Neotropical Diptera

Neotropical Diptera **18: 1-320** (April 15, 2009)
ISSN 1982-7121
www.neotropicaldiptera.org

Depto. de Biologia - FFCLRP
Universidade de São Paulo
Ribeirão Preto, SP, Brazil

Manual of Neotropical Diptera. Asilidae[1]

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Adult asilids, as is well-known, prey upon other insects and spiders; Bristowe (1925: 483-484) published about a *Plesiomma* capturing a spider: "One day [...] I had just finished watching a long-bodied Sphegid wasp, *Sphex* (subgen. *Isodontia*) *costipennis* Spin. (*chrysobapta* Sm. and *petiolata* Sm.) depositing a Locustid grasshopper in a hollow bamboo, when I saw, as I thought, another specimen flying close to me. I got my net ready, and then I saw the insect fly without any undue haste at an Epeirid spider, *Epeira grayi* Bl., which was sitting in the middle of its web. I seized the spider, which immediately collapsed without showing any resistance, and calmly sat in the center of the web with its proboscis buried in the spider's abdomen. As I watched I saw a male spider, which, according to custom, had been sitting on the outskirts of the web, come quietly climbing down to see what was happening. He stopped an inch or two away and then, as though realizing his own danger, he turned round and crept quietly away. Before I left this locality (which was between Rio and Petropolis) I say another of these wasp-like Asilid flies, *Plesiomma fuliginosa* Wied. male, as they turned out to be, attack another spider of the same species in very much the same way, thus showing that this interesting reversal of the usual role of the spider and the fly was no accidental occurrence. The invitation 'Come into my parlour said the spider to the fly' has in this case been made once too often"). Lists of preys of South American species have been published, e. g., by Carrera (1954, 1947), Carrera & d'Andretta (1952), Carrera & Vulcano (1961), Bueno (1986) (*Porasilus barbiellinii* Curran, 1934 preys), Bueno & Berti Filho (1987) (*Porasilus barbiellinii* Curran, 1934), Knutson (1971) (*Saropogon gayi* (Macquaret, 1838) preying upon *Trachysphyrus nigricornis* (Brullé), an Ichneumonidae), and Coronado Blanco & Ruiz Cancino (1999: 81) (*Atomosia macquarti* Bellardi, 1861 preying upon *Unaspis citri* (Comstock, 1883), a Diaspididae Hemiptera). Some species are a threat to apiculture, such as *Mallophora ruficauda* (Wiedemann, 1828) in Argentina (Bambara, 1983; Castelo, 2001a-b, 2002a-b; Castelo & Capurro, 2001) and for

[1] This project was supported by FAPESP grants # 2003/10.274-9 and 2007/50878-1.

that reason several papers published about its biology (Castelo, 2004a; Castelo & Capurro, 2000; Castelo & Corley, 2004a, 2004b; Castelo & Lazzari, 2004; Castelo, Ney-Nifle, Corley & Bernstein, 2006; Copello, 1922, 1927, 1942; Crouzel, 1965; De Santis, 1989; De Santis & Cornejo, 1990; Marcangeli, 1998; Naveiro, 1975; Rabinovich & Corley, 1997; Rabinovich, Quiroga & Castelo, 1997; Remedi de Gavotto, 1964); also *Eicherax ricnotes* Engel is accused of attacking bees in the same country (Rinaldi, Pailhé & Popolizio, 1971). By their turn, asilids may be preyed by some Sphecidae wasps (Fontenelle & Martins, 2002).

Only a few papers were devoted to the biology and ecology of Neotropical representatives of this family. A comprehensive paper on asilid courtship behavior, with a review of courtship and mating was published by Lavigne (2003); other works, mostly dealing with North and Central American species, are due to Alcock, 1974 (*Mallophora*); Bueno, 1986, 1987 (*Porasilus*); Bueno & Berti Filho, 1987 (*Porasilus*); Clements & Benneett, 1969 (*Mallophora*); Cockerell, 1894; Dennis & Gowen, 1978 (*Diogmites*); Dennis, Lavigne & Bullington, 1986 (*Efferia*); Dozier, 1920; Fattig, 1933 (*Mallophora*); Fisher & Hespendeide, 1982 (*Glaphyropyga*), 1992; LaPierre, 2000 (*Holcocephala*); Lavigne, 1977 (*Eccritosia*), 1979 (*Efferia*); Lavigne & Bullington, 1999 (*Heteropogon*); Lavigne & Dennis, 1979 (*Proctacanthus*), 1980 (*Proctacanthella*), 1985 (*Efferia*); Lavigne, Nelson & Schreiber, 1994 (*Proctacanthus*); Lindner, 1929; Linsley, 1960; Linsley & Cazier, 1963; Llano, 1959; Morgan & Shelly, 1988; Morgan, Shelly & Kinsey, 1985; O'Neill, 1992, 1995; O'Neill & Kemp, 1992; Osterberger, 1930; Ruiz Pereira, 1925; Scarbrough & Sraver, 1979 (*Atomosia*); Shelly, 1984a (*Atractia*), 1984b, 1985a, 1985b, 1068a, 1986b, 1987; Shelly & Pearson, 1980, 1983 (*Proctacanthella*); Shelly & Weinberger, 1981 (*Mallophora*)

Brower, Brower & Westcott (1960) published a classical paper on mimicry of *Mallophora*; and Tomasovic (2001) called attention to a most interesting mimetic complex involving a species of *Pseudorus.*

The immature stages are very poorly known. Knutson (1976) provided a key to subfamilies, based on larvae and pupae. The chorionic microstructure of the eggs of a few species has been investigated by Castillo, Jerez & Artigas (1994). The following list registers the existing records of the immature stages and/or the hosts of Neotropical species:

Subfamily Asilinae

Eccritosia rubriventris (Macquart, 1850) – Artigas, 1970.
Mallophora atra Macquart, 1834 – Dennis, Barnes & Knutson, 2008: 234 (pupal case).
Mallophora bomboides - Dennis, Barnes & Knutson, 2008.
Mallophora fautrix - Dennis, Barnes & Knutson, 2008.
Mallophora leschenaulti - Dennis, Barnes & Knutson, 2008.
Mallophora media Clements & Bennett, 1969 - Clements & Bennett, 1969: 455 (pupa; host: *Barybas insulanus* Moser, 1919 (Coleoptera, Scarabaeidae)); Dennis, Barnes & Knutson, 2008.
Mallophora orcina - Dennis, Barnes & Knutson, 2008.
Mallophora ruficauda (Wiedemann, 1828) – Copello, 1927, 1942; Dennis & Knutson, 1988: 658, figs. 4A-C (pupa in ventral, lateral and dorsal views; host: Scarabaeidae larva (Coleoptera)); Dennis, Barnes & Knutson, 2008.
Mallophora sp. – Knutson, 1972: 167, fig. 1 (larva of *Phyllophaga sp.* (Coleoptera, Scarabaeidae) parasitized by larva of *Mallophora sp.*)
Mallophora sylveirii Macquart, 1838 - Dennis & Knutson, 1988: 856, figs. 3A-C (pupa in dorsal, lateral and ventral views; host: *Dyscinetus rugifrons* (Burmeister, 1847) (Coleoptera, Scarabaeridae, Dynastinae)); Dennis, Barnes & Knutson, 2008.
Megaphorus guildianus (Williston, 1885) - Dennis & Lavigne, 1976 (pupa).
Proctacanthus micans Schiner, 1867 - Dennis & Lavigne, 1976 (pupa).
Triola interrupta (Macquart, 1834) – Malloch, 1917; Davis, 1919; Osterberger, 1930 (host: *Eutheola rugiceps* (Le Conte, 1856) (Coleptera, Scarabaeridae); Dennis & Knutson, 1988: 854, figs. 2A-C (pupa in ventral, lateral and dorsal views).
Triorla striola (Fabricius, 1805) - Dennis & Knutson, 1988: 854, figs. 2A-C (pupa in ventral, lateral and dorsal views).

Subfamily Dasypogoninae

Diogmites vulgaris Carrera, 1947 - Dennis & Knutson, 1988: 853, fig. 1 (pupa in ventral, lateral and dorsal views; host: *Dyscinetus rugifrons* (Burmeister, 1847) (Coleoptera, Scarabaeridae, Dynastinae)).
Pseudorus distendens (Wiedemann, 1828) - Knutson, 1976: 509 (*Doryclus*; pupal case; host: Cerambycidae larva (Coleoptera)); Notario, Michela, Fiorentino & Castresana, 2000: 17 ("emergieron de trozas en las que sólo se encontraron *B*[*rasilianus*] *lacordairei* [(Gahan, 1892)], *B*[*rasilianus*] *murinus* [(Gahan, 1892)] [Coleoptera, Cerambycidae] y *C*[*hrysobotris*] *holoclalcea*? [Burmeister, 1872] [Coleoptera, Buprestidae]").

Subfamily Laphriinae

Andrenosoma xanthocnemum (Wiedemann, 1828) - Notario, Michela, Fiorentino & Castresana, 2000: 17 ("emergieron de trozas en las que sólo se encontraron *B*[*rasilianus*] *lacordairei* [(Gahan, 1892)], *B*[*rasilianus*] *murinus* [(Gahan, 1892)] [Coleoptera, Cerambycidae] y *C*[*hrysobotris*] *holoclalcea*? [Burmeister, 1872] [Coleoptera, Buprestidae]").

Subfamily Leptogastrinae

Leptopteromyia gracilis Williston, 1907 - Carrera, 1947b: 91, figs. 1-7, 94 (puparium).

Subfamily Stenopogoninae

Prolepsis lucifer (Wiedemann, 1828) - Soria & Mello, 1998: 285, figs. 14-20 (biol., larva, pupa) and Soria, Mello & Oliveira, 2004: 323 (larvae preying upon nymphs of *Eurhizococcus brasiliensis* (Hempel, 1922) (Hemiptera, Margarodidae)).

The pupal stage of Asilidae has been recorded as lasting from 1 to 2 weeks (Skidmore, 1960) to about 7 weeks (Melin, 1923). According to Dennis & Knutson (1988: 860), "The biological notes from the South American Parasite Laboratory [cf. Parker, Berry & Silveira Guido, 1953] show that the pupal stage of *M*[*allophora*] *ruficauda* lasts 2-4 wk. Accurate records were not kept for *D*[*iogmites*] *vulgaris* and *M*[*allophora*] *sylveirii*, but their pupal stage apparently lasts 9-10 wk."

List of genera per subfamily

ASILINAE

Albibarbefferia Artigas & Papavero, 1997
Amblyonychus Hermann, 1921
Anarmostus Loew, 1860
Apotinocerus Hull, 1962
Atractocoma Artigas, 1970
Carinefferia Artigas & Papavero, 1997
Carreraomyia Cole, 1969
Cerozodus Bigot, 1857
Chilesus Bromley, 1932
Cnodalomyia Hull, 1962
Cratolestes Hull, 1962
Cratopoda Hull, 1962
Ctenodontina Enderlein, 1914
Diplosynapsis Enderlein, 1914
Eccritosia Schiner, 1866
Efferia Coquillett, 1893
Eicherax Bigot, 1857
Eichoichemus Bigot, 1857
Epipamponeurus Becker, 1919
Eraxasilus Carrera, 1959
Glaphyropyga Schiner, 1866
Lecania Macquart, 1838
Leinendera Carrera, 1945
Leptoharpacticus Lynch Arribálzaga, 1880
Lestophonax Hull, 1962
Lochmorhyncvhus Engel, 1930
Lochyrus Artigas, 1970
Lycomya Bigot, 1857
Machimus Loew, 1849
Mallophora Macquart, 1838
Martintella Artigas, 1996
Megalometopon Artigas & Papavero, 1995
Megaphorus Bigot, 1857
Menexenus Artigas, 1970
Myaptex Hull, 1962
Myaptexaria Artigas & Papavero, 1995
Neoitamus Osten Sacken, 1878
Neotes Artigas & Papavero, 1995
Nerax Hull, 1962
Nomomyia Artigas, 1970
Ommatius Wiedemann, 1821
Philonicus Loew, 1849
Polacantha Martin, 1975
Porasilus Curran, 1934
Proctacanthella Bromley, 1934
Proctacanthus Macquart, 1838
Proctophoroides Artigas & Papavero, 1995
Prolatiforceps Martin, 1975
Promachus Loew, 1848
Pteralbis Ayala, 1981
Regasilus Curran, 1931
Rhadinosoma Artigas, 1970
Scarbroughia Papavero, 2008
Stenasilus Carrera, 1960
Stizolestes Hull, 1962
Taurhynchus Artigas & Papavero, 1995
Threnia Schiner, 1868
Triorla Parks, 1968
Tsacasia Artigas & Papavero, 1995
Wilcoxius Martin, 1975

Wygodasilus Artigas & Papavero, 1995
Wyliea Martin, 1975
Zoticus Artigas, 1970

DASYPOGONINAE

Aczelia Carrera, 1955
Alvarenga Carrera, 1960
Amorimius Papavero, 2008
Annamyia Pritchard, 1941
Aphamartania Schiner, 1866
Apolastauroides Artigas & Papavero, 1988
Araucopogon Artigas & Papavero, 1988
Aspidopyga Carrera, 1949
Austenmyia Carrera, 1955
Blepharepium Rondani, 1848
Caenarolia Thomson, 1869
Cleptomyia Carrera, 1949
Cophura Osten Sacken, 1887
Cyrtophrys Loew, 1851
Deromyia Philippi, 1865
Diogmites Loew, 1866
Hodophylax James, 1933
Lastaurina Curran, 1935
Lastaurus Loew, 1851
Megapoda Macquart, 1834
Neoderomyia Artigas, 1971
Neodiogmites Carrera, 1949
Nicocles Jaennicke, 1867
Parataracticus Cole, 1924
Phonicocleptes Lynch Arribálzaga, 1881
Pronomopsis Hermann, 1912
Pseudorus Walker, 1851
Saropogon Loew, 1847
Senobasis Macquart, 1838
Taracticus Loew, 1872
Theromyia Williston, 1891
Tocantinia Carrera, 1955

LAPHRIINAE

Andrenosoma Rondani, 1856
Aphestia Schiner, 1866
Aphractia Artigas, Papavero & Serra, 1991
Atomosia Macquart, 1838
Atomosiella Wilcox, 1937
Atoniomyia Hermann, 1912
Atractia Macquart, 1838
Bathropsis Hermann, 1912
Cerotainia Schiner, 1868
Cerotainiops Curran, 1930
Cryptomerinx Enderlein, 1914
Cyphomyiactia Artigas, Papavero & Serra, 1991
Dasyllis Loew, 1851
Dasythrix Loew, 1851
Dissmeryngodes Hermann, 1912
Eumecosoma Schiner, 1866
Hodites Hull, 1962
Hybozelodes Hermann, 1912
Ichneumolaphria Carrera, 1951
Joartigasia Martínez & Martinez, 1974
Lampria Macquart, 1838
Lamprozona Loew, 1851
Lycosimyia Hull, 1958
Neophoneus Williston, 1889
Oidardis Hermann, 1912
Phellopteron Hull, 1962
Pilica Curran, 1931
Pogonosoma Rondani, 1856
Rhatimomyia Lynch Arribálzaga, 1882
Rhopalogaster Macquart, 1834
Smeryngolaphria Hermann, 1912
Strombocodia Hermann, 1912

LAPHYSTIINAE

Apoxyria Schiner, 1866
Asicya Lynch Arribálzaga, 1880
Chrysotriclis Artigas, Papavero & Costa, 1995
Cochleariocera Artigas, Papavero & Costa, 1995
Cymbipyga Artigas, Papavero & Costa, 1995
Gymnotriclis Artigas, Papavero & Costa, 1995
Helolaphyctis Hermann, 1920
Hexameritia Speiser, 1920
Laphygmolestes Hull, 1962
Laphystia Loew, 1847
Macahyba Carrera, 1947
Martinomyia Özdikmen, 2006
Perasis Hermann, 1905
Protometer Artigas, Papavero & Costa, 1995
Psilocurus Loew, 1847
Triclioscelis Roeder, 1900

LEPTOGASTRINAE

Apachekolos Martin, 1957
Beameromyia Martin, 1957
Eurhabdus Aldrich, 1923
Leptogaster Meigen, 1803

Leptopteromyia Williston, 1907
Psilonyx Aldrich, 1923
Schildia Aldrich, 1923
Systologaster Papavero, 2008
Tipulogaster Cockerell, 1913

STENOPOGONINAE

Ablautus Loew, 1866
Acronyches Williston, 1908
Alyssomyia Hull, 1962
Araujoa Artigas & Papavero, 1991
Archilestris Loew, 1874
Archilestroides Artigas & Papavero, 1991
Aymarasilus Artigas, 1974
Bohartia Hull, 1958
Carebaricus Artigas & Papavero, 1991
Creolestes Hull, 1962
Cylicomera Lynch Arribálzaga, 1881
Cystoprosopa Hull, 1962
Dapsilochetus Hull, 1962
Dasycyrton Philippi, 1865
Dasypecus Philippi, 1865
Dicranus Loew, 1851
Enigmomorphus Hermann, 1912
Euthrixius Artigas, 1971
Grajahua Artigas & Papavero, 1991
Graptostylus Hull, 1962
Heteropogon Loew, 1847
Holopogon Loew, 1847
Itolia Wilcox, 1936
Ivettea Artigas & Papavero, 1991
Leptochelina Artigas, 1970
Lonquimayus Artigas & Papavero, 1991
Metapogon Coquillett, 1904
Microstylum Macquart, 1838
Nannodioctria Wilcox & Martin, 1942
Nothopogon Artigas & Papavero, 1991
Obelophorus Schiner, 1868
Ospriocerus Loew, 1866
Plesiomma Macquart, 1838
Pritchardia Stuardo Ortiz, 1946
Prolepsis Walker, 1851
Raulcortesia Artigas & Papavero, 1991
Scleropogon Loew, 1866
Scylaticina Artigas & Papavero, 1991
Scylaticodes Artigas & Papavero, 1991
Sintoria Hull, 1962
Stenopogon Loew, 1847
Taperigna Artigas & Papavero, 1991
Tillobroma Hull, 1962
Willistonina Back, 1909
Zabrotica Hull, 1958

STICHOPOGONINAE

Argyropogon Artigas & Papavero, 1990
Lissoteles Bezzi, 1910
Stichopogon Loew, 1847
Townsendia Williston, 1895

TRIGONOMIMINAE

Holcocephala Jaennicke, 1867
Meliponomima Artigas & Papavero, 1989
Orrhodops Hull, 1958
Seabramyia Carrera, 1960

1. Key to subfamilies

1. Abdominal tergite 1 five or more times as long as wide. Alula and pulvilli lacking. Abdominal sternite 1 extending about halfway back under tergite 2 .... LEPTOGASTRINAE [p. 239]
Abdominal tergite 2 no more than four times as long as wide. Usually both alula and pulvilli present, but occasionally one of them may be absent. Abdominal sternite 1 confined beneath tergite 1 2

2 (1). Fore tibia with an apical "spur", i. e., one of the spines at the apex of the ventral side of the fore tibia differentiated, more or less enlarged and stouter than remaining spines, or if not noticeably larger, twisted and sigmoid. Prosternum dissociated by a membranous area from proepisternum (except in *Blepharepium* Rondani) .... DASYPOGONINAE [p. 109]
Fore tibia without an apical "spur", i. e., all apical spines on fore tibia straight, or, if one is slightly curved, then it is not thickened or sigmoid. Prosternum either dissociated from proepisternum or fused to it 3

3 (2). Apex of R2 + 3 directed sharply forward, meeting C at an angle of about 90º, ending either at distal end of R1 (cell r1 closed) or a short distance from R1 along C (cell r1 open). Vein R_4 strongly sinuate and arched forward after separation from R_5. Cells m3 and cup always closed before wing margin. Prosternum fused to proepisternum. Male with only six abdominal tergites visible dorsally .... LAPHYSTIINAE [p. 196]
Apex of R2 + 3 not directed sharply forward before ending in C or R1; R4 not unusually arched and sinuate; cells m3 and cup open to wing margin, or one of the two closed, or both closed. Prosternum dissociated from proepisternum or fused to it. Male with six to eight tergites visible dorsally 4

4 (3). R2+3 ending in C (except in *Enigmomorphus* Hermann) and neither a strong bristle present on the supero-posterior angle of anepisternum nor a row of bristles present on the katatergite 5
R2+3 joining R1 proximal to end of R1, with cell r1 thus separated from wing margin. Either anepisternum with at least 1 strong bristle on its supero-posterior angle, or katatergite with a vertical row of bristles or bristly hairs 7

5 (4). Prosternum dissociated from proepisternum by a membranous area .... STENOPOGONINAE [p. 254]
Prosternum fused to proepisternum, forming a precoxal bridge 6

6 (5). Frons narrowed at level of insertion of antennae and then suddenly and widely divergent toward apex, which is extremely shallow, i. e., eyes much more distant at vertex than at antennal level. Face without tentorial pits or grooves, flat above and prominent below or very gibbous. Posterodosal corner of metepimeron bare. Abdomen slender. Female terminalia with characteristic ventral keel and spines .... STICHOPOGONINAE [p. 305]
Frons approximately of same width at level of antennal insertion and vertex, the latter excavated, i. e., eyes not noticeably more distant at vertex than at antennal level. Face with pronounced tentorial pits or grooves extending well above lower facial margin. Face in profile not produced beyond eye margin. Posterolateral corners of metepimeron with short hairs. Abdomen very short, usually ¾ or less width of wing. Female terminalia simple, tubular, without spines .... TRIGONOMIMINAE [p. 309]

6 (5). Supero-posterior angle of anepisternum, in front of wing insertion, with at least 1 strong, long bristle and katatergite never with vertical row of bristles. Prosternum fused to proepisternum. Palpus with 1 or 2 segments. Female terminalia without spines .... LAPHRIINAE [p. 153]
Supero-posterior angle of anepisternum never with a strong long bristle; katatergite with a vertical row of bristles or bristle-like hairs (rarely reduced to only 1 bristle). Prosternum dissociated from proepisternum or fused to it. Palpus always one-segmented. Female terminalia with or without spines .... ASILINAE [p. 7]

2. Subfamily Asilinae [Figs. 1-509]

Key to the genera

The following genera were not included in the key below: (i) *Labromyia* Hull, 1962, which we were not able to recognize; (ii) *Epipamponeurus* Becker, 1919 (*Asilus*-group), because we had only one headless and badly preserved specimen in the collection of the Museu de Zoologia da Universidade de São Paulo; (iii) *Machimus* Loew, 1849; *Neomochtherus* Osten Sacken, 1878; *Philonicus* Loew, 1849; *Prolatiforceps* Martin, 1975, and *Stenasilus* Carrera, 1960 (*Asilus*-group), because their generic limits require a thorough revision; (iv) *Regasilus* Curran, 1931, because no specimen was available.

1. Anatergite bare 2
Anatergite pilose 47

2 (1). Antennal style plumose. Postmetacoxal area heavily sclerotized, forming a complete bridge behind hind coxae (*Ommatius*-group) .... *Ommatius* Wiedemann, 1821
Antennal style bare. Postmetacoxal area membranous 3

3 (2). Costal section situated between tips of R5 and M1 two or more times longer than costal section situated between tips of R5 and R4, i. e., R5 ends at or above wing apex (Figs. 64, 71, 79-80, 120) 4
Costal section between tips of R5 and M1 subequal to or much shorter than costal section situated between tips of R5 and R4, i. e, R5 ends below wing apex (Figs. 182-187) 18

4 (3). Male hypandrium short and broad, not produced (Figs. 22, 24, 48-49), without an apical tuft of hairs. Aedeagus with 2 more or less long tubes arising from a common base (Figs. 22-26, 49-50, 52-53. Female tergite 10 with strong spines ("acanthophorites") (Figs. 16-17, 29-30) (except in *Proctacanthus coquillettii* Hine and *Proctacanthus occidentalis* Hine (Fig. 45), both Nearctic, which have tergites 9 and 10 covered with numerous spinules). Only 2 spermathecae present, with globular or ovoid capsules (Figs. 24, 31, 55-56, 59) (*Proctacanthus*-group, part, except *Proctacanthella* Bromley) 5
Male hypandrium variable, but most often produced (Figs. 60, 73, 81, 112, 121, 126, 128, 135, 143-144, 150, 152, 158, 167-168), sometimes with a dense apical tuft of hairs (Figs. 126, 135, 143-144, 158). Aedeagus with 3 tubes (sometimes extremely short) (Figs. 62-63, 74-75, 84-85, 114-116, 123, 129, 137, 145, 159, 169). Female tergite 10 never with spines or spinules (Figs. 65-66, 68-69, 77-78, 109-110, 117-118, 130-131, 138-139, 146, 153-154, 160-163, 170)). Spermathecae with 3 capsules (Figs. 66-67, 70, 76, 111, 119, 132, 140, 147, 155, 171) 7

5 (4). Proboscis with two lateral wing-like expansions, in cross-section clearly T-shaped (Figs. 19, 27-28). Male terminalia as in Figs. 22-24. Aedeagus as in Figs. 25-26. Female terminalia as in Figs. 29-30. Spermathecae as in Fig. 31. (South America, except Chile .... *Taurhynchus* Artigas & Papavero, 1995
Proboscis thick, upturned (Figs. 32-33, 40), hemispherical in cross-section 6

6 (5). Mystax formed by very dense, long, oral hairs and short ones above, the mystax forming a tuft that hides the integument where bristles and hairs are implanted. Male terminalia as in Figs. 22-24. Female terminalia as in Figs. 15-17. Spermathecae as in Figs. 15, 18. Length, 24-28 mm. (Neotropical, including Chile; introduced in Australia) .... *Eccritosia* Schiner, 1866
Mystax usually with sparse, strong oral bristles and fine hairs above. Male terminalia as in Figs. 46-51. Female terminalia as in Figs. 45, 54-58. Spermathecae as in Figs. 52-53, 56. (Americas, except Chile) .... *Proctacanthus* Macquart, 1838

7 (4). Aedeagus most often characteristically curved, more or less crescent-shaped, formed by a very long common tube which opens at apex into 3 very short tubes, forming a "parrot beak" like structure (figs. 62-63, 74-75, 84-85, 115-116, 123. Male terminalia slender and elongate, forming an angle (up to 90º) with the body axis (Figs. 60, 81, 112, 121). Female ovipositor strongly flattened laterally, blade-like, tergite 8 more or less elongate and slender (Figs. 65-66, 68-69, 77-78, 109-110, 117-118). Spermathecal complex with an extremely long and slender endosternite, whose arms are placed very closely together (Figs. 70, 76, 111, 119). Wing normally with a stump vein at the angle of R4 near its junction with R5 (Figs. 71, 80) (if stump vein absent, all the other preceding characters of the female or of the male present), or, in the case of *Efferia* Coquillett, with a complete extra vein

uniting R4 with R2+3 (i. e., three submarginal cells present) (*Efferia*-group) 8
Aedeagus with 3 clearly separated, more or less divergent tubes, which may be more or less long, but never extremely short as above, arising from a more or less long common tube (Figs. 129, 137, 145, 159, 169). Male terminalia on the same axis of the body (Figs. 126, 135, 143, 150, 158, 167). Female ovipositor generally conical; if laterally flattened, tergite 8 not very long, segment 8 of the abdomen never slender (Figs. 130-131, 138-139, 146, 153-154, 160-163, 170). Spermathecal complex with endosternite never extremely long and slender arms of endosternite normally only a little longer than their common base and more or less widely separated, never almost contiguous as above (Figs. 132, 140, 147, 155, 171). R4 near its junction with R5 never with a stump vein (*Lochmorhynchus*-group) 17

8 (7). Fork of R4 and R5 much or just before apex of discal cell (Fig. 64). R5 ends above wing apex (Fig. 64). Mesonotum anteriorly either with short hairs (or, if long, not btrstle-like), or with bristles or bristle-like hairs as long as or longer than scape and pedicel together. Male abdomen either grayish pollinose and frequently with long, parted hairs, or with tergites 2-5 blackish basally, without parted hairs and segments 6-7 white pollinose. Male terminalia as in Figs. 60-64. Ovipositor either rounded at tip, not split in dorsal view, or pointed and split at tip in dorsal view (Figs. 65-66). Spermathecae as in Figs. 66-67 (Nearctic) .... *Pogonioefferia* Artigas & Papavero, 1997
Fork of R4 and R5 opposite to or beyond apex of discal cell (Figs. 71, 80, 120). R5 ends at (Fig. 120) or above wing apex (Figs. 71, 80). Other combinations of characters 9

9 (8). Apical half of scutellum with many long, black bristles, disc with many long hairs, often similar to bristles. R5 ends above wing apex. Male terminalia not compressed, epandria with deep apical excision, no mane on gonopods (cf. Artigas, 1970: figs. 227, 234). Aedeagus with 3 tubes (cf. Artigas, 1970: figs. 228, 233; 1971: figs. 76, 78). Ovipositor conical, tergite 10 sometimes with minute spines (cf. Artigas, 1970: figs. 230, 231, 235). Spermathecae with 3 rounded capsules with very short basal common duct (cf. Artigas, 1971: figs. 75-77). Length, 15-20 mm. (Exclusively Chilean flies) .... *Cratolestes* Hull, 1962
Two to twelve marginal scutellar bristles, scutellum never as above. R5 ends at or above wing apex. Other combinations of characters. Not occurring in Chile 10

10 (9). Ocellar tubercle without bristles, only short hairs present. Male hypandrium produced. Female ovipositor conical (Figs. 68-69). Spermathecae as in Fig. 70. Length, 20-25 mm. (U. S. A. to Guatemala, Panama, and Surinam to Paraguay) .... *Triorla* Parks, 1968
Ocellar tubercles with bristles. Other combinations of characters 11

11 (10). Vein R4 ends in C, far from R1, i. e., first submarginal cell open (Fig. 120). R5 ends at or above wing apex 12
Vein R4 ends in R1, i. e., first submarginal cell closed and petiolate (Figs. 71, 80). R5 ends above wing apex (Figs. 71, 80). Anatergite bare or pilose. Male terminalia as in Figs. 72-75, 81-85. Female terminalia as in Figs. 77-78. Spermathecae as in Fig. 76. (Venezuela, Colombia, Peru) .... *Diplosynapsis* Enderlein, 1914 [see also couplet 49]

12 (11). R5 curves backwards at the tip and meets the Costa slightly below the apex of wing, i. e., costal section between tips of R5 and M1 shorter than costal section between tips of R1 and R5 (Fig. 120). Male terminalia as in Figs. 121-123 (Americas, but not in Chile) ....*Nerax* Hull, 1962
R5 curved forward, meeting the Costa above the apex of wing, i. e., costal section between tips of R5 and M1 longer than costal section between tips of R1 and R5 13

13 (12). Wing with only 2 submarginal cells 14
Wing with 3 submarginal cells, i. e., an extra cross vein arises in R4 near its junction with R5, which united R4 with R2+3. Male terminalia as in Figs. 112-116. Female terminalia as in Figs. 117-118. Spermathecae as in Fig. 119 (Nearctic) .... *Efferia* Coquillett, 1893

14 (13). Mesonotum compressed laterally and the mid-dorsal line with a narrow crest of long hairs or bristles (Neactic) .... *Carinefferia* Artigas & Papavero, 1997
Mesonotum not compressed laterally, hairs anteriorly very short, but if long not covering the dorsocentral as well as the central row 15

15 (14). Mesonotum anteriorly with numerous erect hairs as long as scape and pedicel together. Scutellum usually with numerous marginal bristles. Tarsal bristles usually white (Nearctic) .... *Aridefferia* Artigas & Papavero, 1997
Mesonotum anteriorly with hairs shorter than scape and picel together. Scutellum usually with not more than 6 marginal bristles. Bristles of tarsi usually black 16

16 (15). Male abdomen ventrally with prominent tubercles on segments 4-6. Rather small, slender species (Nearctic) .... *Tuberculefferia* Artigas & Papavero, 1997
Male abdomen without ventral tubercles. Small to large species, the small species frequently with short stout bristles in the upper part of the mystax (Nearctic) .... *Albibarbefferia* Artigas & Papavero, 1997

17 (7). Antennal flagellum with 3 flagellomeres: the first longer than combined length of scape and pedicel, 6-8 times as long as wide; second very short, ring-like; third ¼ length of first (Fig. 124). Male epandria 2.5-3 times as long as wide, sternite 8 (hypandrium) produced, with long, dense, apical hairs (Figs. 126-128). Aedeagus as in Fig. 129. Ovipositor cylindrical, slightly longer than segments 6-7 (Figs. 130-131). Spermathecae as in Fig. 132. Length, 14-17 mm. (Argentina) .... *Apotinocerus* Hull, 1962
Antennal flagellum with 3 or 2 flagellomeres: the basal flagellomere no more than 4 times as long as wide and subequal in length to the combined scape and pedicel; apical flagellomere (third or second, depending on the case) subequal to basal flagellomere or shorter (Figs. 133, 141, 148, 156, 164). Male terminalia very variable – from situated on the same axis of the body to forming a 90º angle with the body axis (Figs. 235, 143, 150, 158, 167). Male epandria from relatively slender and elongate to more or less globose (Figs. 135-136, 143, 150-151, 158, 166-167). Male hypandrium extremely variable: from more or less conical and robust with a small bifid process at the apex to strongly flattened with two divergent apical processes to flattened and short, forming two widely separated triangular plates emerging from a common narrow basis and hypandrium normally bearing very dense, long hairs which conceal completely the interior of the terminalia (Figs. 135, 143-144, 150, 152, 158, 167-168). Aedeagus as in Figs. 137, 145, 159, sometimes with very complicated structures (Fig. 169). Ovipositor also extremely variable: from conical to strongly compressed laterally, short or very long (Figs. 138-139, 146, 153-154, 160-163, 170). Spermathecae as in Figs. 140, 147, 155, 171. Length, 15-32 mm. (Chile, Argentina) .... *Lochmorhynchus* Engel, 1930

18 (3). Scutellum without marginal bristles, its tumid surface only covered by relatively short, semi-erect pile. Male terminalia extremely variable. Ovipositor variable. Male aedeagus with 2 long and slender tubes (Figs. 178, 193, 205, 209, 215, 223, 231, 239-240, 251, 252-254). Only 2 spermathecae present (Figs. 181, 194, 197, 235) (*Lecania*-group) 19
Scutellum with at least 1 pair of well-developed marginal bristles (although marginals may be weak in a few cases). Other combinations of characters 21

19 (18). First antennal flagellomere about as broad as long, laterally flattened, especially at apex, apex broadly truncate, giving to the flagellomere an almost cordiform look; second flagellomere minute; third very long and slender, in males with a broad basal projection which is absent in females (Figs. 172-173). Male epandrium broad basally, apical 1/3 narrow, roughly parallel-sided; hypandrium with a tongue-like projection in the central 1/3 of its posterior border; gonopods elongate, falciform (Figs. 175-177). Ovipositor beginning with segment 8, longer than abdominal segments 6-7, conical at base, apical half laterally compressed and very broad; female sternite 8 flat, triangular, about twice as long as wide, with a group of bristles on the apical half; sternite 9 laterally compressed, widened, keel-like (Figs. 179-180). Spermathecae with semi-ovoid capsules, endosternite very long and slender, the arms placed close together (Fig. 181). Wing with fork of R4 and R5 situated at same level as end of discal cell (Fig. 182). R4 near its junction with R5 sometimes with a short stump vein. Length, 14-17 mm. (Brazil: Mato Grosso, São Paulo) .... *Cerozodus* Bigot, 1857
Antenna never as above (Figs. 188, 227). Other combinations of characters 20

20 (19). Male hind femur with a more or less developed swelling on the ventral surface of its apical ¾, bearing a group of spine-like bristles or sub-tuberculate spines; this swelling varies from very slight (normally only perceptible by the presence of the patch of spine-like bristles, as in Fig. 199), through a more rounded and perceptible process (Fig. 198) to an extremely developed tubercle bearing spines (cf. Lamas, 1973: 279, Fig. 7). Epandrium, in lateral view, broad on anterior part, apical 1/3 narrowed; hypandrium with extremely developed, broad and long, apical process (Figs. 190, 202). Female ovipositor extremely characteristic – sternite 8 almost round in dorsal view (Figs. 194-196). Spermathecae with large, semi-ovoid capsules; endosternite relatively short, its arms largely separated, but convergent at apex (Figs. 194, 197). Wing with fork of R4 and R5 situated beyond apex of discal cell (Fig. 182). Length, 13-15 mm. (Colombia, Peru) .... *Ctenodontina* Enderlein, 1914
Male hind femur without a swelling and without a patch of spines or spine-like bristles on the ventral surface of its apical ¾. Female ovipositor never as abobe, but conical at base, laterally compressed apically, sometimes including segment 7 (Figs. 232-234). Male terminalia extremely variable (Figs. 206-209, 210-216, 217-223, 224-231, 236-240, 241-246, 247-251, 252-254). Fork of R4 and R5 before (Fig. 184, 185), at same level as (Figs. 186) or beyond (Fig. 183, 187) apex of discal cell. Spermathecae as in Fig. 235. Length, 15-25 mm (Neotropical, but not

in Chile) ....*Lecania* Macquart, 1838, *sensu lato*

21 (18). Subalar sclerite with characteristic conical projection. Posterior basalare with at least some bristles and hairs, sometimes very dense. Wing with cell r 2 + 3 broad apically, and vein R4 with a complete extra vein near its junction with R5, uniting R4 with R2+3 (i. e., 3 submarginal cells present). Male terminalia small, in line with body axis or at a slight angle (Figs. 266, 277, 293, 303, 313). Aedeagus with 3 more or less long tubes (Figs. 260, 269, 278-279, 287, 296, 306-307, 316-317). Female ovipositor conical, weakly sclerotized, beginning with segment 6, 7 or 8; tergite 10 never with spines (Figs. 261-262, 271, 280-281, 288-289, 297-299, 308-309, 319-320). Generally very pilose flies. Three spermathecae present, with more or less sausage-like capsules (Figs. 263, 272, 282, 290, 300, 310, 321) (*Mallophora*-group) 22
Never with the above combination of characters 27

22 (21). Claws acute. Facial gibbosity weak, usually confined to lower half of face; mystax extending up to antennal basis, bristles usually confined to oral margin. Male epandria (Figs. 257-259) short, slender, frequently with dense white hairs above. Aedeagus as in Fig. 6. Female ovipositor (Figs. 261-262) beginning with segment 6, 7 or 8. Three falciform spermathecae (Fig. 263), with long and thick common basal duct. Length, 15-40 mm. (Nearctic, extending down into Mexico and Central America) .... *Promachus* Loew, 1848
Claws obtuse. Other combinations of characters 23

23 (22). Face. 1/6 width of head. Frons between antennae and ocelli as long as wide. Male epandrium (Figs. 266-268, 275-277) 8 times as long as wide; aedeagus with 3 divergent, more or less long tubes (Figs. 269, 278-279, 287). Female ovipositor (Figs. 270-271) beginning with segment 8. Spermathecae as in Figs. 272 and 282 . Hind femora slightly swollen, hind tibiae straight. Length, 15-25 mm. (Neotropical, but not in Chile) ...... *Amblyonychus* Hermann, 1921
Face 1/5 width of head or more. Frons between antennae and ocelli wider than long. Male epandria variable. Female ovipositor beginning with segment 6. Hind femur and tibia variable 24

24 (23). Lower half of face swollen, long hairs of mystax confined to gibbosity; oral bristles present at times, short sparse hairs between antennae and gibbosity. Fore and middle femora swollen, hind femur slender, hind tibia bowed, with 1-4 strong bristles on anterior side. Male terminalia and aedeagus as in Figs. 285-287 (see also Artigas & Angulo, 1980). Female ovipositor and spermathecae as in Figs. 288-290. Length, 15-40 mm. (Neotropical, but not in Chile, extending into Nearctic) .... *Mallophora* Macquart, 1834
Face slightly and evenly convex. Other combinations of characters 25

25 (24). Hind femur slender and much longer than the swollen fore and middle femora. Mystax thin. Scutellum with sparse, erect hairs. Male terminalia (Figs. 293-295) short, with dense white hairs above. Aedeagus with 3 relatively short tubes (Fig. 296). Female ovipositor short and conical (Figs. 297-299). Spermathecae as in Fig. 300. Length, 9-14 mm. (Mexico: Guerrero, Morelos, Oaxaca) ....*Carreraomyia* Cole, 1968
All femora swollen, hind femur not much longer than fore and middle femora. Other combinations of characters...26

26 (25). The dense, erect scutellar hairs parted at the middle. Hind femur with dorsal anterior row of bristles. Tarsomeres 2-4 as long as wide. Face 1/3 width of head. Male epandria (Figs.303-305) about three times as long as wide. Aedeagus as in Figs. 306-307. Female ovipositor (Figs. 308-309) short. Spermathecae as in Fig. 310. Length, 12-16 mm. (U. S. A.: Arizona; Mexico: Sonora) .... *Promachella* Cole & Pritchard, 1964
Dense erect scutellar hairs unparted. Hind femur with only apical anterior dorsal bristles. Tarsomeres 2-4 about twice as wide as long. Face ¼ to nearly 1/3 width of head. Male epandria (Figs. 313-315) about twice as long as wide. Aedeagus as in Figs. 316-318. Female ovipositor short (Figs. 319-320). Spermarthecae with long and robust falciform capsules and very thick common basal duct (Fig. 321). Length, 9-16 mm. (U. S. A., Mexico) ..... *Megaphorus* Bigot, 1857

27 (21). Wing with vein R4 with a complete extra vein near its junction with R5, uniting it to R2+3 (i. e., 3 submarginal cells present); if only 2 submarginal cells present, then R4, near it junction with R5, with a stump vein and claws obtuse. Aedeagus with 3 tubes (Figs. 325-326). Three spermathecal capsules present (as far as known) (Fig. 329). Male terminalia large, at a 30º angle with body axis, gonopods with dense fringe of long hairs (Figs. 322-324). Female ovipositor laterally compressed, shining, strongly chitinized, as long as segments 6-7 or 5-7 (Figs. 327-328) (*Eichoichemus*-group) 28
Wing with only 2 submarginal cells and claws never obtuse. Other combinations of characters 30

28 (27). Only 2 submarginal cell in the wing, i. e., vein R4, near its junction with R5, only with a stump vein ending in cell r2+3. Claws obtuse (Bolivia) .... *Wygodasilus* Artigas & Papavero, 1995
Three submarginal cells present in the wing, i. e., vein R4 with a complete extra vein uniting it with vein R2+3. Claws acute or obtuse 29

29 (28). Claws obtuse. Male Costa not dilated. Male terminalia as in Figs. 322-324. Aedeagus as in Figs. 325-326. Female terminalia as in Figs. 327-328. Spermathecae as in Fig. 329 (South America, but not in Chile) .... *Eichoichemus* Bigot, 1857
Claws acute. Male Costa dilated. (Brazil: Mato Grosso, Minas Gerais, São Paulo) ... *Proctophoroides* Artigas & Papavero, 1995

30 (27). Male terminalia elongate, forming an angle of almost 90º with the body axis (Fig. 121). Aedeagus a very long, crescent-shaped tube with 3 very short tubes at apex (Fig. 123). Female ovipositor strongly flattened laterally, blade-like, tergite 8 elongate and slender. Spermathecal complex with an extremely long and slender endosternite, whose arms are placed very closely together (*Efferia*-group, part) .... *Nerax* Hull, 1962
Never with the above combination of characters 31

31 (30). Abdominal tergites 2-3 or more without lateromarginal bristles 32
Abdominal tergites 2-3 or more with lateromarginal bristles 34

32 (31). Scutellum with many discal and marginal bristles. Male terminalia small, variable, hypandrium quite large (Figs. 4, 6, 11, 13). Ovipositor shining, conical, with circlet of strong spines on tergite 10 (Figs. 8, 9) (*Proctacanthus*-group, part) .... *Proctacanthella* Bromley, 1934
Scutellum with marginal bristles only. Female ovipositor without apical spines (*Eicherax*-group) 33

33 (32). Anterior mesonotal bristles present. Male epandria slender, about 3 times as long as wide, apex entire (Figs. 332-334). Aedeagus as in Fig. 335. Female ovipositor compressed, subequal in length to abdominal segments 6-7, and apical prolongation of tergite 8 with spines on ventral surface (Figs. 336-338). Only 2 spermathecae present, arising from an elongated common basal duct (Fig. 339). Length, 16-24 mm. (South America, but not in Chile) .... *Eraxasilus* Carrera, 1959
Anterior mesonotal hairs very short, no anterior dorsocentral bristles. Male epandria broad, apical margin broadly excised (Figs. 342-344). Aedeagus as in Fig. 345. Female ovipositor conical, slightly shorter than abdominal segments 6-7, apical prolongation of tergite 8 without spines on ventral surface (Figs. 346-348). Three spermathecae present, arising from a short common basal duct (Fig. 349). Length, 15-20 mm. (Mexico to Argentina, but not in Chile) .... *Eicherax* Bigot, 1857

34 (31). Scutellum tumid, no sign of an impressed rim (*Myaptex*-group) 35
Scutellum with a clear impressed rim (*Glaphyropyga*-group) 41

35 (34). Face decidedly gibbous (Figs. 350, 371) 36
Face evenly rounded or at most produced at subcranial margin, but never decidedly gibbous (Figs. 381-382, 391-392, 4003-404, 415-416) 38

36 (35). Face at antennal level 4/5 width of an eye, slightly widened below (Figs. 350-351), entirely golden pollinose. Mystax with bristles over entire gibbosity, bristles reaching apex of proboscis (Fig. 350). Scape twice as long as pedicel; first flagellomere subequal to scape (Fig. 350). Mesonotum with only posterior dorsocentral bristles. Scutellum with 2 marginal bristles, disc with scanty, short pile. Wings shorter than abdomen. Femora robust. Male terminalia as in Figs. 354-356; epandrium with an apical incision. Aedeagus with 3 tubes (Fig. 357). Ovipositor as in Figs. 358-359. Spermathecae with 3 characteristic capsules (Fig. 360); endosternite extremely elongated, the two arms running closely together (Fig. 360). Length, 10-11 mm. (Mexico, Nicaragua, El Salvador) ... *Wilcoxius* Martín, 1975
Face at antennal level 3/5 width of an eye and widening below, at subcranial margin 1/5 times as wide as at antennal level (Figs. 370-371), white or whitish-grey pollinose. Mystax occupying entire gibba, with mixed white and black bristles, the black ones slightly surpassing tip of proboscis (Fig. 371). Scape, mesonotum, scutellum and femora, same as above. Male epandrium never with an apical incision (Figs. 373-375). Aedeagus with only 2 tubes (Fig. 376). Ovipositor as in Figs.377-379. Spermathecae with only 2 capsules (Figs. 380) (Chile) 37

37 (36). Scutellar disc only with scattered, long, fine pile; normally 4 black marginal bristles. Anterior dorsocentral bristles present. Male terminalia with characteristic, very inflated epandria, their apices curved in apically (Figs. 364-

365). Length, 8-13 mm .... *Myapex* Hull, 1962

Scutellar disc with two tufts of abundant, proclinated, long bristly hairs; from 2 to several marginal scutellar bristles (sometimes mixed black and white). Anterior dorsocentral bristles present (in *Myaptexaria vexillaris* (Artigas)) or absent (*Myaptexaria virilis* (Artigas)). Male epandria not inflated, their apices blunt and not curved in at apex (Figs. 373-375). Aedeagus as in Fig. 376. Female terminalia as in Figs. 377-379. Spermathecae as in Fig. 380. Length, 17-19 mm .... *Myaptexaria* Artigas & Papavero, 1995

38 (35). Body and legs with characteristic, abundant, white, squamiform hairs and setae, usually compressed against the integument (see Artigas, 1970: fig. 220). Face evenly rounded, the mystax with long bristles at the subcranial margin and shorter ones above (Figs. 381-382). Frons and face narrow (Fig. 382). Mesonotum with only posterior dorsocentrals. Scutellum with 6 marginal bristles, its disc with many proclinate bristles. Fork of R4+5 beyond end of discal cell (Fig. 383). Male terminalia on the same axis of the body; epandrium 1.5 times as long as wide, upper apical angle projected; hypandrium short (Figs. 385-387). Ovipositor laterally compressed, in lateral view very broad, "hunched", extremely characteristic (Figs. 388-389). Spermathecae with 3 ovoid capsules, endosternite very short (Fig. 390). Length, 11-13 mm. (Chile, Argentina) .... *Atractocoma* Artigas, 1970

Body and legs never with squamiform hairs or setae. Other combinations of characters 39

39 (38). Mystax with a few long bristles restricted to subcranial margin, reaching tip of proboscis, and very few scattered bristles, half the length of the former, above, up to the middle of the face (Fig. 392); face very slightly produced at oral margin, almost flat on the remainder (Fig. 391). Face at antennal level ¾ width of an eye; frons narrow (Fig. 391). Anterior dorsocentral bristles absent. Disc of scutellum with very scanty, short hairs; 2 marginal bristles. Male terminalia as in Figs. 395-397; epandrium without apical incision. Aedeagus apparently with only 1 tube (Fig. 398). Ovipositor conical (Figs. 399-401). Spermathecae characteristically with 3 elongated, coiled capsules (Fig. 402); the three spermathecae emerge from a relatively long and robust common duct; endosternite Y-shaped, short and robust, very characteritic (Fig. 402). Length, 11-13 mm. Very delicate, slender flies (Chile) .... *Rhadinosoma* Artigas, 1970

Mystax with abundant bristles occupying ¾ of face (Figs. 403-404, 415-416). Other combinations of characters ... 40

40 (39). Face and frons, as seen in frontal view, nearly parallel-sided (Fig. 403). Proximal half of central surface of fore and middle femora, all the tibiae and tarsi, and coxae (especially fore and middle ones) with very neat, white, long, strong bristles, in addition to more or less long, white, dense, appressed, short, bristle-like hairs. Male terminalia as in Figs. 407-409; epandrium long and slender. Aedeagus (Fig. 410) with 2 tubes. Hypandrium without apical tuft of hairs. Female terminalia as in Figs. 411-413. Spermathecae with only 2 ovoid capsules (Fig. 414). Length, 10-11 mm. (Mexico: Sonora) .... *Scarbroughia* Papavero, 2009

Face and frons, as seen in frontal view, roughly triangular-shaped, the face widening toward subcranial margin (Fig. 415). Legs not as above. Male terminalia as in Figs. 419-421; hypandrium with a dense tuft of long apical hairs; epandrium broad. Aedeagus with 3 tubes (Fig. 422). [Females not available for dissection]. Length, 10 mm. (Mexico: Guerrero, Morelos) .... *Martintella* Artigas, 1996

41 (34). Face extremely narrow, 1/10 to 1/12 width of face (Fig. 424), gibba restricted to its lower 1/3 (Figs. 423-424). Antenna characteristically with a very long and slender basal flagellomere, subequal in length to 1.5-2 times to the combined length of scape and pedicel; stylus (3d flagellomere) of variable length – from very short, shorter than pedicel, to very long and slender (Figs. 426-428). Mesonotum with anterior dorsocentral bristles present. Legs slender, male hind basal tarsomere very long, as long as tarsomeres 2-5 or 2-4. Male terminalia as in Figs. 8-10; epandrium 4 times as long as wide, slightly curved in at apex. Ovipositor shining, conical, subequal to abdominal segment 7 (Figs. 434-435). Three spermathecae present, originating from short common duct, with oblong capsules (Fig. 436). Length, 12-20 mm. (Central and South Americas, but not in Chile) .... *Glaphyropyga* Schiner, 1866

Face broader, ¼ to 1/7 width of head. Antennae never as above. Male hind basal tarsomere never as above. Other combinations of characters 42

42 (41). First abdominal tergite, as seen from above, with a median, longitudinal depression, and sometimes with the posterior border, at is central portion, appearing as if it were interrupted (see Artigas, 1970: 345) 43

