferntree Gully. Anonymous, 1934: 39 (climate effect); Tooke, 1935: 174 (climate effect, biological control); Anonymous, 1940: 185 (distribution, Southern Rhodesia); Tooke, 1942: 3 (biological control); Moutia & Vinson, 1945: 29 (mention); Moutia, 1946: 211 (biology, Mauritius); Moutia, 1947: 126 (biological control, Mauritius); Frappa, 1950: 186 (rearing, percent parasitism, release in Madagascar); Williams *et al*., 1952: 24 (biology, biological control, Mauritius); Tooke, 1955: 94 (biological control, South Africa); Mossop, 1955: 523 (introduction into Southern Rhodesia, biocontrol); Williams, 1958: 113 (list, host, Mauritius); Paulian, 1961: 297 (establishment in Madagascar); Brénière, 1965: 349 (list, Madagascar); Appert *et al*., 1969: 558 (576 in English version) (introduction into Madagascar in 1949, biological control);

Herting, 1973: 101 (catalogue, Malawi, Kenya); Williams, 1974: 4, 25 (host, Mauritius); Williams, 1980: 5, 30 (hosts, Mauritius).

Anaphoidea sp.: Mossop, 1929: 5 (biology, hosts, introduction into South Africa).

Anaphoidae [*sic*] *nitens*: Moutia & Mamet, 1947: 30 (list, introduction from East Africa into Mauritius in 1946, host, spread).

Patasson nitens: Greathead, 1971: 20 (first recorded in 1945 in Kenya, 1946 in Uganda), 28 (1937 in Malawi), 29 (~1937 in Zimbabwe), 49 (1927 in South Africa), 63 (1948 in Madagascar), 81 (1946 in Mauritius), 92 (1959 in St. Helena) [all successful biological control]; Williams & Ganeshan, 2000: 35 (list), 37, 43 (biological control, Mauritius); Ganeshan & Williams, 2001: 8, 34 (host, Mauritius).

Patasson (= *Anaphoidea*) *nitens*: Annecke & Moran, 1982: 315 (biology, ecology, biological control, South Africa).

Anaphoidea gonipteri Ferrière, 1930: 38; lectotype ♀ (NHMUK), designated by Huber & Prinsloo, 1990: 336. **TL**: Australia, South Australia, Penola. Synonymy by Girault, 1930: 4.

Anaphes goniopteri [*sic*]: Heqvist, 1960: 427 (variation, distribution).

Afrotropical hosts. Curculionidae: *Gonipterus gibberus* Boisduval*, G. suturalis* Gyllenhal (Mossop 1929) and an undescribed species long misidentified as *G. scutellatus*.

Distribution. Kenya, Madagascar, Malawi, Mauritius, South Africa, Uganda, Zimbabwe.

Anaphes (*Anaphes*) *quinquearticulatus* Huber & Triapitsyn, 2017

Anaphes quinquearticulatus Huber & Triapitsyn, 2017: 44; holotype ♀ (UCRC). **TL**: Republic of the Congo, Pool, Abio, Lesio-Louna Park.

Afrotropical hosts. Unknown.

Distribution. Republic of the Congo.

ARESCON Walker, 1846

(Figs 43–49)

Arescon Walker, 1846: 50. Type species: *Mymar dimidiatus* Curtis, 1832, by monotypy. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Vertex with pale lines surrounding ocelli rectangular and also connected by pale lines extending from each corner of stemmaticum to supraorbital trabeculae (Fig. 44); female antenna with funicle 5-segmented (Fig. 45); fore wing with venation extending at least 0.7× wing length (Fig. 48); marginal vein 2× as long as submarginal vein, more than 2× as long as parastigma and with 2 distal macrochaetae; postmarginal vein apparently absent.

Discussion. *Arescon* belongs to the *Arescon* group of genera. In the Afrotropical region this is the only genus in the group. Based on the long fore wing venation, it is most similar to a group that includes *Borneomymar* and *Chrysoctonus*. These are the only genera with a fore wing venation at least 0.6× wing length (in *Chrysoctonus*, only males have wings).

Afrotropical hosts. Unknown.

Important reference. Annecke & Doutt (1961).

Arescon fulvus Annecke & Doutt, 1961

Arescon fulvum Annecke & Doutt, 1961: 39; holotype ♀ (SANC). **TL**: South Africa, Cape, Rosebank.

Distribution. South Africa.

AUSTRALOMYMAR Girault, 1929

(Figs 50–57)

Australomymar Girault, 1929b: 343. Type species: *Australomymar aurigerum* Girault, 1929, by monotypy.

Nesetaerus Doutt, 1955: 12. Type species: *Nesetaerus gressitti* Doutt, 1955, by monotypy. Synonymy by Lin *et al*., 2007: 25.

Diagnosis. Fore wing with a diagonal fold and line of microtrichia extending from apex of venation to posteroapical margin of wing (Fig. 54); venation (to apex of stigmal vein) extending over 0.5× wing length, marginal vein much longer than parastigma and with 2 macrochaetae, postmarginal vein apparently absent; ovipositor strongly exserted, with several setae along length of exserted part of each ovipositor sheath (Figs 50, 56).

Discussion. *Australomymar* belongs to the *Australomymar* group of genera. In the Afrotropical region it is the only member of the group. *Australomymar* is related to several genera from the Australian region, particularly those from New Zealand (Noyes & Valentine 1989). The examined females from the Afrotropical region have the clava, and usually also fl_6, white.

Afrotropical hosts. Unknown.

Distribution. No named species in the Afrotropical region. Specimens examined are from Madagascar, Nigeria, and São Tomé and Príncipe (CAS, CNC, UCRC, USNM).

Important reference. Lin *et al*. (2007).

BORNEOMYMAR Huber, 2002

(Figs 58–63)

Borneomymar Huber, 2002: 45. Type species: *Borneomymar discus* Huber, 2002, by original designation.

Diagnosis. Female antenna with funicle 8-segmented (Fig. 60); fore wing venation extending 0.75× length of fore wing (Fig. 62), marginal vein almost as long as submarginal vein and about 2× as long as parastigma, with 1 distal macrochaeta; postmarginal vein present and longer than stigmal vein; ovipositor sheath short, not extending beyond posterior apex of gaster, and apically hooked (Fig. 61); ovipositor extremely long, projecting beyond apex of gaster by over 2× length of entire body (Fig. 59). Males are distinguished from those of *Arescon* and *Chrysoctonus* by the apical 4 flagellar segments about 2× as wide as the basal 4 (uniform width for all flagellar segments in the other two genera).

Discussion. *Borneomymar* belongs to the *Borneomymar* group of genera. In the Afrotropical region this group also includes *Chrysoctonus*. These two genera are the only ones besides *Arescon* with a fore wing venation at least 0.6× the wing length (in *Chrysoctonus*, only males have wings). Among these, *Borneomymar* females are distinguished from the other two genera by the exserted part of the ovipositor (but not the ovipositor sheaths, which are not exserted) about 2× as long as the entire body.

Afrotropical hosts. Unknown.

Important references. Huber (2002), Engel *et al*. (2013).

Borneomymar madagascar Huber, 2002

Borneomymar madagascar Huber, 2002: 48; holotype ♀ (UCDC). **TL**: Madagascar, Antsiranana [now in Sava Region], 11 km WSW Befingotra, Reserve Speciale d'Anjanaharibe-Sud. Owen *et al*., 2007: 248 (ribosomal RNA); Engel *et al*., 2013: 2 (comparison with Baltic amber fossil); Huber, 2017: 81 (redescription).

Distribution. Madagascar.

CALLODICOPUS Ogloblin, 1955

(Figs 64–68)

Callodicopus Ogloblin, 1955b: 377. Type species: *Callodicopus crassula* Ogloblin, 1955, by original designation. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Occiput separated from gena/postgena by transverse vertexal trabecula just dorsal to foramen magnum (Fig. 64b); mandibles with 2 equal teeth and crossing when closed (Fig. 64a); female antenna with funicle 7-segmented and fu_2 much shorter than fu_1 or fu_3 (Fig. 65); mesophragma projecting slightly into gaster; gt_1 about same length as each following tergum (Fig. 68a).

Discussion. *Callodicopus* belongs to the *Alaptus* group of genera. In the Afrotropical region the group also includes *Alaptus*, *Dicopomorpha*, *Dicopus* and *Litus*. *Callodicopus* appears to be a link between the *Alaptus* group of genera and the *Camptoptera* group of genera. The wide propodeal foramen with the mesophragma projecting slightly through it into the gaster places it in the *Alaptus* group but the back of the head with a median coronal line place it in the *Camptoptera* group. The length of fu_2 varies; in some cases it is so short that the antenna appears to have only 6 funicle segments.

Afrotropical hosts. Unknown.

Important references. Annecke (1961a), Huber & Lin (1999).

Callodicopus magniclavae (Annecke, 1961)

Decamymar magniclavae Annecke, 1961a: 69; holotype ♀ (SANC). **TL**: South Africa, Kruger National Park, Skukuza.
Callodicopus magniclavae: Huber & Lin, 1999: 26 (generic transfer).

Distribution. South Africa.

CAMPTOPTERA Foerster, 1856

(Figs 69–78)

Camptoptera Foerster, 1856: 116, 119. Type species: *Camptoptera papaveris* Foerster, 1856, by monotypy. See Huber *et al.* (2020) for other generic synonyms and their type species.

Camptoptera (*Zemicamptoptera*) Ogloblin & Annecke 1961: 302. Type species *Camptoptera* (*Zemicamptoptera*) *semialbata* Ogloblin & Annecke, by original designation. **Syn. n.** of *Camptoptera* (*Camptoptera*) Foerster.

Eofoersteria Mathot, 1966: 231. Type species: *Eofoersteria camptopteroides* Mathot, 1966, by original designation. **Syn. & stat. n.** Treated here as a subgenus.

Diagnosis. Head posteriorly with median vertical coronal sulcus extending from vertexal suture to meet postorbital sulcus and postorbital sulcus extending laterally from above foramen to below eye; mandible with 1 tooth (Fig. 72); female antenna with funicle 7-segmented and fu_2 ring-like, much shorter than fu_1 or fu_3 (Figs 71, 73) or 6-segmented without ring segment (Fig. 78); fore wing narrow, with posterior margin concave and wing apex slightly but usually distinctly curved (Fig. 74), usually with one longitudinal row of microtrichia (Figs 71, 74) but occasionally fore wing wider, with several rows of microtrichia; tarsi 5-segmented, except 4-segmented in one species due to fusion of apical two tarsal segments, resulting in segment 4 being twice as long as any of the preceding tarsal segments (Fig. 77); petiole narrow and slightly longer than wide (Fig. 70), sometimes with a laterally projecting lamella at about midpoint.

Discussion. *Camptoptera* belongs to the *Camptoptera* group of genera. In the Afrotropical region this group also includes *Camptopteroides*, *Ptilomymar* and *Stephanocampta*. Huber & Lin (1999) had also included *Callodicopus* in the group, but on balance of features, particularly the mesophagma projecting into the gaster, *Callodicopus* fits better in the *Alaptus* group rather than the *Camptoptera* group in which the mesophragma does not project through the petiole into the gaster.

At least one Afrotropical *Camptoptera* species has the propodeum with translucent lamina (Fig. 75), somewhat as in *Stephanocampta* but smaller, and fore wing narrow. Another has the fore wing fairly wide, with several rows of microtrichia but no translucent lamina. In *C.* (*Camptoptera*) *diademata* (Mathot) and *C.* (*Eofoersteria*) *camptopteroides* (Mathot) the funicle ring segment is absent (Figs 77, 78). *Camptoptera* (*Eofoersteria*) is one of the few taxa (*Ptilomymar* is the other) that clearly belongs among the numerous genera with 5-segmented tarsi even though it has only 4-segmented tarsi, the apical two likely having fused together without trace of a suture between them. *Eofoersteria* is given subgeneric status because of fusion of the last two tarsal segments, a feature probably due to the extremely small body size of the species. Tarsal fusion in Mymaridae is so unusual that it is given subgeneric status rather than simply being treated only as a species group within *Camptoptera*. Here we treat *C.* (*Zemicamptoptera*) Ogloblin & Annecke, **syn. n.** at most as a species group within *Camptoptera* (*Camptoptera*), as here formally recognized for the first time, because the only absolute feature that distinguishes the subgenus is a reduced number

of flagellomeres in males. Females of *C.* (*Zemicamptoptera*) species cannot be distinguished by any absolute feature from females of *C.* (*Camptoptera*) species. The species group includes *C.* (*Camptoptera*) *africana* Ogloblin & Annecke and possibly several other extralimital species with very small adults (Triapitsyn 2014).

Afrotropical hosts. Unknown.

Important references. Ogloblin & Annecke (1961), Mathot (1966), Huber & Lin (1999).

Camptoptera (*Camptoptera*) *africana* Ogloblin & Annecke, 1961, stat. n.

Camptoptera (*Zemicamptoptera*) *africana* Ogloblin & Annecke, 1961: 305; holotype ♂ [SANC]. **TL**: South Africa, Cape Province, Grahamstown. Ogloblin & Annecke, 1961: 307 (key).

Distribution. South Africa.

Camptoptera (*Eofoersteria*) *camptopteroides* (Mathot, 1966), comb. n.

(Figs 77, 78)

Eofoersteria camptopteroides Mathot, 1966: 233; holotype ♀ (RBINS) (lost?, but two other specimens found from same locality with different dates). **TL**: Congo, Tshopo, Yaoseko, on *Panicum* sp.

Distribution. Democratic Republic of the Congo.

Camptoptera (*Camptoptera*) *diademata* (Mathot, 1966)

(Figs 69–71)

Staneria diademata Mathot, 1966: 216; holotype ♀ (RBINS), examined. **TL**: Zaire, Yangambi [type slide labelled as Yangambi, arboretum, parc. 2B Lele, 21.xi.1946, P. Staner].
Camptoptera diademata: Huber & Lin, 1999: 29 (generic transfer).

Distribution. Democratic Republic of the Congo.

Camptoptera (*Camptoptera*) *papaveris* Foerster, 1856

Camptoptera Papaveris [*sic*] Foerster, 1856: 119; lectotype ♀ (NHMW), designated by Triapitsyn, 2014: 50. **TL**: Germany, almost certainly Aachen area.
Camptoptera pulla Girault, 1909: 27, lectotype ♀ (INHS), designated by Frison, 1927: 227. **TL**: USA, Illinois, Urbana. Synonymy by Triapitsyn, 2014: 48. Ogloblin & Annecke, 1961: 296 (description, South Africa), 307 (key).

Distribution. South Africa.

Camptoptera (*Camptoptera*) *pretoriensis* Ogloblin & Annecke, 1961

Camptoptera pretoriensis Ogloblin & Annecke, 1961: 293; holotype ♀ (SANC). **TL**: South Africa, Transvaal, Pretoria. Ogloblin & Annecke, 1961: 307 (key).

Distribution. South Africa.

Camptoptera (*Camptoptera*) *psocivora* Mathot, 1972

Camptoptera psocivora Mathot, 1972: 392; holotype ♀ (RMCA), examined. **TL**: Zaire, Campus Université Lovanium, Maison

de Scheut, in wheat seeds with undetermined Psocoptera, a pseudoscorpion, and several species of Acari. Viggiani & Jesu, 1995: 100 (comparison with *C. vanharteni* Viggiani & Jesu).

Distribution. Democratic Republic of the Congo.

Camptoptera (*Camptoptera*) *scholli* Ogloblin & Annecke, 1961, stat. n.

Camptoptera (*Zemicamptoptera*) *scholli* Ogloblin & Annecke, 1961: 299; holotype ♀ (SANC). **TL**: South Africa, Transvaal, Louis Trichardt.
Camptoptera scholli Ogloblin & Annecke, 1961: 307 (key).

Distribution. South Africa.

Camptoptera (*Camptoptera*) *sycophila* (Ghesquière, 1942)

Congolia sycophila Ghesquière, 1942: 321; holotype ♂ (RBINS), examined. **TL**: Belgian Congo, North Kivu, Rutshuru, from figs of *Ficus ottoniaefolia*.
Camptoptera sycophila: Debauche, 1949: 19 (description); Ogloblin & Annecke, 1961: 307 (key).

Distribution. Democratic Republic of the Congo.

Camptoptera (*Camptoptera*) *vanharteni* Viggiani & Jesu, 1995

Camptoptera vanharteni Viggiani & Jesu, 1995: 99; holotype ♀ (DEZA), examined. **TL**: Cape Verde, Fogo Island, San Jorge. Viggiani & van Harten, 1996: 73 (list).

Distribution. Cape Verde.

CAMPTOPTEROIDES Viggiani, 1974
(Figs 79–84)

Camptopteroides Viggiani, 1974: 3. Type species: *Camptopteroides armata* Viggiani, 1974, by original designation. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Head posteriorly with median vertical coronal sulcus extending from vertexal suture to meet postorbital sulcus and postorbital sulcus extending laterally from above foramen to below eye; mandible with 2 teeth (Fig. 79); female antenna with funicle either 6-segmented (Fig. 80) or possibly 7-segmented with fu_2 ring-like, much shorter than fu_1 or fu_3 and almost fused to fu_3, and clava as long as scape, longer than funicle + pedicel; frenum, metanotum and propodeum with strong reticulate sculpture (Fig. 83); fore wing shortened, strongly curved, with membrane beyond venation extending much less than length of venation (Fig. 82); hind wing spindle-like (Fig. 83); petiole ring-like, much shorter than wide. Male (of a different species, female unknown) with fore wing fully developed, apically pointed and parallel-sided.

Discussion. *Camptopteroides* belongs to the *Camptoptera* group of genera. In the Afrotropical region this group also includes *Camptoptera*, *Ptilomymar* and *Stephanocampta*. See under *Camptoptera* for explanation of included genera.

Afrotropical hosts. Unknown.

Distribution. No named species in the Afrotropical region. Specimens examined (CAS, CNC, UCRC) are from Madagascar and represent two species, one known from females and the other from one male.

Important references. Huber & Lin (1999), Sankararaman *et al.* (2020).

CHRYSOCTONUS Mathot, 1966
(Figs 85, 86)

Chrysoctonus Mathot, 1966: 224. Type species: *Chrysoctonus apterus* Mathot, 1966, by monotypy. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Ocelli absent; female antenna with funicle 7-segmented (Fig. 86); mesosoma short, higher than wide, with pronotum, mesoscutum and scutellum all about equal in length (Fig. 85); wingless (Fig. 85). Male with flagellum 11-segmented, each funicle segment several times as long as wide and fully winged, with venation extending almost 0.6× fore wing length.

Discussion. *Chrysoctonus* belongs to the *Borneomymar* group of genera. In the Afrotropical region this group also includes *Borneomymar*. All *Chrysoctonus* males have the wing venation at least 0.6× the wing length (females are wingless). Females of the three genera are distinguished by the number of funicle segments—5 in *Arescon*, 8 in *Borneomymar* and 7 in *Chrysoctonus*. Extralimital species of *Chrysoctonus* have as few as 4 funicle segments but so far the single Afrotropical species is only known to have 7.

Afrotropical hosts. Unknown.

Important reference. Huber & Triapitsyn (2015).

Chrysoctonus apterus Mathot, 1966
(Figs 85, 86)

Chrysoctonus apterus Mathot, 1966: 225; holotype ♀ (RBINS), examined. **TL**: Congo, Yangambi, in forest litter. Huber & Triapitsyn, 2015: 85 (generic transfer, description, distribution).

Distribution. Central African Republic, Democratic Republic of the Congo, Gabon.

CLERUCHOIDES Lin & Huber, 2007
(Figs 87–93)

Cleruchoides Lin & Huber in Lin *et al.*, 2007: 53. Type species: *Cleruchoides noackae* Lin & Huber, 2007, by original designation.

Diagnosis. Face light coloured (yellowish), with distinct black bar extending obliquely from each torulus to mandible (Fig. 87); mandibles short, not crossing when closed, with teeth small (Fig. 87); female antenna with funicle segments longer than wide and clava 1-segmented (Fig. 88); fore wing widening distally and with a distinct lobe behind venation (Fig. 90); gaster with wrinkled terga (Fig. 92). Male with antenna 11-segmented (Fig. 89), gaster with terga apically crenellated (Fig. 93a), and digitus with 2 (3?) strong teeth (Fig. 93b).

Discussion. *Cleruchoides* belongs to the *Cleruchus* group of genera. In the Afrotropical region this group also includes *Cleruchus*, *Platystethynium*, and *Eubroncus* based on its strongly triangular head in lateral view. *Cleruchoides noackae* Lin & Huber was introduced from Australia for biological control and has spread widely in South Africa (Bernard Slippers, personal communication).

Afrotropical hosts. Hemiptera.

Important reference. Lin *et al*. (2007).

Cleruchoides noackae Lin & Huber, 2007
(Figs 87–93)

Cleruchoides noackae Lin & Huber in Lin *et al*., 2007: 54; holotype ♀ (ANIC), examined. **TL**: Australia, Tasmania, Devonport. Mutitu *et al*., 2013: 1979 (biology, South Africa).

Afrotropical hosts. Thaumastocoridae: *Thaumastocoris peregrinus* Carpintero & Dellapé.

Distribution. South Africa.

CLERUCHUS Enock, 1909

(Figs 94–101)

Cleruchus Enock, 1909: 453. Type species: *Cleruchus pluteus* Enock, 1909, by monotypy. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Body dorsoventrally flattened (Fig. 99); head strongly produced anteriorly, in lateral view almost triangular (Fig. 95); ocelli, when present, far apart, with lateral ocellus next to posterior apex of supraorbital trabecula (Fig. 94a); female antenna with funicle segments about as long as wide and clava 1-segmented (Fig. 97); fore wing narrow, parallel sided (Fig. 96); ovipositor short, originating in apical third or less of gaster (Figs 100b, 101b).

Discussion. *Cleruchus* belongs to the *Cleruchus* group of genera. In the Afrotropical region this group also includes *Cleruchoides*, *Eubroncus* and *Platystethynium*. It is most similar to *Cleruchoides*; in both genera the clava is 1-segmented and the fore wing venation is distinctly constricted anterior to the large triangular stigma (Fig. 96).

Afrotropical hosts. Coleoptera.

Important reference. Huber & Triapitsyn (2017).

Cleruchus depressus Annecke, 1961

Cleruchus depressus Annecke, 1961a: 72; holotype ♀ (SANC). **TL**: South Africa, Cape Province, Rosebank. Barnes, 2014: 902 (host).

Afrotropical hosts. Curculionidae: *Phlyctinus callosus* Schönherr.

Distribution. South Africa.

Cleruchus musangae (Mathot, 1966)

Bakkendorfia musangae Mathot, 1966: 229 225; holotype ♀ (RBINS), examined. **TL**: Congo, Yangambi, on parasolier [French common name for a species of Urticaceae], 15.viii.1951. [Type slide labelled Yangambi, Parasoliers, 15.viii.1951 but does not have a red type label.]

Cleruchus musangae (Mathot): Huber & Triapitsyn, 2017: 40 (images of holotype).

Afrotropical hosts. Unknown.

Distribution. Democratic Republic of the Congo.

COSMOCOMOPSIS Huber, 2015

(Figs 102–106)

Cosmocomopsis Huber, 2015: 22. Type species: *Ooctonus sevae* Risbec, 1955, by subsequent designation.

Diagnosis. *Cosmocomopsis* is distinguished from other members of the Gonatocerini by the following combination: face with subantennal sulci (Fig. 103); vertex with 2 setae between ocelli; female antenna with fu_8 having 4 mps and clava with about 15 mps in 3 whorls (Fig. 104); pronotum divided medially by longitudinal sulcus, the pronotal lobes almost abutting (Fig. 106); metanotum with dorsellum thin and strap-like, almost parallel-sided but with slight bulge medially (Fig. 106); propodeum with submedian lines almost abutting, appearing almost as a single median carina (Fig. 106); fore wing without microtrichia behind and just beyond venation (Fig. 105); petiole as long as metacoxa (Fig. 106); gt_1 with posterior margin strongly sinuate.

Discussion. *Cosmocomopsis* belongs to the *Gonatocerus* group of genera, treated formally as Gonatocerini in Huber (2015). In the Afrotropical region this group also includes *Gonatocerus, Heptagonatocerus*, *Lymaenon, Octomicromeris, Tanyxiphium* and *Zeyanus*. *Cosmocomopsis* species are most similar to some species of *Lymaenon* from Madagascar. Some *Lymaenon* species also have only 2 setae between the ocelli clava and apical funicle segments with more numerous mps than usual and a long gastral petiole, but the fore wing microtrichia extend to the

base of the parastigma, the pronotal lobes are well separated from each other and the dorsellum is more distinctly strap-like.

Afrotropical hosts. Orthoptera.

Important reference. Huber (2015).

Cosmocomopsis flopsis Huber, 2015

(Fig. 103)

Cosmocomopsis flopsis Huber, 2015: 24; holotype ♀ (CAS). **TL**: Madagascar, Antsiranana [now in Diana Region], Ampasindava, Forêt d'Ambilanivy. Huber, 2015: 24 (key).

Afrotropical hosts. Unknown.

Distribution. Madagascar.

Cosmocomopsis mopsis Huber, 2015

(Figs 102, 104–106)

Cosmocomopsis mopsis Huber, 2015: 25; holotype ♀ (USNM). **TL**: Madagascar, Antsiranana [now in Sava Region], R.N. 1 de Marojejy [Marojejy National Park], 14°26.2'S 49°44.5'E. Huber, 2015: 24 (key).

Afrotropical hosts. Unknown.

Distribution. Madagascar.

Cosmocomopsis sevae (Risbec, 1955)

Ooctonus sevae Risbec, 1955: 311; lectotype ♀ (MNHN), validly designated by Huber, 2015: 25. **TL**: Madagascar, Antsiranana [now in Diana Region], Ambilobé, ex. Orthoptera egg mass on edge of seva leaf. Heqvist, 1960: 428 (catalogue).
Gonatocerus sevae: Huber *et al*., 2010: 233 (invalid lectotype designation).
Gonatocerus (*Lymaenon*) *sevae*: Triapitsyn, 2010: 13 (generic transfer).
Cosmocomopsis sevae: Huber, 2015: 24 (key), 25 (generic transfer).

Afrotropical hosts. Orthoptera.

Distribution. Madagascar.

DICOPOMORPHA Ogloblin, 1955

(Figs 107–111)

Dicopomorpha Ogloblin, 1955b: 387. Type species: *Dicopomorpha macrocephala* Ogloblin, 1955, by original designation. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Occiput without lines, sulci or carinae except for a median transverse sulcus of variable length (Fig. 107b) just above foramen; mandibles when closed overlapping medially (Fig. 107), each with 2 small apparently equal teeth; female antenna with funicle 7-segmented and fu_2 about equal to fu_1 or fu_3 (Fig. 108); fore wing behind venation with posterior margin forming a slight but distinct lobe (Fig. 109).

Discussion. *Dicopomorpha* belongs to the *Alaptus* group of genera. In the Afrotropical region this group also includes *Alaptus*, *Callodicopus*, *Dicopus* and *Litus*. *Dicopomorpha* appears to be most similar to *Callodicopus* but the vertexal trabecula is absent. *Dicopomorpha* differs from *Dicopus* by the head ventral to lower eye margin quadrate, not narrowing so appreciably ventral to eyes (Fig. 107), the mandibles crossing medially when closed, and the fore wing just distal to venation wider.

Afrotropical hosts. Unknown.

Important reference. Huber (2009).

***Dicopomorpha zebra* Huber, 2009**

Dicopomorpha zebra Huber, 2009: 236; holotype ♀ (NHMUK), examined. **TL**: Nigeria, Oyo, Ibadan, IITA compound.

Distribution. Gabon, Ivory Coast, Nigeria.

DICOPUS Enock, 1909
(Figs 112–119)

Dicopus Enock, 1909: 455. Type species: *Dicopus minutissimus* Enock, 1909, by monotypy. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Vertex separated from occiput by a medially divided vertexal trabecula (Fig. 112b); mandibles when closed pointing ventrally (Fig. 112), each with one short and one long tooth; female antenna with funicle 7-segmented and fu_2 about equal to fu_1 or fu_3 and clava with a short apical nipple (Fig. 113); fore wing extremely narrow, with narrowest point about one venation length distal to venation, then distinctly widening to apex (Fig. 114); hind wing also narrow for about 4 venation lengths beyond hamuli then becoming uniformly wider to apex (Fig. 114).

Discussion. *Dicopus* belongs to the *Alaptus* group of genera together with *Alaptus*, *Callodicopus*, *Dicopomorpha* and *Litus*. It is most similar to *Dicopomorpha* in having the female antenna with funicle clearly 7-segmented but the fore wing is narrower, the head ventral to the eyes narrows distinctly, each mandible has one large and one small tooth and is directed ventrally.

Afrotropical hosts. Psocoptera?

Important reference. Mathot (1972).

***Dicopus lilliput* Mathot, 1972**
(Figs 117–119, with holotype slide below habitus)

Dicopus lilliput Mathot, 1972: 389; holotype ♀ (RMCA), examined. **TL**: Zaire, Bas-Zaire [Congo Central], Njili Forest, litter under a log. One paratype in a bag of maize with various stored food insects.

Distribution. Democratic Republic of the Congo.

DORYA Noyes & Valentine, 1989
(Figs 120–127)

Dorya Noyes & Valentine, 1989, 33. Type species: *Dorya pilosa* Noyes & Valentine, 1989, by monotypy.

Diagnosis. Face with subantennal sulci (Fig. 120); ocelli without stemmaticum (Fig. 121); female antenna with clava 1-segmented, as long as funicle, gradually narrowing distally, and acutely pointed (Fig. 122); frenum not longitudinally divided medially; ovipositor and sheaths not extending forward under mesosoma.

Discussion. *Dorya* belongs to the *Anagrus* group of genera. In the Afrotropical region the *Anagrus* group also includes *Allanagrus*, *Anagrus*, *Omyomymar*, *Paranaphoidea* and *Schizophragma*. Among these, *Dorya* is distinguished by the long, attenuated, apically pointed clava.

Afrotropical hosts. Unknown.

Distribution. No species are named in the Afrotropical region. A specimen (CNC) examined is from the Seychelles Islands.

Important references. Noyes & Valentine (1989), Lin *et al.* (2007).

ERYTHMELUS Enock, 1909
(Figs 128–136)

Erythmelus Enock, 1909: 454. Type species: *Erythmelus goochi* Enock, 1909, by monotypy. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Head in lateral view with gena short (Fig. 133a) or absent so head often appearing thin; mandibles in both sexes reduced to small stubs, without teeth; metanotum with dorsellum triangular (Fig. 131), slightly overhanging propodeum (Fig. 133a); gaster in lateral view with hypopygium long, extending posteriorly at least to apex of gaster (Fig. 136).

Discussion. *Erythmelus* belongs to the *Anaphes* group of genera, a rather poorly defined group (Lin *et al*. 2007). In the Afrotropical region this group also includes *Anaphes*. Both sexes of *Erythmelus* have minute mandibles without teeth, a situation unique in Mymaridae where at least one sex has normal mandibles or, especially if the other sex had reduced mandibles, has enlarged mandibles with at least one unusually shaped tooth.

Afrotropical hosts. Hemiptera.

Important reference. Triapitsyn (2003).

Erythmelus flavovarius (Walker, 1846)

Panthus flavovarius Walker, 1846: 52; lectotype ♀ (OUMNH), designated by Graham, 1982: 219. **TL**: Unknown [Ireland?].
Erythmelus flavovarius: Viggiani & van Harten, 1996: 74 (Cape Verde).

Afrotropical hosts. Unknown.

Distribution. Cape Verde.

Erythmelus (*Parallelaptera*) *funiculi* (Annecke & Doutt, 1961)
(Figs 133–136)

Parallelaptera funiculi Annecke & Doutt, 1961: 44; holotype ♀ (SANC). **TL**: South Africa, Transvaal [now Gauteng], Pretoria.
Erythmelus (*Parallelaptera*) *funiculi*: Trjapitzin, 1993: 268 (key), 270 (Uganda); Triapityn, 2003: 34 (key), 35 (generic transfer, Uganda).

Afrotropical hosts. Unknown.

Distribution. South Africa, Uganda.

Erythmelus (*Parallelaptera*) *panis* (Enock, 1909)

Parallelaptera panis Enock, 1909: 454; holotype ♀ (NHMUK). **TL**: UK, England, Woking. Annecke & Doutt, 1961: 46 (comparison with *E. funiculi*); Viggiani & van Harten, 1996: 75 (Cape Verde); Triapitsyn, 2003: 34 (key), 41 (Mali); Hu & Triapitsyn, 2013: 423 (key), 428 (Mali).
Parallelaptera foucarti Mathot in Demaire, 1973: 30; holotype ♀ (RMCA). **TL**: Rwanda, Rubona? Synonymy by Triapitsyn, 2003: 39.

Afrotropical hosts. Tingidae: *Habrochila ghesqierei* Schouteden.

Distribution. Cape Verde, Democratic Republic of the Congo (Demaire 1973), Mali, Rwanda.

Extralimital synonyms. Triapitsyn (2003) listed 2 synonyms.

EUBRONCUS Yoshimoto, Kozlov & Trjapitzin, 1972
(Figs 137–146)

Eubroncus Yoshimoto, Kozlov & Trjapitzin, 1972: 879. Type species: *Eubroncus orientalis* Yoshimoto, Kozlov & Trjapitzin, 1972, by original designation.

Stomarotrum Yoshimoto, Kozlov & Trjapitzin, 1972: 881. Type species: *Stomarotrum prodigiosum* Yoshimoto, Kozlov & Trjapitzin, 1972, by original designation. Synonymy by Triapitsyn & Huber, 2000: 603.

Diagnosis. Head strongly produced anteriorly, in lateral view almost triangular (Fig. 142); face with rectangular projection between toruli (Fig. 138); female antenna with funicle segments mostly shorter than wide (Fig. 137); mandibles as long as head height, projecting anteriorly and not crossing medially (Fig. 142); hind wing relatively wide with bluntly rounded apex (Fig. 139); protibial spur comb-like, with numerous setae.

Discussion. *Eubroncus* belongs to the *Cleruchus* group of genera. In the Afrotropical region this group also includes *Cleruchoides*, *Cleruchus*, and *Platystethynium*. Triapitsyn & Berezovskiy (2002) first mentioned *Eubroncus* for the region. It is most similar to the extralimital *Anagroidea* Girault; both are probably best placed as a subgroup in the *Cleruchus* group of genera.

Afrotropical hosts. Unknown.

Distribution. No species described for the Afrotropical region. Specimens from Comoros, Kenya, Madagascar, Republic of the Congo, and Uganda were examined (CAS, CNC, UCRC).

Important references. Jin & Li (2014), Triapitsyn (2018a [world key to species]).

GANOMYMAR De Santis, 1972

(Figs 147–149)

Ganomymar De Santis, 1972: 1. Type species: *Ganomymar dessarti* De Santis, 1972, by original designation.

Diagnosis. Gena in dorsal view absent, the eye extending posteriorly to occiput (Fig. 147); antenna in most species with clava white, contrasting strongly with dark colour of funicle (Fig. 148); fore wing shortened in female of type species (Fig. 149) and one species, fully winged (macropterous) in males of two species (Triapitsyn 2021c); propodeum at posterior margin with a pair of small white puffs (spherical structures of unknown nature that are very translucent and thus not visible in slide-mounted specimens) on both sides of petiole attachment (best seen in dry-mounted specimens), either with well separated parallel submedian carinae (Fig. 147) or with a complete or incomplete median carina (Triapitsyn 2021c); petiole posteriorly attached to gastral sternum.

Discussion. *Ganomymar* belongs to the *Polynema* group of genera as defined by Triapitsyn & Berezovskiy (2007). In the Afrotropical region this group also includes *Acmopolynema*, *Mymar*, *Mymarilla*, *Palaeoneura*, *Polynema* and *Stephanodes*. Superficially, the type species of *Ganomymar* resembles some Neotropical *Cremnomymar* Ogloblin with shortened wings but the eye in *Cremnomymar* species does not extend to the occiput, leaving a wide gena in dorsal view and the propodeal carinae are configured differently (Huber 2013).

Afrotropical hosts. Unknown.

Important reference. Triapitsyn (2021c).

Ganomymar caslot Triapitsyn, 2021

Ganomymar caslot Triapitsyn, 2021c: 130; holotype ♀ (CAS). **TL**: Madagascar, Fianarantsoa [now in Vatovavy-Fitovinany Region], Ranomafana National Park, Vatoharanana River, 1100 m. Triapitsyn, 2021c: 130 (key, description).

Distribution. Madagascar.

Ganomymar dessarti De Santis, 1972

(Figs 147–149)

Ganomymar dessarti De Santis, 1972: 2; holotype ♀ (RBINS). **TL**: Madagascar, locality not specified. Triapitsyn, 2021c: 129 (key), 137 (description).

Comments. The holotype fore wing and antenna are illustrated as well as a card-mounted specimen (Fig. 147) collected from Madagascar, "Tamatave, Perinet" [actually, Périnet in Alaotra-Mangoro Region], 23.iv–3.v.1983, J.S. Noyes, M.C. Day (1 ♀, NHMUK). This specimen appears to be conspecific with the holotype.

Distribution. Madagascar.

Ganomymar libertatium Triapitsyn, 2021

Ganomymar libertatium Triapitsyn, 2021c: 140; holotype ♀ (CAS). **TL**: Madagascar, Antsiranana Prov. [now in Sava Region], 9.1 km 233° SW of Daraina, Binara forest, 650–800 m. Triapitsyn, 2021c: 130 (key), 140 (description).

Distribution. Madagascar.

Ganomymar zuparkoi Triapitsyn, 2021

Ganomymar zuparkoi Triapitsyn, 2021c: 146; holotype ♀ (CAS). **TL**: Madagascar, Fianarantsoa Province [now in Ihorombe Region], 8.0 km NE Ivohibe, 1200 m. Triapitsyn, 2021:130 (key), 146 (description).

Distribution. Madagascar.

GONATOCERUS Nees, 1834

(Figs 150–156)

Gonatocerus Nees, 1834: 192. Type species: *Gonatocerus longicornis* Nees, 1834, by monotypy.

Diagnosis. *Gonatocerus* is distinguished from other members of Gonatocerini by the following combination: vertex with 2 setae between lateral ocelli (Fig. 150); pronotum divided medially by longitudinal suture and the lobes abutting medially except sometimes slightly separated dorsally (Fig. 153); fore wing relatively narrow, with apex evenly rounded, and with microtrichia usually as dense behind venation as beyond venation (Fig. 152); stigmal vein with apex usually slightly oblique (Fig. 152); dorsellum diamond-shaped (Fig. 153); propodeum with faint, converging sublateral lines, or lines absent; pronotal spiracle about same size as propodeal spiracle (Fig. 154); ovipositor not produced anteriorly under mesosoma (Figs 155, 156).

Discussion. *Gonatocerus* belongs to the *Gonatocerus* group of genera, treated formally as Gonatocerini by Huber (2015). In the Afrotropical region this group also includes *Cosmocomopsis, Heptagonatocerus*, *Lymaenon, Octomicromeris, Tanyxiphium* and *Zeyanus*. *Gonatocerus* is not as easy to characterize as the other genera in the group. Useful features that help distinguish *Gonatocerus* species are: female antenna with fu_2 and fu_3 slightly the longest funicle segments and apex of fu_2 oblique. The dorsellum margin may be lighter in colour than the central area of the dorsellum.

Afrotropical hosts. Unknown.

Important reference. Huber (2015).

Gonatocerus aegyptiacus Soyka, 1950

Gonatocerus aegyptiacus Soyka, 1950: 125; holotype ♀ (PPDD), lost. **TL**: Egypt, Giza, Shareh El-Haram. Huber, 2015: 29 (list).

Gonatocerus (*Gonatocerus*) *aegyptiacus*: Triapitsyn, 2013: 9 (synonymy, distribution, description, hosts, South Africa).

Distribution. South Africa.

Gonatocerus alberti (Debauche, 1949)

Lymaenon alberti Debauche, 1949: 56; holotype ♀ (RMCA), lost. **TL**: Zaire, Albert [now Virunga] National Park, Kabasha escarpment, 1500 m. Heqvist, 1960: 430 (catalogue).
Gonatocerus alberti: Huber, 2015: 30 (generic transfer, list).

Distribution. Democratic Republic of the Congo.

Gonatocerus inaequalis (Debauche, 1949)

Lymaenon inaequalis Debauche, 1949: 54; holotype ♀ (RMCA), lost. **TL**: Belgian Congo, North Kivu, Rutshuru, Fuku River, 1250 m. Heqvist, 1960: 424 (South Africa), 430 (catalogue); Viggiani & van Harten, 1996: 74 (Cape Verde).
Gonatocerus inaequalis: Huber, 2015: 31 (generic transfer, list).

Distribution. Democratic Republic of the Congo, South Africa.

Gonatocerus risbeci (Heqvist, 1960)

Lymaenon risbeci Heqvist, 1960: 430 [generic transfer and replacement name for *Gonatocerus africanus* Risbec, 1956, not *G. africanus* Soyka, 1950 (transfer to *Lymaenon*)].
Gonatocerus risbeci (Heqvist): Huber, 2015: 32 (generic transfer, list).
Gonatocerus africanus Risbec, 1956a: 153; 14 ♀ and 1 ♂ syntypes (MNHN). **TL**: Cameroon, Garoua.
Gonatocerus jassidae Risbec, 1956b: 821 (*nomen nudum*). This name unquestionably applies to *G. risbeci*, as Risbec's discussion about the original misidentification of the host clearly indicates.
Gonatocerus camerounensis Özdikmen, 2011: 840 (unnecessary replacement name for *Gonatocerus africanus* Risbec, 1956 not Soyka, 1950).

Distribution. Cameroon.

Afrotropical hosts. Cicadellidae: "*Tettigoniella albidipes*" (Risbec 1956a). The author of the species name was not given by Risbec and the specific name was not found in any catalogue of Cicadellidae. The genus is a synonym of *Cicadella* Latreille.

HEPTAGONATOCERUS Huber, 2015

(Figs 157–162)

Heptagonatocerus Huber, 2015: 33. Type species: *Heptagonatocerus pulchellus* Huber, by original designation.

Diagnosis. *Heptagonatocerus* is distinguished from other members in the group by the following combination: face without subantennal sulci (Fig. 157); female antenna with funicle 7-segmented, and fu_7 wider than long and distinctly shorter than fu_6 (Fig. 158); propodeum with two short submedian carinae arising on side of petiole and usually also a median longitudinal carina (Fig. 161). Male antenna with basal flagellomeres fairly wide (Fig. 158).

Discussion. *Heptagonatocerus* belongs to the *Gonatocerus* group of genera, treated formally as Gonatocerini by Huber (2015). In the Afrotropical region the group also includes *Cosmocomopsis, Gonatocerus, Lymaenon, Octomicromeris, Tanyxiphium* and *Zeyanus*. The reduced number of funicle segments occurs also in females of a few species of *Lymaenon*.

Afrotropical hosts. Unknown.

Important reference. Huber (2015).

Heptagonatocerus madagascarensis Huber, 2015

Heptagonatocerus madagascarensis Huber, 2015: 34; holotype ♀ (CAS). **TL**: Madagascar, Antanarivo, Réserve Spéciale

d'Ambohitantely [Ambohitantely Special Reserve is in Ankazobe District of Analamanga Region], Forêt d'Ambohitantely, 209 m, 72° NE d'Ankazobe, 1410 m. Huber, 2015: 34 (key), 77 (list).

Distribution. Madagascar.

LITUS Haliday, 1833

(Figs 163–169)

Litus Haliday 1833a: 269; 1833b: 345. Type species: *Litus cynipseus* Haliday, 1833, by monotypy. See Huber *et al.* (2020) for generic synonyms and their type species. Two names inadvertently missed are:
Neolitiscus Ghesquière, 1946: 367. *Nomen nudum*. Unnecessary new name.
Lithisca Ogloblin, 1955a: 498. *Lapsus*. Unnecessary new name.

Diagnosis. Ocelli forming an obtuse triangle with the lateral ocellus at posterolateral angle of vertex; head posteriorly without evident sulci, the occiput separated from gena/postgena by slight change in sculpture lateral to dorsal margin of foramen; mandibles crossing when closed, with 2 subequal teeth (Fig. 163); female antenna with funicle 6-segmented (Fig. 164); mesophragma projecting into gaster; propodeum posteriorly with a short but wide ring-like nucha (neck) separated from rest of propodeum by a distinct narrowing; petiole (not visible unless metasoma detached) short and narrow; metasoma smooth, laterally compressed, cynipoid-like, with gt_1 the largest tergum (Fig. 167a).

Discussion. *Litus* belongs to the *Alaptus* group of genera. In the Afrotropical region the *Alaptus* group also includes *Alaptus*, *Callodicopus*, *Dicopomorpha* and *Dicopus*. The short, narrow petiole is similar to that of species in the *Camptoptera* group of genera, but it is completely hidden by gt_1, which encircles dorsally and laterally the thickened, ring-like nucha at the apex of the propodeum.

Afrotropical hosts. Unknown.

Important reference. Heqvist (1960).

Litus brincki Heqvist, 1960

Litus brincki Heqvist, 1960: 424; holotype ♀ (MZLU). **TL**: South Africa, Cape Town, Table Mountain, 2400 feet.

Distribution. South Africa.

LYMAENON Walker, 1846

(Figs 170–174)

Lymaenon Walker, 1846: 49. Type species: *Lymaenon acuminatus* Walker, 1846, by subsequent designation by Gahan & Fagan, 1923: 82. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. *Lymaenon* is distinguished from other members in Gonatocerini by the following combination: ocellar triangle with 3 or, rarely, 4 setae between lateral ocelli (Fig. 170); pronotal lobes separated by a usually membranous gap (Fig. 172); mesothoracic spiracle much larger than propodeal spiracle; dorsellum strap-like, with anterior and posterior margins parallel (Fig. 172); propodeum with parallel or slightly converging submedian lines (Fig. 172), often with spicules between them; stigmal vein with apex truncate (Fig. 171).

Discussion. *Lymaenon* belongs to the *Gonatocerus* group of genera, treated formally as Gonatocerini by Huber (2015). In the Afrotropical region the *Gonatocerus* group also includes *Cosmocomopsis, Gonatocerus, Heptagonatocerus*, *Octomicromeris, Tanyxiphium* and *Zeyanus*. *Lymaenon* is the most commonly collected genus of the group, with a greater diversity of species than any other region except Australia. A few species have the female antenna with funicle 7-segmented. *Lymaenon* is superficially most similar to *Gonatocerus* but the strap-like dorsellum immediately distinguishes it. *Cosmocomopsis* has an almost parallel-sided dorsellum but its long petiole distinguishes it.

Afrotropical hosts. Unknown.
Important references. Debauche (1949), Huber (2015).

Lymaenon aureus (Girault, 1911)

Gonatocerus aureus Girault, 1911: 263; neotype ♀ (USNM), designated by Triapitsyn, 2013: 48. **TL**: USA, Illinois, Urbana.
Gonatocerus (*Lymaenon*) *aureus*: Triapitsyn, 2013: 47 (description, Republic of the Congo, South Africa).
Lymaenon aureus: Huber, 2015: 29 (generic transfer, list).

Distribution. Republic of the Congo, South Africa.

Lymaenon basilewskyi Mathot, 1968

Lymaenon basilewskyi Mathot, 1968: 265; holotype ♀ (RMCA), examined. **TL**: Tanzania, Ngorongoro Rest Camp, 2400–2500 m. Heqvist, 1960: 430 (catalogue); Huber, 2015: 44 (list).

Distribution. Tanzania.

Lymaenon capensis Viggiani & Jesu, 1995

Lymaenon capensis Viggiani & Jesu, 1995: 101; holotype ♀ (DEZA). **TL**: Cape Verde, Fogo Island, San Jorge.
Lymaenon capensis: Viggiani & van Harten, 1996: 74 (Cape Verde); Huber, 2015: 44 (list).

Distribution. Cape Verde.

Lymaenon chryseides Debauche, 1949

Lymaenon chryseides Debauche, 1949: 45; holotype ♀ (RMCA). **TL**: Belgian Congo, Albert [now Virunga] National Park, Nyasheke, Nyamuragira Volcano, 1820 m. Debauche, 1949: 28 (key); Heqvist, 1960: 430 (catalogue); Huber, 2015: 44 (list).

Distribution. Democratic Republic of the Congo.

Lymaenon contortivena Debauche, 1949

Lymaenon contortivena Debauche, 1949: 30; holotype ♀ (RBINS). **TL**: Belgian Congo, North Kivu, Rutshuru, 1285 m, 7.vi.1935. Debauche, 1949: 27 (key); Heqvist, 1960: 430 (catalogue); Huber, 1988: 31 (species group placement); Huber, 2015: 45 (list).

Distribution. Democratic Republic of the Congo, Kenya [new record: Kakamega District, Isecheno, Kakamega Forest, 0.24°N 34.86°E, 11–20.i.2003, W. Okeka (2 ♀, UCRC)].

Lymaenon debauchei Mathot, 1968

Lymaenon debauchei Mathot, 1968: 268; holotype ♀ (RMCA), examined. **TL**: Congo, Rwanki [Rankwi on type slide], North of Lac Kivu. Huber, 2015: 45 (list).

Distribution. Democratic Republic of the Congo.

Lymaenon hoplites Debauche, 1949

Lymaenon hoplites Debauche, 1949: 35; holotype ♀ (RMCA). **TL**: Belgian Congo, Albert [now Virunga] National Park, towards Rweru, Mikeno Volcano. Debauche, 1949: 28 (key); Heqvist, 1960: 430 (catalogue).
Lymaenon hoplitis [*sic*]: Huber, 2015: 46 (list).

Distribution. Democratic Republic of the Congo.

Lymaenon johnstonia (Girault, 1917)

Gonatocerus johnstonia Girault, 1917a: 13; holotype ♀ (ZMHB). **TL**: German East Africa, no locality given.
Lymaenon johnstonia: Heqvist, 1960: 430 (catalogue); Huber, 2015: 46 (generic transfer, list).

Distribution. Tanzania.

Lymaenon kabashae Debauche, 1949

Lymaenon kabashae Debauche, 1949: 40; holotype ♀ [RMCA]. **TL**: Belgian Congo, Albert [now Virunga] National Park, Kanyabayongo (Kabasha), 1760 m. Debauche, 1949: 27 (key); Heqvist, 1960: 30 (catalogue); Huber, 2015: 46 (list).

Distribution. Democratic Republic of the Congo.

Lymaenon kivuanus Debauche, 1949

Lymaenon kivuanus Debauche, 1949: 43; holotype ♀ [RMCA]. **TL**: Belgian Congo, North Kivu, Rutshuru, 1285 m. Debauche, 1949: 29 (key); Heqvist, 1960: 430 (catalogue); Huber, 2015: 47 (list).

Distribution. Democratic Republic of the Congo.

Lymaenon litoralis (Haliday, 1833)

Ooctonus litoralis Haliday, 1833b: 342, 344; lectotype ♀ (OUMNH), designated by Graham, 1982: 223. **TL**: UK, Northern Ireland, Co. Down, near Holywood.
Gonatocerus (*Lymaenon*) *litoralis*: Triapitsyn, 2013: 82 (description, Mauritius).
Lymaenon litoralis: Huber, 2015: 47 (generic transfer, list).

Distribution. Mauritius.

Lymaenon longiclava Viggiani & Jesu, 1995

Lymaenon longiclava Viggiani & Jesu, 1995: 104; holotype ♀ (DEZA). **TL**: Cape Verde Islands, Fogo Island, San Jorge. Viggiani & van Harten, 1996: 74 (list); Huber, 2015: 48 (list).

Distribution. Cape Verde.

*Lymaenon megacephala (*Risbec, 1951), comb. n.

Polynema megacephala Risbec, 1951: 401; holotype ♀ (MNHN?), lost? **TL**: Senegal, M'Bambey.

Distribution. Senegal.

Comment. Risbec (1951) described the species from a single female but the illustrations of the body and antenna are clearly based on a male. The species is, without doubt, not a *Polynema* but, based on the fore wing venation, most likely a species of *Lymaenon*. The host recorded, *Belenois creona* (Cramer) [as *Anaphaeis creona* Cramer) (Lepidoptera: Pieridae)] is almost certainly wrong (Mymaridae are not parasitoids of Lepidoptera eggs). The butterfly larvae feed on *Capparis* and *Maerua* spp., which gives a clue as to where to search for the eggs of potential hosts (most likely Cicadellidae) to rear more specimens of *L. megacephala* to confirm its generic placement.

Lymaenon molindianus Debauche, 1949

Lymaenon molindianus Debauche, 1949: 38; holotype ♀ (RMCA). **TL**: Belgian Congo, Albert [now Virunga] National Park, Molindi River between Kirumba and Lake Kibuga, 1000 m. Debauche, 1949: 28 (key); Heqvist, 1960: 430 (catalogue); Huber, 2015: 48 (list).

Distribution. Democratic Republic of the Congo.

Lymaenon ngandoi Debauche, 1949

Lymaenon ngandoi Debauche, 1949: 47; holotype ♀ (RMCA). **TL**: Rwanda, Ngando Lake (at base of Karisimbi Volcano), 2400 m. Debauche, 1949: 29 (key); Heqvist, 1960: 424 (South Africa), 430 (list); Huber, 2015: 49 (list).

Distribution. Rwanda, South Africa.

Lymaenon nigricornis (Girault, 1917)

Gonatocerus nigricornis Girault, 1917a: 13; holotype ♀ (ZMHB). **TL**: German East Africa, no locality given.
Lymaenon nigricornis: Heqvist, 1960: 430 (generic transfer, catalogue); Huber, 2015: 49 (generic transfer, list). Heqvist had already transferred the species to *Lymaenon* without indicating it was a new combination; that was done by Huber (2015).

Distribution. Tanzania.

Lymaenon nigricorpus (Girault, 1917)

Gonatocerus nigricorpus Girault, 1917a: 14; holotype ♀ (ZMHB). **TL**: German East Africa, no locality given.
Lymaenon nigricorpus: Heqvist, 1960: 430 (generic transfer, catalogue); Huber, 2015: 49 (generic transfer, list). Heqvist had already transferred the species to *Lymaenon* without indicating it was a new combination; that was done by Huber (2015).

Distribution. Tanzania.

Lymaenon nyashekensis Debauche, 1949

Lymaenon nyashekensis Debauche, 1949: 33; holotype ♀ (RMCA). **TL**: Belgian Congo, Albert [now Virunga] National Park, Nyasheke, Nyamuragira Volcano, 1820 m. Debauche, 1949: 28 (key); Heqvist, 1960: 430 (catalogue); Huber, 2015: 49 (list).

Distribution. Democratic Republic of the Congo.

Lymaenon orientalis (Girault, 1917)

Gonatocerus orientalis Girault, 1917a: 13; holotype ♀ (ZMHB). **TL**: German East Africa, no locality given.

Lymaenon orientalis: Huber, 2015: 49 (generic transfer, list).

Distribution. Tanzania.

Lymaenon prongandoi Viggiani & Jesu, 1995

Lymaenon prongandoi Viggiani & Jesu, 1995: 102; holotype ♀ (DEZA). **TL**: Cape Verde, Fogo Island, San Jorge. Viggiani & van Harten, 1996: 74 (list); Huber, 2015: 50 (list).

Distribution. Cape Verde.

Lymaenon protamiranus Viggiani & Jesu, 1995

Lymaenon protamiranus Viggiani & Jesu, 1995: 106; holotype ♀ (DEZA). **TL**: Cape Verde, Fogo Island, San Jorge. Viggiani & van Harten, 1996: 75 (list); Huber, 2015: 50 (list).

Distribution. Cape Verde.

Lymaenon rohinavotrae Risbec, 1952

Lymaenon rohinavotrae Risbec, 1952: 438; holotype ♀ (MNHN). **TL**: Madagascar, Antananarivo [now in Analamanga Region], La Mandraka. Heqvist, 1960: 430 (catalogue); Jesu & Viggiani, 2005: 81 (comparison with extralimital species); Huber, 2015: 50 (list).

Distribution. Madagascar.

Lymaenon silhouettae (Masi, 1917)

Gonatocerus silhouettae Masi, 1917: 228; holotype ♀ (NHMUK), examined. **TL:** Seychelles Islands, Silhouette Island, Mare aux Cochons. Gerlach *et al*., 1997: 27 (list).
Lymaenon silhouettae: Debauche, 1949: 29 (key), 42 (generic transfer, description); Heqvist, 1960: 430 (catalogue); Huber, 2015: 50 (list).
Gonatocerus Silhouettae [*sic*]: Guiglia, 1961: 241 (catalogue).

Distribution. Seychelles.

Lymaenon straeleni (Debauche, 1949)

Decarthrius straeleni Debauche, 1949: 23; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, Albert [now Virunga] National Park, Nyasheke, Nyamuragira Volcano, 1820 m. Heqvist, 1960: 429 (list).
Gahanopsis straeleni: Annecke & Doutt, 1961: 13 (generic transfer).
Gonatocerus (*Lymaenon*) *straeleni*: Triapitsyn *et al*., 2010: 41 (generic transfer).
Lymaenon straeleni Huber, 2015: 50 (generic transfer, list).

Distribution. Cameroon [new record: Sud Province, Campos Parc National, 2°16’57”N 10°12’22”E, 7.iv.2000, B. Fisher, sifted litter in rainforest (2 ♀, CAS)]; Democratic Republic of the Congo; Kenya [new record: Kakamega District, Isecheno Nature Reserve, Isecheno, 0.24°N 34.87°E, 19.iv.2001–28.ii.2003, W. Okeka, R. Snelling (15 ♀, 2 ♂, UCRC)]; Republic of the Congo [new record: Department of Pool, Iboubikro, Lesio-Louna Park, 3°16’11”S 15°28’16”E, 23.vii.2008, M. Sharkey (1 ♀, UCRC)].