First abdominal tergite never as above 44

43 (42). Medium-sized flies (body length, 12 mm; wing length, 8 mm). Face narrow in frontal view (1/7 width of head) (Fig. 438). Proboscis only slightly surpassing apex of proboscis (Fig. 437). Mystax occupying entire gibbosity (Figs. 437-438). Mesonotum with very long, fine, bristles and hairs, the latter, on the anterior slope, almost as

long as the combined length of scape and pedicel. Scutellum with long, fine hairs on disc and at least 6 marginal scutellar bristles present. Male terminalia as in Figs. 441-443; epandrium much broadened apically, bearing spinules on its internal margin, its tip bent inwardly. Aedeagus as in Fig. 444. Ovipositor short, slightly laterally flattened (Figs. 445-447). Spermathecae as in Fig. 448 ; endosternite elongate; a long common duct; 3 elongate, slender capsules present. (Chile) .... *Neotes* Artigas & Papavero, 1995

Large and more robust flies (body length, 24.5 mm; wing length, 19.5 mm). Face at antennae level about ¼ head's width (Fig. 450). Frons extremely narrow, the eyes convergent above; the face gradually widening toward oral margin; the ensemble frons-face, in frontal view (Fig. 450) therefore appearing roughly triangular-shaped. Mystax with a few bristles restricted to subcranial margin. Proboscis extending much beyond apex of gibbosity (Fig. 450). Mesonotum with very short, decumbent, almost spinule-like hairs, slightly longer on the posterior slope. Scutellum with similar hairs on disc; only 2 marginal scutellar bristles present. Male terminalia as in Figs. 453-455; epandrium long and slender, not curved in at apex, without spines, without apical incision. Ovipositor short and very broad, laterally flattened (Figs. 456-457). [Female not available for dissection]. (Argentina) .... *Tsacasia* Artigas & Papavero, 1995

44 (42). Lateral margins of abdominal tergites 1-4 either with many long, fine hairs, or many coarse, bristly pile, in addition to 1-5 slender and long bristles, more or less compressed against the integument Upper occipital hairs dense, strongly proclinate (at almost a 90º angle). No strongly differentiated bristles mixed with those hairs on upper occiput behind uppermost part of eye. Anterior slopes of mesonotum with long and fine hairs, almost as long as scape, becoming longer and denser on posterior slope. Wing with fork of R4+5 decidedly angulate (Fig. 460), sometimes with a stump vein. Male terminalia as in Figs. 462-464; epandrium very narrow at base, then suddenly broadened, apex more slender, acuminate in dorsal view. Aedeagus as in Figs. 465-466. Ovipositor oblong-shaped (Figs. 467-469). Spermathecae as in Fig. 470; long endosternite, a long coomon tube, 3 capsules with ver characteristic 'shape. Length, 12-18.5 mm. (Chile) .... *Megalometopon* Artigas & Papavero, 1995

Lateral margins of abdominal tergites 1-4 never as above 45

45(44). Collar without bristles. R4 angulate at base, sat its juntion with R5, and with a stump vein (Fig. 473). Male with dilated femora, and costal border of wing expanded (see Artigas, 1970: fig. 361). Male terminalia as in Figs. 475-477; epandrium roughly oblongate, with short apical incision. Aedeagus as in Fig. 478. Ovipositor conical, short (Figs. 479-481). Spermathecae with 3 coiled capsules, very characteristic (Fig. 482). Length, 14.5-24.5 mm (Chile) ...*Nomomyia* Artigas, 1970

Collar with bristles. R4 never with a stump vein (Fig. 486, 500). Other combinations of characters 46

46(45) Face decidedly gibbous on its lower ¾ (Fig. 483). Femora robust, especially hind pair. Legs with many extremely conspicuous, long, white bristles, especially on the hind femur, in its anterior, posterior and ventral surfaces, in addition to more or less long, fine, appressed white hairs. Scutellum with 4-5 pairs of marginals, disc with semierect, long, fine hairs. Male terminalia as in Figs. 488-490; epandrium elongate, with a deep apical incision forming two characteristic apical processes; hypandrium with a dense apical tuft of flattened hairs. Aedeagus as in Fig. 491. Ovipositor very broadly conical (Figs. 492-495). Spermathecae with 3 long and slender, coiled capsules (Fig. 496). Length, 10-14.5 mm. (Chile, Argentina) .... *Zoticus* Artigas, 1970

Face without a decided gibba, both gently swollen on its lower half (Fig. 497). Hind femur only 1.5 times as thick as its tibia. Legs never as above. Scutellum normally with 2 marginal bristles; disc with scanty, short, fine pile. Male terminalia as in Figs. 501-503; epandrium extremely slender at base, then greatly expanded, with an extremely short apical incision; hypandrium never with apical tuft of hairs. Aedeagus as in Fig. 504. Ovipositor conical (Figs. 505-508). Spermathecae with 3 capsules of characteristic shape, very similar to those of *Megalometopon* (Figs. 509 and 470, respectively). Length, 11-12 mm. (Argentina, Uruguay) .... *Leptoharpacticus* Lynch Arribálzaga, 1880

47(1). Scutellum without an impressed rim. Costal section situated between tips of R5 and M1, two or more times longer than costal section situated between tips of R5 and R4, i. e., R5 ends at or above wing apex (Figs. 71, 79, 80, 91, 95, 98, 101, 106). Male terminalia elongate, at an angle (up to 90º) with body axis (Figs. 81, 86, 99, 102, 107). Aedeagus a very long, more or less crescent-shaped tube ending into 3 small tubes at the apex (Figs. 74-75, 84-85, 89-90, 97, 100, 104, 108). Female ovipositor strongly flattened laterally, tergite 8 elongate and slender (Figs. 77-78, 92-93, 104-105). Spermathecal complex with an extremely long and slender endosternite whose arms are placed close together (Figs. 76, 94) (*Efferia*-group, part) 48

Scutellum with an impressed rim. Costal section situated between tips of R5 and M1 subequal to or much shorter than costal section situated between tips of R5 and R4, i. e., R5 ends below wing apex. Male and female terminalia and female spermathecae of several shapes (*Asilus*-group (Asilini *sensu stricto*)) 49

48(47). Vein R4 ends in R1, i. e., first submarginal cell closed and petiolate (Fig. 71). Male terminalia as in Figs. 72-75, 81-

85. Female terminalia as in Figs. 77-78. Spermathecae as in Fig. 76. (Colombia, Venezuela, Peru, Brazil: Pará) .... *Diplosynapsis* Enderlein, 1914 [see also couplet 11]
Vein R4 ends in C, far from R1, i. e., first submarginal cell open (Figs. 91, 95, 98, 101, 106). Male terminalia as in Figs. 86-90, 96-97, 99-100, 102-103, 107-108. Female terminalia as in Figs. 92-93, 104-105). Spermathecae as in Fig. 94 (Colombia, Peru, Brazil, Uruguay) .... *Porasilus* Curran, 1934

49 (47). Abdominal tergites 2-5 without stout marginal bristles 50
Abdominal tergites 2-6 with stout bristles on postero-lateral margins 52

50 (49). Tarsal segment 5 with a pair of very stout apical bristles extending over basal half of claws; large flies, more than 25 mm long (U. S. A. (Arizona), Mexico, Guatemala) .... *Wyliea* Martin, 1975
Tarsal segment 5 without such bristles 51

51 (50). Face strongly gibbous; third antennal segment with dorsal hairs, not longer than ½ of the first segment; body densely pillose with mixed black and yellow hairs; integument of legs and abdomen metallic black; wings with weak violaceous reflections (Ecuador) ... . *Lestophonax* Hull, 1962
Upper half of face plane with eye. Third antennal segment with exceptionally long, dorsal, bristly hairs, as long or longer than first segment; body not densely pillose, almost bare; integument of legs and abdomen metallic blue; wings with strong violaceous reflections (Guyana, Peru, Brazil (Pará), Bolivia) ... *Anarmostus* Loew, 1860

52 (50). Face weakly gibbous on lower half or less, with dorsal margin of gibbosity sloping very gradually to facial plane, or evenly rounded from oral margin to almost base of antennae 5
Face moderately to strongly gibbous on more than lower half, with dorsal margin of gibbosity arising abruptly from facial place 53

53 (52). Integument largely yellow, yellowish red or light brown 54
Integument black 56

54 (53). Scutelars absent; femora slender and with weak bristles (Brazil: Rio de Janeiro, São Paulo) ... *Leinendera* Carrera, 1945
Scutelars present; femora strong or robust 55

55 (54) Large flies, more than 25 mm; wing hyaline, weakly infuscated on apical 1/3 and around the posterior cells; first flagelomere elongated, seven times as long as the second and third together; third flagelomere two times longer than the second (Chile) .... *Lycomyia* Bigot, 1857
Smaller flies, less than 25mm; wing hyaline, without infuscated areas; first flagelomere elongated, as long as the third; third flagelomere eleven times longer than the second (U. S. A., Mexico) .... *Polacantha* Martin, 1975

56 (54). Scutellum with only fine, short, delicate setae, bristles absent (Brazil: Rio de Janeiro to Santa Catarina) .... *Cnodalomyia* Hull, 1962
Scutellar margin with one or more pairs of well developed bristles 57

57 (56). Face evenly rounded from oral margin to almost base of antennae (Venezuela) .... *Pteralbis* Ayala, 1981
Face only slightly produced at oral margin or face gibbosity well developed, occupying 3/4 to 4/5 of face 58

58 (57). Face gibbosity reduced to a moderate elevation at oral margin 59
Face gibbosity well developed, occupying ¾ to 4/5 of face 60

59 (58). Mystax with long, weak and rare hairs distributed over the small facial gibbosity. Two marginal scutellar bristles (Chile, Argentina) .... *Menexenus* Artigas, 1970
Mystax with abundant, long and strong hairs. Normally more than 2 marginal scutellar bristles (Chile) .... *Chilesus* Bromley, 1932

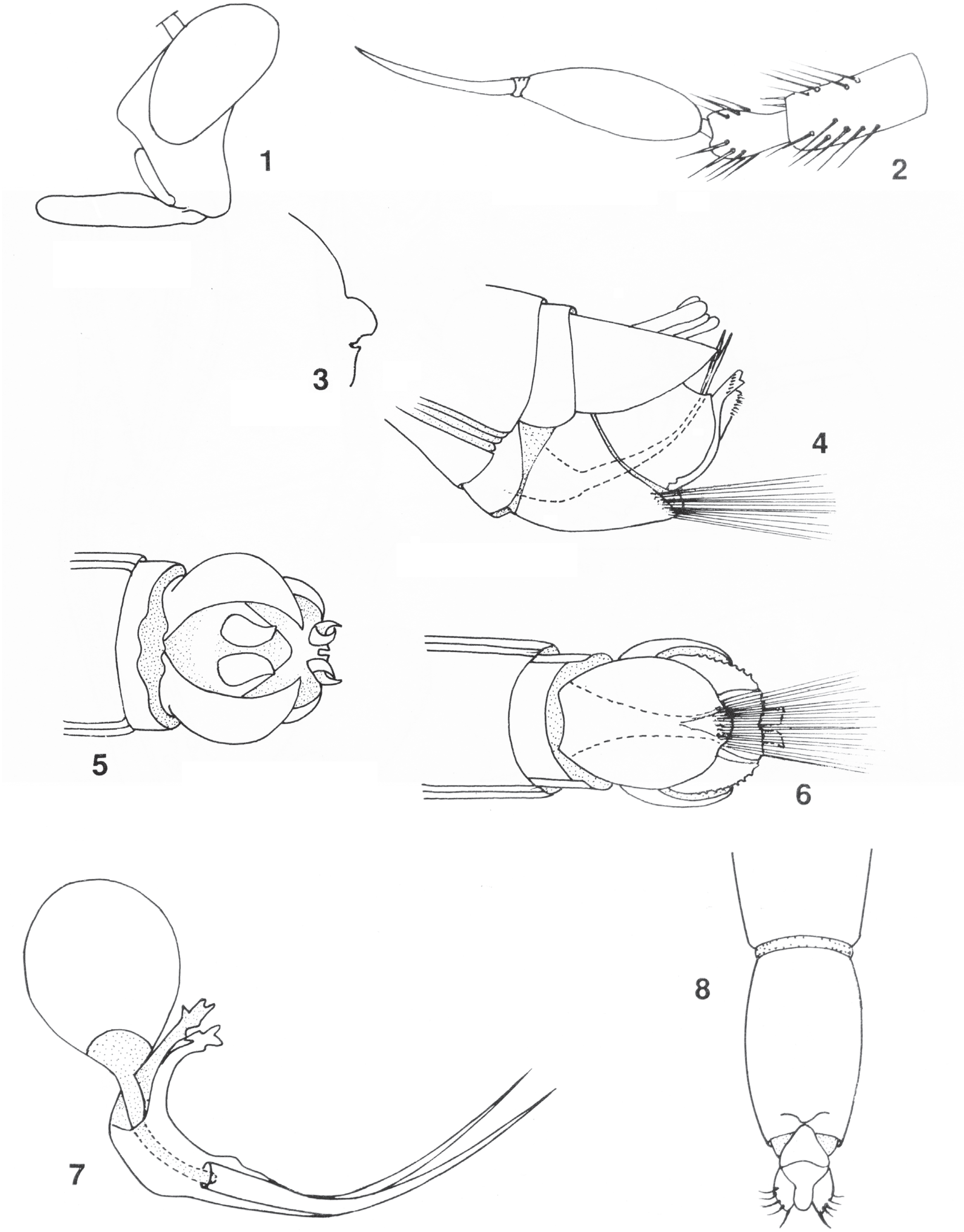
60 (58). Posterior margin of vertex with 5-6 pairs of slender, strongly latero-clinate setae which are much longer than adjacent occipital bristles; abdomen much shorter than wings; male termninalia robust, in dorsal view wider than abdominal segment 2 (epandrial arms well separated medially but open area obscured by dense setae) (Bolivia: Sara; Brazil: Minas Gerais, Rio de Janeiro, São Paulo, Santa Catrarina) ....*Threnia* Schiner, 1866
Posterior margin of vertex with only straight to weakly latero-clinate, slender setae which are never longer than

adjacent occipital bristles; abdomen as long as or longer than wings; male terminalia slender, in dorsal view much narrower than abdominal segment 2 13

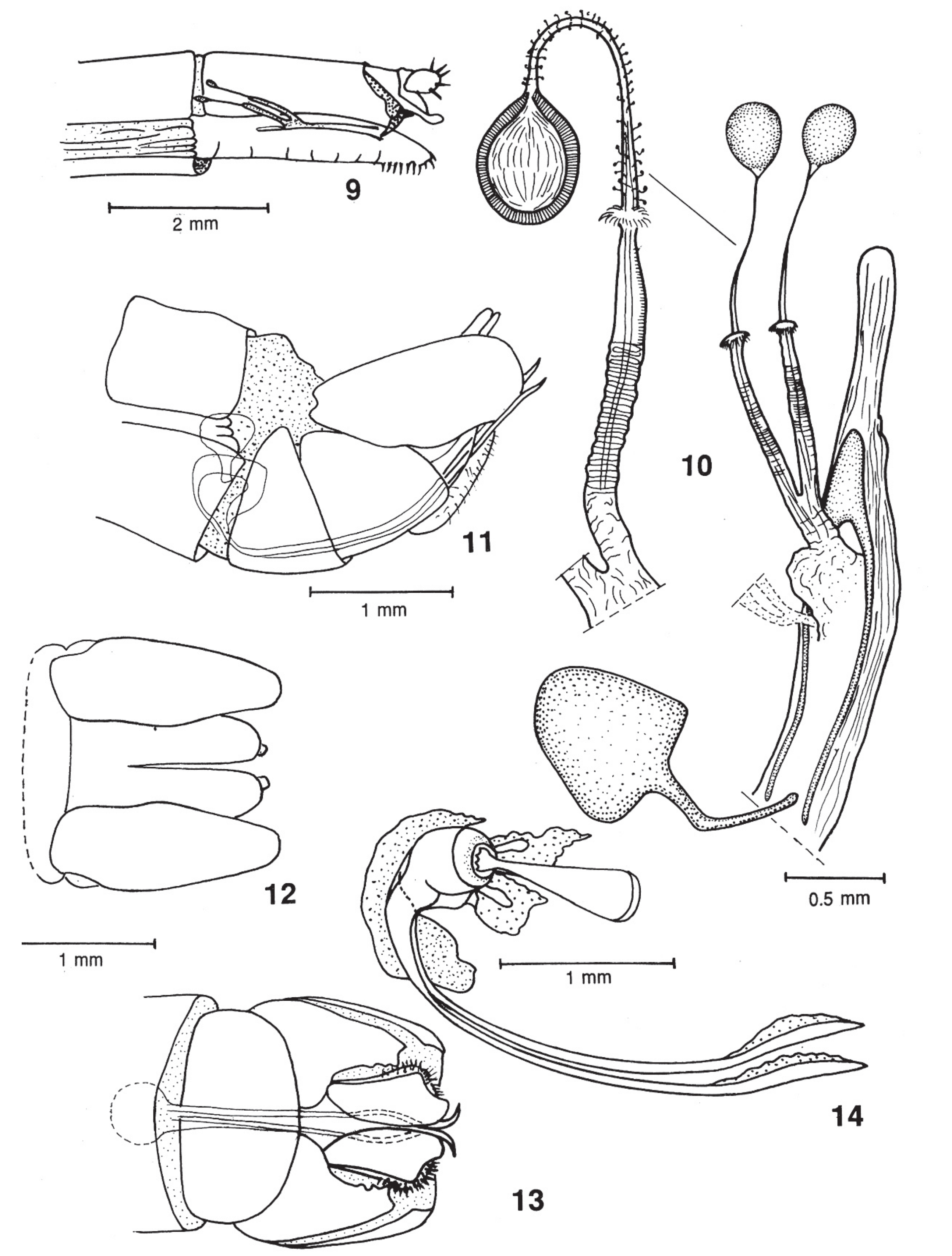
13(12). Disc of scutellum normally with two separate tufts of woolly white hairs, separated by a bare space along the midline of the scutellum. Anterior femur with a row of over 8 spinous bristles on the ventral surface (Chile) .... *Cratopoda* Hull, 1962
Vestiture of scutellum never as above 14

14 (13). From 6 to 20 robust occipital bristles along the posterior border of each eye. Male terminalia large and globose. First flagellomere pyriform, either short or of medium length (Chile) .... *Lochyrus* Artigas, 1970
Occipital bristles undefined, the rest of the occipital vestiture formed by abundant, slender hairs, bent forward. First flagellomere long and slender. (Chile, Argentina) .... *Stizolestes* Hull, 1962

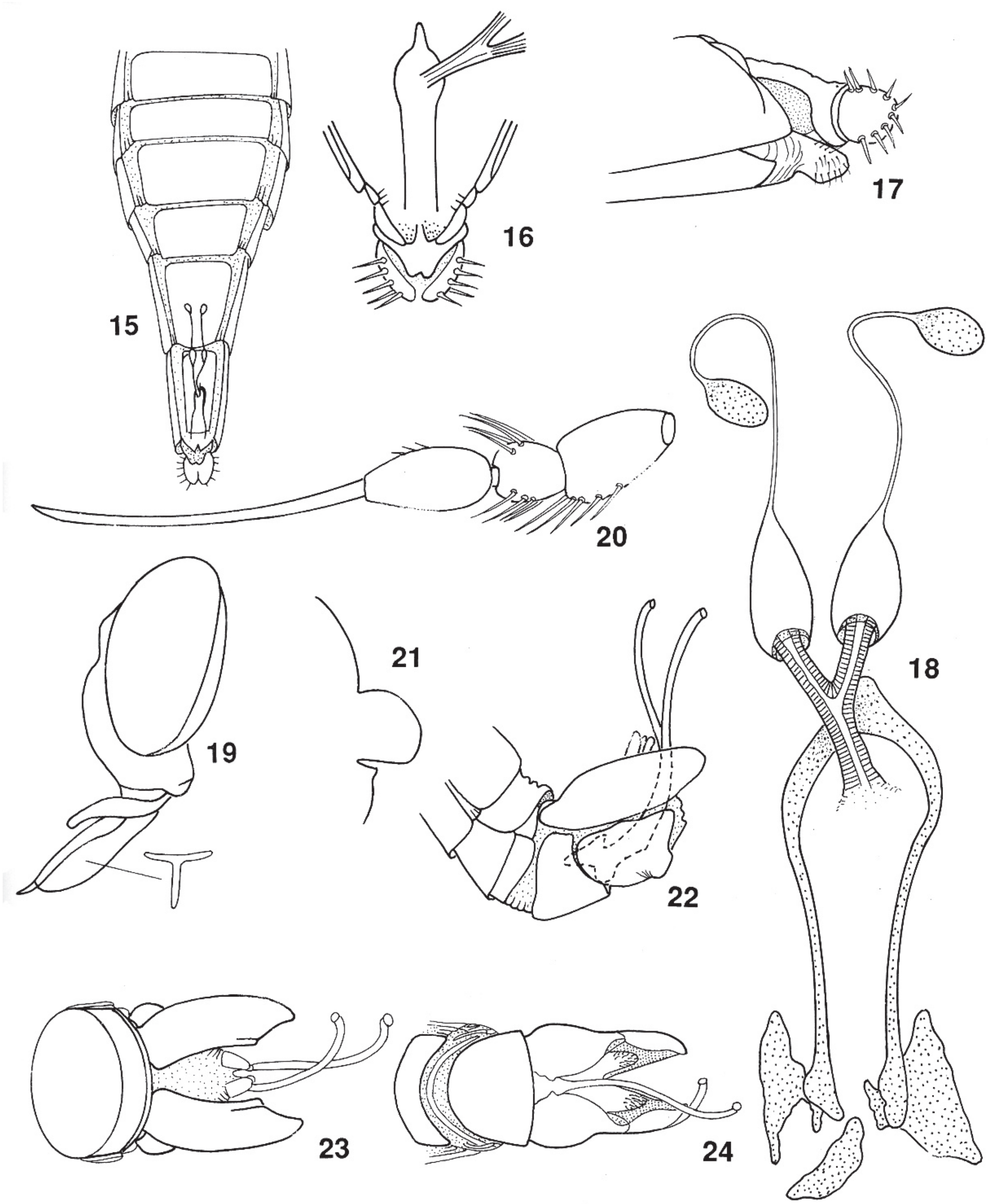
The keys and illustrations presented here were adapted from the papers by Artigas & Papavero (1998a, 19988b, 1989, 1990, 1991a, 1991b, 1991c, 1991e, 1991f, 1993, 1995a, 1995b, 1995c, 1995d, 1995e, 1995f, 1995g, 1997a, 1997b, 1997c), Artigas, Papavero & Costa (1997), Artigas, Papavero & Pimentel (1988) and Artigas, Papavero & Serra (1991).



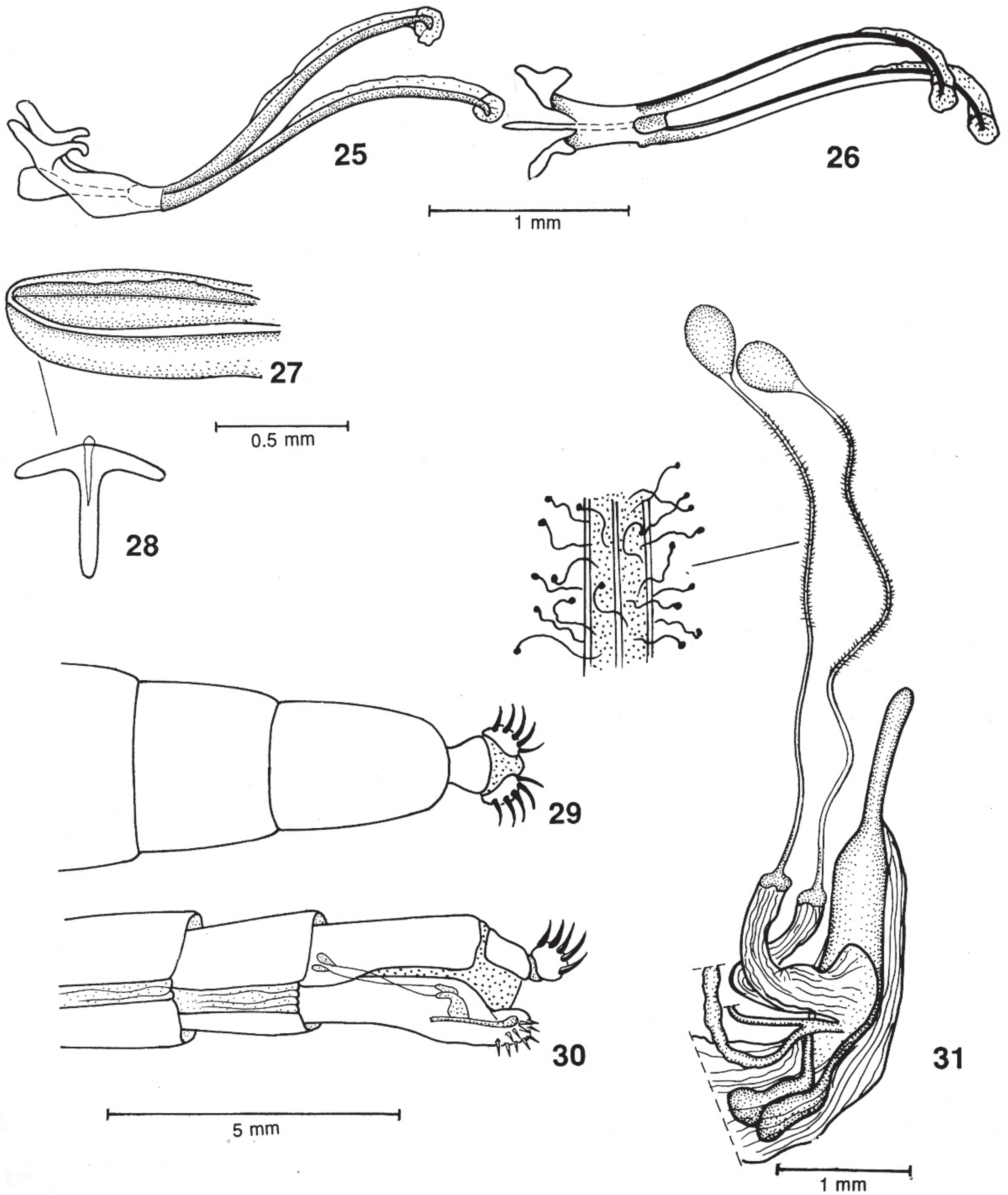
Figs. 1-8. *Proctacanthella cacopiloga* (Hine, 1909). 1, head in lateral view; 2, antenna; 3, profile of scutellum; 4-6, male terminalia in lateral, dorsal and ventral views; 7, aedeagus; 8, female terminalia in dorsal view.



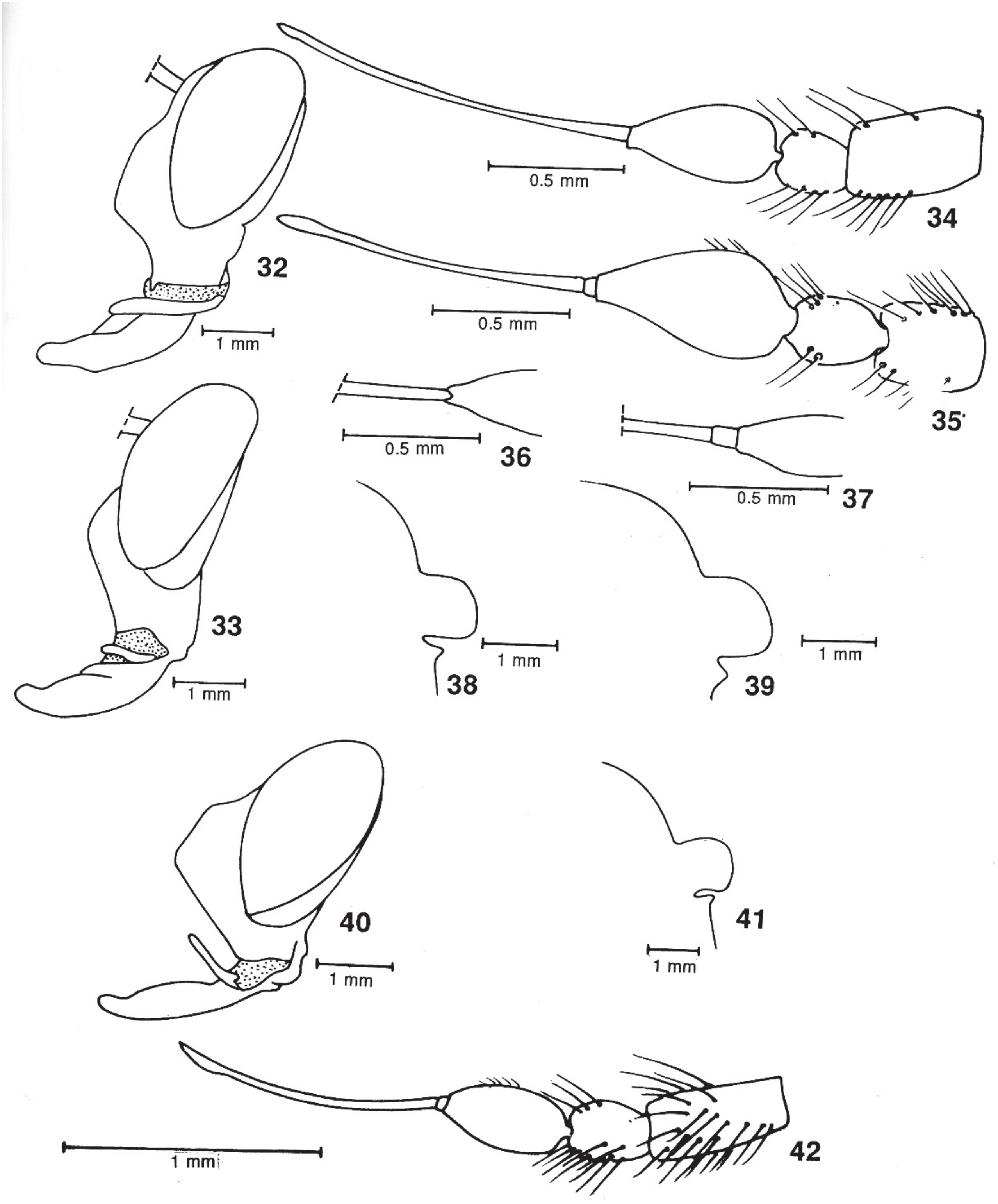
Figs. 9-10. *Proctacanthella cacopiloga* (Hine, 1909). 9, female terminalia in lateral view showing situation of spermathecae; 10, spermathecae. Figs. 11-14. *Eccritosia rubriventris* (Macquart, 1850). 11-13, male terminalia in lateral, dorsal and ventral views; 14, aedeagus in lateral view.



Figs. 15-18. *Eccritosia rubriventris* (Macquart, 1850). 15, female terminalia in ventral view, showing situation of spermathecae; 16-17, ovipositor in ventral and dorsal views; 18, spermathecae. Figs. 19-21: *Taurhynchus bromleyi* (Curran, 1931). 19, head in lateral view; 20, antenna; 21, profile of scutellum. Figs. 22-24: *Taurhynchus fervidus* (Curran, 1934). 22-24, male terminalia in lateral, dorsal and ventral views.



Figs. 25-31. *Taurhynchus fervidus* (Curran, 1934). 25-26, aedeagus in lateral and dorsal views; 27, tip of proboscis; 28, cross-section of proboscis; 29-30, female terminalia in dorsal and lateral views, the last showing situation of spermathecae; 31, spermathecae.



Figs. 32, 35, 38: *Eccritosia rubriventris* (Macquart, 1850). 32, head in lateral view; 35, antenna, 38, profile of scutellum. Figs. 33, 34, 39: *Eccritosia barbata* (Fabricius, 1787). 33, head in lateral view; 34, antenna; 39, profile of scutellum; Fig. 36. *Eccritosia zamon* (Townsend, 1895), tip of third flagellomere. Fig. 37. *Eccritosia plinthopyga* (Wiedemann, 1821), tip of third flagellomere. Figs. 40-42. *Proctacanthus micans* Schiner, 1867. 40, head in lateral view; 41, profile of scutellum; 42, antenna.

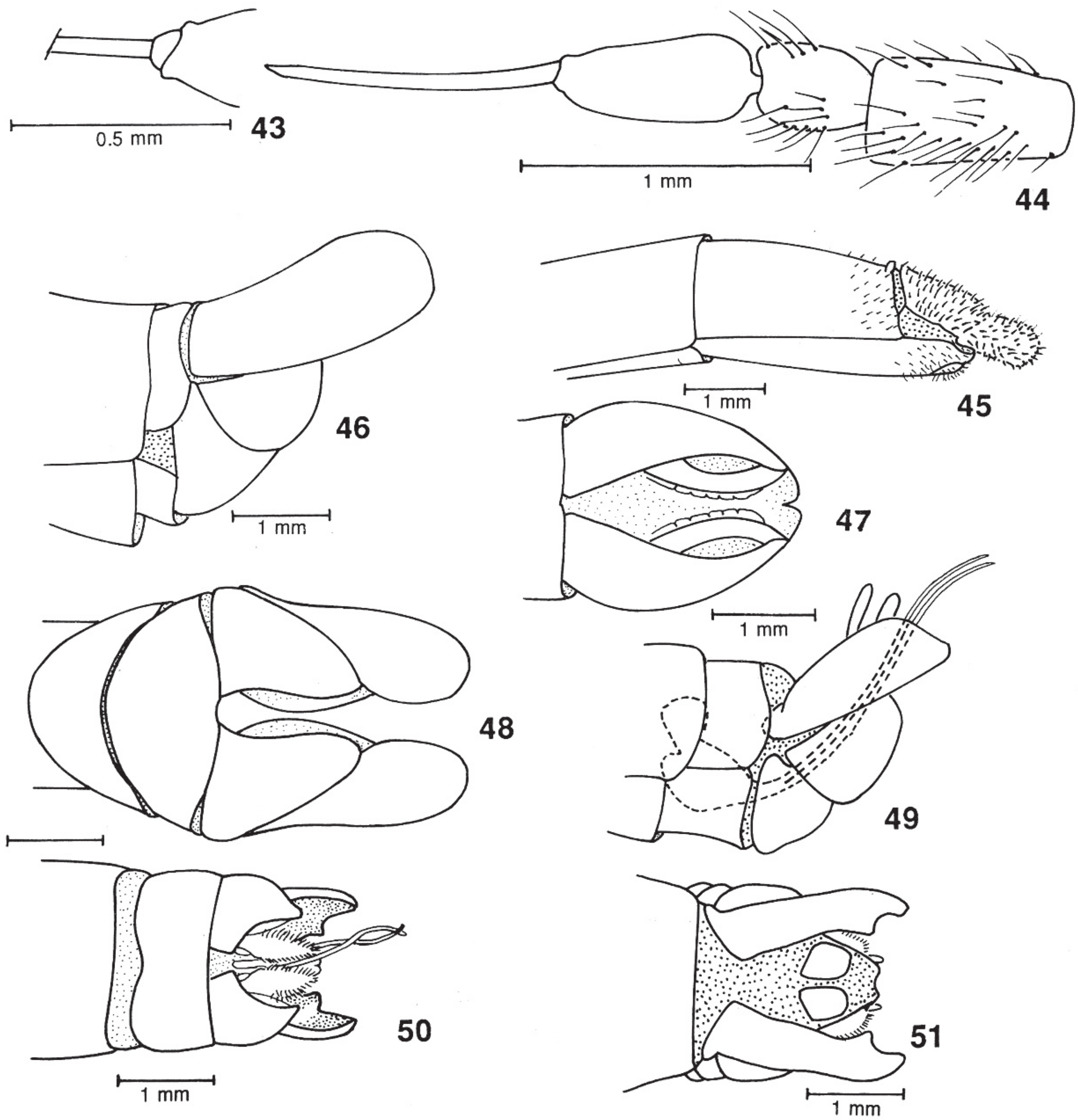
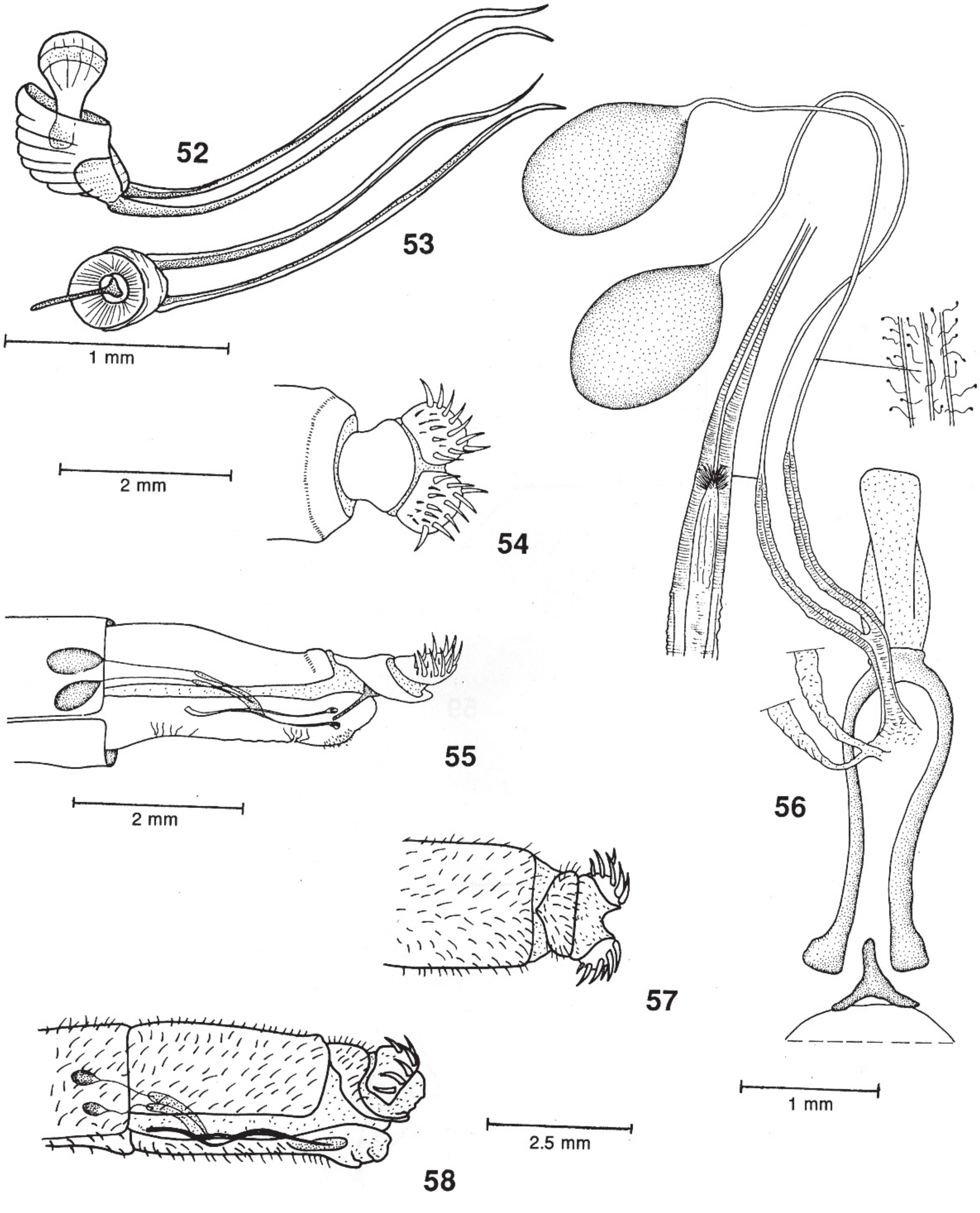


Fig. 43. *Proctacanthus heros* (Wiedemann, 1828), tip of third flagellomere. Figs. 44-48. *Proctacanthus occidentallis* Hine, 1911: 44, antenna; 45, female ovipositor in lateral view; 46-48, male terminalia in lateral, dorsal and ventral views. Figs. 49-51. *Proctacanthus lerneri* Curran, 1951, male terminalia in lateral, ventral and dorsal views.



Figs. 52-56. *Proctacanthus lerneri* Curran, 1951. 52-53, antenna in lateral and dorsal views; 54-55, ovipositor in dorsal and lateral views, the last showing situation of spermathecae; 56, spermathecae. Figs. 57-58. *Proctacanthus milbertii* Macquart, 1838: ovipositor in dorsal and lateral views, the last showing situation of spermathecae.

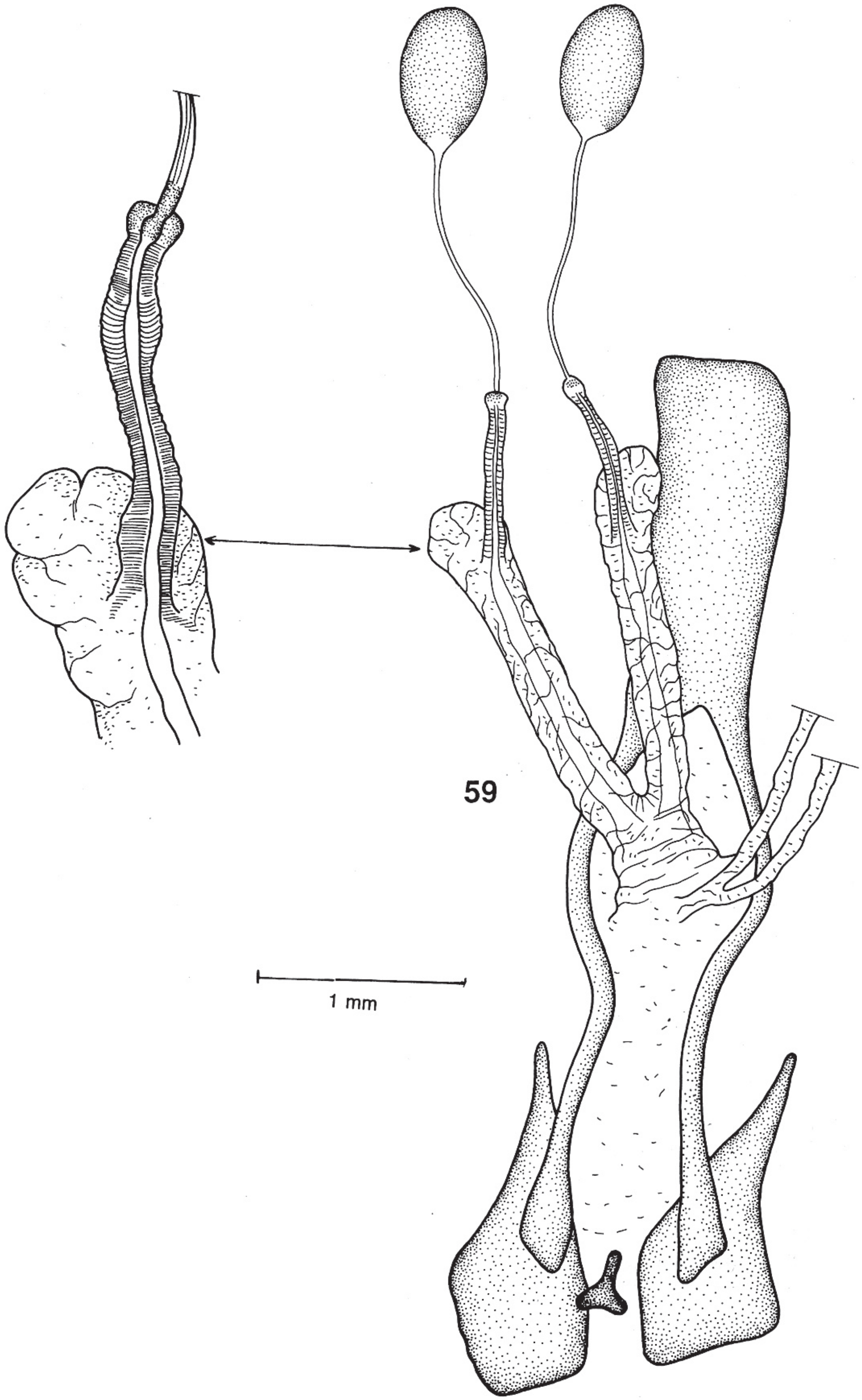
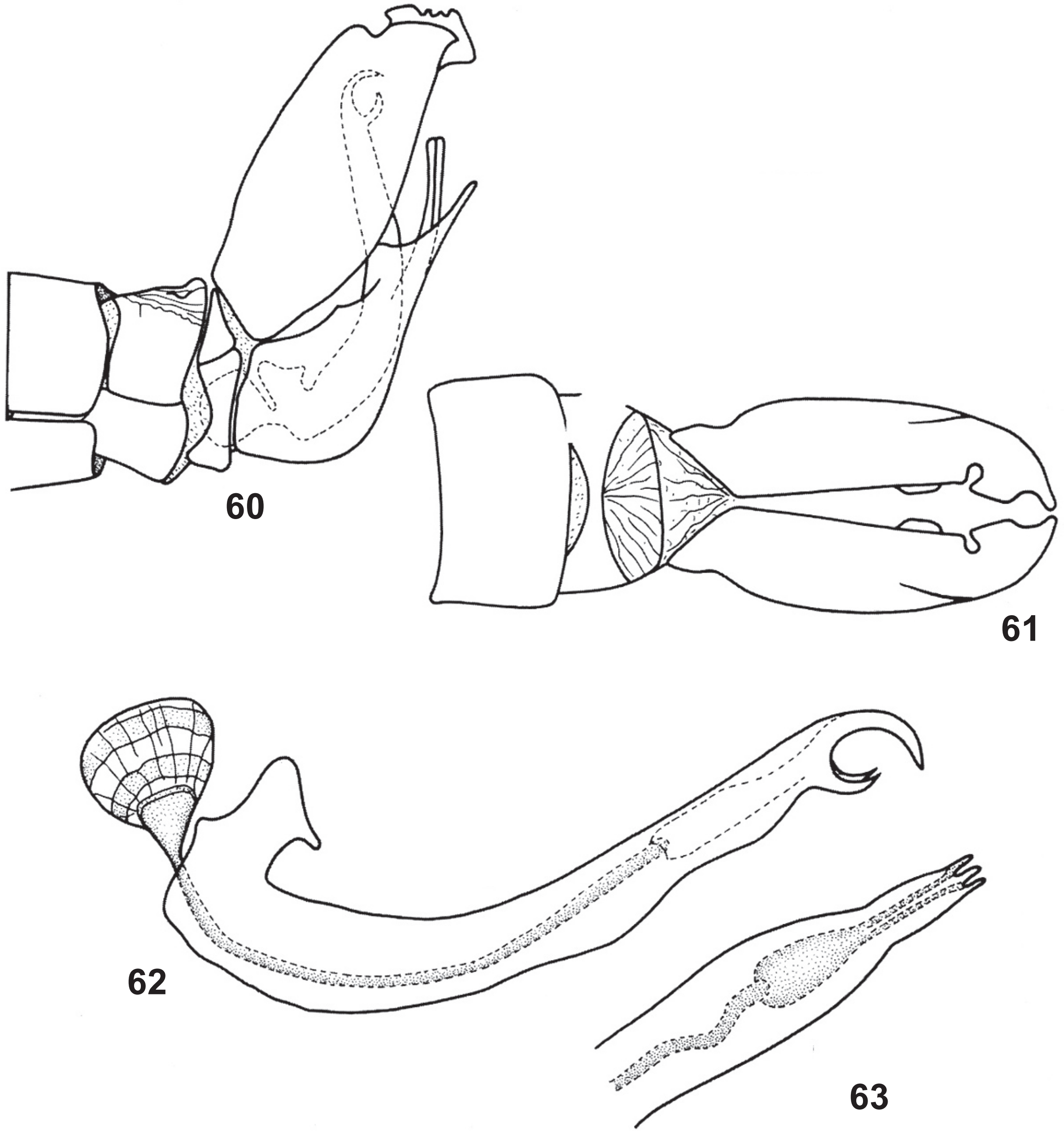
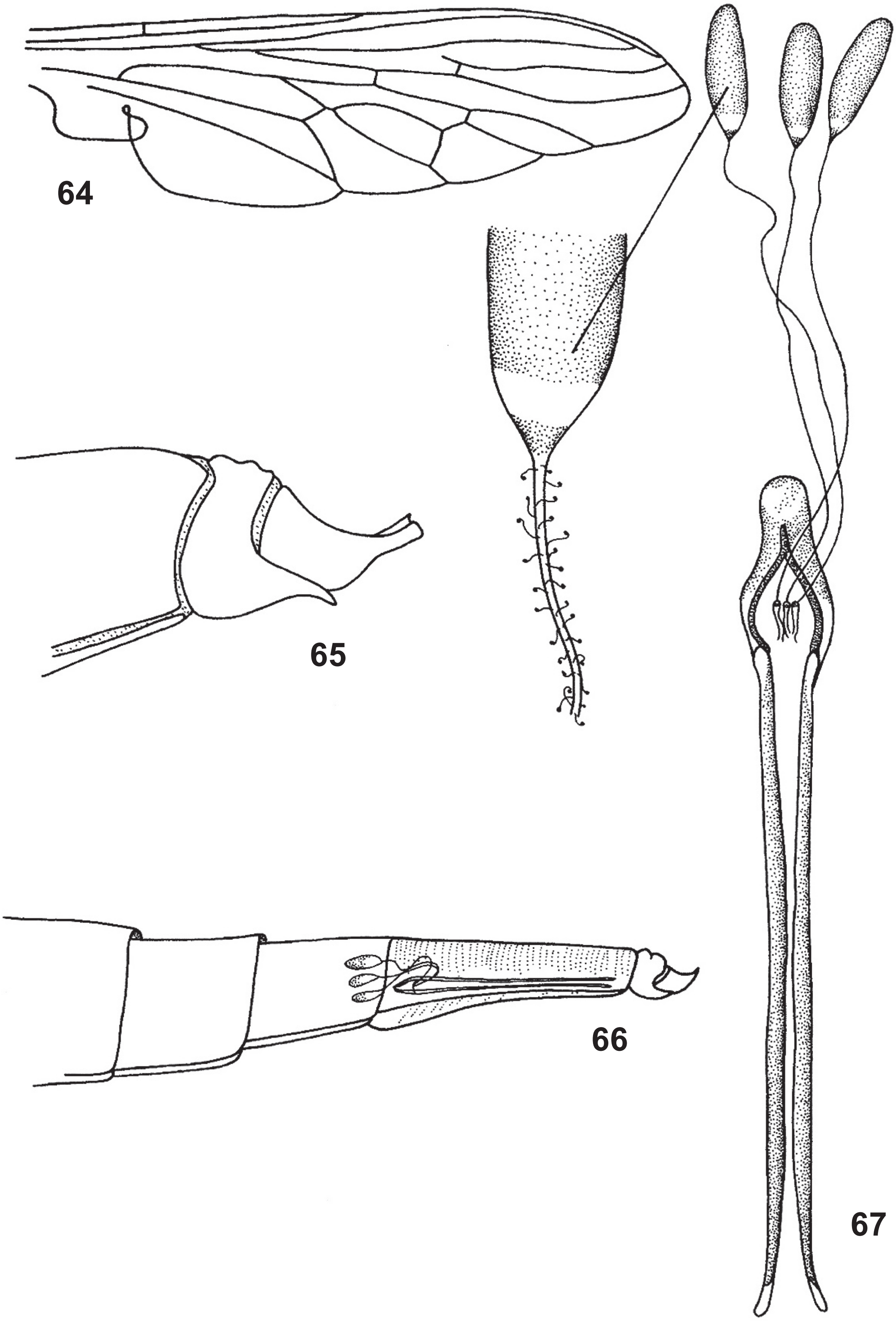


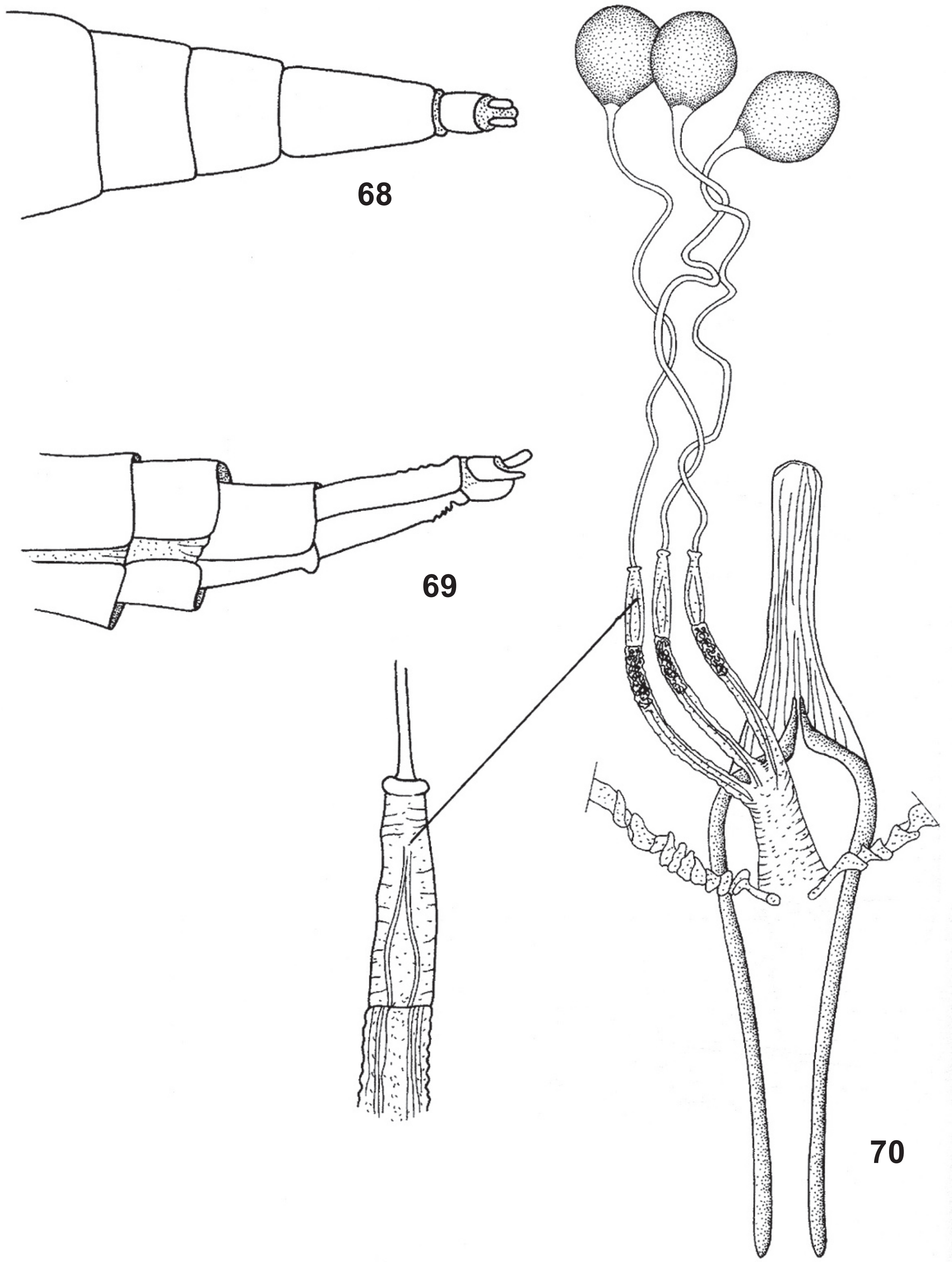
Fig. 59. *Proctacanthus milbertii* Macquart, 1838: spermathecae and detail.