Lymaenon tamiranus Debauche, 1949

Lymaenon tamiranus Debauche, 1949: 50; holotype ♀ (RMCA). **TL**: Rwanda, Mount Tamira near Lake Ngando, 2600 m. Debauche, 1949: 29 (key); Heqvist, 1960: 430 (catalogue); Viggiani & Jesu, 1995: 106 (comparison with *L. protamiranus*); Huber, 2015: 50 (list).

Distribution. Rwanda.

Lymaenon wittei Debauche, 1949

Lymaenon wittei Debauche, 1949: 52; holotype ♀ (RMCA). **TL**: Rwanda, Ruhengeri, Kiri springs, 1800–1825 m. Debauche, 1949: 27 (key); Heqvist, 1960 (catalogue): 430; Huber, 2015: 51 (list).

Distribution. Rwanda.

MYMAR Curtis, 1829
(Figs 175–179)

Mymar Curtis, 1829: 112. Type species: *Mymar pulchellum* Curtis, 1832, by designation under the plenary powers of the International Commission on Zoological Nomenclature, 1965: 82 (ICZN, 1965). See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Toruli abutting transverse trabecula (Fig. 175a); scape, especially in female, usually unusually long (Fig. 176); fore wing extremely narrow for about 0.6× its length (Fig. 177), hind wing either reduced to a short stub or filamentous or, at most, with extremely narrow membrane (Fig. 177).

Discussion. *Mymar* belongs to the *Polynema* group of genera as defined and keyed by Triapitsyn & Berezovskiy (2001) and Triapitsyn (2018a). In the Afrotropical region this group also includes *Acmopolynema*, *Ganomymar*, *Mymarilla*, *Palaeoneura*, *Polynema* and *Stephanodes*. *Mymar* has a unique fore wing shape and hind wing, in Afrotropical species, with (Fig. 177) or without membrane.

Afrotropical hosts. Unknown.

Important references. Annecke (1961b), Triapitsyn (2018a [world key to species]).

Mymar africanum Annecke, 1961

Mymar africanum Annecke, 1961b: 544; holotype ♀ (SANC). **TL**: South Africa, Transvaal, Pretoria. Triapitsyn & Berezovskiy, 2001: 7 (key), 12 (description); Triapitsyn, 2018a: 150 (key).

Distribution. South Africa.

Mymar taprobanicum Ward, 1875

Mymar taprobanicus Ward 1875: 197; holotype ♀ (NHMUK?) on slide, lost. **TL**: Ceylon, locality not specified. Annecke, 1961b: 547 (description, South Africa); Viggiani & van Harten, 1996: 75 (Cape Verde); Triapitsyn & Berezovskiy, 2001: 7 (key), 11 (description, Ivory Coast, Kenya, Madagascar, South Africa); Triapitsyn, 2018a: 150 (key).

Distribution. Cape Verde, Ivory Coast, Kenya, Madagascar, South Africa.

MYMARILLA Westwood, 1879
(Figs 180–185)

Mymarilla Westwood, 1879: 585. Type species: *Mymar wollastoni* Westwood, 1879, by original designation and ICZN (1965).

Diagnosis. Mesoscutum length less than half as long as either pronotum or scutellum (Fig. 184); fore wing anterior and posterior margins strongly inrolled and almost in contact ventrally, cigar-like, and densely covered with microtrichia (Fig. 183).

Discussion. *Mymarilla* belongs to the *Polynema* group of genera as defined and keyed by Triapitsyn & Berezovskiy (2007). In the Afrotropical region this group also includes *Acmopolynema*, *Ganomymar*, *Mymar*, *Palaeoneura*, *Polynema* and *Stephanodes*. It would be interesting to know if cigar-like fore wing curls around the body to hide completely both dorsal and lateral surfaces when the fairyfly is at rest.

Afrotropical hosts. Unknown.

Important reference. Huber (2013a).

Mymarilla wollastoni (Westwood, 1879)

(Figs 180–185)

Mymar wollastoni Westwood, 1879: 585; lectotype ♀ (OUMNH), designated by Annecke & Doutt, 1961: 31. **TL**: Saint Helena Island.

Mymarilla wollastonii [*sic*]: Dalla Torre, 1898: 427 (catalogue).

Mymarilla wollastoni: 585 footnote (generic transfer); Annecke & Doutt, 1961: 31 (description); Subba Rao, 1976: 90 (diagnosis); Huber, 2013: 50 (description).

Distribution. Saint Helena Island (part of the British Overseas Territories).

OCTOMICROMERIS Huber, 2015

(Figs 186–190)

Octomicromeris Huber, 2015: 51. Type species: *Octomicromeris compacta* Huber, 2015, by original designation.

Diagnosis. *Octomicromeris* is distinguished from the other genera in Gonatocerini by the following combination: female antenna with funicle short, the segments at most not much longer than wide, and with mps apparently only on fu_5 and fu_7 (Fig. 187); fore wing venation with parastigma short, at most half as long as submarginal vein, and with almost truncate apex (Fig. 188); propodeum with a sublateral carina between each submedian carina and metapleural sulcus (Fig. 189).

Discussion. *Octomicromeris* belongs to the *Gonatocerus* group of genera, treated formally as Gonatocerini by Huber (2015). In the Afrotropical region this group also includes *Cosmocomopsis, Gonatocerus, Heptagonatocerus*, *Lymaenon, Tanyxiphium* and *Zeyanus*.

Afrotropical hosts. Unknown.

Important reference. Huber (2015).

Octomicromeris brevis Huber, 2015

Octomicromeris brevis Huber, 2015: 53; holotype ♀ (CAS). **TL**: Madagascar, Fianarantsoa [now in Vatovavy-Fitovinany Region], Ranomafana National Park, Vatharanana River, 1100 m. Huber, 2015: 52 (key).

Distribution. Madagascar.

Octomicromeris compacta Huber, 2015

Octomicromeris compacta Huber, 2015: 53; holotype ♀ (CAS). **TL**: Madagascar, Antsiranana [now in Sofia Region], Ampasindava, Ambilanivy Forest, 3.9 km 41º S Ambaliha. Huber, 2015: 52 (key).

Distribution. Madagascar.

OMYOMYMAR Schauff, 1983
(Figs 191–203)

Omyomymar Schauff, 1983: 544. Type species: *Paranaphoidea silvana* Ogloblin, 1935, by original designation. See Huber *et al.* (2020) for generic synonyms and their type species.
Omyomymar (*Kyushumymar*) Triapitsyn, 2021b: 89. Type species: *Omyomymar* (*Kyushumymar*) *yamagishii* Triapitsyn, 2021, by original designation.

Diagnosis. Face with faint subantennal sulci; ocelli not delimited by stemmaticum; mandibles minute stubs with apices not extending to each other when closed (Fig. 192); female antenna with clava 2-segmented, the apical segment usually with a nipple-like projection (Fig. 196); frenum partly longitudinally divided; ovipositor and sheaths not extending forward under mesosoma but usually distinctly exserted posterior to apex of gaster (Fig. 201). Male head with eye relatively small and gena wide (Fig. 194); scape with inner surface with a few to many spine-like setae (Figs 197, 198).

Discussion. *Omyomymar* belongs to the *Anagrus* group of genera. In the Afrotropical region the *Anagrus* group also includes *Allanagrus*, *Anagrus*, *Dorya*, *Paranaphoidea* and *Schizophragma*. Among these *Omyomymar* is the only genus with the ovipositor usually strongly exserted posteriorly (but not anteriorly ventral to mesosoma) and the head strongly sexually dimorphic.

Afrotropical hosts. Unknown.

Distribution. No named species in the Afrotropical region. Specimens examined are from Cameroon, Gabon, Guinea, Ivory Coast, Kenya, Nigeria, Seychelles, South Africa, Uganda (CAS, CNC, UCRC); all belong to the nominal subgenus.

Important reference. Schauff (1983).

OOCTONUS Haliday, 1833
(Figs 204–209)

Ooctonus Haliday, 1833a: 268, 1833b: 343. Type species: *Ooctonus insignis* Haliday, 1833, by subsequent designation by Westwood, 1839: 78. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Face without subantennal sulci (Fig. 204); female antenna with funicle 8-segmented (Fig. 205); pronotum entire (Fig. 207); propodeum with diamond-like pattern of carinae, the incomplete median carina, costulae and plicae, defining a central pentagonal areole and, sublaterally, several (usually 4) submedian areoles (Fig. 207); fore wing with hypochaeta next to proximal macrochaeta (Fig. 206); petiole distinctly longer than wide; gt_1 in lateral view usually as long as remaining terga together (Fig. 209).

Discussion. *Ooctonus* belongs to the *Ooctonus* group of genera. In the Afrotropical region it is the only genus in the group. Although *Ooctonus* was traditionally placed near the *Gonatocerus* group of genera it superficially resembles several genera in the *Polynema* group except for the obvious difference in number of funicle and tarsal segments. The position of the hypochaeta, close to the proximal macrochaeta, is more similar to members of the *Polynema* group than to members of the *Gonatocerus* group.

Afrotropical hosts. Unknown.

Important reference. Huber *et al*. (2010).

Ooctonus albiclavus Huber, 2010

Ooctonus albiclavus Huber in Huber *et al*., 2010: 222; holotype ♀ (SAMC). **TL**: South Africa, Transvaal [now in Limpopo Province], 30 km W. Trichardtsdal, 1351 m, The Down's *Podocarpus* forest.

Distribution. South Africa.

Ooctonus capensis Huber, 2010

Ooctonus capensis Huber in Huber *et al*., 2010: 225; holotype ♀ (SAMC). **TL**: South Africa, West[ern] Cape, Kogelberg Nat.[ure] Reserve, mesic mountain fynbos.

Distribution. South Africa.

Ooctonus infuscatus Huber, 2010

Ooctonus infuscatus Huber in Huber *et al*., 2010: 227; holotype ♀ (SAMC). **TL**: South Africa, Transvaal [now in Mpumalanga Province], Drakensberg Mountains, near God's Window.

Distribution. South Africa.

PALAEONEURA Waterhouse, 1915
(Figs 210–216)

Palaeoneura Waterhouse, 1915: 537. Type species: *Palaeoneura interrupta* Waterhouse, 1915, by subsequent designation by Gahan & Fagan, 1923: 103. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Torulus without a small pit next to inner margin (Fig. 210a); propleura abutting anterior to prosternum (Fig. 215); fore wing with slight to distinct narrowing beyond apex of venation, the posterior margin of wing thus slightly to distinctly sinuate with a correspondingly slight to distinct lobe (Fig. 212); petiole attached posteriorly to gastral tergum.

Discussion. *Palaeoneura* belongs to the *Polynema* group of genera as defined by Triapitsyn & Berezovskiy (2007). In the Afrotropical region this group also includes *Acmopolynema*, *Ganomymar*, *Mymar*, *Mymarilla*, *Polynema* and *Stephanodes*. *Palaeoneura* is distinguished from *P*. (*Polynema*) by the propleura abutting medially, sometimes only narrowly, anterior to prosternum whereas in *P*. (*Polynema*) and *P*. (*Dorypolynema*) the propleura do not abut. *Palaeoneura* is distinguished from *Polynema* (*Doriclytus*) by not having pits between the toruli whereas *P.* (*Doriclytus*) has pits between the toruli. In both *Palaeoneura* and *Polynema* (*Doriclytus*) the propleura abut anteriorly.

Afrotropical hosts. Hemiptera. The two published records (one extralimital) from Lepidoptera are almost certainly incorrect because Mymaridae are not reliably known to parasitize members of that order.

Important references. Huber (2003), Triapitsyn & Berezovskiy (2007).

Palaeoneura clotho (Debauche, 1949)

Maidliella clotho Debauche, 1949: 79; holotype ♂ (RMCA), examined. **TL**: Belgian Congo, North Kivu, Rutshuru, Kanzarue River, 1200 m. Debauche, 1949: 76 (key).
Polynema clotho: Mathot, 1968: 275 (generic transfer).
Palaeoneura clotho: Triapitsyn & Aquino, 2010: 63 (generic transfer).

Afrotropical hosts. Unknown.

Distribution. Democratic Republic of the Congo.

Palaeoneura gracile (Prinsloo, 1986)

Chaetomymar gracile Prinsloo, 1986: 348; holotype ♀ (SANC). **TL**: South Africa, Transvaal [now in North West Province], Buffelspoort (near Makikana). Huber, 2003: 81 (key, description).
Palaeoneura gracile: Triapitsyn & Berezovskiy, 2007: 40 (generic transfer); Zina *et al.*, 2013: 525 (host).

Afrotropical host. Cicadellidae: *Penthimiola bella* (Stål).

Distribution. South Africa.

Palaeoneura lepida (Annecke & Doutt, 1961)

Chaetomymar lepidum Annecke & Doutt, 1961: 5; holotype ♀ (SANC). **TL**: South Africa, Transvaal [now in Gauteng Province], Pretoria. Subba Rao, 1970: 665 (Tanzania, South Africa); Schauff, 1984: 57 (list); Prinsloo, 1986: 347 (host); Viggiani, 1989: 186 (male genitalia); Huber, 2003: 81 (key), 85 (description).
Palaeoneura lepida: Triapitsyn & Berezovskiy, 2007: 40 (generic transfer); Zina *et al.*, 2013: 525 (host).

Afrotropical hosts. Cicadellidae: *Penthimiola bella* (Stål).

Distribution. South Africa, Tanzania.

Palaeoneura nigra (Subba Rao, 1970)

Acanthomymar nigrum Subba Rao, 1970: 669; holotype ♀ (NHMUK). **TL**: Uganda, Kasengejje.
Polynema nigrum: Huber, 2003: 99 (generic transfer, description).
Palaeoneura nigra: Triapitsyn & Berezovskiy, 2007: 40 (generic transfer).

Afrotropical hosts. Unknown.

Distribution. Uganda.

Palaeoneura oreades (Debauche, 1949)

Maidliella oreades Debauche, 1949: 81; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, North Kivu, Rutshuru (Lubirizi), 1285 m. Debauche, 1949: 73 (key).
Polynema oreades: Mathot, 1968: 275 (generic transfer, additional specimen).
Palaeoneura oreades: Triapitsyn & Aquino, 2010: 63 (generic transfer).

Afrotropical hosts. Unknown.

Distribution. Democratic Republic of the Congo.

Palaeoneura saga (Girault, 1911)

Anagrus saga Girault, 1911: 296; holotype ♀ (USNM). **TL**: USA, District of Columbia, Washington.
Polynema saga: Girault, 1929a: 17 (key, generic transfer).
Barypolynema saga: Ogloblin, 1946: 285 (generic transfer); Annecke & Doutt, 1961: 35 (South Africa).
Barypolynema (*Tarphypolynema*) *saga*: Ogloblin, 1960: 79 (subgeneric placement).
Polynema (*Polynema*) *saga*: Triapitsyn & Fidalgo, 2006: 60 (subgeneric transfer).
Palaeoneura saga: Triapitsyn, 2018b: 37 (key), 41 (generic transfer, South Africa).

Afrotropical hosts. Unknown.

Distribution. South Africa.

PARANAPHOIDEA Girault, 1913

(Figs 217–221)

Paranaphoidea Girault, 1913: 115. Type species: *Paranaphoidea egregia* Girault, 1913, by original designation.
Idiocentrus Gahan, 1927: 35. Type species: *Idiocentrus mirus* Gahan, 1927, by original designation. Synonymy by Lin *et al*., 2007: 43.

Diagnosis. Face with subantennal sulci (Fig. 217); ocelli not delimited by stemmaticum (Fig. 221); back of head with curved transverse groove separating occiput from gena/postgena (Fig. 220); female antenna with clava 3-segmented (Fig. 218) or 2-segmented (Fig. 221); frenum divided medially by longitudinal suture; ovipositor extending anteriorly under mesosoma anterior to level of head (Fig. 221).

Discussion. *Paranaphoidea* belongs to the *Anagrus* group of genera. In the Afrotropical region the *Anagrus* group also includes *Allanagrus, Anagrus*, *Dorya*, *Omyomymar* and *Schizophragma*. *Paranaphoidea* is distinguished from the other genera in the group by the ovipositor and sheaths in a gastral sac projecting anteriorly under the mesosoma as far as or beyond the level of the head.

Afrotropical hosts. Unknown.

Important reference. Huber & Triapitsyn (2017).

Paranaphoidea (*Idiocentrus*) *africana* Huber & Triapitsyn, 2017

Paranaphoidea (*Idiocentrus*) *africana* Huber & Triapitsyn, 2017: 51; holotype ♀ (UCRC). **TL**: Nigeria, Osun, Ile-Ife.

Distribution. Nigeria.

PLATYSTETHYNIUM Ogloblin, 1946

(Figs 222–231)

Platystethynium Ogloblin, 1946: 290. Type species: *Platystethynium onomarchicidum* Ogloblin, 1946, by original designation.

Platypatasson Ogloblin, 1946: 293. Type species: *Platypatasson fransseni* Ogloblin, 1946, by original designation. Synonymy under *Cleruchus* by Schauff, 1984: 43; synonymy under *Platystethynium* by Donev & Huber, 2002: 118; revised status as subgenus under *Platystethynium* by Huber *et al*., 2020: 289 (Nearctic genera and catalogue).

Pseudocleruchus Donev & Huber, 2002: 118. Type species: *Pseudocleruchus triclavatus* Donev & Huber, 2002, by original designation. Synonymy under *Platystethynium* by Ortis *et al.*, 2020: 10.

Diagnosis. Body dorsoventrally flattened; face strongly produced anteriorly, in lateral view head almost triangular; female antenna with funicle segments about as long as wide and clava 2- or 3-segmented (Figs 223, 228); fore wing narrow, parallel sided or almost so (Figs 224, 229); ovipositor short, originating in about apical half of gaster (Figs 226, 231b).

Discussion. *Platystethynium* belongs to the *Cleruchus* group of genera. In the Afrotropical region the *Cleruchus* group also includes *Cleruchoides*, *Cleruchus* and *Eubroncus*. Huber *et al.* (2020) had placed *Platystethynium* in the *Anagrus* group because of the longitudinally divided frenum but on balance of features it is better placed in the *Cleruchus* group. In *Platystethynium* (*Platystethynium*) the clava is 3-segmented (Fig. 228) whereas in *Platystethynium* (*Platypatasson*) the clava is 2-segmented (Fig. 223); both subgenera occur in the Afrotropical region.

Afrotropical hosts. Unknown.

Distribution. No named species in the Afrotropical region. Specimens examined are from Guinea, Ivory Coast and Nigeria (CNC).

Important references. Huber *et al*. (2020), Ortis *et al.* (2020).

POLYNEMA Haliday, 1833

(Figs 232–238)

Polynema Haliday, 1833a: 268; 1833b: 347. Type species: *Polynema flavipes* Walker, 1846, by subsequent designation by Huber & Bouček, 2001: 281. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Body usually dark brown or black but often with antenna, petiole and legs lighter, sometimes yellow; body sculpture shallow and body appearing mostly fairly smooth; face with (Fig. 232) or without (Fig. 235) pits between toruli; vertex usually without pits outside ocelli; fore wing without lobe posteriorly (Figs 236, 237) so wing not or barely narrowing beyond venation and posterior margin straight or almost so behind venation; propodeum

with or without (Fig. 234) median carina of varying length but without V-shaped median carinae; petiole attached posteriorly to gastral tergum.

Discussion. *Polynema* belongs to the *Polynema* group of genera as defined by Triapitsyn & Berezovskiy (2007). In the Afrotropical region this group also includes *Acmopolynema*, *Ganomymar*, *Mymar*, *Mymarilla*, *Palaeoneura* and *Stephanodes*. *Polynema* is identified by elimination, i.e., by not having the features of five of the six other genera in the group. The only genus it is easily confused with is *Palaeoneura* (itself not well defined). All three subgenera of *Polynema* occur in the region: *Polynema* (*Doriclytus*), *Polynema* (*Dorypolynema*), and *P*. (*Polynema*). The Afrotropical species listed below cannot all be placed in a subgenus because most of the types could not be examined and their descriptions are insufficient to determine their subgeneric (or even generic) placement. Specimens (CAS, CNC) of at least one undescribed species of *P*. (*Doriclytus*) were examined.

Afrotropical hosts. Unknown. One species was recorded from *Ceroplastes* sp. (Hemiptera: Coccidae) but this is certainly incorrect as hosts of *Polynema* are reliably known only from Cicadellidae, Miridae, Nabidae (Hemiptera) and Orthoptera.

Important references. Debauche (1949), Triapitsyn & Berezovskiy (2007).

Polynema albicorne Girault, 1917

Polynema albicorne Girault, 1917b: 17; holotype ♀ (ZMHB). **TL**: German East Africa, no locality given.

Distribution. Tanzania.

Polynema auricorpus Girault, 1917

Polynema auricorpus Girault, 1917b: 17; holotype ♀ (ZMHB). **TL**: German East Africa, no locality given.

Distribution. Tanzania.

Polynema bitashimwae (Debauche, 1949)

Maidliella bitashimwae Debauche, 1949: 94; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, near Bitashimwa, Mount Sesero, 2000 m. Debauche, 1949: 74 (key); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema bitashimwae: Mathot, 1968: 275 (generic transfer).

Distribution. Democratic Republic of the Congo.

Polynema ceroplastae Ghesquière, 1942

Polynema ceroplastae Ghesquière, 1942: 326; holotype ♂ (RBINS), examined. **TL**: Belgian Congo, North Kivu, Rutshuru, ex. *Ceroplastes* sp. on *Glyciridia* in coffee plantation.
Maidliella ceroplastae: Debauche, 1949: 76 (key), 86 (generic transfer, description); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).

Distribution. Democratic Republic of the Congo.

Polynema (*Polynema*) *dikobraz* Triapitsyn, 2017

Polynema (*Polynema*) *dikobraz* Triapitsyn, 2017b: 2; holotype ♀ (CAS). **TL**: Madagascar, Antanarivo [now in Analamanga Region], 3 km 41°NE Andranomay. Van Noort & Triapitsyn, 2018: 70 (key).

Distribution. Madagascar.

Polynema eurydice (Debauche, 1949)

Maidliella eurydice Debauche, 1949: 101; holotype ♀ (RMCA), examined. **TL**: Rwanda, Kundhuruya-Tshuve, Rutabagwe, 2600 m. Debauche, 1949: 74 (key); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema eurydice: Mathot, 1968: 275 (generic transfer).

Distribution. Rwanda.

Polynema fasciatum (Debauche, 1949)

Maidliella fasciata Debauche, 1949: 92; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, Albert [now Virunga] National Park, towards Rweru, Mikeno Volcano, 2400 m. Debauche, 1949: 74 (key); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema fasciatum: Mathot, 1968: 275 (generic transfer).

Distribution. Democratic Republic of the Congo.

Polynema hebe (Debauche, 1949)

Maidliella hebe Debauche, 1949: 99; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, North Kivu, Rutshuru, 1285 m. Debauche, 1949: 75 (key); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema hebe: Mathot, 1968: 275 (generic transfer).

Distribution. Democratic Republic of the Congo.

Polynema helochaeta (Debauche, 1949)

Maidliella helochaeta Debauche, 1949: 77; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, North Kivu, Rutshuru, 1285 m. Debauche, 1949: 73 (key); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema helochaeta: Mathot, 1968: 275 (generic transfer).

Distribution. Democratic Republic of the Congo.

Polynema hyalinipenne Girault, 1917

Polynema hyalinipenne Girault, 1917b: 17; syntypes 4♀, several ♂ (ZMHB). **TL**: German East Africa, no locality given.

Distribution. Tanzania.

Polynema (*Dorypolynema*) *mboroense* (Risbec, 1957)

Acmopolynema mboroensis Risbec, 1957: 264; holotype ♂ (ORST). **TL**: Senegal, M'Boro. Heqvist, 1960: 430 (catalogue).
Polynema (*Dorypolynema*) *mboroense*: Triapitsyn, 2021a: 153 (key), 158 (generic transfer, description, distribution).

Distribution. Benin, Gambia, Ivory Coast, Kenya, Malawi, Republic of the Congo, Senegal, Sierra Leone, Somalia, South Africa, Tanzania, Uganda.

Polynema orientale Girault, 1917

Polynema orientalis Girault, 1917b: 17; holotype ♀ (ZMHB). **TL**: German East Africa, no locality given.

Distribution. Tanzania.

Polynema pernigripes Girault, 1917

Polynema pernigripes Girault, 1917b: 17; syntypes 2♀, 3♂ (ZMHB). **TL**: German East Africa, no locality given.

Distribution. Tanzania.

Polynema (*Polynema*) *sagittaria* van Noort & Triapitsyn, 2018

Polynema (*Polynema*) *sagittaria* van Noort & Triapitsyn, 2018: 72; holotype ♀ (SAMC). **TL**: South Africa, Western Cape, Cederberg, Sawadee Farm.

Distribution. South Africa.

Polynema serratum (Debauche, 1949)

Maidliella serrata Debauche, 1949: 83; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, North Kivu, near Rutshuru, Nyongera, 1218 m. Debauche, 1949: 72 (key ♀), 75 (key ♂); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema serratum: Mathot, 1968: 275 (generic transfer).

Distribution. Democratic Republic of the Congo.

Polynema seychellense Masi, 1917

Polynema seychellense Masi, 1917: 229; holotype ♀ (NHMUK). **TL**: Seychelles, Silhouette Island. Guiglia, 1961: 244 (catalogue); Gerlach *et al*., 1997: 27 (list).
Maidliella seychellensis: Debauche, 1949: 76 (key), 93 (description); Heqvist, 1960: 432 (catalogue).
Polynema Seychellensis [*sic*]: Soyka, 1956b: 9 (list).

Distribution. Seychelles.

Polynema umbratum (Debauche, 1949)

Maidliella umbratum Debauche, 1949: 87; holotype ♂ (RMCA), examined. **TL**: Belgian Congo, North Kivu, Rutshuru, 1285 m. Debauche, 1949: 76 (key); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema umbratum: Mathot, 1968: 275 (generic transfer).

Distribution. Democratic Republic of the Congo.

Polynema uroxys (Debauche, 1949)

Maidliella uroxys Debauche, 1949: 89; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, North Kivu, Rutshuru, 1285 m. Debauche, 1949: 73 (key ♀), 76 (key ♂); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema uroxys: Mathot, 1968: 275 (generic transfer).

Distribution. Democratic Republic of the Congo.

Polynema xiphia (Debauche, 1949)

Maidliella xiphia Debauche, 1949: 96; holotype ♀ (RMCA), examined. **TL**: Belgian Congo, Albert [now Virunga] National Park, towards Rweru, Mikeno Volcano (bamboos), 2400 m. Debauche, 1949: 74 (key); Soyka, 1956b: 9 (list); Heqvist, 1960: 432 (catalogue).
Polynema xiphium: Mathot, 1968: 275 (generic transfer).

Distribution. Democratic Republic of the Congo.

PTILOMYMAR Annecke & Doutt, 1961
(Figs 239–244)

Ptilomymar Annecke & Doutt, 1961: 24. Type species: *Ptilomymar rete* Annecke & Doutt, 1961, by original designation.

Diagnosis. Propodeum, petiole and gt_1 with large translucent reticulate lamina (Figs 243, 244); propodeal seta long and branched with its base anterior to level of spiracle.

Discussion. *Ptilomymar* belongs to the *Camptoptera* group of genera. In the Afrotropical region the *Camptoptera* group also includes *Camptoptera*, *Camptopteroides*, and *Stephanocampta*. Tarsal segment 4 in both *Camptoptera* (*Eofoersteria*) and *Ptilomymar* is at least 1.5× as long as segment 3 (Fig. 240), indicating in both cases that tarsal segment 4 likely consists of a fusion of segments 4 and 5. *Ptilomymar* specimens appear to have exceptionally long tarsal claws. The peculiar translucent structures described above occur elsewhere only in *Stephanocampta* and some *Camptoptera* but not on gt_1, and the propodeal spiracle in those two genera is not branched.

Afrotropical hosts. Unknown.

Distribution. No named species in the Afrotropical region. Specimens examined are from Angola, Guinea, Ivory Coast, Kenya, Madagascar, Malawi, Nigeria, Uganda (CAS, CNC, UCRC).

Important reference. Huber (2020).

SCHIZOPHRAGMA Ogloblin, 1949
(Figs 245–249)

Schizophragma Ogloblin, 1949: 345. Type species: *Schizophragma basalis* Ogloblin, 1949, by original designation.

Diagnosis. Face with subantennal sulci; ocelli delimited by stemmaticum; mandible with 5 teeth; female antenna with clava 2-segmented (Fig. 246); frenum longitudinally divided, with each paramedial plate longer than wide (Fig. 248); second phragma with apex indented (Fig. 248); ovipositor and sheaths not extending forward under mesosoma.

Discussion. *Schizophragma* belongs to the *Anagrus* group of genera. In the Afrotropical region the *Anagrus* group also includes *Allanagrus*, *Anagrus*, *Dorya*, *Omyomymar*, and *Paranaphoidea*. *Schizophragma* is distinguished from these by mandible with 5 teeth.

Afrotropical hosts. Unknown.

Important reference. Triapitsyn (2021).

Schizophragma indica Rehmat & Anis, 2015

Schizophragma indica Rehmat & Anis, 2015: 3; holotype ♀ (ZDAMU). **TL**: India, Uttar Pradesh, Mathura, Barari.

Distribution. South Africa.

STEPHANOCAMPTA Mathot, 1966

(Figs 250–254)

Stephanocampta Mathot, 1966: 219. Type species: *Stephanocampta yaosekoensis* Mathot, 1966, by original designation. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Fore wing relatively wide, with several rows of microtrichia (Fig. 252); propodeum with translucent reticulate lamina and propodeal seta lateral to spiracle (Fig. 253); gs_1 with striate translucent reticulate collar laterally and ventrally (Fig. 254), concealing the petiole in lateral view.

Discussion. *Stephanocampta* belongs to the *Camptoptera* group of genera. In the Afrotropical region this group also includes *Camptoptera*, *Camptopteroides* and *Ptilomymar*. The peculiar translucent structures on the propodeum occur also in *Ptilomymar* and a few undescribed *Camptoptera* but the placement and configuration of these are different.

Afrotropical hosts. Unknown.

Important references. Mathot (1966), Huber & Lin (1999).

Stephanocampta yaosekoensis Mathot, 1966

Stephanocampta yaosekoensis Mathot, 1966: 221; holotype ♀ (RBINS), examined. **TL**: Congo, Yaoseko, near Isalowe River [type slide labelled as Yangambi, Yaosuka, Riv. Isalowe and *Stephanocampta yaosukae* Deb.].

Distribution. Democratic Republic of the Congo.

STEPHANODES Enock, 1909

(Figs 255–260)

Stephanodes Enock, 1909: 457. Type species: *Stephanodes elegans* Enock, 1909, by monotypy. See Huber *et al.* (2020) for generic synonyms and their type species.

Diagnosis. Vertex with large shallow depressions outside each ocellus (Fig. 256); scape with inner surface rasp-like (Fig. 257); mesonotal spiracle much closer to anterior apex of notaulus than to dorsal apex of prepectus (Fig. 259); mesosoma and metasoma smooth and shiny (Figs 259, 260); fore wing with parastigma slightly elongate (Fig. 258); petiole attached to gastral sternum posteriorly.

Discussion. *Stephanodes* belongs to the *Polynema* group of genera as defined by Triapitsyn & Berezovskiy (2007). In the Afrotropical region this group also includes *Acmopolynema*, *Ganomymar*, *Mymar*, *Mymarilla*, *Palaeoneura* and *Polynema*. *Stephanodes* is unique in having the mesonotal spiracle advanced, closer to the anterior apex of the notaulus than to the dorsal apex of the prepectus.

Afrotropical hosts. Unknown.

Important reference. Huber & Fidalgo (1997).

Stephanodes chestertoni (Debauche, 1949)

Polynema chestertoni Debauche, 1949: 67; holotype ♀ (RMCA), lost? **TL**: Belgian Congo, Albert [now Virunga] National Park, Mount Sesero near Bitashimwa, 2000 m. Heqvist, 1960: 431 (catalogue).

Stephanodes chestertoni: Mathot, 1968: 275 (generic transfer); Huber & Fidalgo, 1997: 44 (types missing).

Distribution. Democratic Republic of the Congo, Kenya [new record: Kakamega District, Isecheno Nature Reserve, Isecheno, 0.24°N 34.87°E, 1.vi.2001–20.i.2003, W. Okeka, R. Snelling, 12 ♀, 1 ♂, UCRC]).

***Stephanodes similis* (Foerster, 1847)**

Polynema similis Foerster, 1847: 218. Lectotype ♀ (NHMW), designated by Soyka, 1956b: 108, examined. **TL**: Germany, Aachen.

Stephanodes similis: Debauche, 1948: 205 (generic transfer implied, description); Hincks, 1950: 176 (generic transfer); Viggiani & van Harten, 1996: 75 (Cape Verde).

Distribution. Cape Verde.

TANYXIPHIUM Huber, 2015

(Figs 261–266)

Tanyxiphium Huber, 2015: 57. Type species: *Tanyxiphium seychellense* Huber, 2015, by original designation.

Diagnosis. *Tanyxiphium* is distinguished from the other genera of Gonatocerini by the following combination: mandible small, shorter than maxilla, with teeth minute (Fig. 261); pronotum entire but due to different colour of median area apparently with widely separated lateral lobes (Fig. 264); dorsellum rhomboidal (Fig. 264) ovipositor extremely long, extending well beyond gaster (Fig. 266). Male head wider and relatively narrower than in female, apparently separated by a distinct "neck" from pronotum; mandibles large, crossing when closed, each with 3 normal teeth; pronotal lobes widely separated.

Discussion. *Tanyxiphium* belongs to the *Gonatocerus* group of genera, treated formally as Gonatocerini in Huber (2015). In the Afrotropical region the group also includes *Cosmocomopsis, Gonatocerus, Heptagonatocerus*, *Lymaenon, Octomicromeris* and *Zeyanus*. *Tanyxiphium* is the only genus of Gonatocerini that shows secondary sexual differences in structure of the head and mouthparts. Only *Omyomymar*, in a different genus group, has a similar, sexually dimorphic head. *Tanyxiphium* is most similar to *Gonatocerus* but differs by the mandibles being sexually dimorphic (not in *Gonatocerus*), having 4 setae between the lateral ocelli (2 in *Gonatocerus*), and the pronotum entire, though appearing divided, with widely separated lateral lobes (medially divided, with lateral lobes abutting at least ventrally in *Gonatocerus*).

Afrotropical hosts. Unknown.

Important reference. Huber (2015).

Tanyxiphium seychellense Huber, 2015

Tanyxiphium seychellense Huber, 2015: 60; holotype ♀ (NHMUK). **TL**: Seychelles, Cousin Island. Huber, 2015: 59 (key).

Distribution. Seychelles.

ZEYANUS Huber, 2015

(Figs 267– 271)

Zeyanus Huber, 2015: 62. Type species: *Gonatocerus asulcifrons* Zeya, 1995, by original designation.

Diagnosis. *Zeyanus* is distinguished from the other genera of Gonatocerini by the following combination: head thin, at least 2.5× as wide as long; face without subantennal sulci (Fig. 267); occiput divided by transverse, oblique sulcus extending above foramen magnum from eye to eye; dorsellum triangular; propodeum with straight, submedian carinae more or less converging anterodorsally (Fig. 270); ovipositor distinctly exserted and usually upturned, with numerous setae along the exserted part of each sheath (Fig. 271).

Discussion. *Zeyanus* belongs to the *Gonatocerus* group of genera, treated formally as Gonatocerini by Huber (2015). In the Afrotropical region the group also includes *Cosmocomopsis, Gonatocerus, Heptagonatocerus*, *Lymaenon, Octomicromeris* and *Tanyxiphium*. *Zeyanus* females are unique in the Gonatocerini in having several

setae extending along the exserted part of each ovipositor sheath. The only other described genus in Mymaridae with this feature is *Australomymar*.

Afrotropical hosts. Unknown.

Distribution. No named species in the Afrotropical region. Specimens examined are from Guinea, Kenya, Somalia, South Africa, and Uganda (CNC, SAMC, SANC, UCRC).

Important reference. Huber (2015).

Incertae sedis

Allomymar taitae Kieffer, 1913: 30; holotype? ♀ [lost]. **TL**: [Kenya] Uganda Railway Station #60 at foot of Taita Hills. Debauche, 1949: 14 (description quoted); Heqvist, 1960: 429 (catalogue). Huber, 2005: 177, quoting M. Hayat (personal communication), removed the genus from Mymaridae and suggested it belonged to Aphelinidae but unless the type material is found its correct family placement outside of Mymaridae is unknown.

Nomen dubium

Anaphes elongatus Risbec, 1950: 623. Holotype ♀ (depository unknown). **TL**: Ivory Coast, Abengourou, stuck to a chrysomelid. Ghesquière, 1951: 344 (generic transfer to *Anagrus*); Triapitsyn, 2015: 44 (type material lost).

Nomen nudum

Gonatocerus jassidae Risbec, 1956b: 821. See *Gonatocerus risbeci*.

Afrotropical taxa excluded from Mymaridae

Limacis aleurodiphaga Risbec, 1950: 621. Huang & Polaszek (1998: 1956) removed this species from Mymaridae and placed it in synonymy under *Encarcia tristis* (Zehntner) (Aphelinidae).

Limacis opuntiae Risbec, 1952: 441. This species belongs in *Encarsia* Foerster (Aphelinidae) (A. Polaszek, personal communication) and is therefore transferred to *Encarsia* as *E. opuntiae* (Risbec), **comb. n.** ST also examined the syntype series on five slides in MNHN.

Micromymar Risbec, 1950: 622. Polaszek & Kimani (1990: 59) removed this genus from Mymaridae and placed it in synonymy under *Telenomus* Haliday (Scelionidae: Telenominae).

Mymariella Risbec, 1951: 402. Annecke & Insley (1971: 6) removed this genus from Mymaridae and placed it in synonymy under *Arrhenophagus* Aurivillius (Encyrtidae).

Ricinusa Risbec, 1951: 403. Annecke & Insley (1971: 33) removed this genus from Mymaridae and placed it in synonymy under *Eretmocerus* Haldeman (Aphelinidae).

Corrections to illustrated generic key and catalogue of Mymaridae (Hymenoptera) in America north of Mexico. *Zootaxa* 4773 (3): 1–411.

P. 32, figure 37. Change *A. iceryae* to *Alaptus* sp.

P. 305, line 10. Change *Polynema* (*Polynema*) *graculum to Polynema* (*Polynema*) *graculus*.

The author names and sometimes the year mentioned in the keys and the catalogue for the following taxa were wrongly included together with the subgenus name inside the parentheses, instead of outside the parentheses: *Anagrus* (P. 13 couplets 33 and 34), *Anaphes* (P. 4 line 5 of Introduction, P. 12 couplet 24, P. 13 couplet 31), *Camptopteroides*, (P. 12 couplet 17, P. 15 couplet 14), *Erythmelus* (P. 13, couplet 30), *Kalopolynema* (P. 14 couplet 45), *Platystethynium* (P. 3, P. 4 line 10 of Abstract, P. 12 couplet 26, P. 289) and *Polynema* (P. 14 couplets 46 and 47, P. 16 couplet 37).

Discussion and conclusions

Comparison of the fairyfly faunas for different zoogeographical regions is difficult due to constantly changing generic concepts and ongoing taxonomic work in which new genera or species are described and others placed in synonymy. At present, the Afrotropical fauna is currently smaller than that of the Australian, Nearctic, Neotropical or Oriental regions. This is partly an artefact due mainly to the relatively little comprehensive work done on the family in Africa although that is also partly the case with the Oriental (except for India and Taiwan) and Neotropical regions. The number of genera in the Afrotropical region is presently only two more than for the Nearctic region, which had 39 genera (Huber *et al.* 2020), though *Caraphractus* Walker and *Eofoersteria* have since been lowered to subgenera. But it is far more than the 24 genera for Europe (Samková *et al.* 2020), including *Paracleruchus* Donev & Huber, which has since been placed in synonymy under *Platystethynium* (Ortis *et al.* 2020). Taking the above generic synonymies into account, only two genera in Europe, *Cosmocomoidea* Howard and *Stethynium* Enock, have not yet been recorded from the Afrotropical region. Taking into account synonymies proposed since Noyes & Valentine (1989), Lin *et al.* (2007) and Huber (2016) who reviewed the fauna of New Zealand, Australia and Papua New Guinea, respectively, the Australian region has almost 60 genera. The Neotropical region has about 55 genera and the Oriental region about 42 genera (Noyes 2019). In terms of species numbers, the 122 recorded species in the Afrotropical region is far fewer than the over 200 species currently recorded in the Nearctic region and perhaps fewer even than in Europe, though the number of valid European species has not yet been accurately determined. The Neotropical and Oriental regions each have about 300 described valid species and the Australian region has about 315 described valids species. So, at present, the documented Afrotropical species fauna is much smaller than of the other regions, except possibly Europe.

At least one reference, each naming at least one species, on Mymaridae is recorded in UCD (Noyes 2019) from 23 countries or territories within the Afrotropical region as covered here: Cameroon, Cape Verde, Democratic Republic of the Congo, Gabon, Ivory Coast, Kenya, Madagascar, Malawi, Mali, Mauritius, Morocco, Mozambique, Nigeria, Republic of the Congo, Rwanda, Saint Helena Island, Senegal, Seychelles, Somalia, South Africa, Tanzania, Uganda, and Zimbabwe. No literature on Mymaridae is recorded in UCD from the remaining countries or territories but specimens of Mymaridae from most of them are in collections. Van Noort (2021) enumerated several collections that contain Afrotropical Mymaridae. In particular, large quantities of insects, either unsorted or sorted to some level, resulting from extensive and intensive trapping programmes in various countries, especially Central African Republic, Gabon, Kenya, Madagascar, Nigeria, South Africa, and Uganda have accumulated in museums, particularly over the past four decades. Once sorted to family and the Mymaridae are prepared, studied and described, the number of Afrotropical genera and certainly the number of species will increase considerably.

Many of the described genera found in Africa are cosmopolitan. Only three, *Cosmocomopsis*, *Ganomymar*, and *Mymarilla*, appear to be endemic to the Afrotropical region. In general, the Afrotropical fauna, particularly that of Madagascar, is most similar to that of the Oriental region. The shared genera are *Allanagrus*, *Borneomymar*, *Heptagonatocerus*, *Paranaphoidea*, *Tanyxiphium*, and *Zeyanus*, none of which occur in the New World or Europe. Some genera are shared with the Australian or Neotropical regions. The 40 genera reported above for the Afrotropical region are grouped below into informal groups of genera, as was done for the faunas of New Zealand (Noyes & Valentine 1989), Australia (Lin *et al*. 2007) and North America (Huber *et al.* 2020). While some groups are fairly well defined, e.g., *Polynema* group and *Gonatocerus* group (Gonatocerini) and the three publications agree substantially on which genera to include in a particular group, other groups are less well defined, e.g., *Alaptus* group, *Anagrus* group and *Anaphes* group, and the above publications have somewhat different informal classifications. The 40 Aftrotropical genera are grouped provisionally as follows:

Alaptus group: *Alaptus*, *Callodicopus*, *Dicopomorpha*, *Dicopus*, *Litus*.
Anagrus group: *Allanagrus*, *Anagrus*, *Dorya*, *Omyomymar*, *Paranaphoidea*, *Schizophragma*.
Anaphes group: *Anaphes*, *Erythmelus*.
Arescon group: *Arescon*.
Australomymar group: *Australomymar*.
Borneomymar group: *Borneomymar*, *Chrysoctonus*.
Camptoptera group: *Camptoptera*, *Camptopteroides*, *Ptilomymar*, *Stephanocampta*.
Cleruchus group: *Cleruchus*, *Cleruchoides*, *Eubroncus*, *Platystethynium*.

Gonatocerus group: *Cosmocomopsis*, *Gonatocerus*, *Heptagonatocerus*, *Lymaenon*, *Octomicromeris*, *Tanyxiphium*, *Zeyanus*.
Ooctonus group: *Ooctonus*.
Polynema group: *Acmopolynema*, *Ganomymar*, *Mymar*, *Mymarilla*, *Palaeoneura*, *Polynema*, *Stephanodes*.

These 11 groups are almost the same as those proposed in Lin *et al.* (2007) but their *Anagroidea* group is here subsumed under the *Cleruchus* group and their *Eustochomorpha* group apparently does not occur in the Afrotropical region. Their *Ooctonus* group was mistakenly stated to include *Ooctonus* (not yet recorded from Australia) instead of the endemic genus *Boudiennyia* Girault. However, the *Borneomymar* group, which was not recored from Australia in 2007 has since been found in the Australasian region; it includes *Chrysoctonoides* Huber & Triapitsyn, described from New Caledonia and American Samoa (Huber & Triapitsyn 2015). Whether the genera should be placed in the *Borneomymar* group or in the *Eustocomorpha* group is uncertain but if placed in the *Eustochomorpha* group then that group would also be present in the Afrotropical region and both the Australian region and the Afrotropical region share all 11 genus groups. Noyes & Valentine (1989) proposed a genus-group classification that is different from the Lin *et al.* (2007). Most, if not all, of the New Zealand genera they described would fit in the above groups. Only two of their new genera, *Allanagrus* and *Dorya*, have been found in the Afrotropical region.

Until formal cladistic analyses, preferably complemented with molecular data, are completed, the above informal groups of genera serve conveniently to compare structural features among what appear to be morphologically similar genera. Ongoing studies of relationships using both morphological and molecular data for as many of the described world genera as possible should eventually result in a formal and more stable classification of subfamilies and tribes. Such classifications had been proposed several times but were abandoned as being unsatisfactory, at least at the tribal level, as well as being contradictory, e.g., Annecke & Doutt (1961) illustrated one classification, and Debauche (1948) and Schauff (1984) illustrated the other. Over the past two decades, only one of the above groups of genera has been again treated formally as a tribe: Gonatocerini (Huber 2015).

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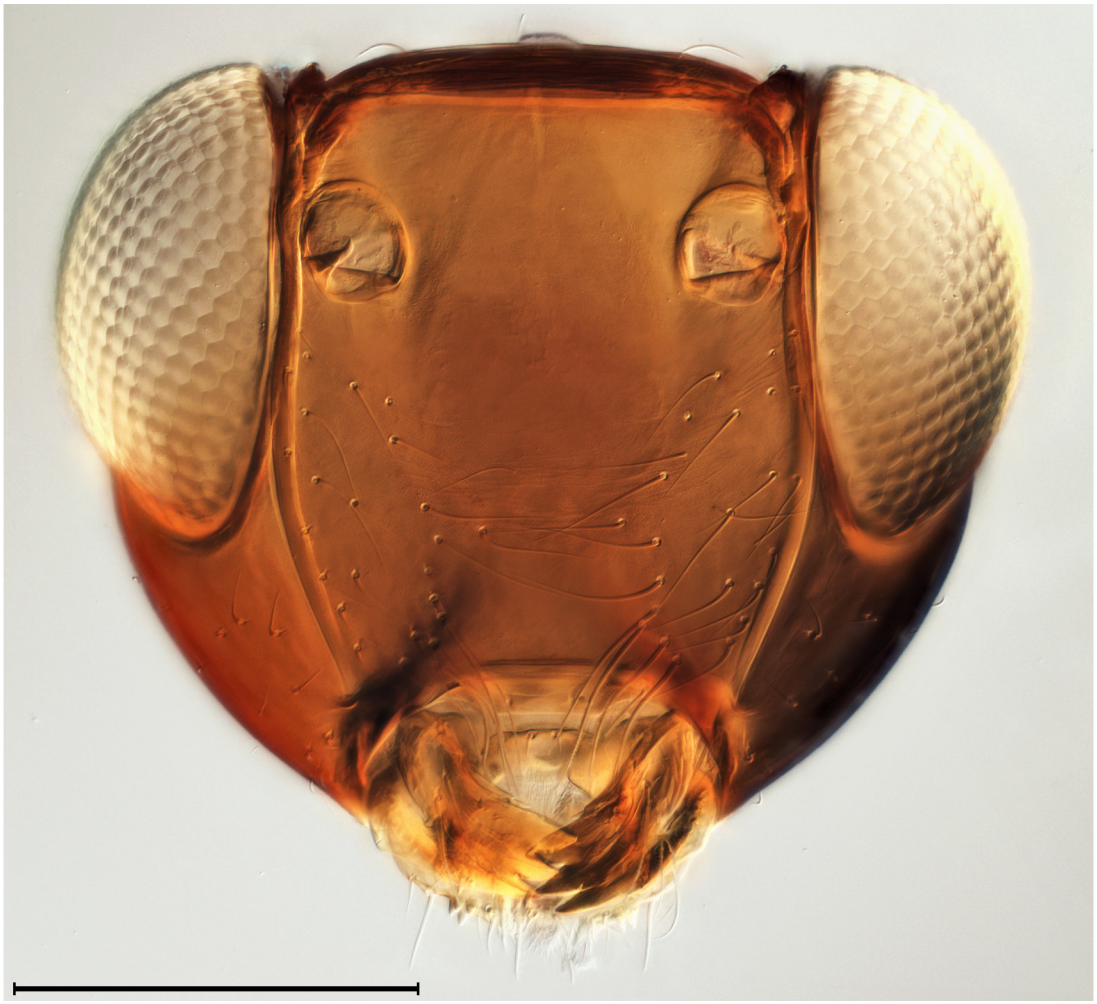
APPENDIX

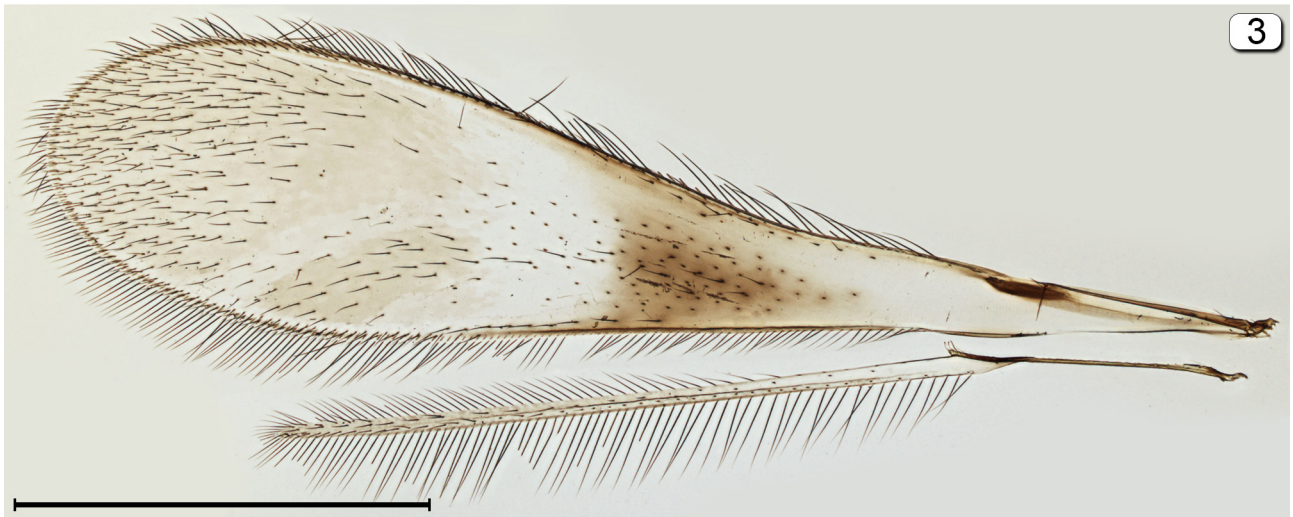
Twenty-seven species of named Mymaridae have been identified from the Palaearctic area of Africa but are not yet recorded in the Afrotropical region. Two doubtfully identified species mentioned in the literature (Triapitsyn 2013) are excluded. The species recorded from four countries on mainland Africa and two groups of islands west of the continent are as follows:

Algeria (Huber & Thuróczy 2018): *Anaphes* (*Anaphes*) *fuscipennis* Haliday, *A. peyerimhoffi* Kieffer (*nomen dubium*).

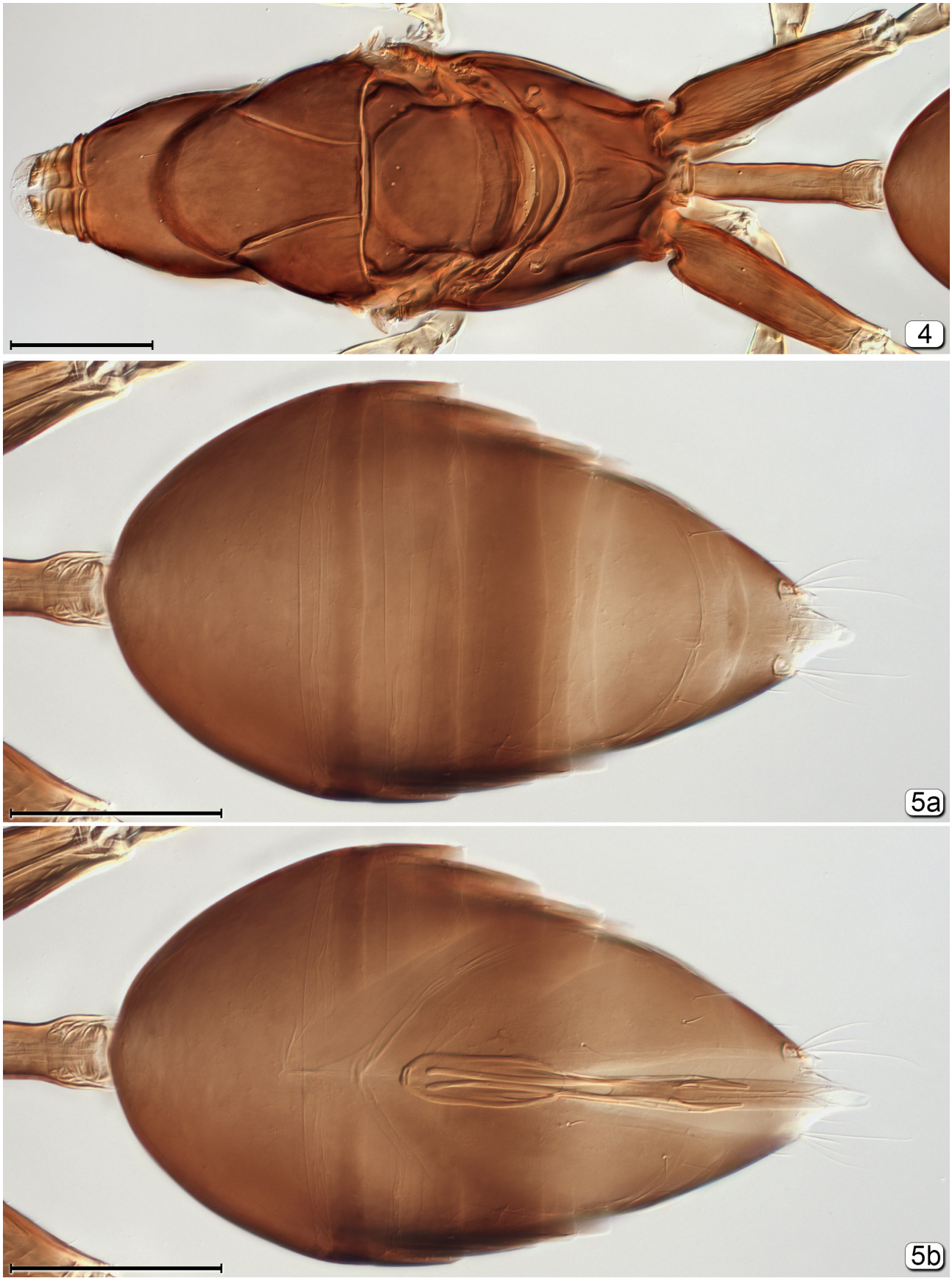
Canary Islands and/or Madeira (Koponen & Askew 2002, Koponen & Triapitsyn 2017; Triapitsyn *et al*. 2020a): *Alaptus fusculus* Walker, *A. minimus* Westwood, *A. pallidicornis* Foerster, *Anagrus* (*Anagrus*) *atomus* (L.), *A.* (*Paranagrus*) *optabilis* (Perkins), *Cleruchus pluteus* Enock, *Erythmelus* (*Parallelaptera*) *panis* (Enock), *Gonatocerus fuscicornis* (Walker), *Litus cynipseus* Haliday, *Lymaenon litoralis* (Haliday), *Mymar taprobanicum* Ward, *Ooctonus hemipterus* Haliday, *O. vulgatus* Haliday, *Schizophragma bicolor* (Dozier), *Stephanodes similis* (Foerster).

Egypt (Soyka 1950; Triapitsyn 2002; Huber *et al.* 2009; Triapitsyn 2013, Triapitsyn 2017a): *Alaptus iceryae* Riley (as *A. priesneri* Soyka), *A. minimus* Westwood (as *A. aegyptiacus* Soyka), *A. pallidicornis* Foerster, *Anagrus* (*Anagrus*) *aegyptiacus* Soyka, *A.* (*Anagrus*) *atomus* (L.), *A.* (*Paranagrus*) *unilinearis* Soyka, *Gonatocerus aegyptiacus* Soyka, *Lymaenon africanus* (Soyka), *L. aureus* (Girault) (as *Gonatocerus flavus* Soyka), *L. dakhlae* (Soyka), *L. litoralis* (Haliday) (as *G. priesneri* Soyka), *Polynema* (as *Maidliella*) *aegyptiacum* (Soyka), *Polynema* (as *Novickyella*) *dakhlae* (Soyka), *Mymar taprobanicum* Ward (as *Oglobliniella aegyptiaca* Soyka), *Stethynium triclavatum* Enock.

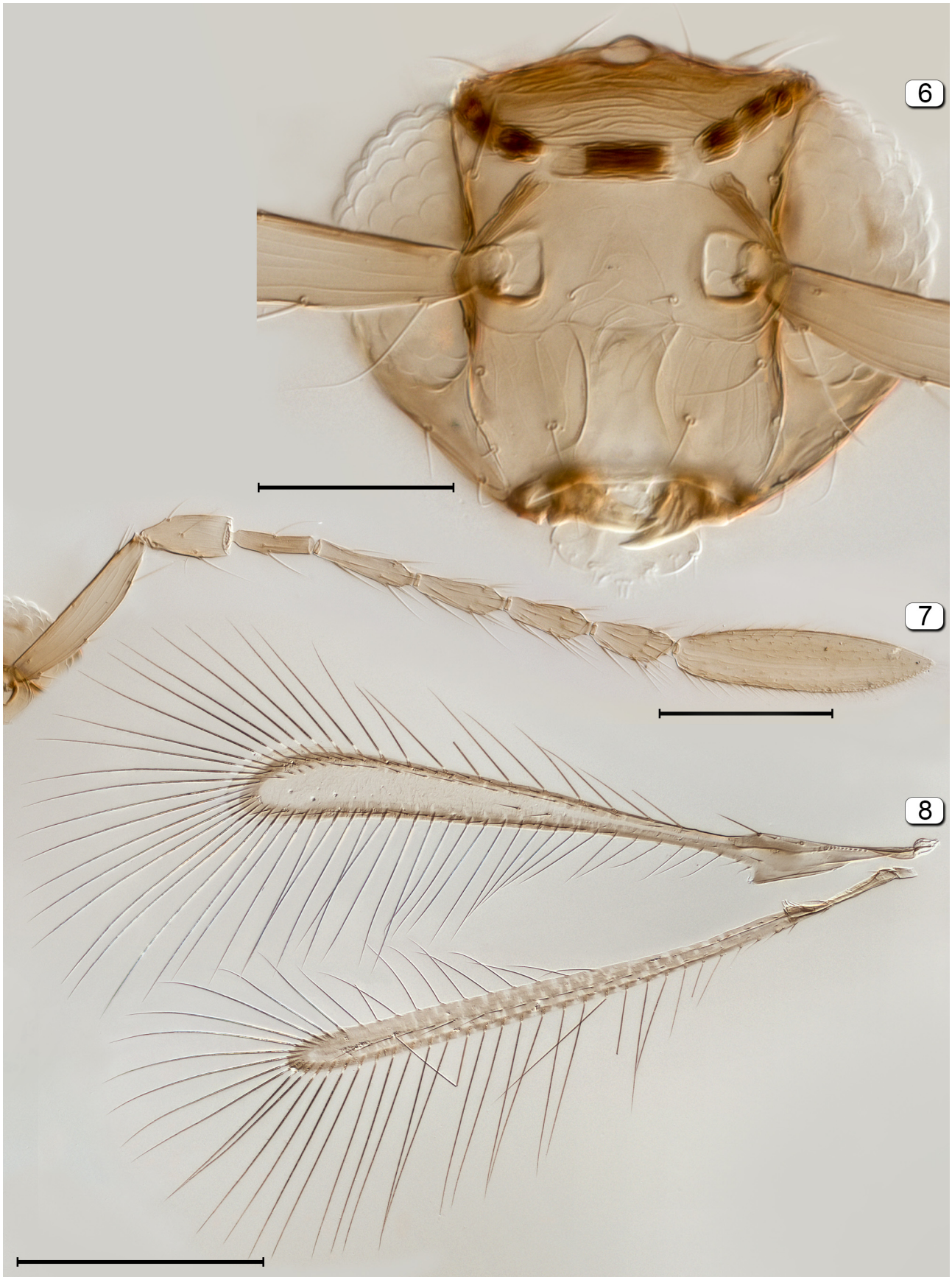




FIGURES 1–3. *Acmopolynema* sp. 1, head, anterior; 2, antenna; 3, wings. Scale bars: 1 = 200 µm; 2, 3 = 500 µm.

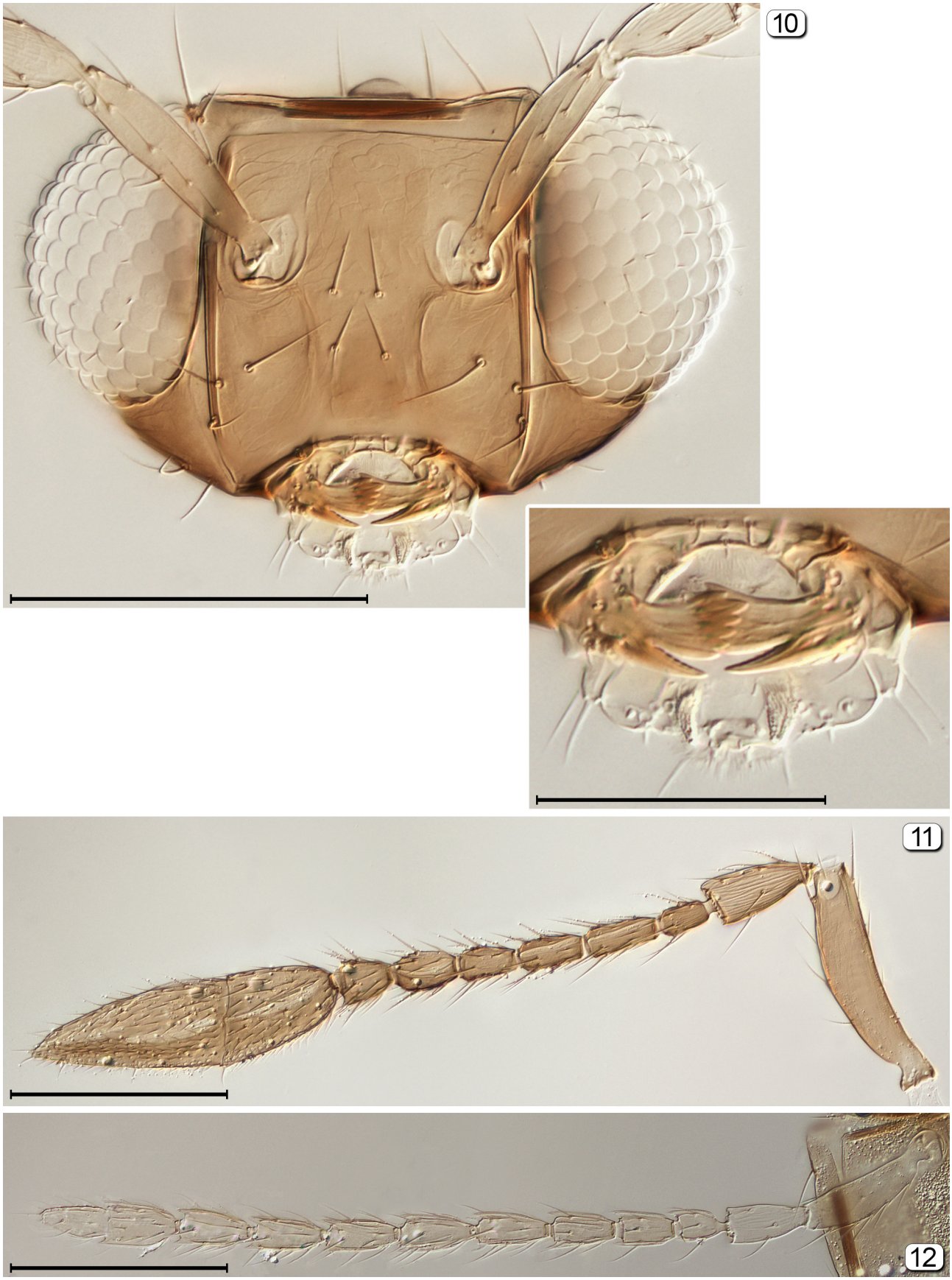


FIGURES 4, 5. *Acmopolynema* sp. male. 4, mesosoma + petiole, dorsal; 5a, gaster, dorsal; 5b, gaster ventral, genitalia seen through gaster. Scale bars = 200 μm.



FIGURES 6–8. *Alaptus* sp. 6, head, anterior; 7, antenna; 8, wings. Scale bars: 6 = 50 µm; 7 = 100 µm; 8 = 200 µm.

FIGURE 9. *Alaptus* sp., body, dorsal. Scale bar = 200 µm.



FIGURES 10–12. *Allanagrus* sp. 10, head, anterior (inset, mouthparts); 11, antenna; 12, male antenna. Scale bars = 100 µm; mouthparts = 50 µm.

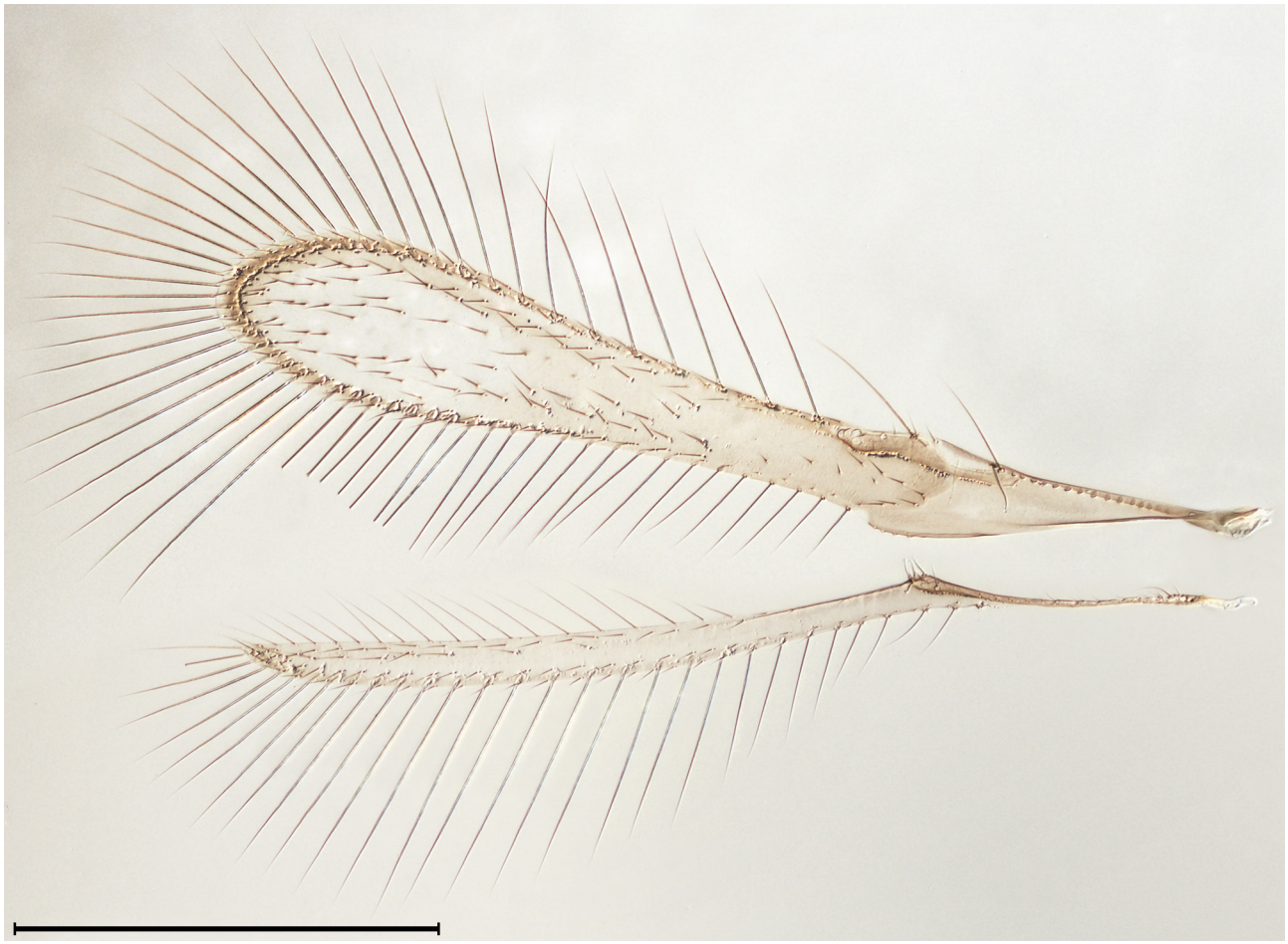
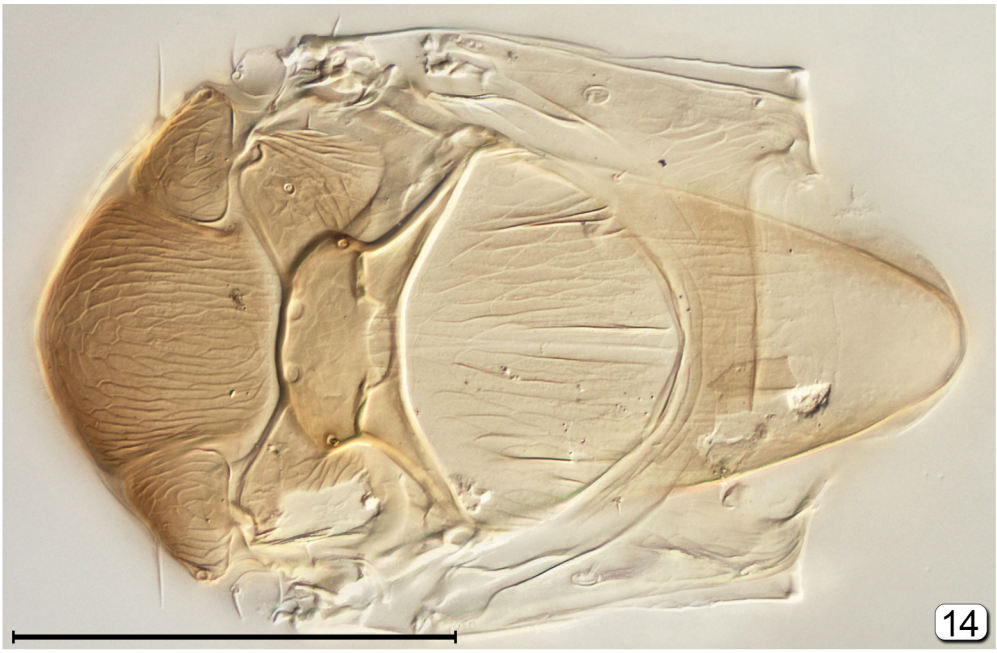
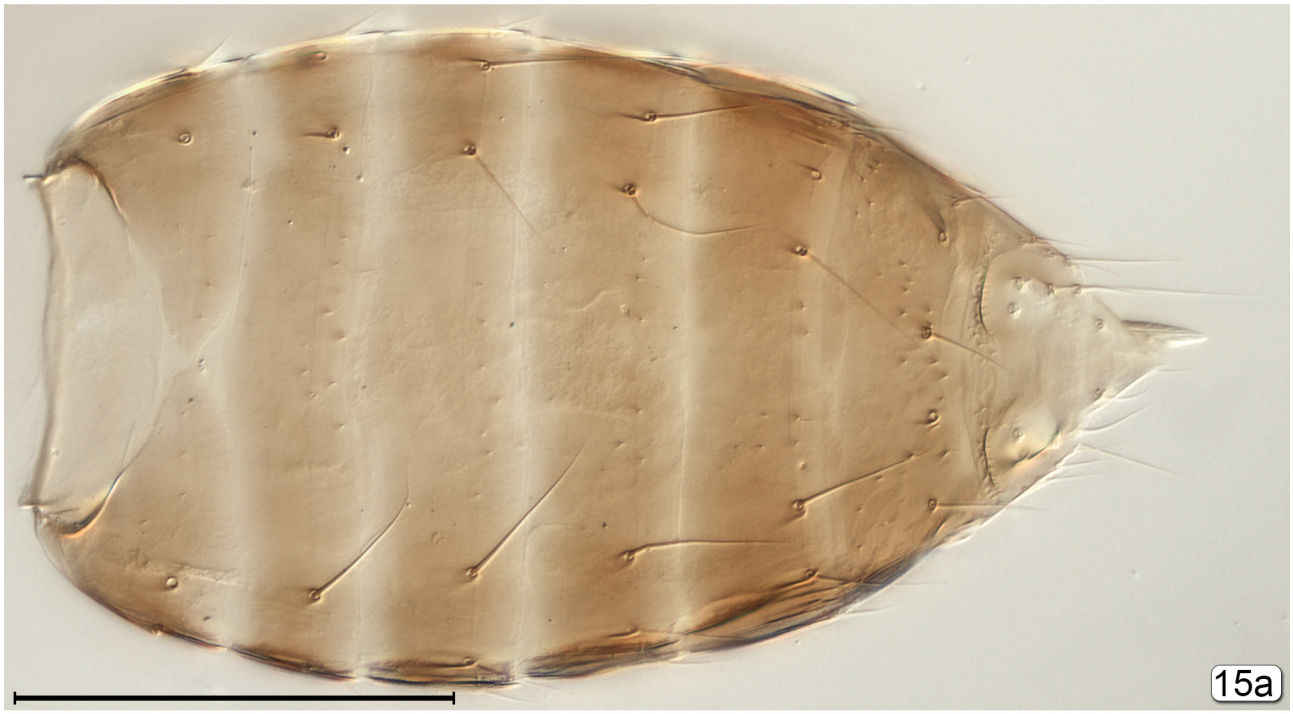
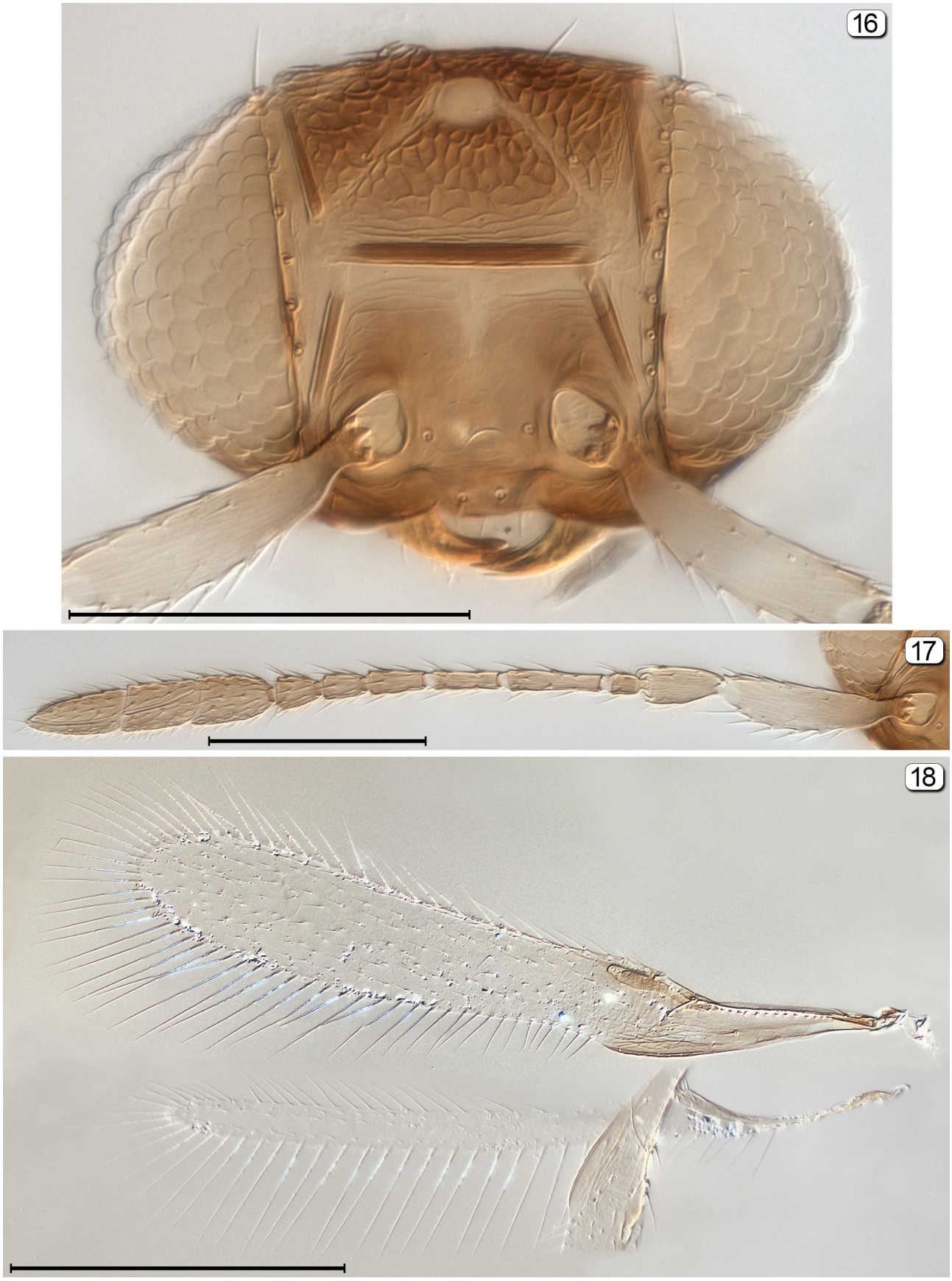


FIGURE 13. *Allanagrus* sp., wings. Scale bar = 200 µm.

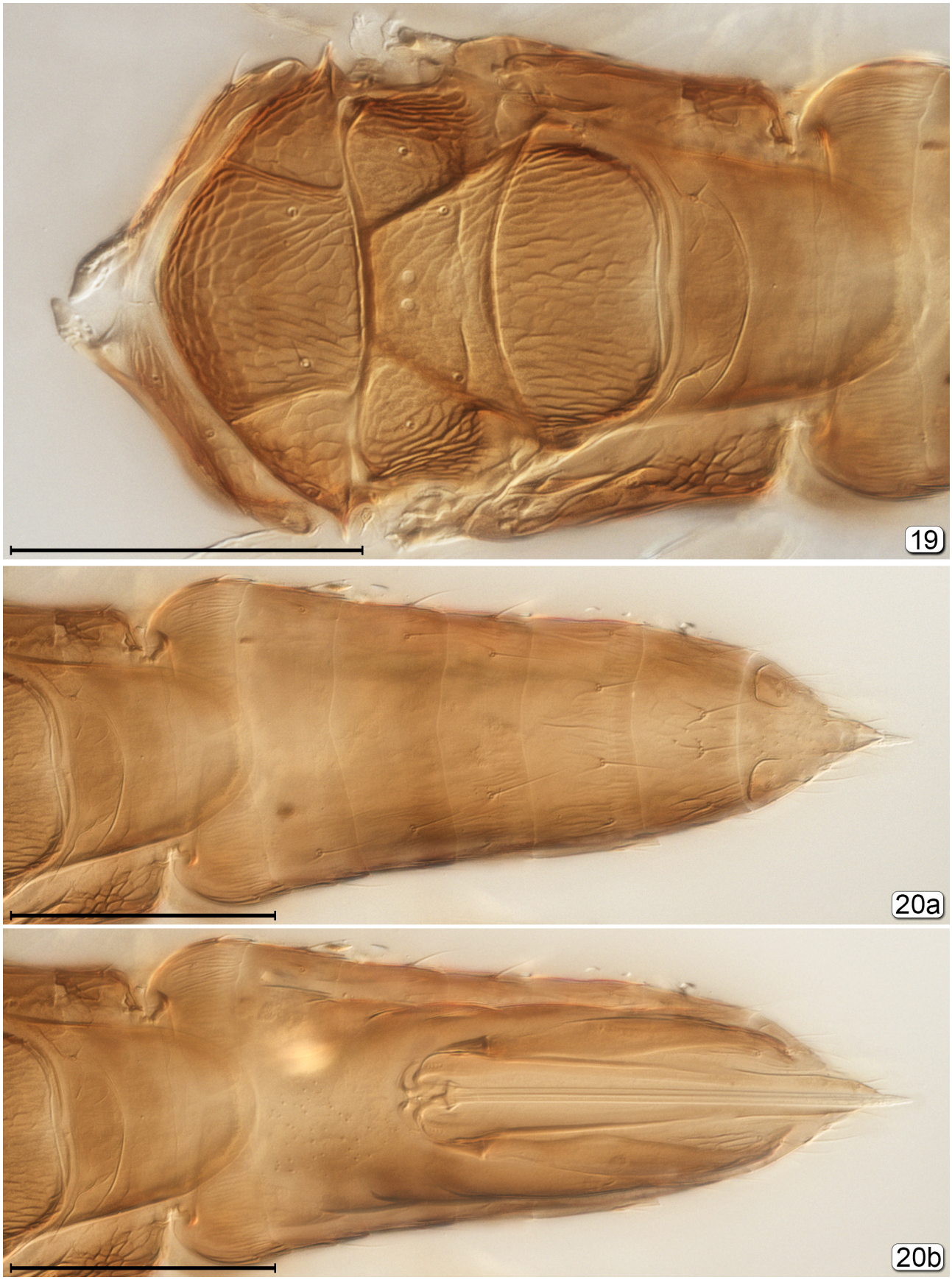




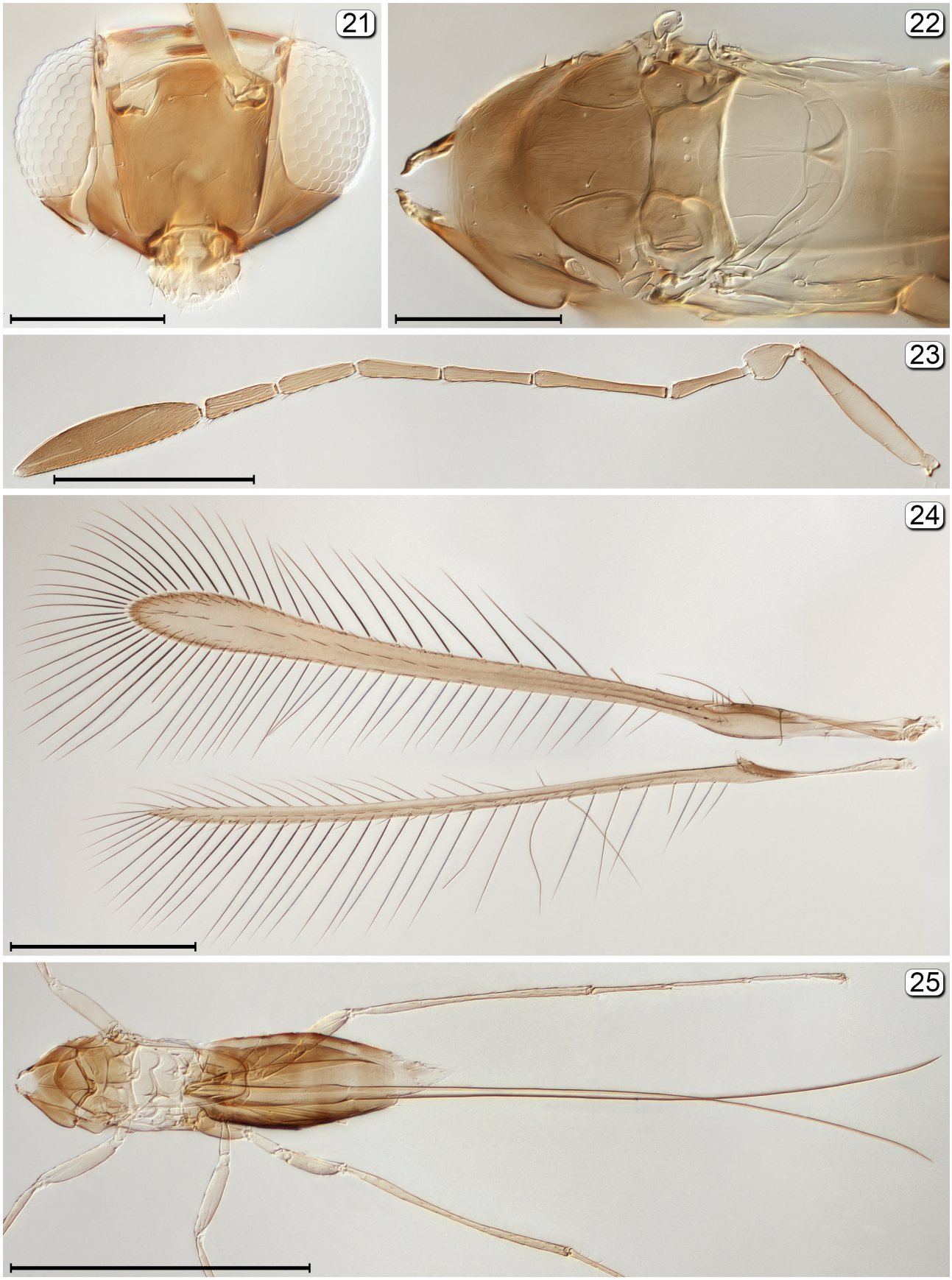
FIGURES 14, 15. *Allanagrus* sp. 14, mesosoma, dorsal; 15a, gaster, dorsal; 15b, genitalia seen though gaster. Scale bars = 200 µm.



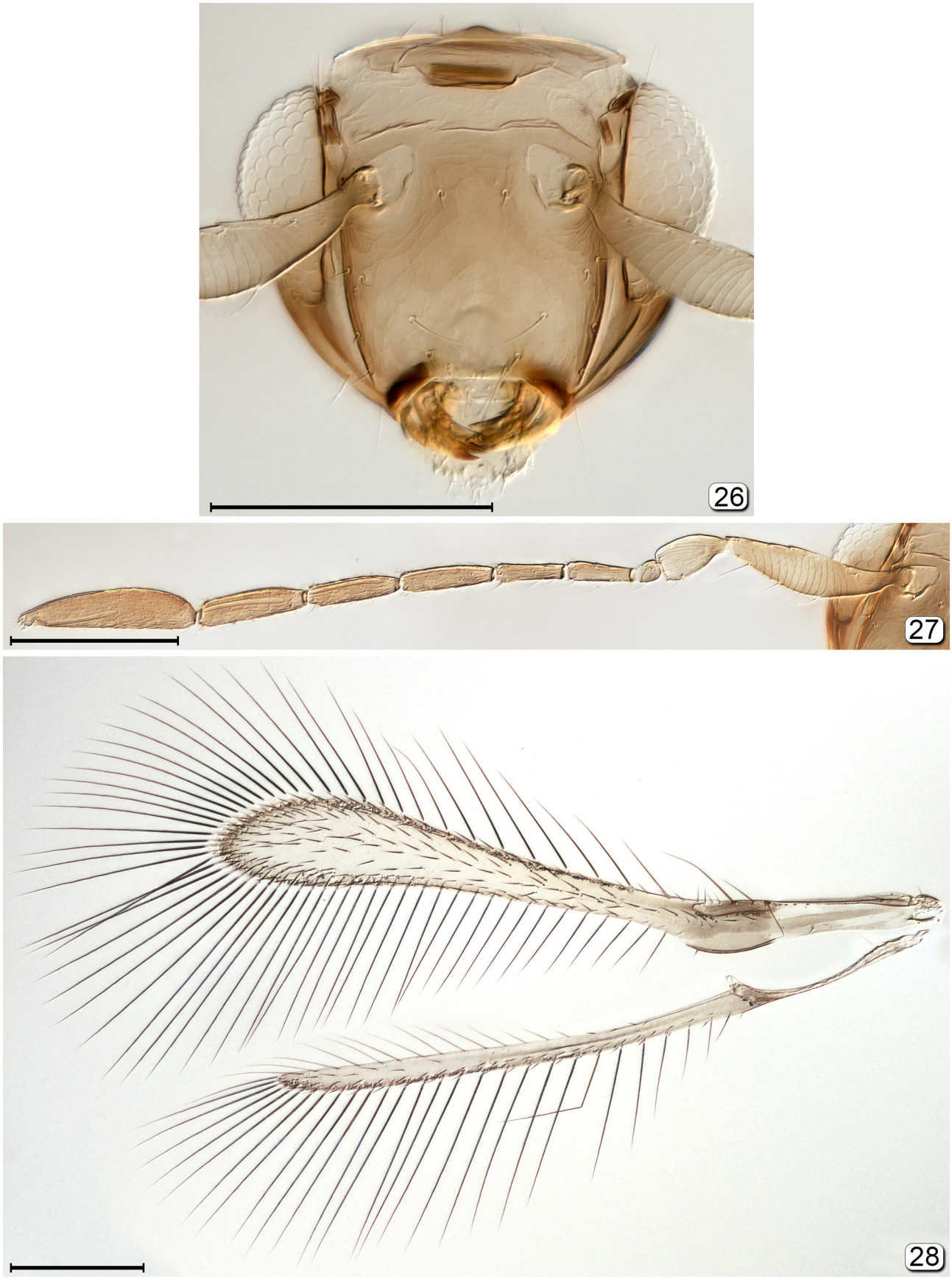
FIGURES 16–18. *Allanagrus* sp. 16, head, anterior; 17, antenna; 18, wings (broken part of second fore wing over hind wing). Scale bars: 16, 17 = 100 μm; 18 = 200 μm.



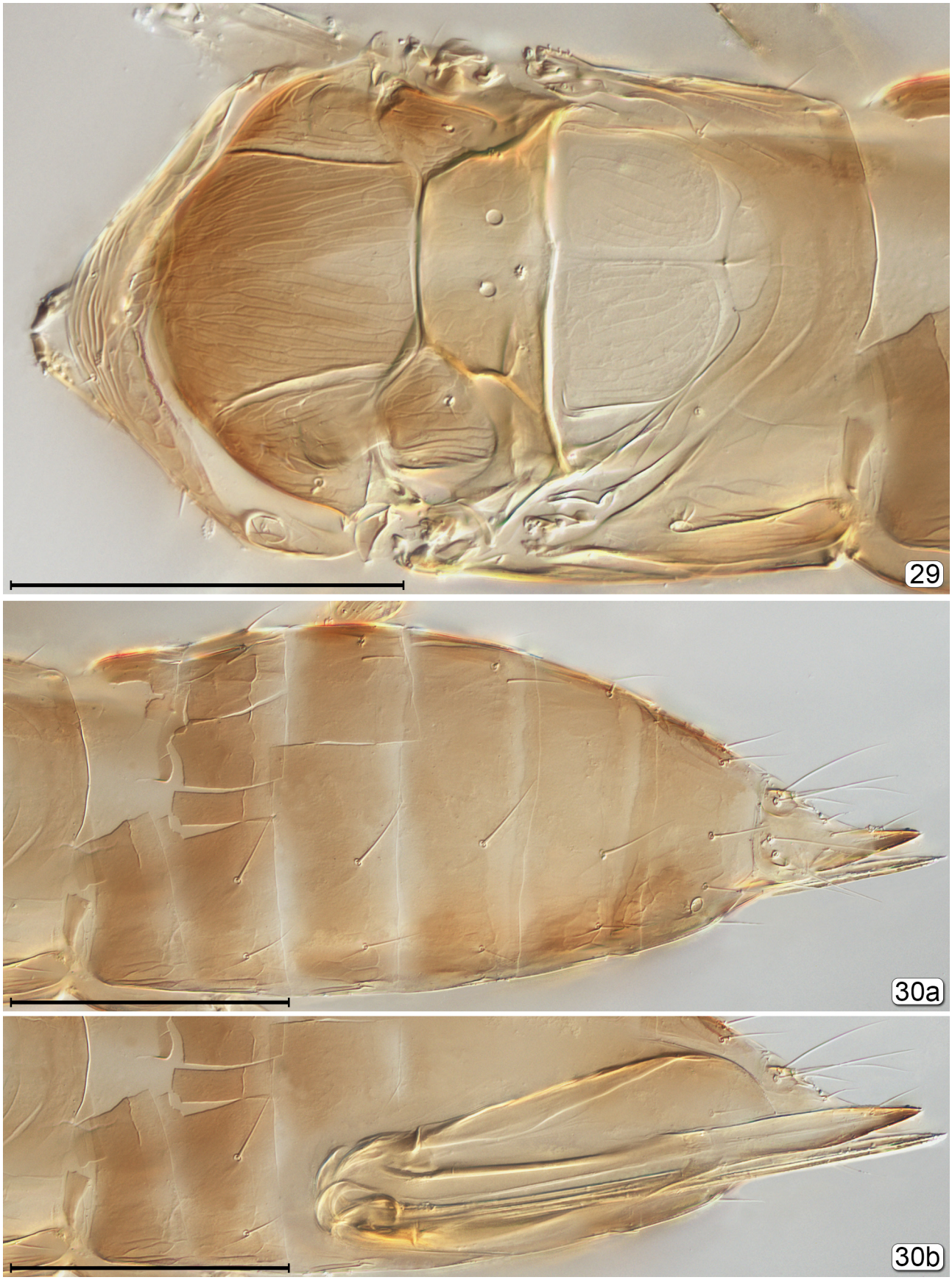
FIGURES 19, 20. *Allanagrus* sp. 19, mesosoma + base of metasoma, dorsal; 20a, apex of mesosoma + metasoma, dorsal; 20b, genitalia seen through gaster. Scale bars = 100 μm.



FIGURES 21–25. *Anagrus* (*Anagrella*) sp. 21, head, anterior; 22, mesosoma, dorsal; 23, antenna; 24, wings; 25, body minus head, dorsal. Scale bars: 21**,** 22 = 100 μm; 23, 24 = 200 μm; 25 = 500 μm.

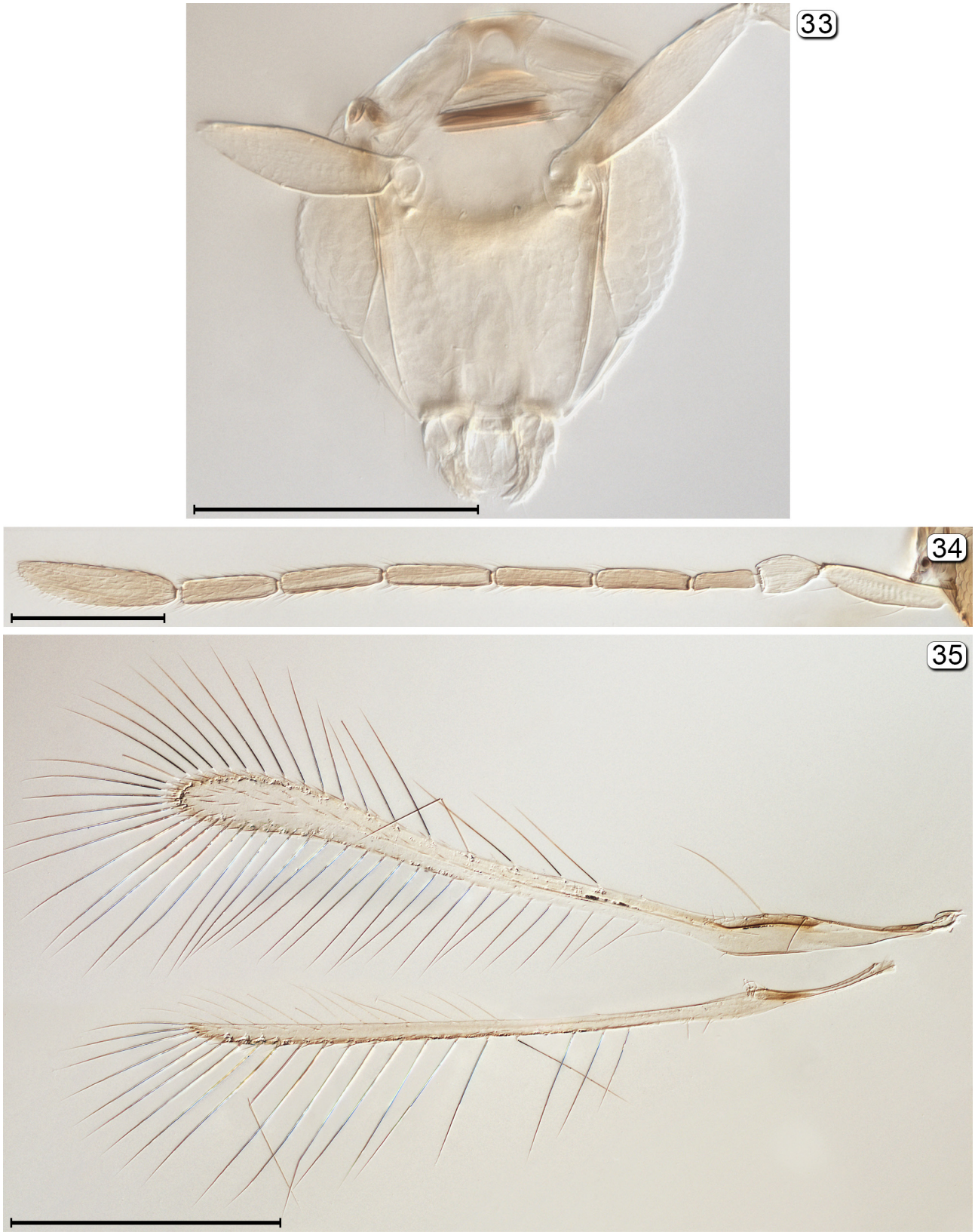


FIGURES 26–28. *Anagrus* (*Anagrus*) sp. 26, head, anterior; 27, antenna; 28, wings. Scale bars = 100 μm.

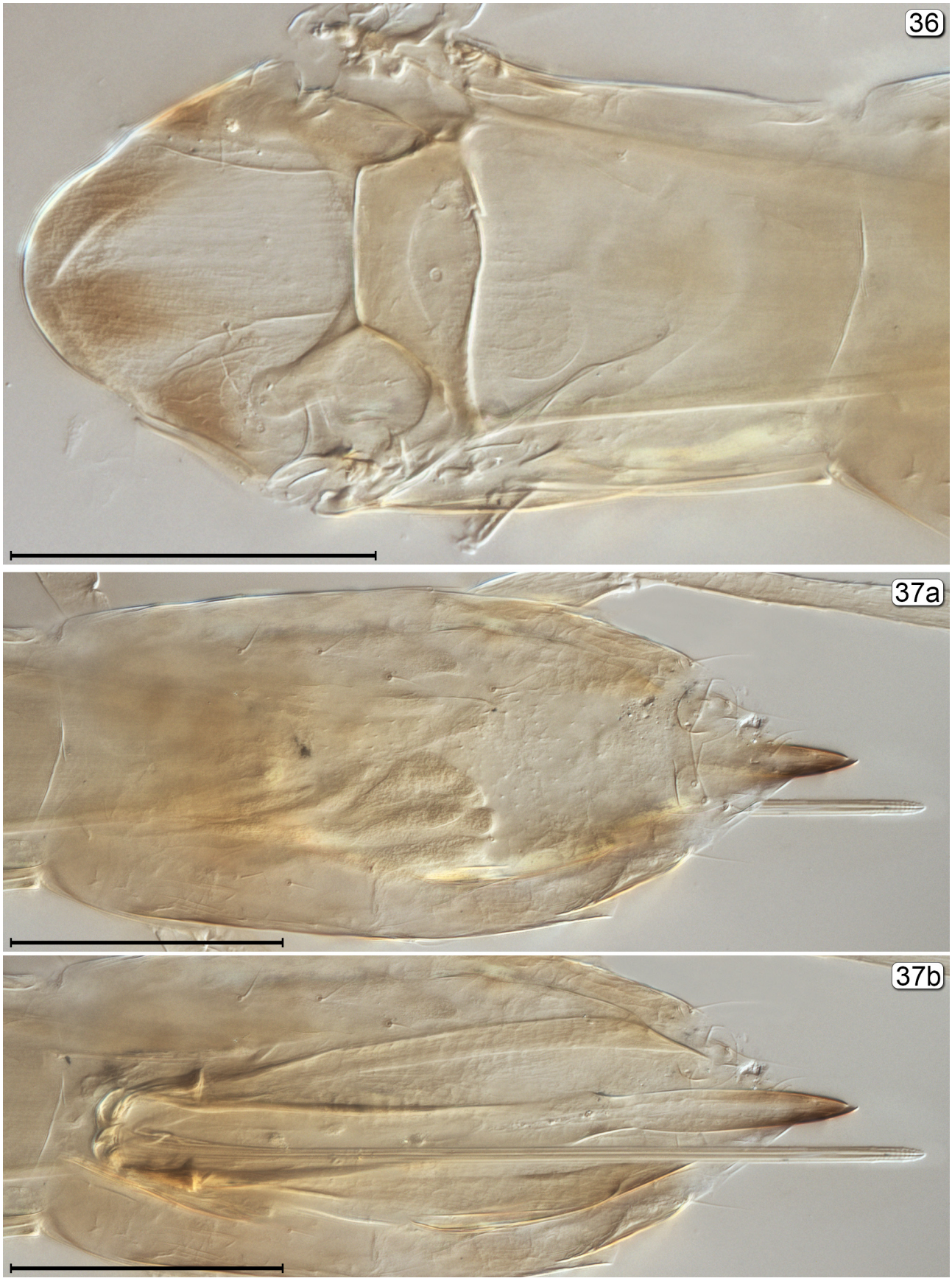


FIGURES 29, 30. *Anagrus* (*Anagrus*) sp. 29, mesosoma, dorsal; 30a, metasoma, dorsal; 30b, genitalia seen though gaster. Scale bars = 100 μm.

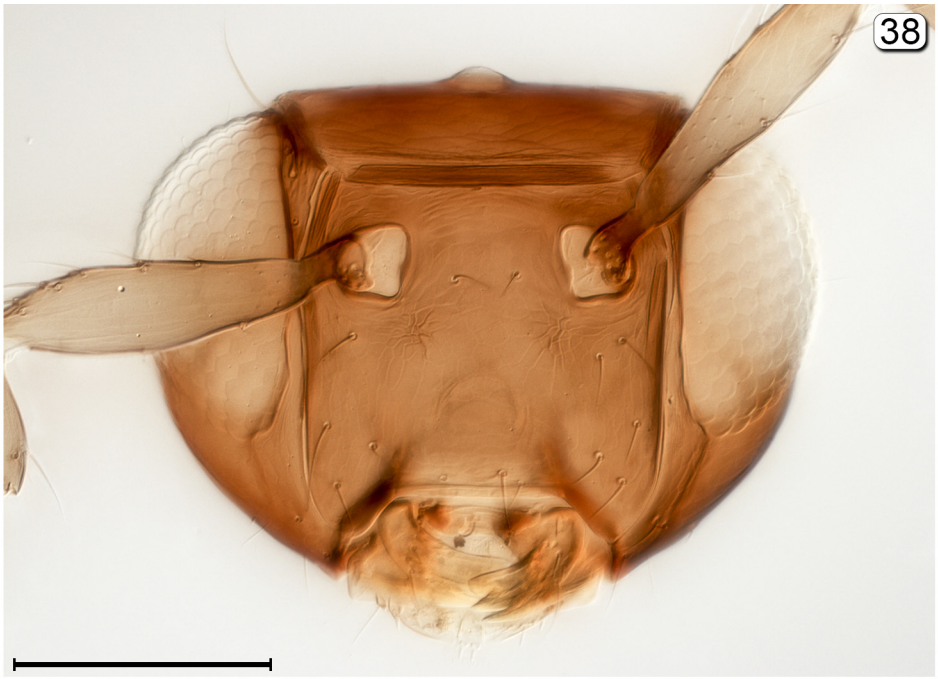
FIGURES 31, 32. *Anagrus* (*Paranagrus*) sp. 31, body minus head, dorsal; 32, body, lateral. Scale bars = 500 µm.

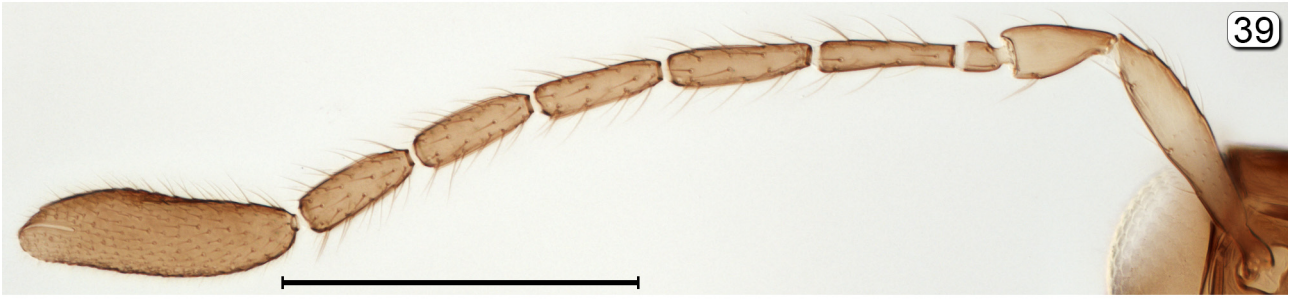


FIGURES 33–35. *Anagrus* (*Paranagrus*) sp. 33, head, anterior; 34, antenna; 35, wings. Scale bars: 33, 34 = 100 µm; 35 = 200 µm.

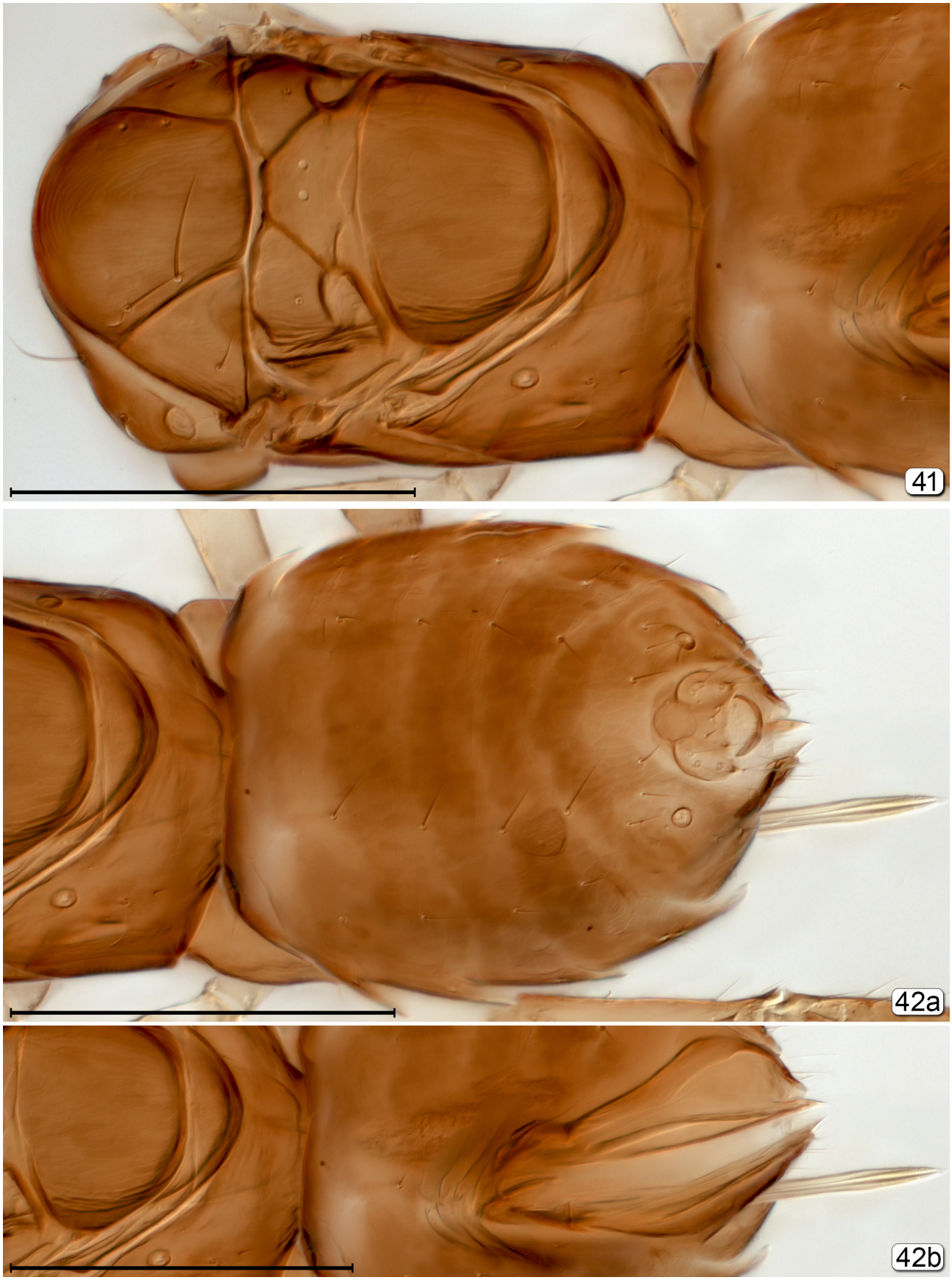


FIGURES 36, 37. *Anagrus* (*Paranagrus*) sp. 36, mesosoma, dorsal; 37a, metasoma, dorsal; 37b, genitalia seen through gaster. Scale bars = 100 μm.

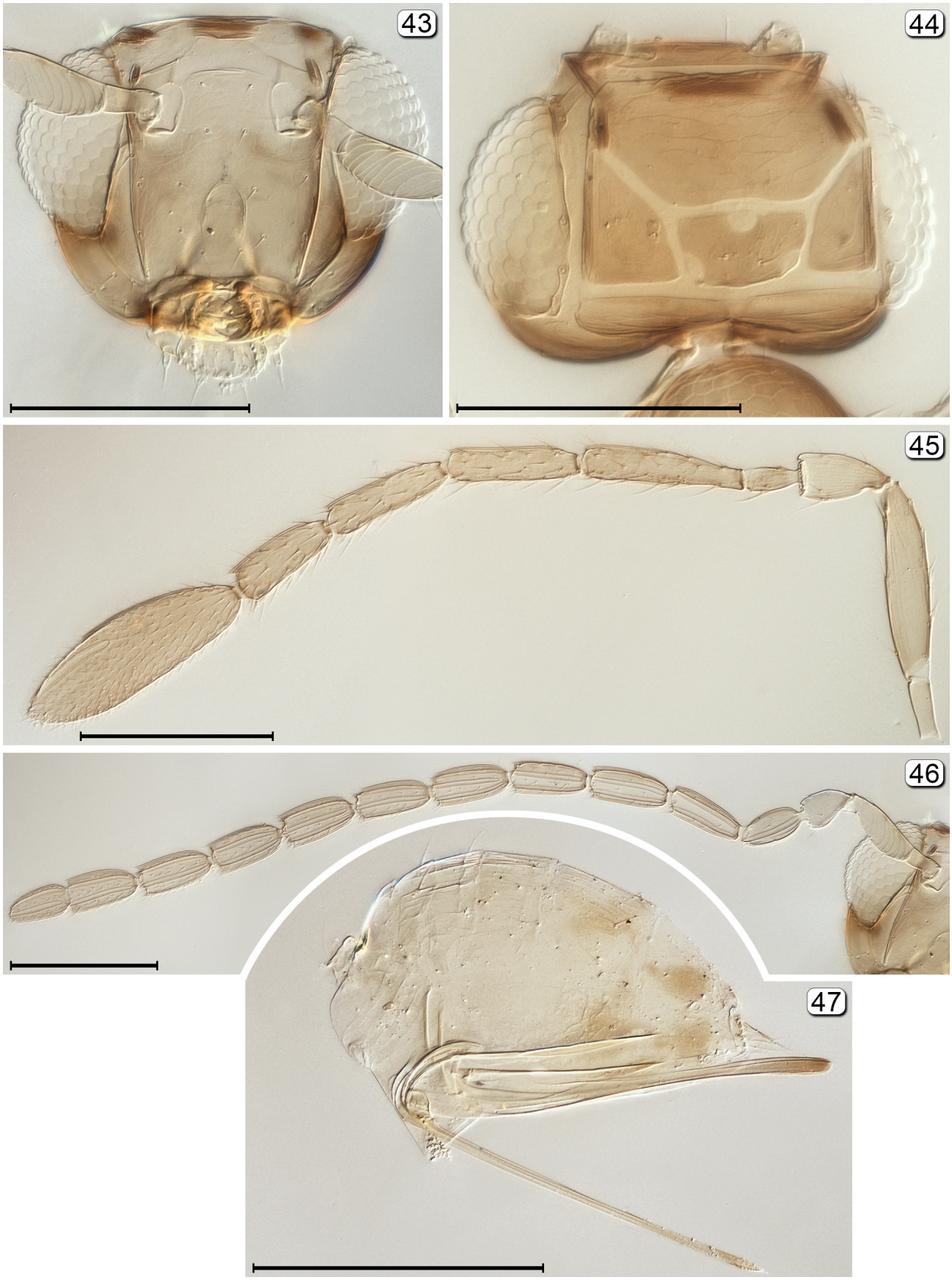




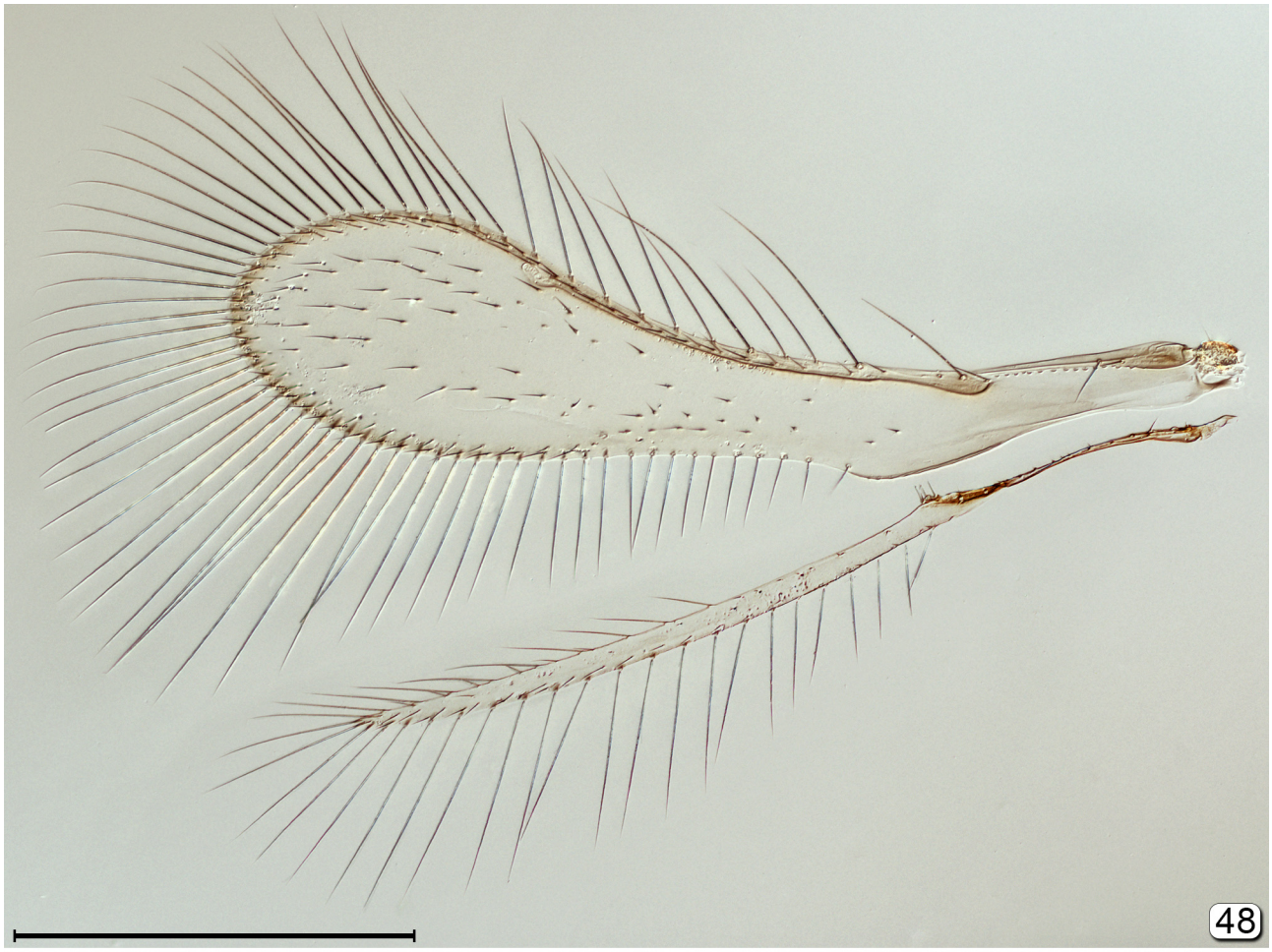
FIGURES 38–40. *A.* (*Anaphes*) sp. 38, head, anterior; 39, antenna; 40, wings. Scale bars: 38 = 100 μm; 39, 40 = 200 μm.