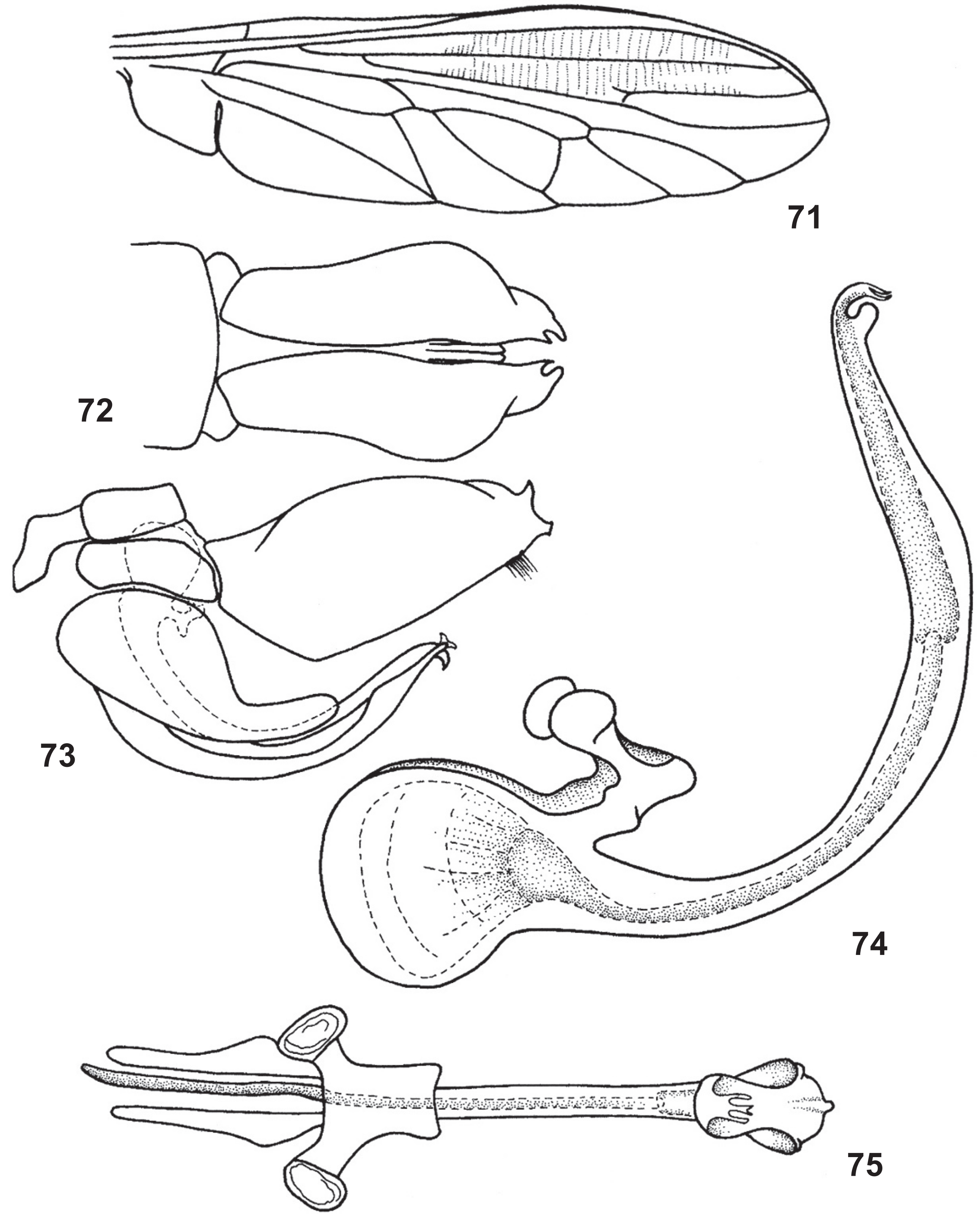
Figs. 60-63. *Pogoniefferia bicaudata* (Hine, 1919): 60-61, male terminalia in lateral and dorsal views; 62-63, aedeagus, lateral and dorsal (apex) views.



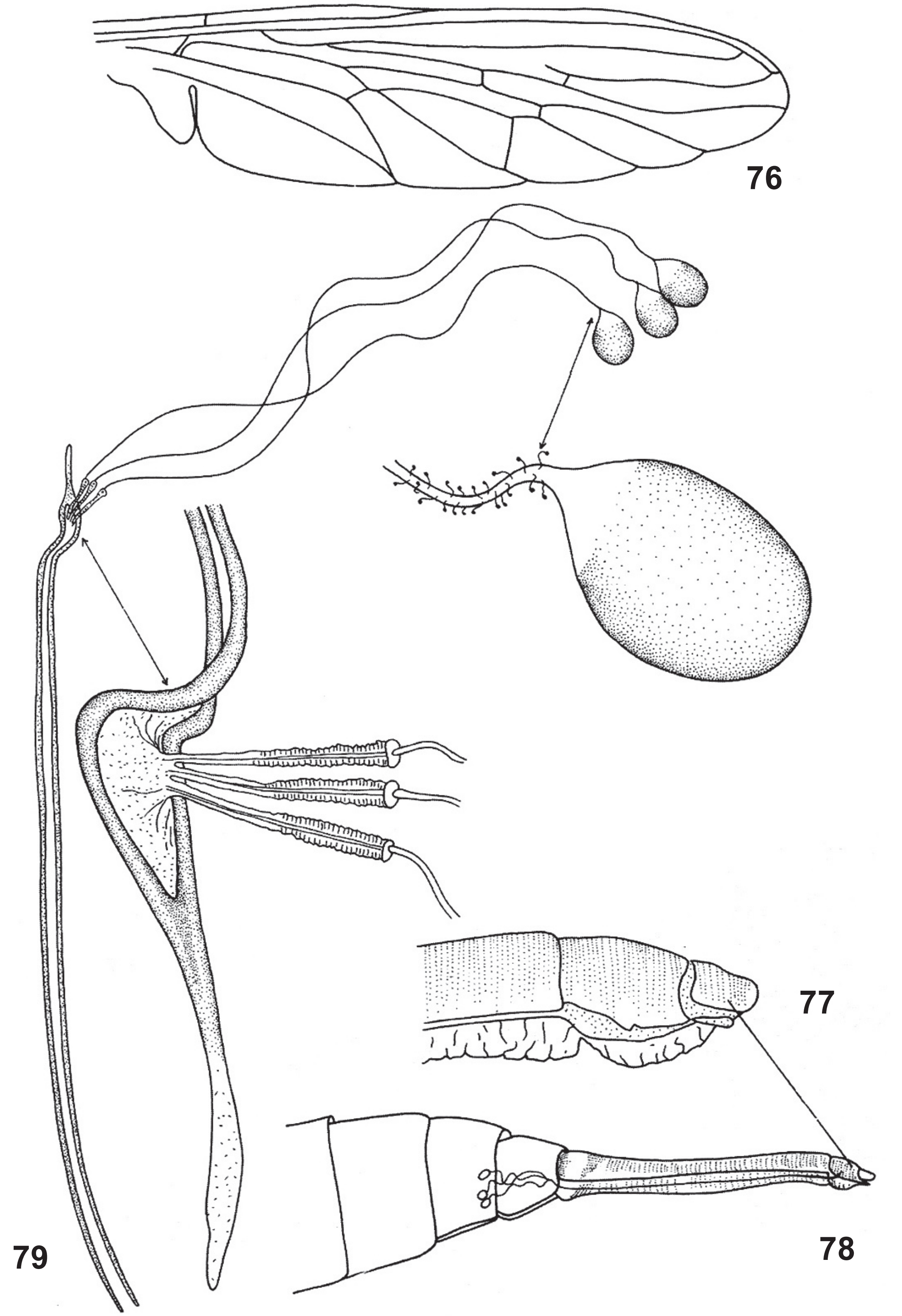
Figs. 64-67. *Pogoniefferia bicaudata* (Hine, 1919). 64, wing; 65, female ovipositor, apex; 66, ovipositor in lateral view, showing situation of spermathecae; 67, spermarthecae and detail of capsule.



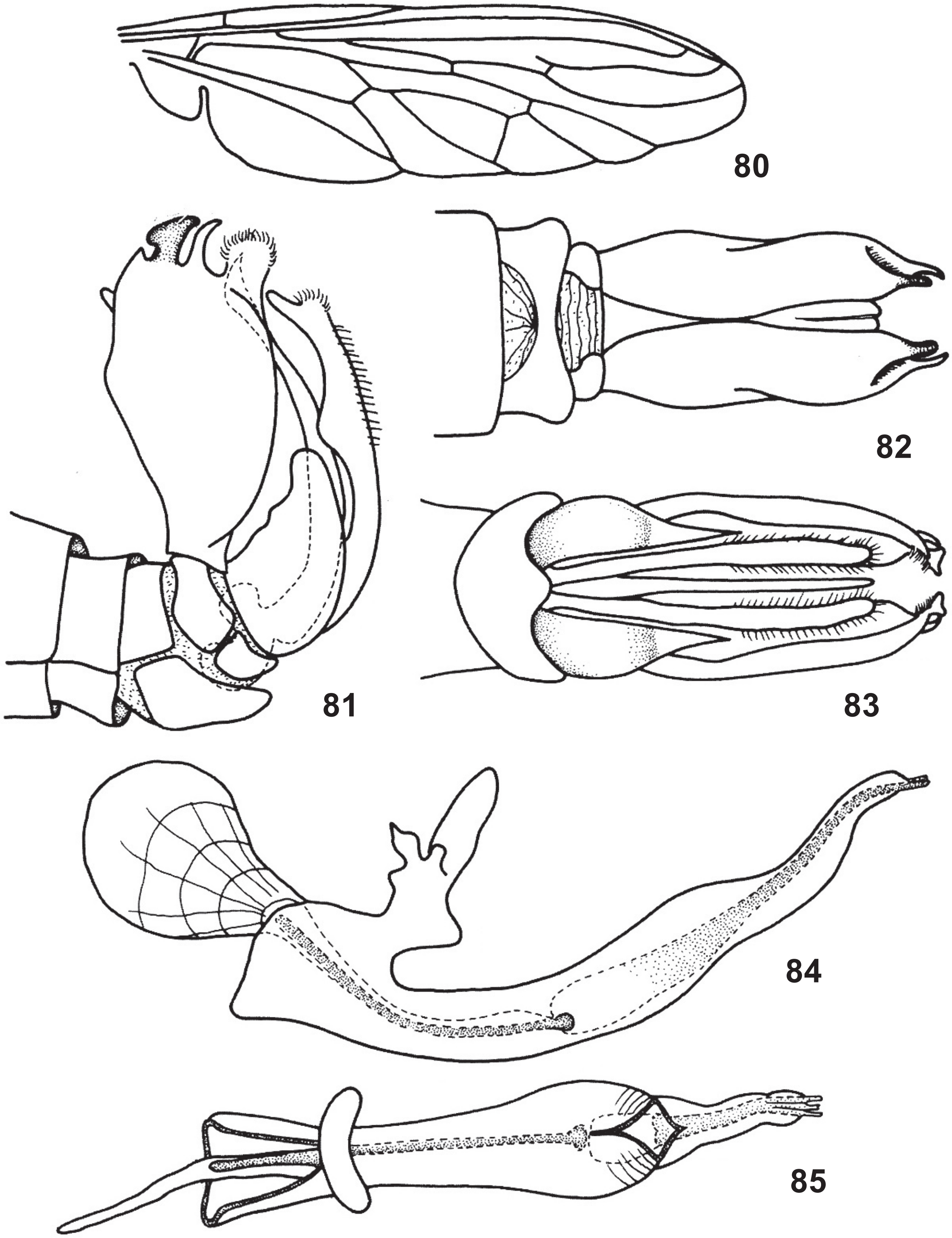
Figs. 68-70. *Triorla striola* (Fabricius, 1805): 68, apex of female abdomen, dorsal view; 69, do., lateral view; 70, spermathecae and detail.



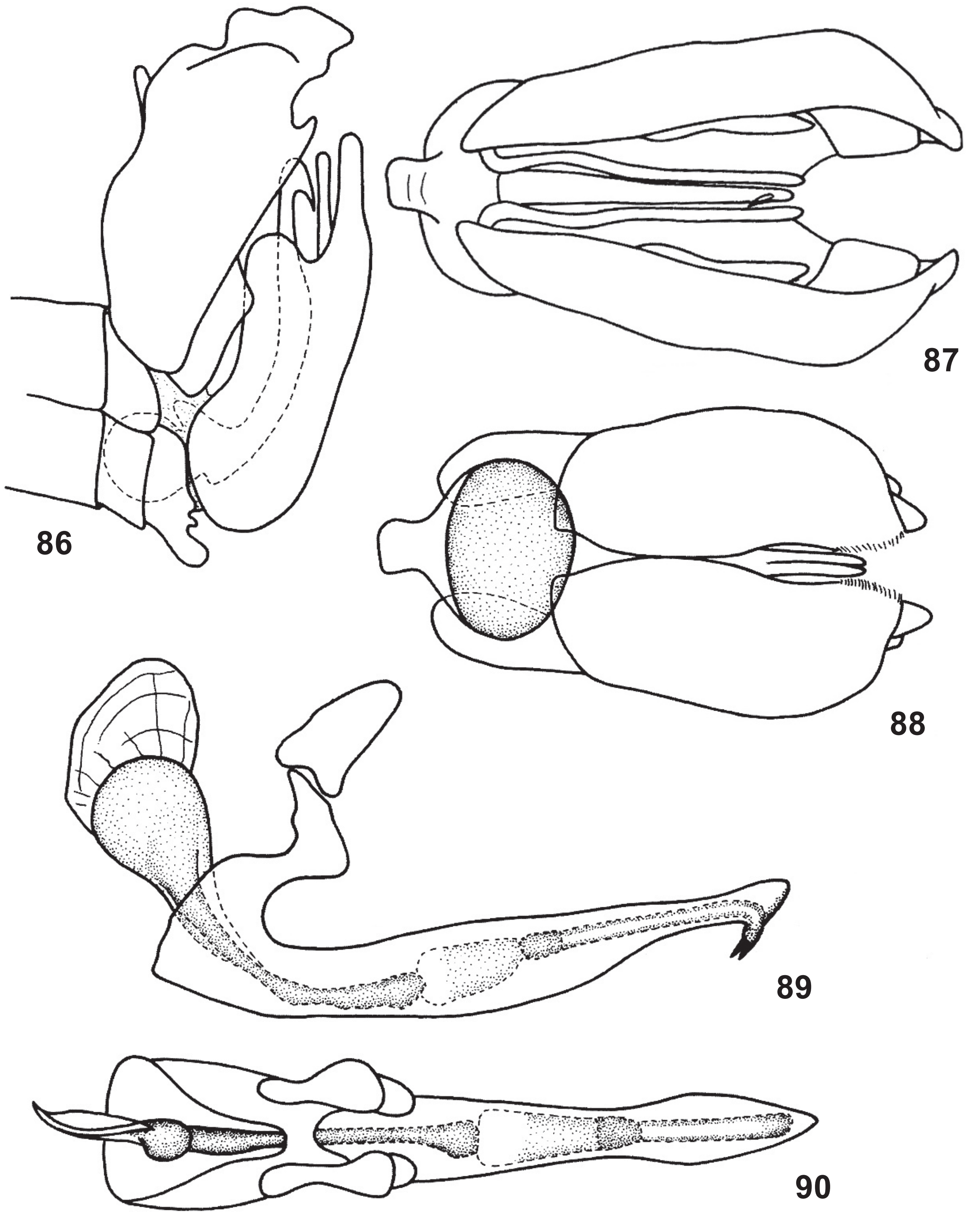
Figs. 71-75. *Diplosynapsis argentifascia* Enderlein, 1914: 71, wing; 72-73, male terminalia in dorsal and lateral views; 74-75, aedeagus in lateral and dorsal views.



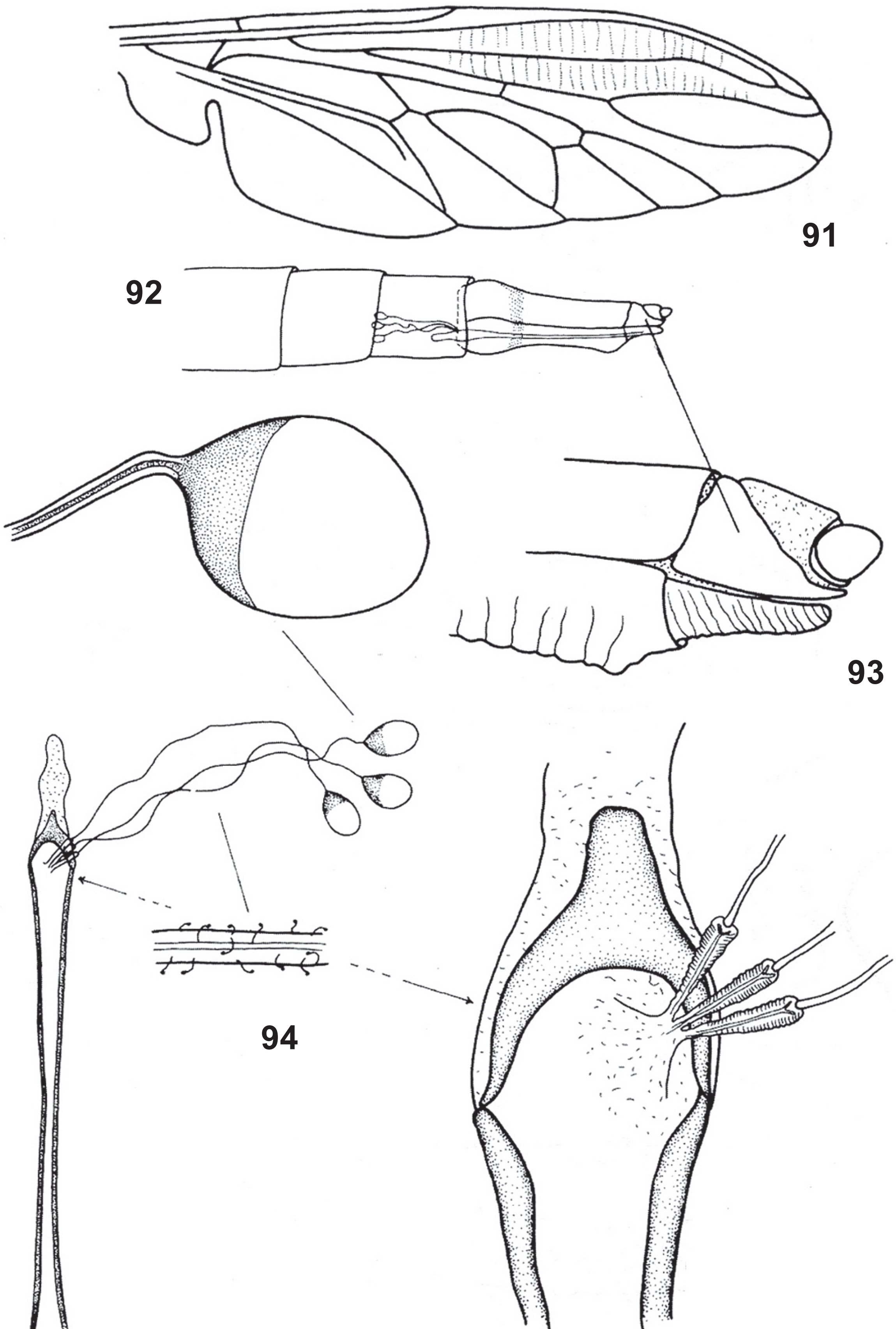
Figs. 76-79. *Diplosynapsis argentifascia* Enderlein1914: 76, wing; 77, female ovipositor, lateral view; 78, apex of female abdomen, lateral view, showing situation of spermathecae; 79, spermathecae and details.



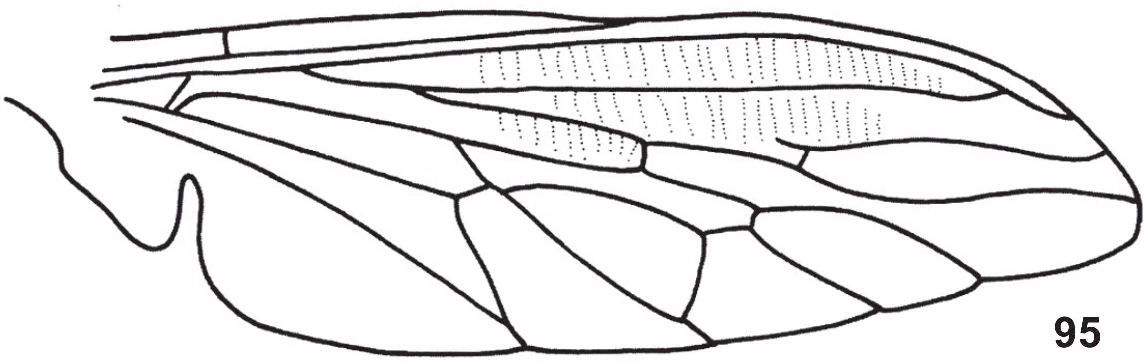
Figs. 80-85. *Diplosynapsis sp.*: 80, wing; 81-83, male terminalia in lateral, dorsal and ventral views; 84-85, aedeagus in lateral and ventral views.



Figs. 86-90. *Porasilus barbiellinii* Curran, 1934: 86-88, male terminalia in lateral, ventral and dorsal views; 89-90, aedeagus in lateral and dorsal views.



Figs. 91-94. *Porasilus barbiellinii* Curran, 1934: 91, wing; 92, apex of abdomen, showing situation of spermathecae; 9, female ovipositor, lateral view; 94, spermathecae and details.



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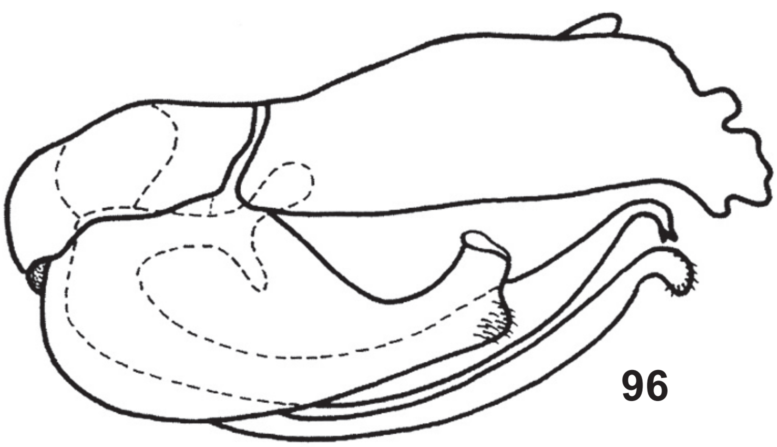

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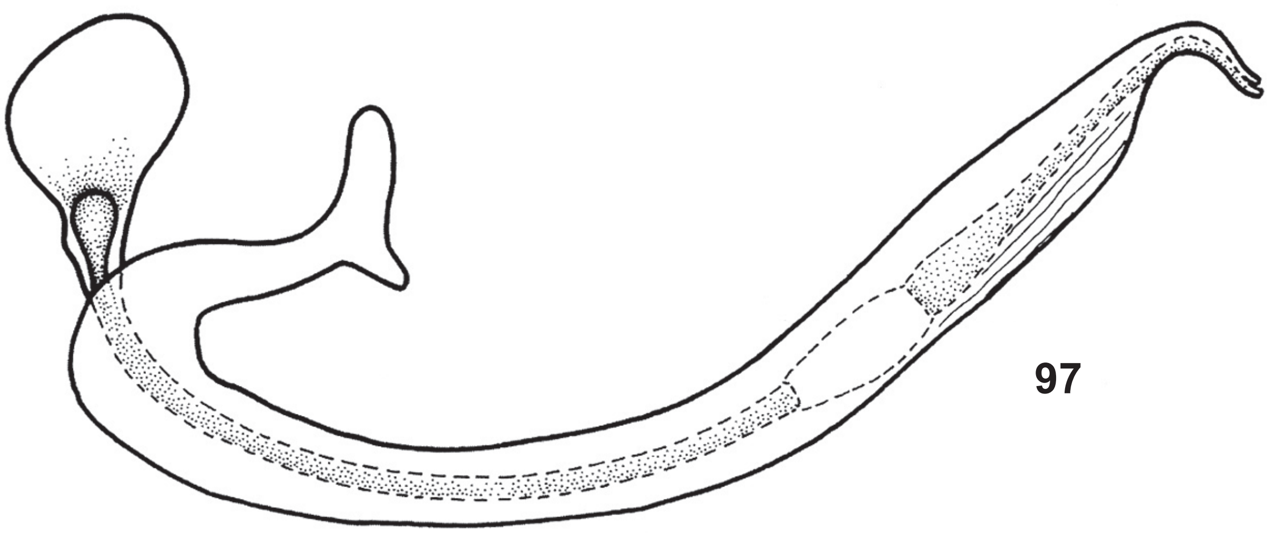

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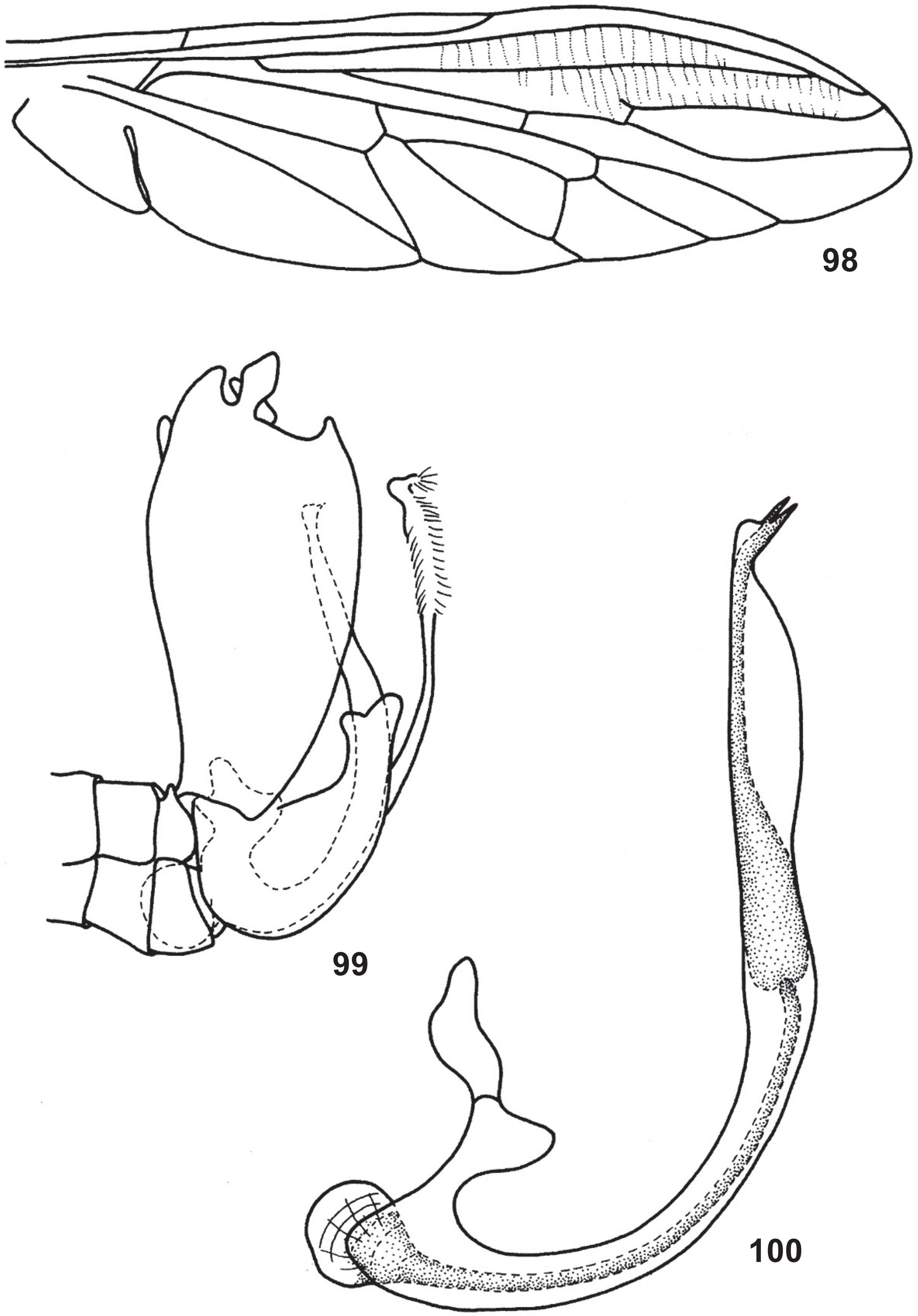
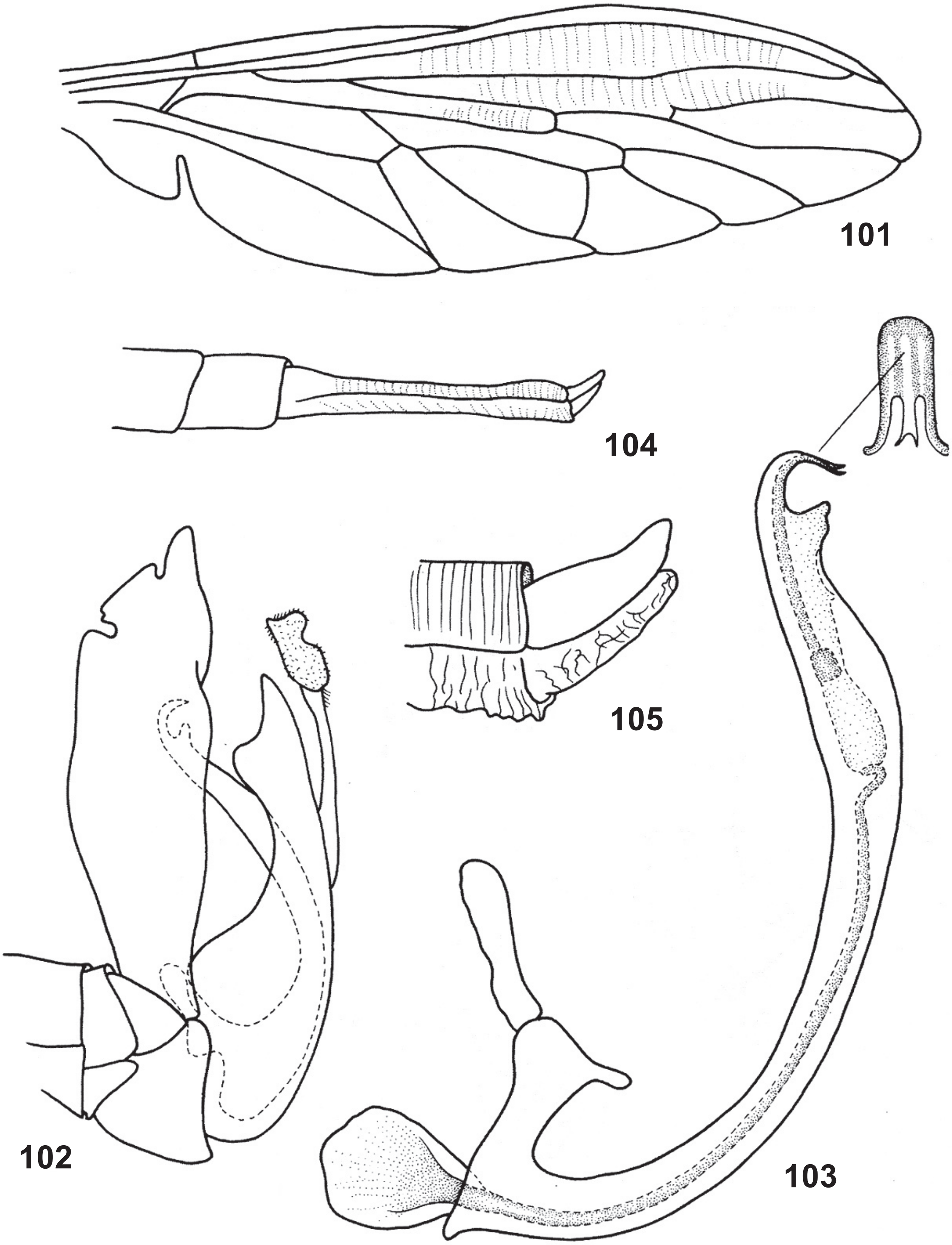
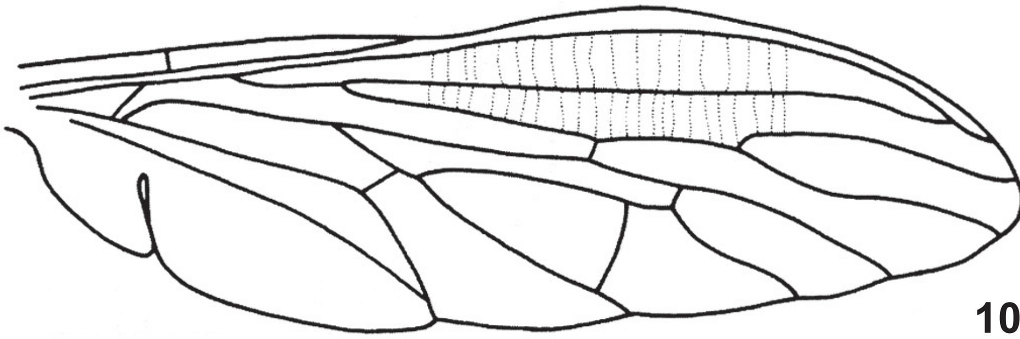
Figs. 95-97. *Porasilus garciai* Lamas, 1971: 95, wing; 96, male terminalia, lateral view; 97, aedeagus, lateral view.



Figs. 98-100. *Porasilus intermedius* Lamas, 1971: 98, wing; 99, male terminalia, lateral view; 100, aedeagus, lateral view.



Figs. 101-105. *Porasilus lesbius* Lamas, 1971: 101, wing; 102, male terminalia, lateral view; 103, aedeagus, lateral view; 104, apex of abdomen, lateral view; 105, female ovipositor, lateral view.



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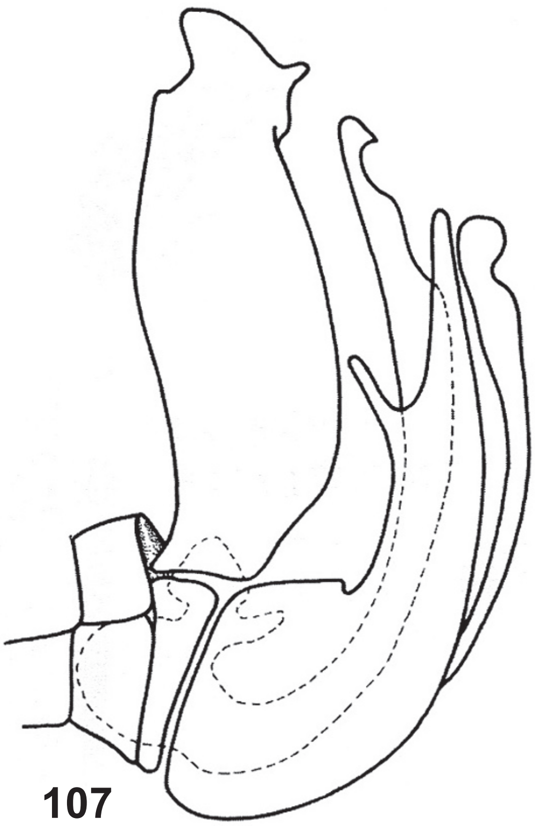

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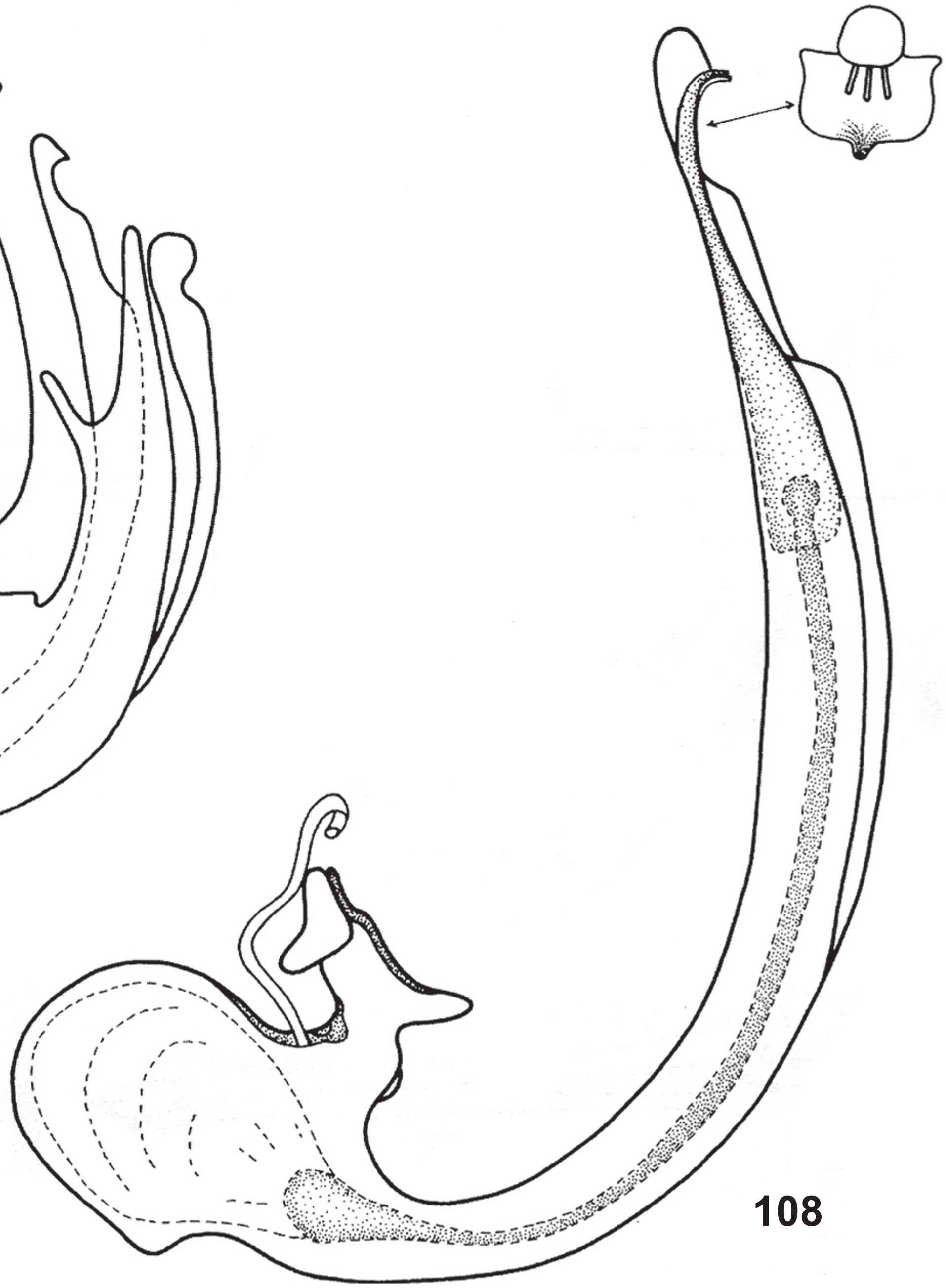

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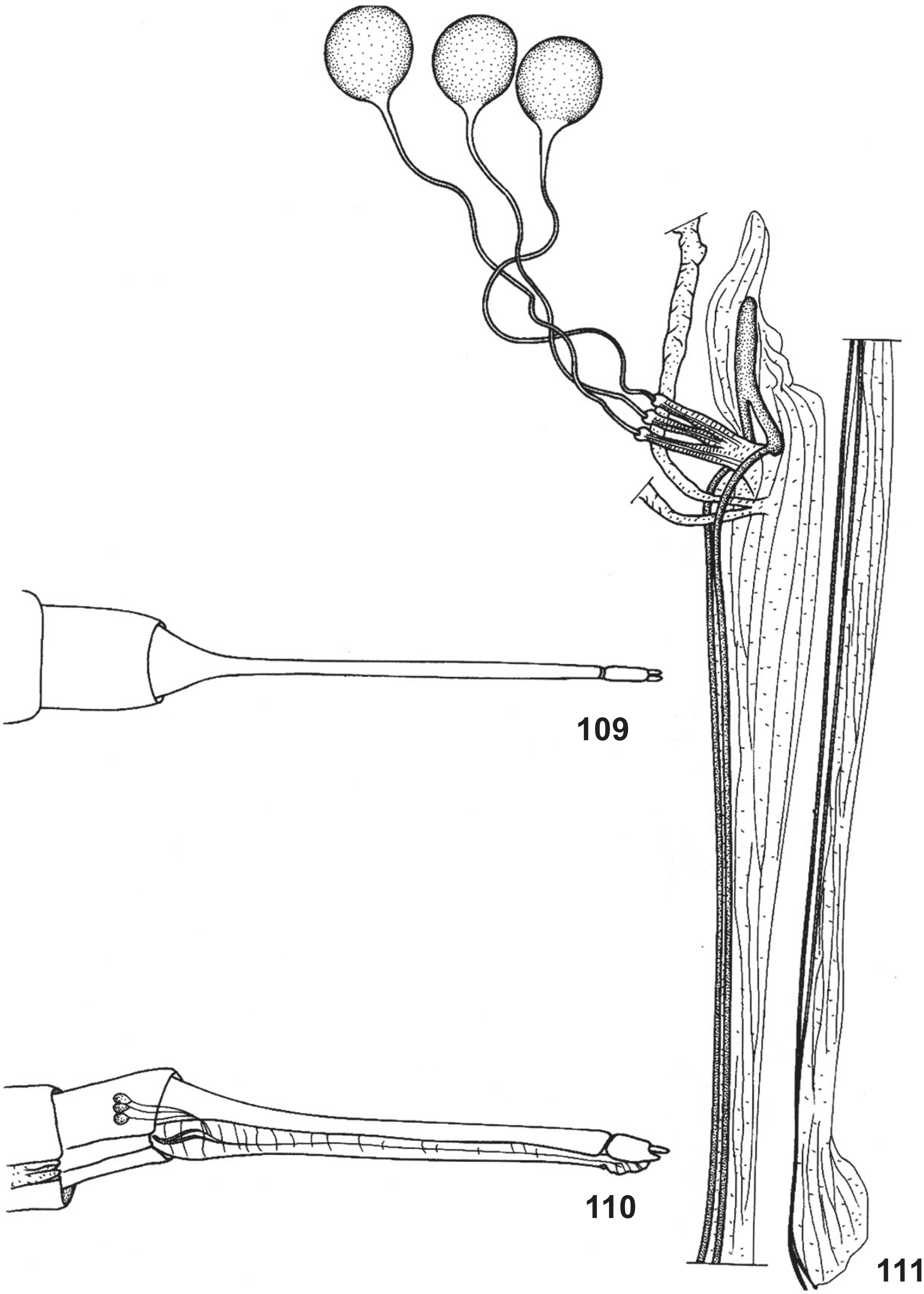
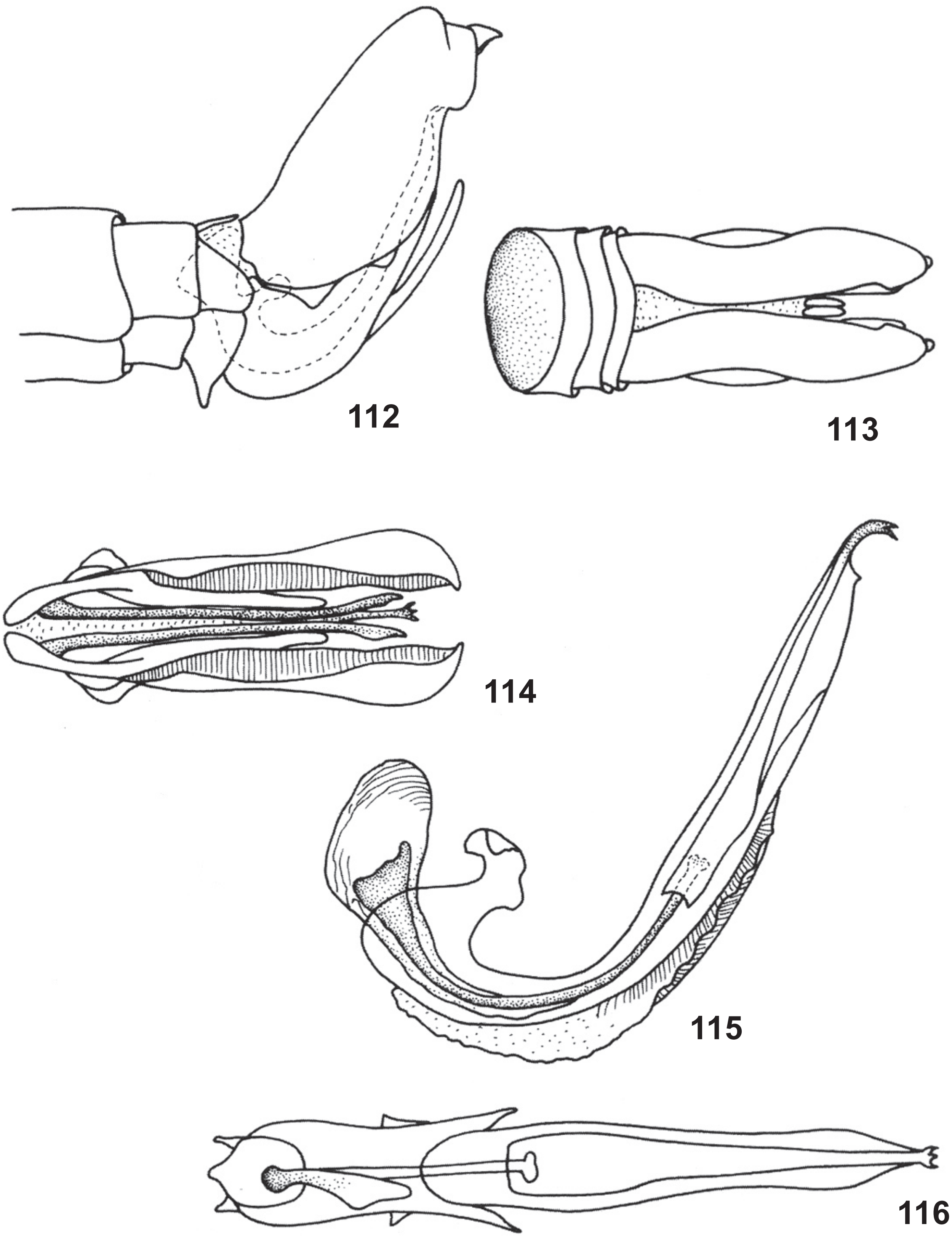
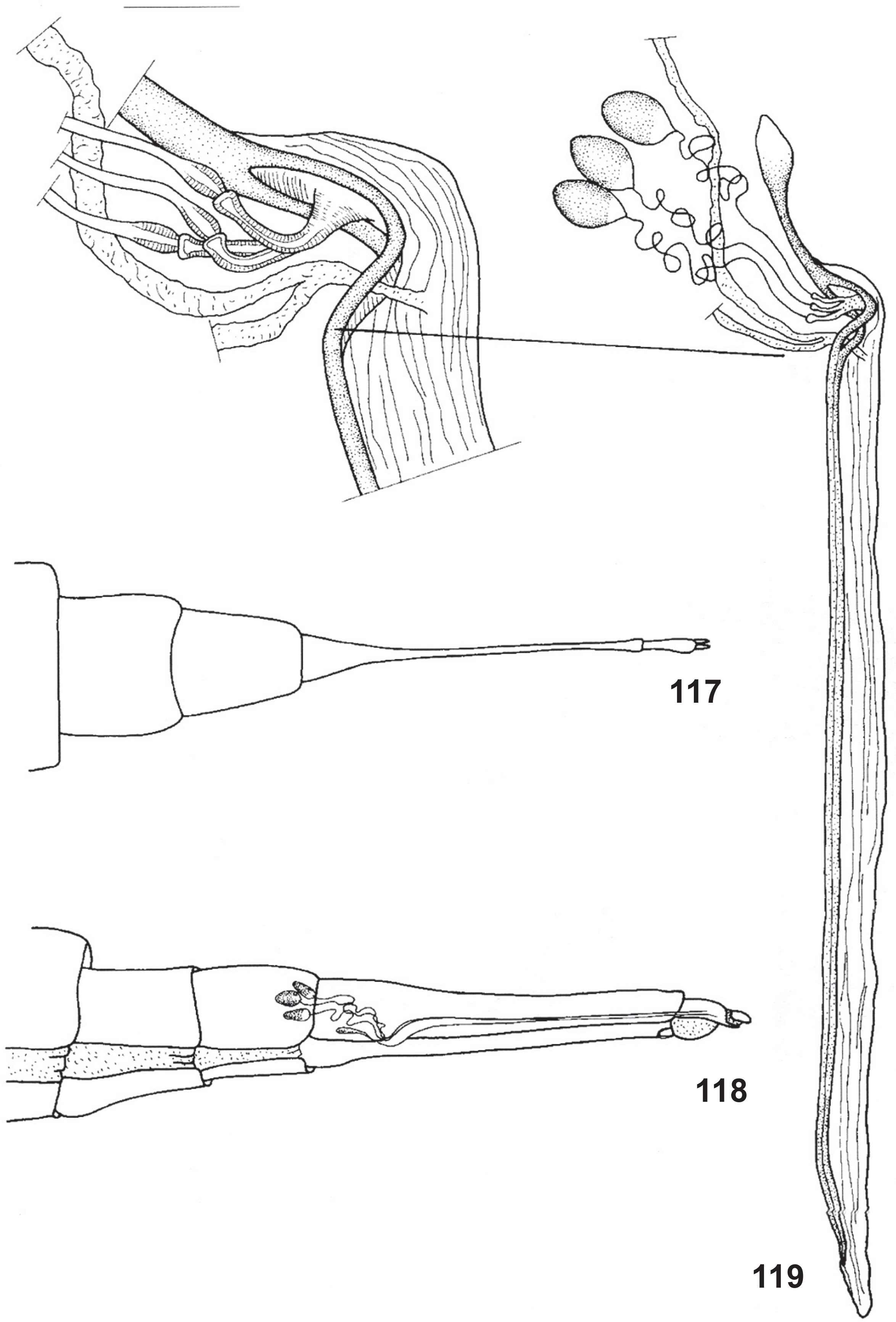
Figs. 106-108. *Porasilus satyrus* Lamas, 1971 106, wing; l07, male terminalia, lateral view; 108, aedeagus, lateral view.