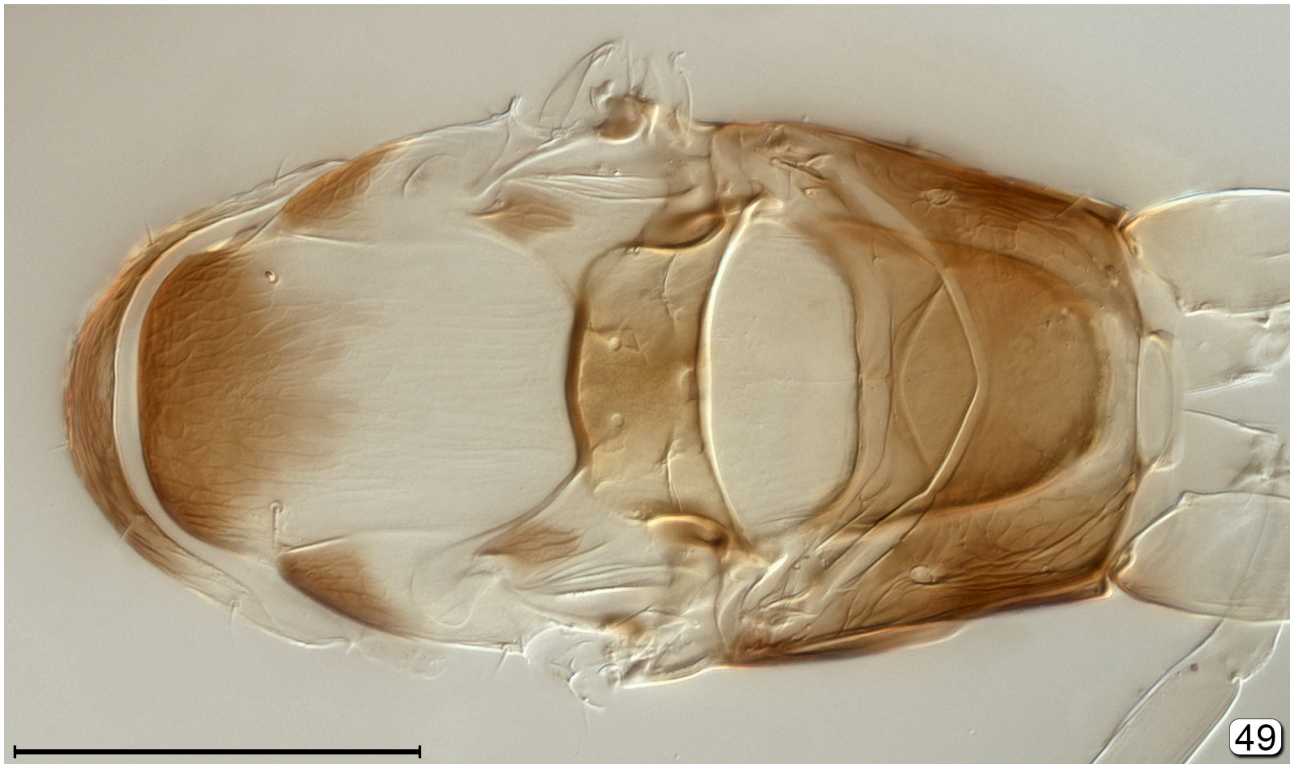


FIGURES 41, 42. *A.* (*Anaphes*) sp. 41, mesosoma, dorsal; 42a, metasoma dorsal; 42b, genitalia seen through gaster. Scale bars = 200 μm.



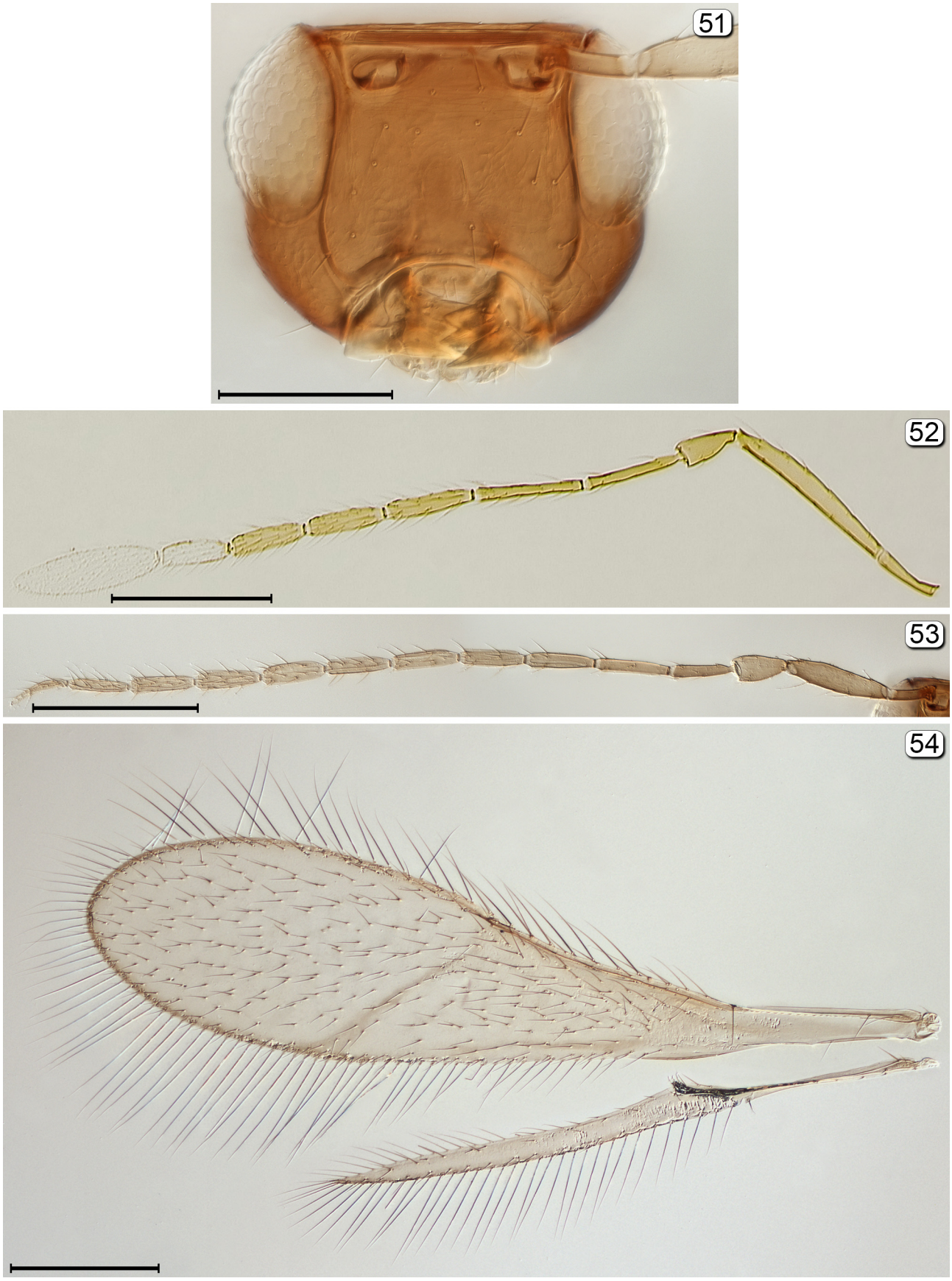
FIGURES 43–47. *Arescon* sp. 43, head, anterior; 44, head, dorsal; 45, antenna; 46, male antenna; 47, metasoma, lateral. Scale bars: 43–46 = 100 μm; 47 = 200 μm.



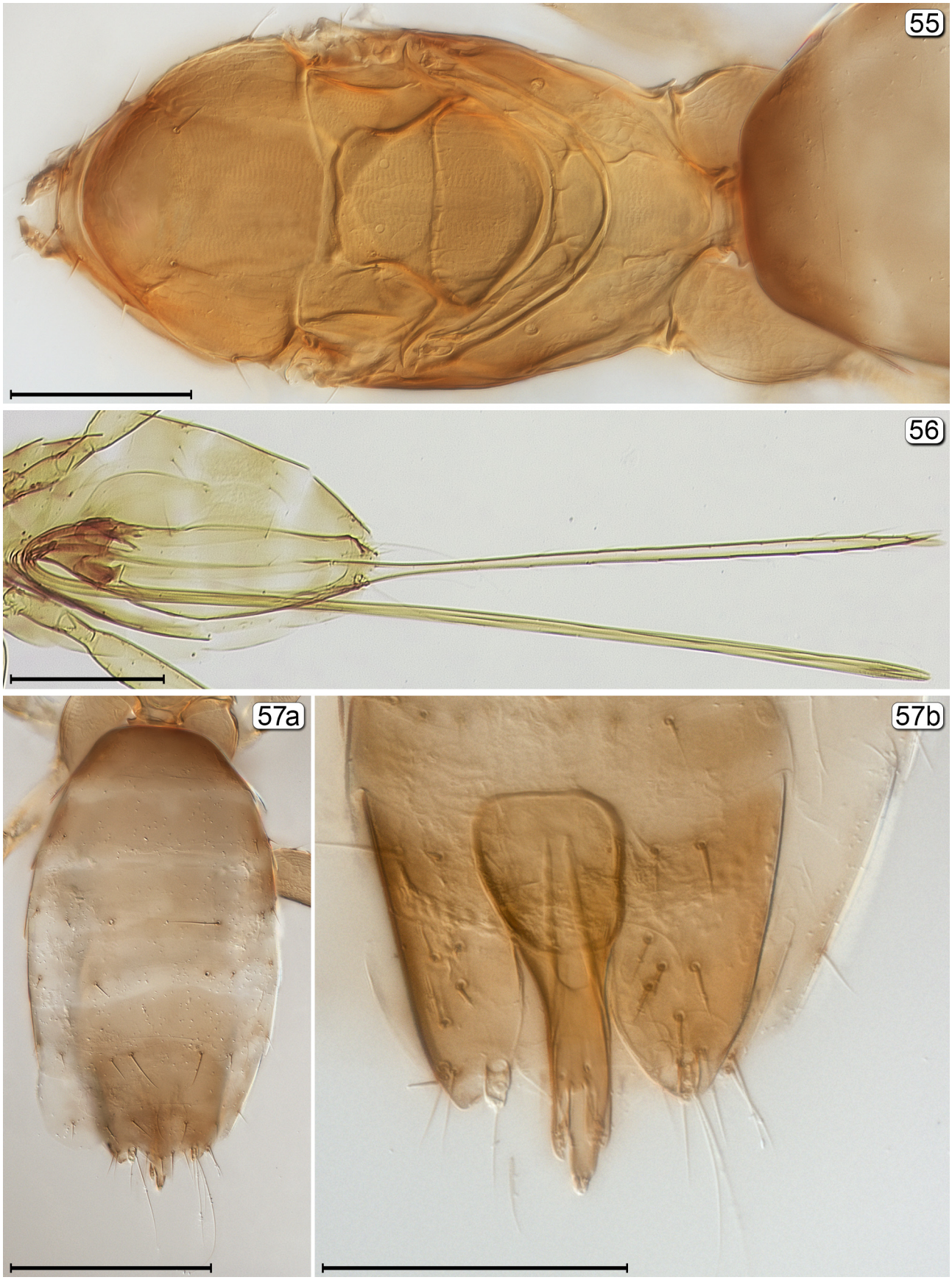


FIGURES 48, 49. *Arescon* sp. 48, wings; 49, mesosoma, dorsal. Scale bars: 48 = 200 µm; 49 = 100 µm.

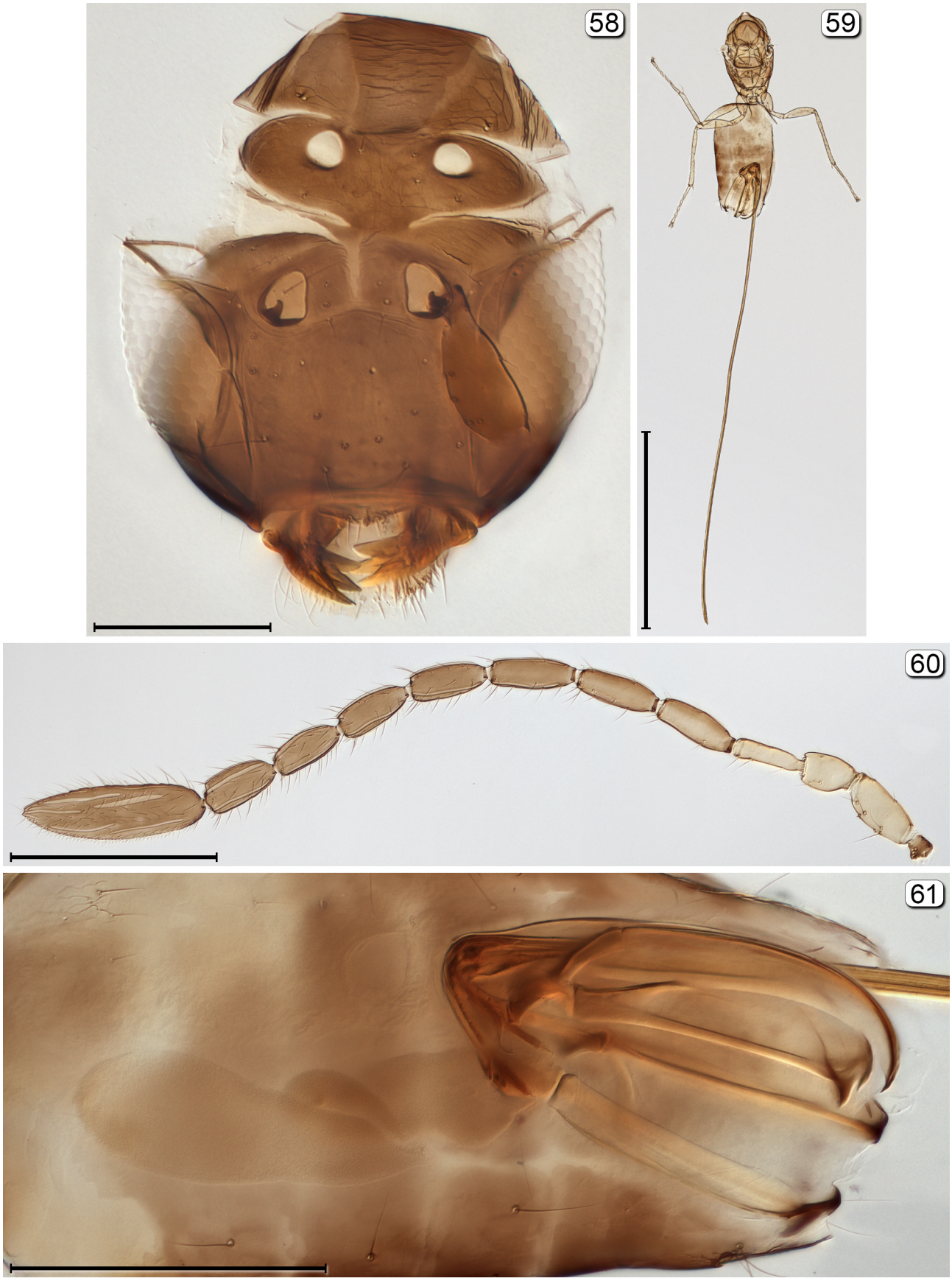
FIGURE 50. *Australomymar* sp., habitus. Madagascar: Alaotra-Mangoro, botanic garden near entrance to Andasibe-Mantadia National Park, 1025 m, 18°55.58'S 48°24.47'E, 16-24.x.2001, R. Harin-Hala, tropical forest. Scale bar = 1000 µm.



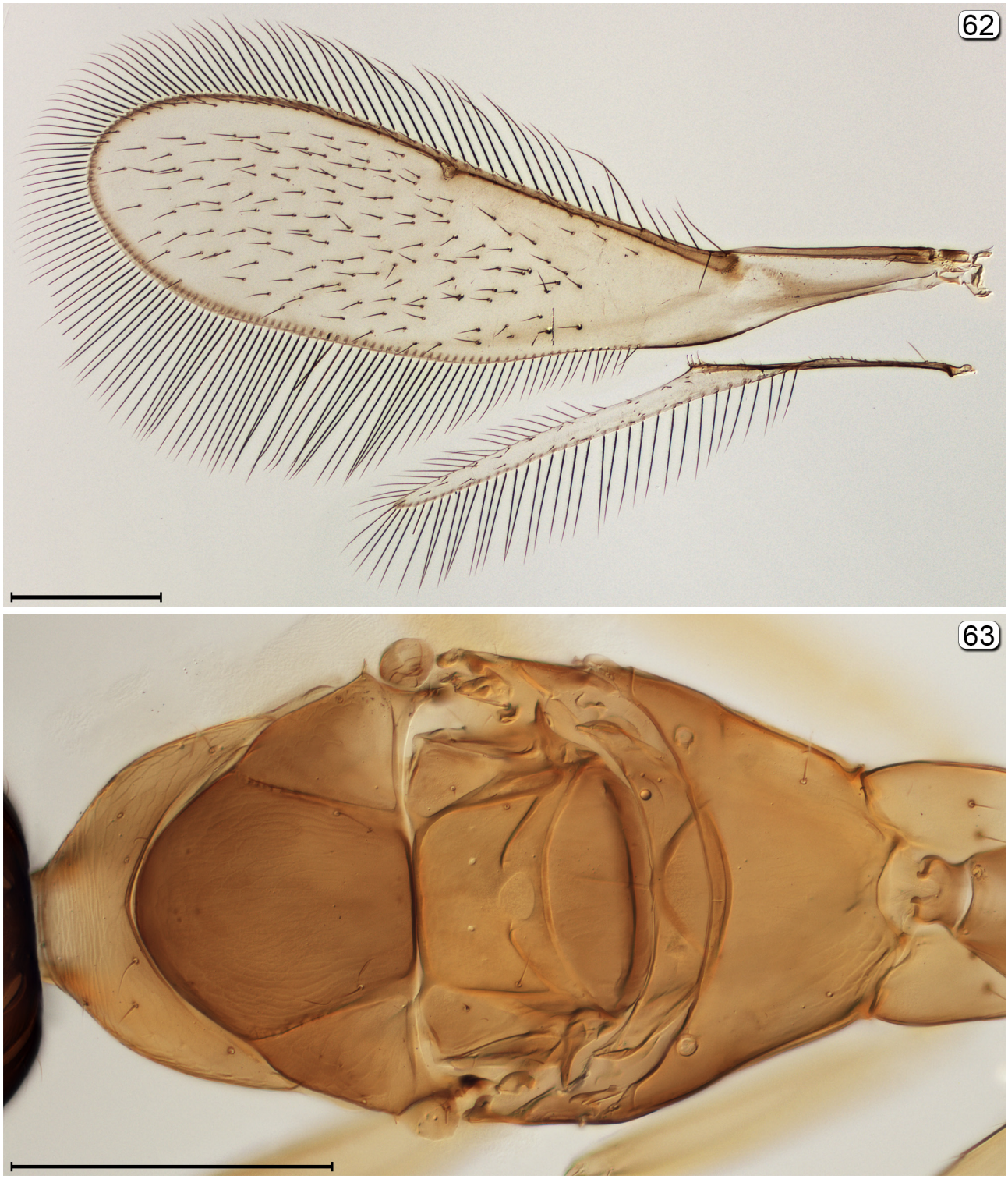
FIGURES 51–54. *Australomymar* sp. 51, male head, anterior; 52, antenna; 53, male antenna; 54, male wings. Scale bars: 51 = 100 μm; 52–54 = 200 μm.



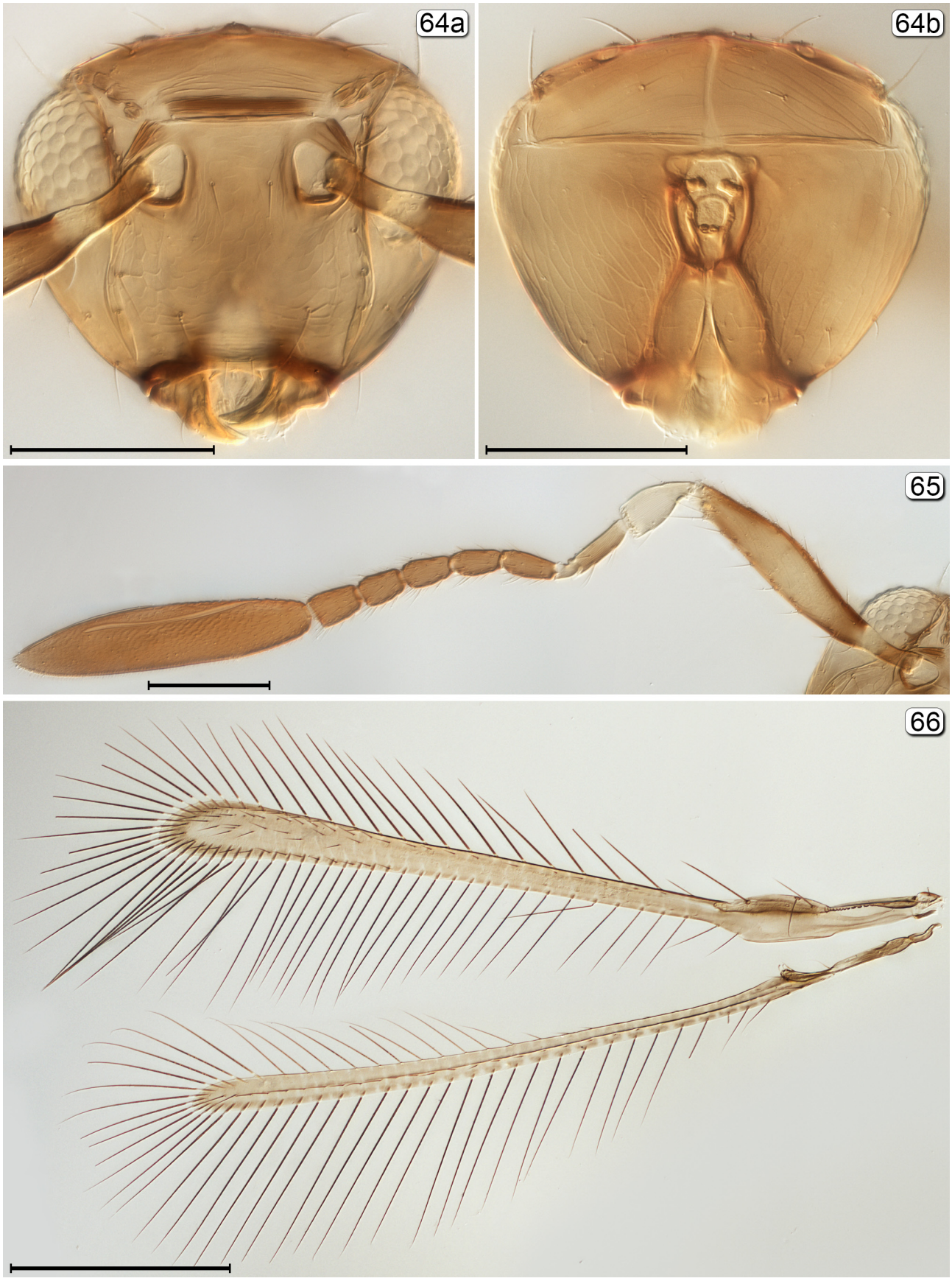
FIGURES 55–57. *Australomymar* sp. 55, male mesosoma, dorsal; 56, gaster, dorsolateral; 57a, male metasoma, dorsal; 57b, male genitalia seen through gaster. Scale bars: 55, 57b = 100 μm; 56, 57a = 200 μm.



FIGURES 58–61. *Borneomymar madagascar* Huber. 58, head, anterior + vertex, dorsal (partly separated from head); 59, body minus head, dorsal; 60, antenna; 61, gaster showing ovipositor sheaths through gaster. Scale bars: 58 = 100 µm; 59 = 1000 µm; 60, 61 = 200 µm.



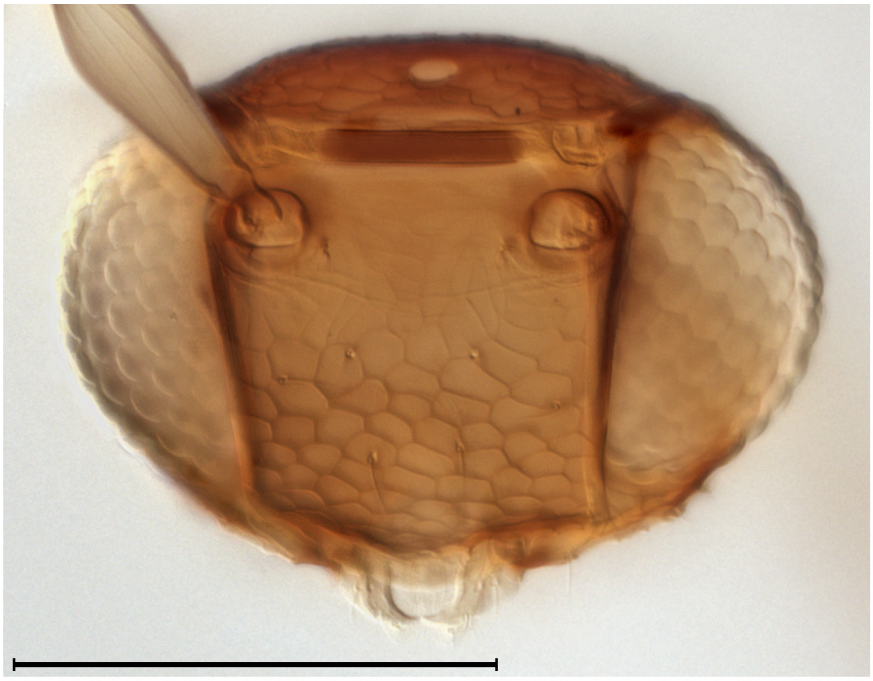
FIGURES 62, 63. *Borneomymar madagascar* Huber, male. 62, wings; 63, mesosoma, dorsal. Scale bars = 200 µm.

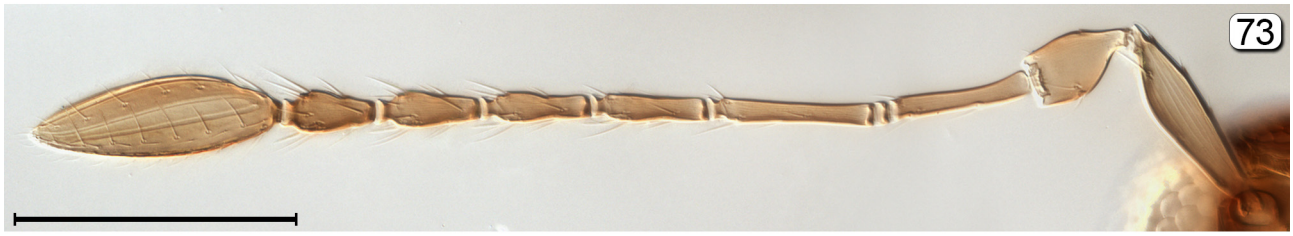


FIGURES 64–66. *Callodicopus* sp. 64a, head, anterior; 64b, head, posterior; 65, antenna; 66, wings. Scale bars: 64 = 100 µm; 65, 66 = 200 µm.

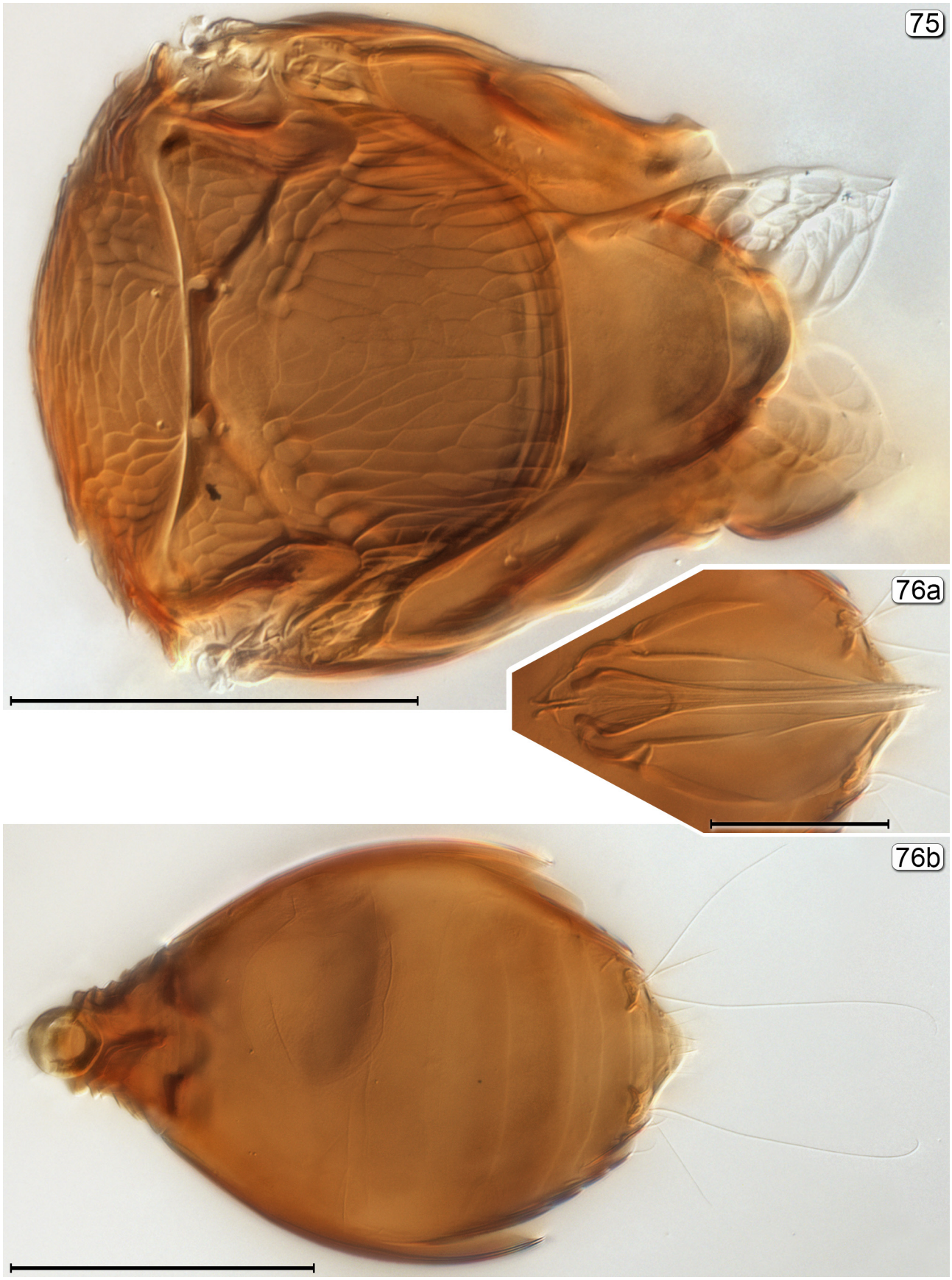
FIGURES 67, 68. *Callodicopus* sp. 67, mesosoma, dorsal; 68a, metasoma, dorsal; 68b, metasoma showing genitalia through gaster. Scale bars = 100 μm.

FIGURES 69–71. *Camptoptera diademata* (Mathot). 69, holotype slide; 70, habitus; 71, antenna + opposite surface of clava of same antenna. Scale bars: 70 = 500 µm; 71 = 50 µm.





FIGURES 72–74. *Camptoptera* sp. 72, head, anterior; 73, antenna; 74, wings. Scale bars: 72, 73 = 100 µm; 74 = 200 µm.



FIGURES 75, 76. *Camptoptera* sp. 75, mesosoma; dorsal; 76a, genitalia seen through gaster; 76b, metasoma, dorsal. Scale bars: 75, 76b = 100 μm; 76a = 50 μm.

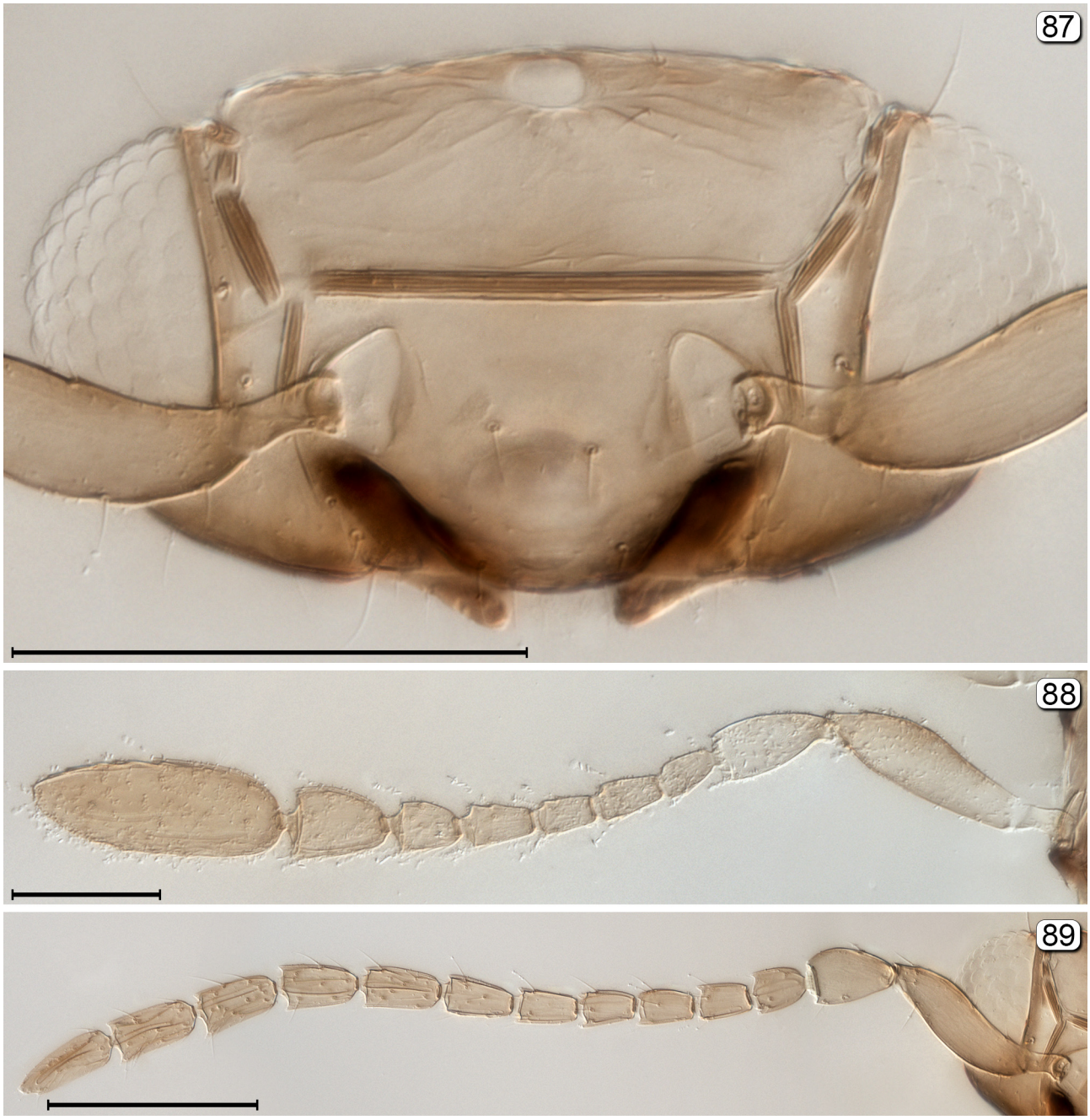
FIGURES 77, 78. *Camptoptera* (*Eofoersteria*) *camptopteroides* (Mathot), paratype. 77, habitus; 78, antenna. Scale bars: 77 = 200 μm; 78 = 50 μm.

FIGURES 79, 80. *Camptopteroides* sp. 79, head, anterior; 80, antenna. Scale bars = 200 µm.

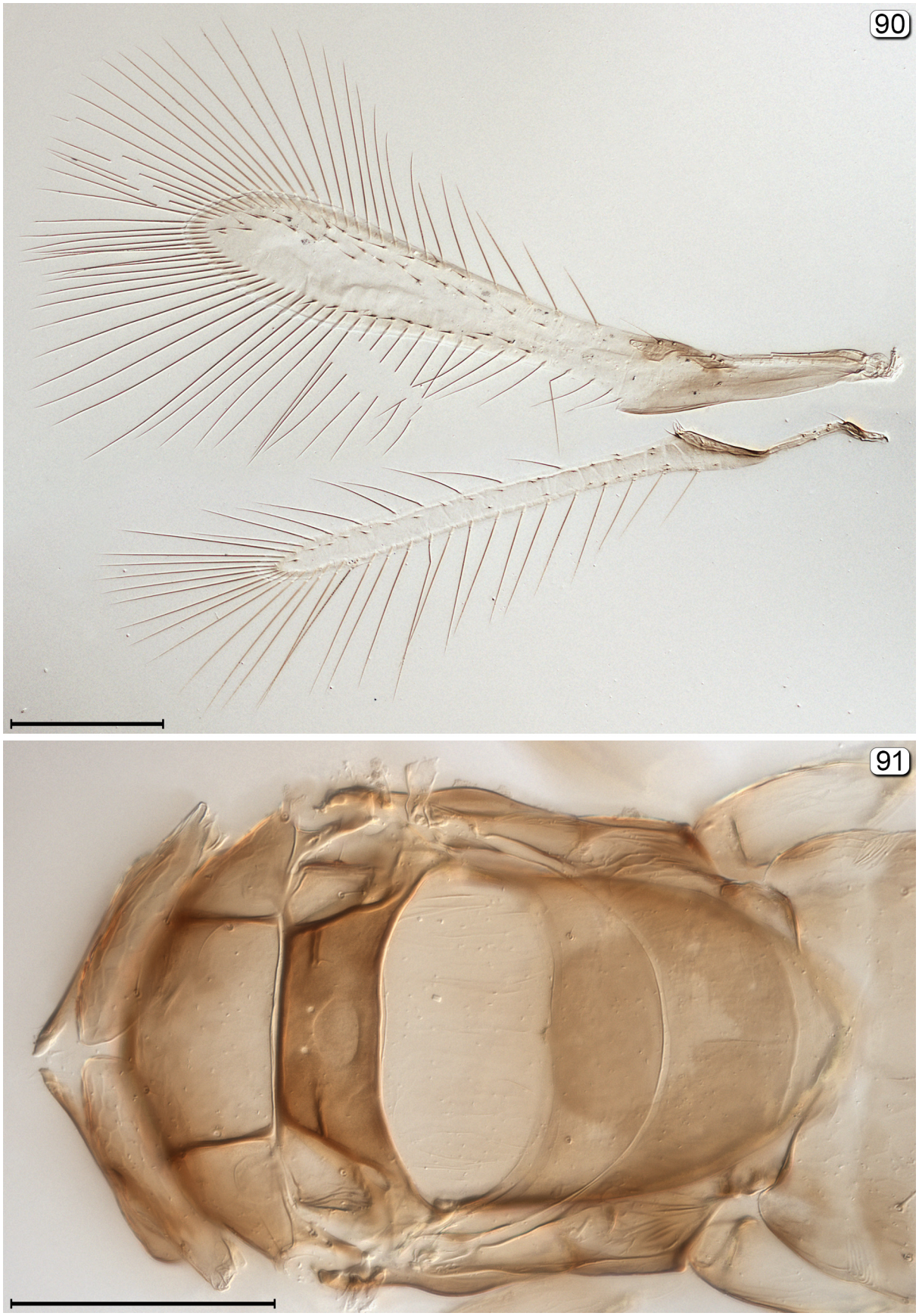
FIGURES 81, 82. *Camptopteroides* sp. 81, mesosoma + metasoma, lateral (note fore wing wrapped around apex of frenum, with long proximal and distal macrochaetae projecting posterodorsally); 82, fore wing, with basal half in lateral view and apex half in ventral view; distal macrochaeta broken off leaving socket only. Scale bars: 81 = 500 µm; 82 = 200 µm.

FIGURES 83, 84. *Camptopteroides* sp. 83, head + mesosoma, dorsal; 84, metasoma, dorsal (with apex turned dorsally). Scale bars = 200 μm.

FIGURES 85, 86. *Chrysoctonus apterus* Mathot, holotype. Democratic Republic of the Congo, Oriental, Yangambi, 17.viii.1951, forest litter; 85, habitus; 86, antennae. Scale bars: 85 = 500 μm; 86 = 100 μm.

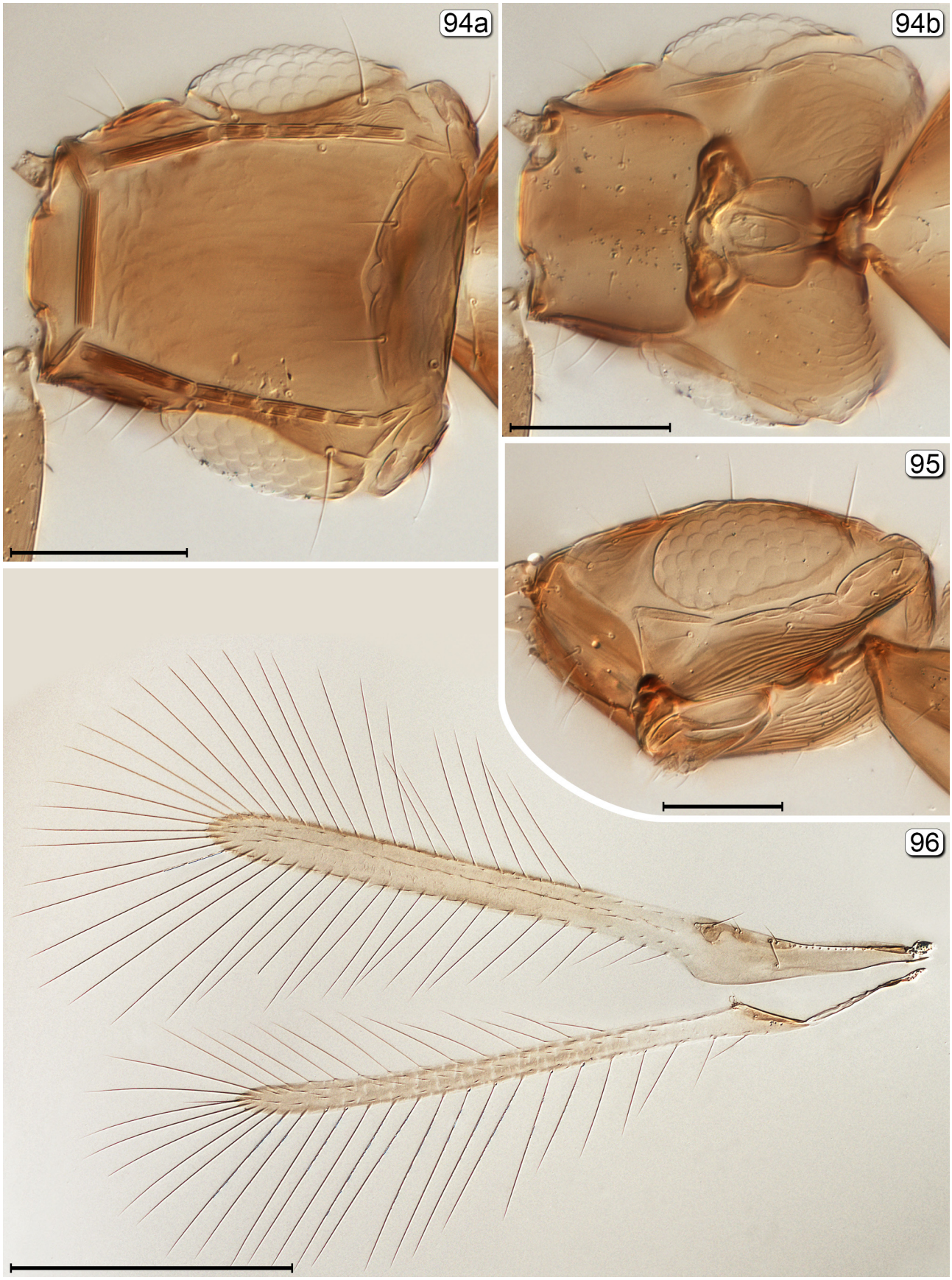


FIGURES 87–89. *Cleruchoides noackae* Lin & Huber. 87, male head, anterior; 88, antenna; 89, male antenna. Scale bars = 100 μm.

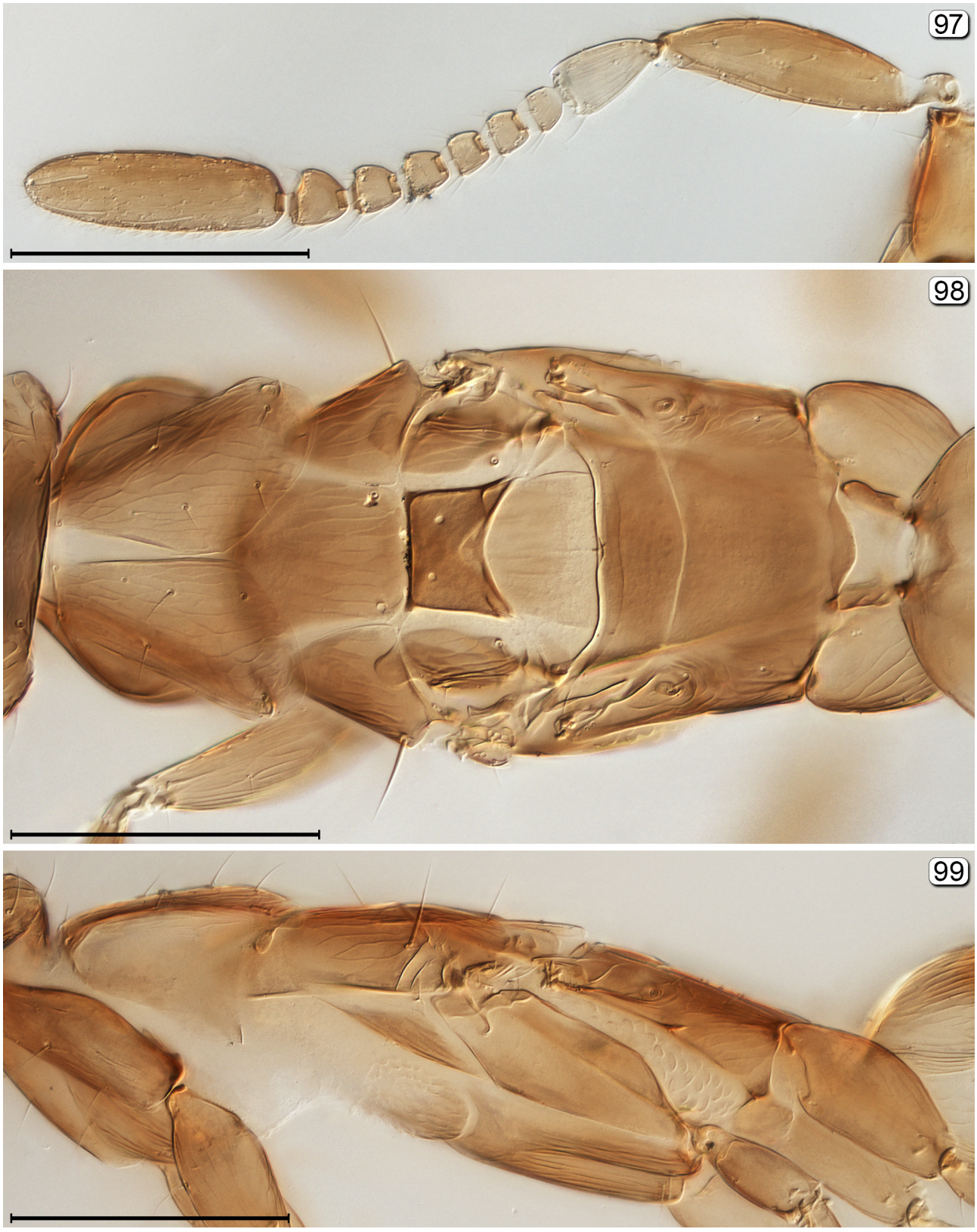


FIGURES 90, 91. *Cleruchoides noackae* Lin & Huber. 90, wings; 91, mesosoma, dorsal. Scale bars = 100 µm.

FIGURES 92, 93. *Cleruchoides noackae* Lin & Huber. 92, metasoma, lateral; 93a, male metasoma, dorsal; 93b, genitalia seen through gaster. Scale bars = 100 μm.

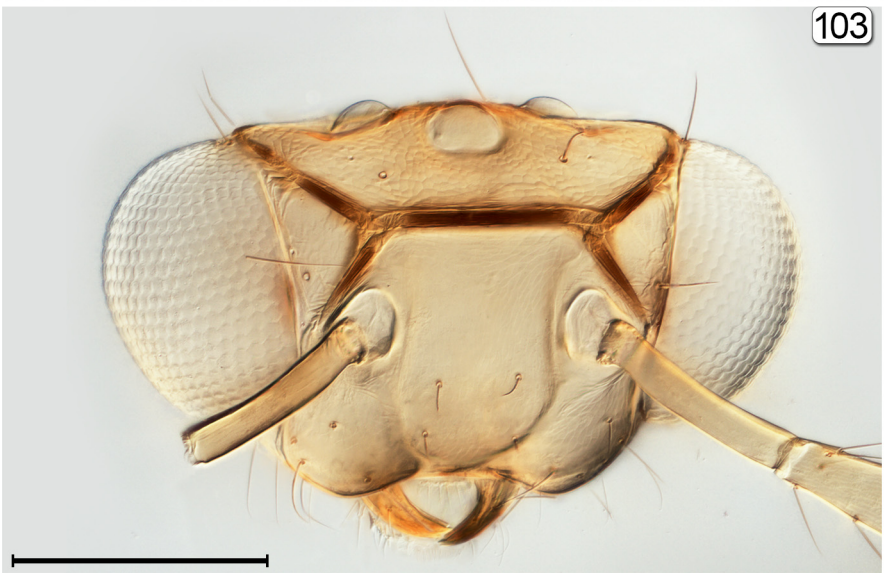


FIGURES 94–96. *Cleruchus* ?*depressus* (Annecke). 94a, head, dorsal; 94b, mouthparts seen through head; 95, head, lateral; 96, wings. Scale bars: 94, 95 = 50 µm; 96 = 200 µm.

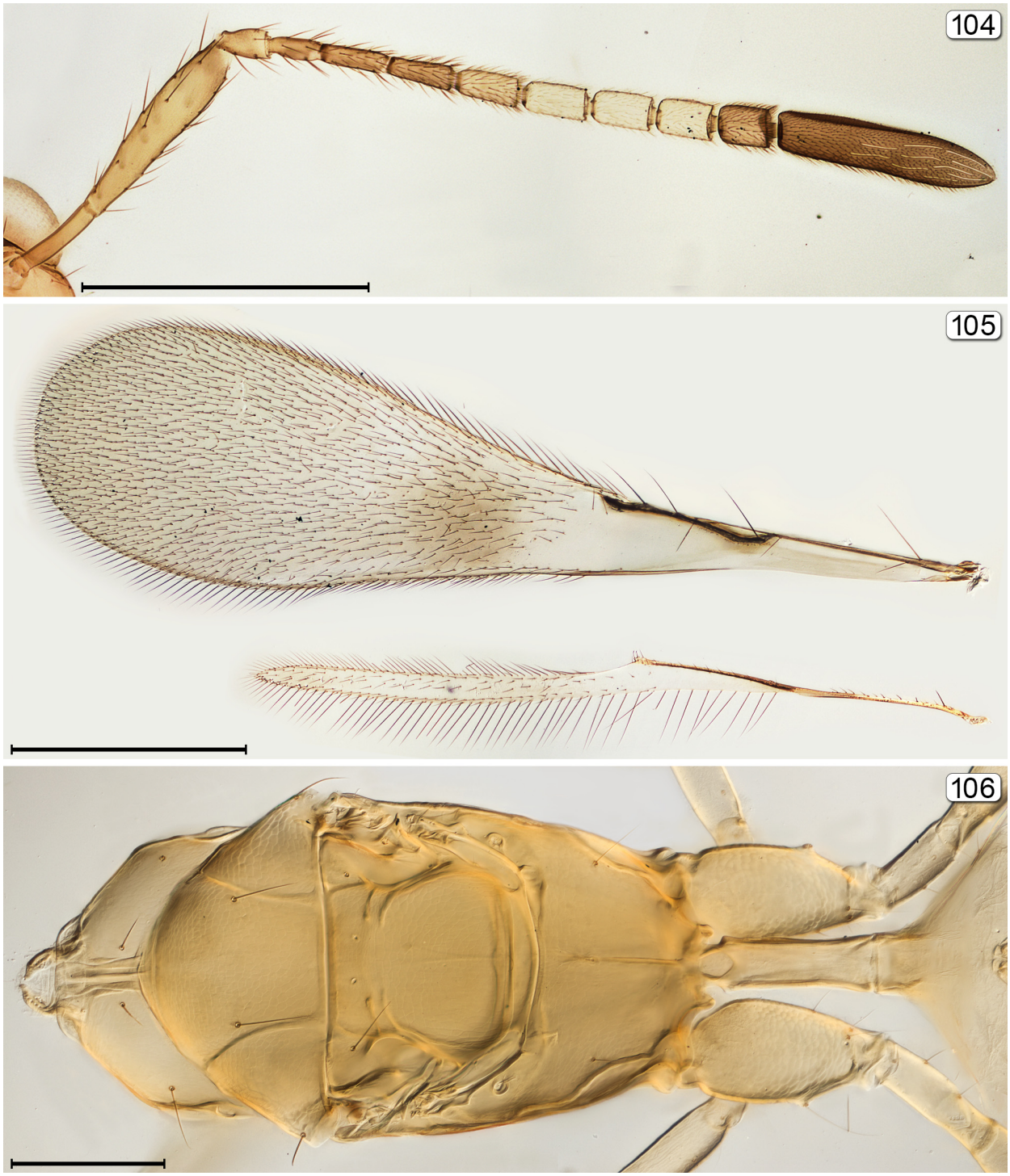


FIGURES 97–99. *Cleruchus* ?*depressus* (Annecke). 97, antenna; 98, mesosoma, dorsal; 99, mesosoma, lateral. Scale bars = 100 μm.

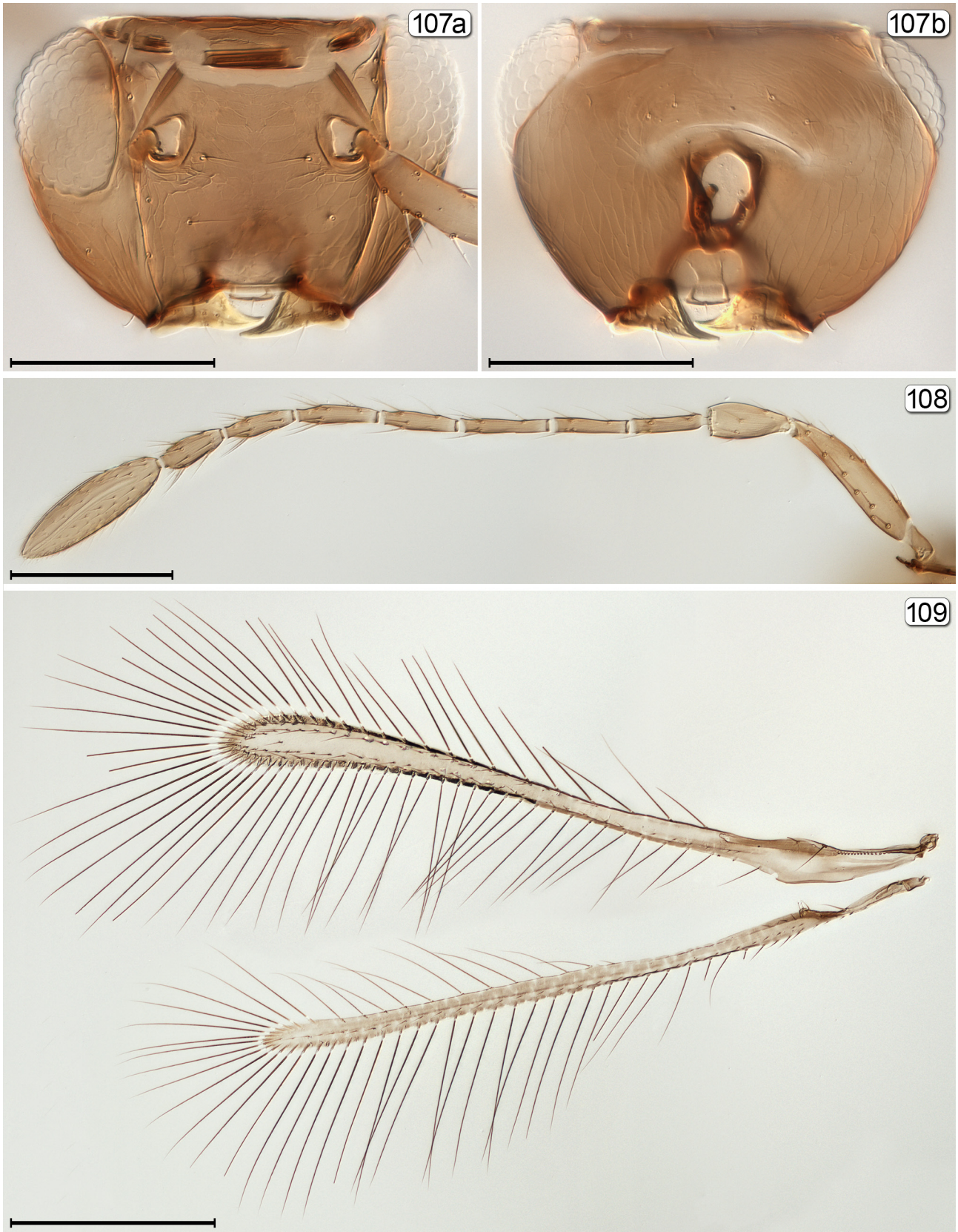
FIGURES 100, 101. *Cleruchus* ?*depressus* (Annecke). 100a, metasoma, dorsal; 100b, genitalia seen through gaster; 101a, metasoma, lateral; 101b, genitalia seen through gaster. Scale bars = 100 μm.



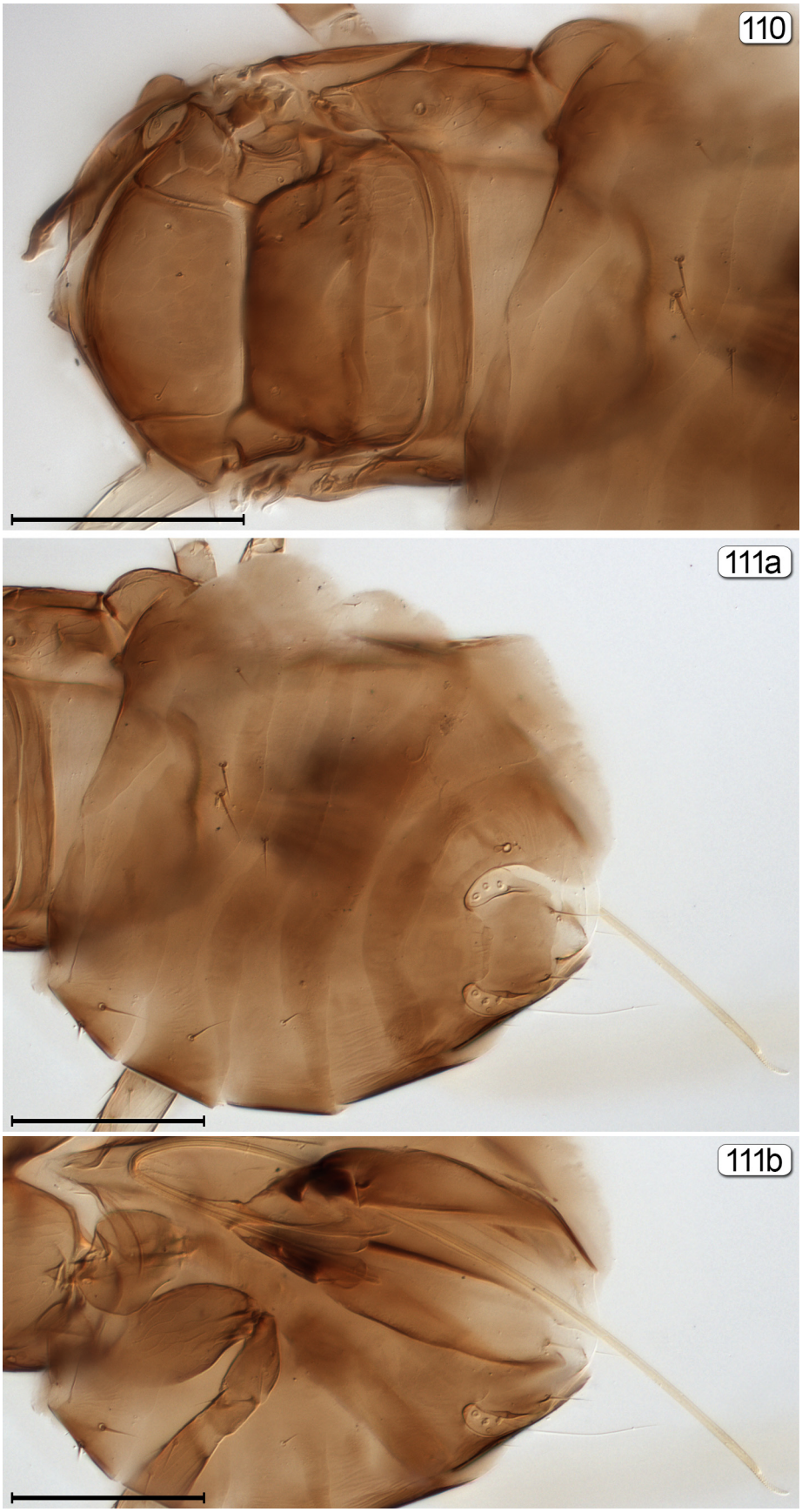
FIGURES 102, 103. *Cosmocomopsis* spp., holotype. 102, *C. mopsis* Huber, habitus; 103, *C. flopsis* Huber, head, anterior. Scale bars: 102 = 500 µm; 103 = 200 µm.



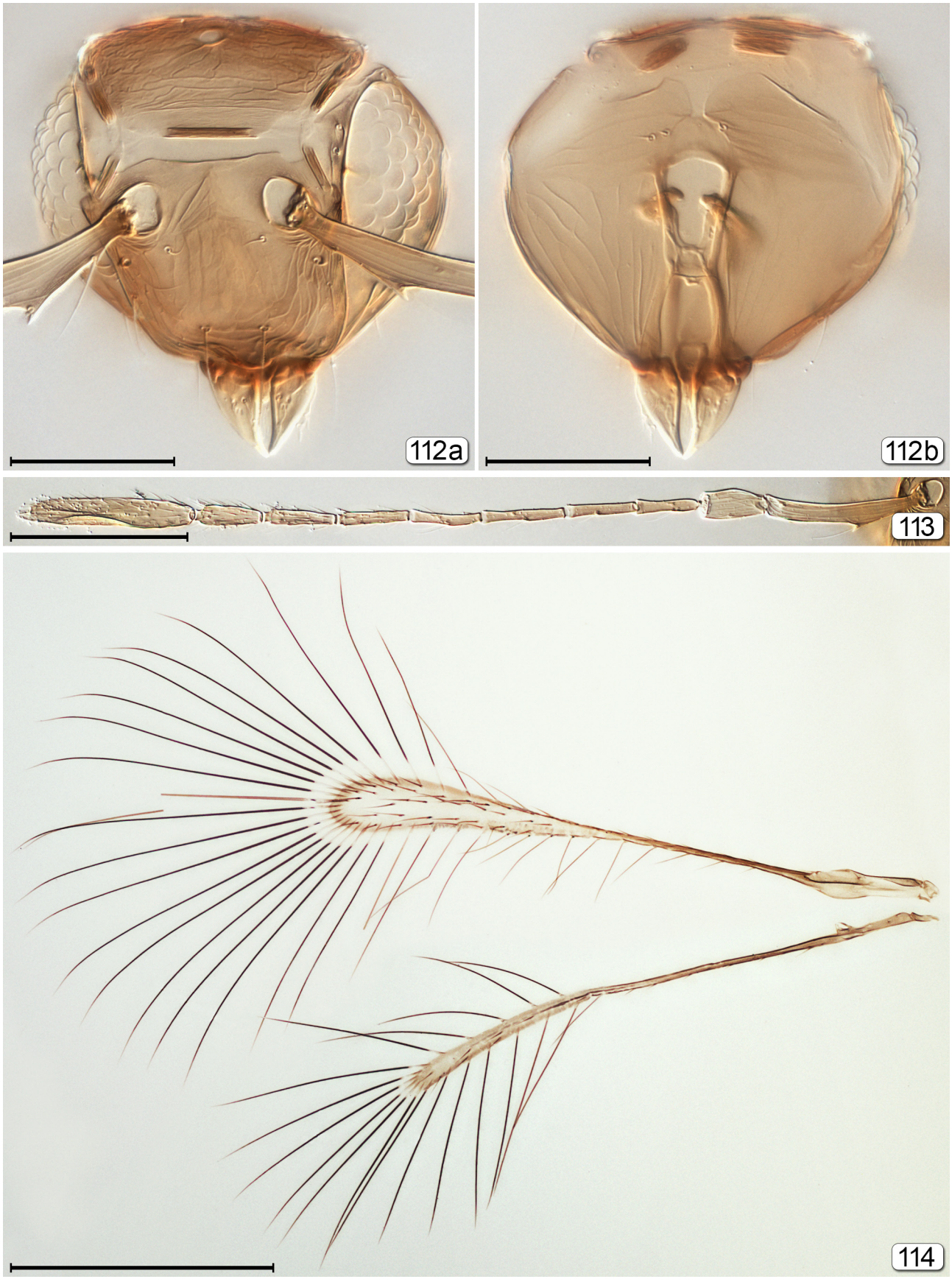
FIGURES 104–106. *Cosmocomopsis mopsis* Huber, holotype. 104, antenna; 105, wings; 106, mesosoma + petiole, dorsal. Scale bars: 104, 105 = 100 µm; 106 = 200 µm.



FIGURES 107–109. *Dicopomorpha* sp. 107a, head, anterior; 107b, head, posterior; 108 antenna; 109, wings. Scale bars: 107, 108 = 100 µm; 109 = 200 µm.

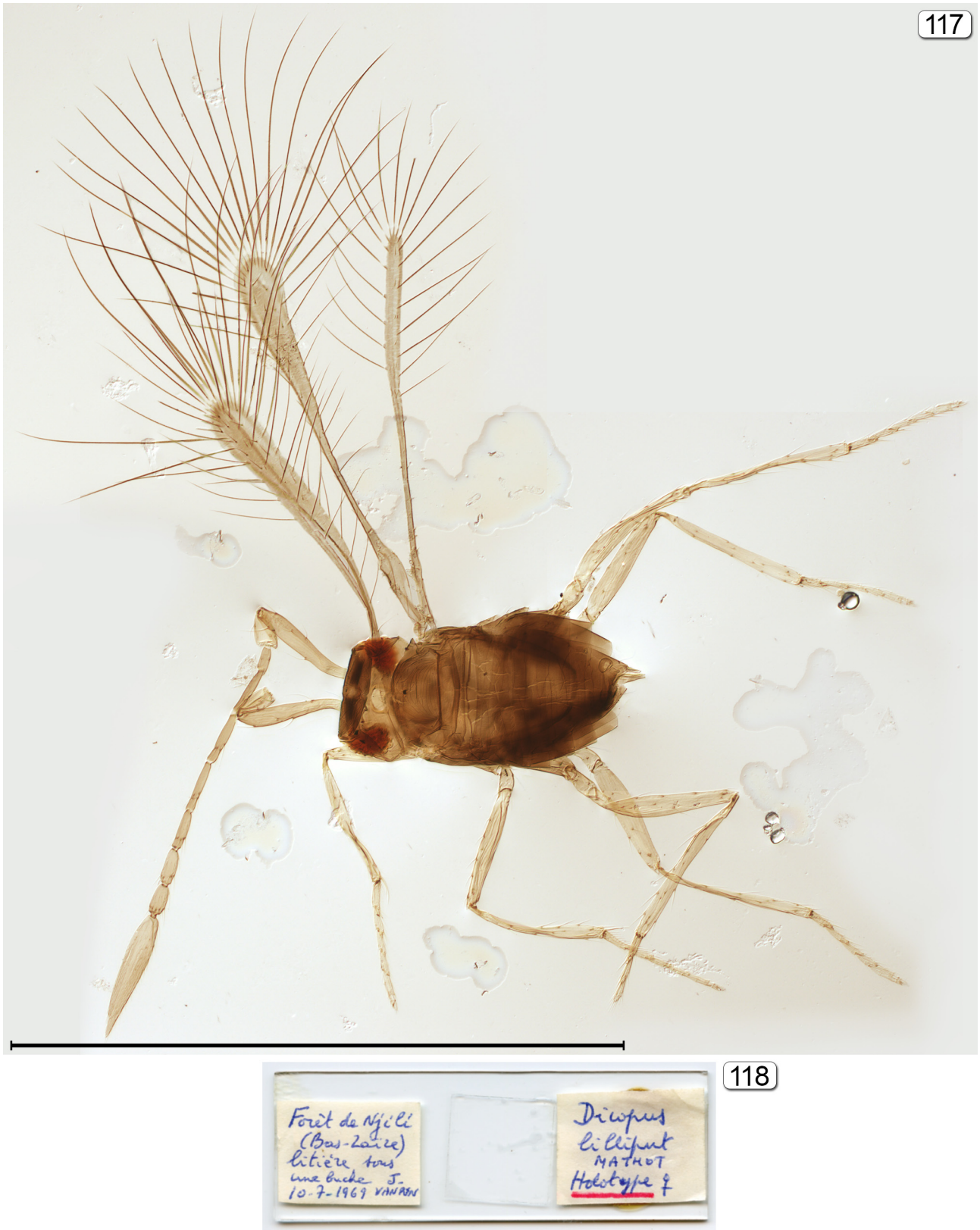


FIGURES 110, 111. *Dicopomorpha* sp. 110, mesosoma, dorsal; 111a, metasoma, dorsal; 111b, genitalia seen through gaster. Scale bars = 100 μm.



FIGURES 112–114. *Dicopus* sp. 112a, head, anterior; 112b, head posterior; 113, antenna; 114, wings. Scale bars: 112, 113 = 100 μm; 114 = 200 μm.

FIGURES 115, 116. *Dicopus* sp. 115, mesosoma, dorsal; 116, metasoma, dorsal (inset: genitalia seen through gaster). Scale bars = 50 μm.



FIGURES 117, 118. *Dicopus lilliput* Mathot, holotype. Democratic Republic of the Congo, Bas-Zaire, Njili forest, litter under a log, 10.viii.1969; 117, habitus; 118, holotype slide. Scale bar = 500 µm.

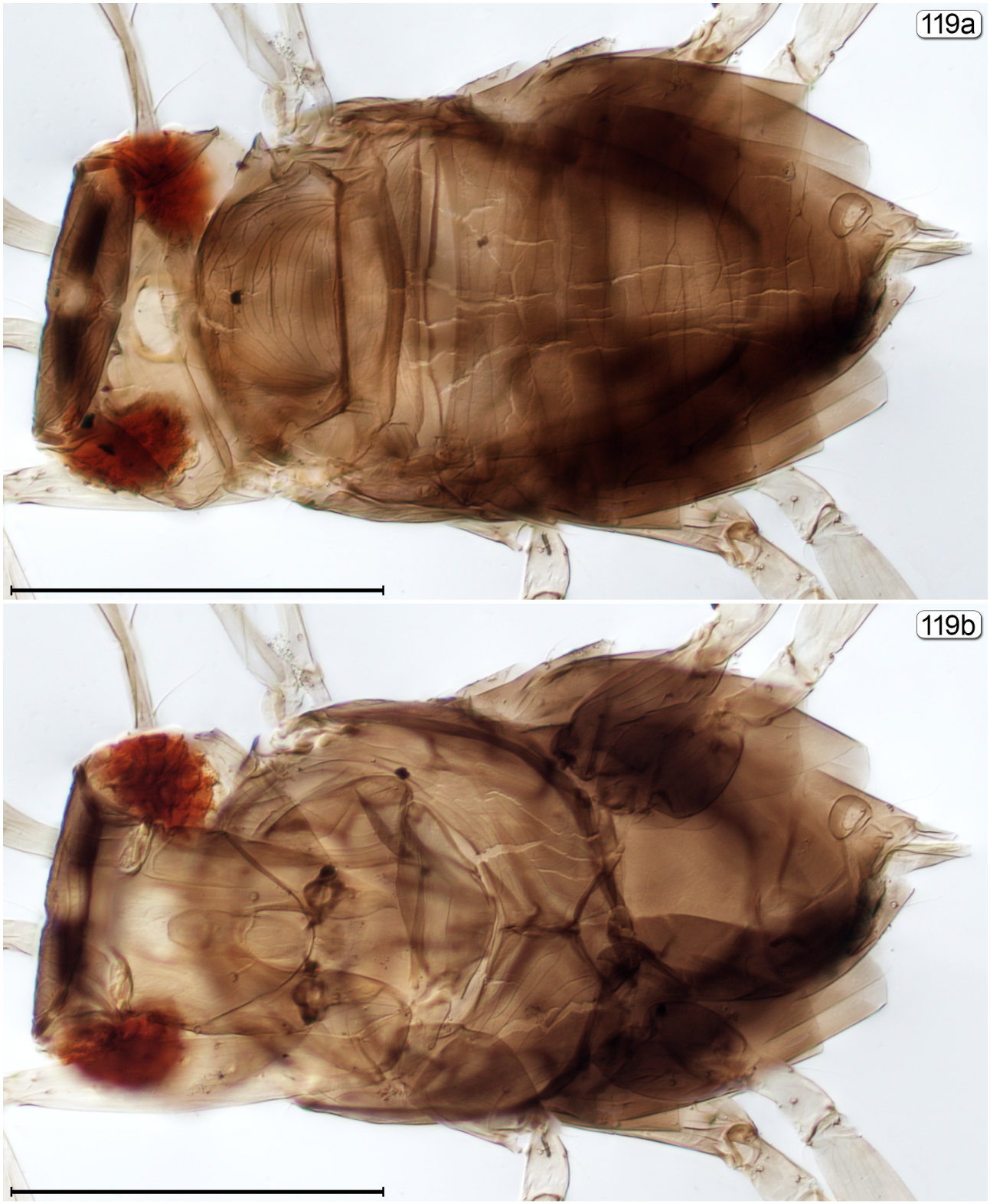
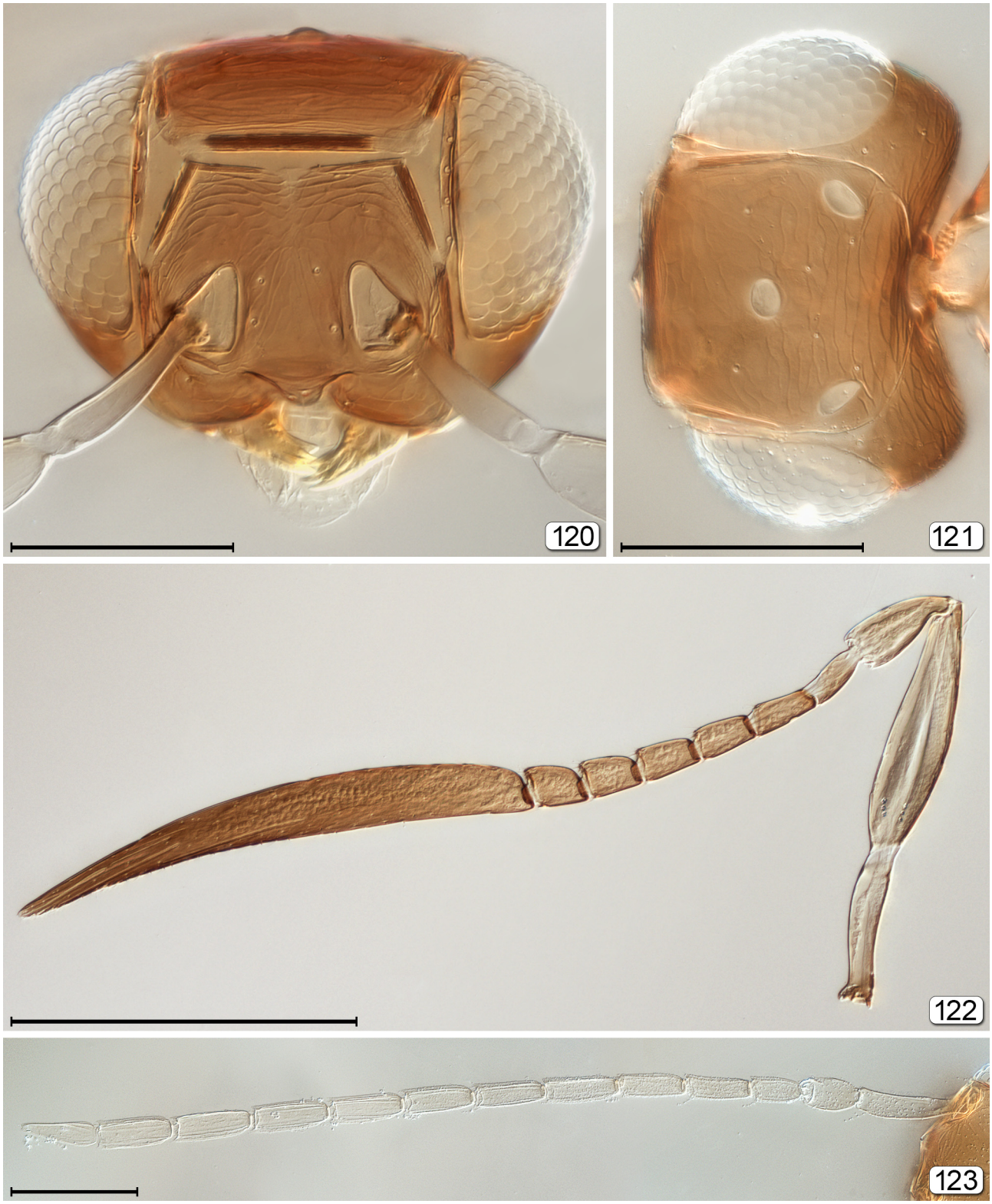
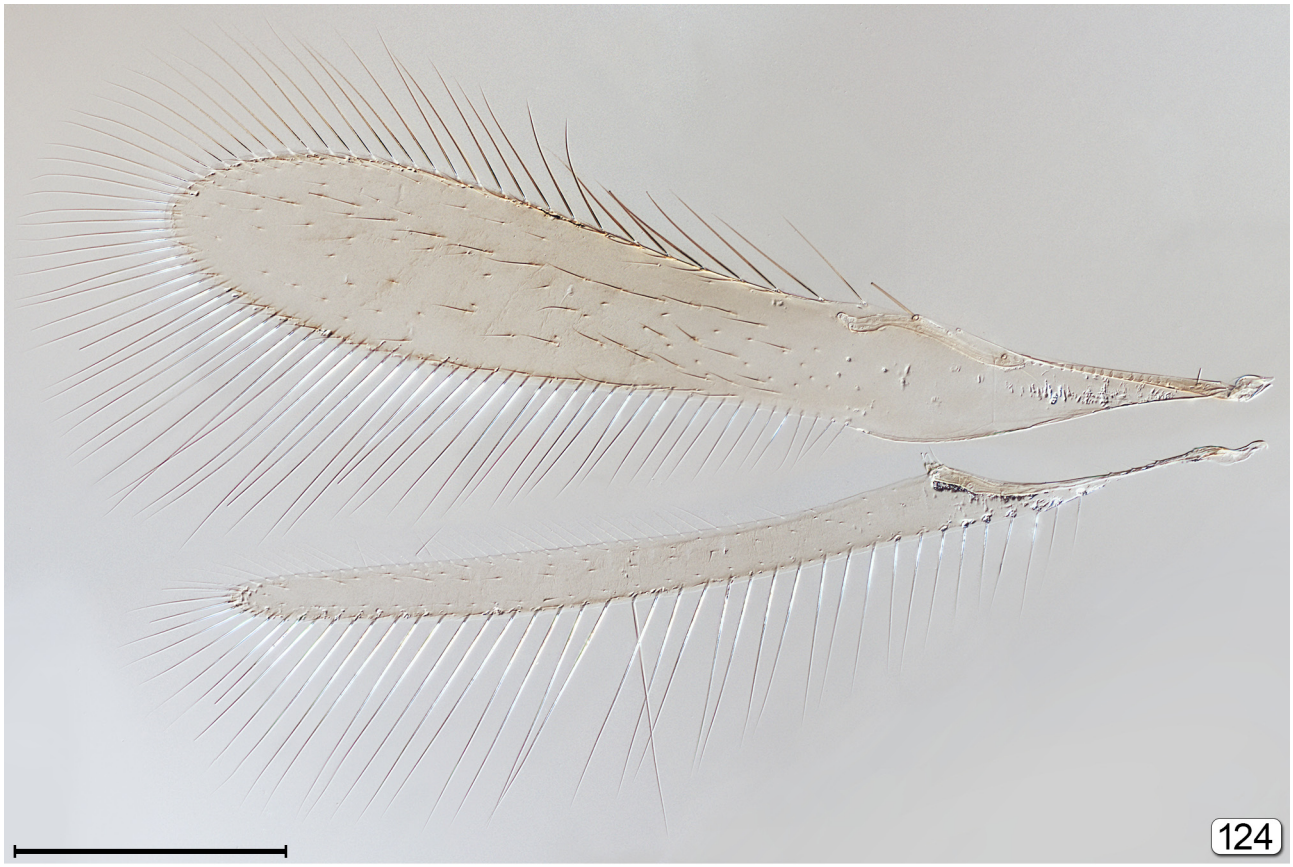


FIGURE 119. *Dicopus lilliput* Mathot, holotype. 119a, body, dorsal; 119b, head, anterior, seen through body + rest of body, ventral. Scale bars = 100 µm.

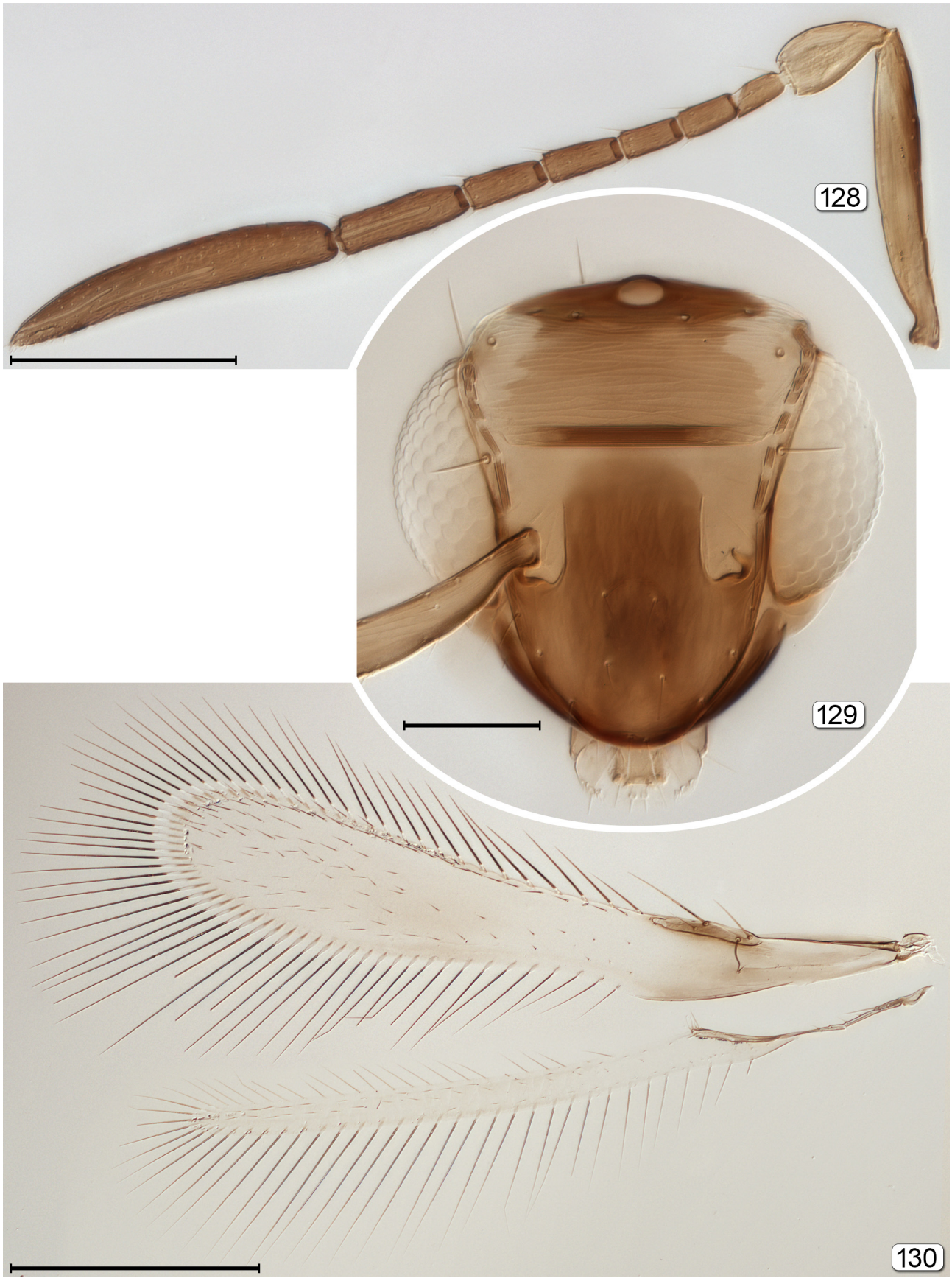


FIGURES 120–123. *Dorya* sp. (Queensland, Brisbane Forest Park or Mt. Glorious). 120, head, anterior; 121, head dorsal; 122, antenna; 123, male antenna. Scale bars: 120, 121, 123 = 100 µm; 122 = 200 µm.

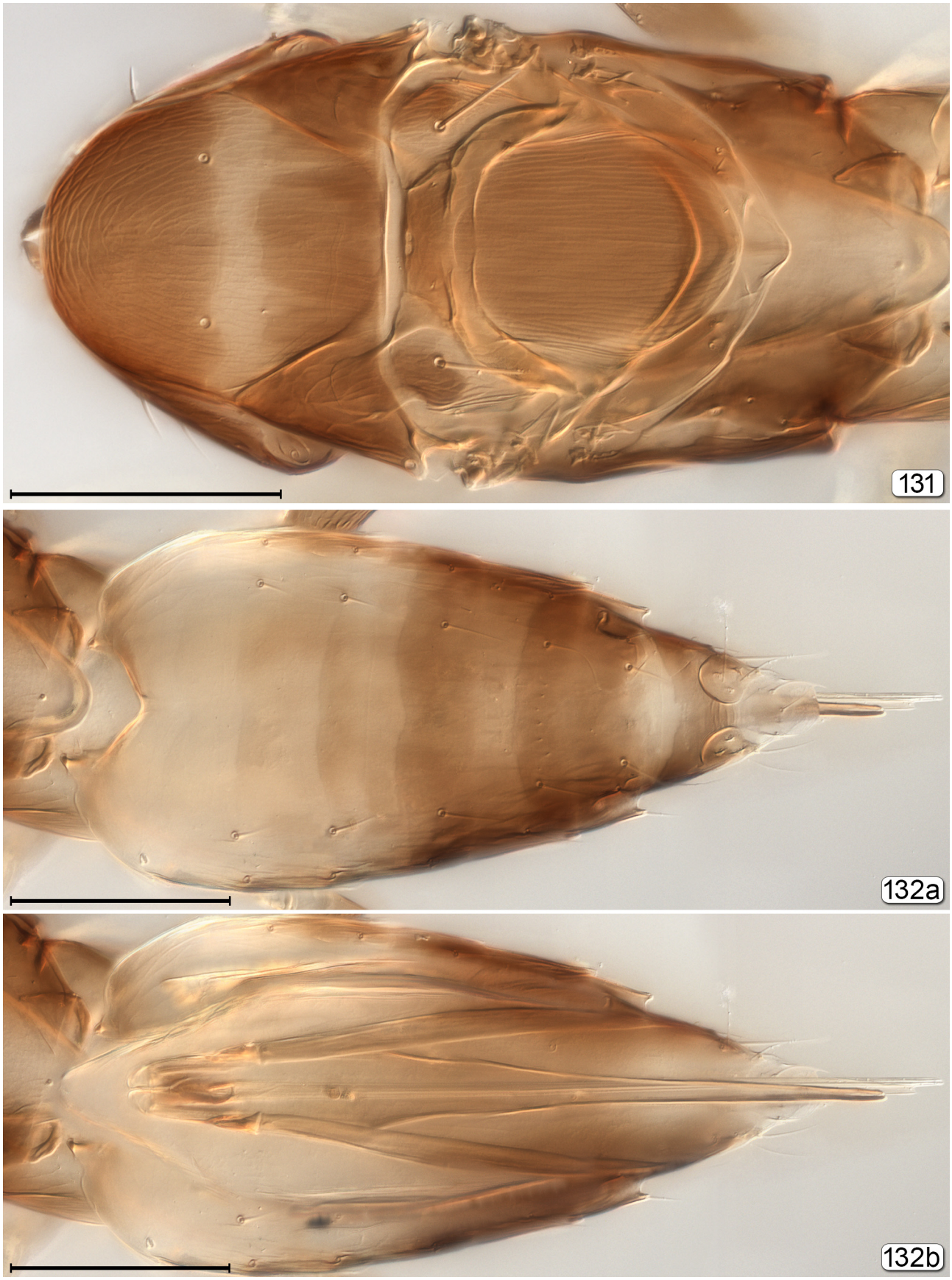


FIGURES 124, 125. *Dorya* sp. (Queensland, Brisbane Forest Park or Mt. Glorious). 124, wings; 125, mesosoma, dorsal. Scale bars: 124 = 200 µm; 125 = 100 µm.

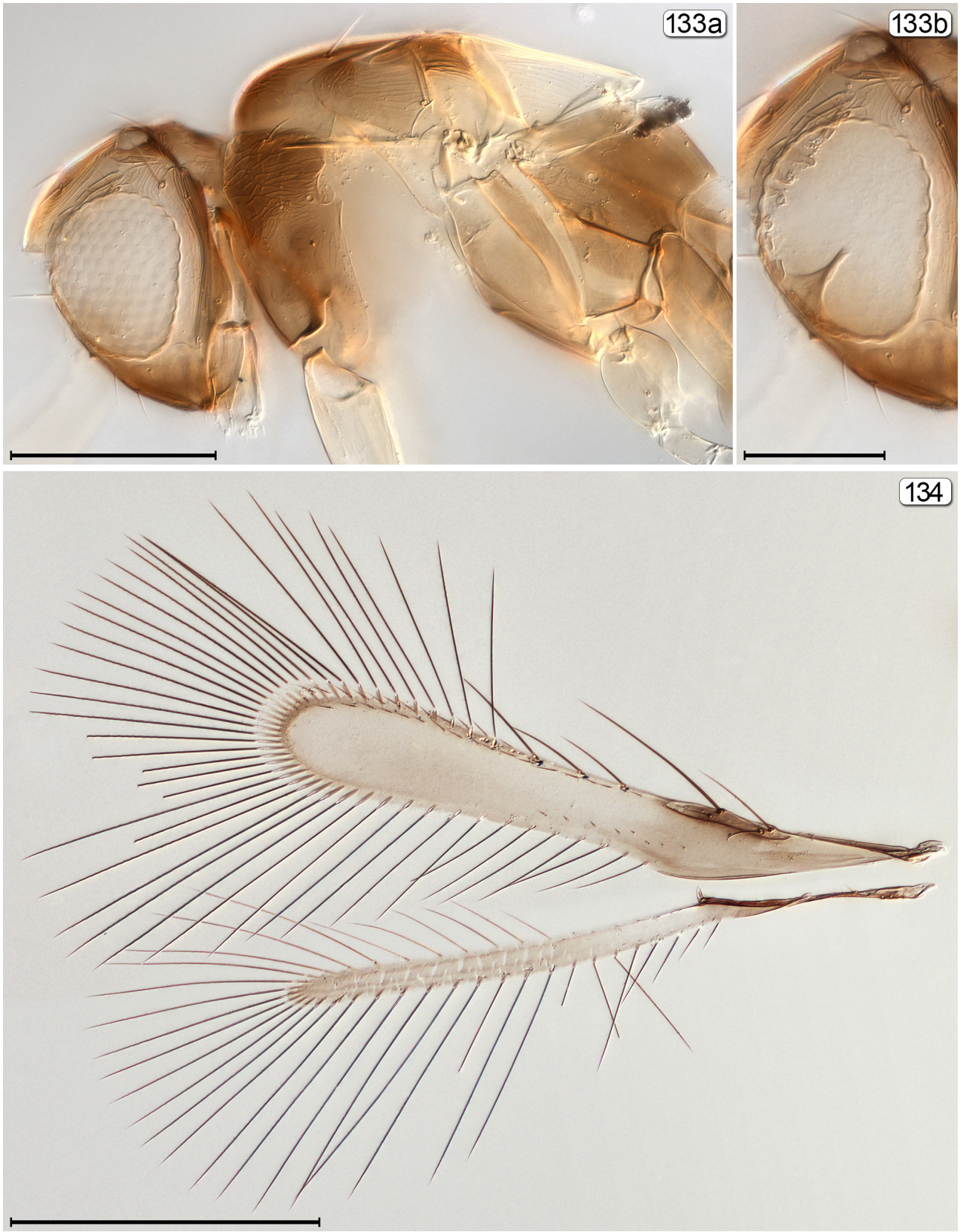
FIGURES 126, 127. *Dorya* sp. (Queensland, Brisbane Forest Park or Mt. Glorious). 126, metasoma, lateral; 127a, male metasoma, dorsal; 127b, genitalia seen through gaster. Scale bars = 100 μm.



FIGURES 128–130. *Erythmelus* (*Erythmelus*) sp. 128, antenna; 129, head, anterior; 130, wings. Scale bars: 128 = 100 µm; 129 = 50 µm; 130 = 200 µm.

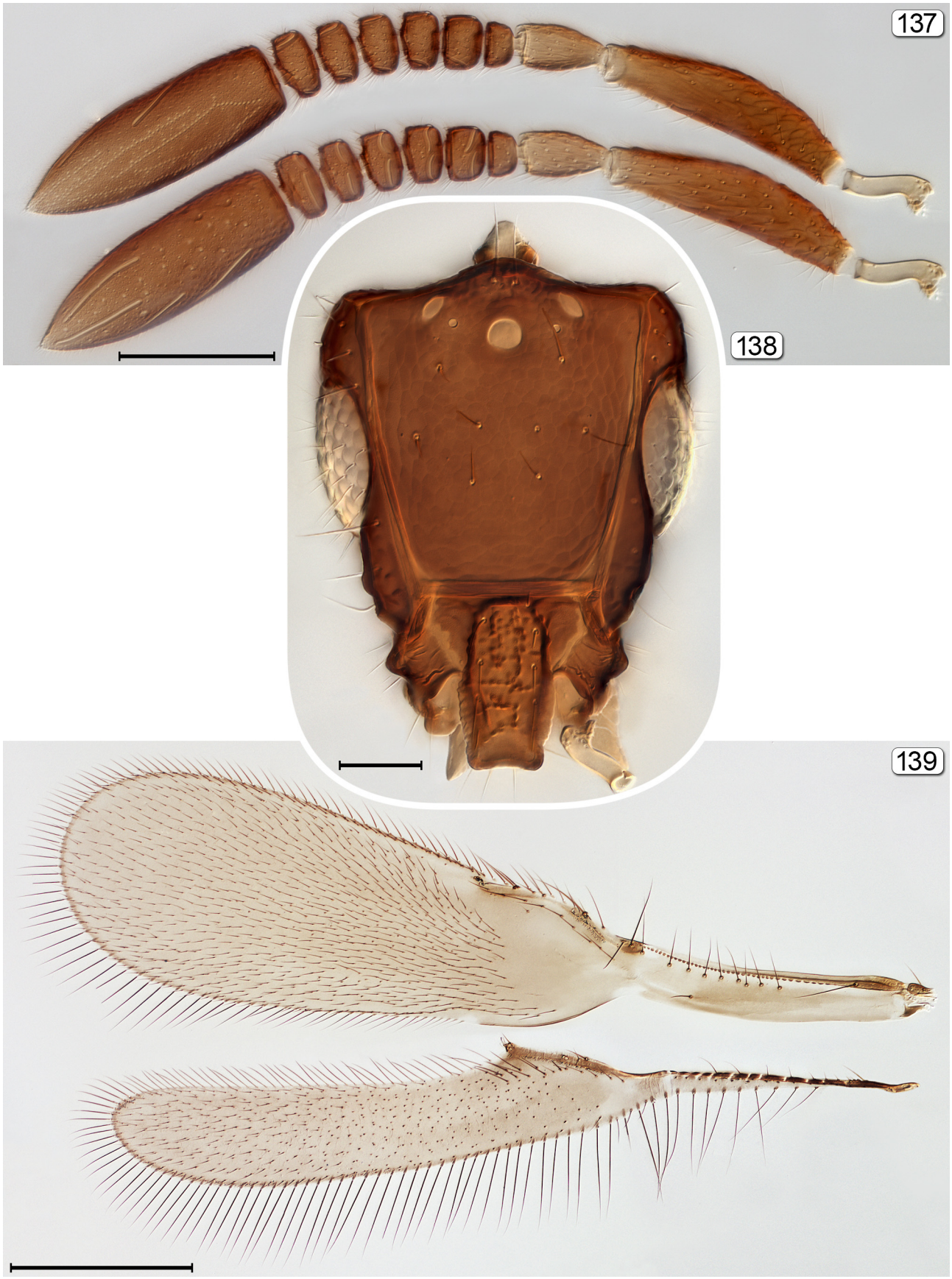


FIGURES 131, 132. *Erythmelus* (*Erythmelus*) sp. 131, mesosoma, dorsal; 132a, metasoma, dorsal; 132b, genitalia seen through gaster. Scale bars = 100 μm.

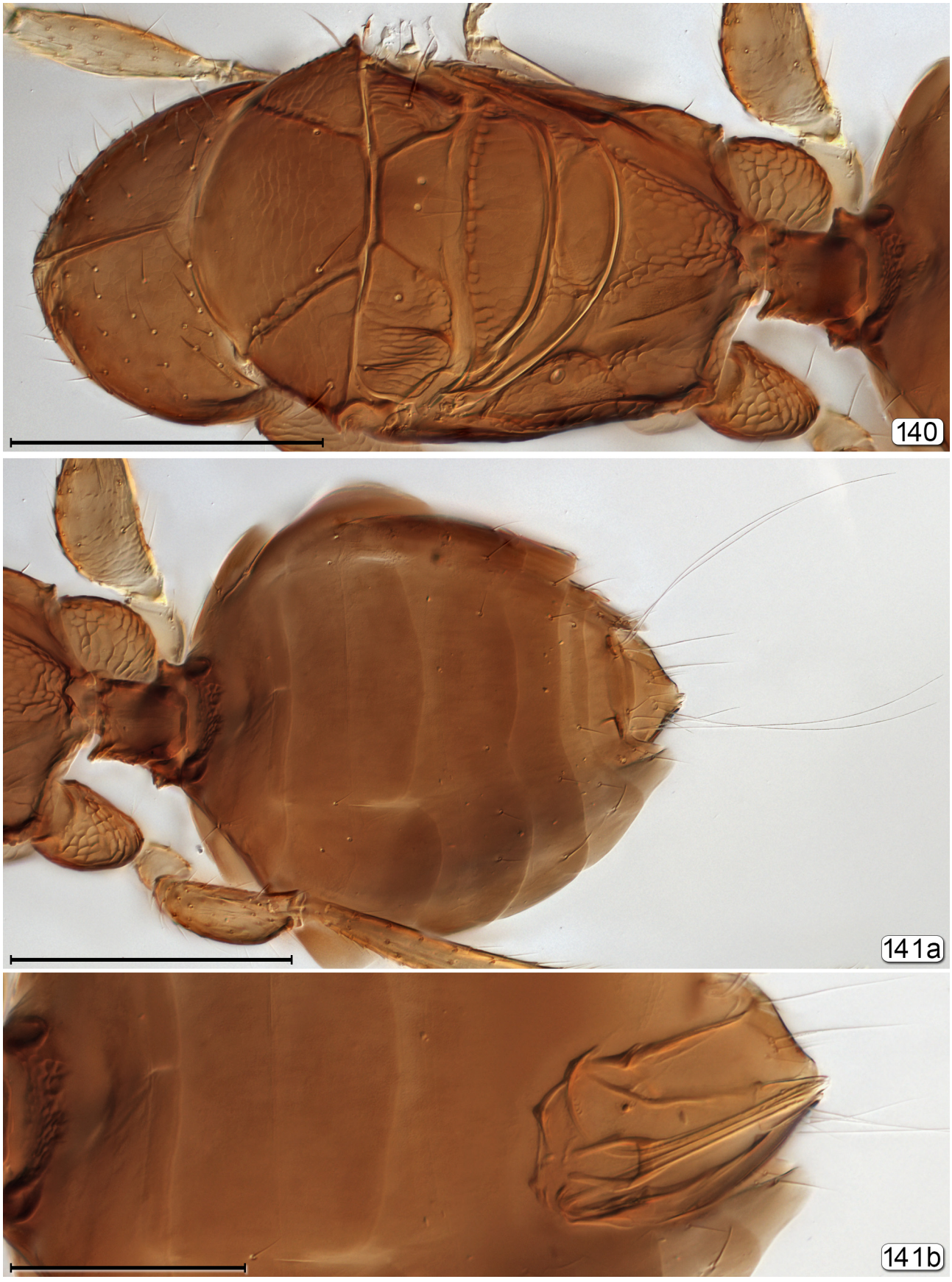


FIGURES 133, 134. *Erythmelus* (*Parallelaptera*) *funiculi* (Annecke & Doutt). 133a, head + mesosoma, lateral; 133b, head, lateral showing ocular apodeme; 134, wings. Scale bars: 133a = 100 µm; 133b = 50 µm; 134 = 200 µm.

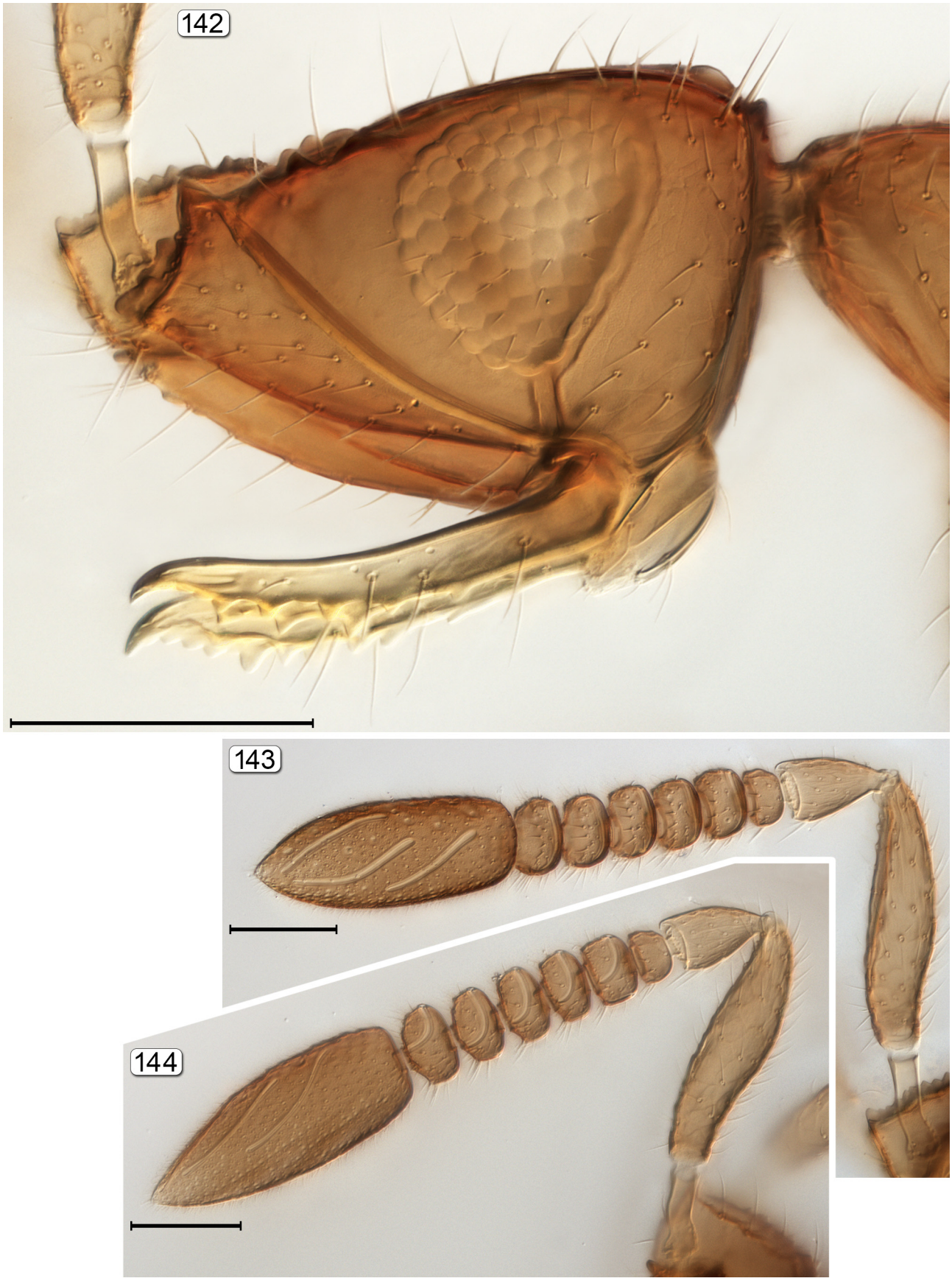
FIGURES 135, 136. *Erythmelus* (*Parallelaptera*) *funiculi* (Annecke & Doutt). 135, antenna; 136, mesosoma, lateral. Scale bars = 100 μm.



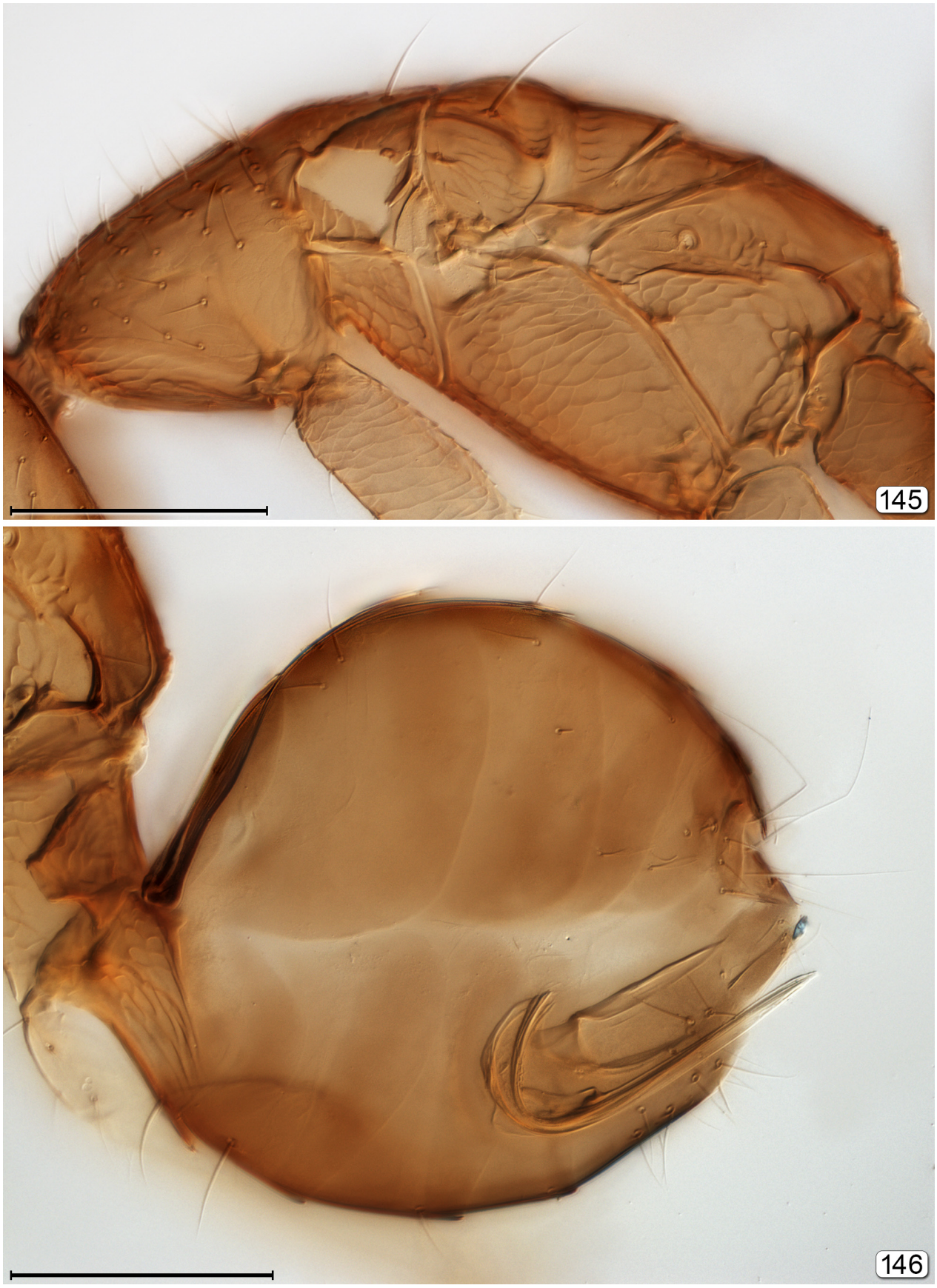
FIGURES 137–139. *Eubroncus* sp. 137, right antennae, lateral, inner (top) and outer (bottom) surfaces; 138, head, dorsal; 139, wings. Scale bars: 137 = 100 μm; 138 = 50 μm; 139 = 200 μm.



FIGURES 140, 141. *Eubroncus* sp. 140, mesosoma + petiole, dorsal; 141a, metasoma, dorsal; 141b, genitalia seen through gaster. Scale bars: 140, 141a = 100 µm; 141b = 50 µm.