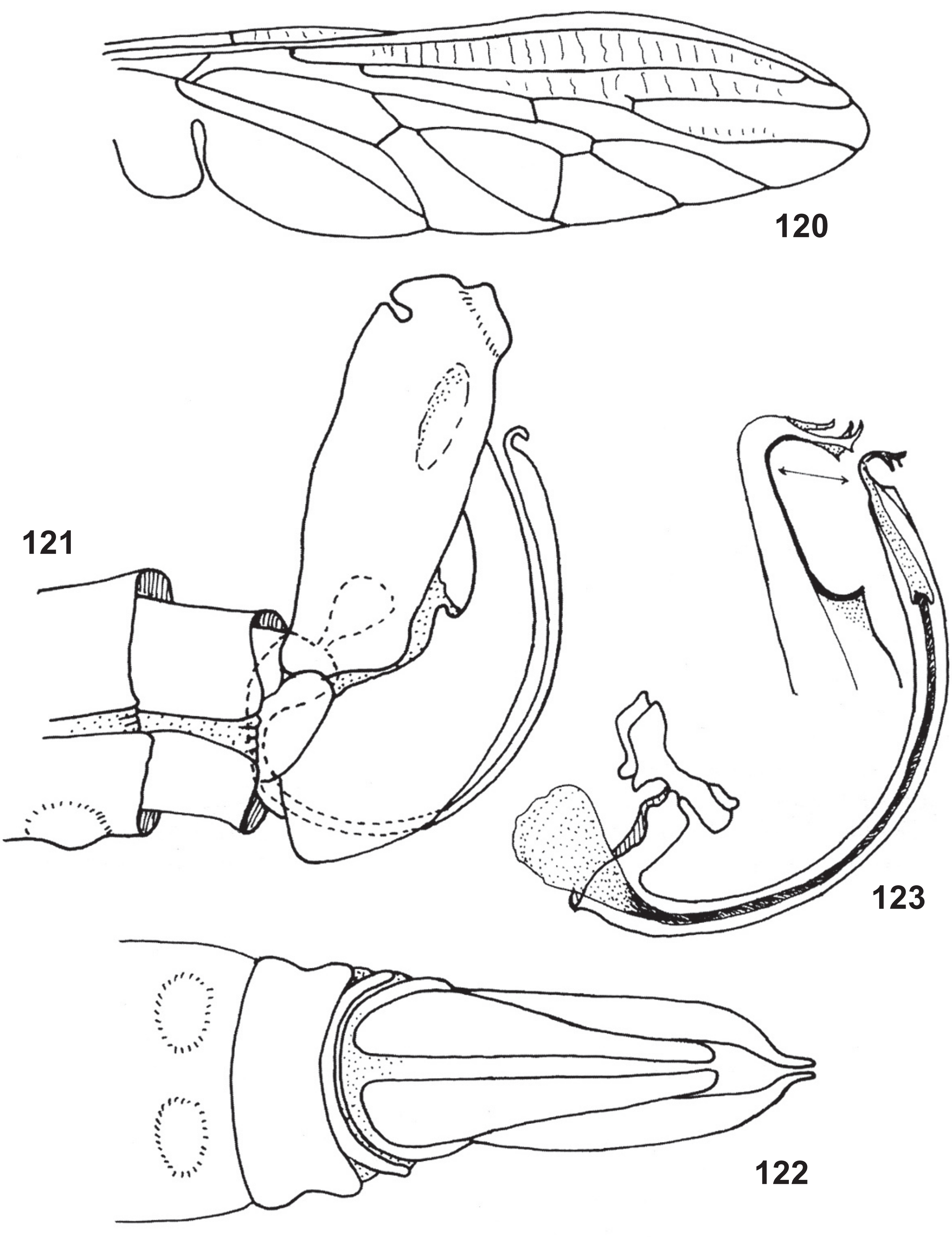
Figs. 109-111. *Nerax labdophorus* (Wiedemann, 1828): 109, apex of female abdomen, dorsal view; 110, do., lateral view, showing situation of spermathecae; 111, spermathecae.



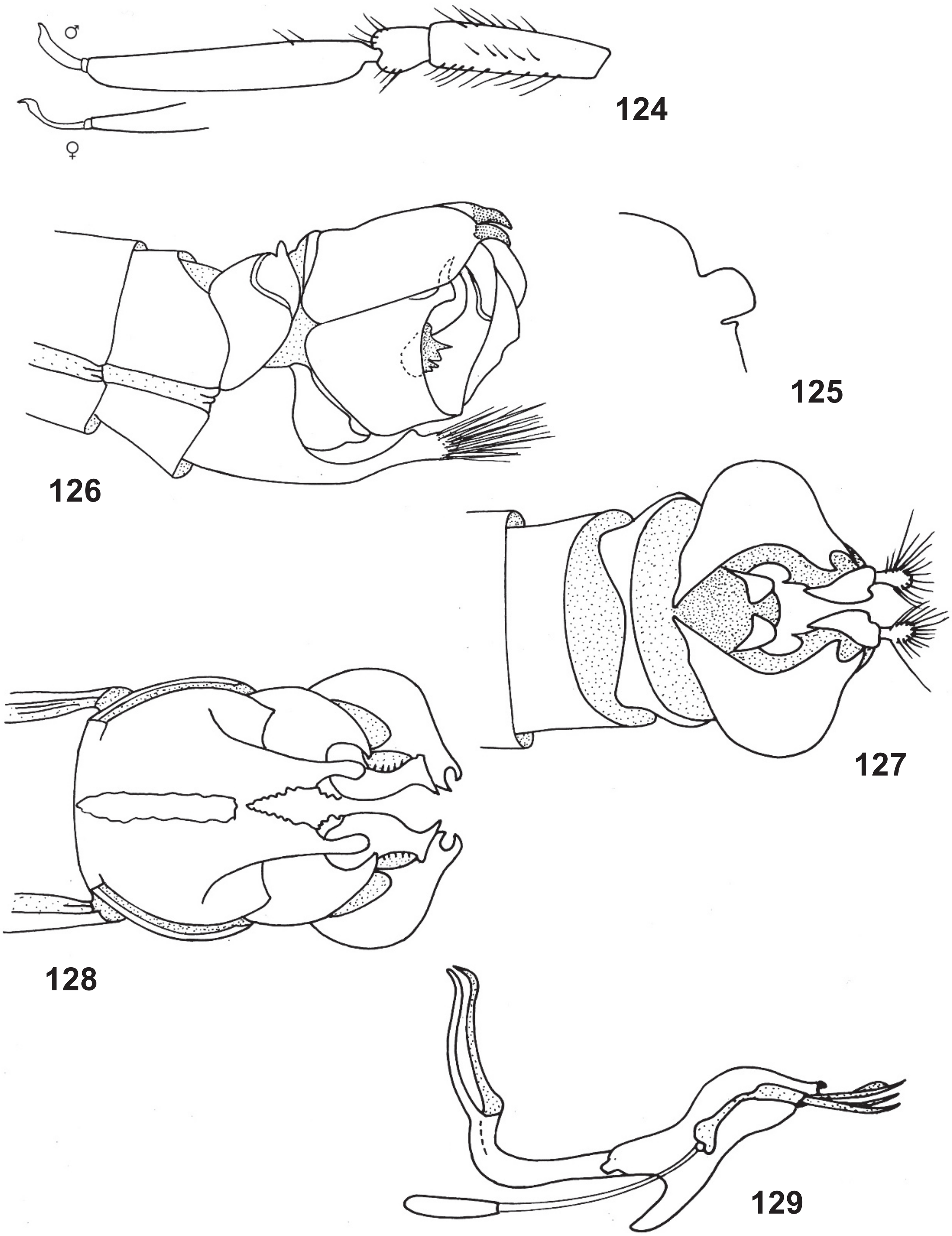
Figs. 112-116. *Efferia anomala* (Bellardi, 1861): 112-114, male terminalia in lateral, dorsal and ventral views; 115-116, aedeagus in lateral and dorsal views.



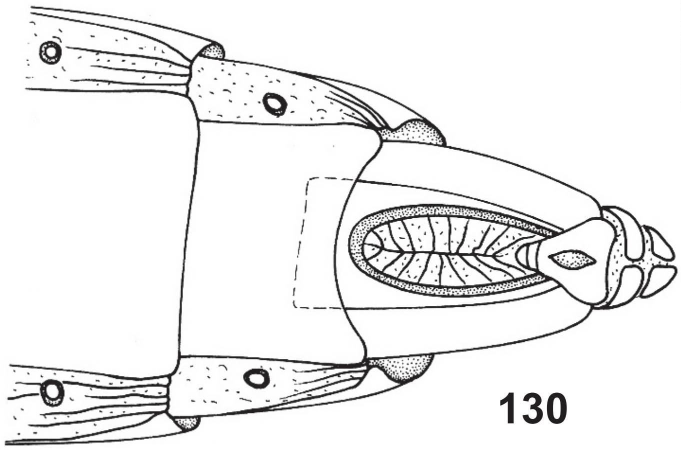
Figs. 117-119. *Efferia anomala* (Bellardi, 1861): 117, apex of female abomen, dorsal view; 118, do., lateral view, showing situation of spermathecae; 119, spermathecae and detail.



Figs. 120-123. *Nerax labidophorus* (Wiedemann, 1828): 120, wing; 121-122, male terminalia in lateral and ventral views; 123, aedeagus.



Figs. 124-129. *Apotinocerus brevistylatus* (Wulp, 1882): 124, antenna; 125, profile of scutellum; 126-128, male terminalia in lateral, dorsal and ventral views; 129, aedeagus.



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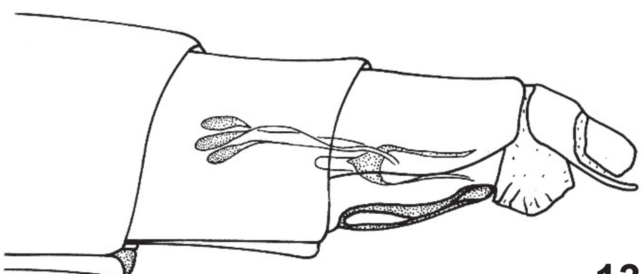

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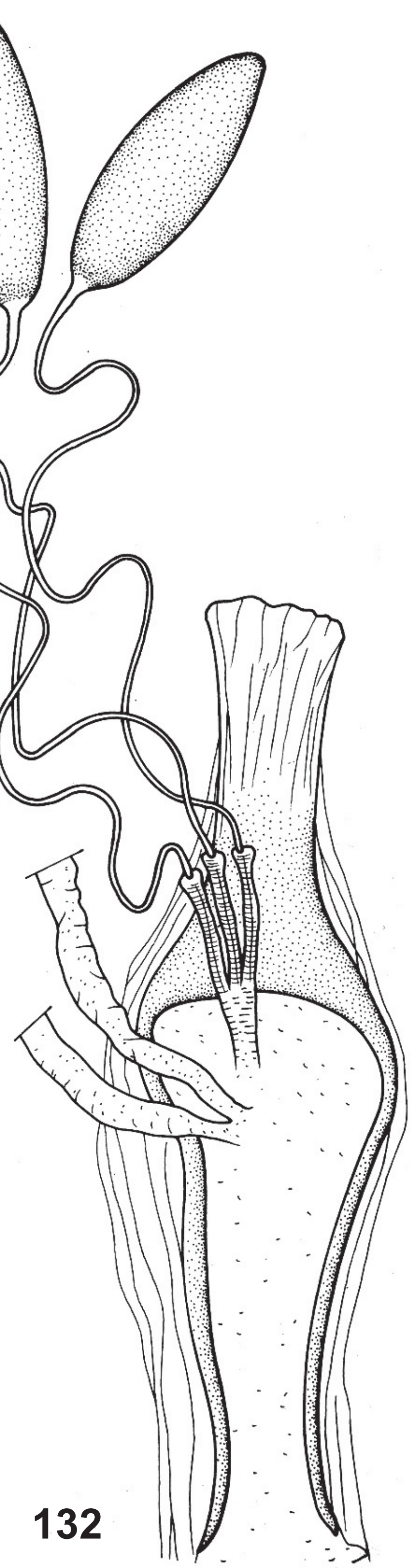

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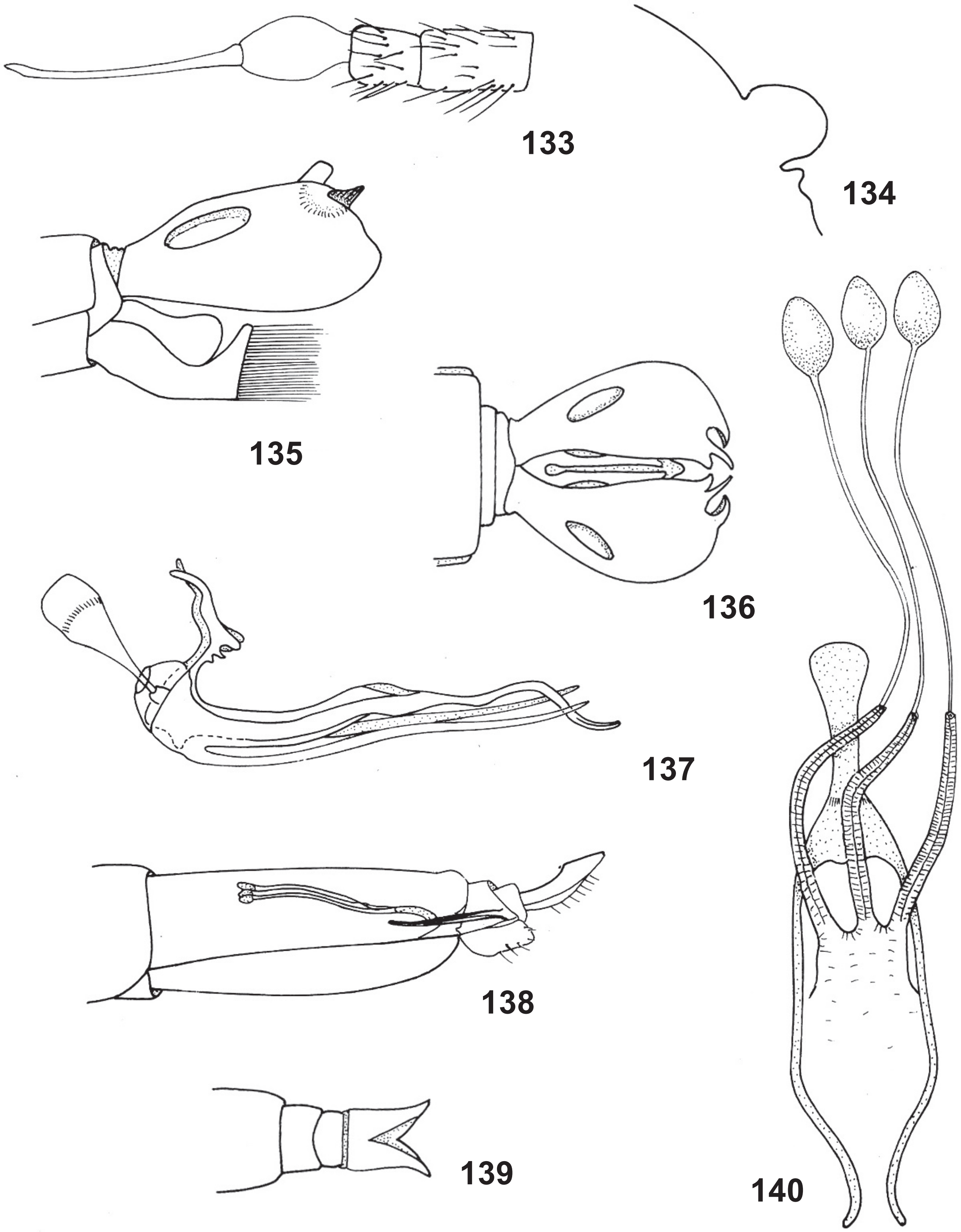
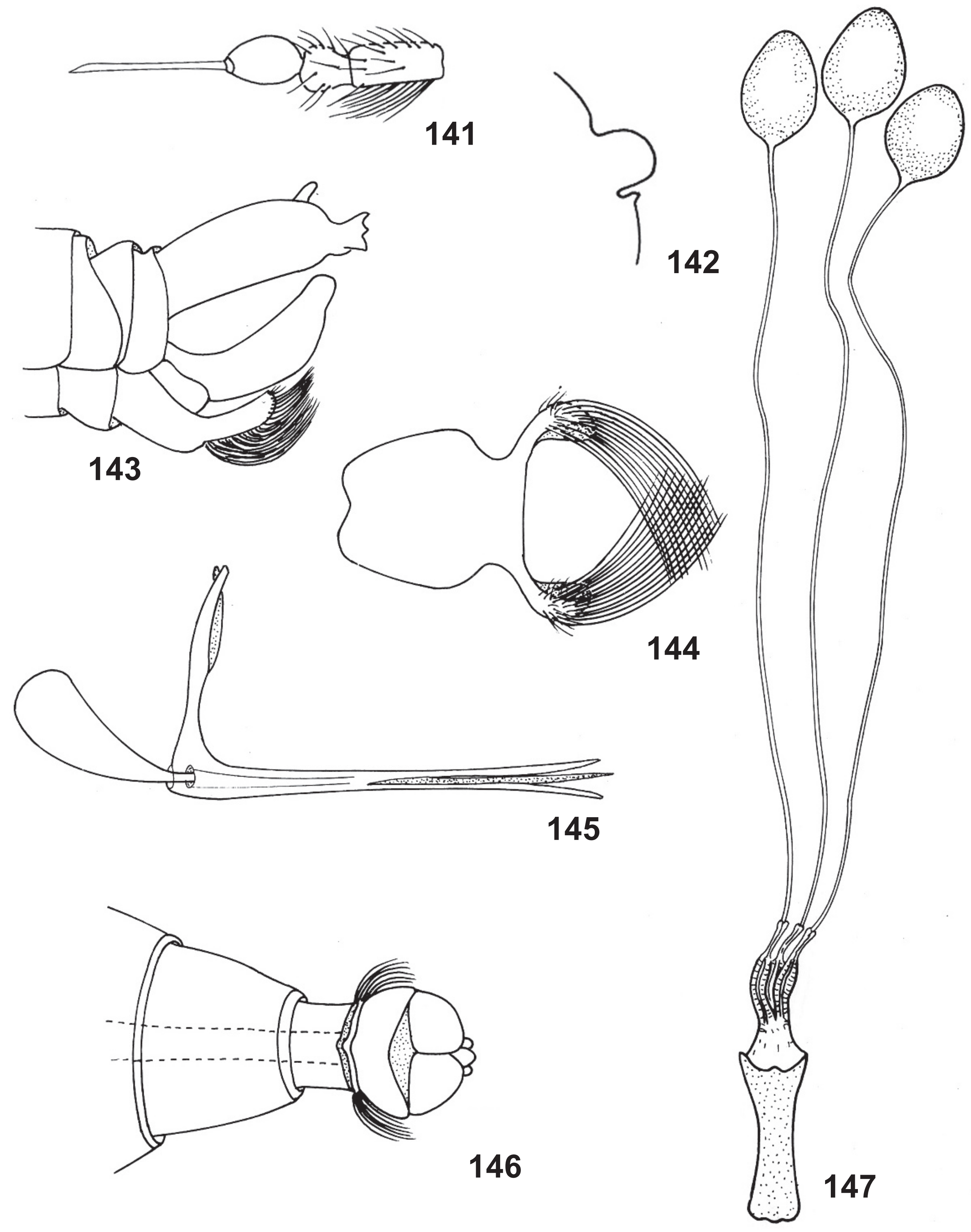
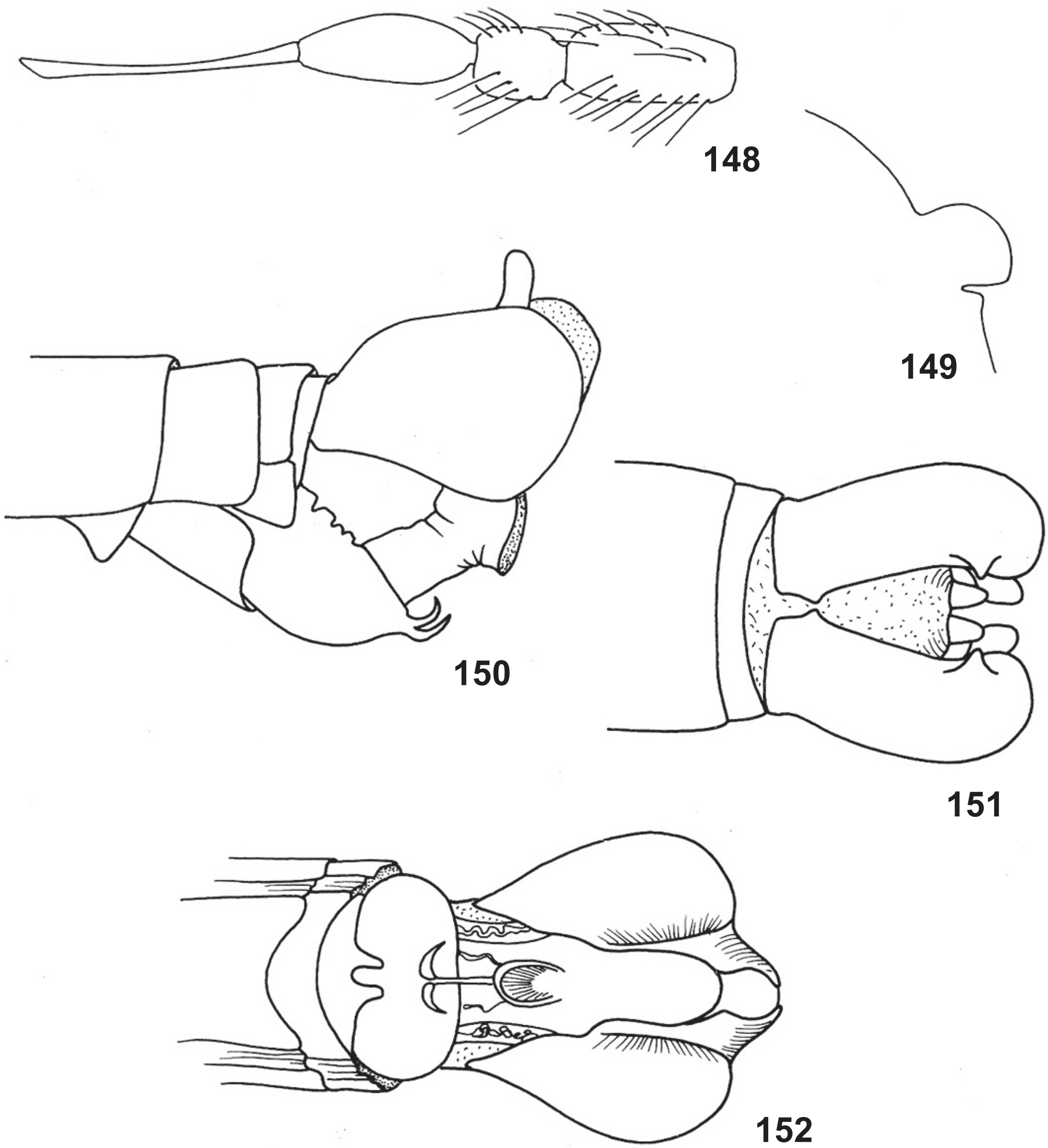
Figs. 130-132. *Apotinocerus brevistylatus* (Wulp, 1882): 130, female terminalia, ventral view; 131, do., lateral view, showing situation of spermathecae; 132, spermathecae.



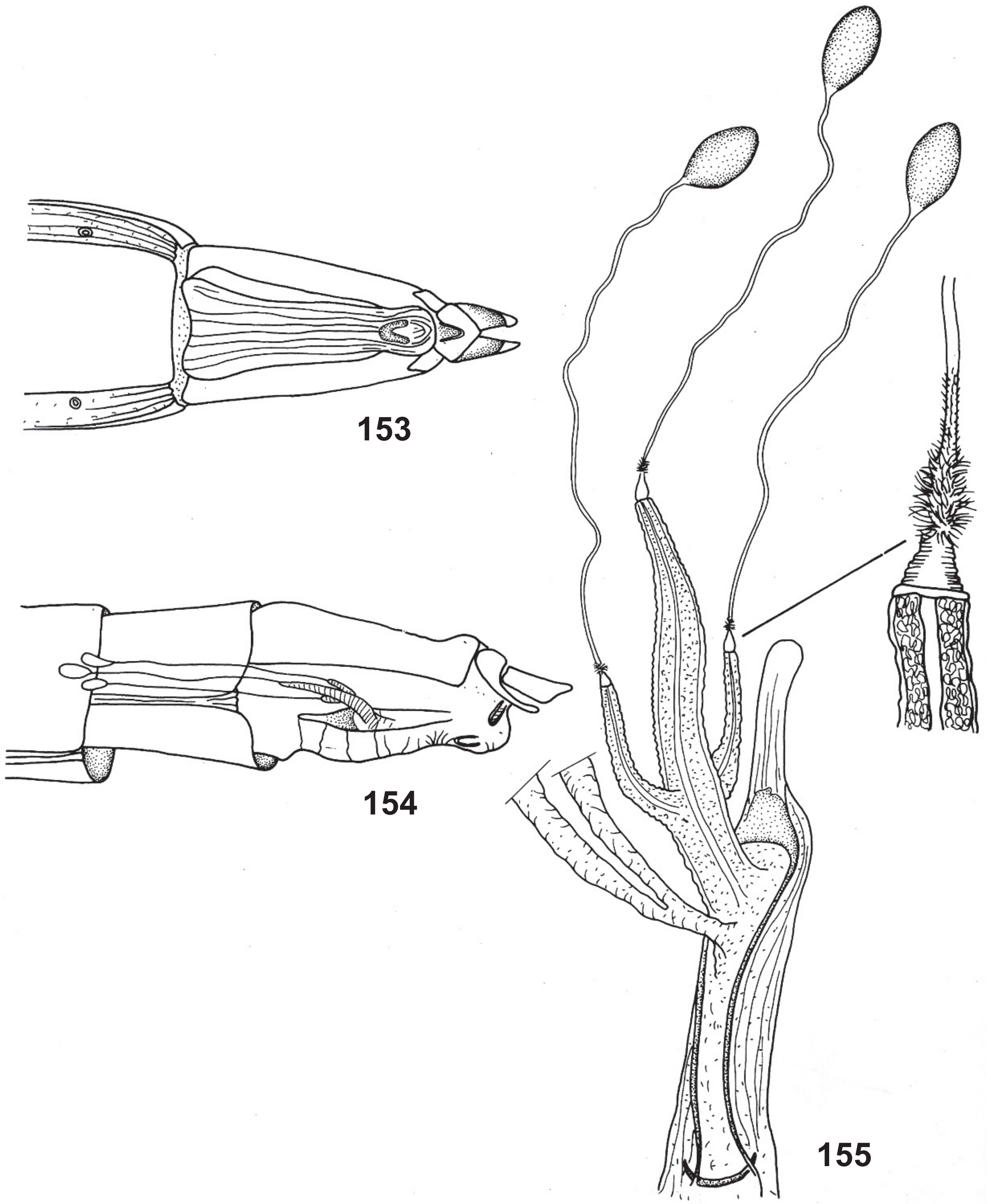
Figs. 133-140. *Lochmorhynchus tumbrensis* (Artigas, 1970): 133, antenna; 134, profile of scutellum; 135-136, male terminalia, lateral and dorsal views; 137, aedeagus, lateral view; 138, female terminalia, lateral view, showing situation of spermathecae; 139, apex of female terminalia, dorsal view; 140, spermathecae.



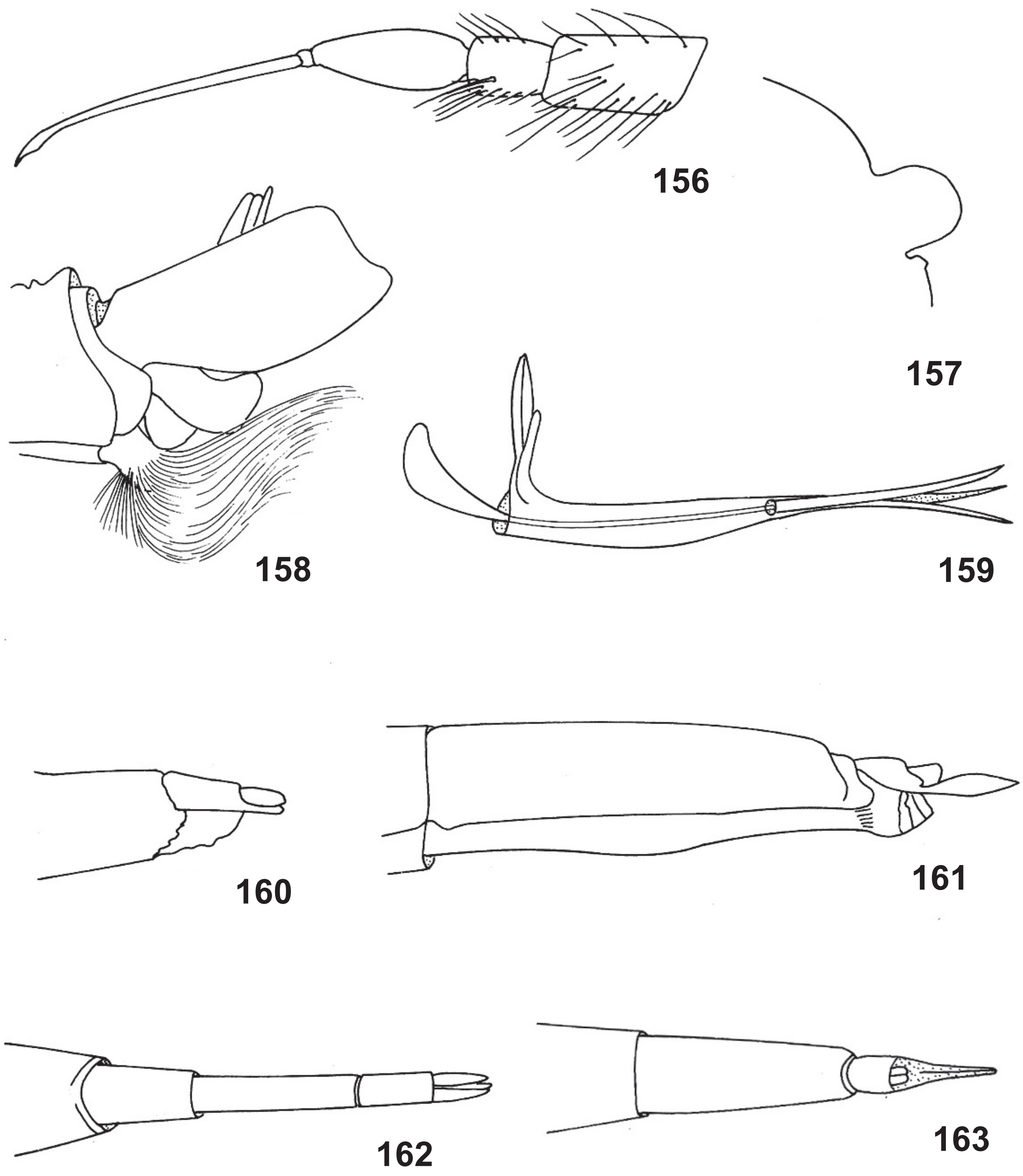
Figs. 141-147. *Lochmorhynchus mucidus* (Walker, 1837): 141, antenna; 142, profile of scutellum; 143, male terminalia, lateral view; 144, male sternite 8 (hypandrium), ventral view; 145, aedeagus; 146, female terminalia, dorsal view; 147, spermathecae.



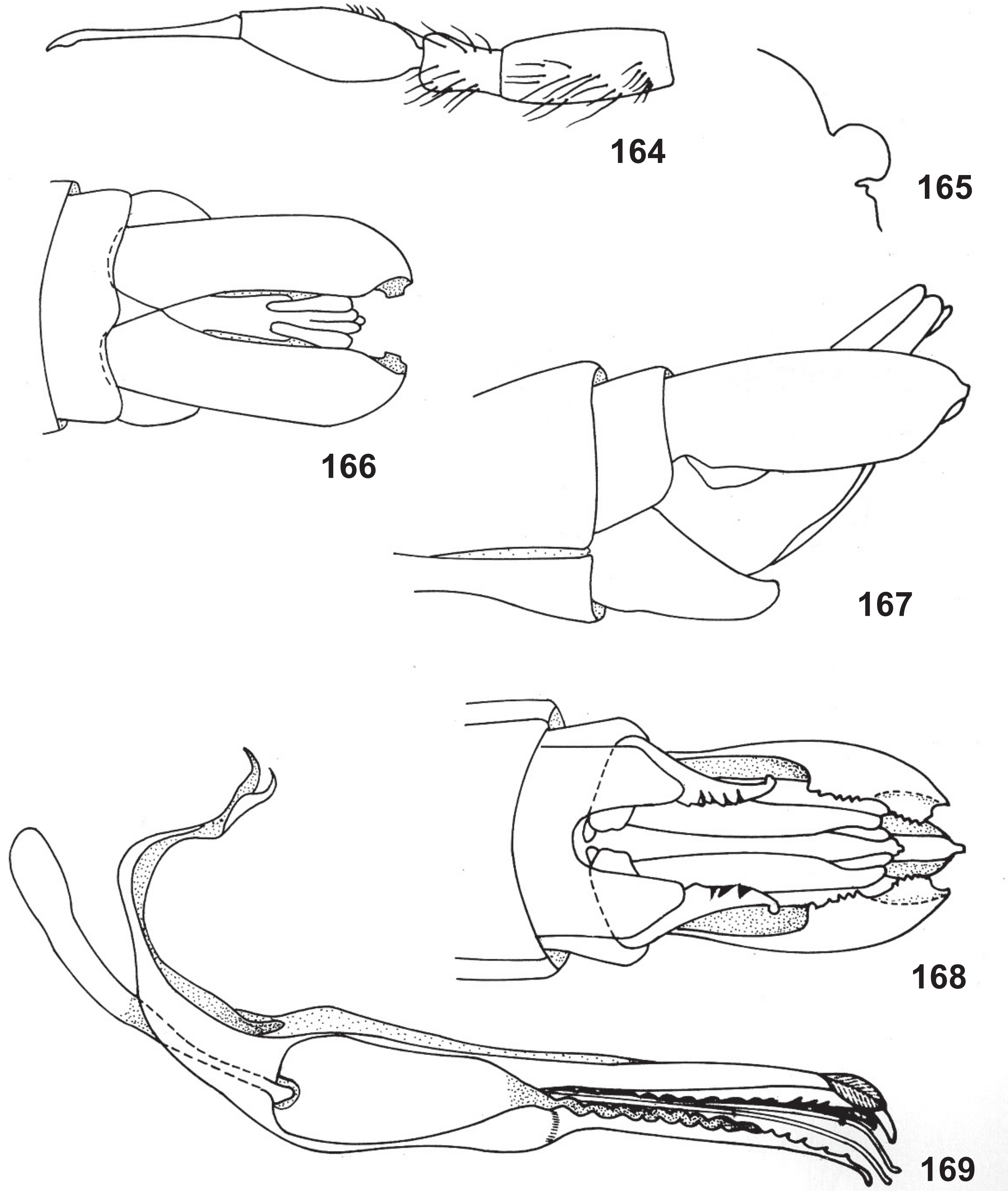
Figs. 148-152. *Lochmorhynchus albicans* (Carrera & d'Andretta, 1953): 148, antenna; 149, profile of scutellum; 150-151, male terminalia in lateral, dorsal and ventral views.



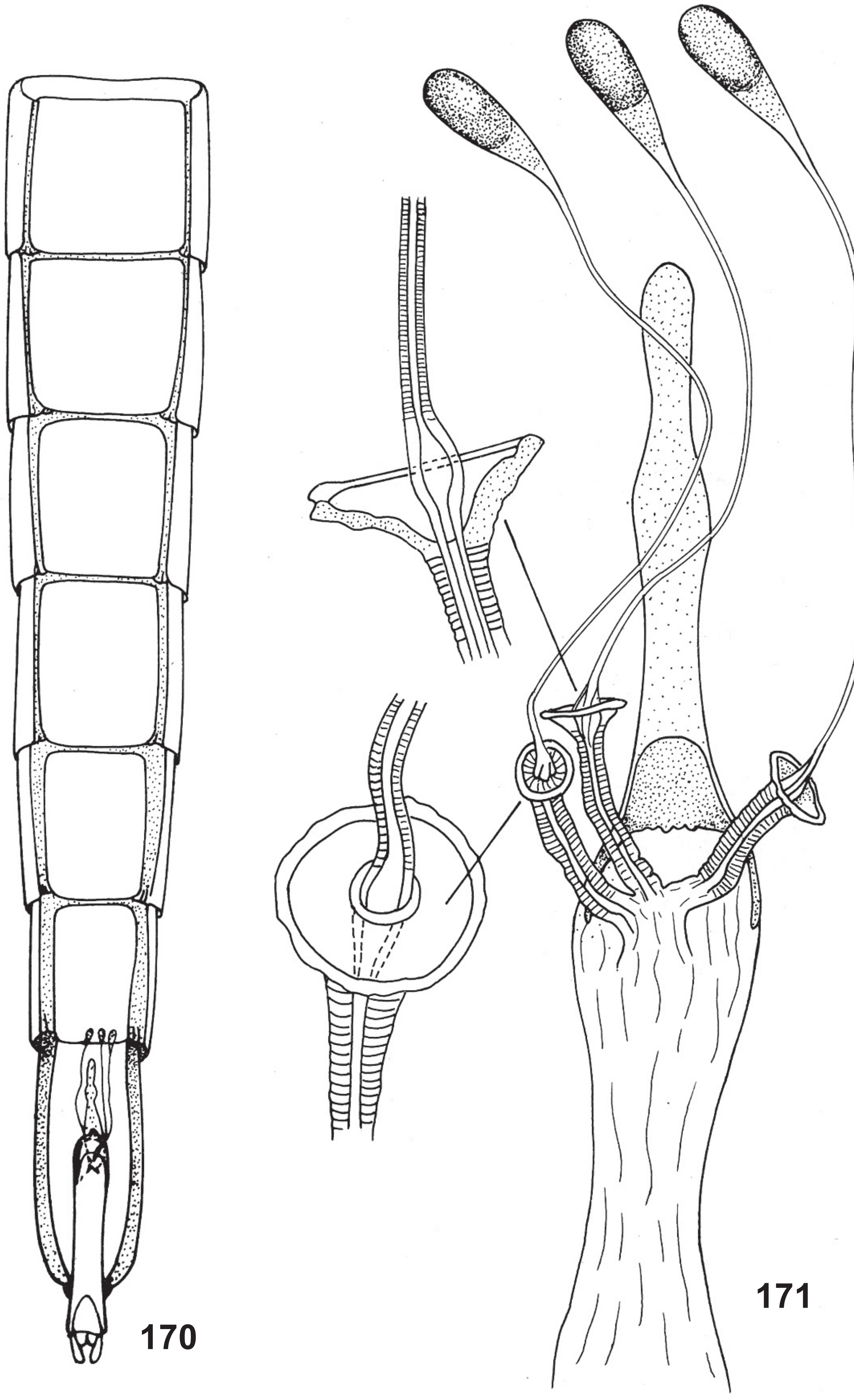
Figs. 153-155. *Lochmorhynchus albicans* (Carrera & d'Andretta, 1953): 153, female terminalia, dorsal view; 154, do., lateral view, showing situation of the spermathecae; 155, spermathecae.



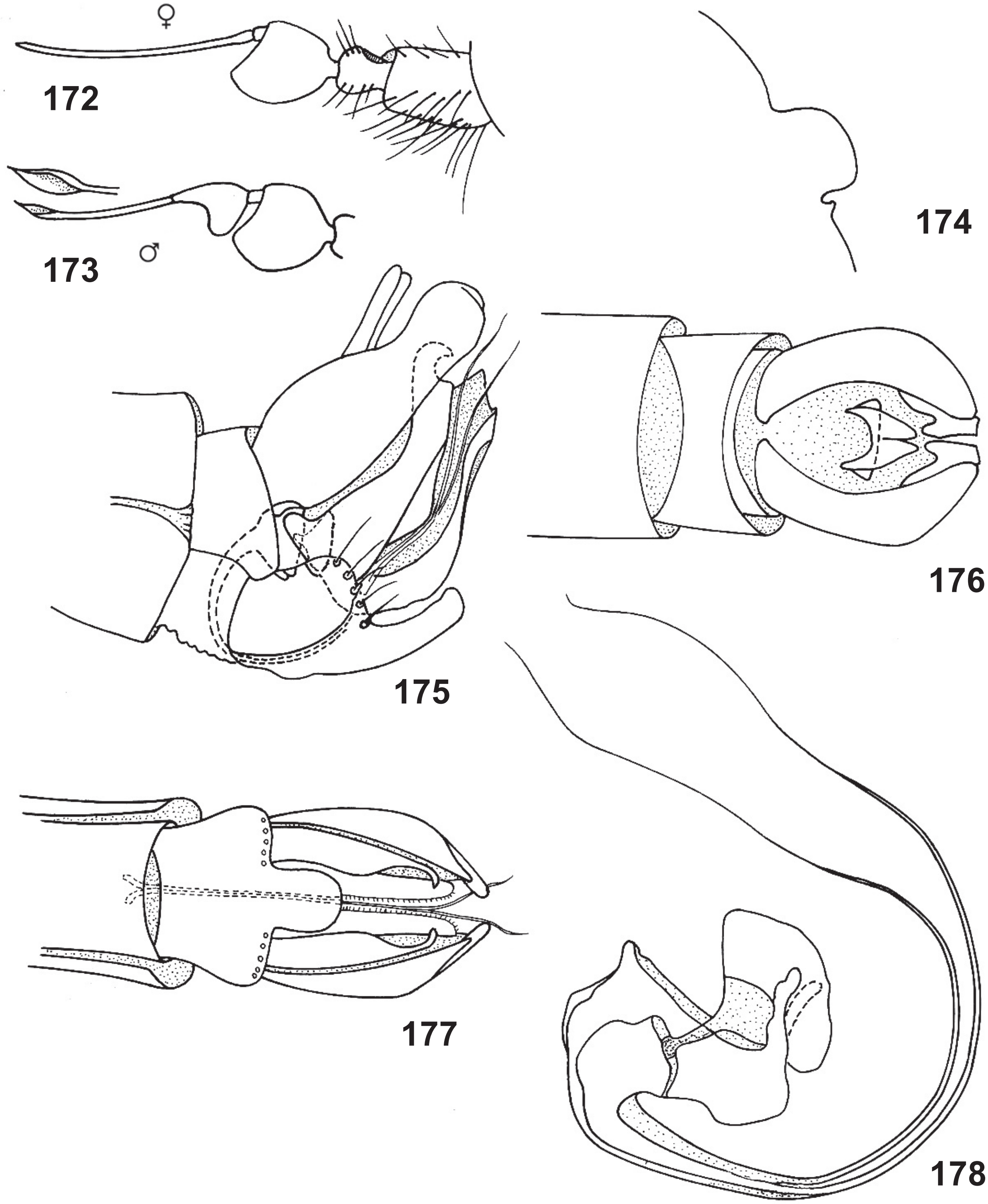
Figs. 156-161. *Lochmorhynchus borrori* Artigas, 1970: 156, antenna; 157, profile of scutellum; 158, male terminalia, lateral view; 159, aedeagus; 160-161, female terminalia, lateral and dorsal views. Figs. 162-163. *Lochmorhynchus griseus* (Guérin-Méneville, 1830), female terminalia, lateral and dorsal views.



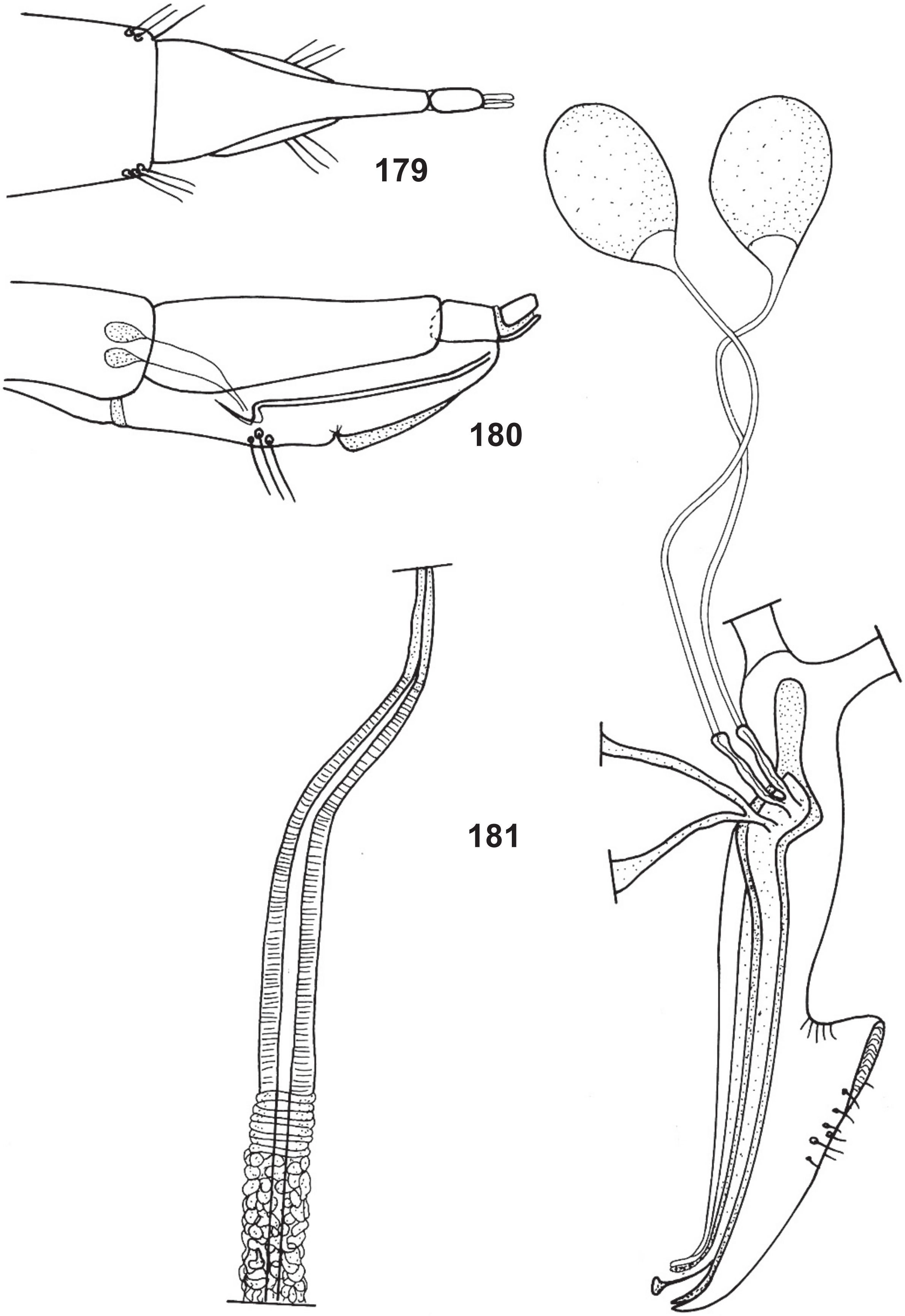
Figs. 164-169. *Lochmorhynchus sp.* (Argentina): 164, antenna; 165, profile of scutellum; 166-168, male terminalia in dorsal, lateral and ventral views; 169, aedeagus.



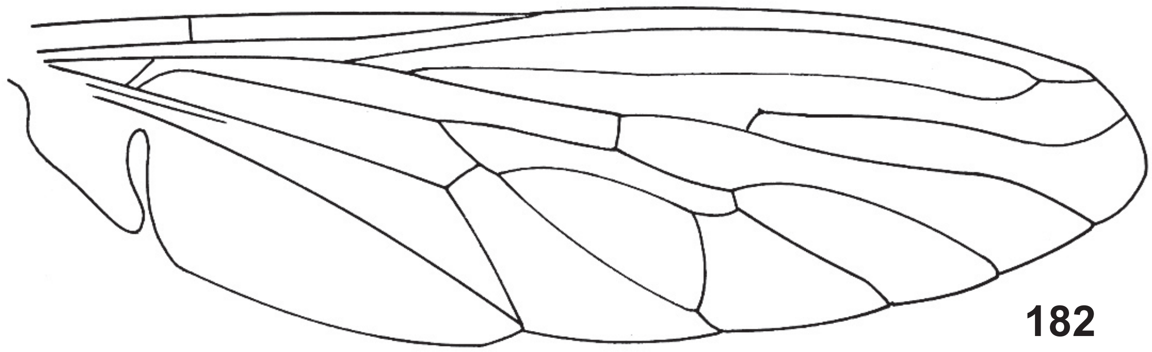
Figs. 170-171. *Lochmorhynchus sp.* (Argentina): 170, female abdomen, ventral view, showing situation of spermathecae; 171, spermathecae.



Figs. 172-178. *Cerozodus nodicornis* (Wiedemann, 1828): 172-173, antenna, female and male; 174, profile of scutellum; 175-177, male terminalia in lateral, dorsal and ventral views; 178, aedeagus, lateral view.



Figs. 179-181. *Cerozodus nodicornis* (Wiedemann, 1828): 179, ovipositor, dorsal view; 180, do., lateral view, showing situation of spermathecae; 181, spermathecae.