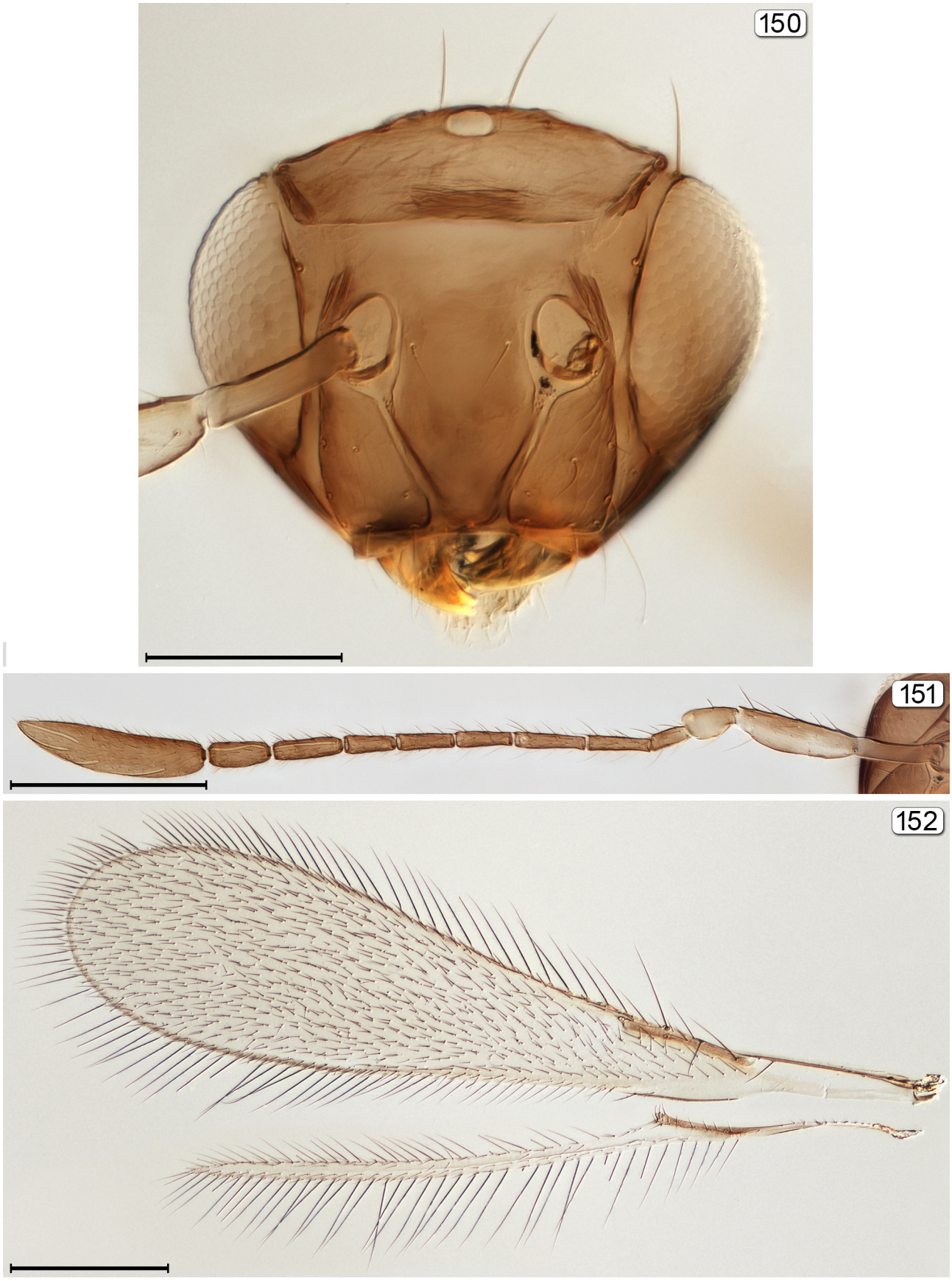


FIGURES 142–144. *Eubroncus* sp. 142, head, lateral; 143, left antenna, outer surface; 144, right antenna, inner surface. Scale bars: 142 = 100 µm; 143, 144 = 50 µm.

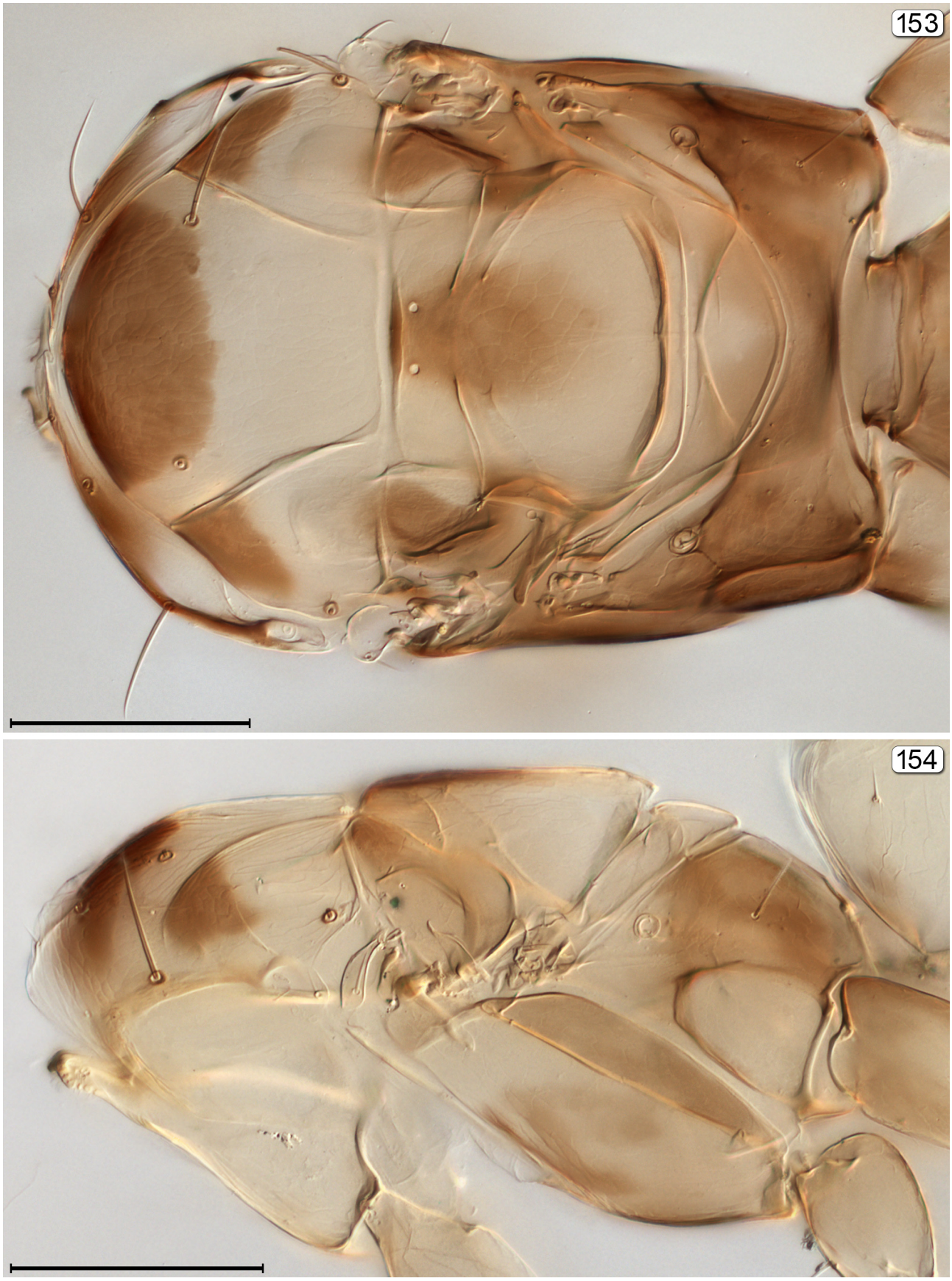


FIGURES 145, 146. *Eubroncus* sp. 145, mesosoma, lateral; 146, metasoma, lateral. Scale bars = 100 µm.

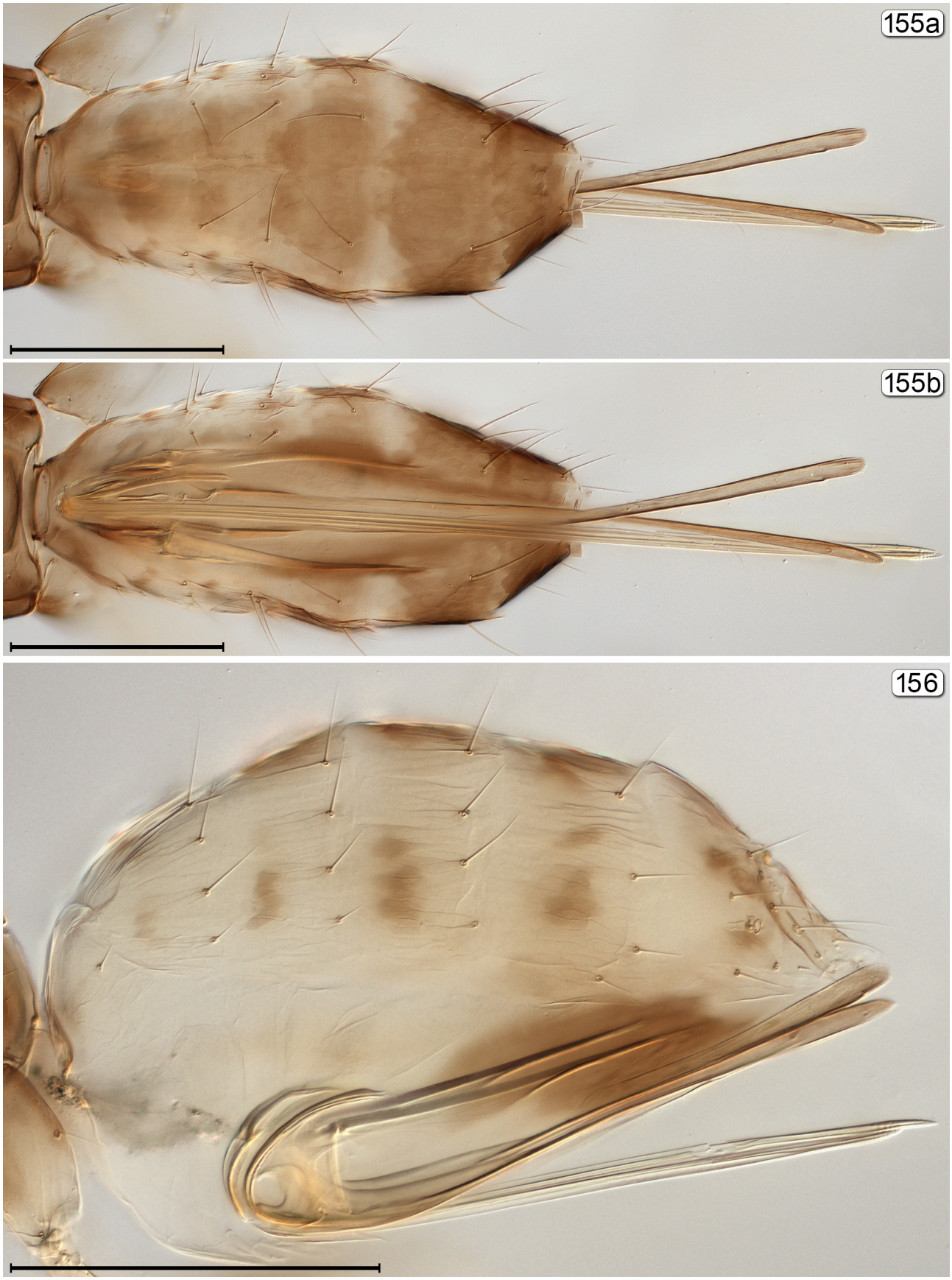
FIGURES 147–149. *Ganomymar dessarti* De Santis. 147, habitus, dorsal, Madagascar, Alaotra-Mangoro, Andasibe (= Périnet); 148, holotype antenna; 149, holotype fore wing. Scale bars = 500 µm.



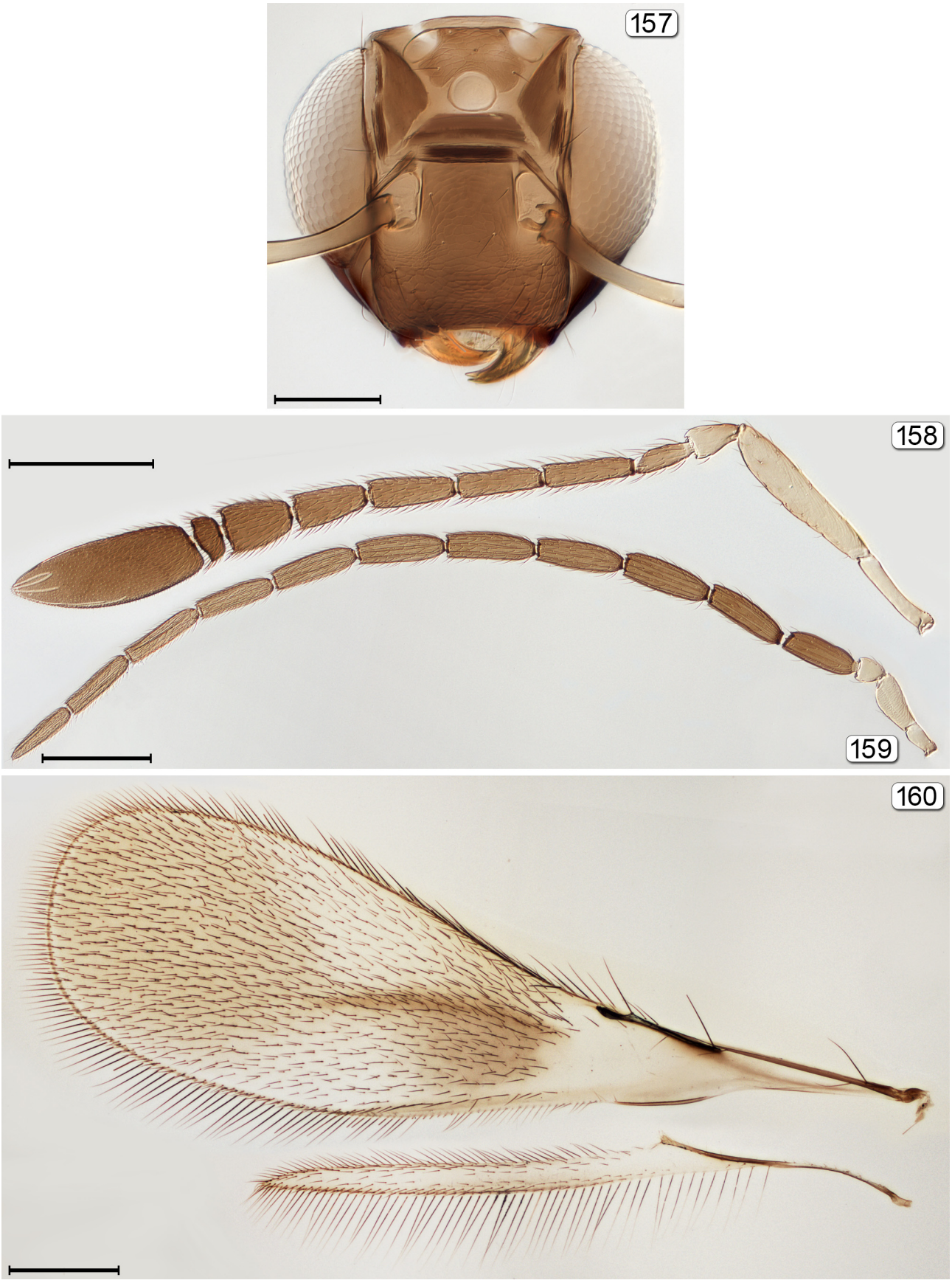
FIGURES 150–152. *Gonatocerus* sp. 150, head, anterior; 151, antenna; 152, wings. Scale bars: 150 = 100 µm; 151, 152 = 200 µm.



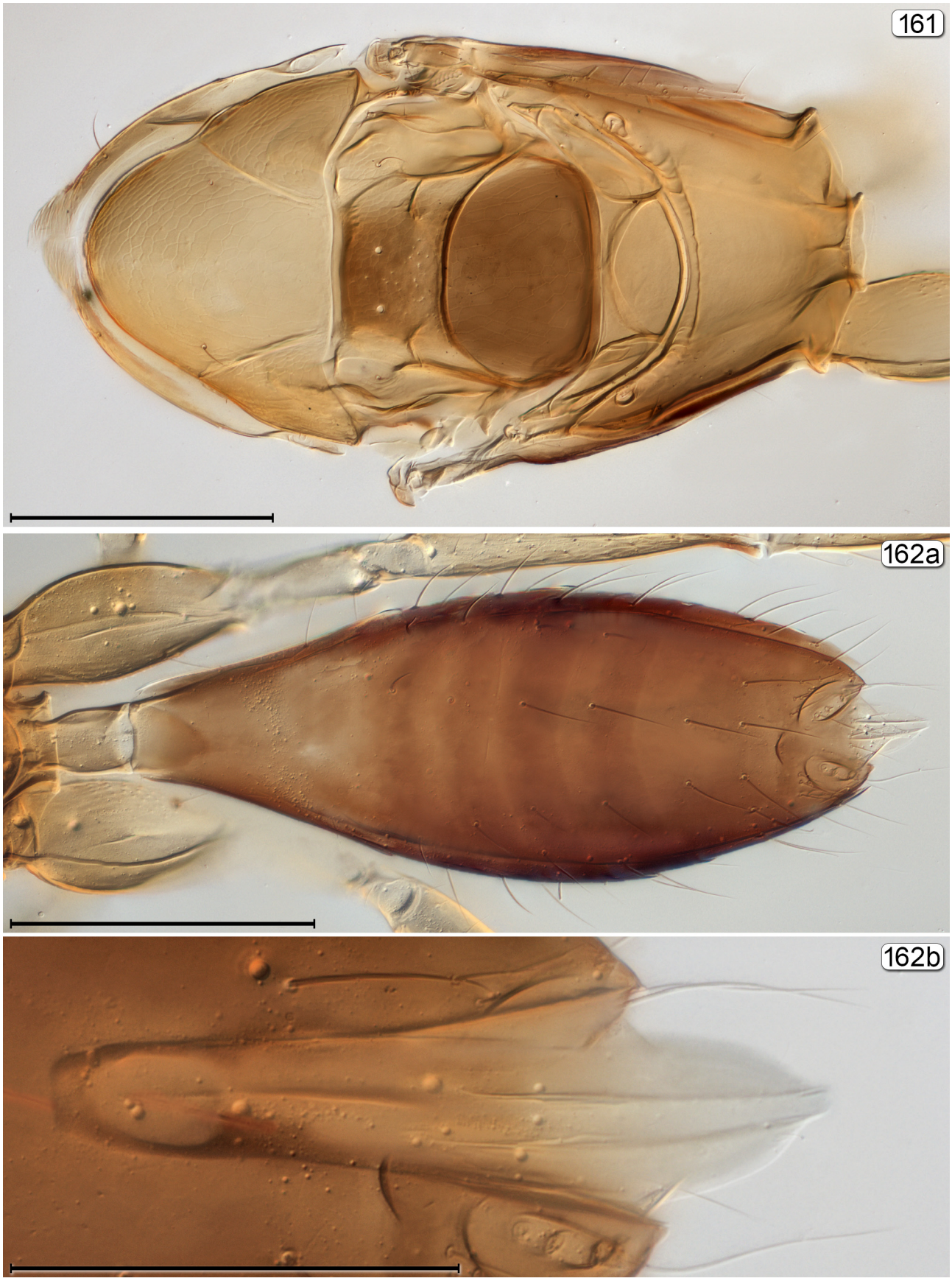
FIGURES 153, 154. *Gonatocerus* sp. 153, mesosoma, dorsal; 154, mesosoma, lateral. Scale bars = 100 µm.



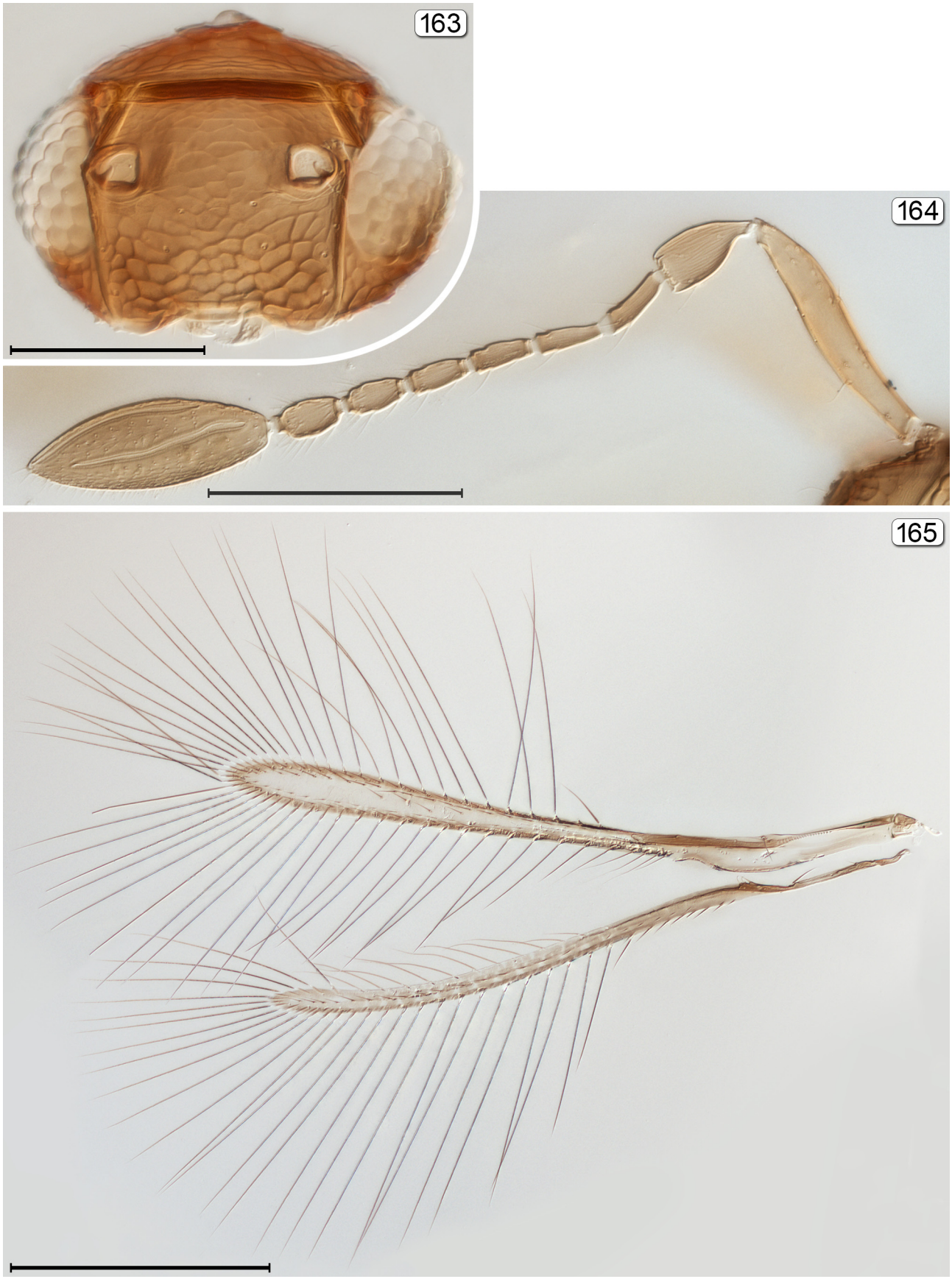
FIGURES 155, 156. *Gonatocerus* spp. 155a, metasoma, dorsal; 155b, genitalia seen through gaster; 156, metasoma, lateral. Scale bars = 200 μm.



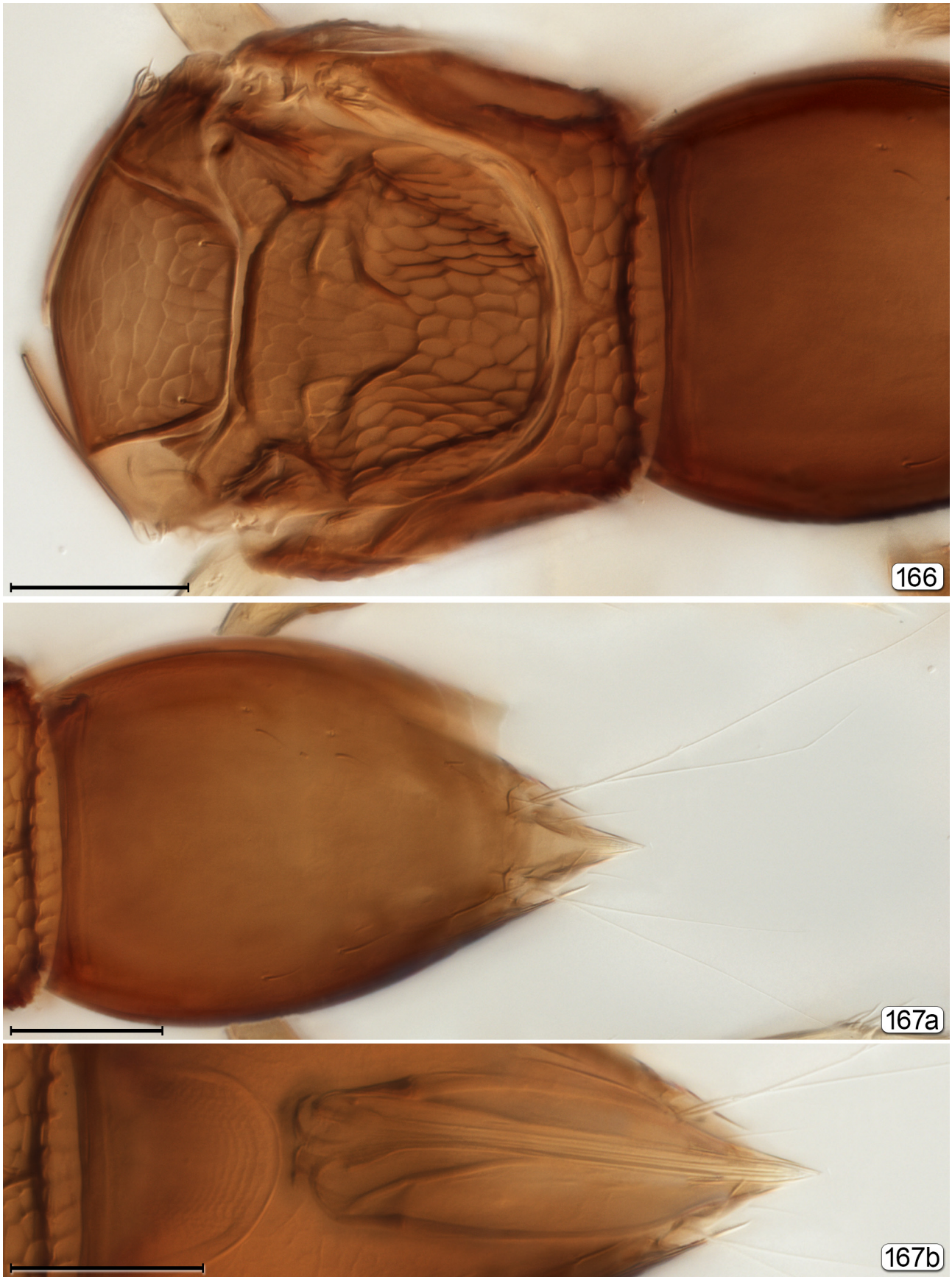
FIGURES 157–160. *Heptagonatocerus madagascarensis* Huber, holotype. 157, head, anterior; 158, antenna; 159, male antenna; 160, wings. Scale bars: 157 = 100 µm; 158–160 = 200 µm.



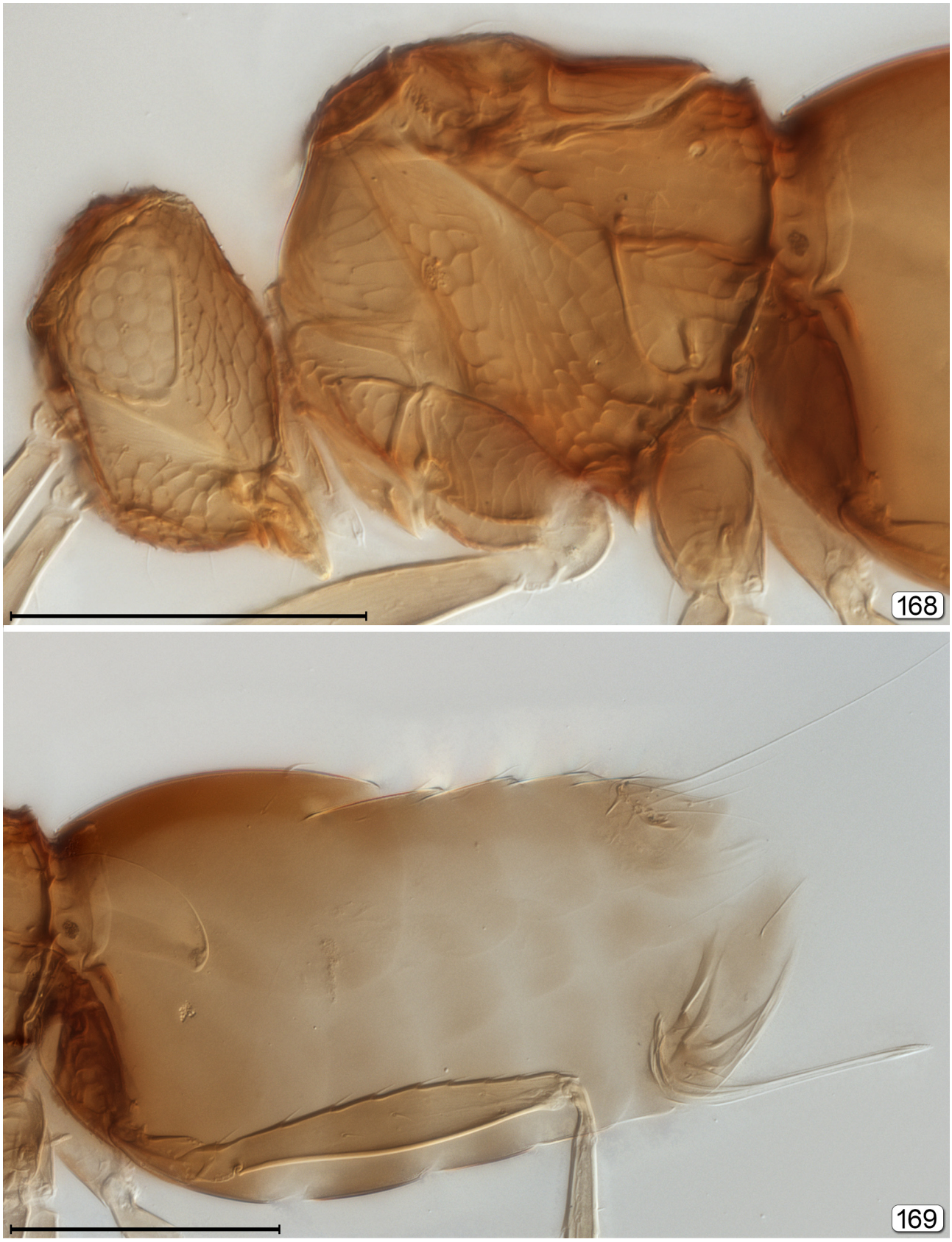
FIGURES 161, 162. *Heptagonatocerus madagascarensis* Huber, holotype. 161, mesosoma, dorsal; 162a, metasoma, dorsal; 162b, genitalia seen through gaster. Scale bars: 161, 162a = 200 μm; 162b = 100 μm.



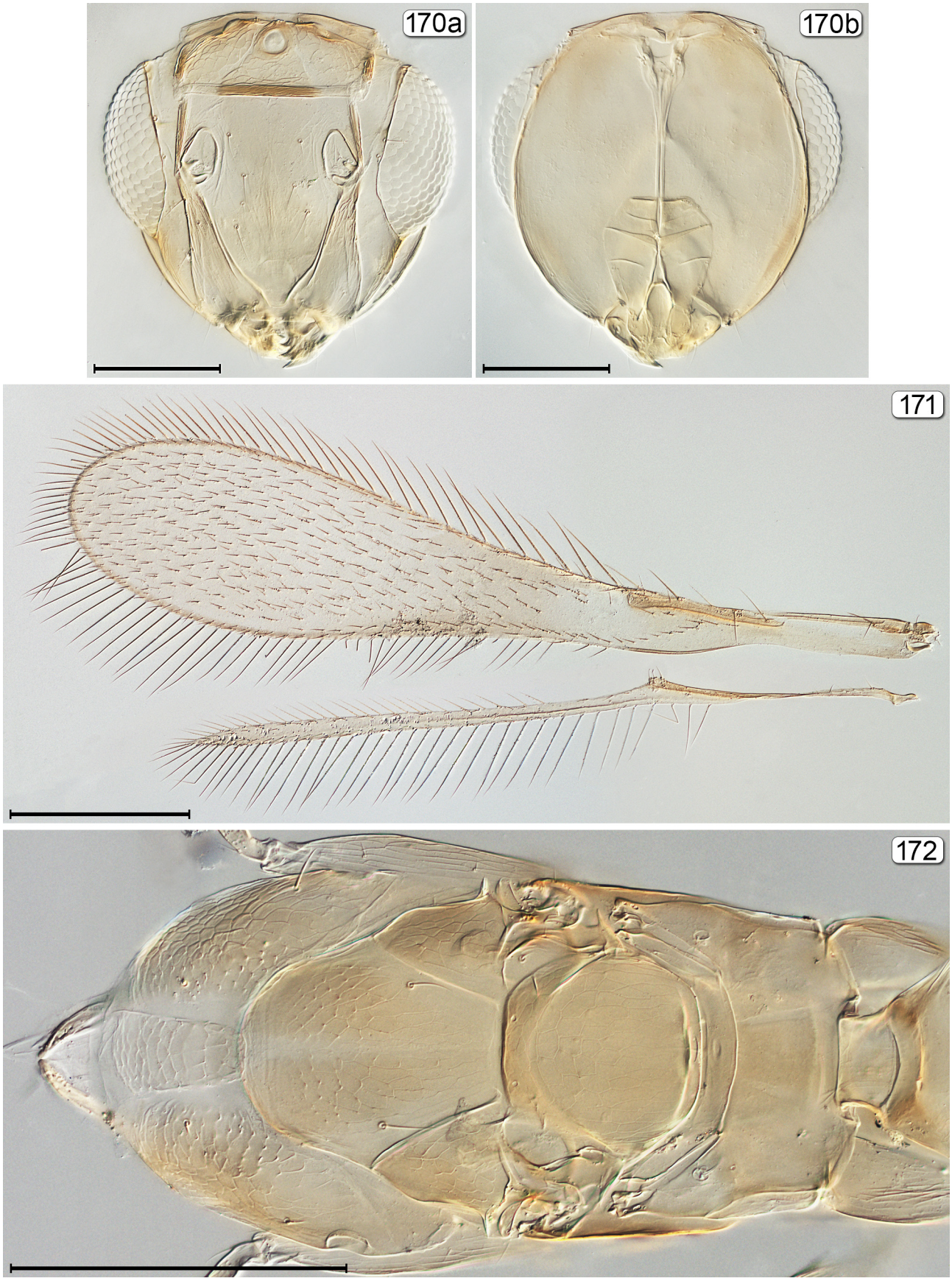
FIGURES 163–165. *Litus* sp. 163, head, anterior; 164, antenna; 165, wings. Scale bars: 163 = 50 µm; 164 = 100 µm; 165 = 200 µm.



FIGURES 166, 167. *Litus* sp. 166, mesosoma + anterior half of metasoma, dorsal; 167a, metasoma, dorsal; 167b, genitalia seen through gaster. Scale bars = 50 µm.

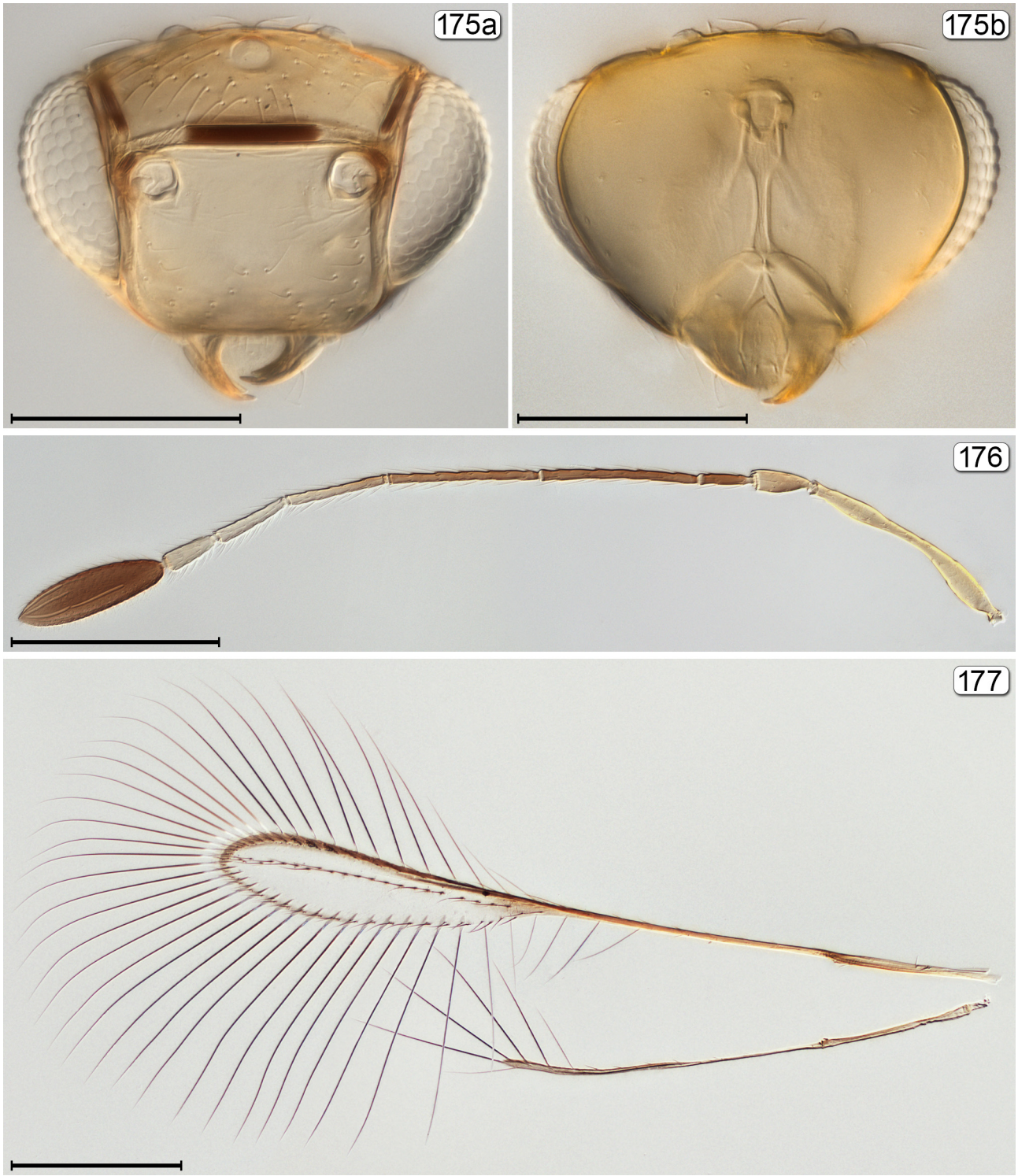


FIGURES 168, 169. *Litus* sp. 168, head + mesosoma, lateral; 169, metasoma, lateral. Scale bars = 100 μm.

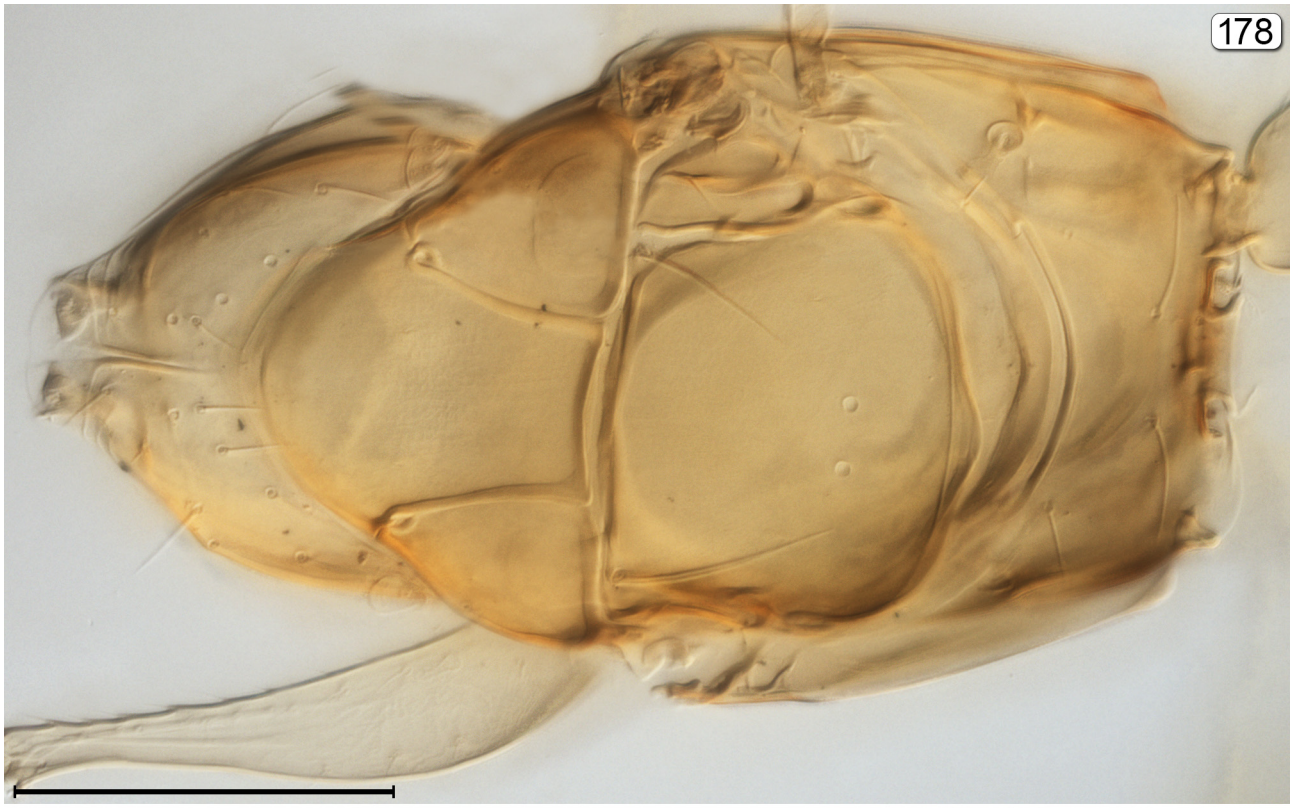


FIGURES 170–172. *Lymaenon* sp. 170a, head, anterior; 170b, head, posterior; 171, wings; 172, mesosoma, dorsal. Scale bars: 170 = 100 μm; 171, 172 = 200 μm.

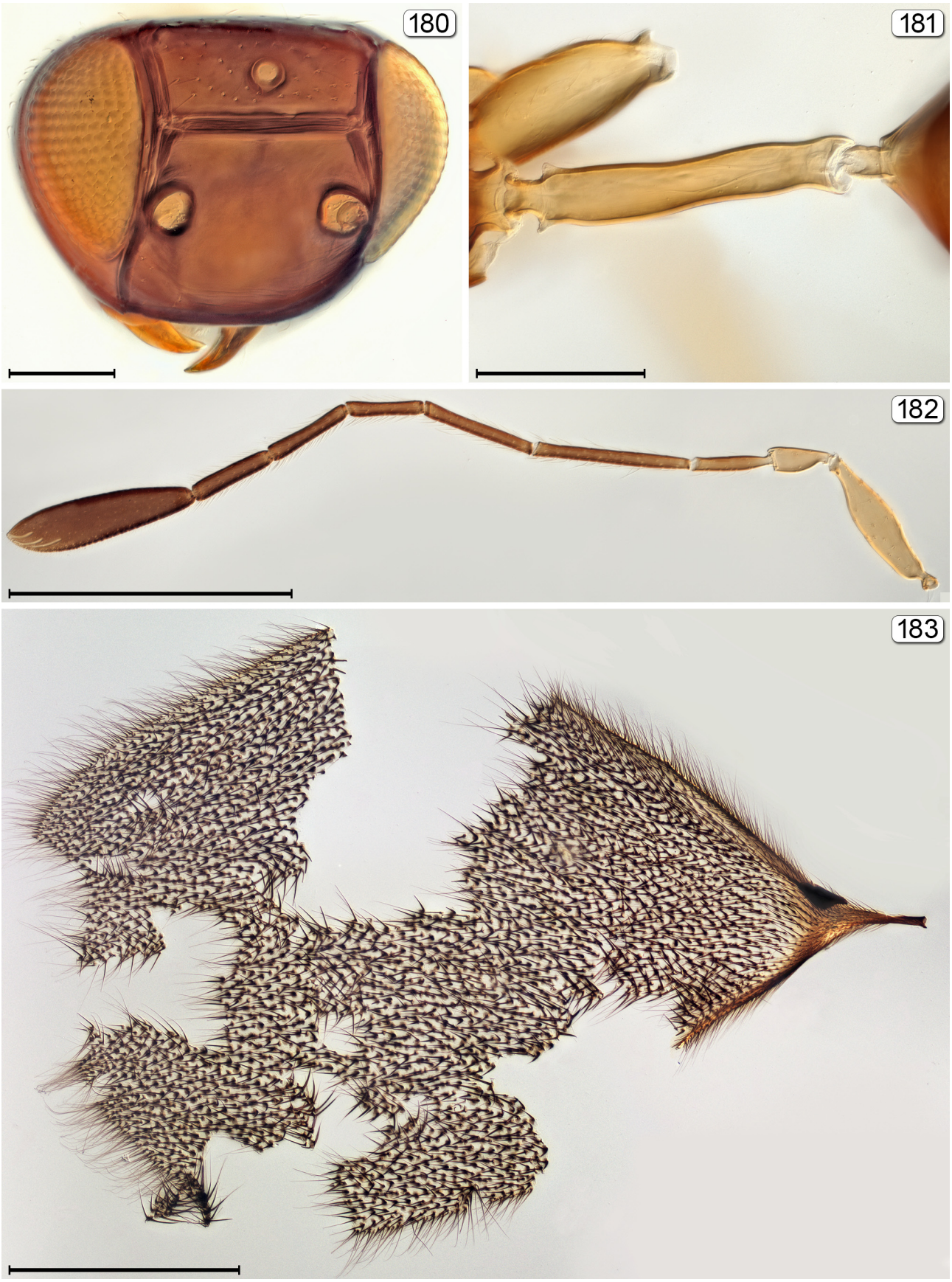
FIGURES 173, 174. *Lymaenon* sp. 173, antenna; 174a, body minus head, dorsal; 174b, genitalia seen through body. Scale bars: 173 = 200 µm; 174 = 500 µm.



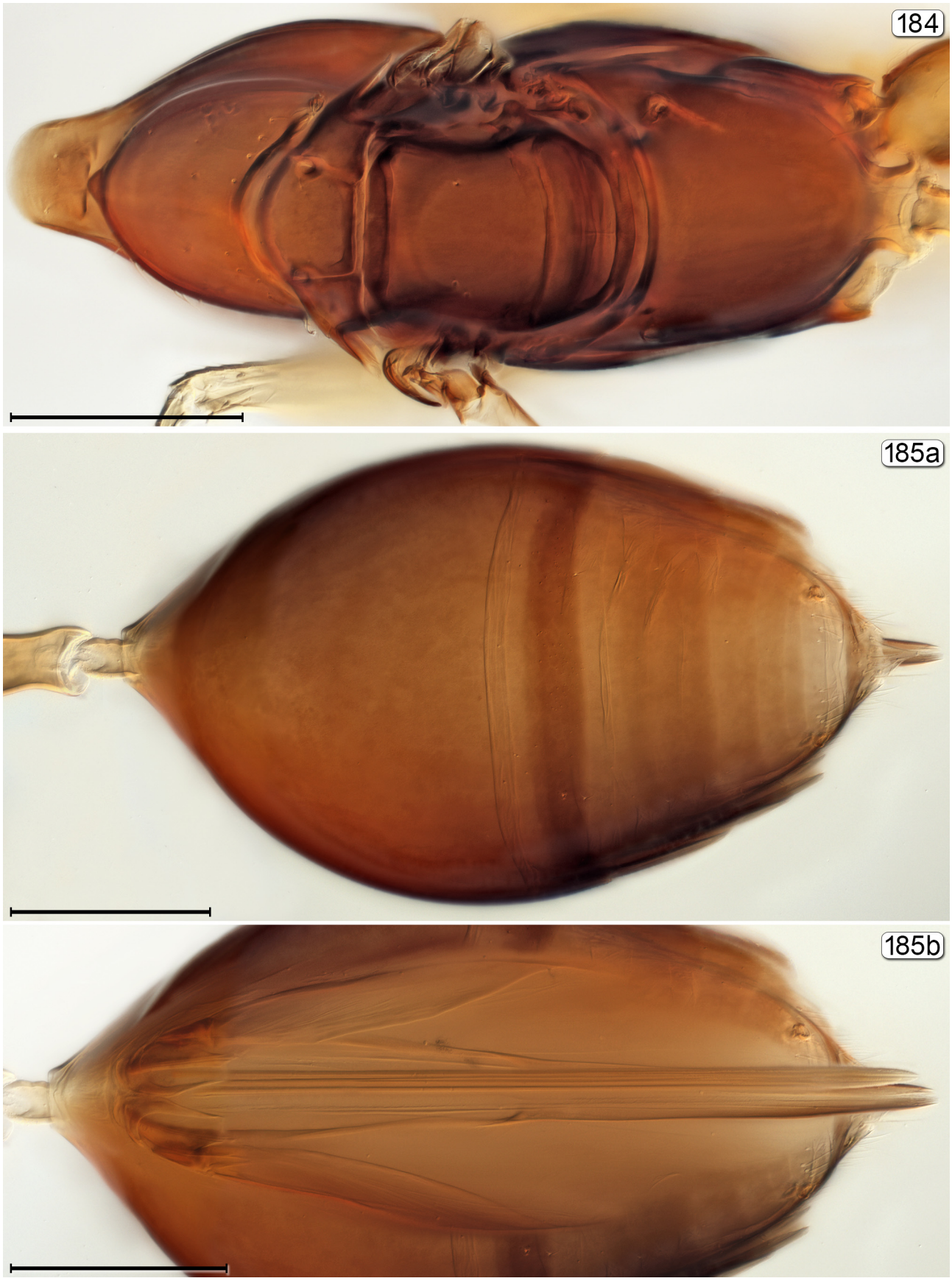
FIGURES 175–177. *Mymar africanum* Annecke. 175a, head, anterior; 175b, head, posterior; 176, antenna; 177, wings. Scale bars: 175 = 100 µm; 176, 177 = 200 µm.



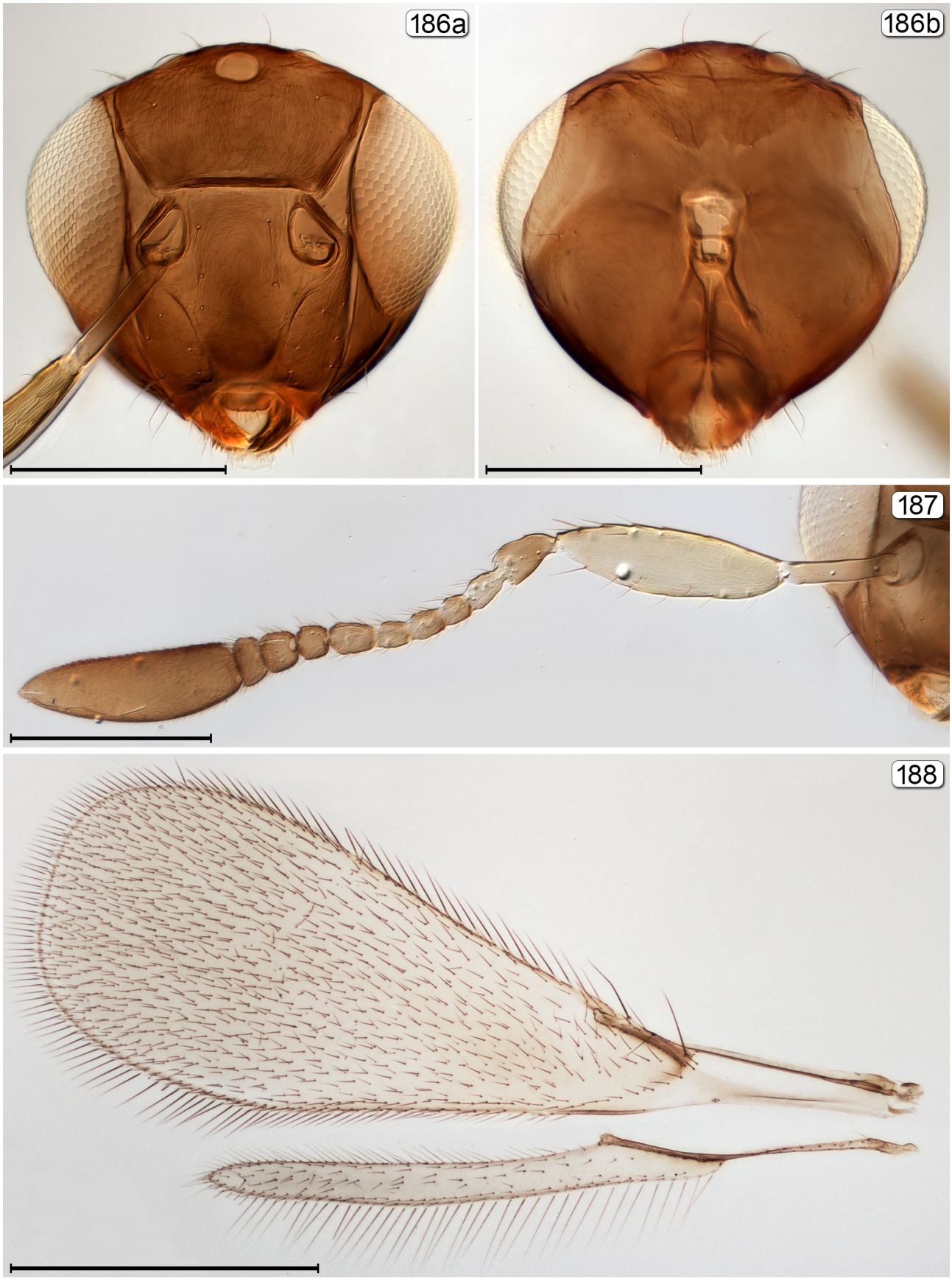
FIGURES 178, 179. *Mymar africanum* Annecke. 178, mesosoma, dorsal; 179; metasoma, lateral. Scale bars = 100 μm.



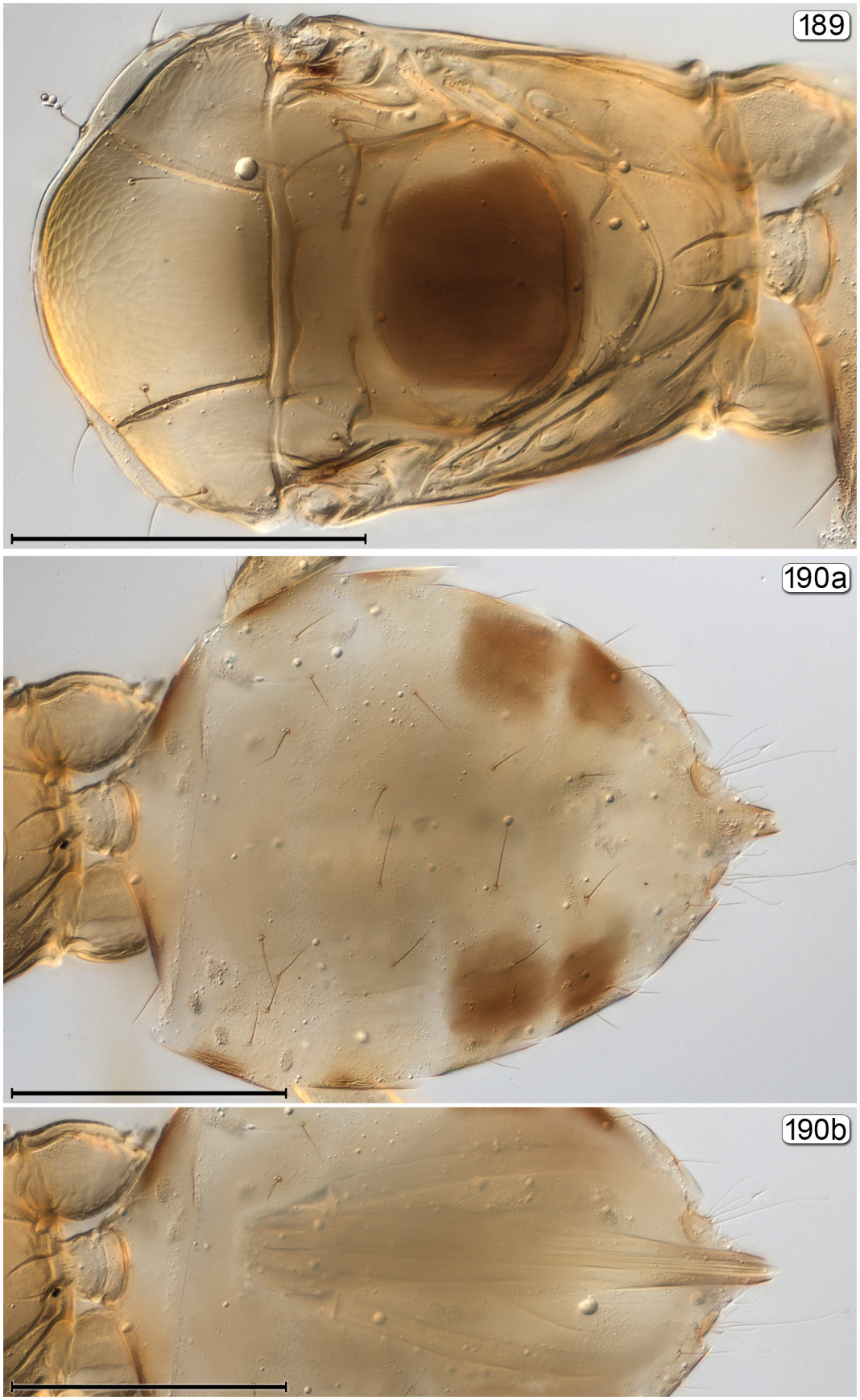
FIGURES 180–183. *Mymarilla wollastoni* Westwood. 180, head, anterior; 181, petiole, dorsal; 182, antenna; 183, fore wing (blade flattened; base of submarginal vein missing). Scale bars: 180 = 100 μm; 181 = 200 μm; 182, 183 = 500 μm.