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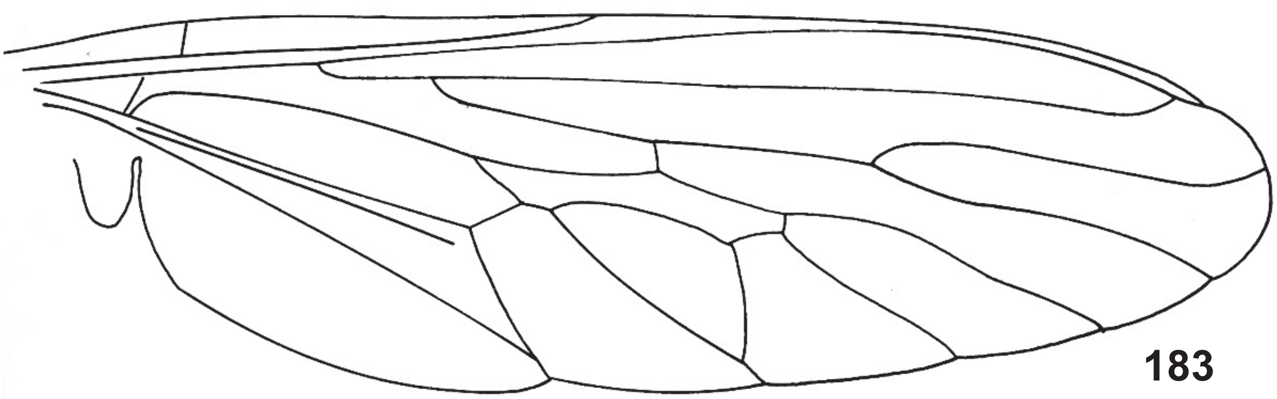

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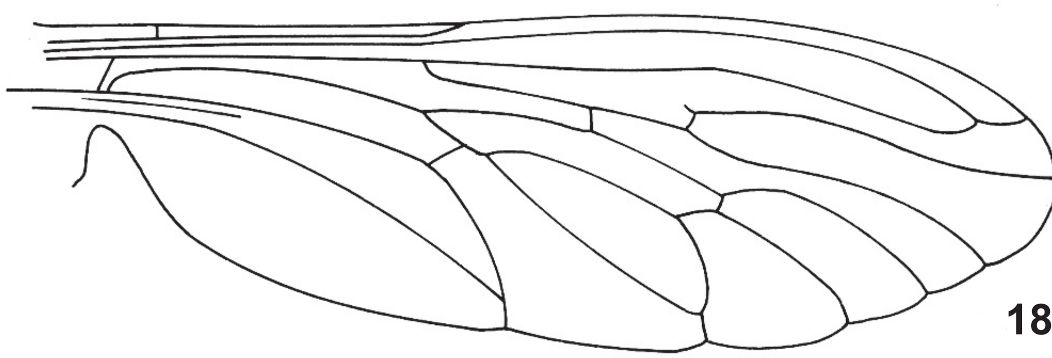

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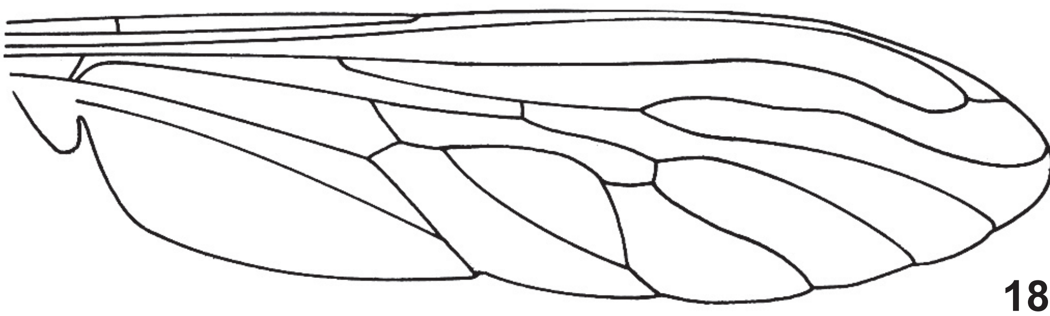
Figs. 182-184. Wings. 182: *Cerozodus nodicornis* (Wiedemann, 1828); 183: *Ctenodontina maya* Carrera & d'Andretta, 1953 (holotype); 184: *Lecania sp.* (Brazil).



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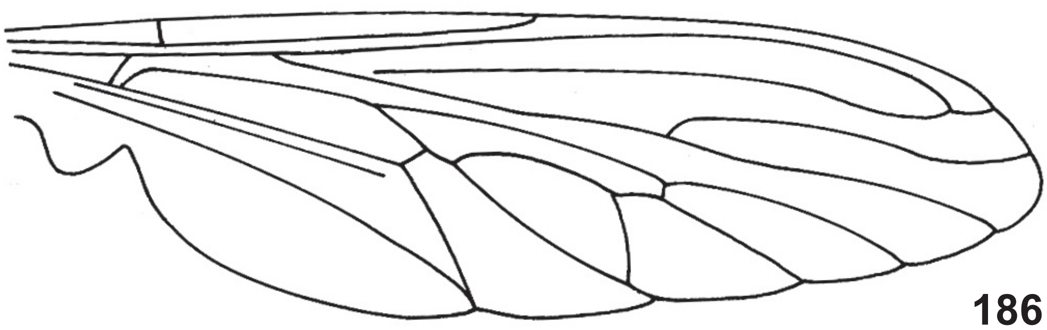

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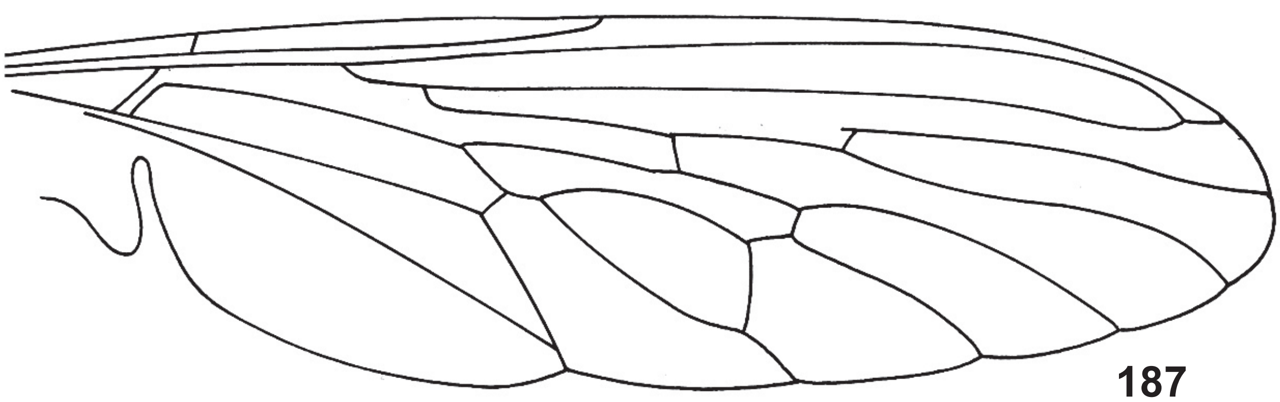

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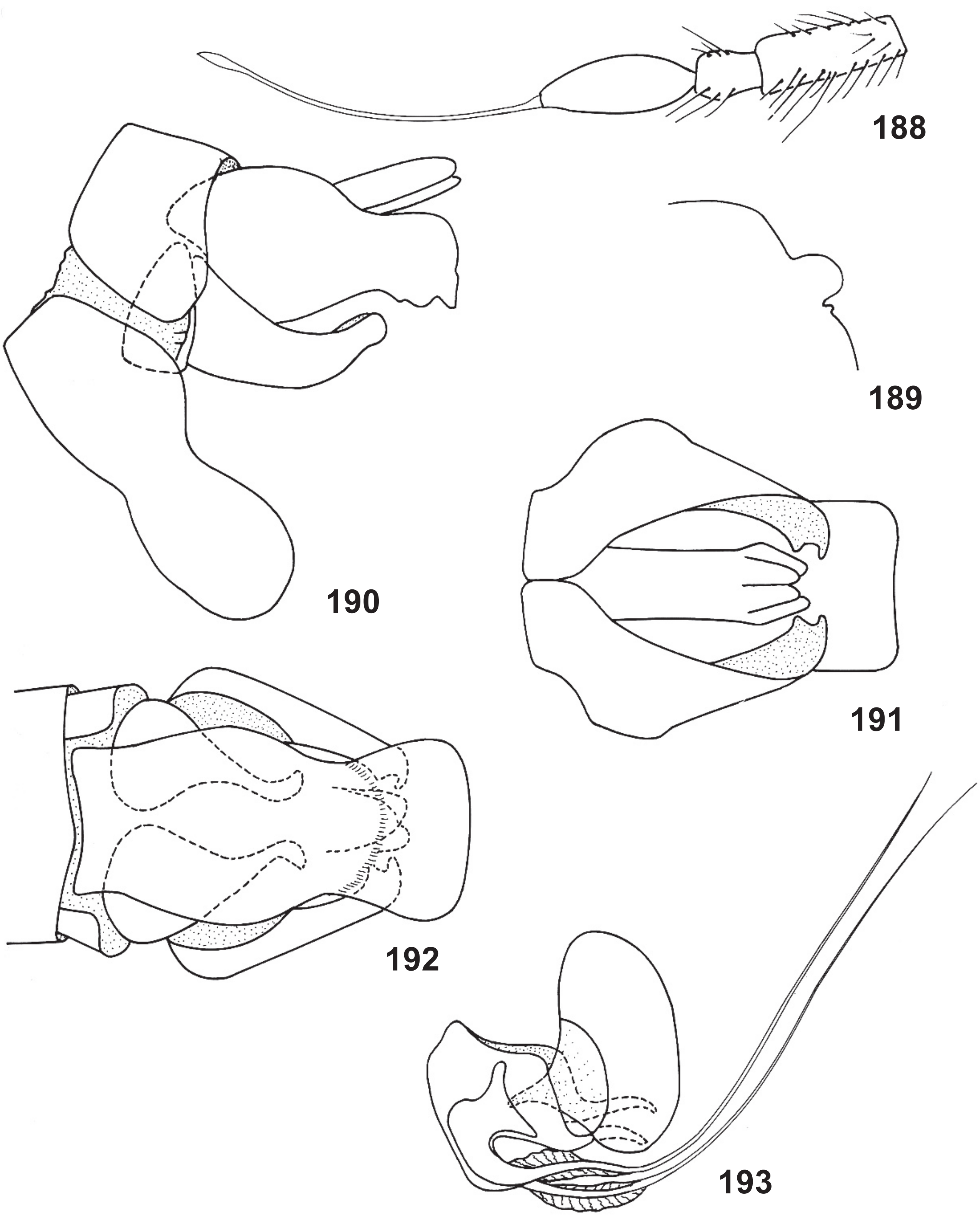
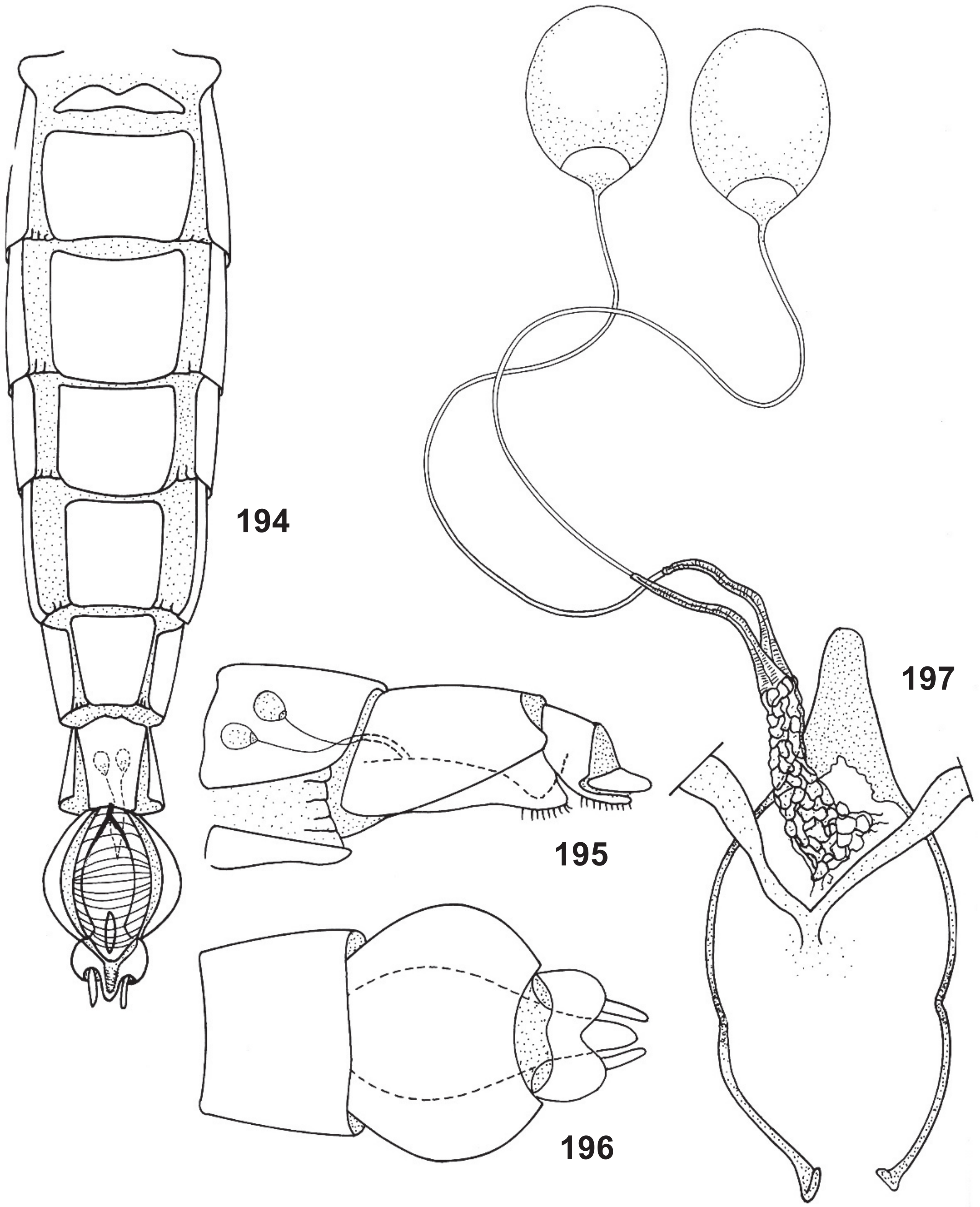
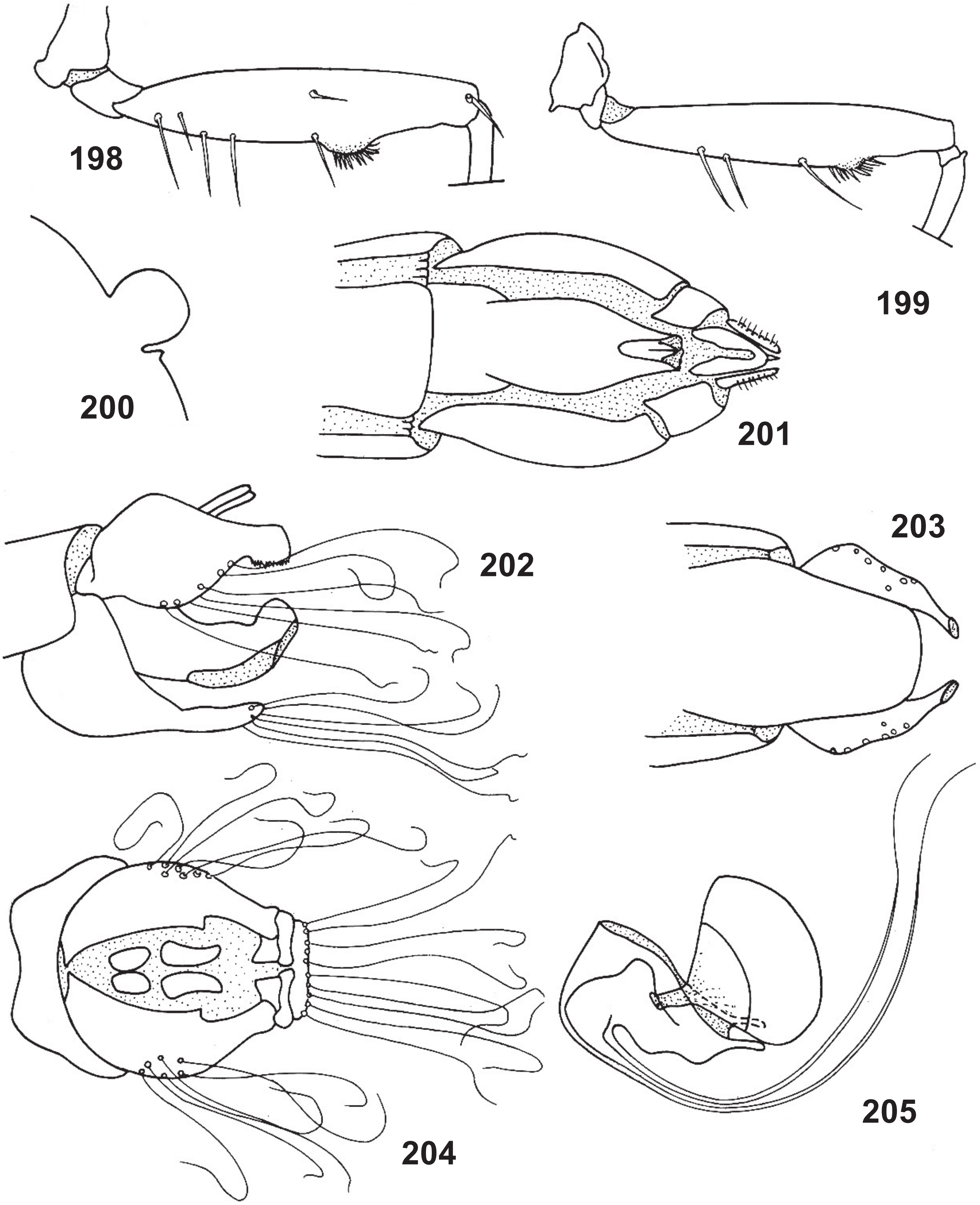
Figs. 185-187. Wings. 185: *Lecania sp.* (Argentina, Formosa, Gran Guardia); 186: *Lecania sp*. (Brazil, Mato Grosso, Três Lagoas); 187: *Lecania rufipes* Macquart, 1838.



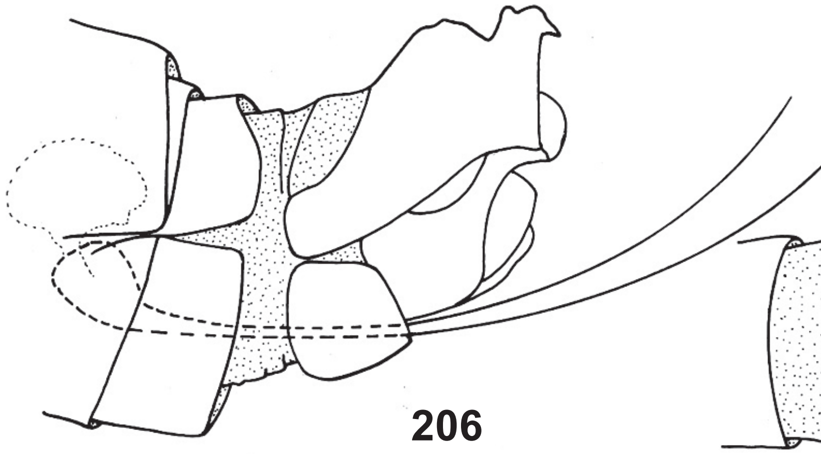
Figs. 188-193. *Ctenodontina carrerai* (Hull, 1958) (holotype): 188, antemna; 189, profile of scutellum; 190-192, male terminalia in lateral, dorsal and ventral views; 193, aedeagus, lateral view.



Figs. 194-197. *Ctenodontina carrerai* (Hull, 1958): 194, female abdomen, ventral view; 195, ovipositor, lateral view; 196, do., dorsal view; 197, spermathecae.



Figs. 198, 200-205. *Ctenodontina maya* Carrera & d'Andretta, 1953: 198, male hind femur, lateral view; 200, profile of scutellum; 201, ovipositor, ventral view; 202-204, male terminalia, lateral, dorsal and ventral views; 205, aedeagus, lateral view. Fig. 199. *Ctenodontina sp.* (Argentina, Jujuy, La Legua), male hind femur, lateral view.



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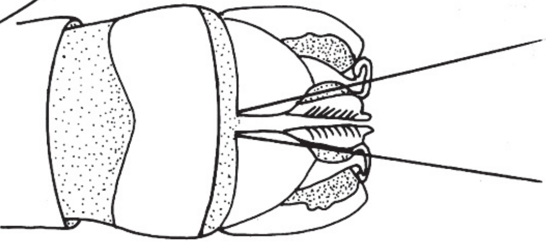

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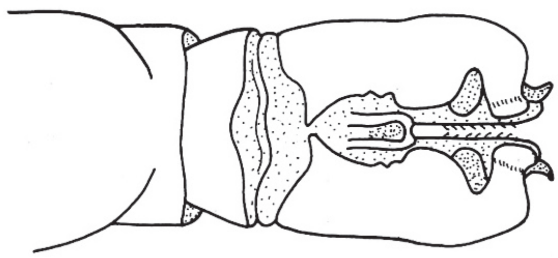

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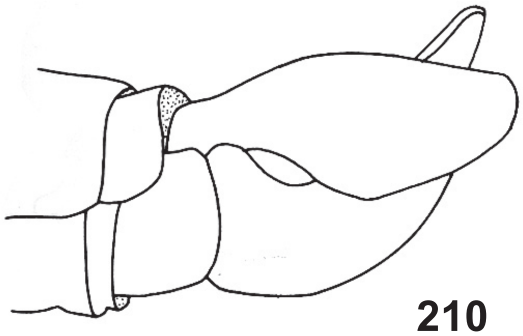
Figs. 206-209. *Lecania rufina* (Wiedemann, 1819): 206-208, male terminalia in lateral, ventral and dorsal views; 209, aedeagus, lateral view.



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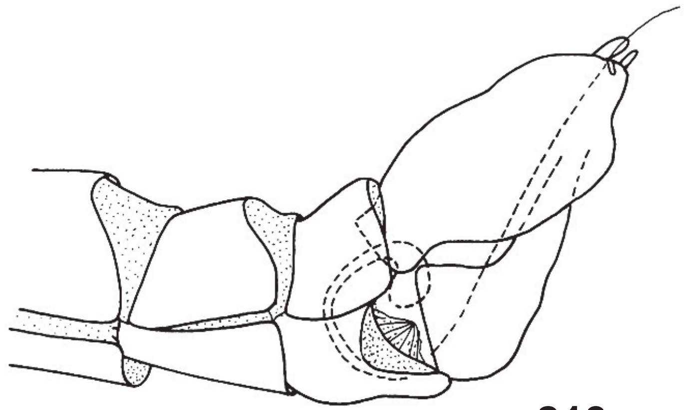

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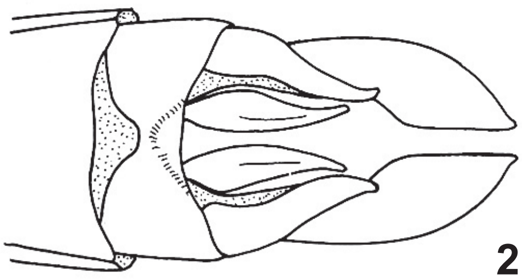

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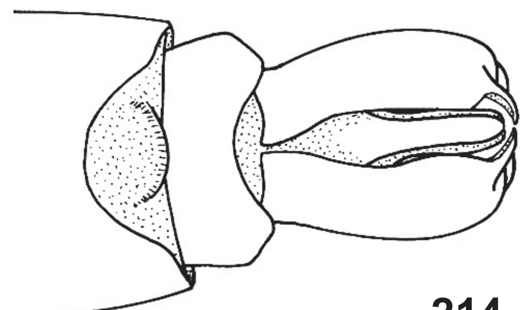

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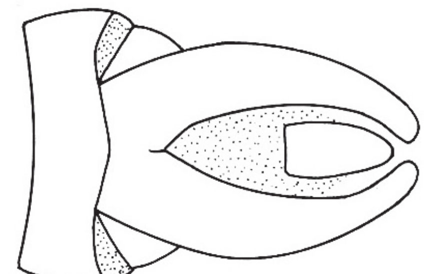

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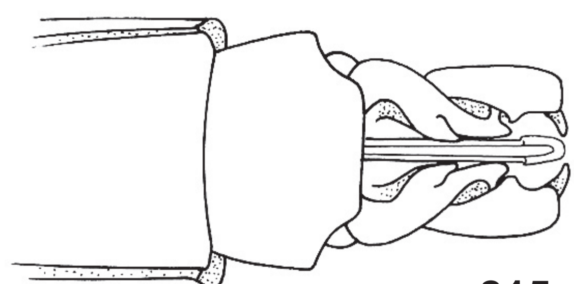

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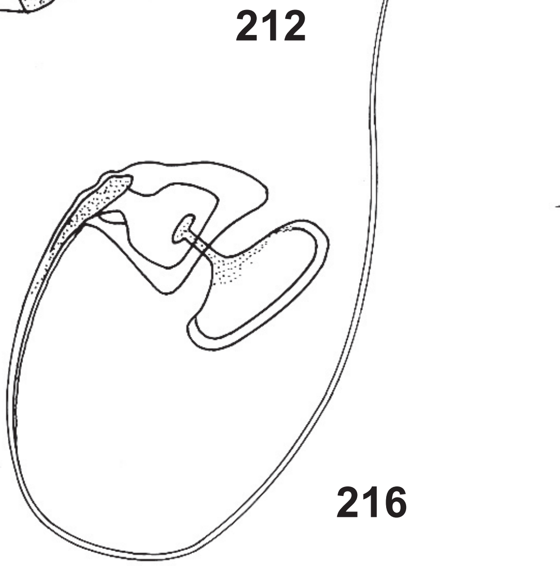

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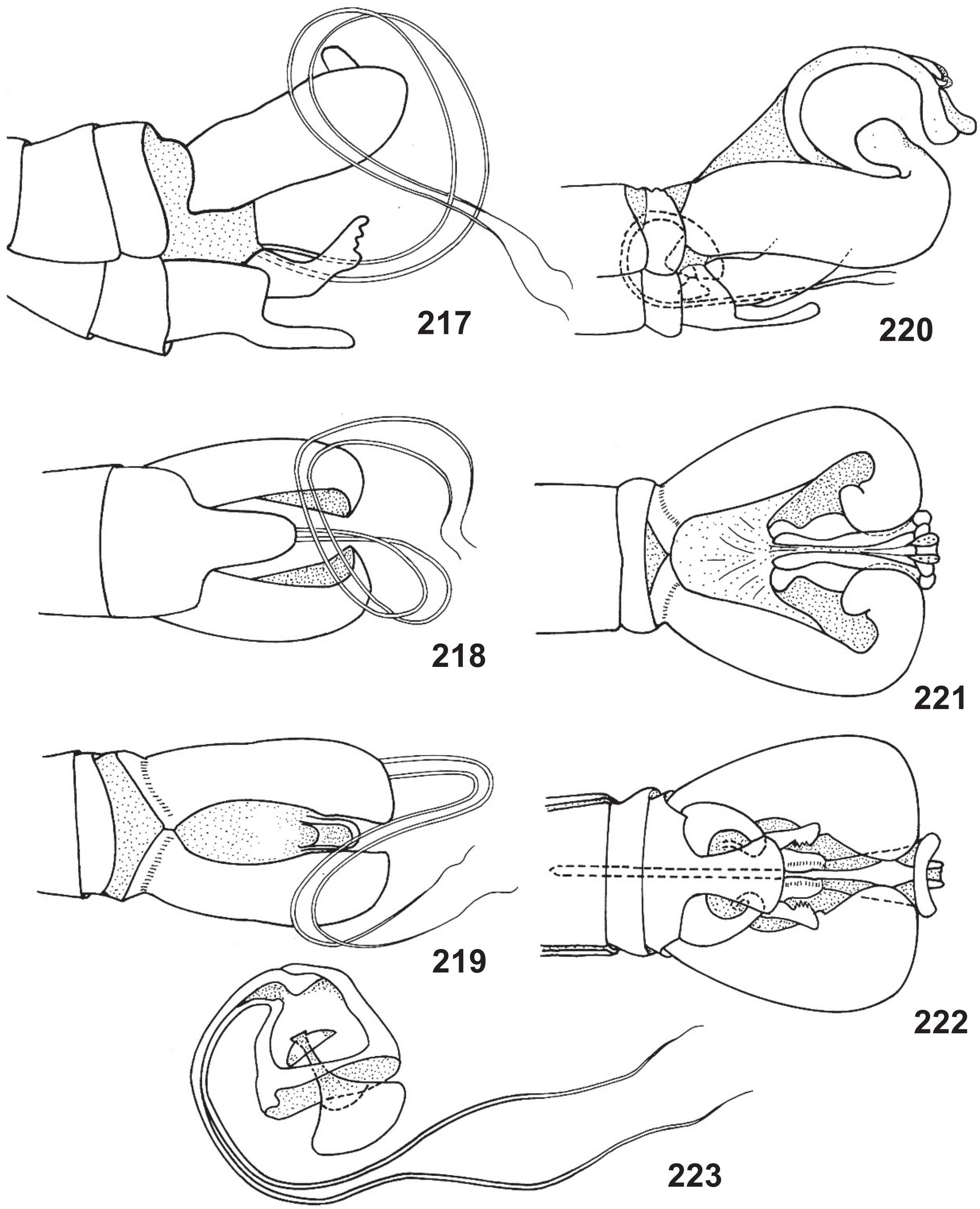
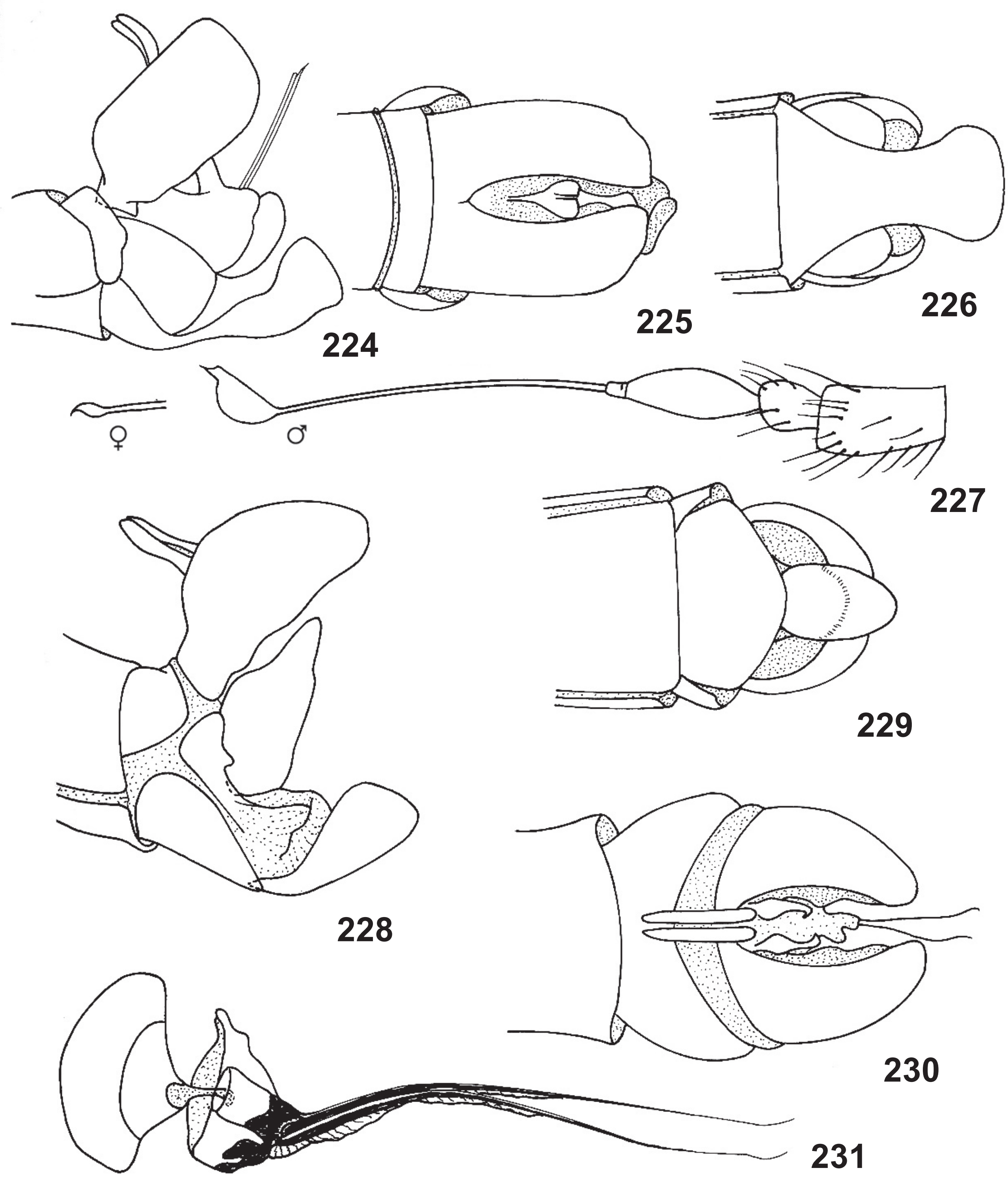
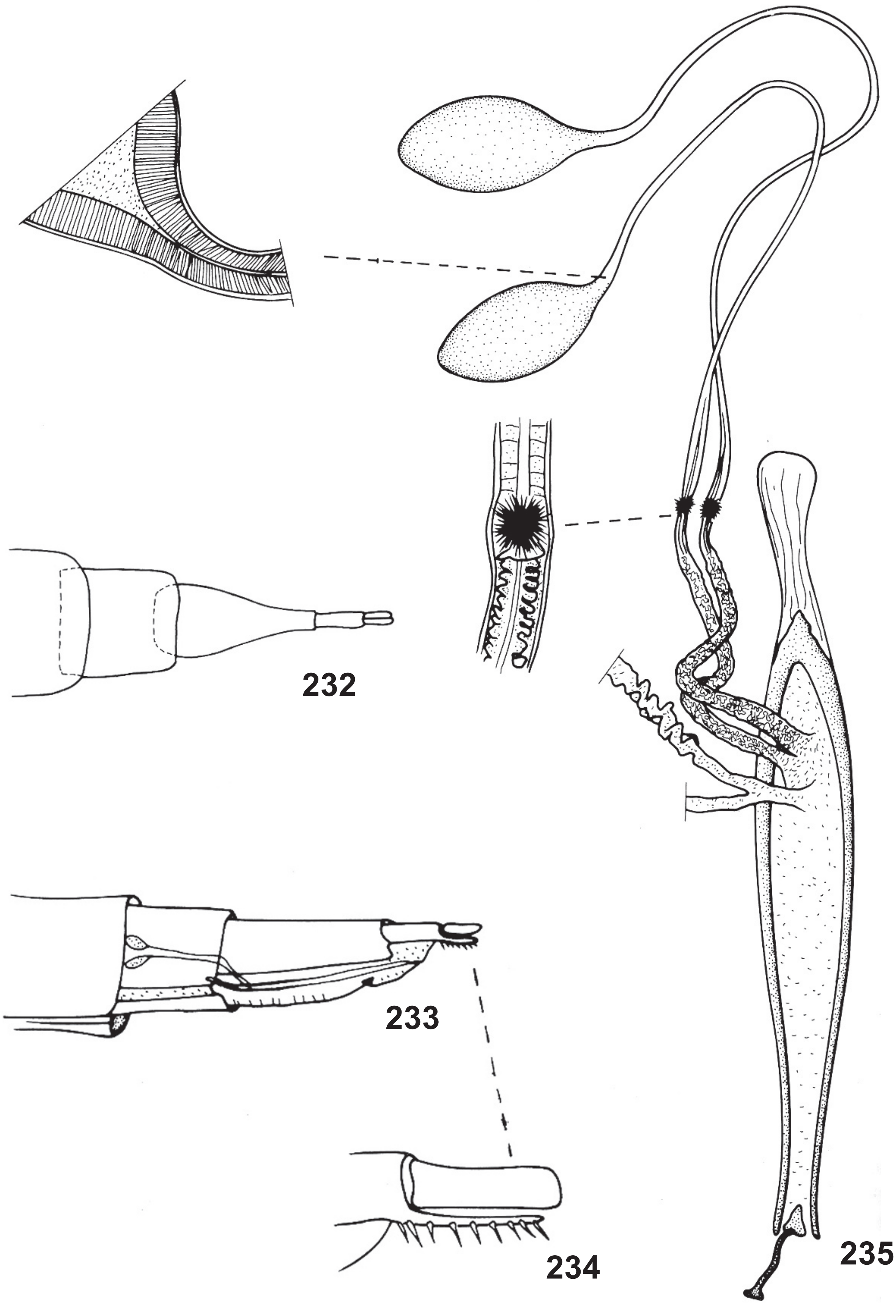
Figs. 210-212. *Lecania sp.*, male terminalia in lateral, ventral and dorsal views. Figs. 213-216. *Lecania sp.* (Surinam, Langaman Kondre, Marowijne river): 213-215, male terminalia in lateral, ventral and dorsal views; 216, aedeagus, lateral view.



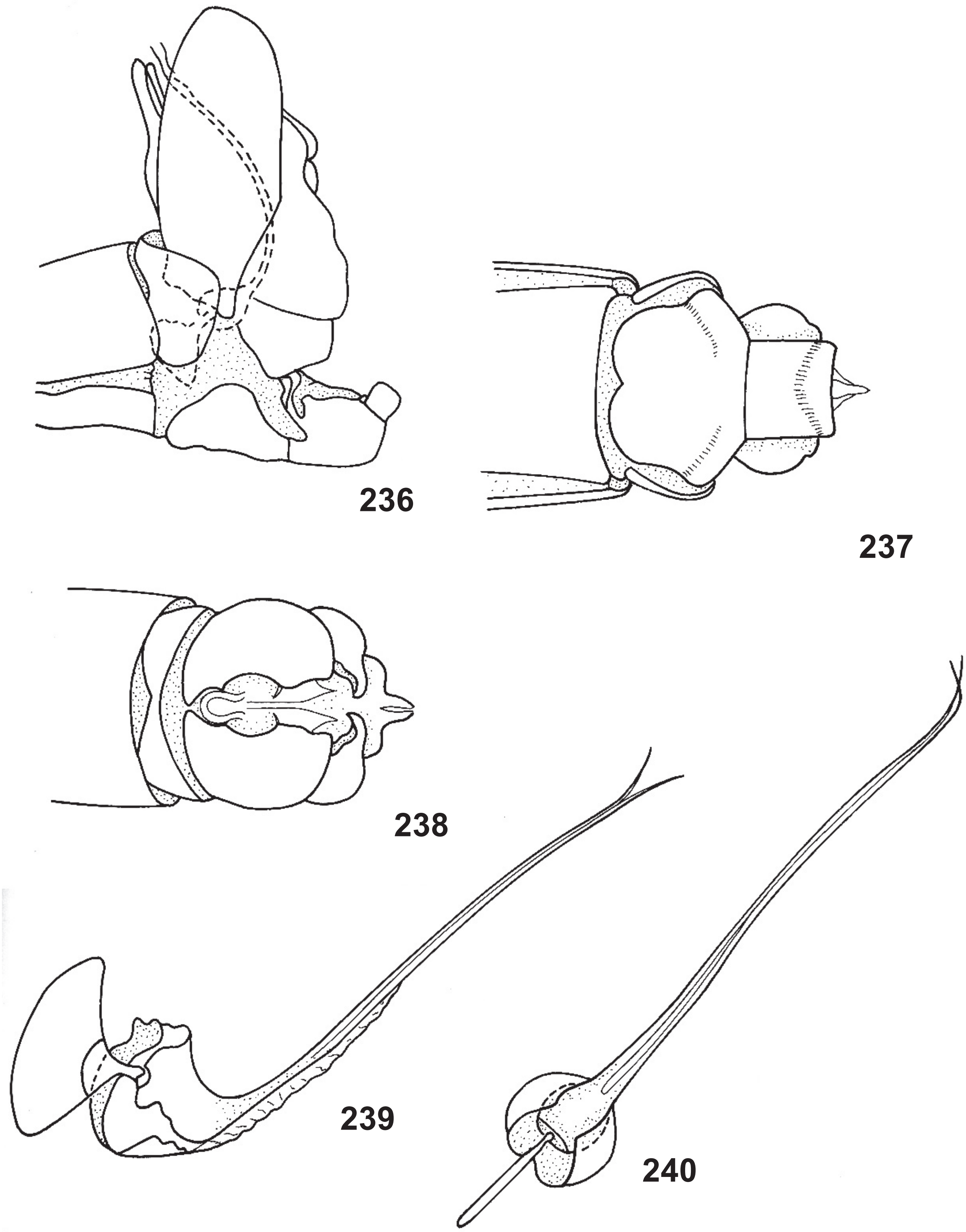
Figs. 217-219. *Lecania sp.* (Brazil, Mato Ggrosso, Três Lagoas), male terminalia in lateral, ventral and dorsal views. Figs. 220-223. *Lecania sp.* (Brazil, São Paulo, Batatais): 220-222, male terminalia in lateral, dorsal and ventral views; 223, aedeagus, lateral view.



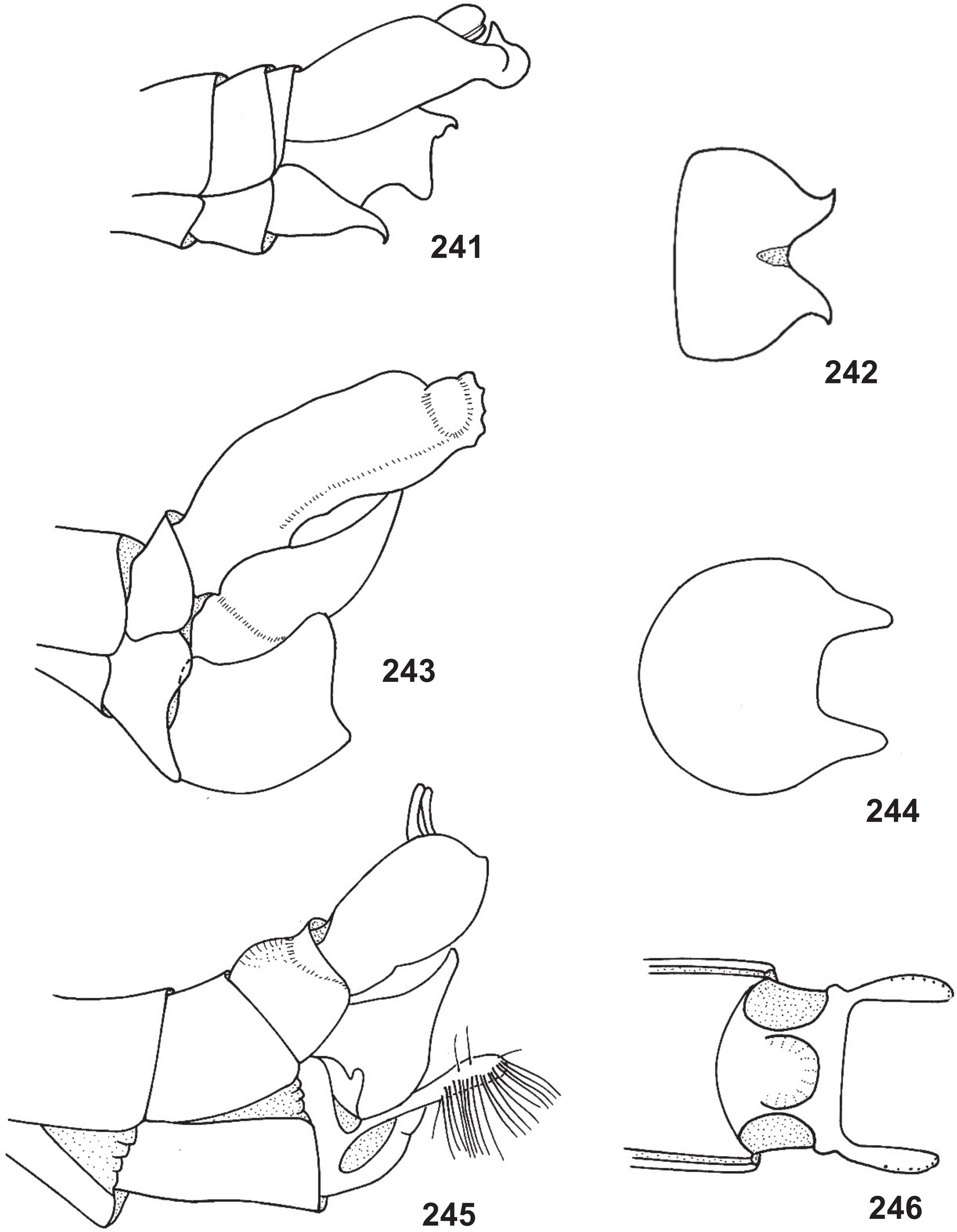
Figs. 224-226. *Lecania sp.* (Brazil). 224-225, male terminalia in lateral and dorsal views; 226, detail of hypandrium. Fig. 227. *Lecania sp.*, antenna. Figs. 228-231. *Lecania rufipes* Macquart, 1838: 228-230, male terminalia in lateral, ventral and dorsal views; 231, aedeagus, lateral view.



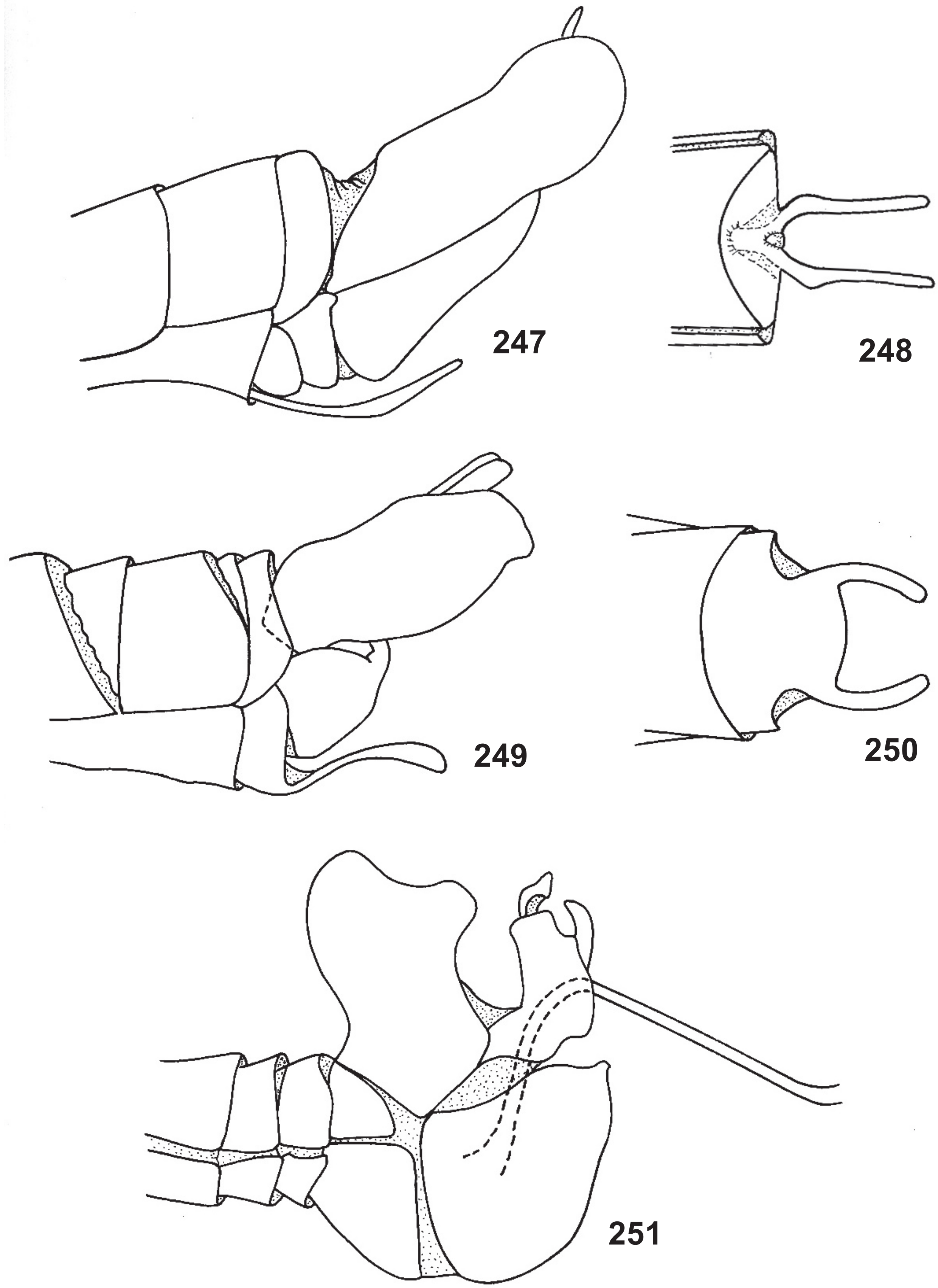
Figs. 232-235. *Lecania rufipes* Macquart, 1838: 232, ovipositor, dorsal view; 233, do., lateral view, showing situation of spermathecae; 234, detail of tergite 9; 235, spermathecae.



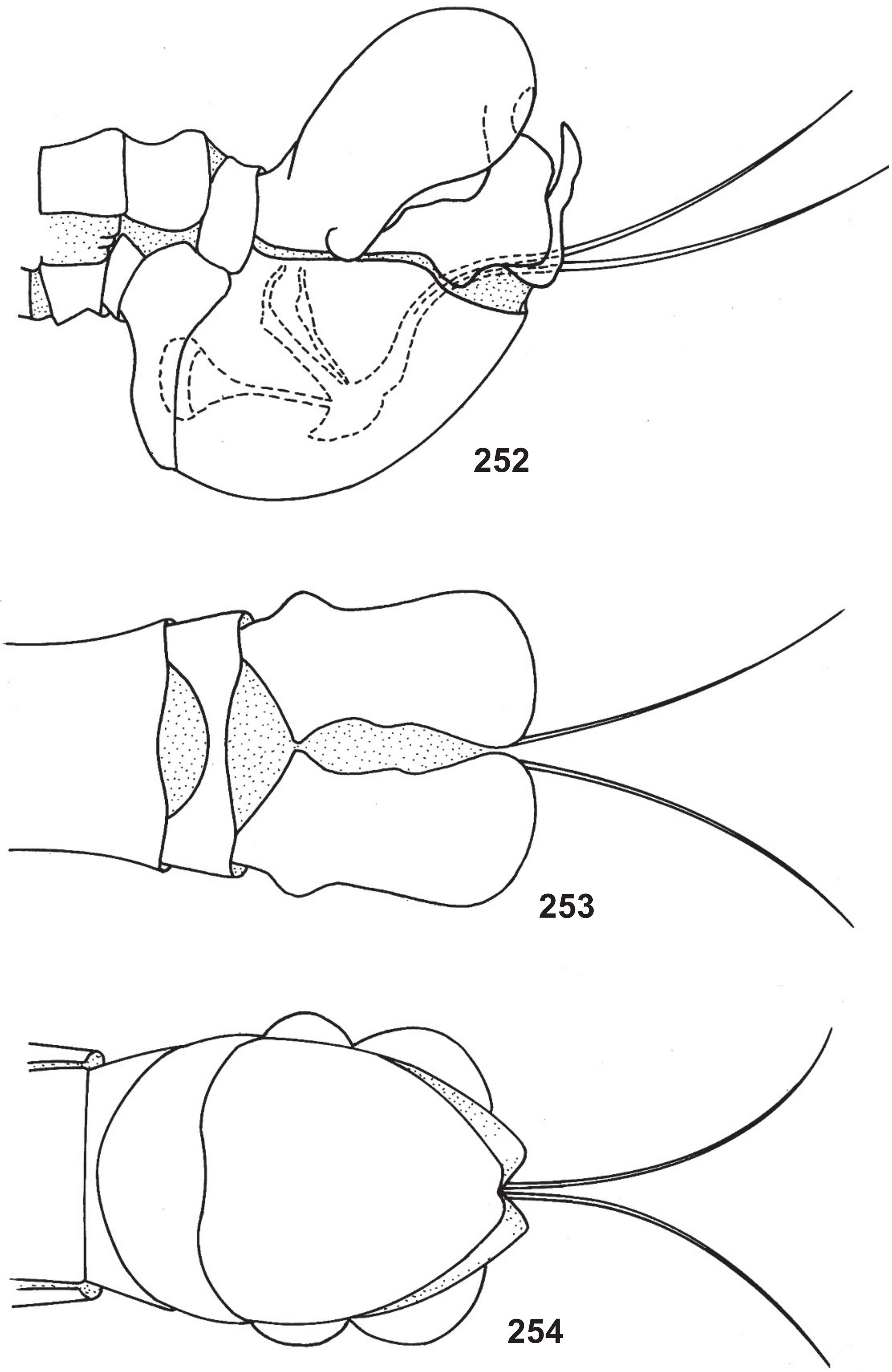
Figs. 236-240. *Lecania boraceae* Carrera, 1958: 236-238, male terminalia in lateral, ventral and dorsal views; 239-240, aedeagus in lateral and dorsal views.



Figs. 241-246. *Lecania sp.* Figs. 241-242 (Brazil, Pará, Canindé, rio Gurupi): 236, male terminalia, lateral view; 237, hypandrium, ventral view. Figs. 243-244. (Brazil, Minas Gerais, Santa Rita de Caldas): 243, male terminalia, lateral view; 244, hypandrium, ventral view. Figs. 245-246. *Lecania sp.* (Brazil, Goiás, Goiânia (Campinas)): 245, male terminalia, lateral view; 246, hypandrium, ventral view.



Figs. 247-248. *Lecania sp.* (Brazil, Pará, Oriximiná, boca do Cuminá-Miri): 247, male terminalia, lateral view; 248, hypandrium, ventral view. Figs. 249-250. *Lecania sp.* (Brazil, Mato Grosso, Maracaju): 249, male terminalia, lateral view; 250, hypandrium, ventral view. Fig. 251. *Lecania sp*. (Brazil, Santa Catarina, Joinville), male terminalia, lateral view.



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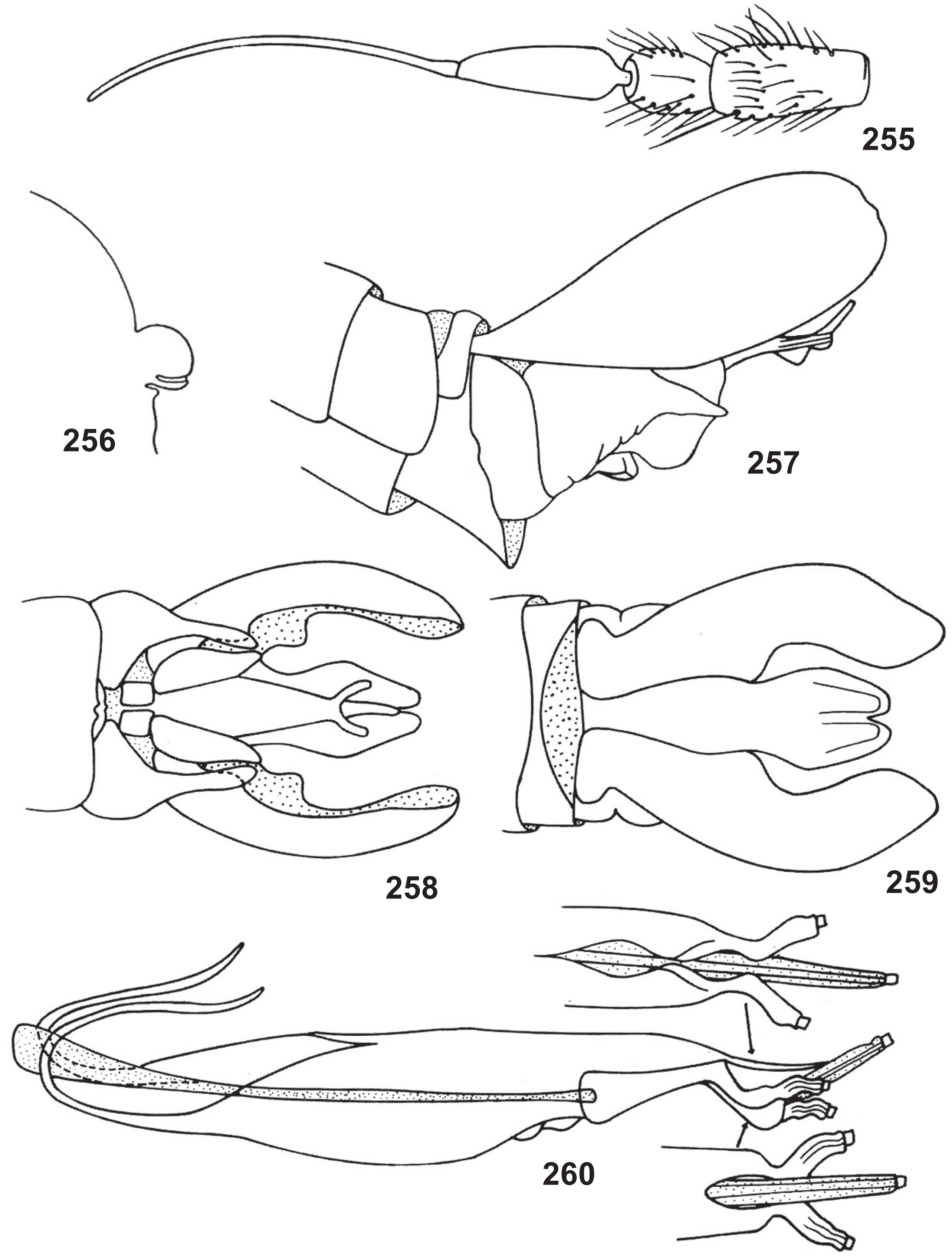
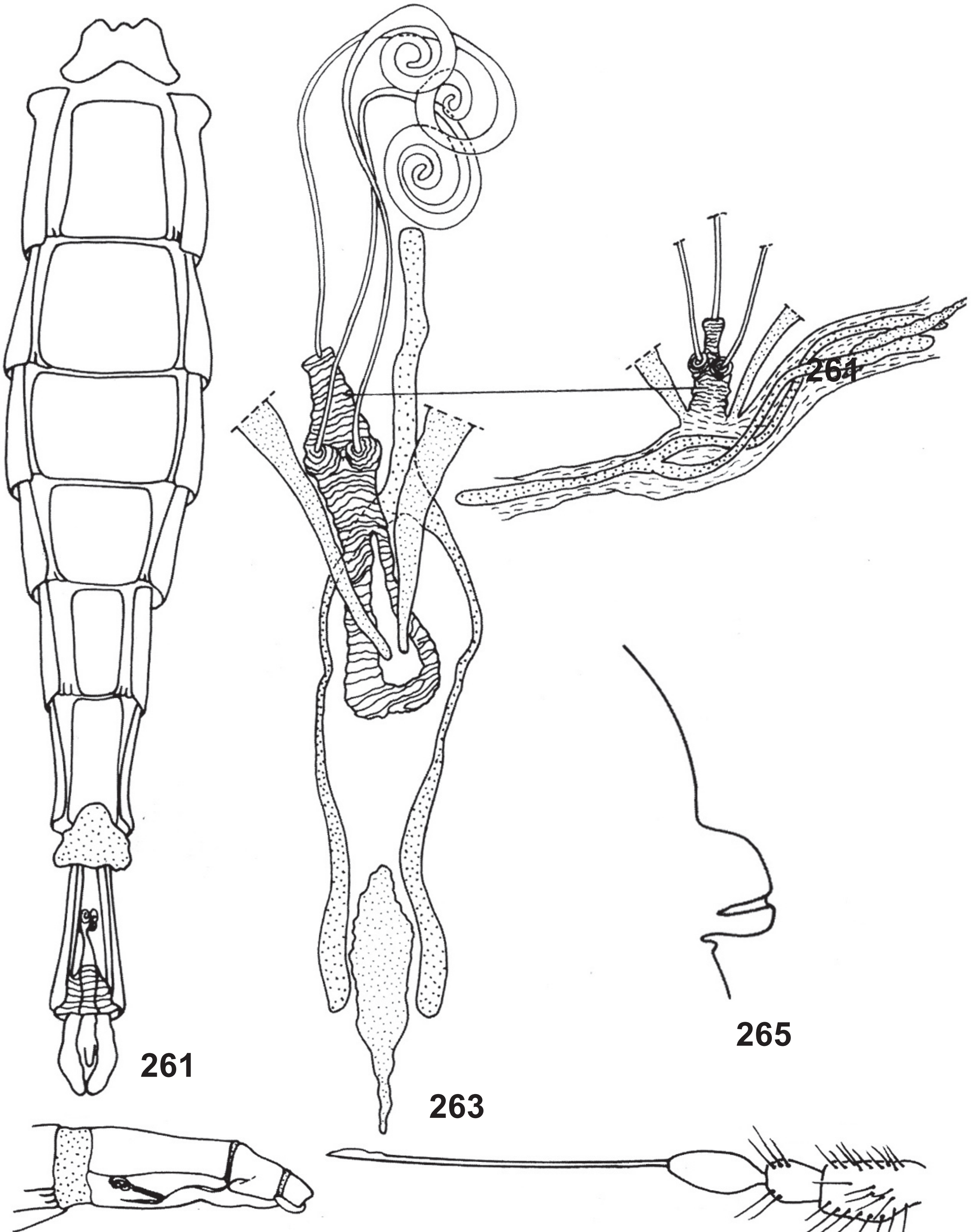
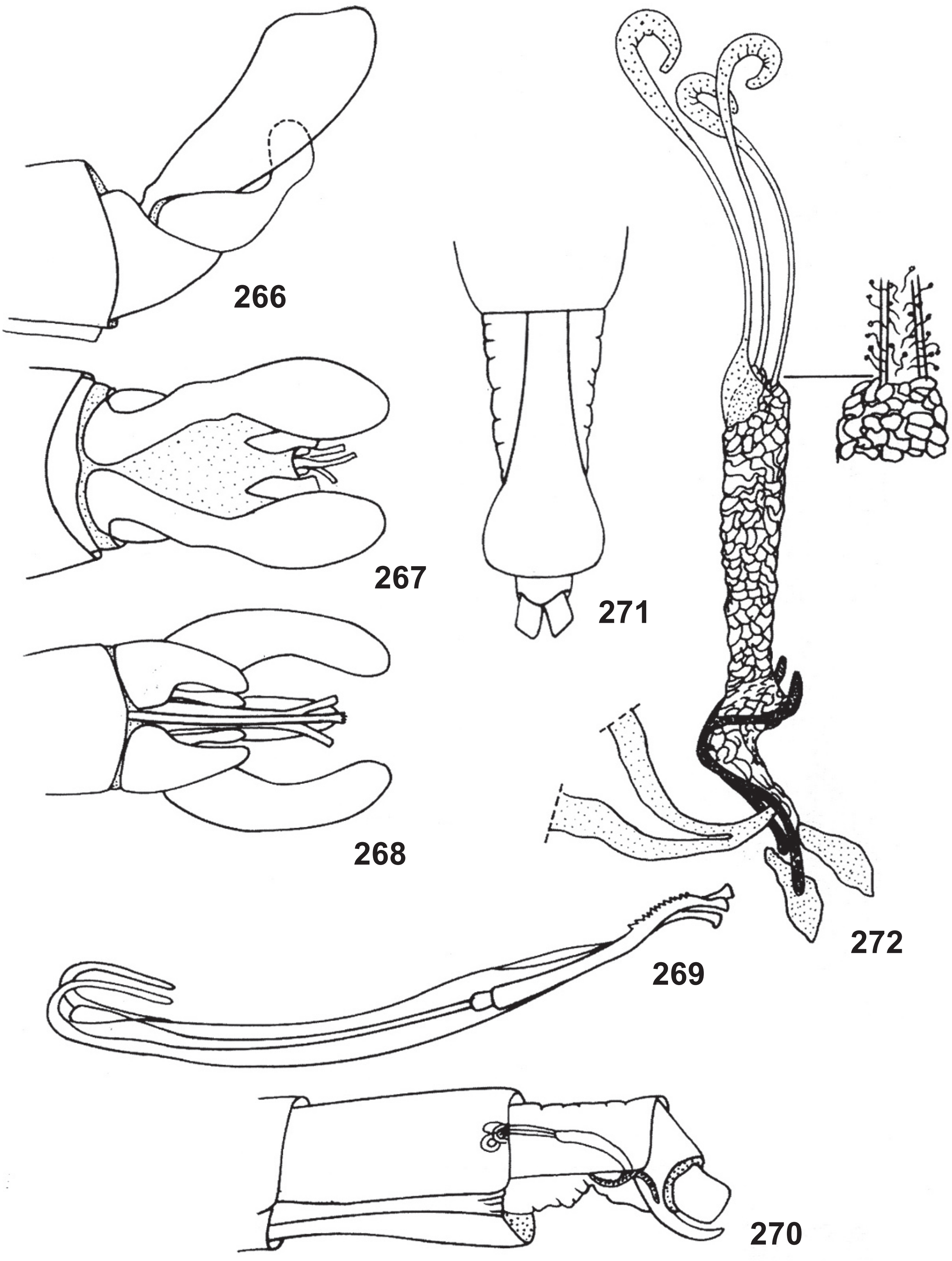
Figs. 252-254. *Lecania leucopyga* (Wiedemann, 1828), male terminalia in lateral, dorsal and ventral views.



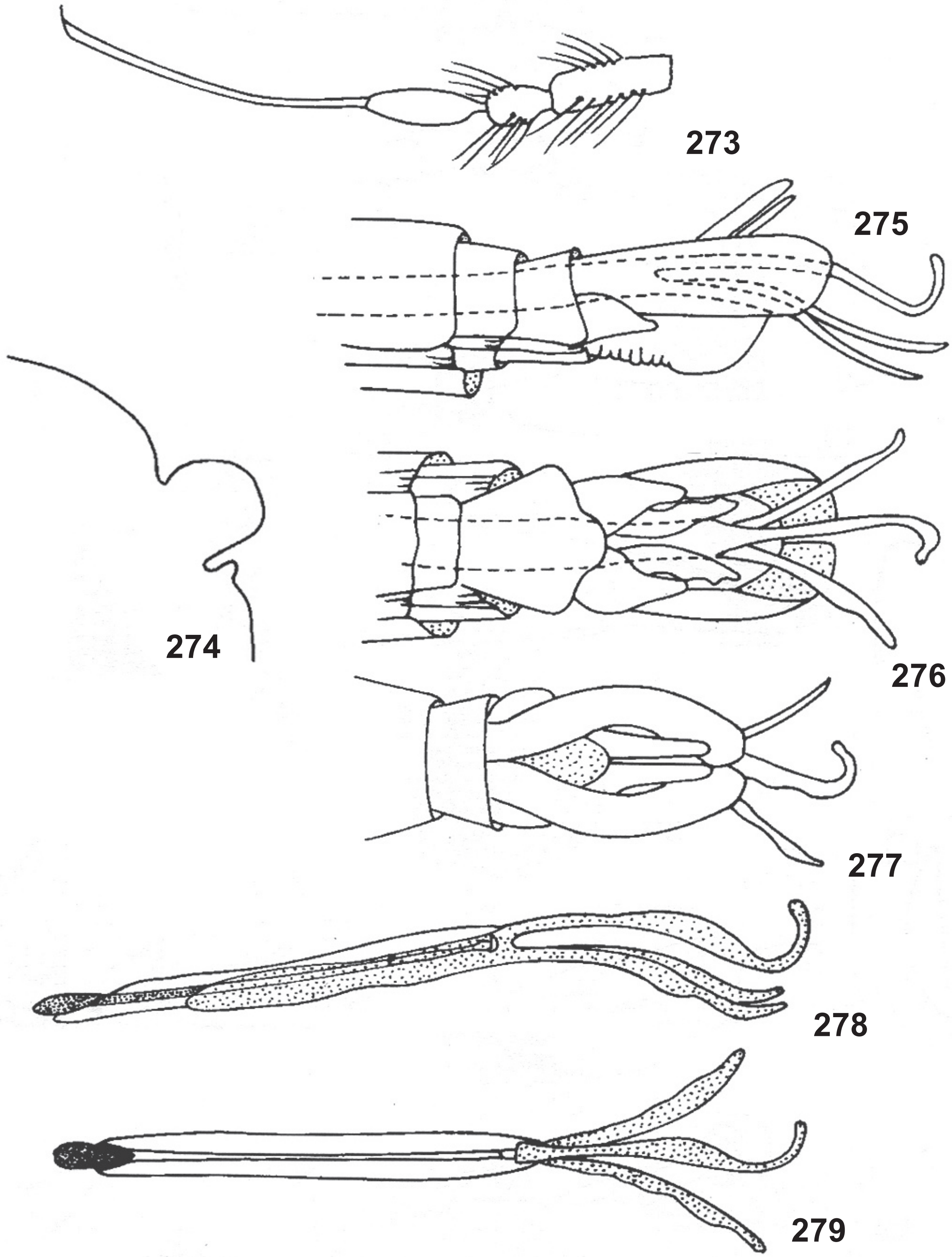
Figs. 255-260. *Promachus bellardii* Martin, 1965: 255, antenna; 256, profile of scutellum; 257-259, male terminalia in lateral, ventral and dorsal views; 260, aedeagus.



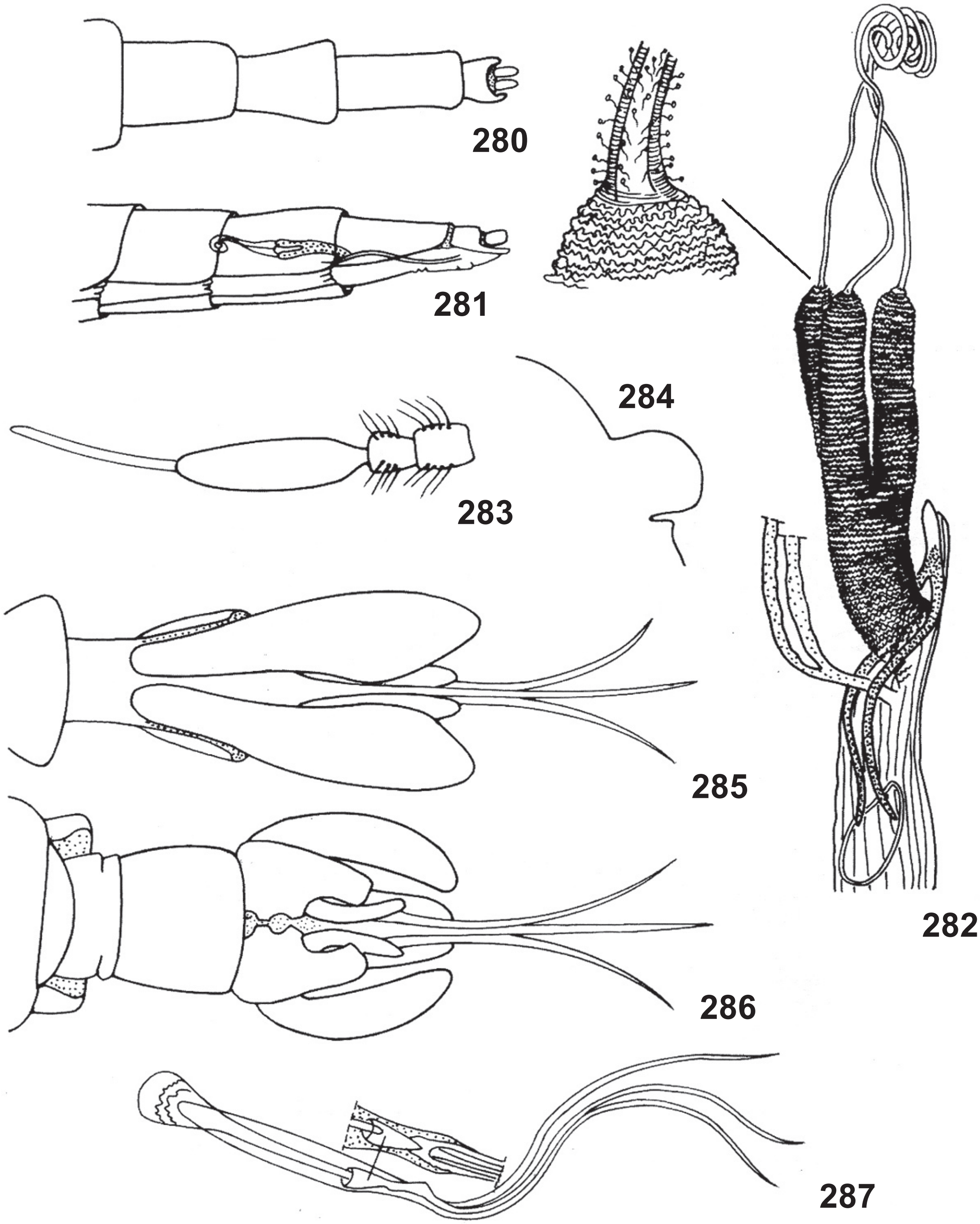
Figs. 261-263. *Promachus bellardii* Martin., 1965: 261, female terminalia, dorsal view; 262, do., lateral view, showing situation of spermathecae; 263, spermarthecae. Figs. 264-265. *Amblyonychus horni* (Bromley, 1935): 264, antenna; 265, profile of scutellum.



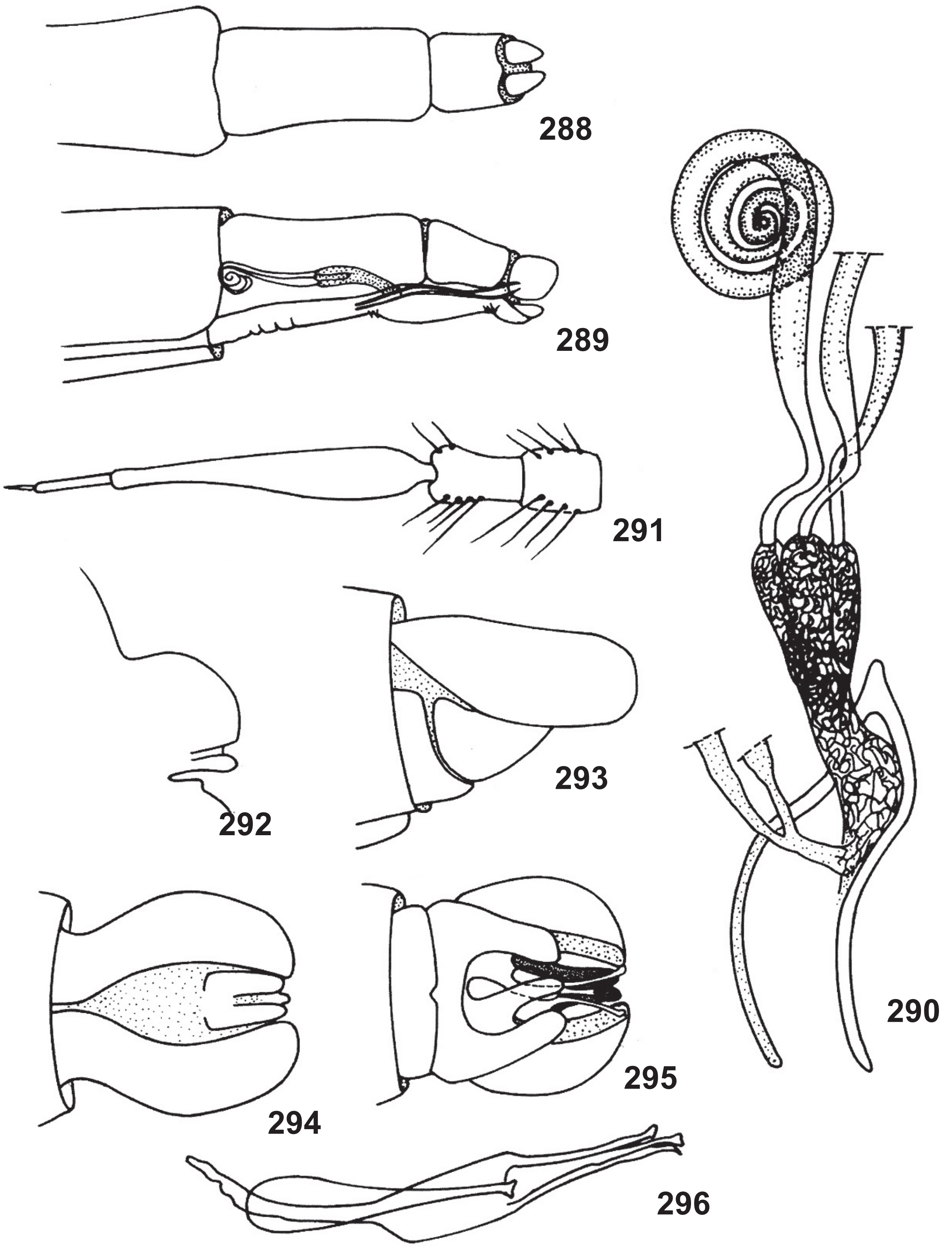
Figs. 266-272. *Amblyonychus horni* (Bromley, 1935): 266-268, male terminalia in lateral, dorsal and ventral views; 269, aedeagus; 270, female terminalia, lateral view, showing situation of spermathecae; 271, do., dorsal view; 272, spermathecae.



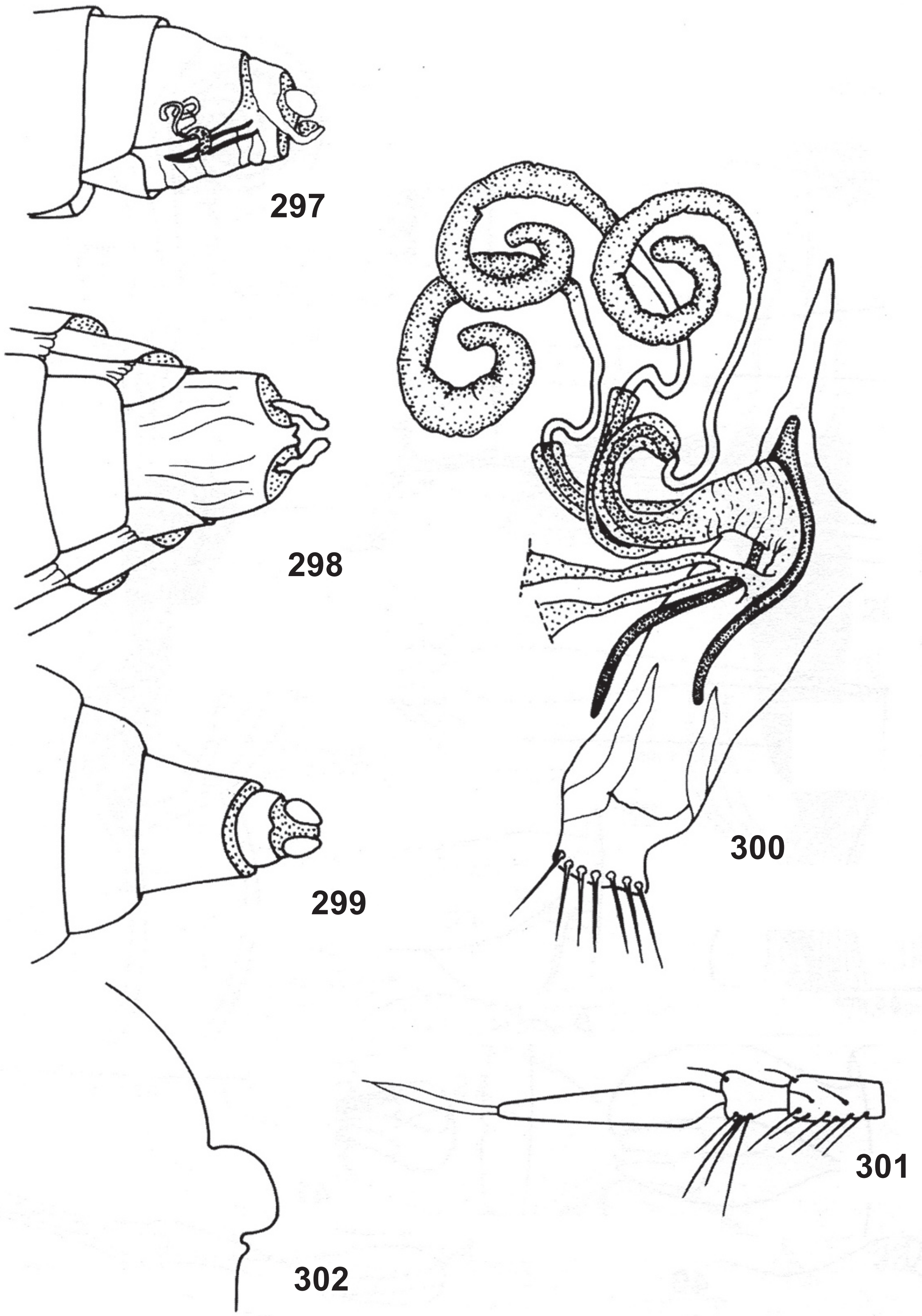
Figs. 273-277. *Amblyonychus trichonotus* (Wiedemann, 1828): 273, antenna; 274, profile of scutellum; 275-277, male terminalia in lateral, ventral and dorsal views; 278-279, aedeagus in lateral and dorsal views.



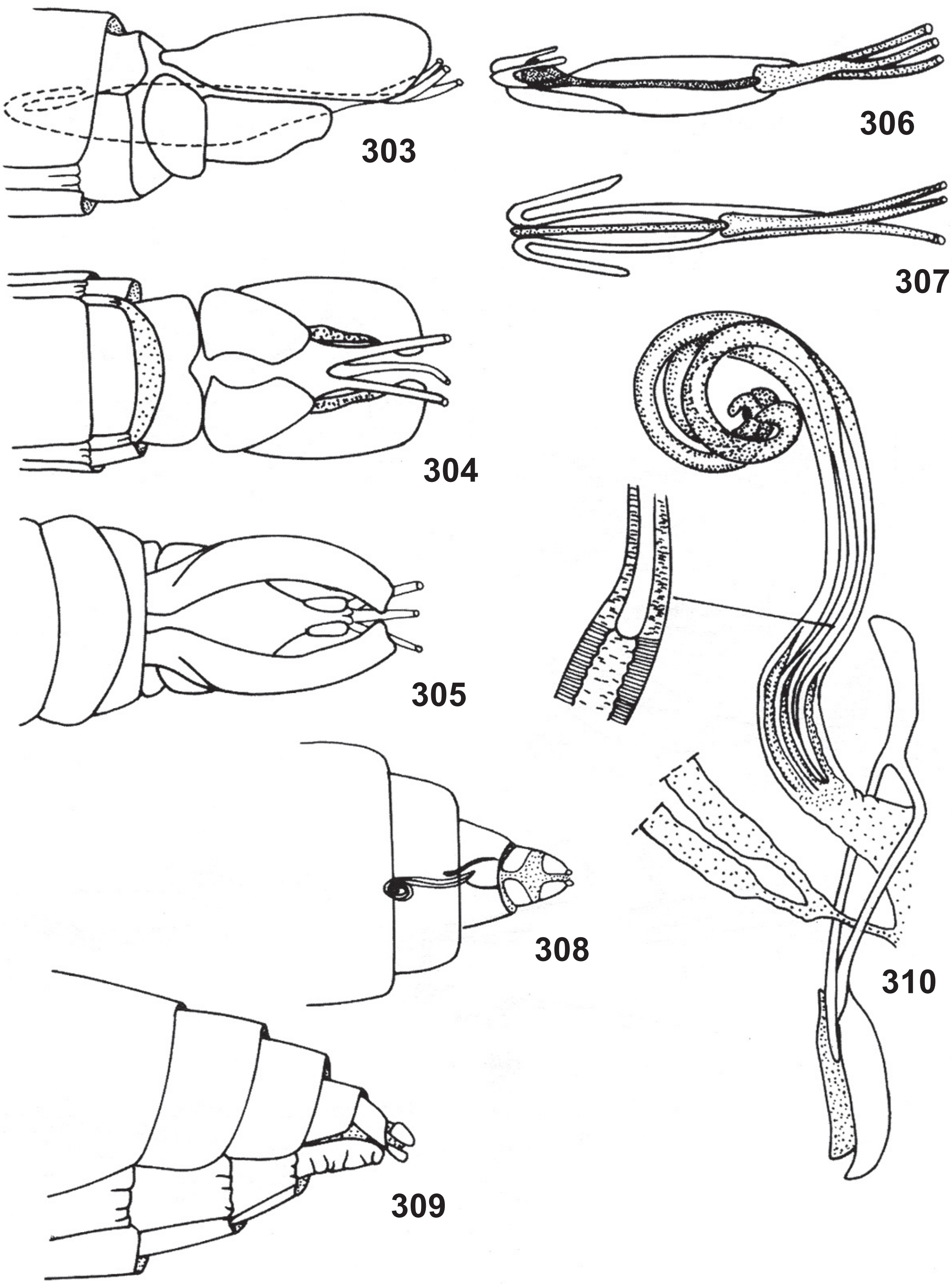
Figs. 280-282. *Amblyonychus trichonotus* (Wiedemann, 1828): 280, female terminalia, dorsal view; 281, do., lateral view, showing situation of spermathecae; 282, spermathecae. Figs. 283-284. *Mallophora aeaca* Williston, 1901: 283, antenna; 284, profile of scutellum. Figs. 285-287. *Mallophora clavipes* Curran, 1941: 285-286, male terminalia in dorsal and ventral views; 287, aedeagus.



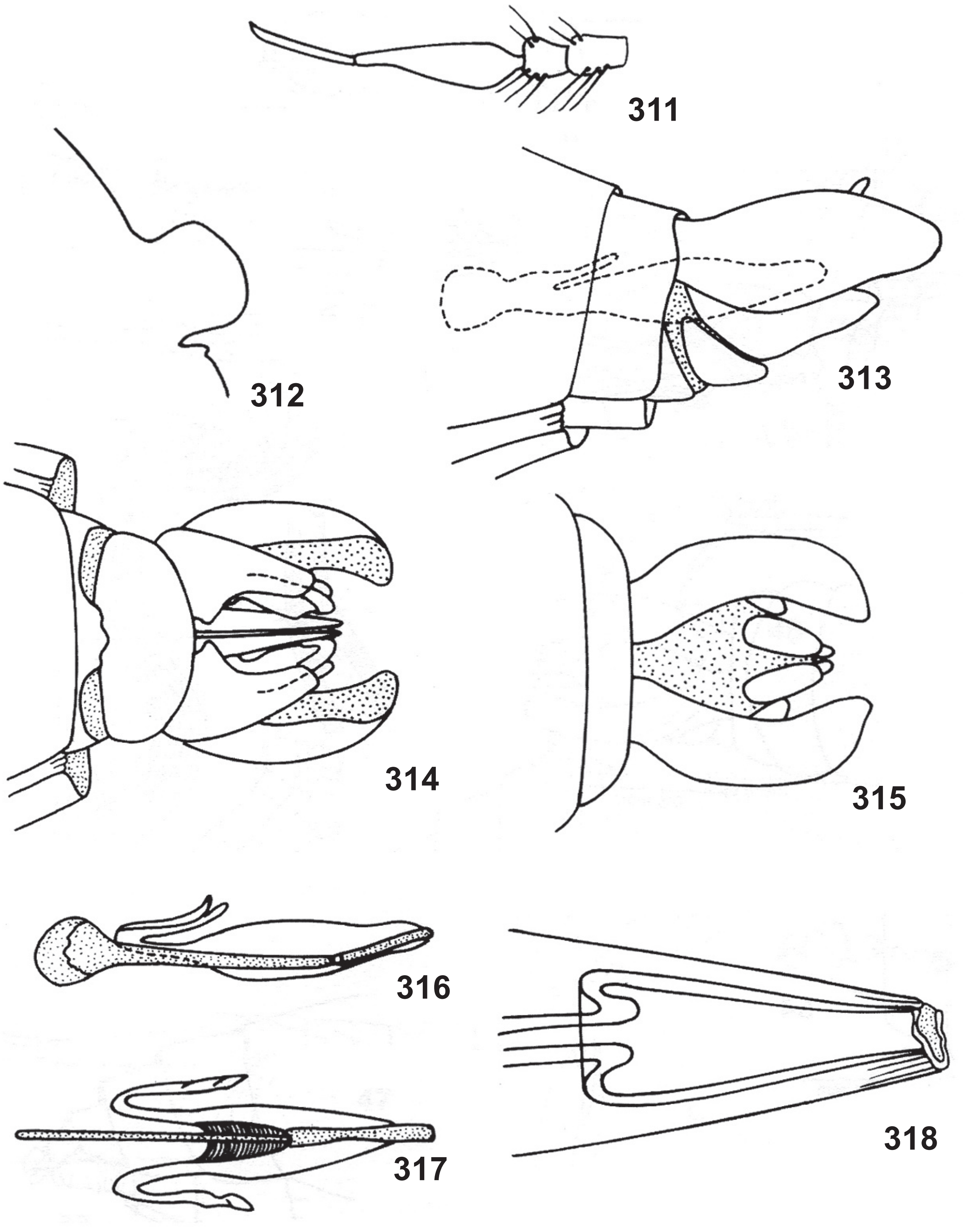
Figs. 288-290. *Mallophora bigotii* Lynch Arribálzaga, 1883: 288, female terminalia, dorsal view; 289, do., lateral view, showing situation of spermathecae; 290, spermathecae. Figs. 291-224. *Carreraomyia alpuyeca* (Cole & Pritchard, 1964): 291, antenna; 292, profile of scutellum; 293-295, male terminalia in lateral, dorsal and ventral views; 296, aedeagus.



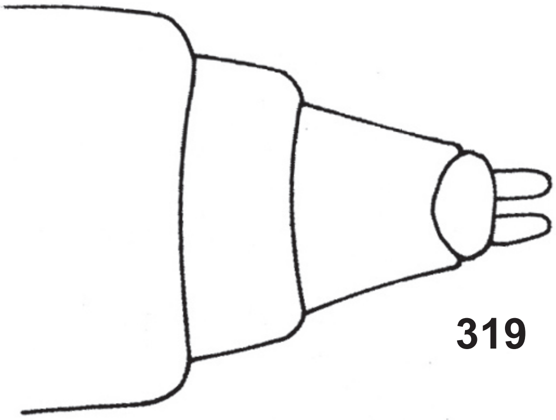
Figs. 297-228. *Carreraomyia alpuyeca* (Cole & Pritchard, 1964): 297, female terminalia, lateral view, showing situation of spermathecae; 298, do., ventral view; 299, do., dorsal view; 300, spermathecae. Figs. 301-302. *Promachella pilosa* (Wilcox, 1937): 301, antenna; 302, profile of scutellum.



Figs. 303-310. *Promachella pilosa* (Wilcox, 1937): 303-305, male terminalia in lateral, ventral and dorsal views; 306-307, aedeagus in lateral and dorsal views; 308, female terminalia, dorsal view, showing situation of spermathecae; 309, do., lateral view; 310, spermathecae.



Figs. 311-318. *Megaphorus megachile* (Coquillett, 1893): 311, antenna; 312, profile of scutellum; 313-315, male terminalia in lateral, ventral and dorsal views; 316-317, aedeagus in lateral and dorsal views; 318, detail of apex of aedeagus.



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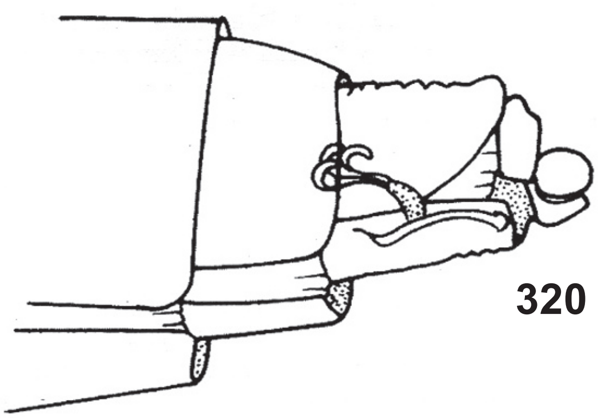

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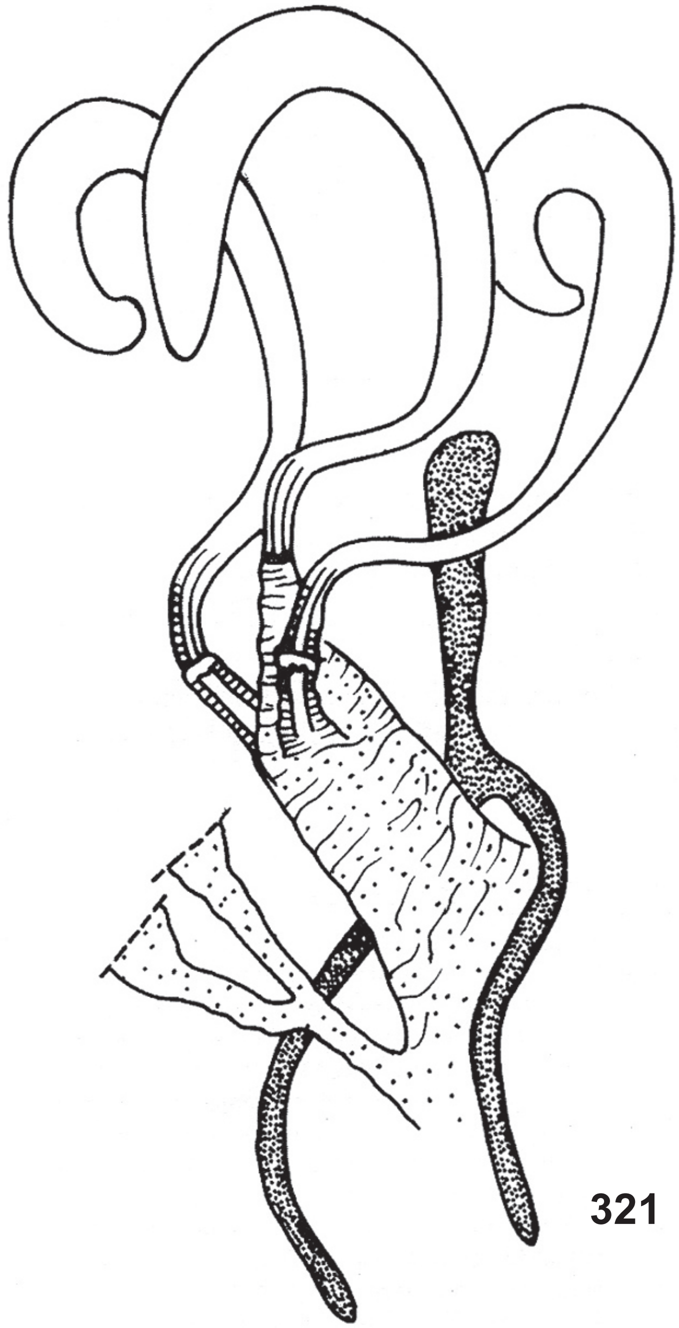

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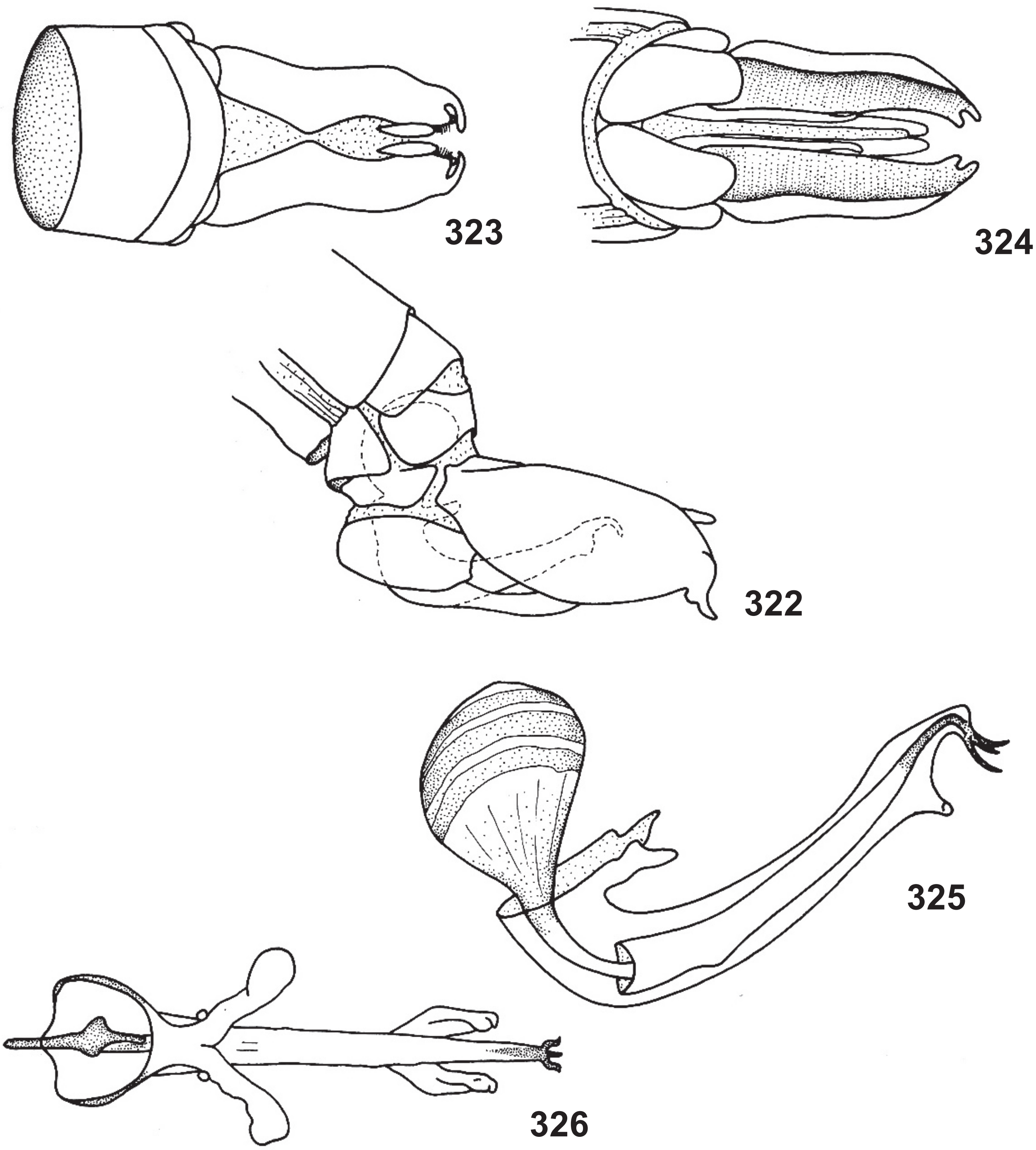
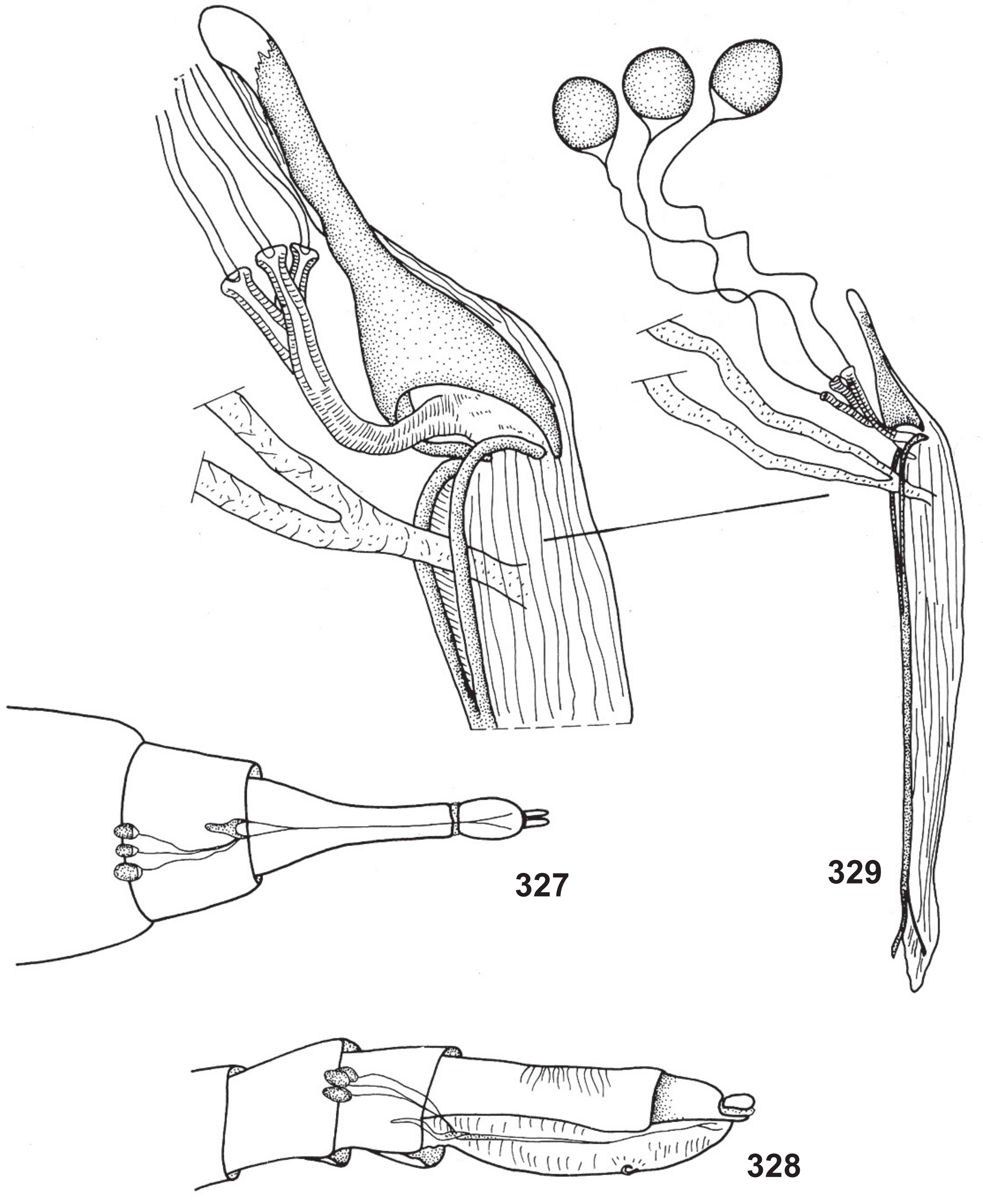
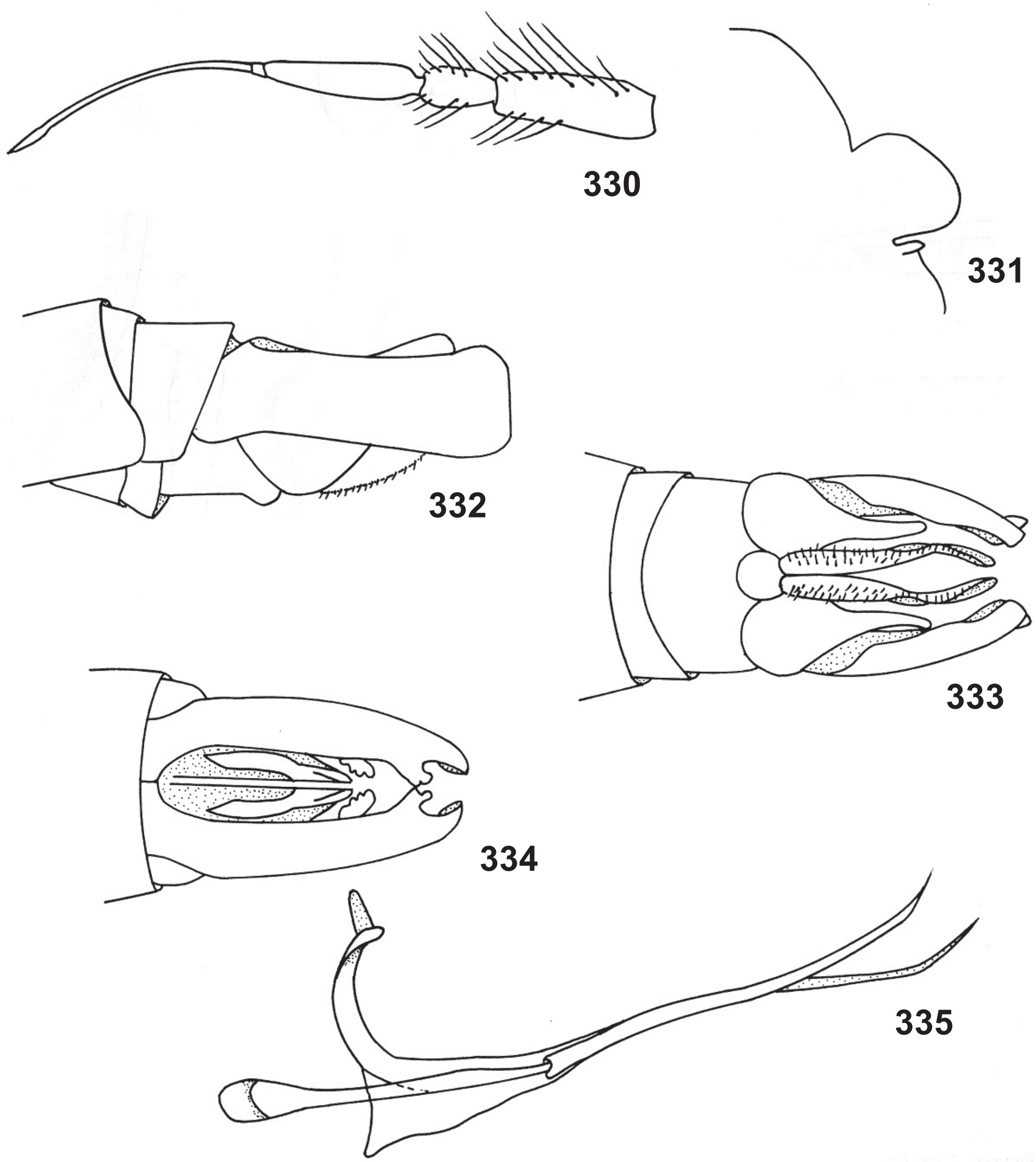
Figs. 319-321. *Megaphorus megachile* (Coquillett, 1893): 319, female terminalia, dorsal view; 320, do., lateral view, showing situation of spermathecae; 321, spermathecae.