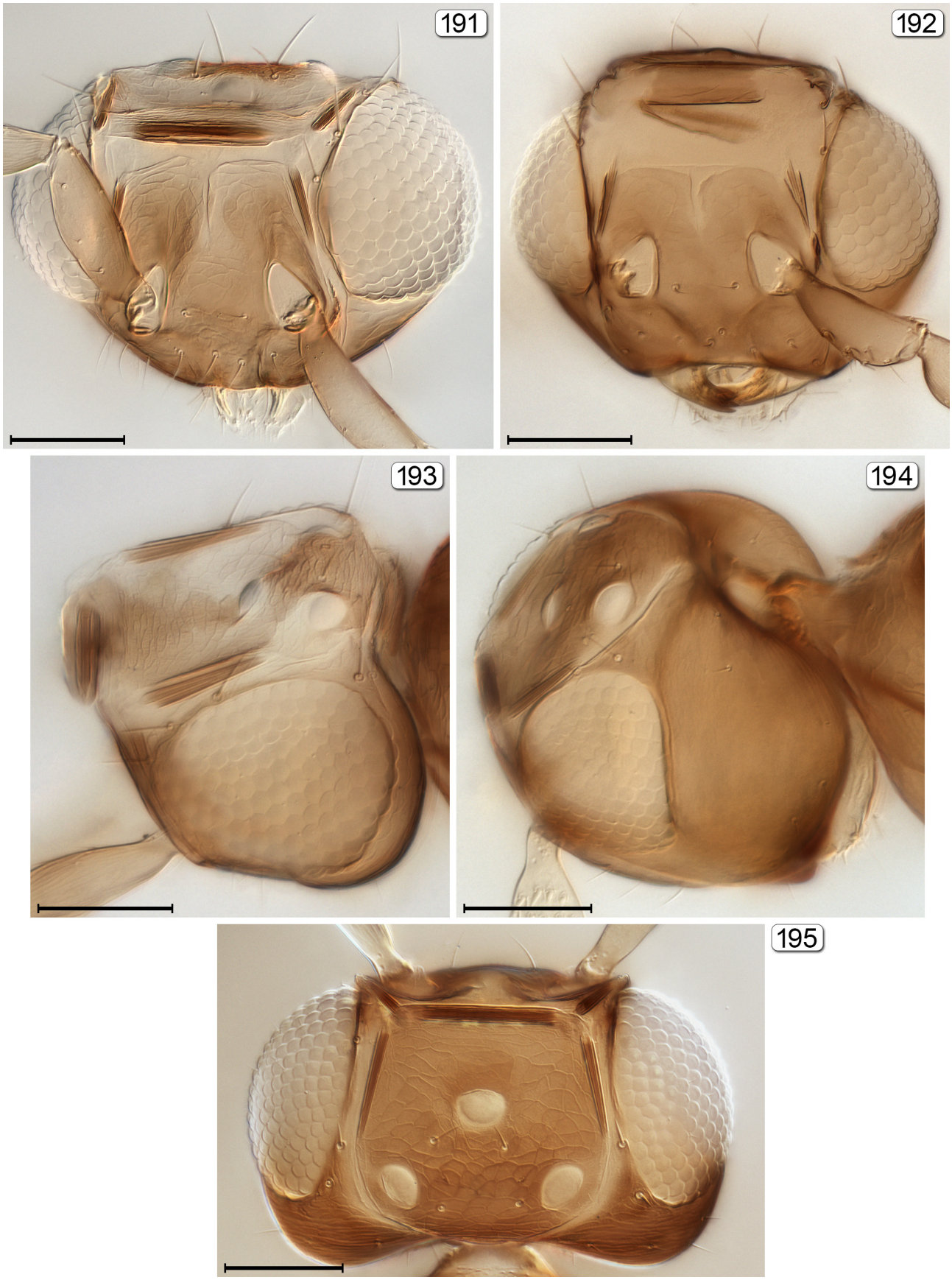
FIGURES 184, 185. *Mymarilla wollastoni* Westwood. 184, mesosoma, dorsal; 185a, gaster, dorsal; 185b, genitalia seen through gaster. Scale bars = 200 μm.



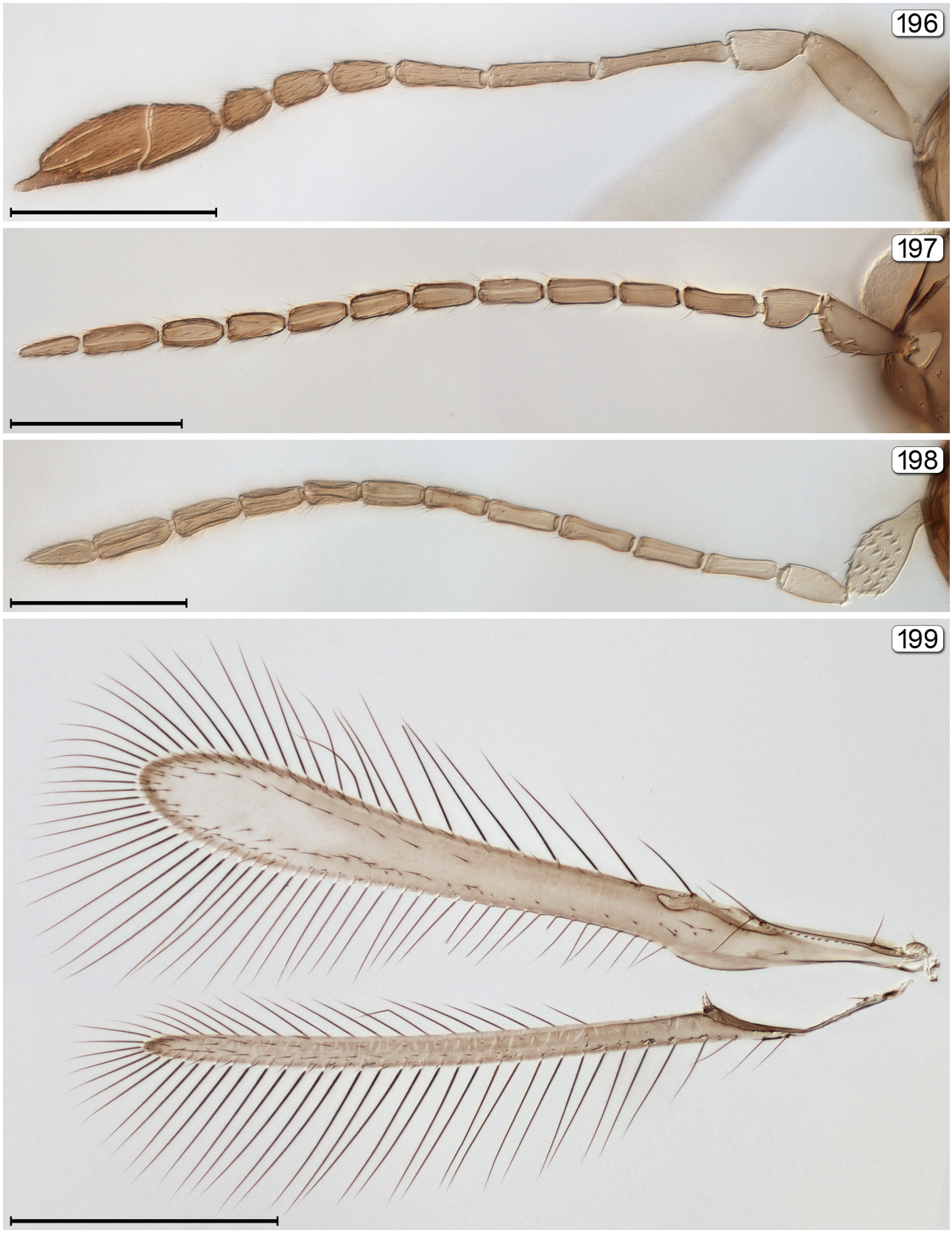
FIGURES 186–188. *Octomicromeris compacta* Huber. 186a, head, anterior; 186b, head, posterior; 187, holotype antenna; 188, holotype wings. Scale bars: 186 = 100 μm; 187, 188 = 200 μm.



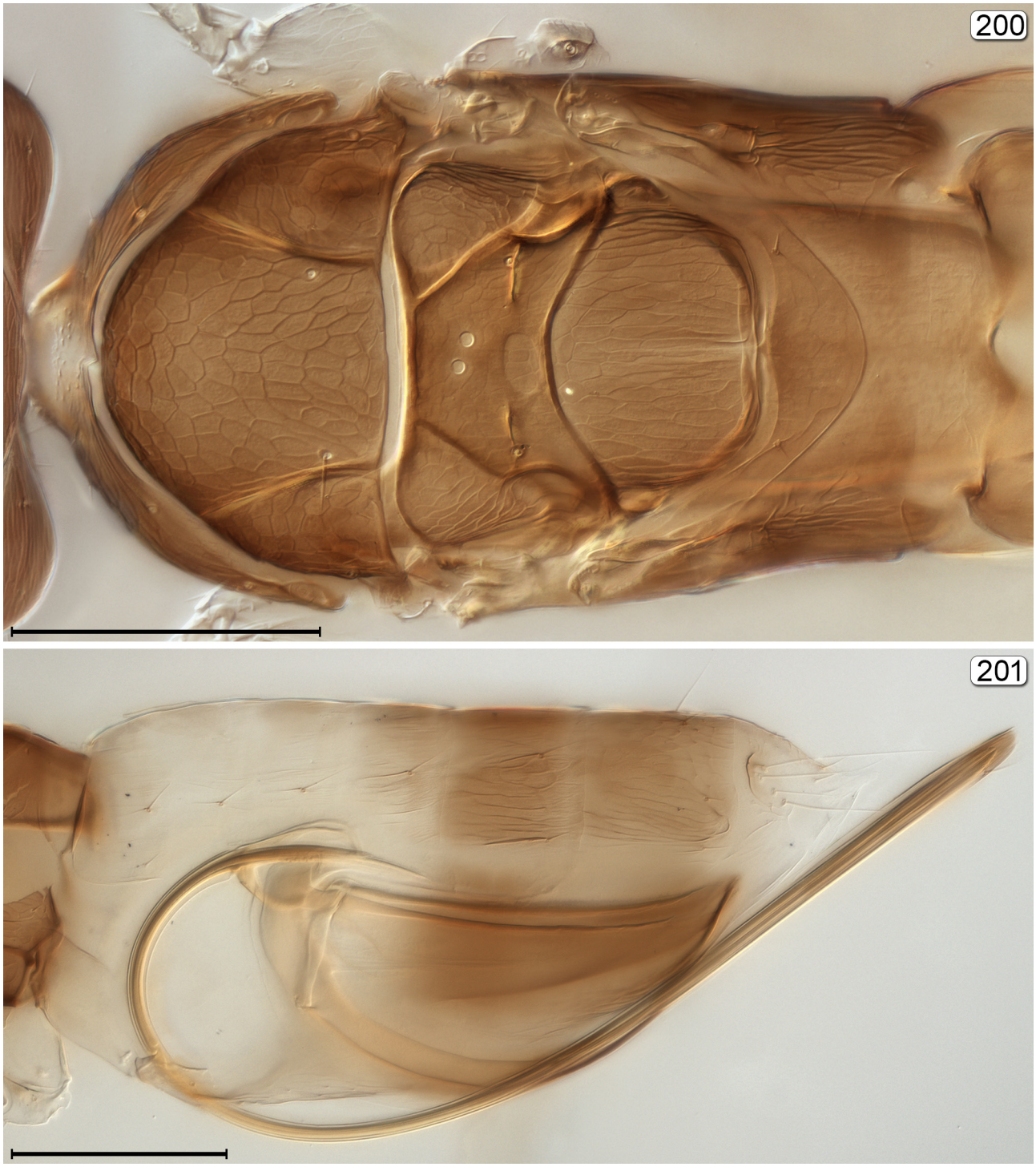
FIGURES 189, 190. *Octomicromeris compacta* Huber, holotype. 189, mesosoma, dorsal; 190a, metasoma, dorsal; 190b, genitalia seen through gaster. Scale bars = 200 μm.



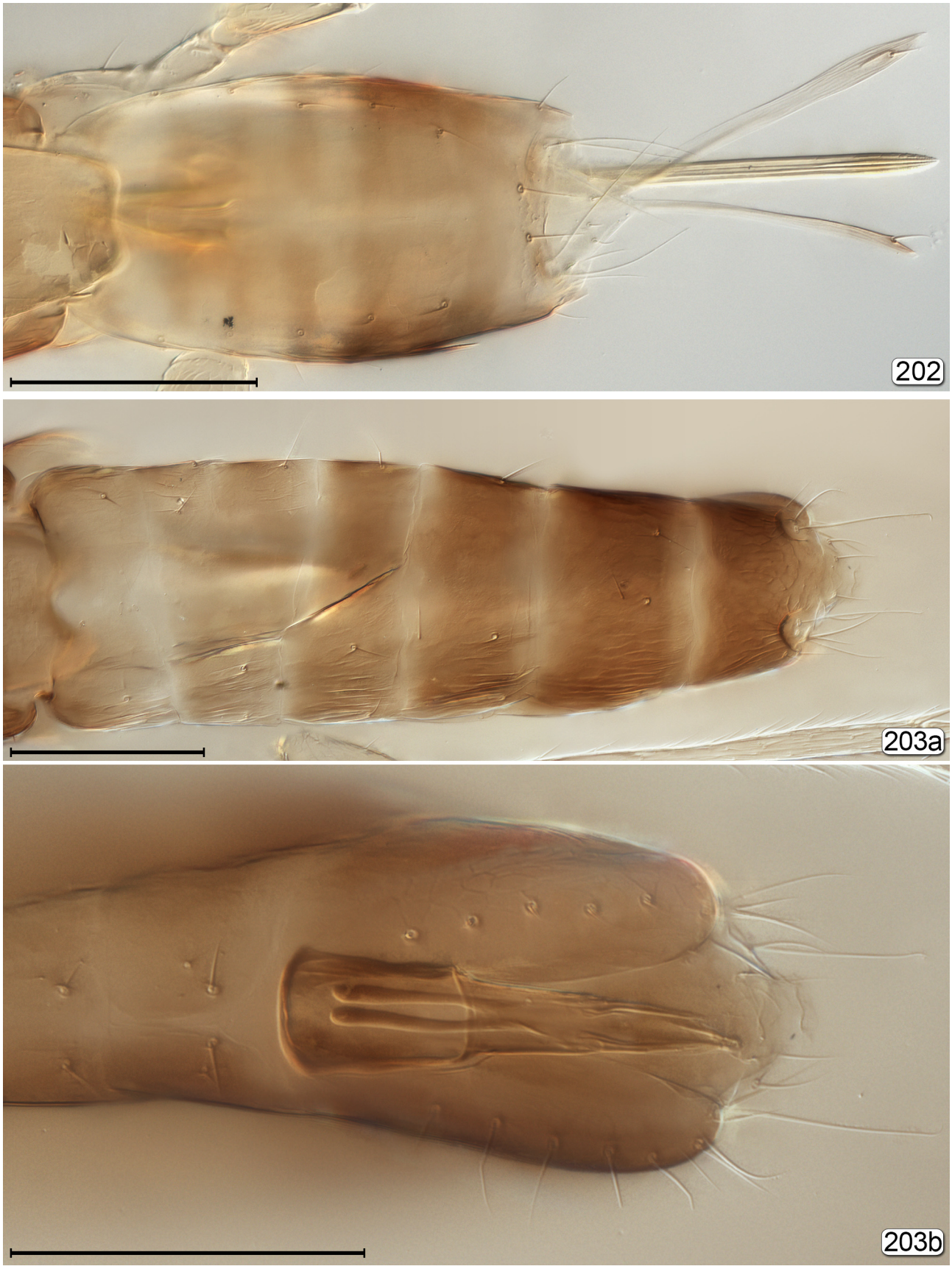
FIGURES 191–195. *O.* (*Omyomymar*) spp. 191, head, anterior; 192, male head, anterior; 193, head, dorsolateral; 194, male head, dorsolateral (slightly posterior); 195, male head, dorsal. Scale bars = 50 μm.



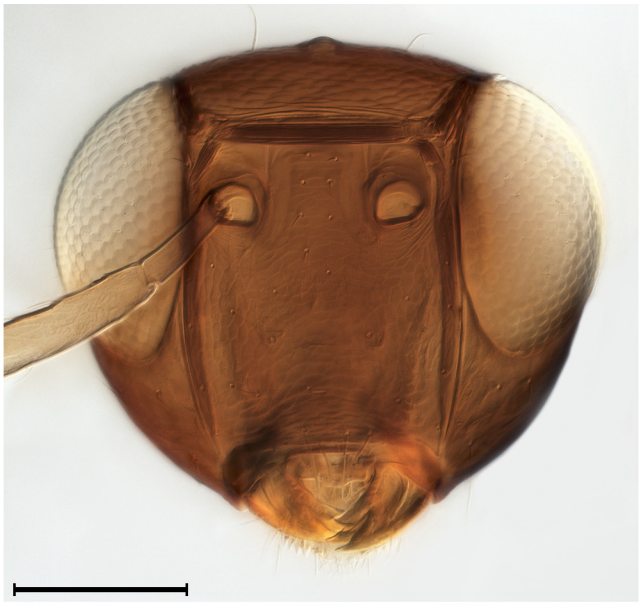
FIGURES 196–199. *O.* (*Omyomymar*) spp. 196, antenna; 197, male antenna; 198, male antenna with scape lateral (inner surface); 199, wings. Scale bars: 196–198 = 100 µm; 199 = 200 µm.

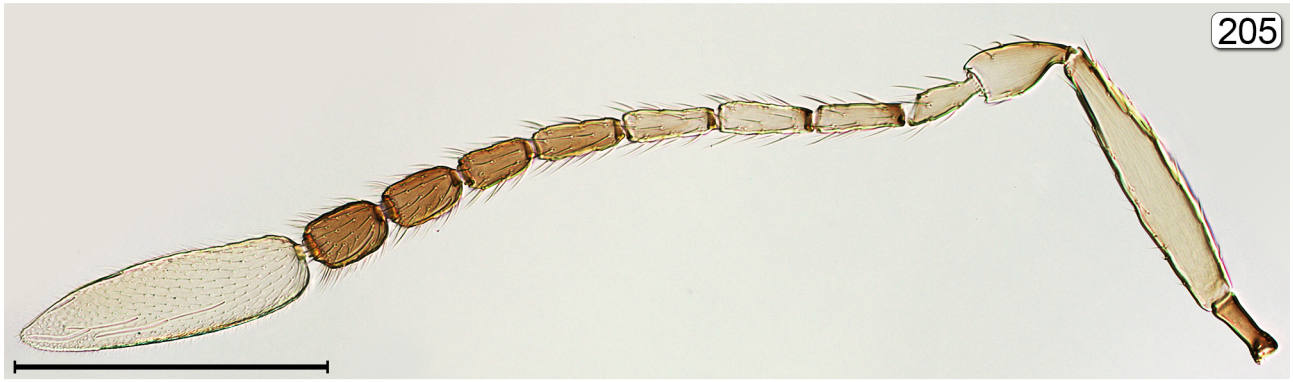


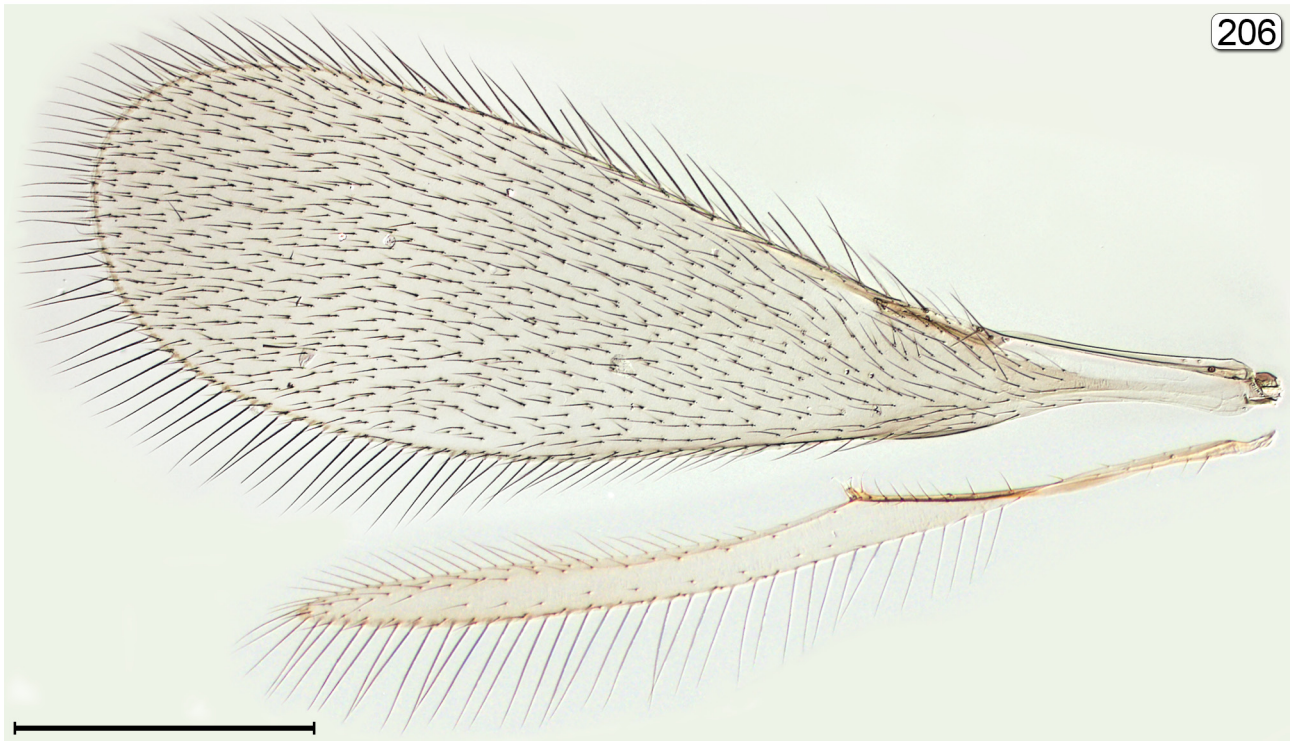
FIGURES 200, 201. *O.* (*Omyomymar*) spp. 200, mesosoma, dorsal; 201, metasoma, lateral. Scale bars = 100 µm.



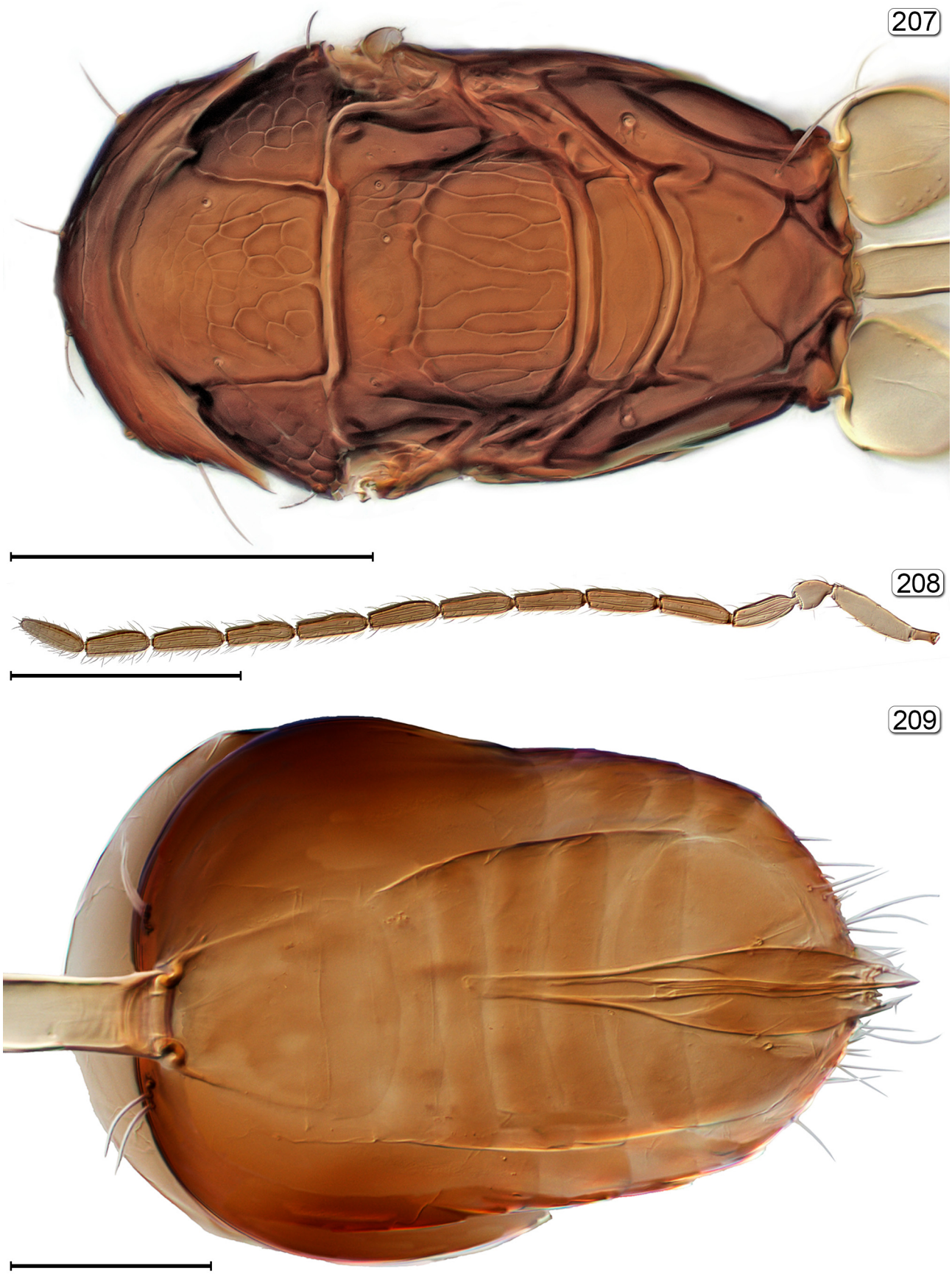
FIGURES 202, 203. *O.* (*Omyomymar*) spp. 202, metasoma, dorsal; 203a, male metasoma, dorsal; 203b, genitalia seen through gaster. Scale bars = 100 μm.



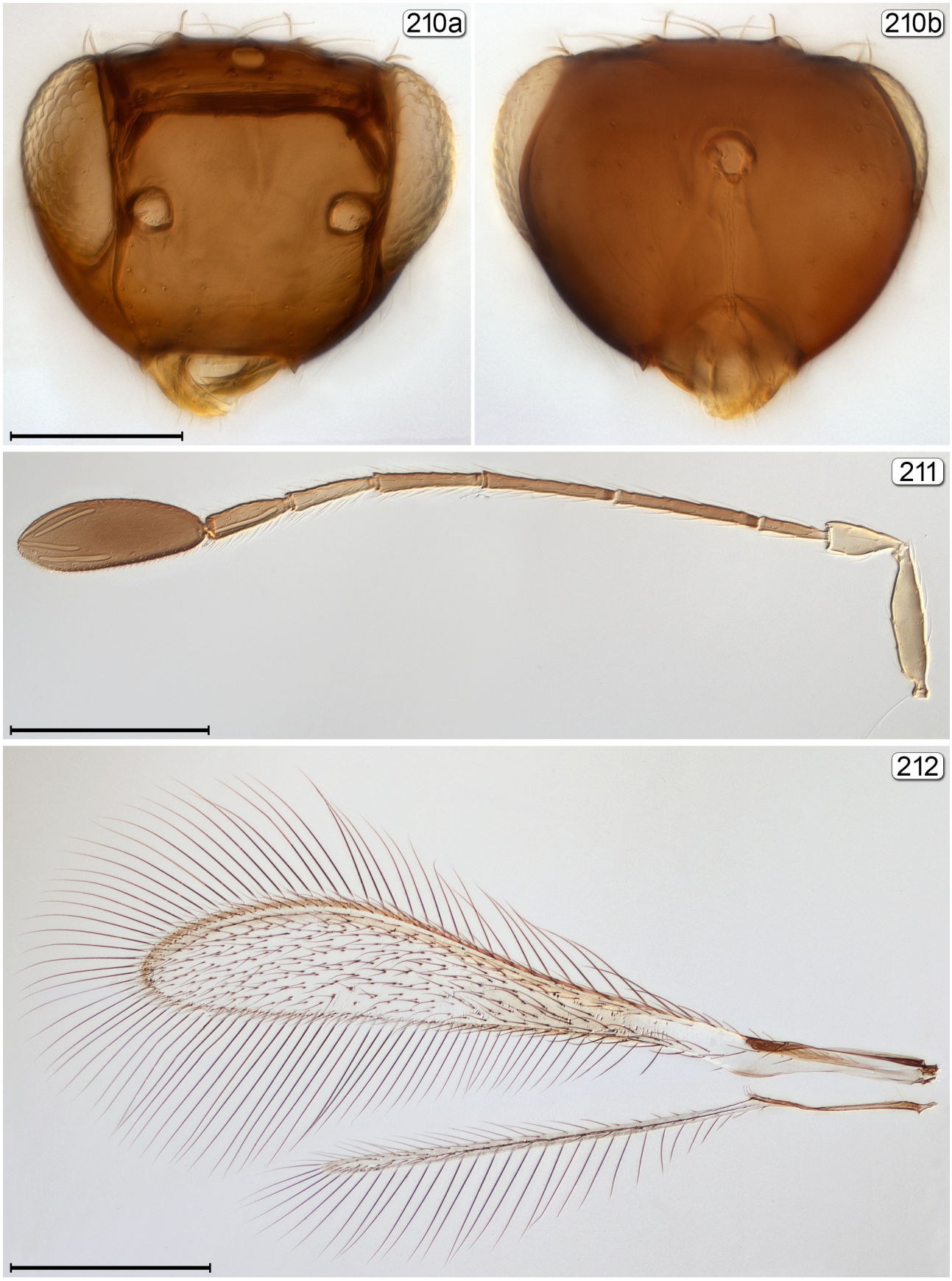




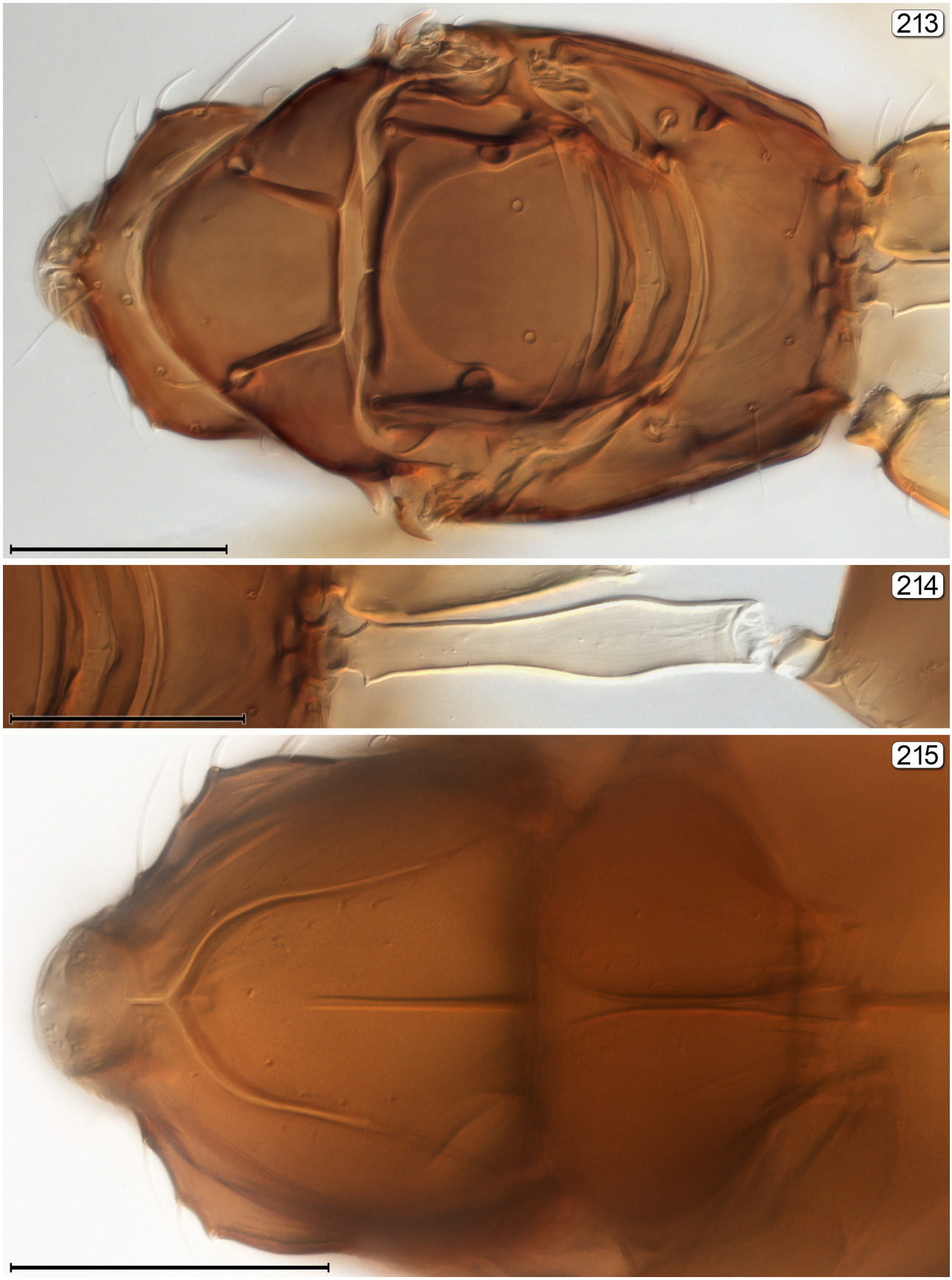
FIGURES 204–206. *Ooctonus* spp. 204, *O. capensis* Huber, male head, anterior; 205, *O. albiclavus* Huber, holotype antenna; 206, *O. albiclavus* Huber, holotype, wings. Scale bars: 204 = 100 µm; 205 = 200 µm; 206 = 300 µm.



FIGURES 207–209. *Ooctonus* spp. 207, *O. albiclavus* Huber, holotype mesosoma, dorsal; 208, *O. capensis* Huber, male antenna, paratype; 209, *O. capensis* Huber, male metasoma with genitalia seen through gaster. Scale bars: 207 = 200 µm; 208 = 300 µm; 209 = 100 µm.



FIGURES 210–212. *Palaeoneura* sp. 210a, head, anterior; 210b, head, posterior; 211, antenna; 212, wings. Scale bars: 210 = 100 μm; 211 = 200 μm; 212 = 300 μm.



FIGURES 213–215. *Palaeoneura* sp. 213, mesosoma, dorsal; 214, petiole, dorsal; 215, mesosoma, ventral, seen through body. Scale bars: 213, 215 = 200 µm; 214 = 50 µm.

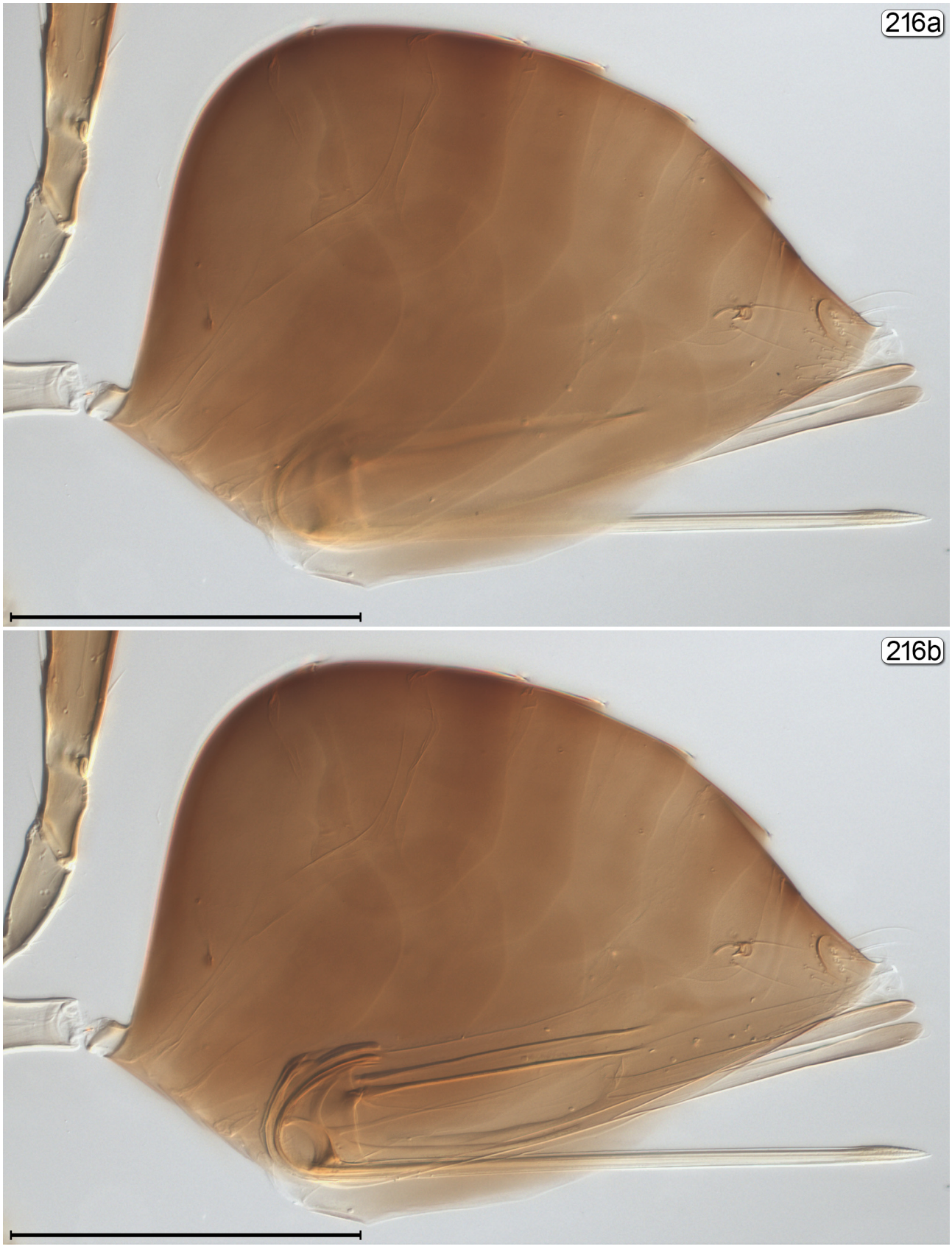
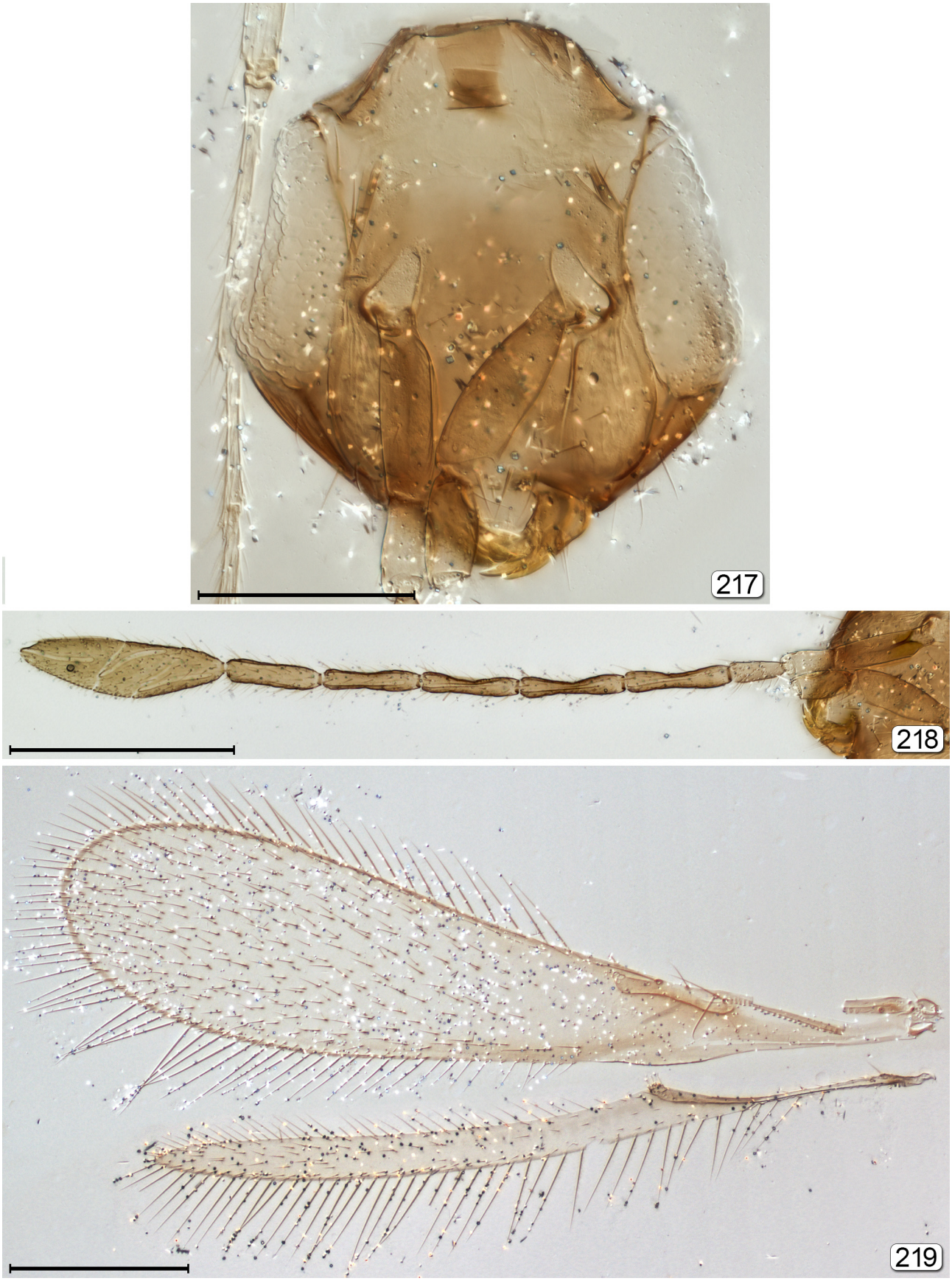
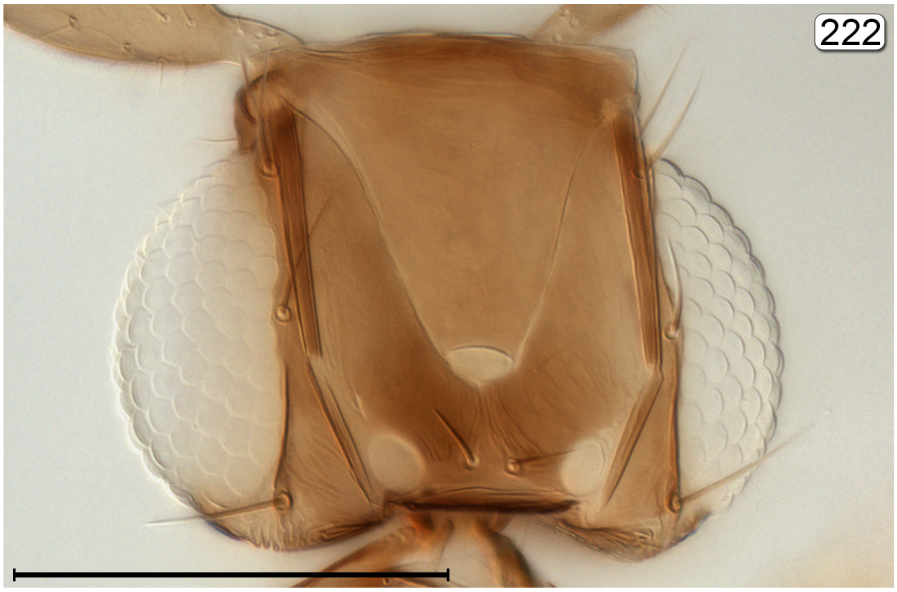


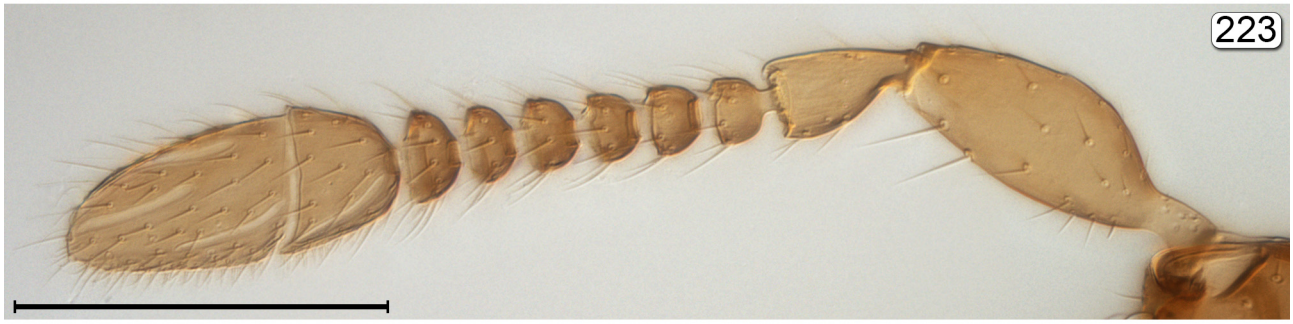
FIGURE 216. *Palaeoneura* sp. 216a, metasoma, lateral; 216b, genitalia seen through gaster. Scale bars = 200 μm.

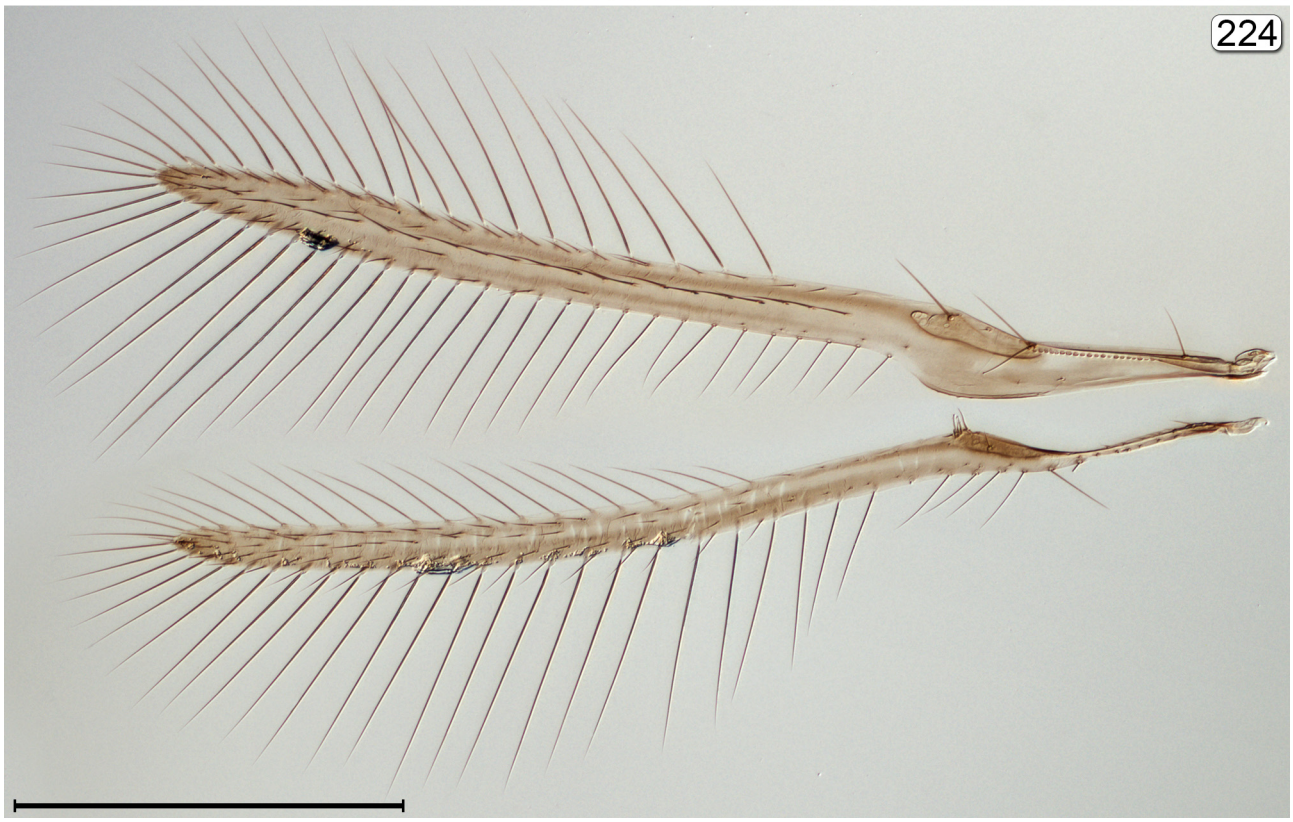


FIGURES 217–219. *Paranaphoidea* (*Idiocentrus*) *africana* Huber & Triapitsyn [extralimital], holotype. 217, head, anterior; 218, antenna; 219, wings. Scale bars: 217 = 100 μm; 218, 219 = 200 μm.

FIGURES 220, 221. *Paranaphoidea* spp. 220, *P.* (*Idiocentrus*) *africana* Huber & Triapitsyn [extralimital], holotype. 220, head, ventral + mesosoma and metasoma, lateral; 221, P. (*Paranaphoidea*) sp., habitus, dorsal. South Africa, Upper Berg River, 8.xi.1963, L. Brundin (NHMUK010834649). Scale bars: 220 = 1000 µm; 221 = 1000 µm.

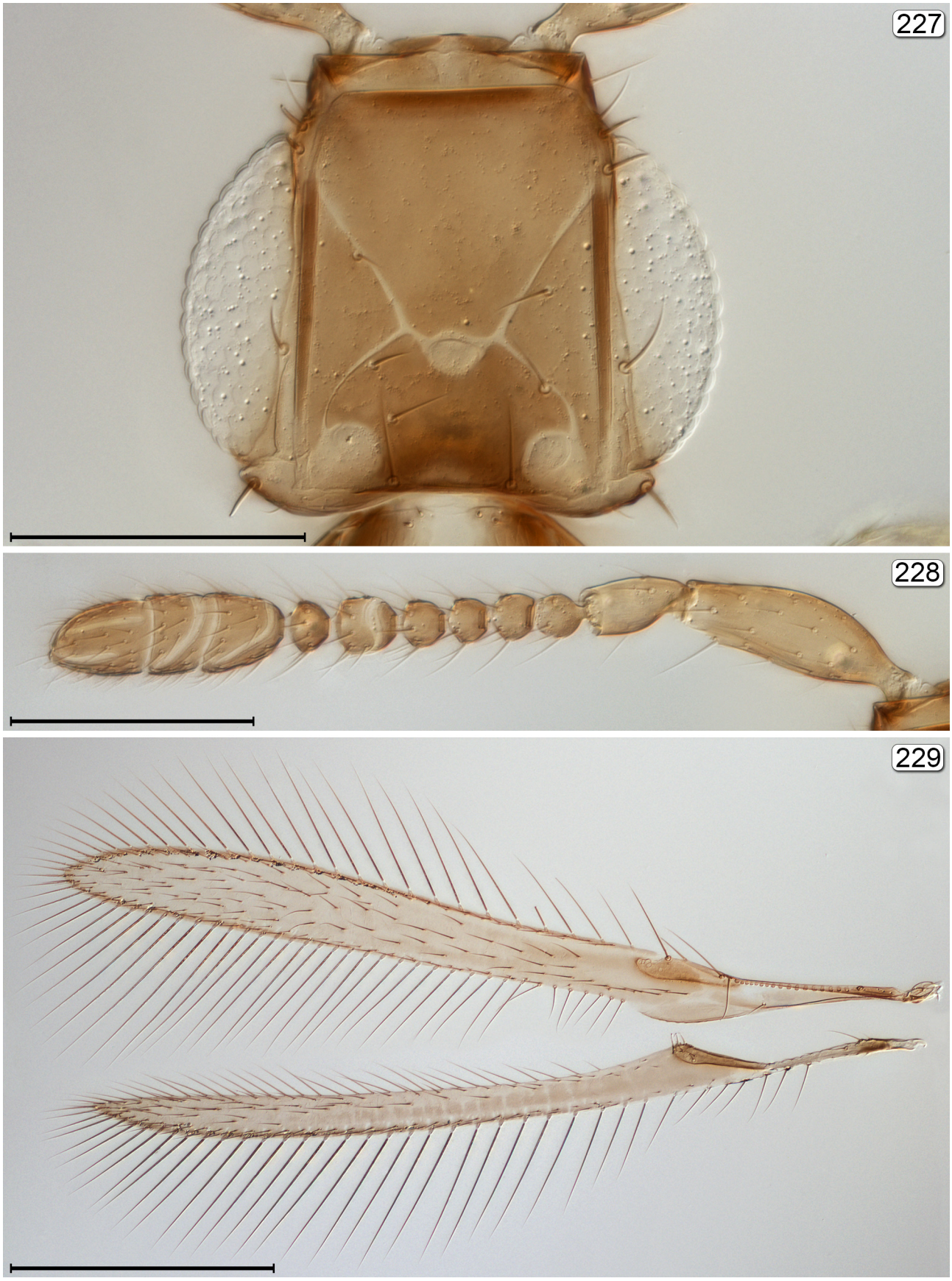




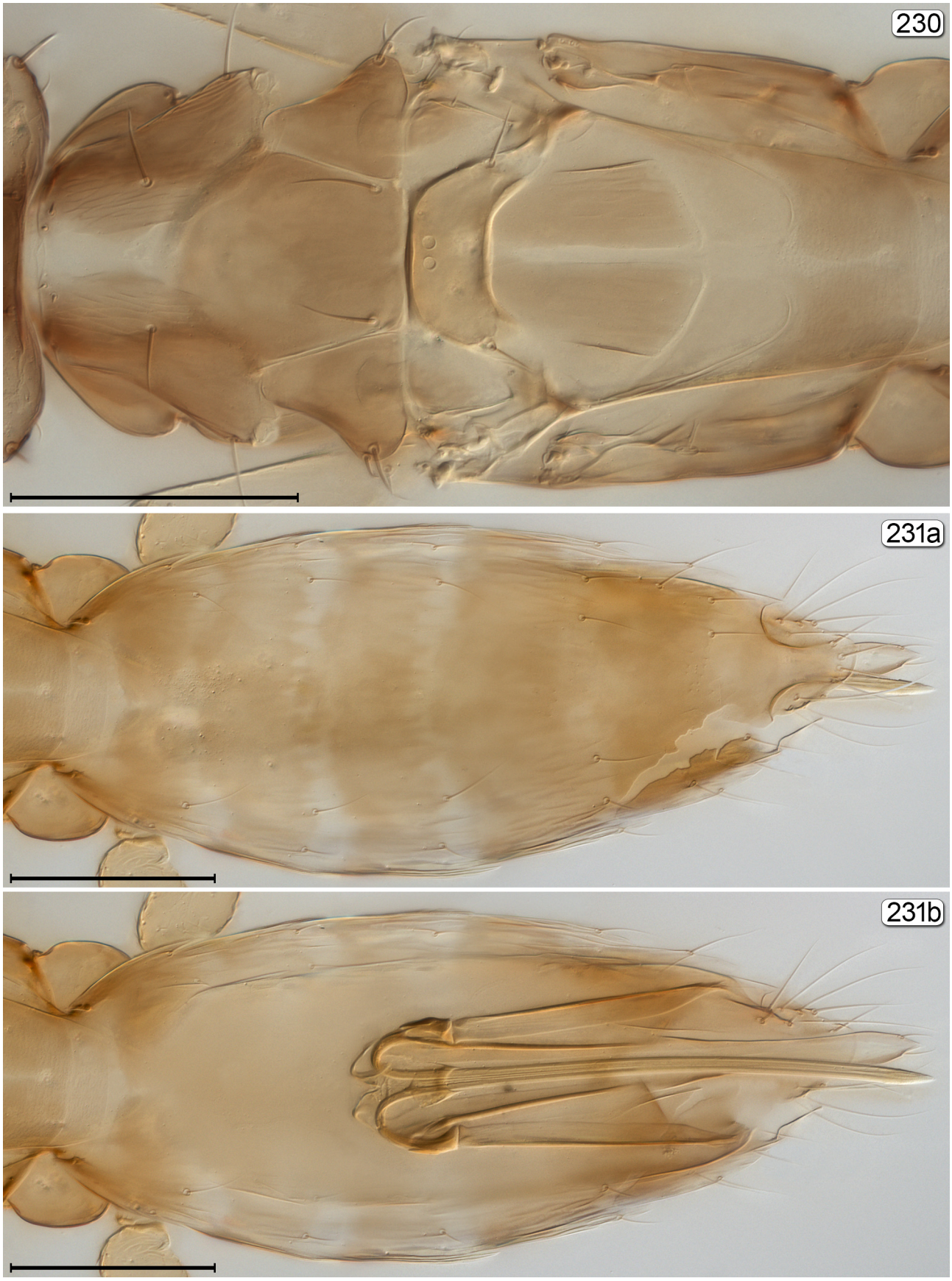


FIGURES 222–224. *Platystethynium* (*Platypatasson*) sp. 222, head, dorsal; 223, antenna; 224, wings. Scale bars: 222 = 100 µm; 223, 224 = 500 µm.

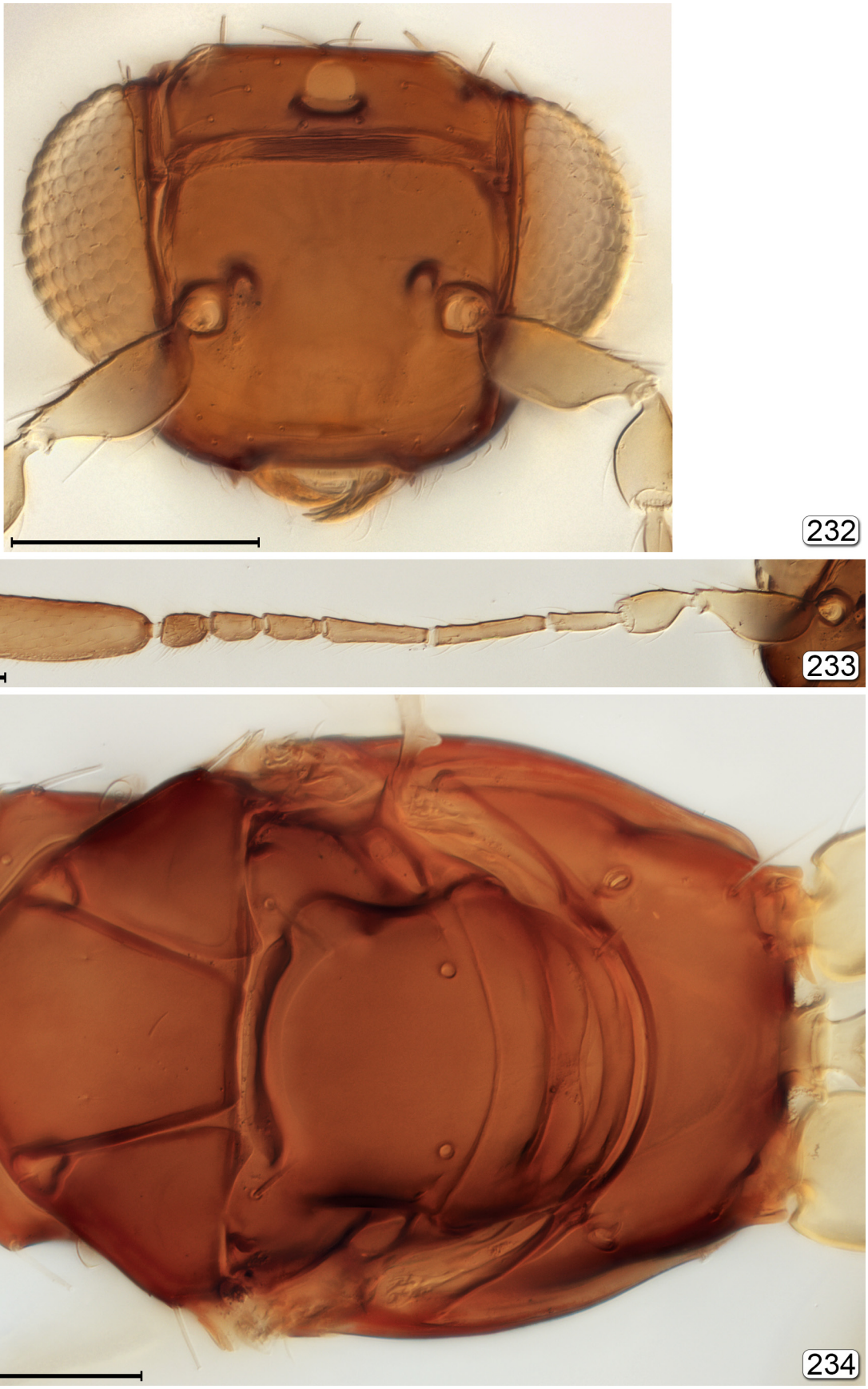
FIGURES 225, 226. *Platystethynium* (*Platypatasson*) sp. 225, mesosoma, dorsal; 226, metasoma with genitalia seen through gaster. Scale bars = 100 µm.



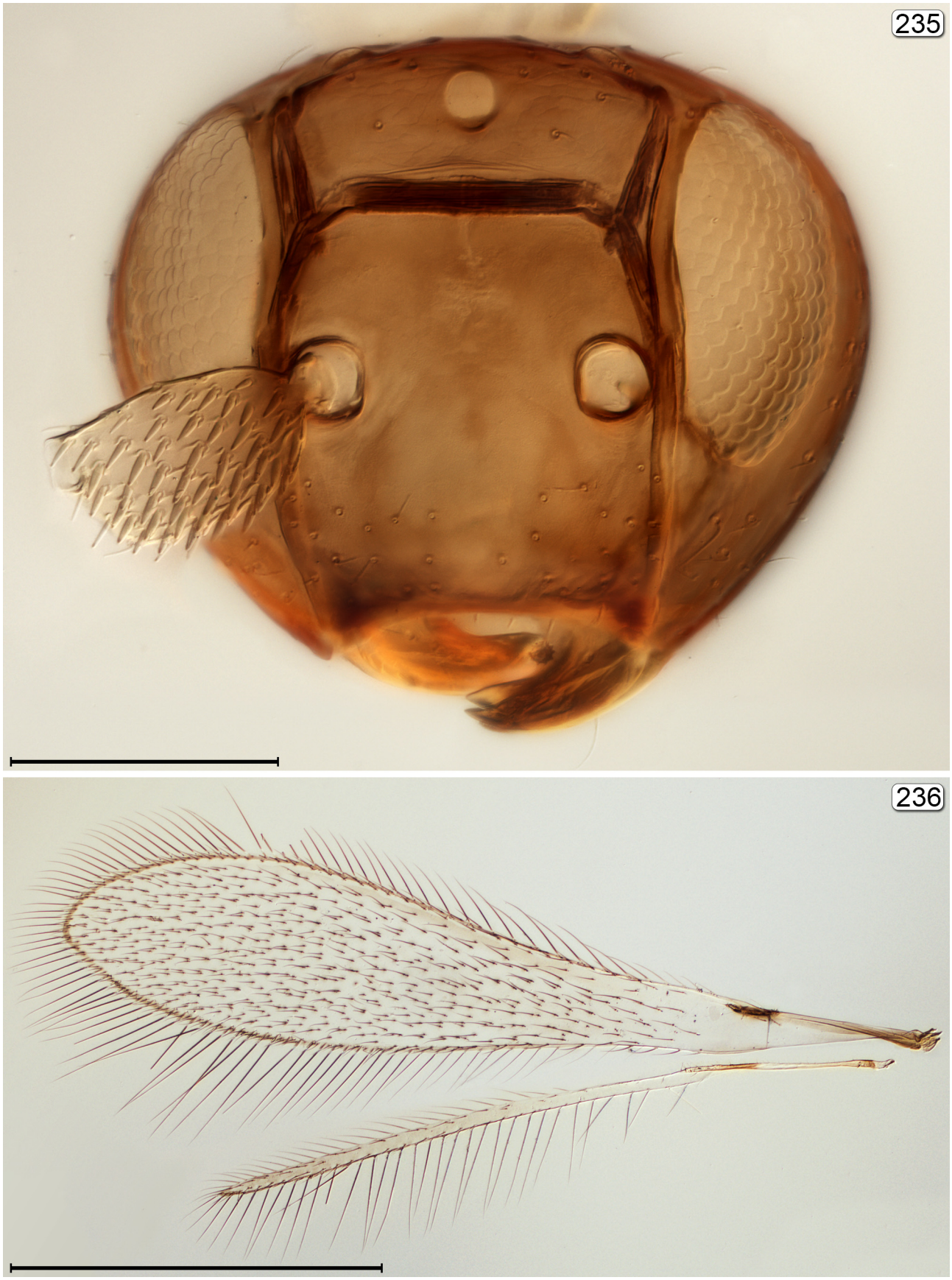
FIGURES 227–229. *Platystethynium* (*Platystethynium*) sp. 227, head, dorsal; 228, antenna; 229, wings. Scale bars: 227 = 100 µm; 228, 229 = 500 µm.



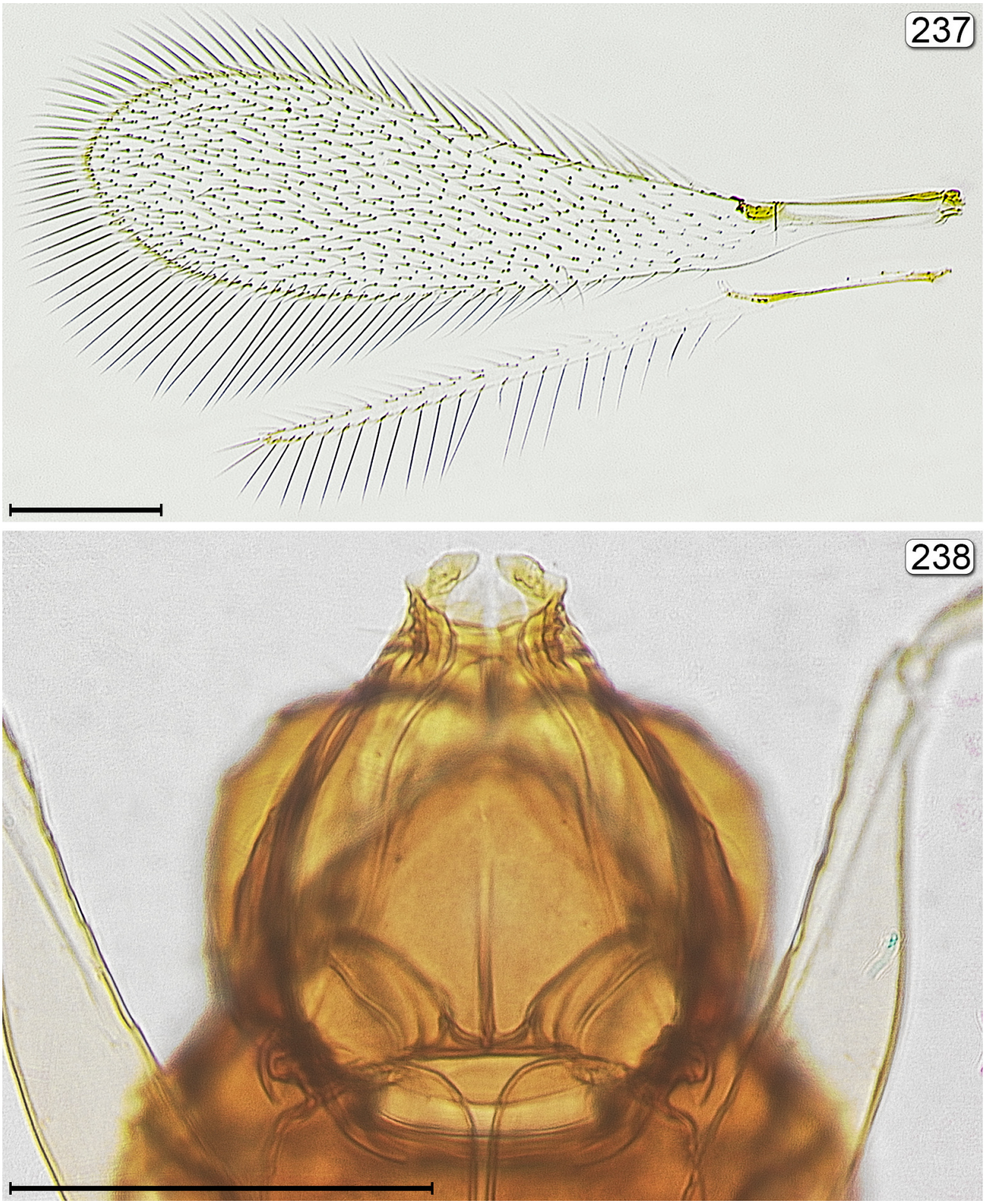
FIGURES 230, 231. *Platystethynium* (*Platystethynium*) sp. 230, mesosoma, dorsal; 231a, metasoma, dorsal; 231b, metasoma, with genitalia seen through gaster. Scale bars = 100 μm.



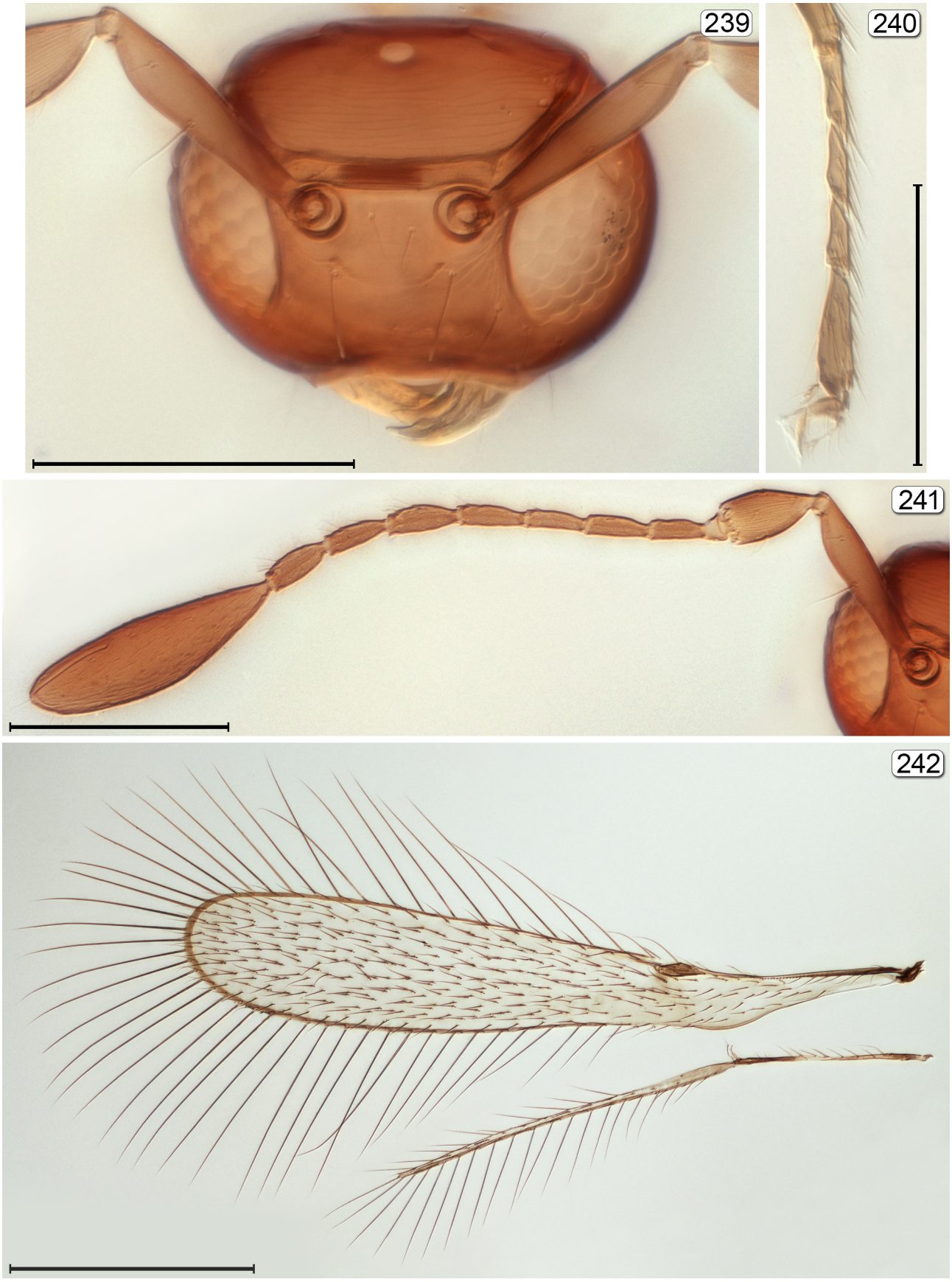
FIGURES 232–234. *Polynema* (*Doriclytus*) sp. 232, head, anterior; 233, antenna; 234, mesosoma, dorsal. Scale bars = 100 μm.



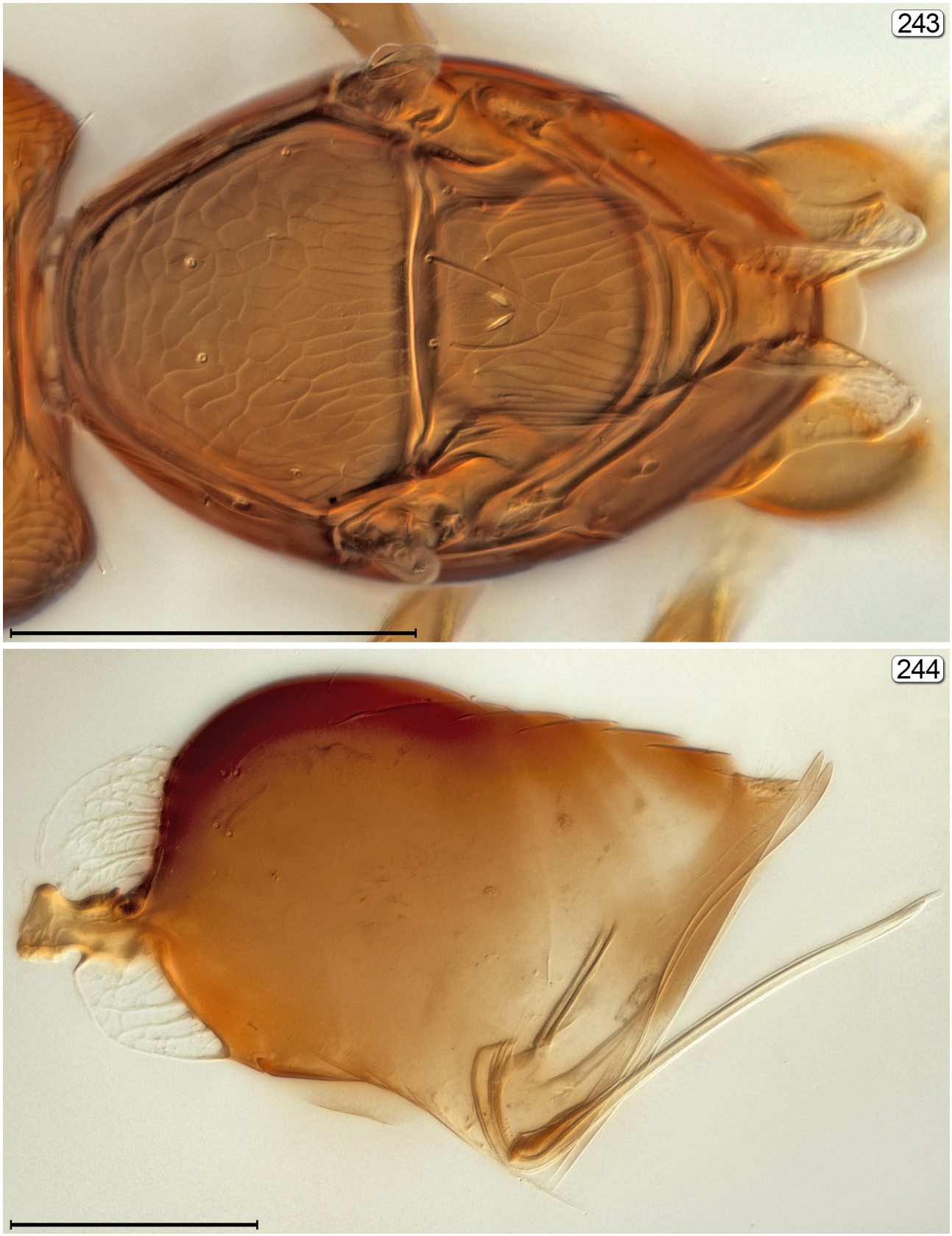
FIGURES 235, 236. *Polynema* (*Dorypolynema*) *mboroense* Risbec. 235, male head, anterior; 236, wings. Scale bars: 235 = 100 μm; 236 = 200 μm.



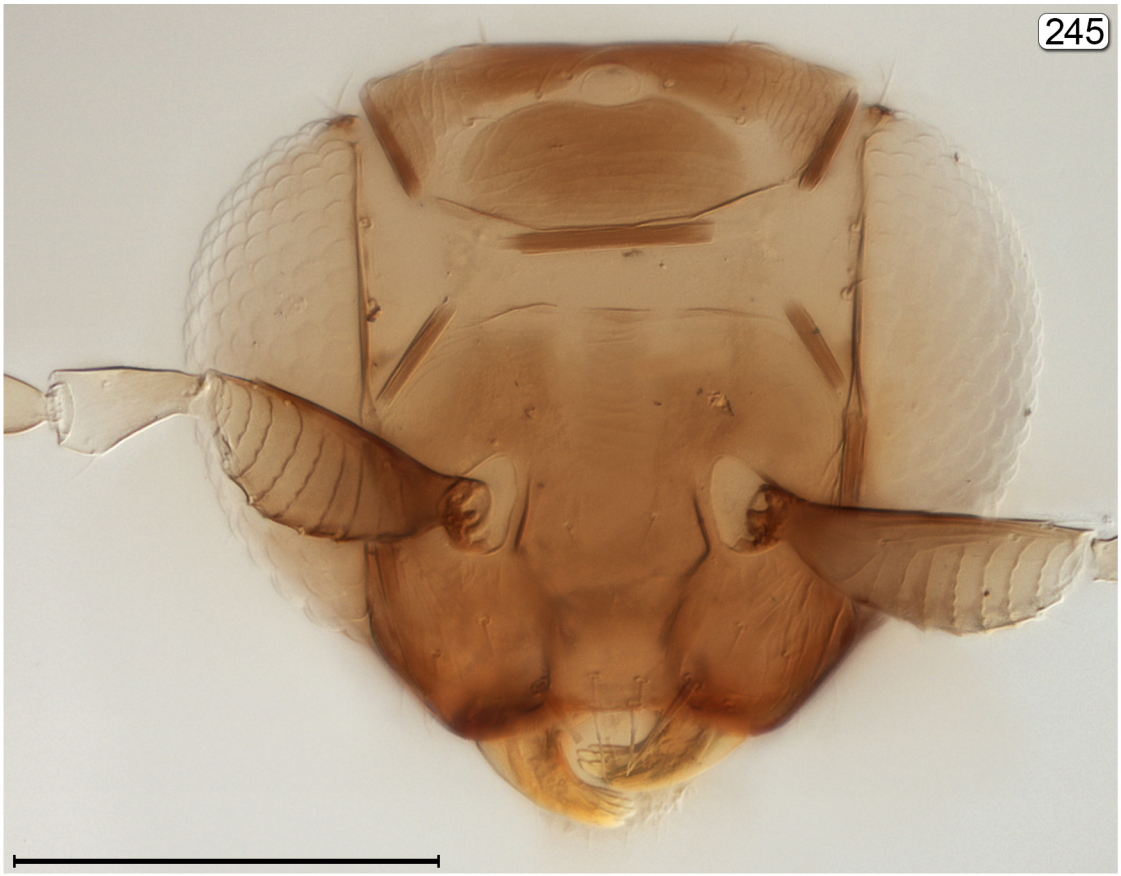
FIGURES 237, 238. *Polynema* (*Polynema*) sp. 237, wings; 238, mesosoma, ventral, seen through body. Scale bars: 237 = 200 μm; 238 = 60 μm.

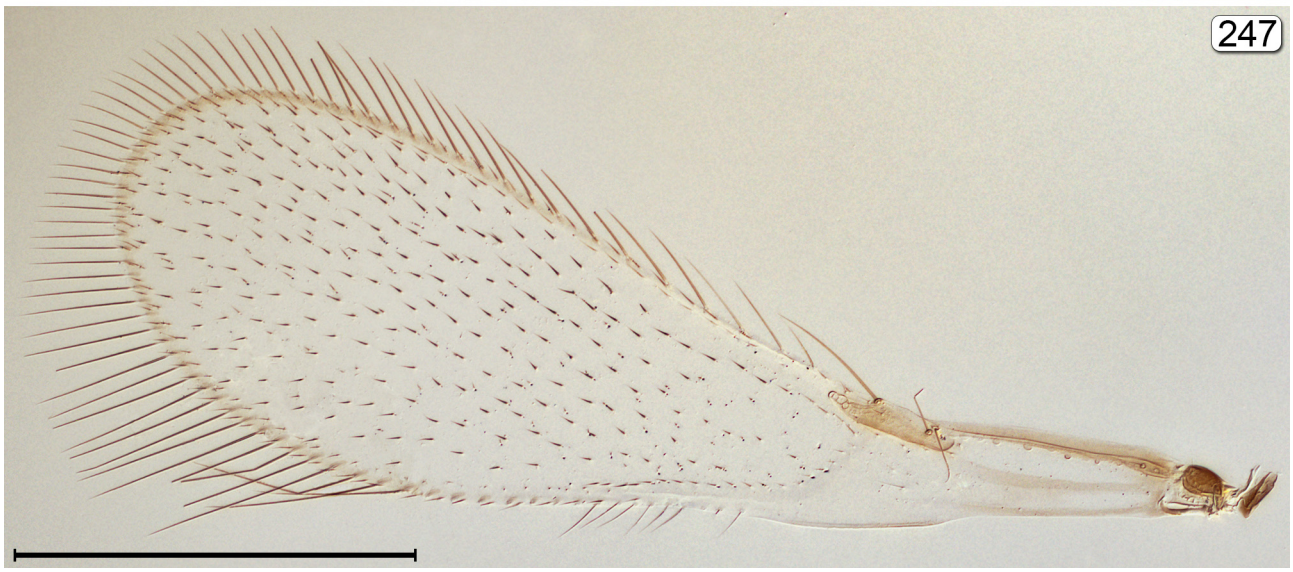


FIGURES 239–242. *Ptilomymar* sp. 239, head, anterior; 240, mesotarsus; 241, antenna; 242, wings. Scale bars: 239–241 = 100 μm; 242 = 200 μm.

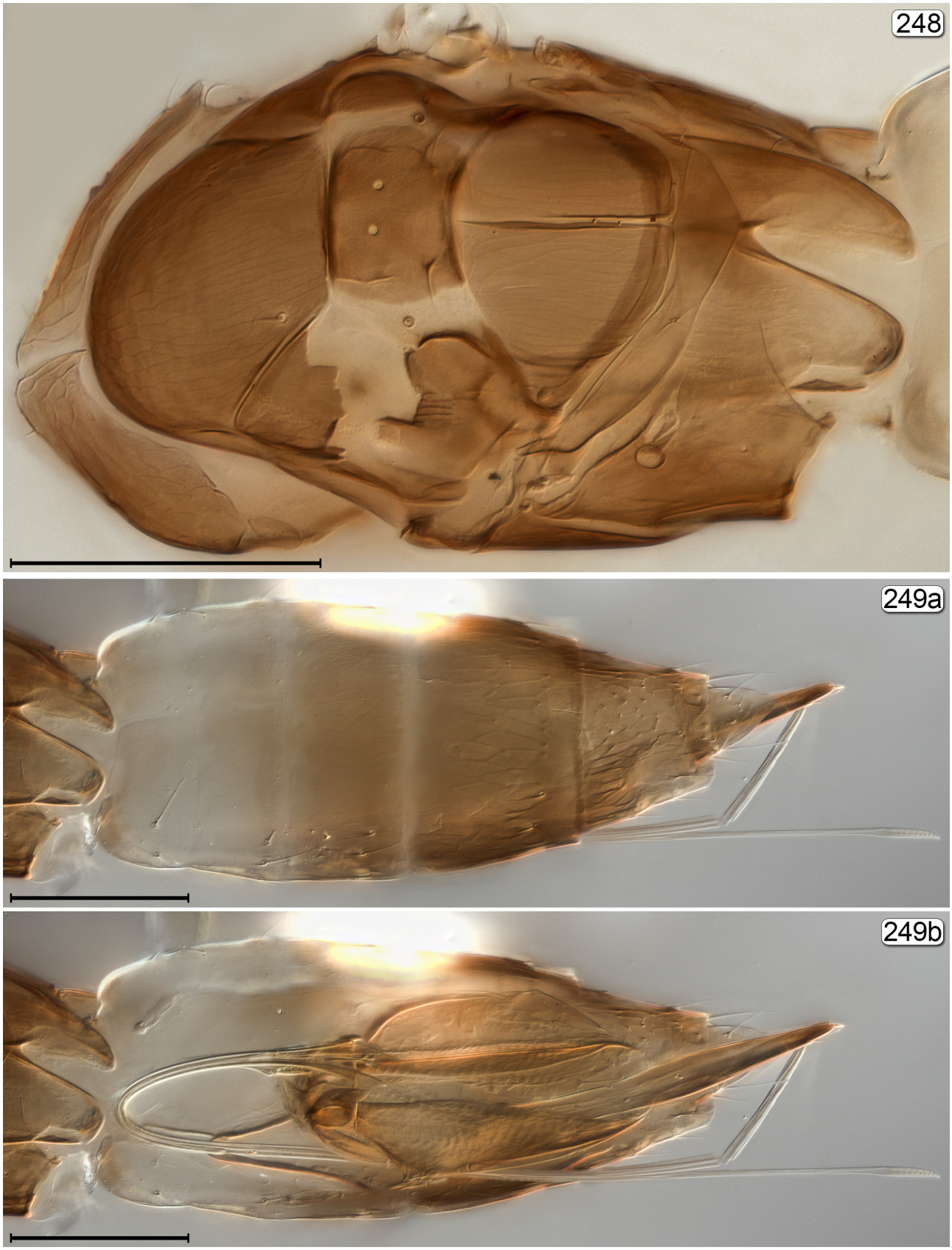


FIGURES 243, 244. *Ptilomymar* sp. 243, mesosoma, dorsal; 244, metasoma, lateral. Scale bars = 100 µm.

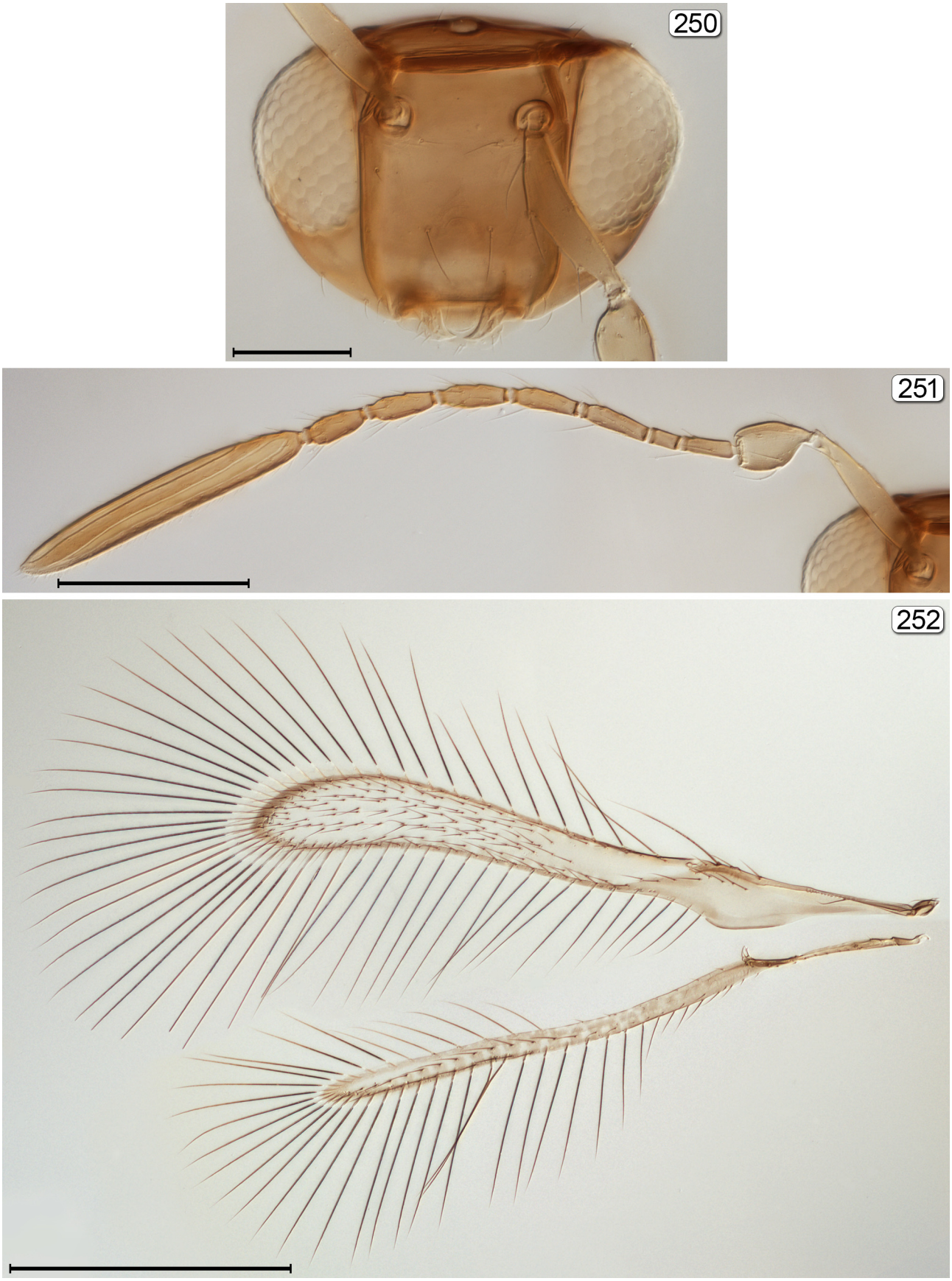




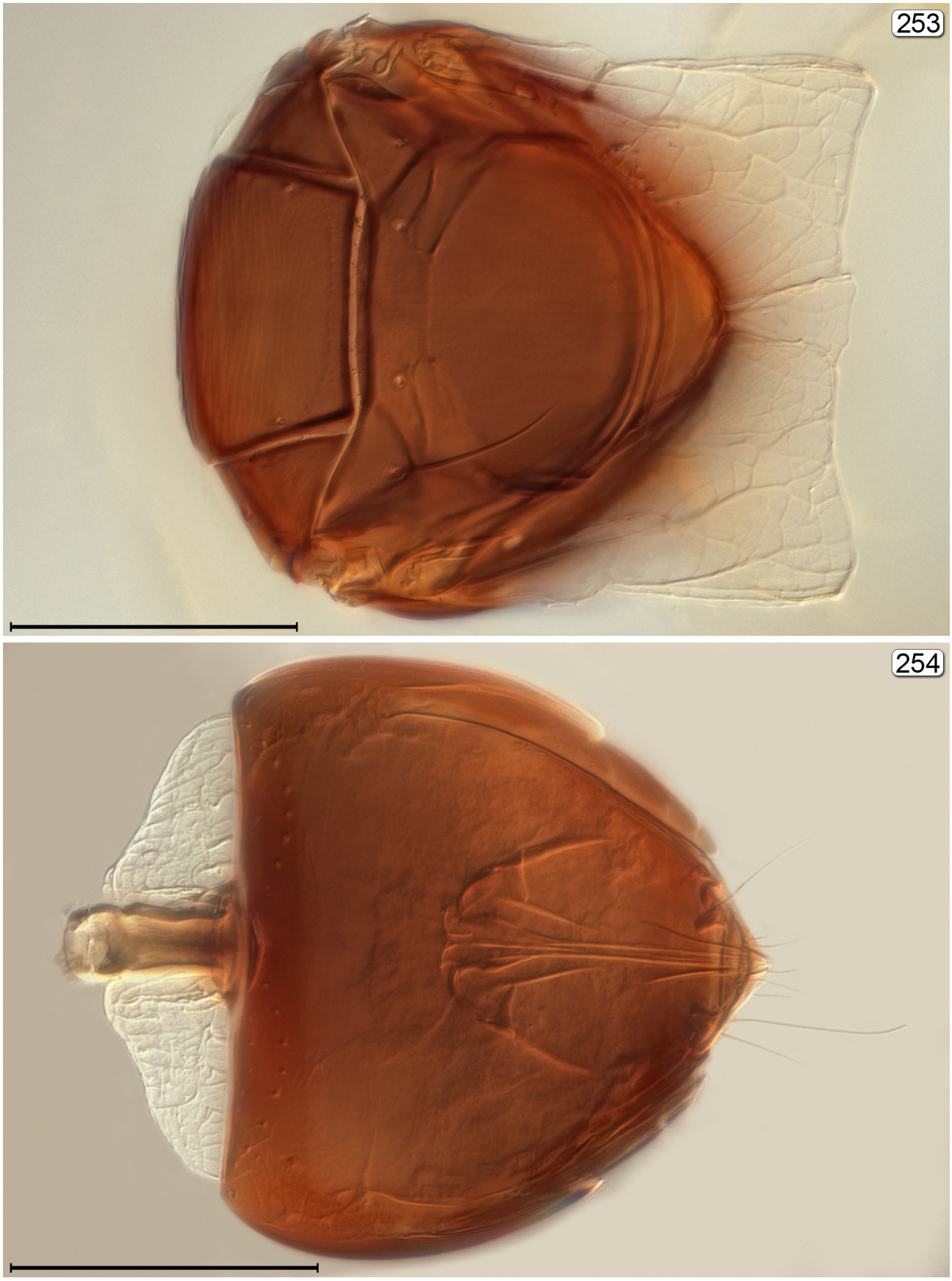
FIGURES 245–247. *Schizophragma indica* Reymat & Anis. 245, head, anterior; 246, antenna; 247, fore wing. Scale bars: 245, 246 = 100 µm; 247 = 200 µm.



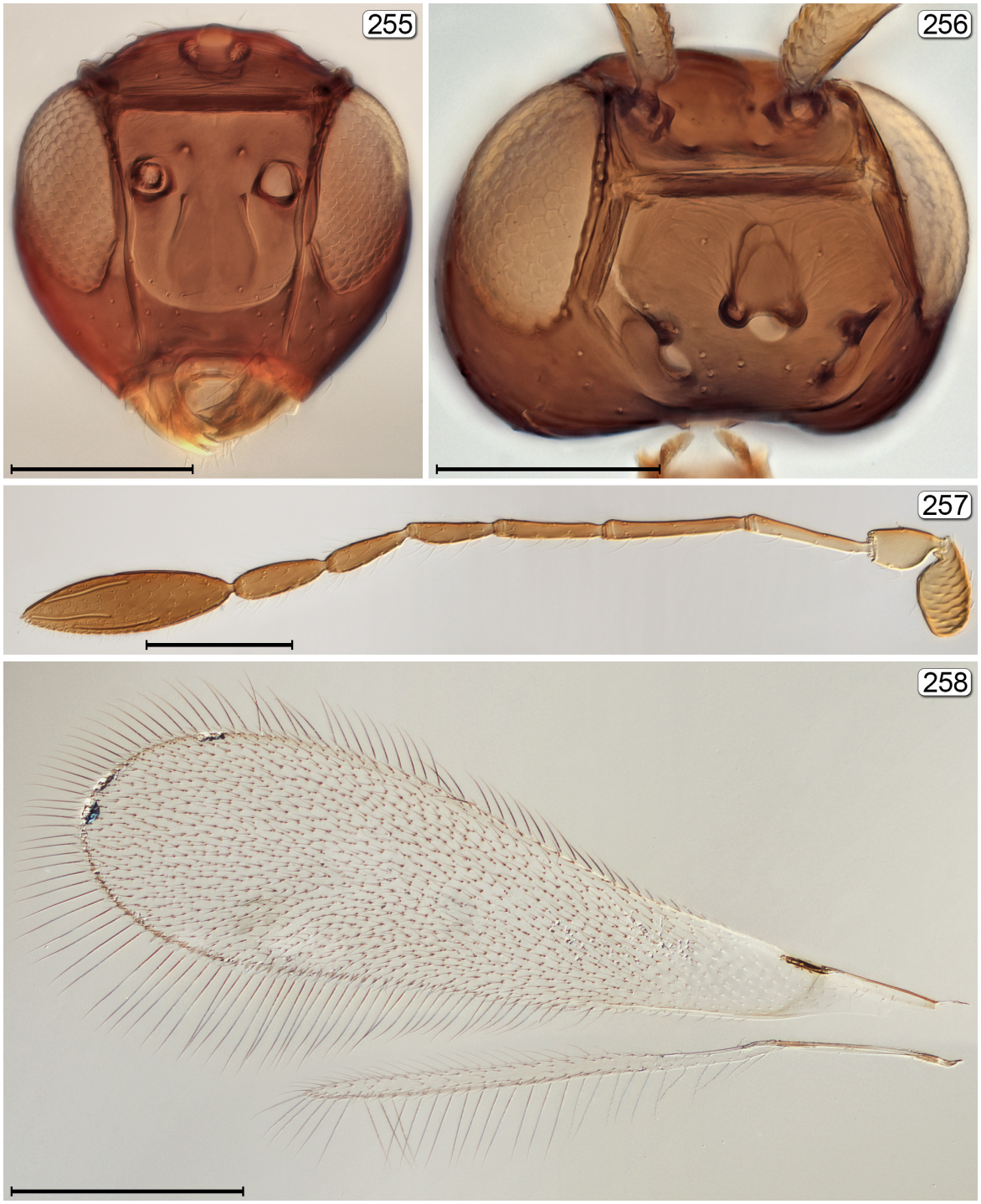
FIGURES 248, 249. *Schizophragma indica* Reymat & Anis. 248, mesosoma, dorsal; 249a, metasoma, dorsal; 249b, metasoma, ventral showing most of genitalia. Scale bars = 100 μm.



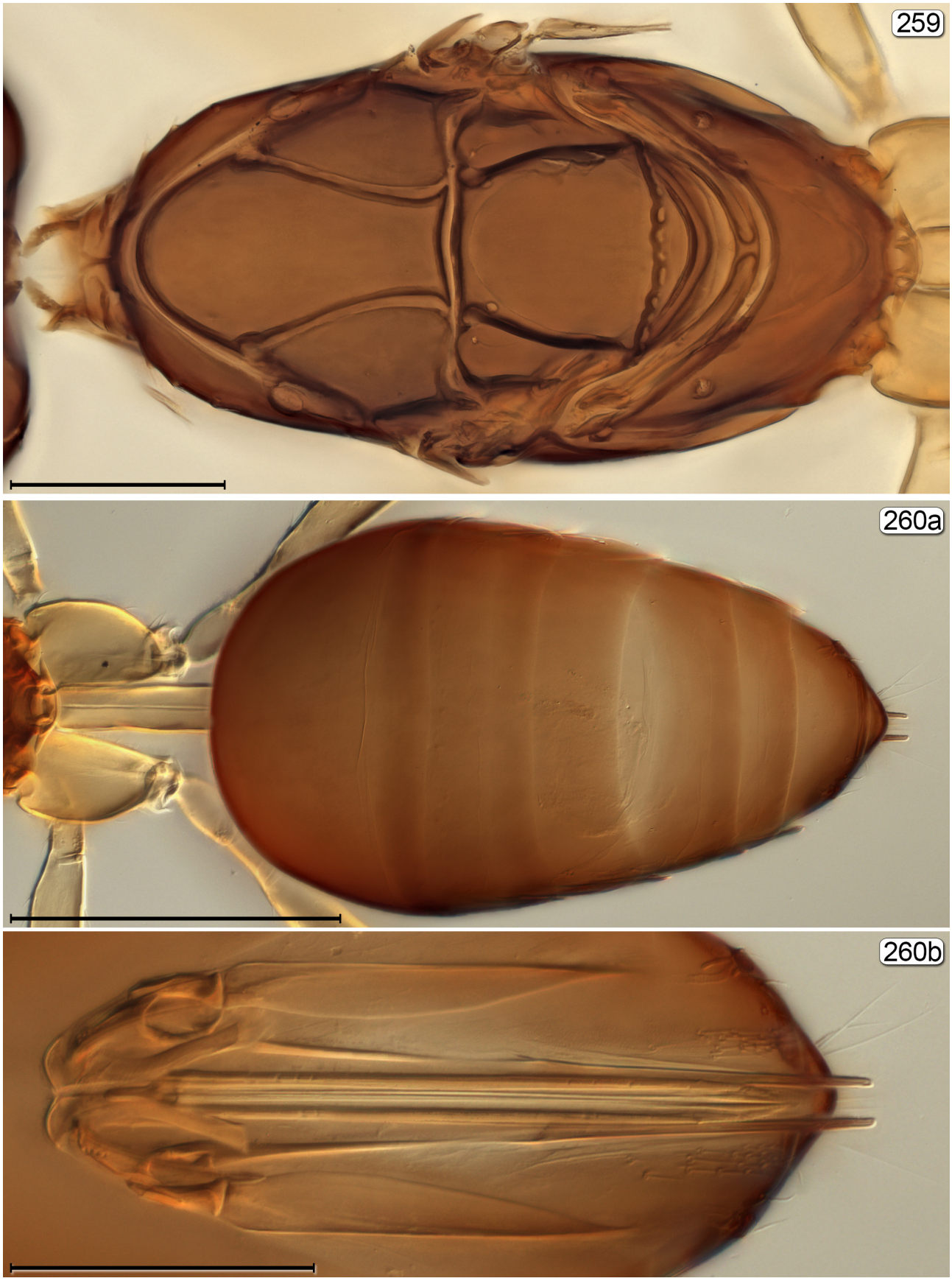
FIGURES 250–252. *Stephanocampta* sp. 250, head, anterior; 251, antenna; 252, wings. Scale bars: 250 = 50 µm; 251 = 100 µm; 251 = 200 µm.



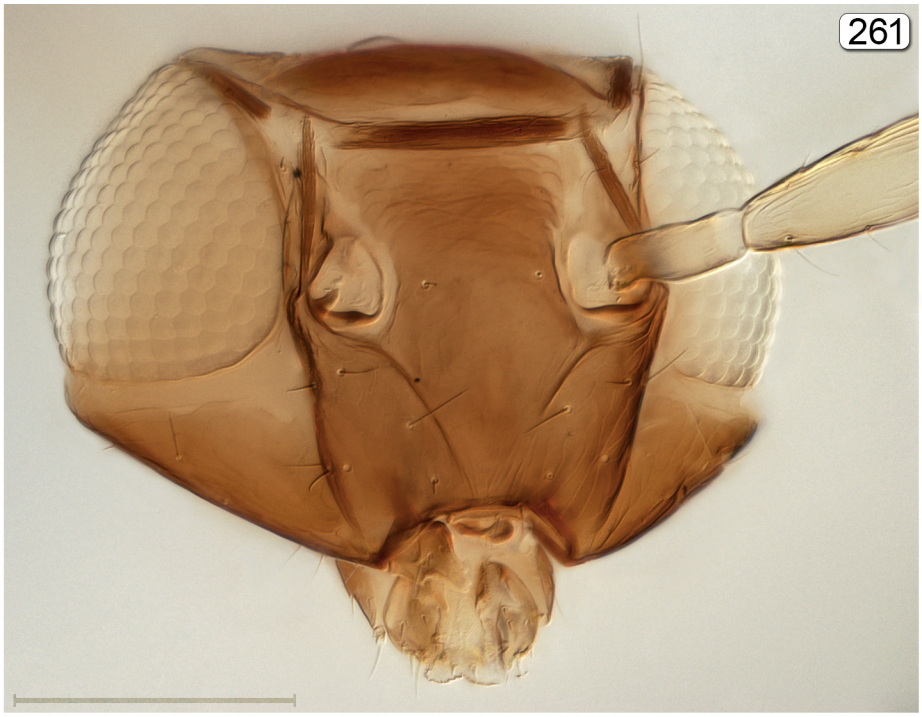
FIGURES 253, 254. *Stephanocampta* sp. 251, mesosoma, dorsal; 252, metasoma, ventral, showing genitalia through gaster. Scale bars= 100 μm.

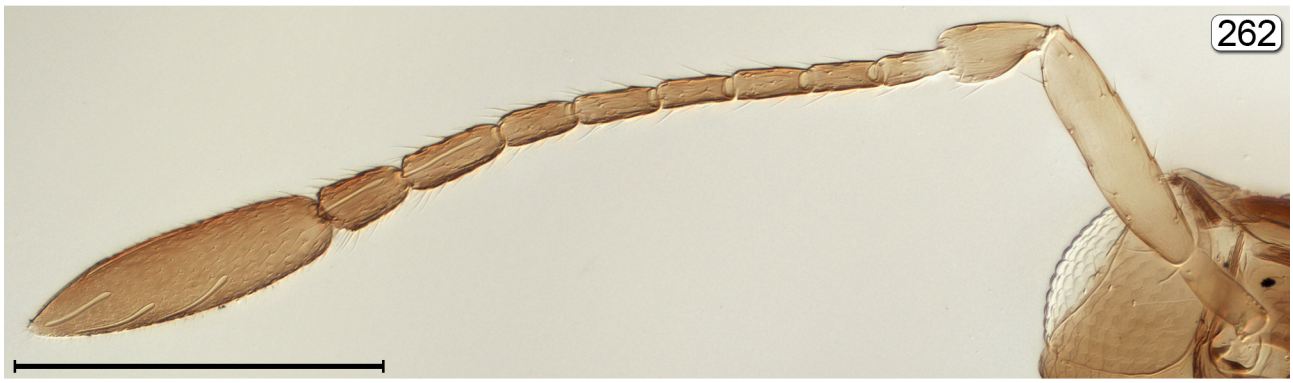


FIGURES 255–258. *Stephanodes* sp. 255, head, anterior; 256, head, dorsal; 257, antenna (radicle missing); 258, wings. Scale bars: 255–257 = 100 µm; 258 = 300 µm.

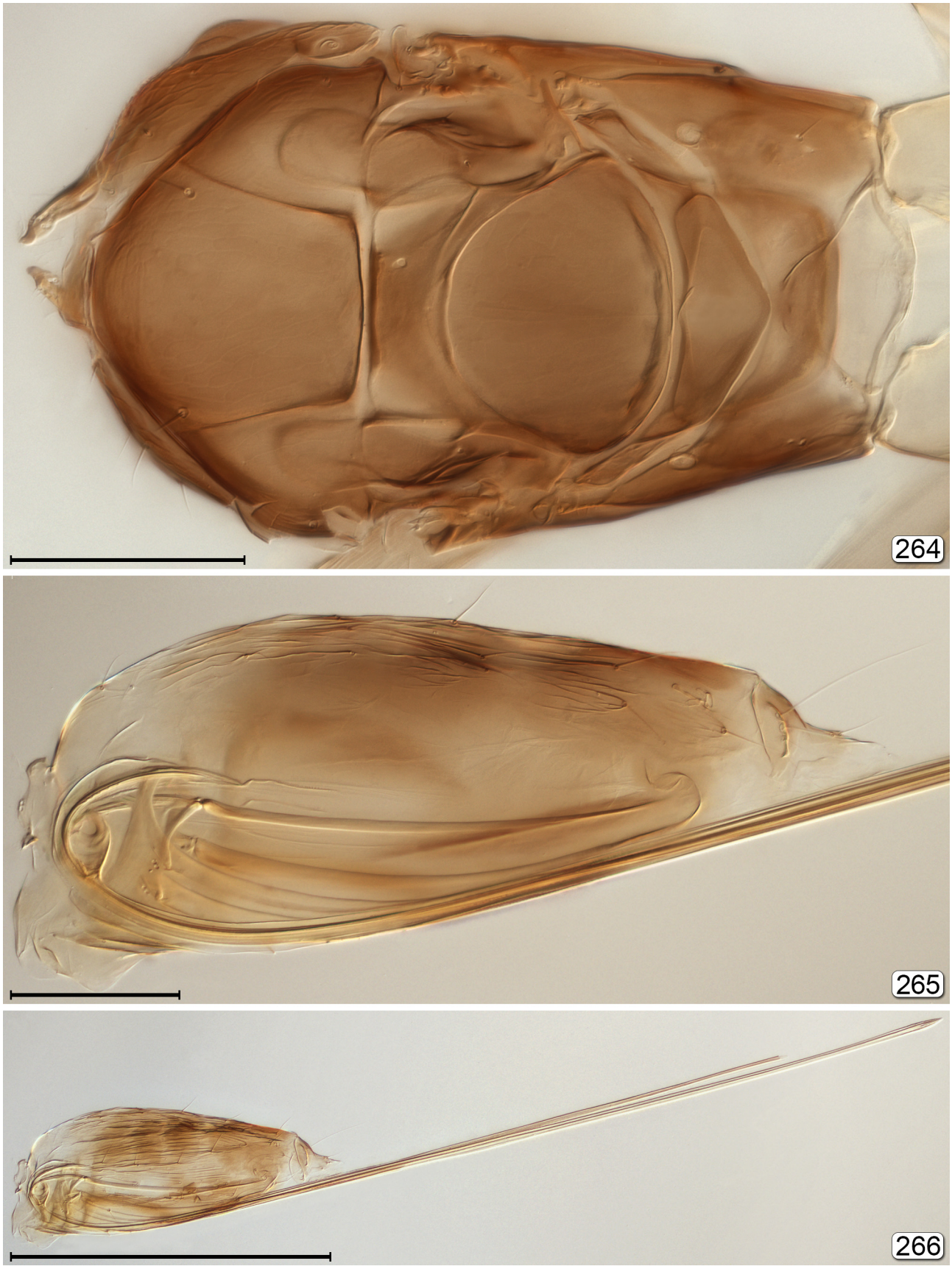


FIGURES 259, 260. *Stephanodes* sp. 259, mesosoma, dorsal; 260a; metasoma, dorsal; 260b, genitalia seen through gaster. Scale bars: 259, 260b = 100 μm; 260a = 200 μm



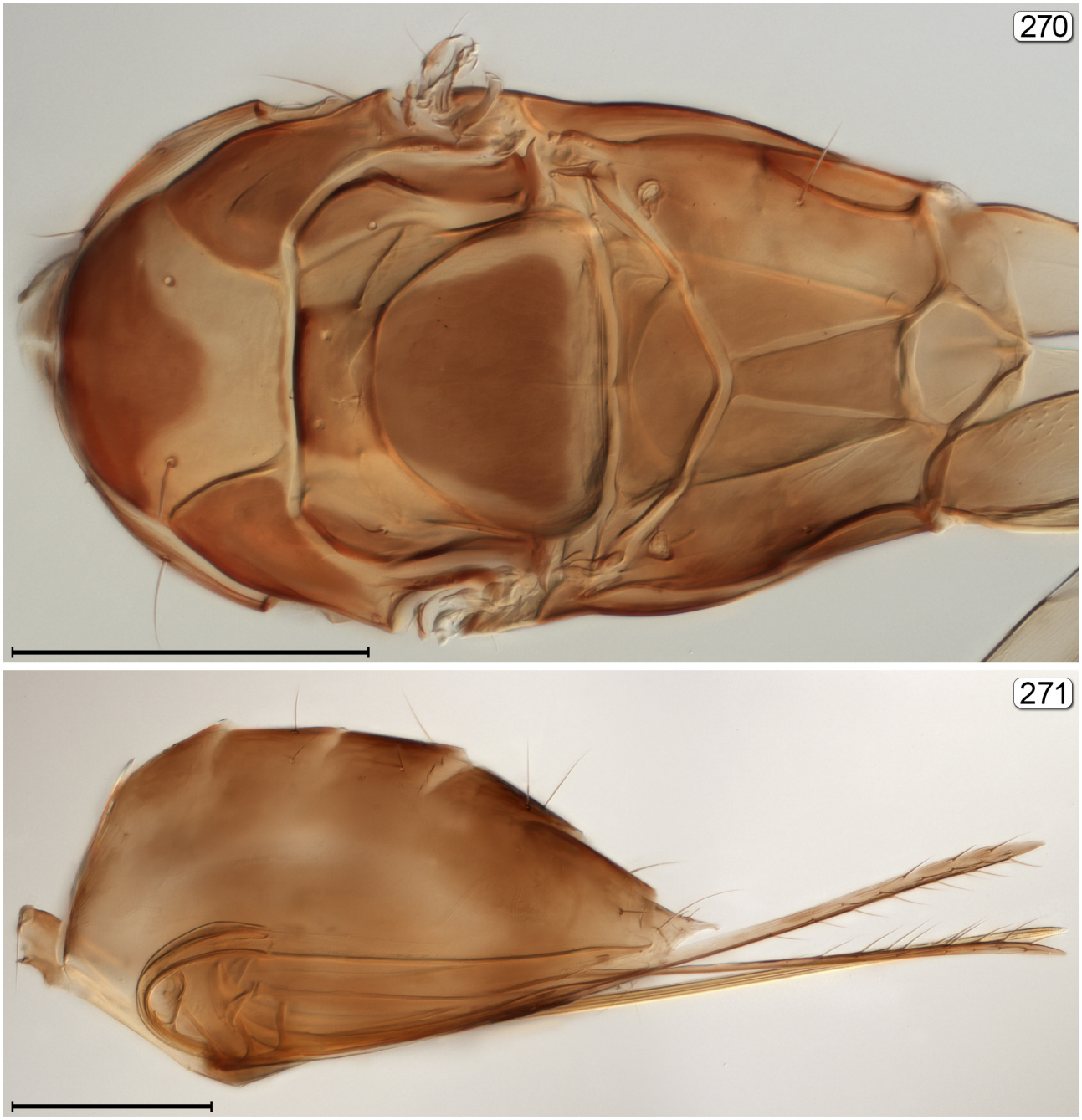


FIGURES 261–263. *Tanyxiphium* sp. 261, female head, anterior; 262, antenna; 263, wings. Scale bars: 261 = 100 μm; 262, 263 = 200 μm.



FIGURES 264–266. *Tanyxiphium* sp. 264, mesosoma, dorsal; 265, gaster, lateral; 266, gaster, lateral, showing entire genitalia. Scale bars: 264, 265 = 100 μm; 266 = 500 μm.

FIGURES 267–269. *Zeyanus* sp. 267, head, anterior; 268, antenna; 269, wings. Scale bars: 267 = 100 µm; 268, 269 = 200 µm.



FIGURES 270, 271. *Zeyanus* sp. 270, mesosoma, dorsal; 271, metasoma, lateral. Scale bars= 200 μm.