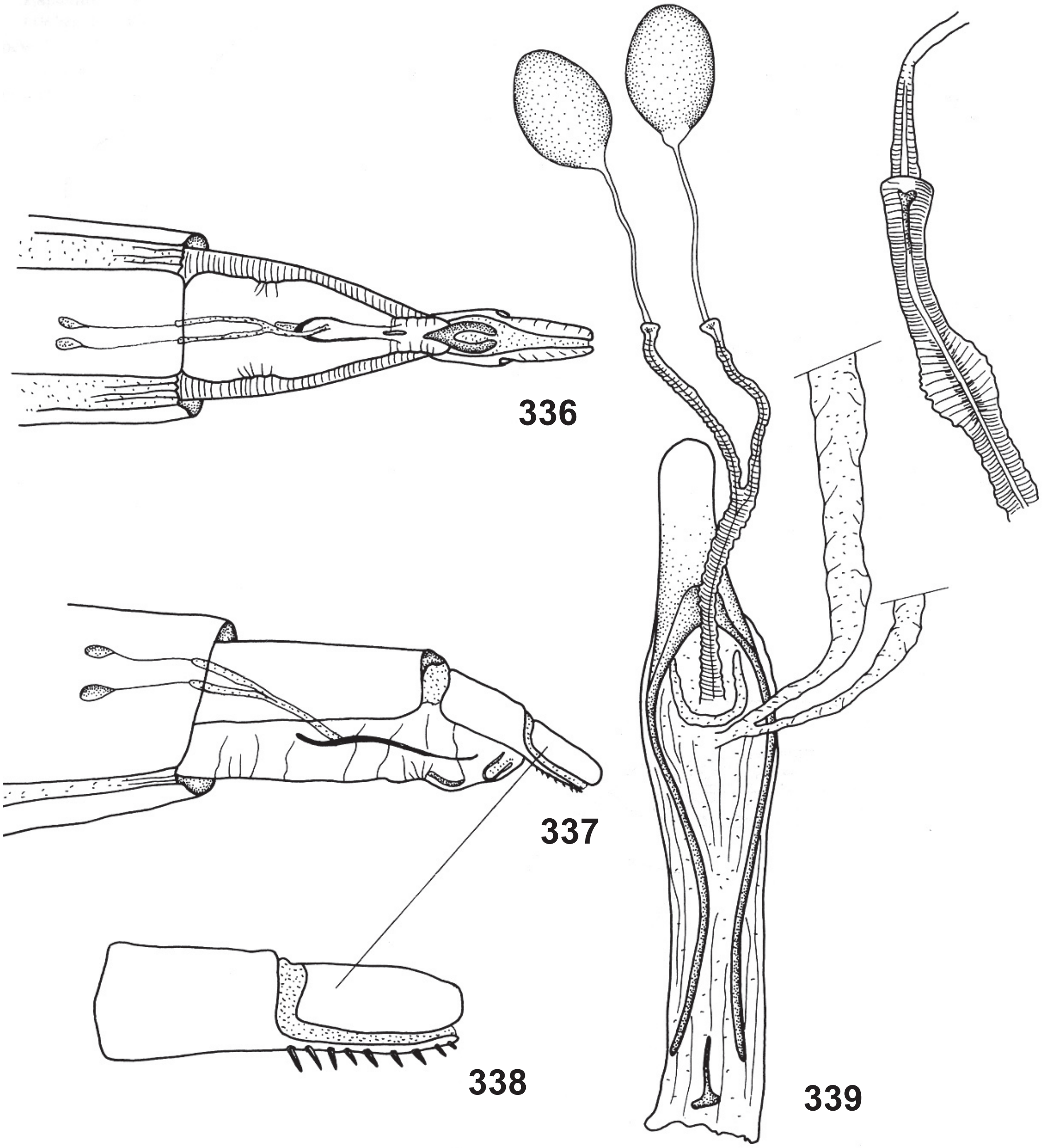
Figs. 322-326. *Eichoichemus neowillistoni* (Bromley, 1933): 322-324, male terminalia in lateral, dorsal and ventral views; 325-326, aedeagus in lateral and dorsal views.



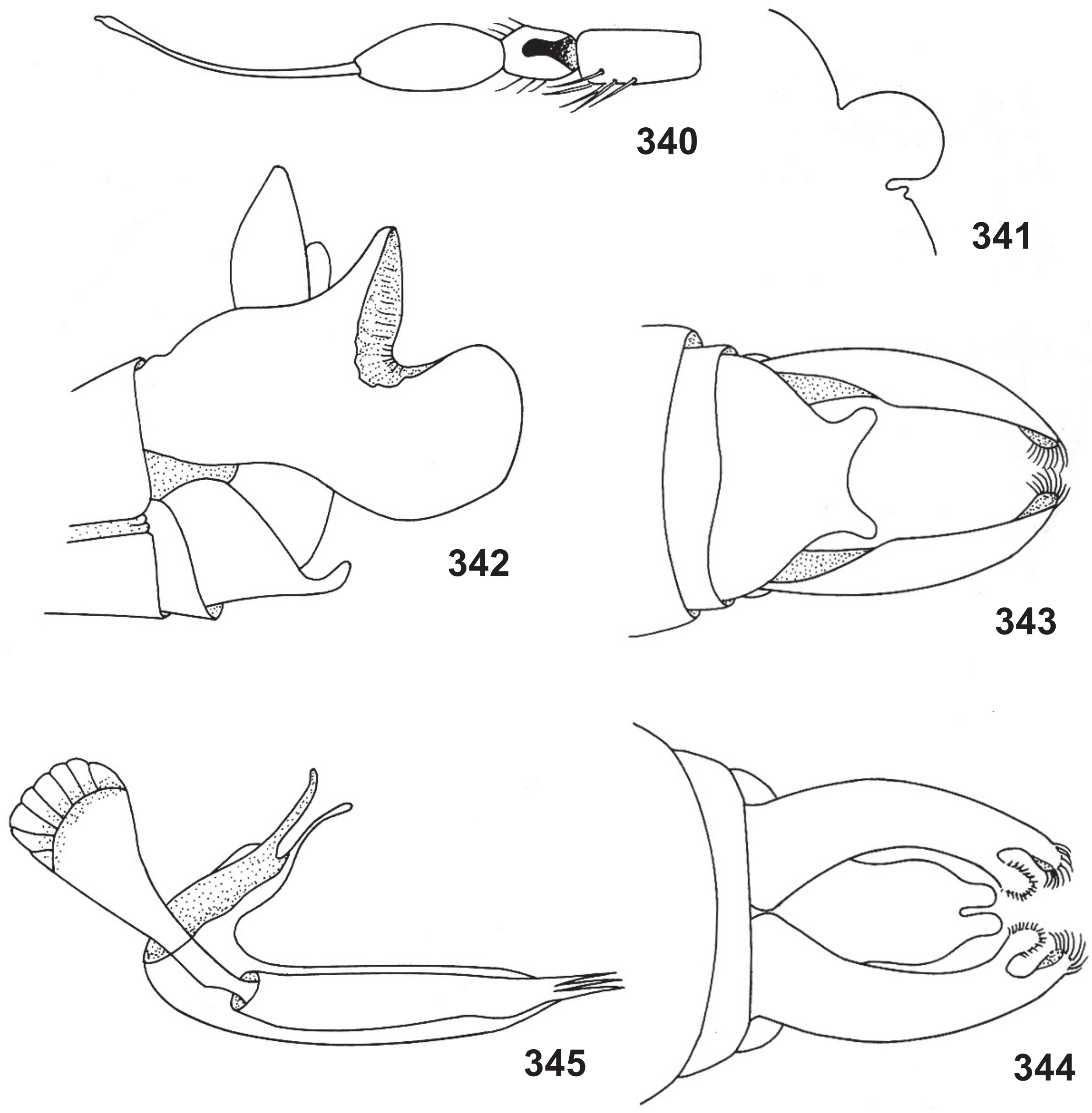
Figs. 327-329. *Eichoichemus neowillistoni* (Bromley, 1933): 327-328, apex of female abdomen in dorsal and lateral views, showing situation of spermathecae; 329, spermathecae.



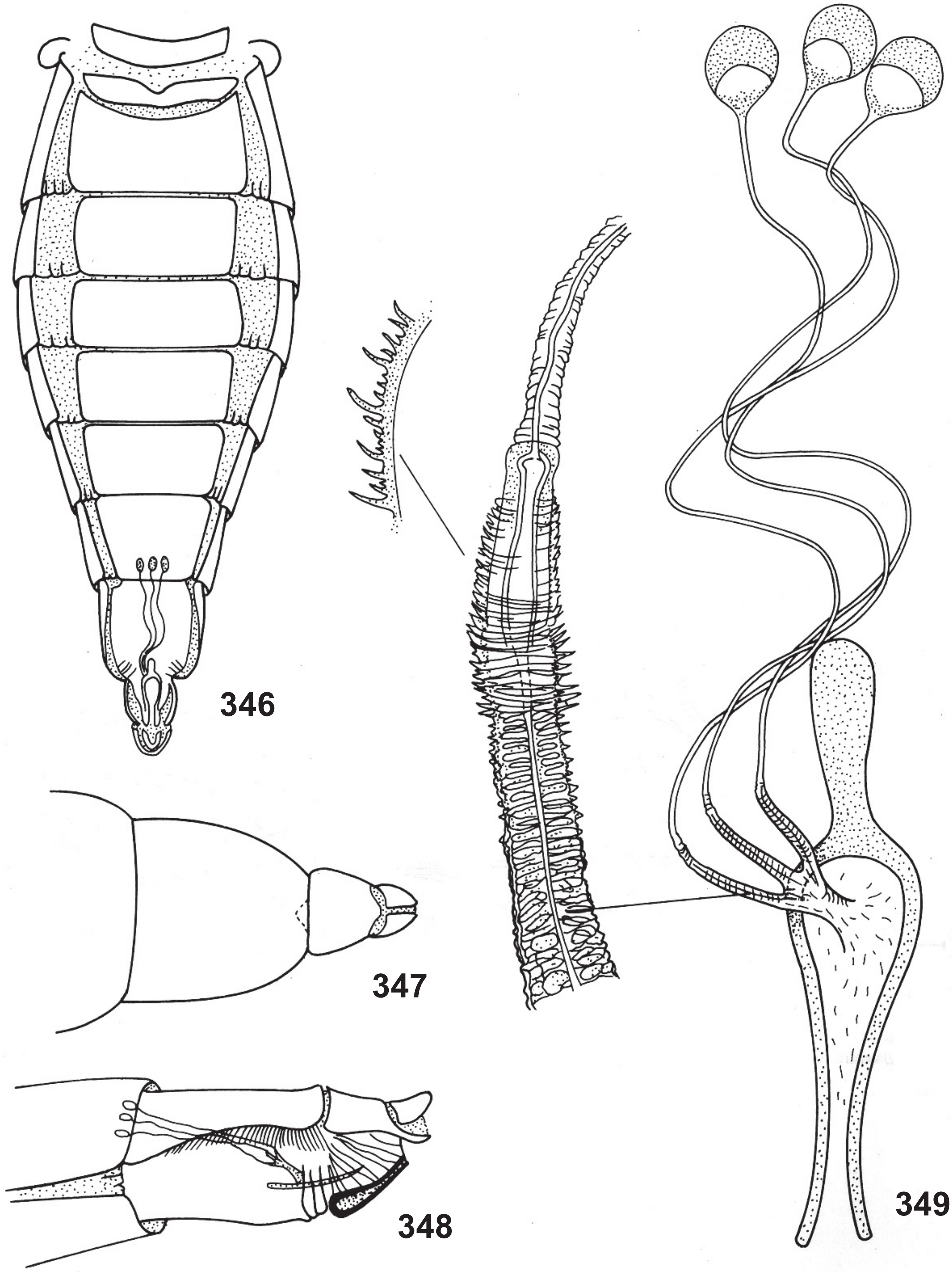
Figs. 330-335. *Eraxasilus luctuosus* (Macquart, 1838): 330, antenna; 331, profile of scutellum; 332-334, male terminalia in lateral, ventral and dorsal views; 335, aedeagus, lateral view.



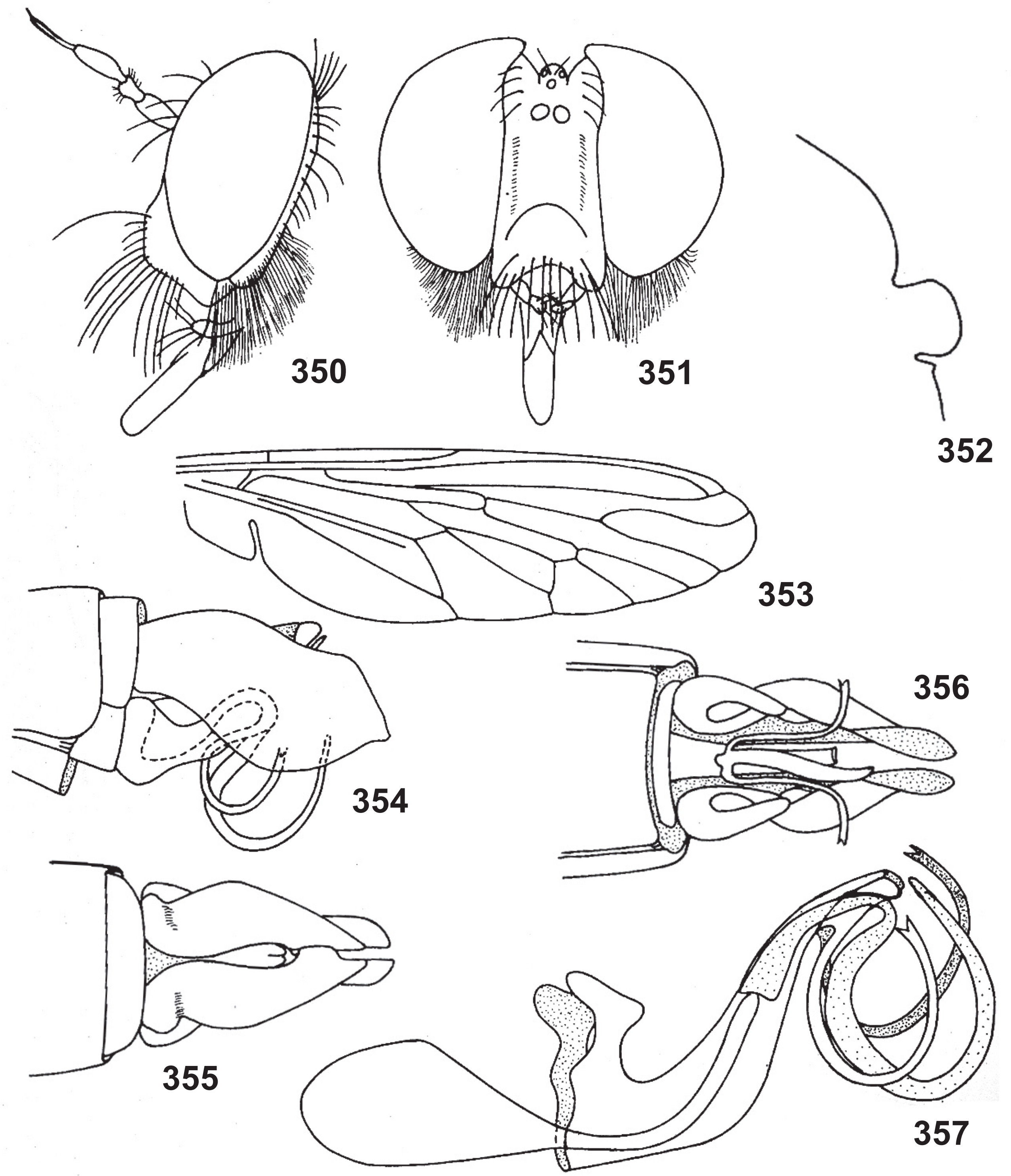
Figs. 336-339. *Eraxasilus luctuosus* (Macquart, 1838): 336, female terminalia, dorsal view; 337, do., lateral view, showing situation of spermathecae; 338, detail of segments 8 and 9 of female terminalia, lateral view; 339, spermathecae.



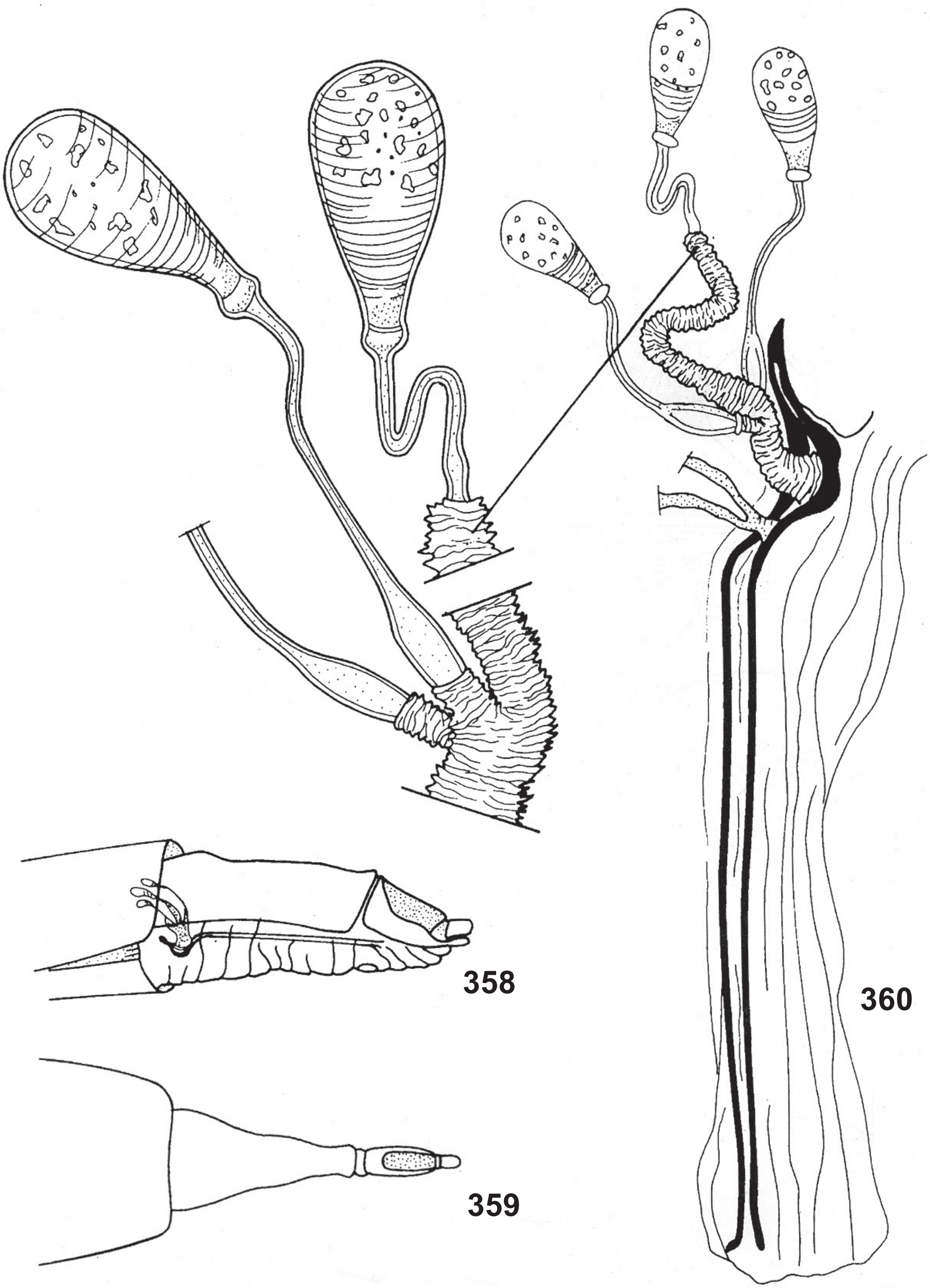
Figs. 340-345. *Eicherax ricnotes* (Engel, 1930): 340, antenna; 341, profile of scutellum; 342-344, male terminalia in lateral, ventral and dorsal views; 345, aedeagus.



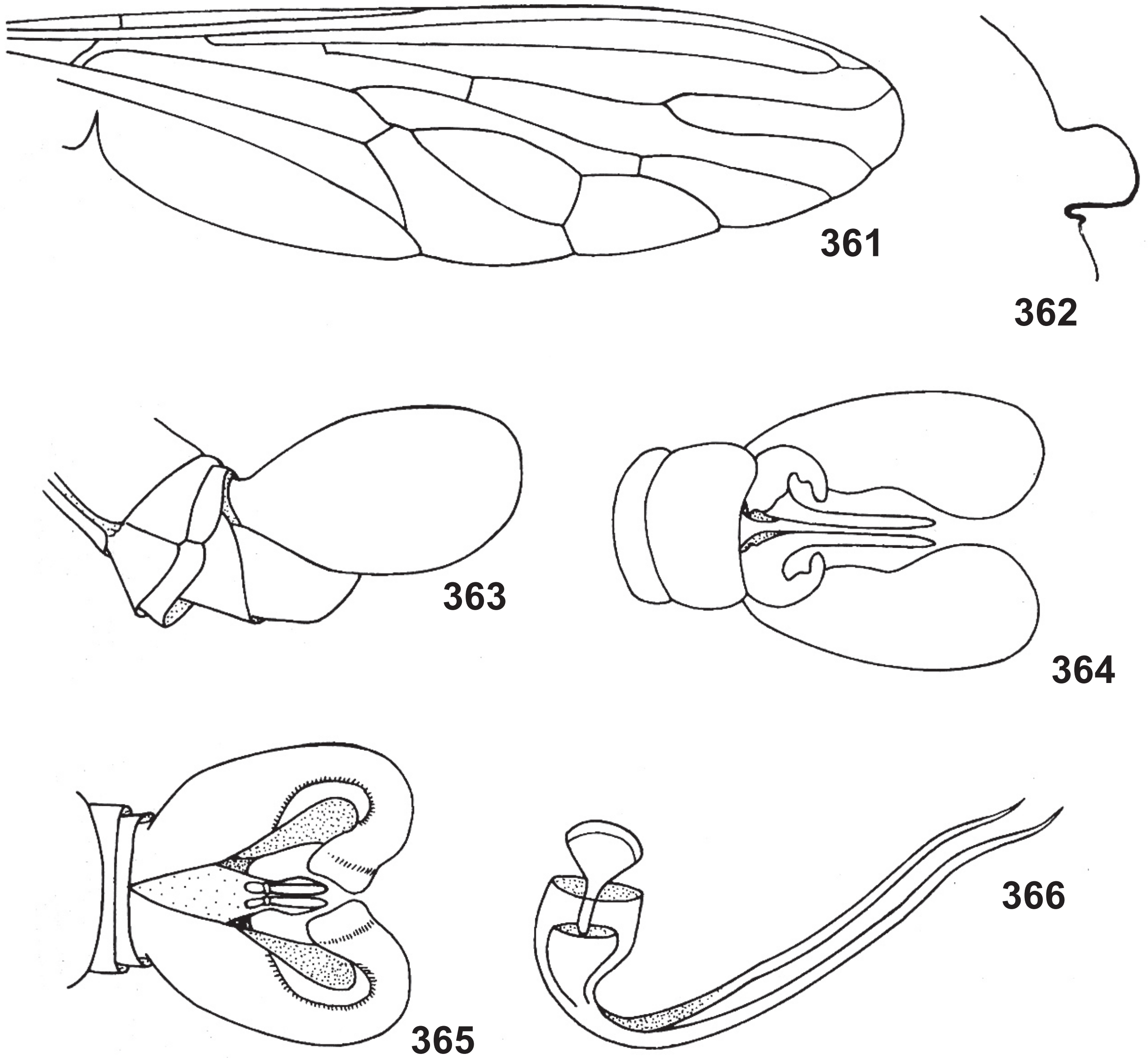
Figs. 346-349. *Eicherax ricnotes* (Engel, 1930): 346, female abdomen, ventral view, showing situation of spermathecae; 347, female terminalia, dorsal view; 348, do., lateral view, showing situation of spermathecae; 349, spermathecae.



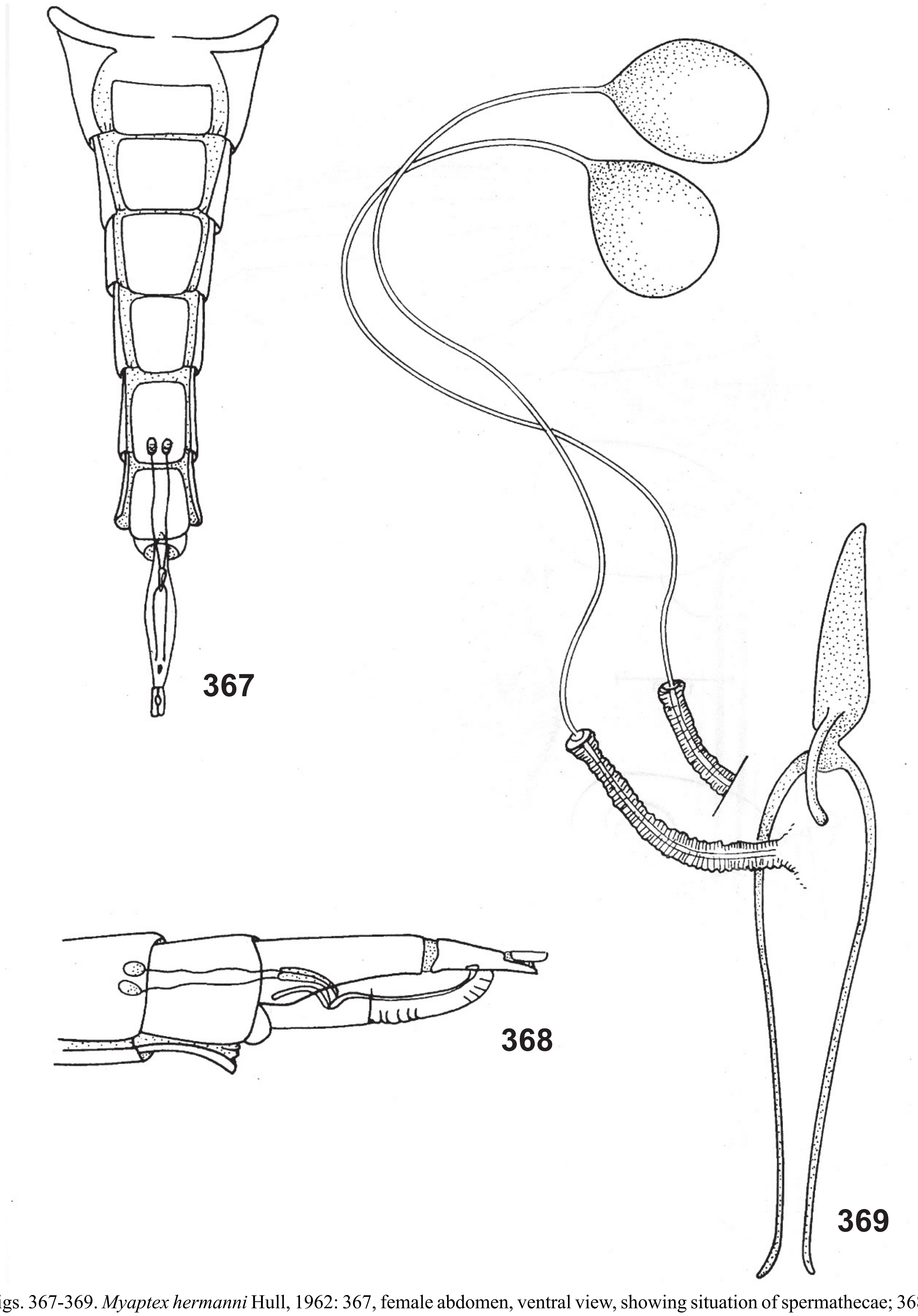
Figs. 350-357. *Wilcoxius truncus* Martin, 1975: 350-351, head, in lateral and frontal views; 352, profile of scutellum; 353, wing; 354-356, male terminalia in lateral, dorsal and ventral views; 357, aedeagus.



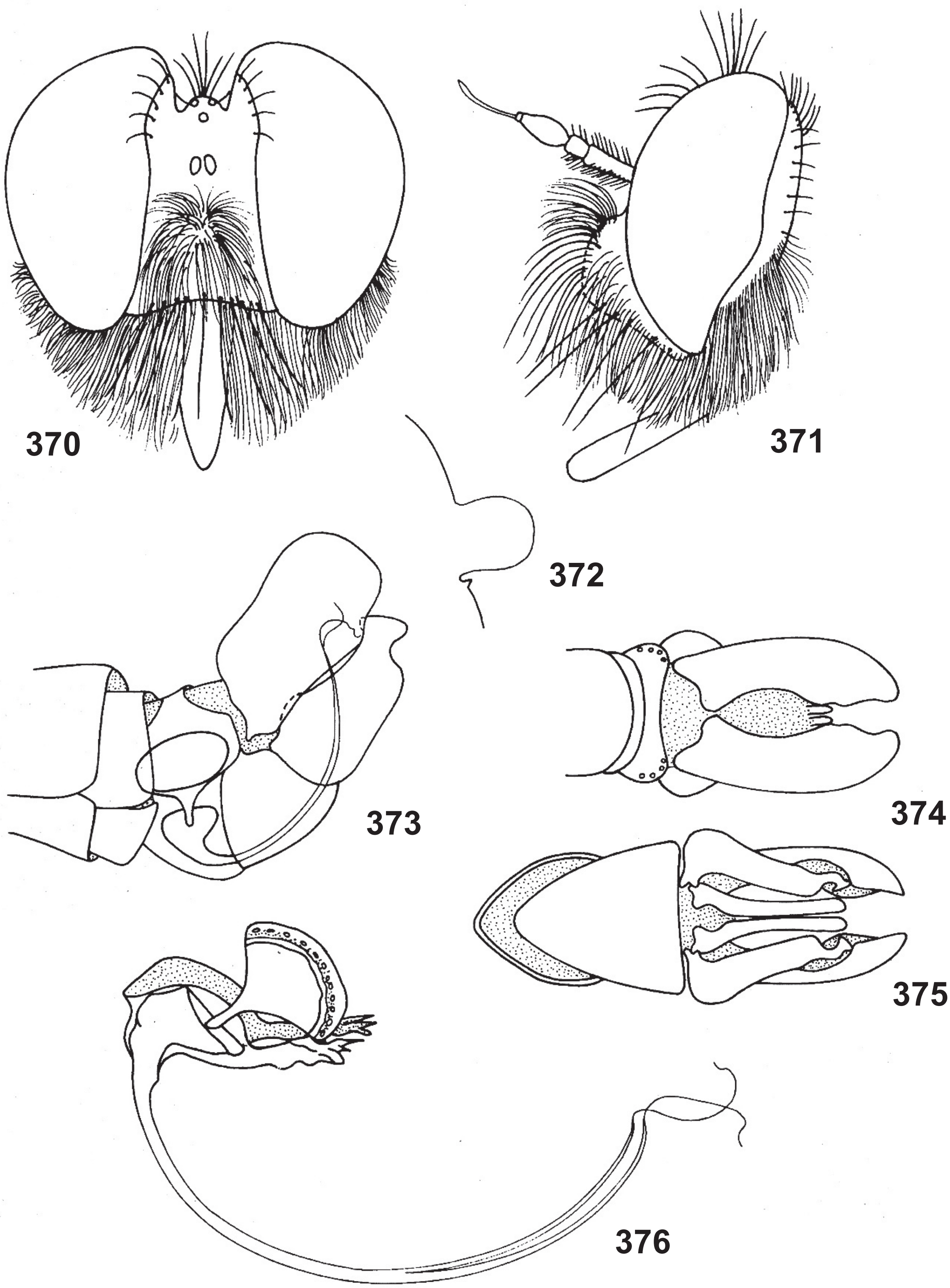
Figs. 358-360. *Wilcoxius acutulus* Martin, 1975: 358, ovipositor, lateral view, showing situation of spermathecae; 359, ovipositor, dorsal view; 360, spermathecae.



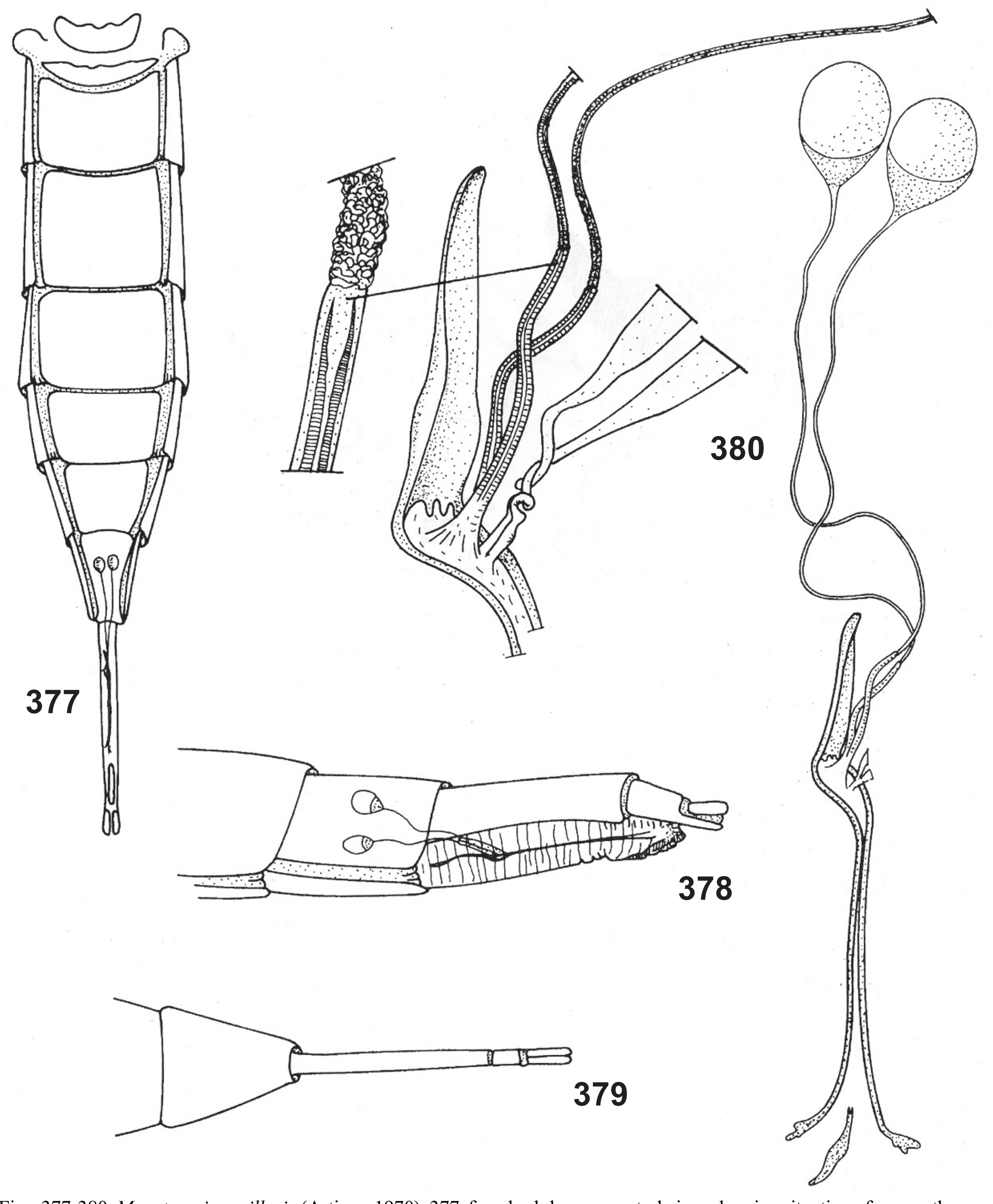
Figs. 361-366. *Myaptex brachypterus* Philippi, 1865: 361, wing; 362, profile of scutellum; 363-365, male terminalia in lateral, dorsal and ventral views; 366, aedeagus.



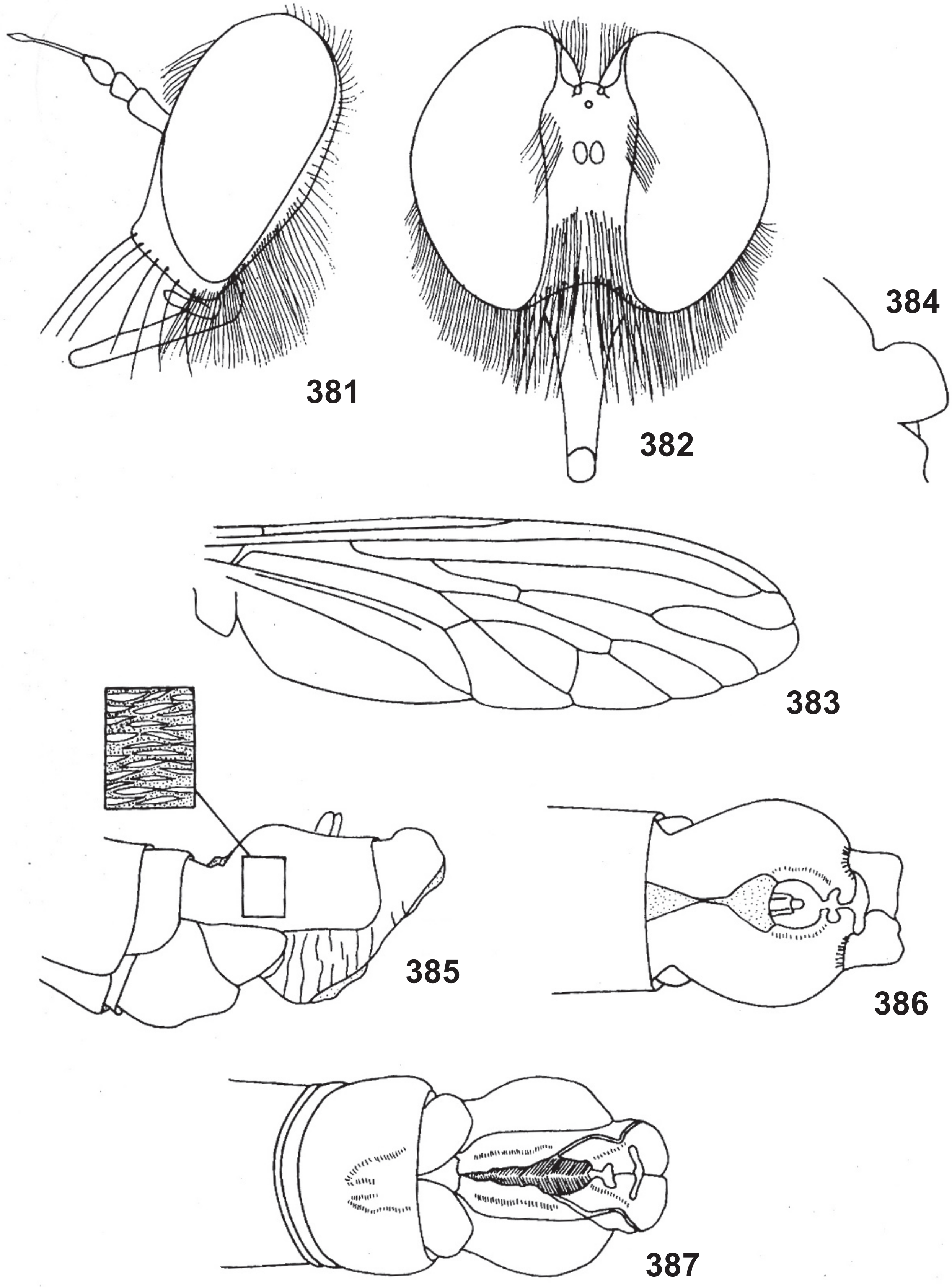
Figs. 367-369. *Myaptex hermanni* Hull, 1962: 367, female abdomen, ventral view, showing situation of spermathecae; 368, ovipositor, lateral view; 369, spermathecae.



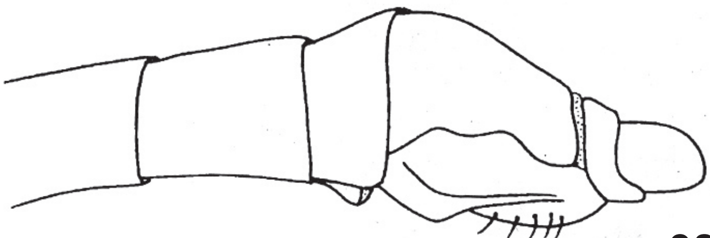
Figs. 370-376. *Myaptexaria vexillaria* (Artigas, 1970): 370-371, head in frontal and lateral views; 372, profile of scutellum; 373-375, male terminalia in lateral, dorsal and ventral views; 376, aedeagus.



Figs. 377-380. *Myaptexaria vexillaria* (Artigas, 1970): 377, female abdomen, ventral view, showing situation of spermathecae; 378, ovipositor, lateral view, showing situation of spermathecae; 379, ovipositor, lateral view; 380, spermathecae.



Figs. 381-387. *Atractocoma nivosa* Artigas, 1970: 381-382, head in lateral and frontal views; 383, wing; 384, profile of scutellum; 385-387, male terminalia in lateral (detail shows flattened, fusiform bristles), dorsal and ventral views.



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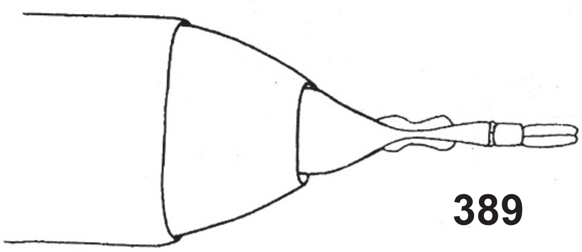

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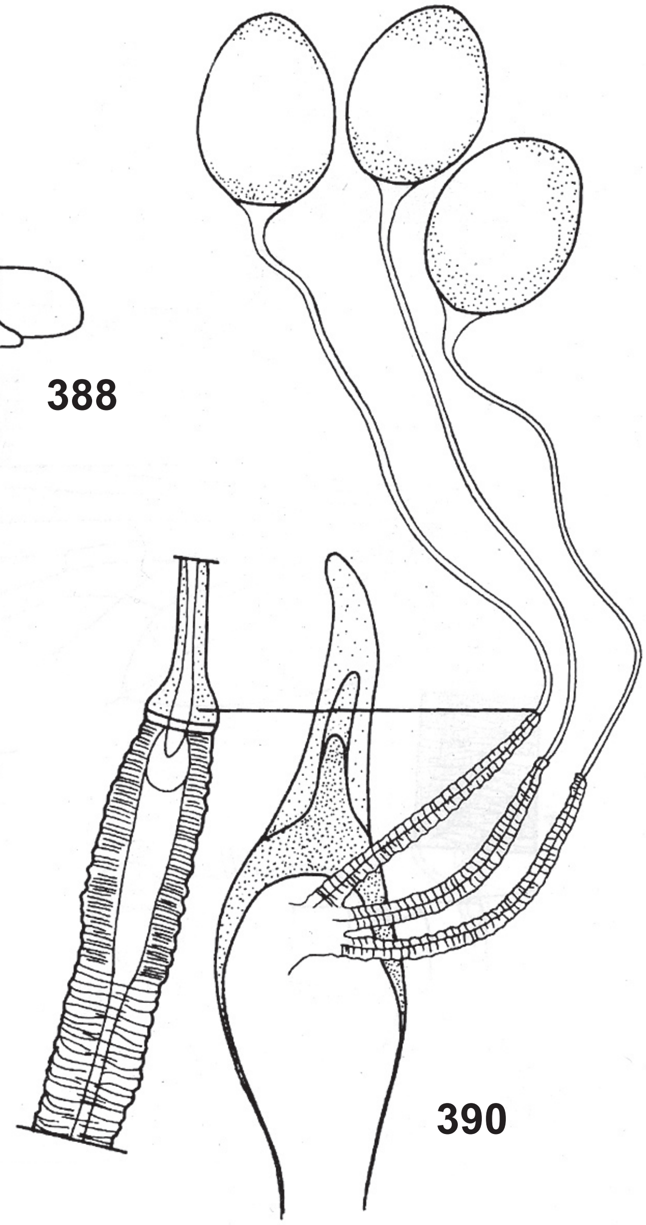

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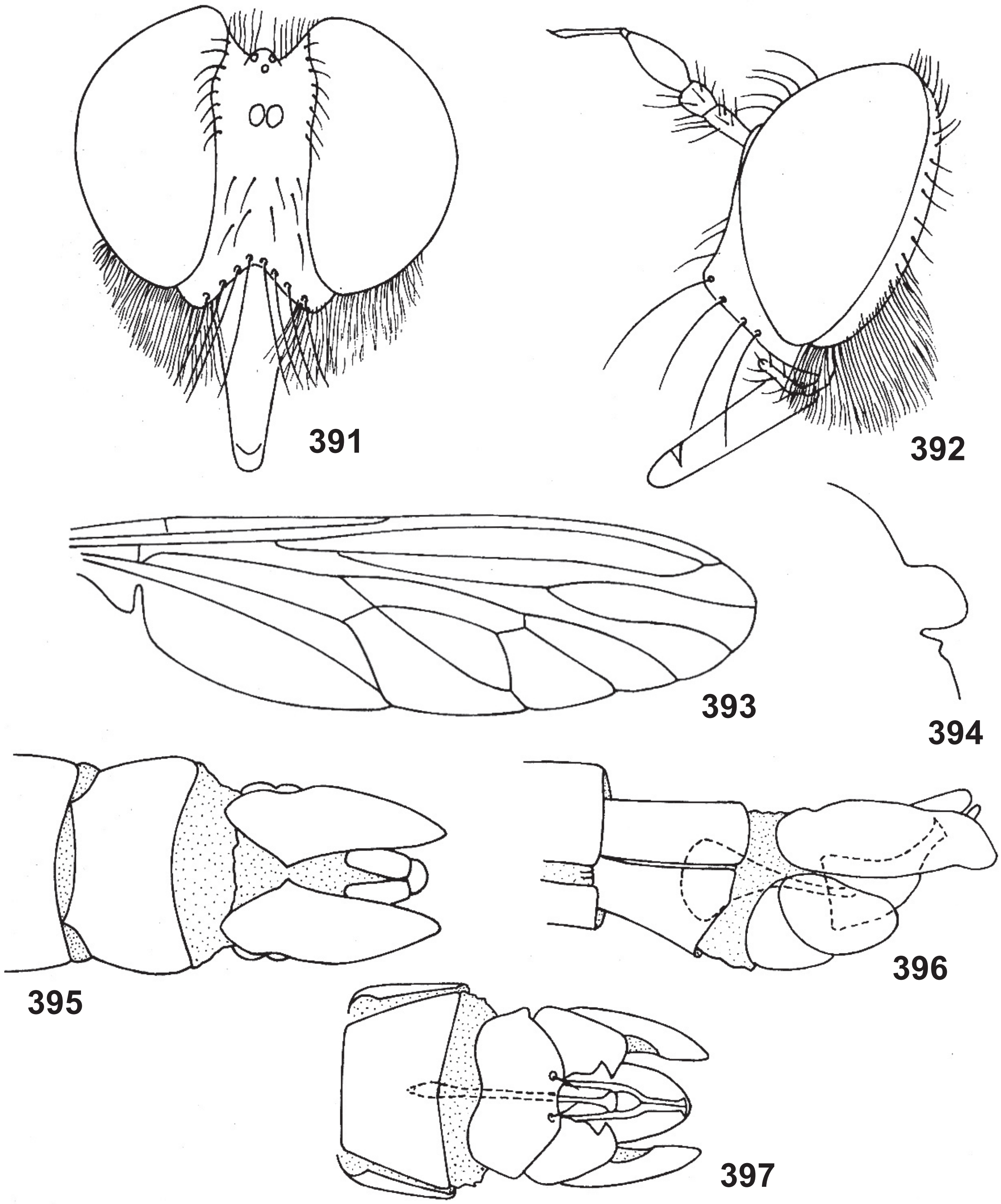
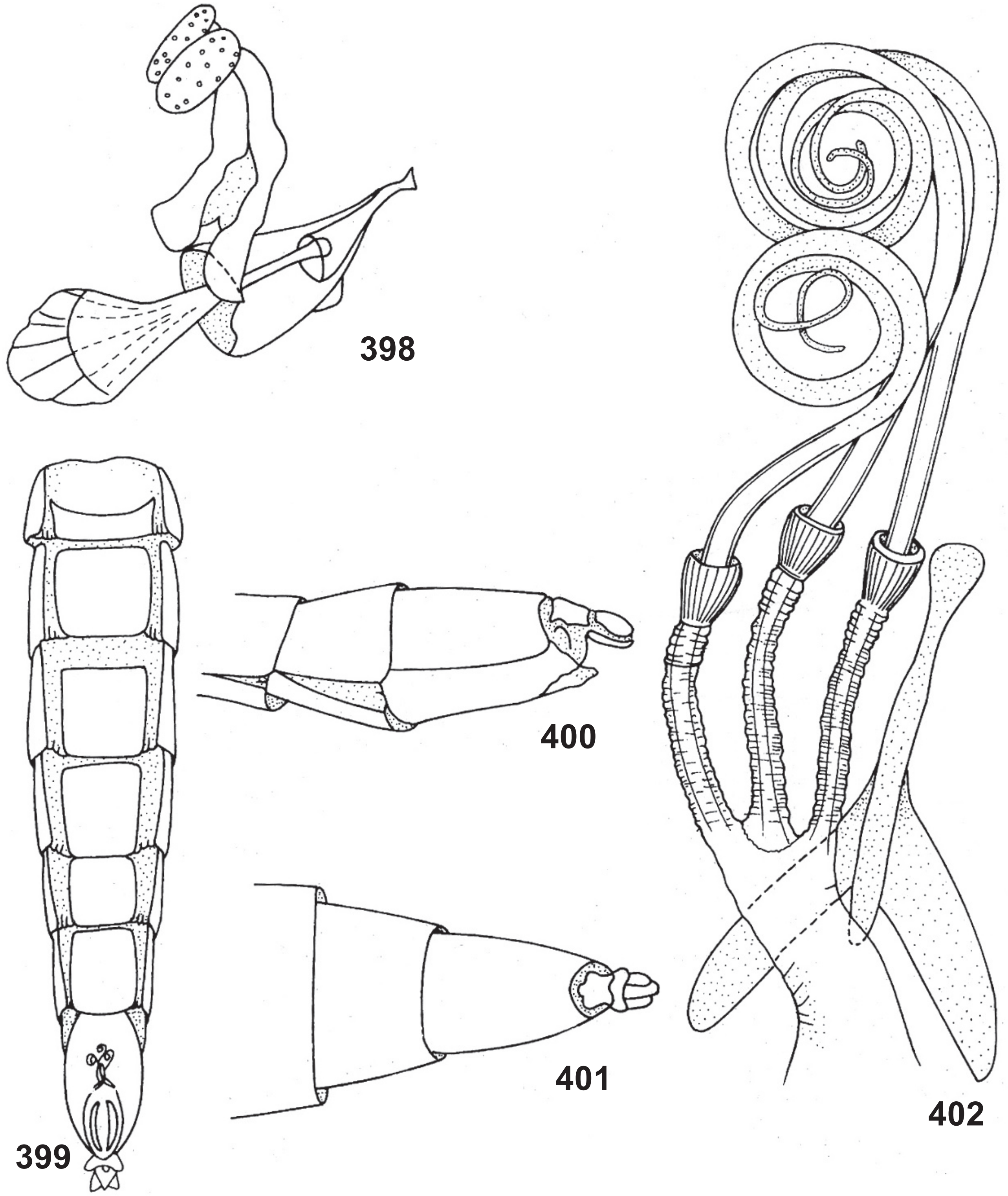
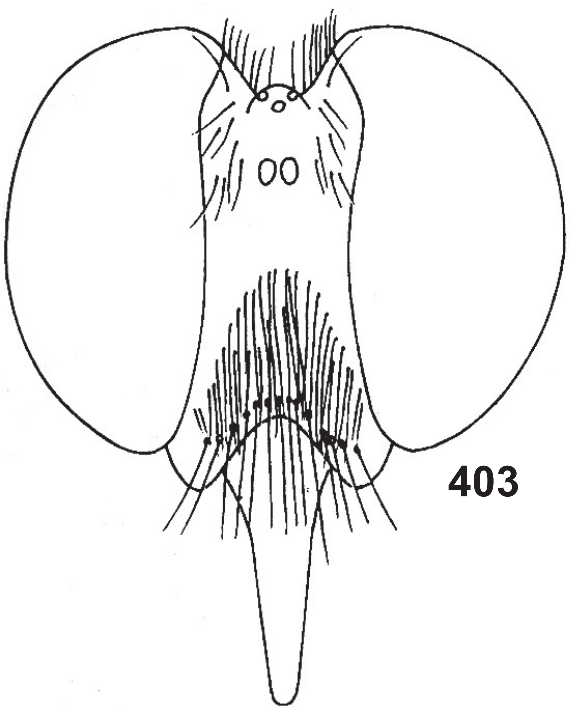
Figs. 388-390. *Atractocoma nivosa* Artigas, 1970: 388-389, ovipositor in lateral and dorsal views; 390, spermathecae.



Figs. 391-397. *Rhadinosoma calderense* Artigas, 1970: 391-392, head in frontal and lateral views; 393, wing; 394, profile of scutellum; 395-397, male terminalia in lateral, dorsal and ventral views.



Figs. 398-402. *Rhadinosoma calderense* Artigas, 1970: 398, aedeagus; 399: female abdomen, ventral view, showing situation of spermathecae; 400-401, ovipositor in lateral and dorsal views; 402, spermathecae.



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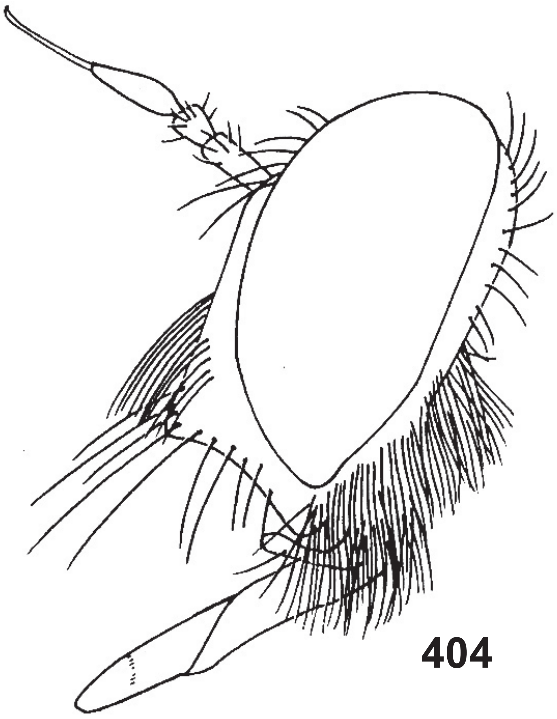

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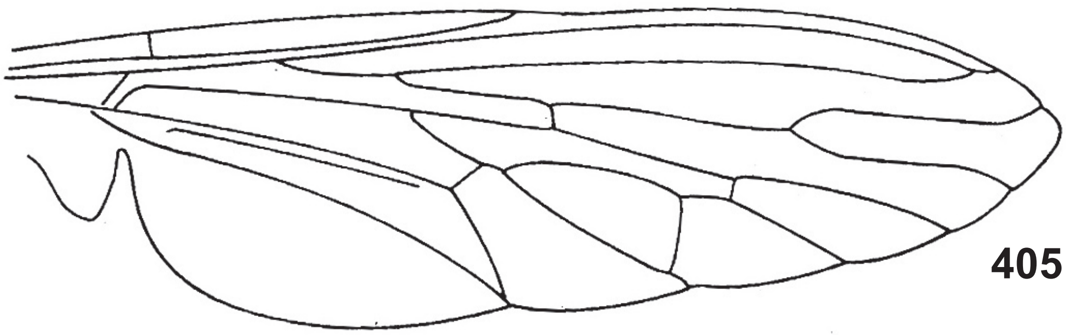

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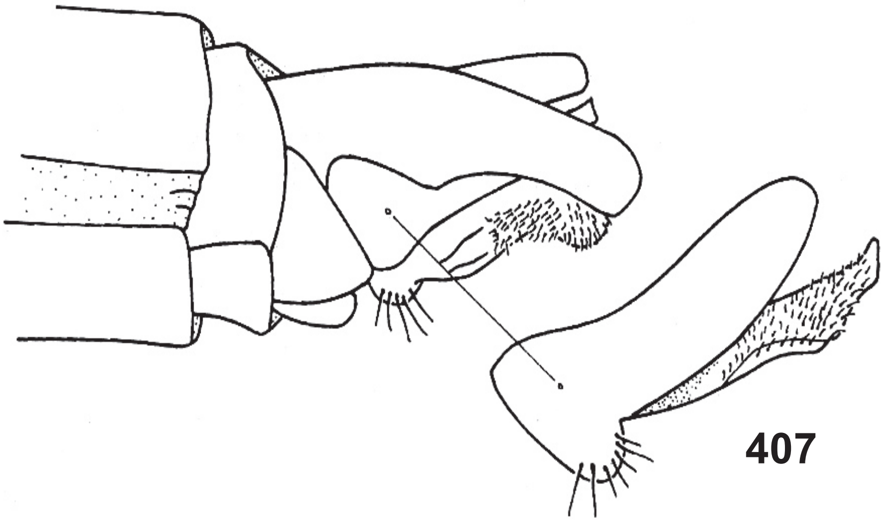
Figs. 403-406. *Scarbroughia dorothyae* (Martin, 1975): 403-404, head in frontal and lateral views; 405, wing; 406, profile of scutellum.



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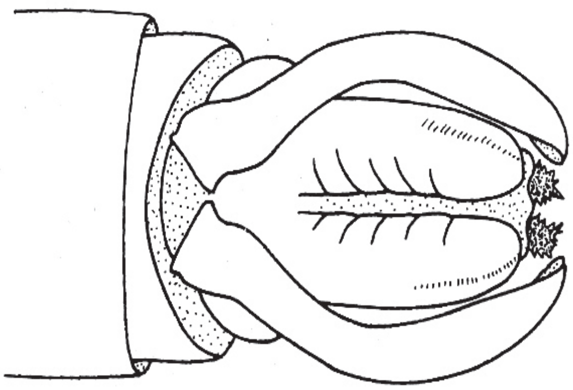

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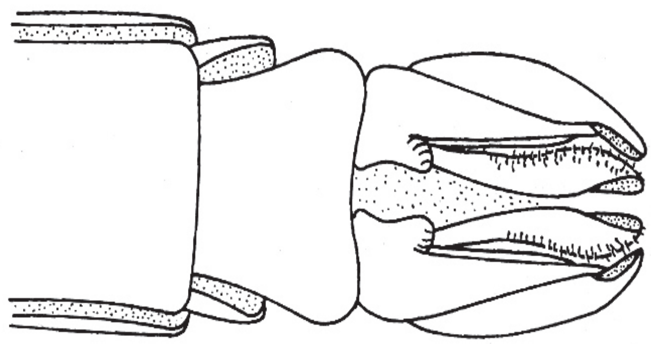

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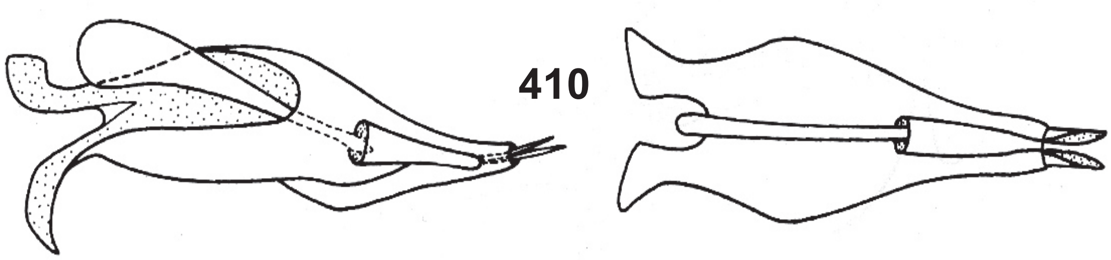
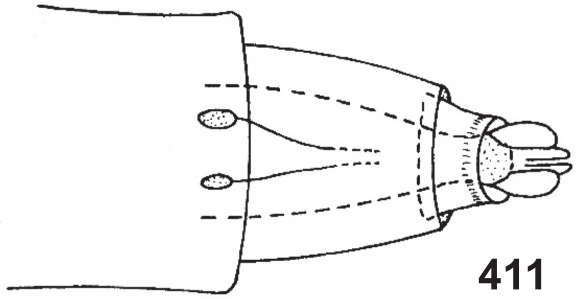


Figs. 407-410. *Scarbroughia dorothyae* (Martin, 1975): 407-409, male terminalia in lateral, dorsal and ventral views; 410, aedeagus in lateral and dorsal views.



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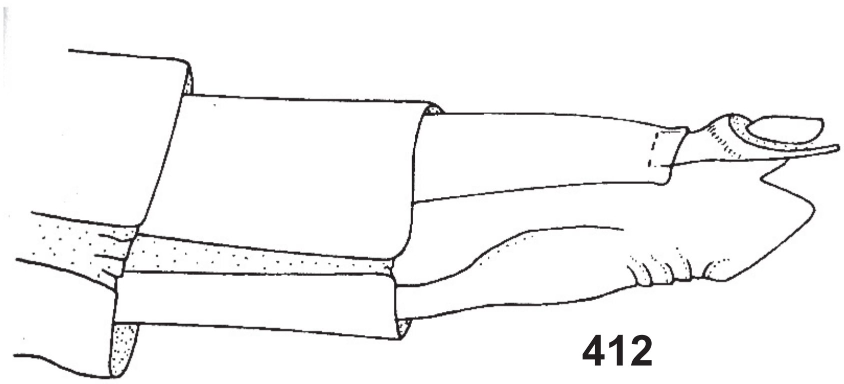

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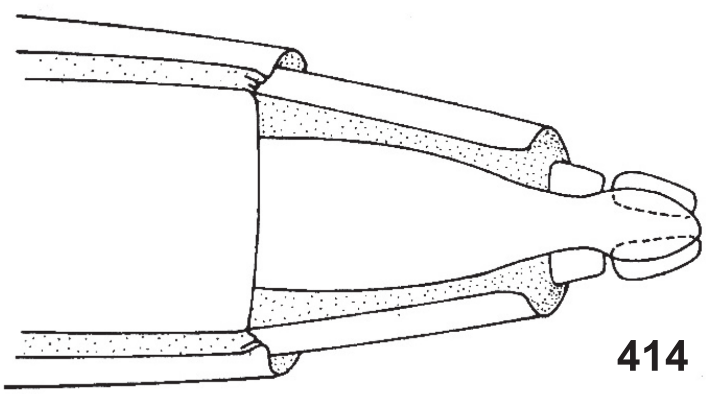

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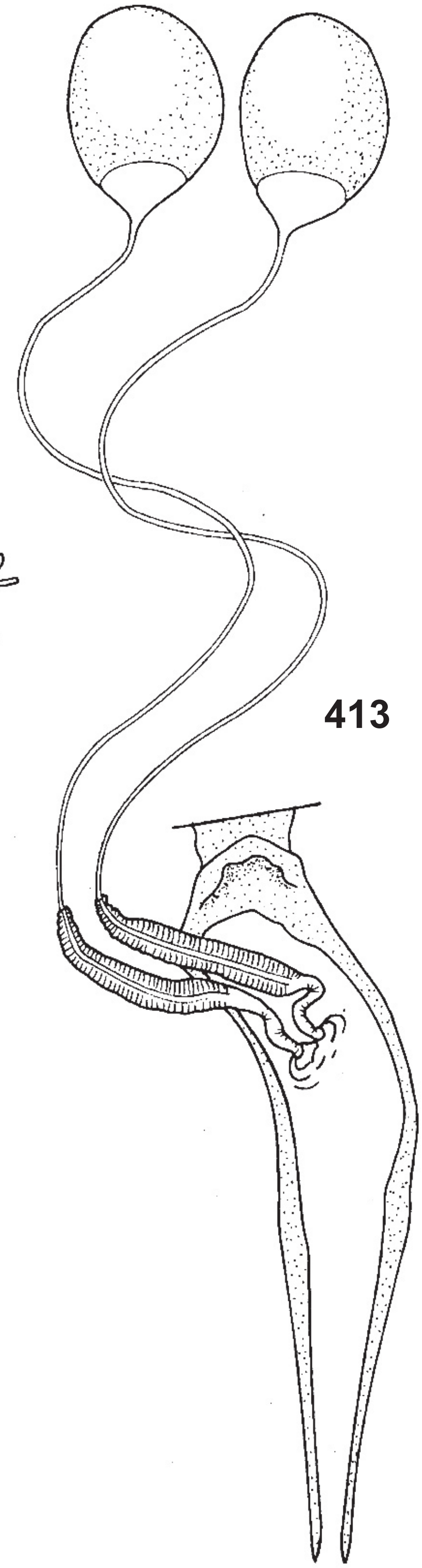

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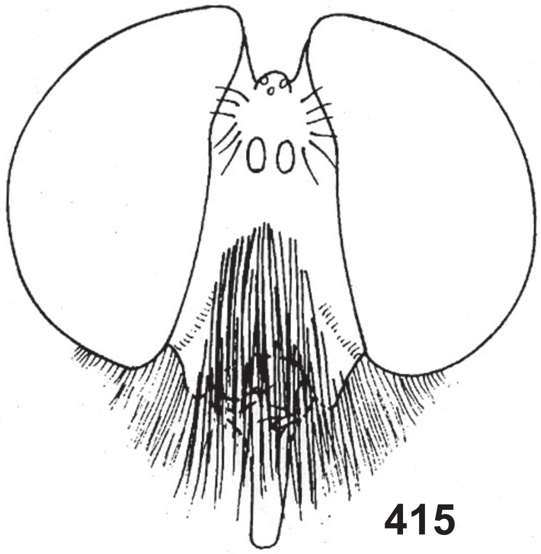
Figs. 411-414. *Scarbroughia dorothyae* (Martin, 1975): 411, tip of abdomen in dorsal view, showing situation of spermathecae; 412-413, ovipositor in lateral and ventral views; 414, spermathecae.



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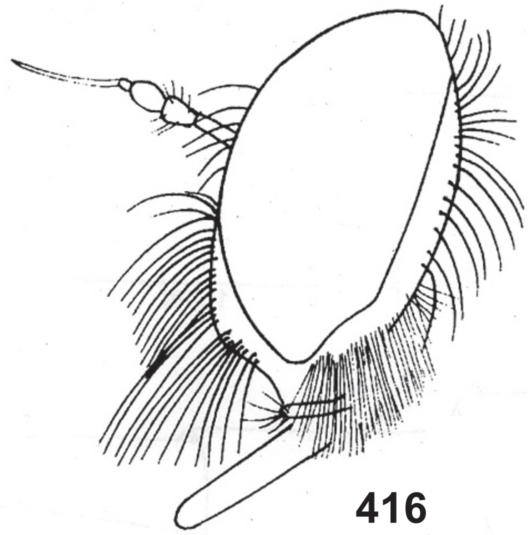

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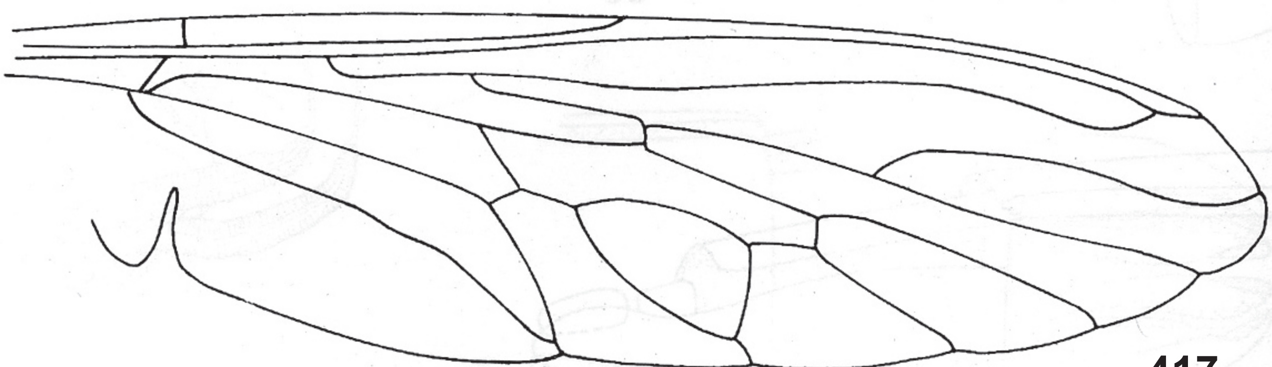

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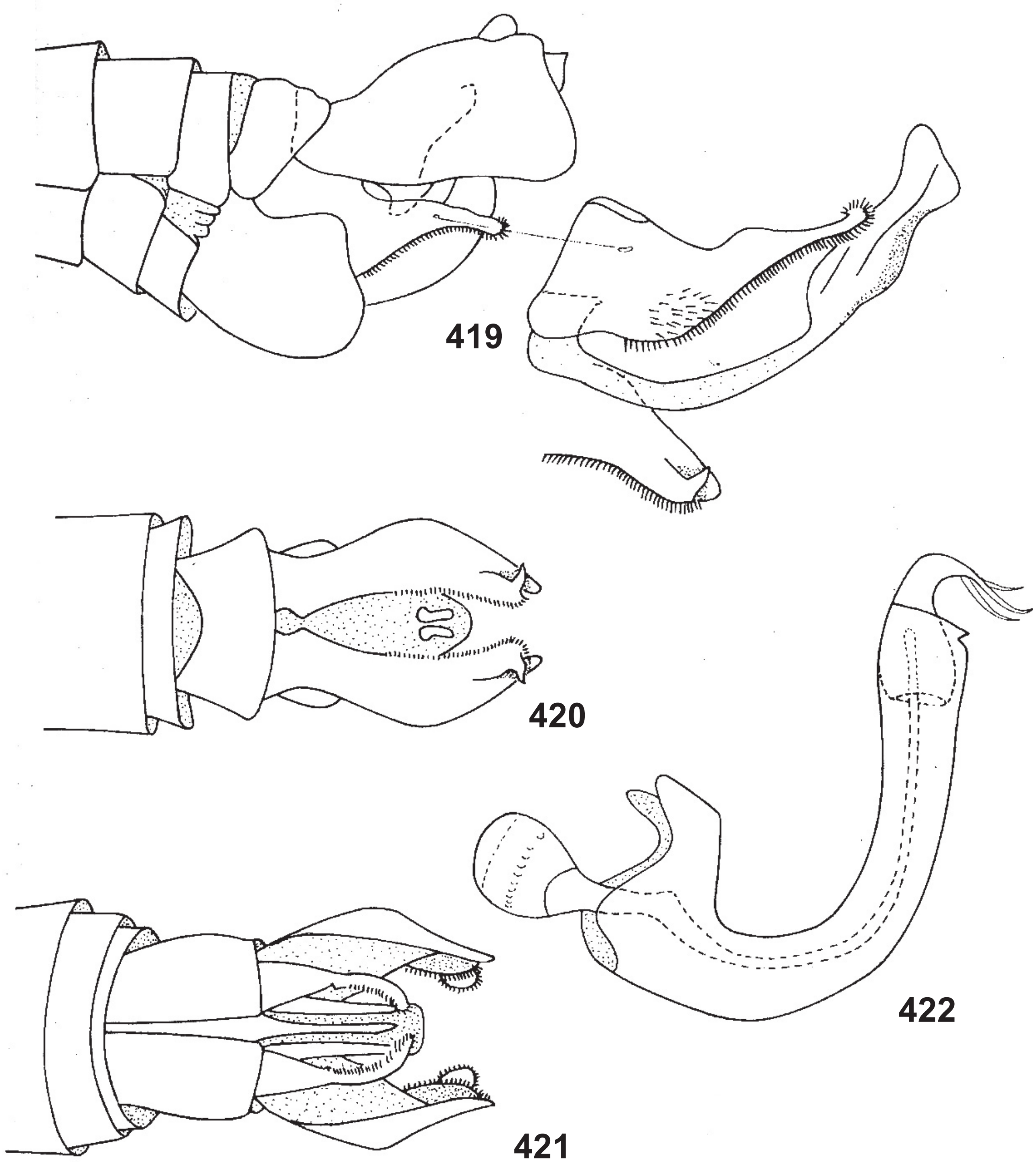
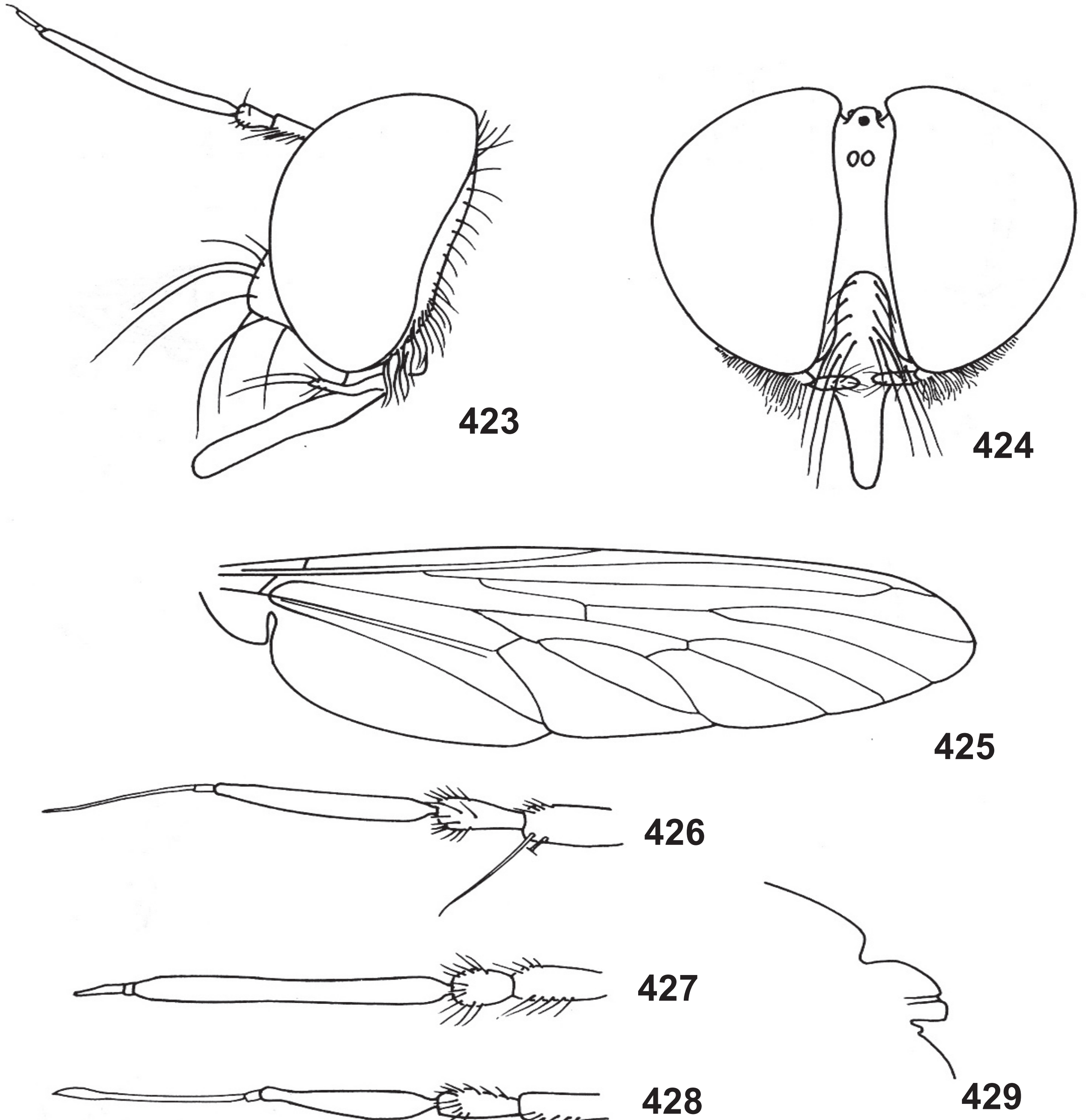
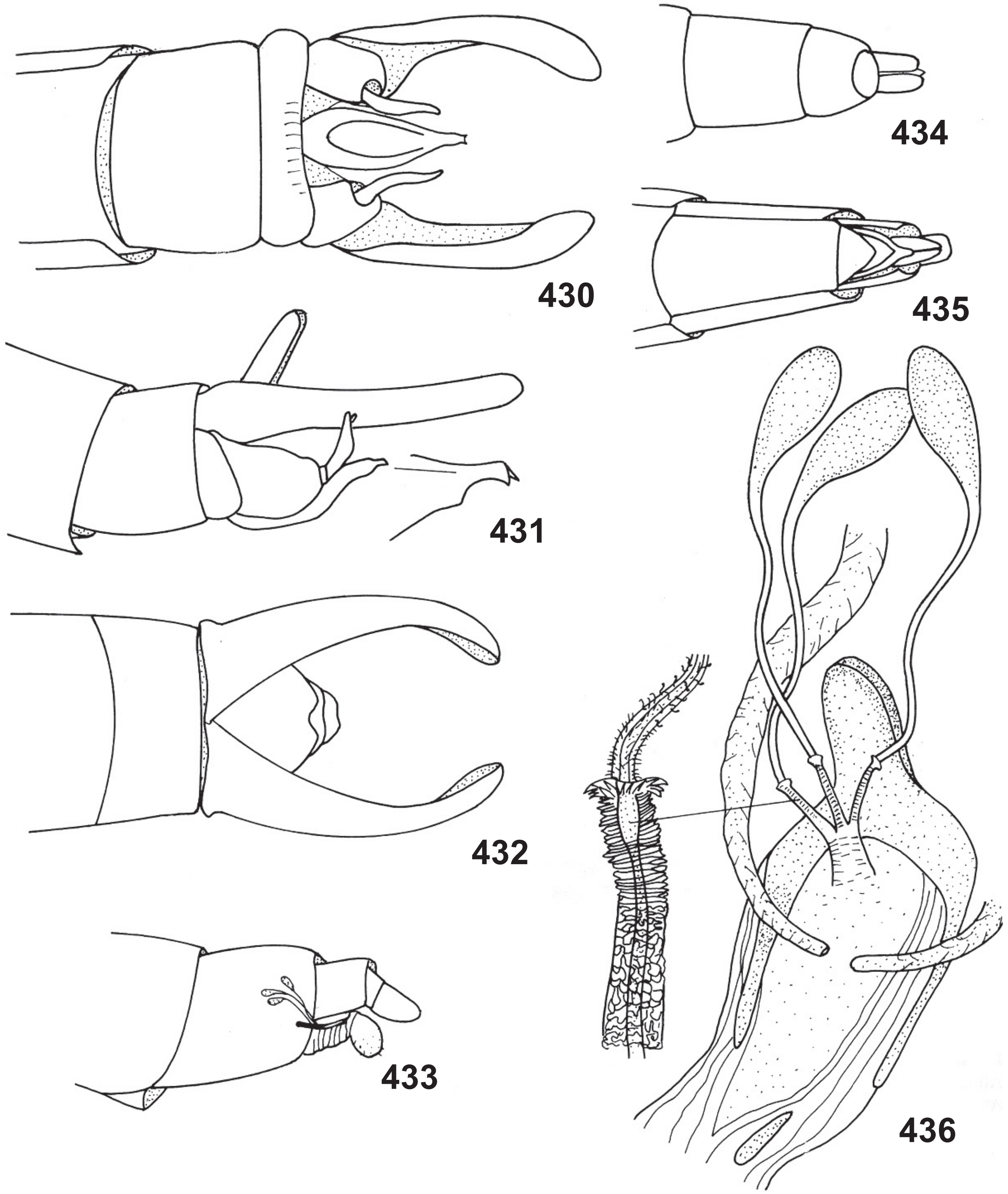
Figs. 415-418. *Martintella lestes* (Williston, 1901): 415-416, head in frontal and lateral views; 417, wing; 418, profile of scutellum.



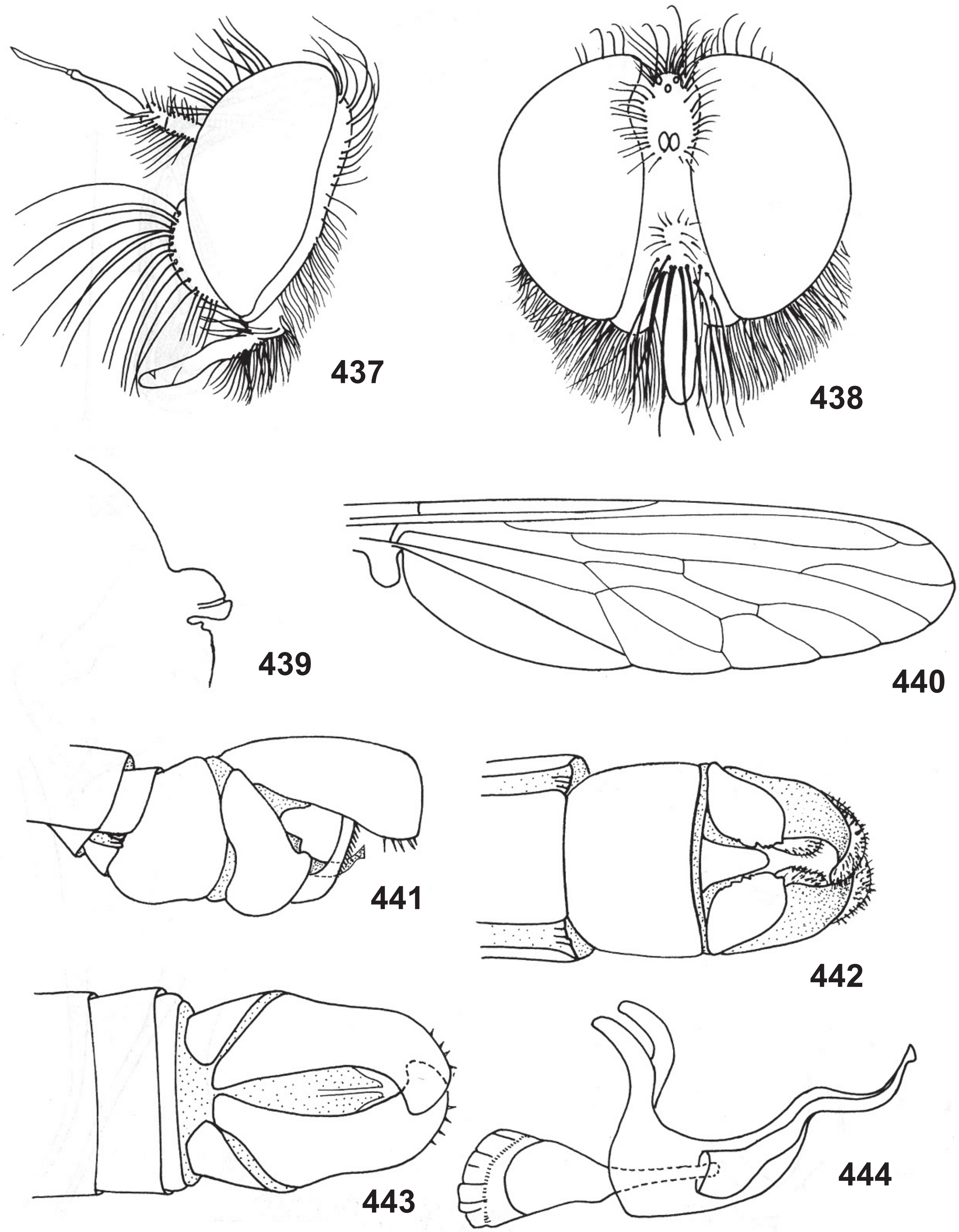
Figs. 419-422. *Martintella lestes* (Williston, 1901): 419-421, male terminalia in lateral, dorsal and ventral views; 422, aedeagus.



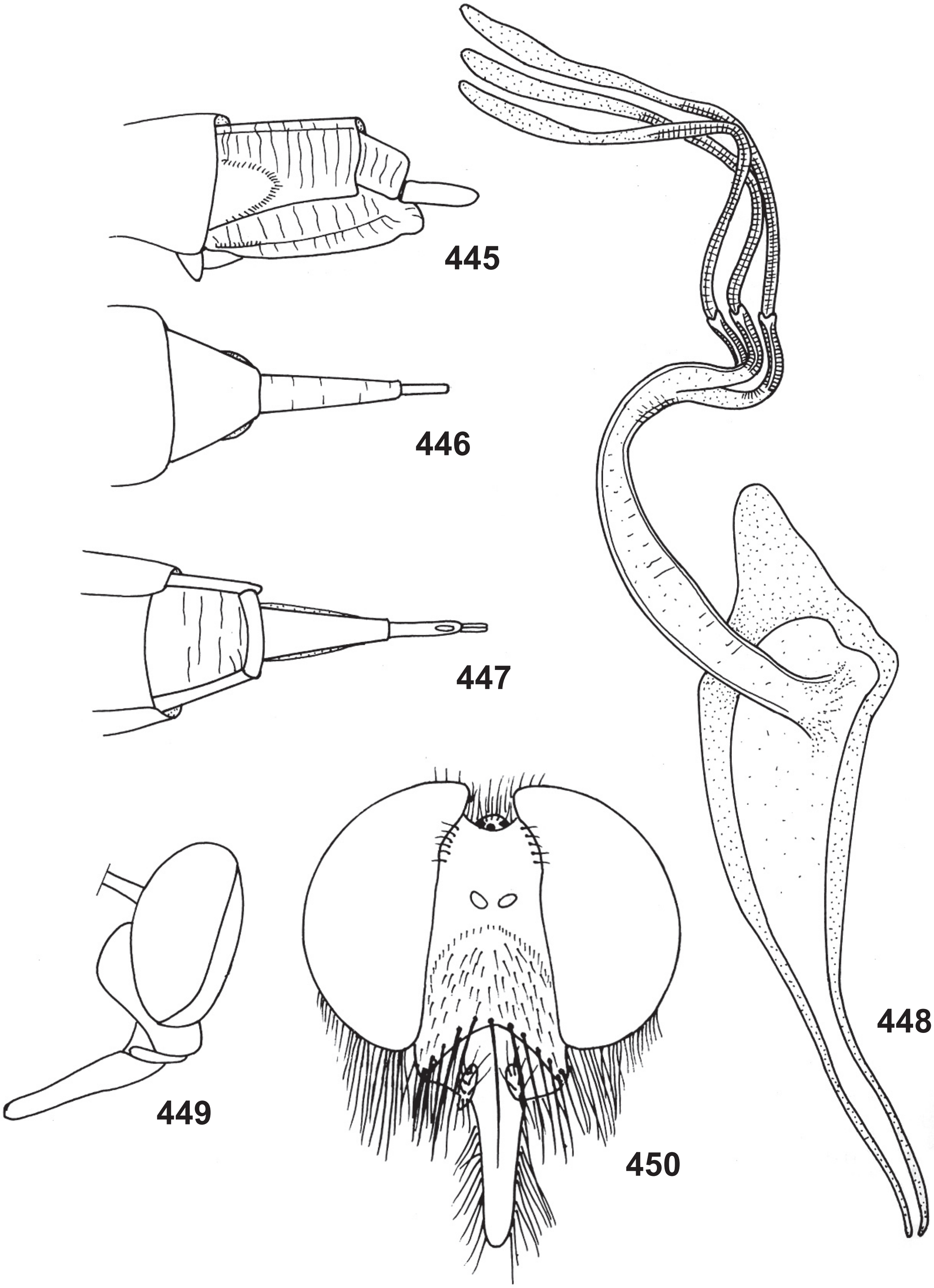
Figs. 423-424, 429. *Glaphyropyga pollinifera* Carrera, 1945: 423-424, head in lateral and frontal views; 429, profile of scutellum. Figs. 425, 428. *Glaphyropyga venezuelensis* Carrera & Machado-Allison, 1963: 425, wing; 428, antenna. Fig. 426. *Glaphyropyga aristata* Carrera, 1950, antenna. Fig. 427. *Glaphyropyga himantocera* (Wiedemann, 1828), antenna.



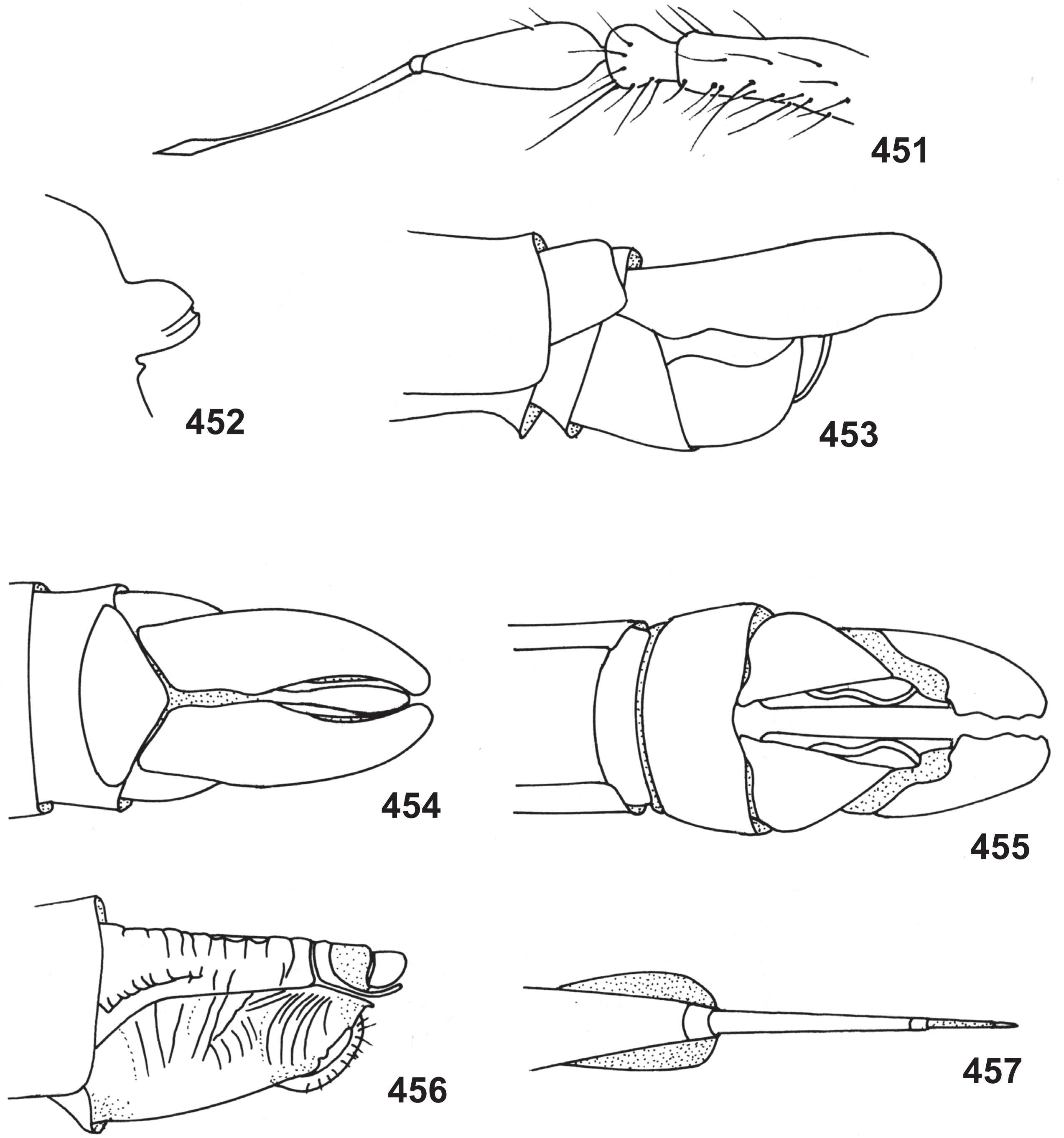
Figs. 430-436. *Glaphyropyga pollinifera* Carrera, 1945: 430-432, male terminalia in ventral, lateral and dorsal views; 433-435, ovipositor in lateral, dorsal and ventral views; 436, spermathecae.



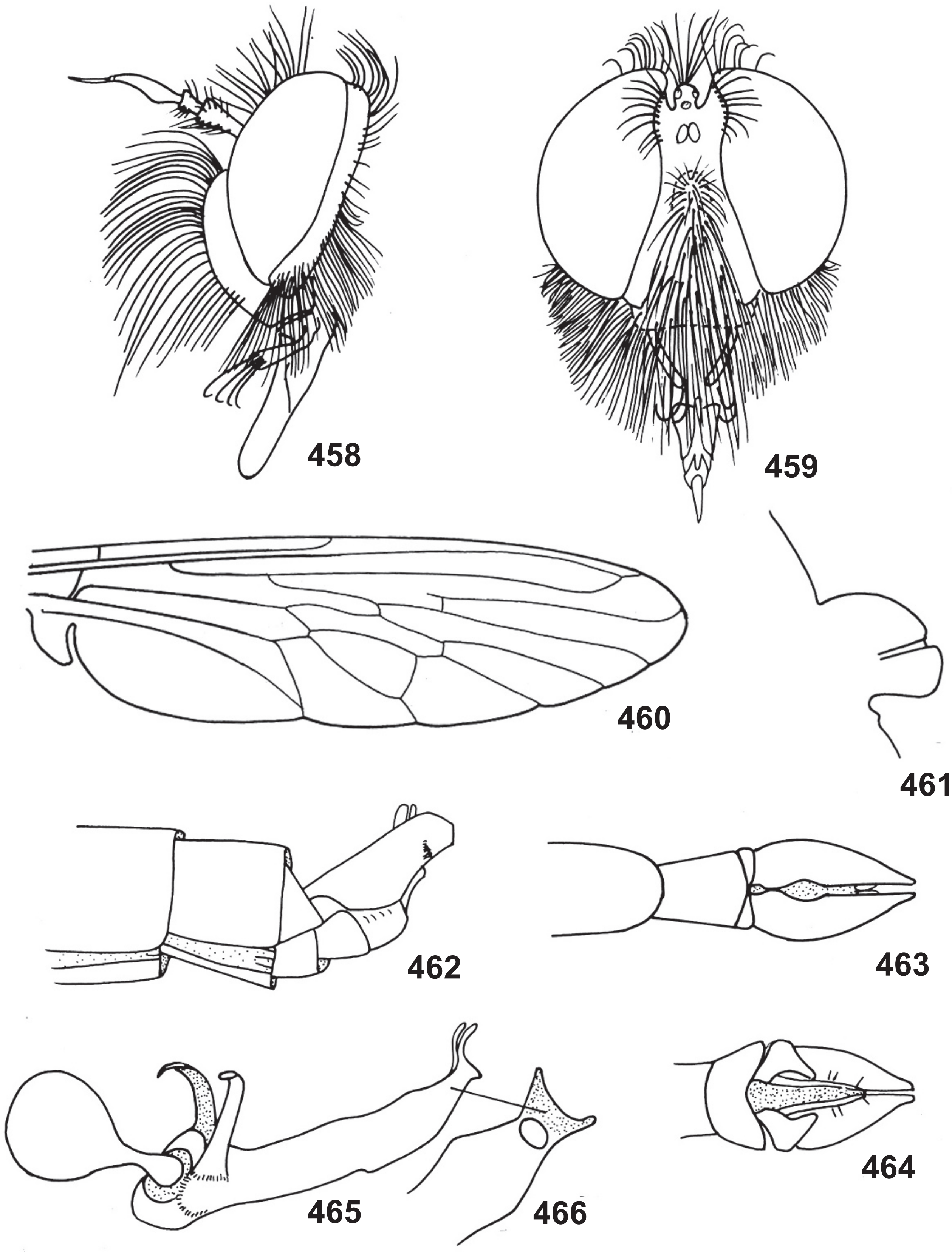
Figs. 437-444. *Neotes chiloensis* (Artigas, 1970): 437-438, head in lateral and frontal views; 439, profile of scutellum; 440, wing; 441-443, male terminalia in lateral, ventral and dorsal views; 444, aedeagus.



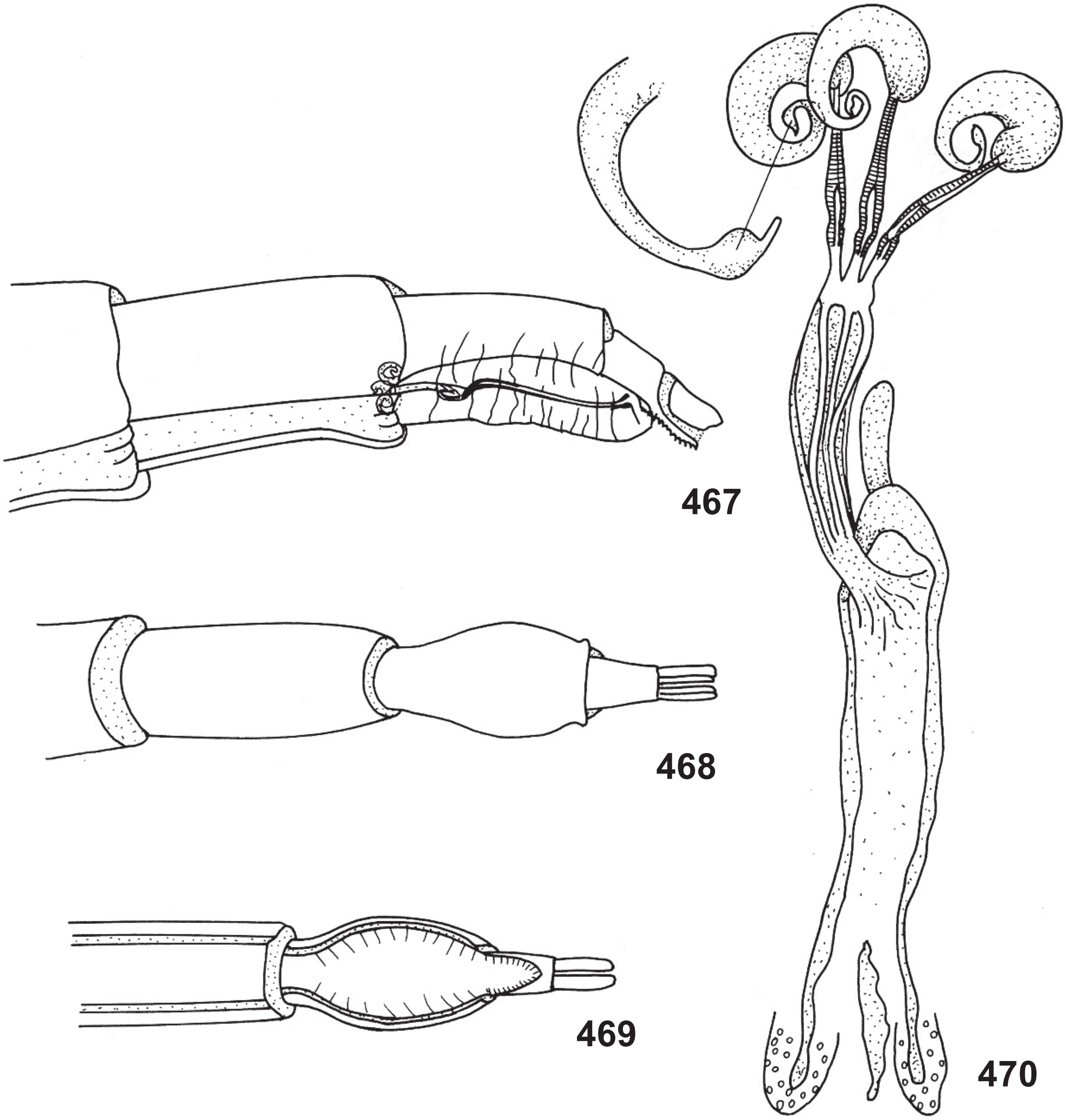
Figs. 445-448. *Neotes chiloensis* (Artigas, 1970): 445-447, ovipositor in lateral, dorsal and ventral views; 448, spermathecae. Figs. 449-450. *Tsacasia wagneri* Artigas & Papavero, 1998, head in lateral and frontal views.



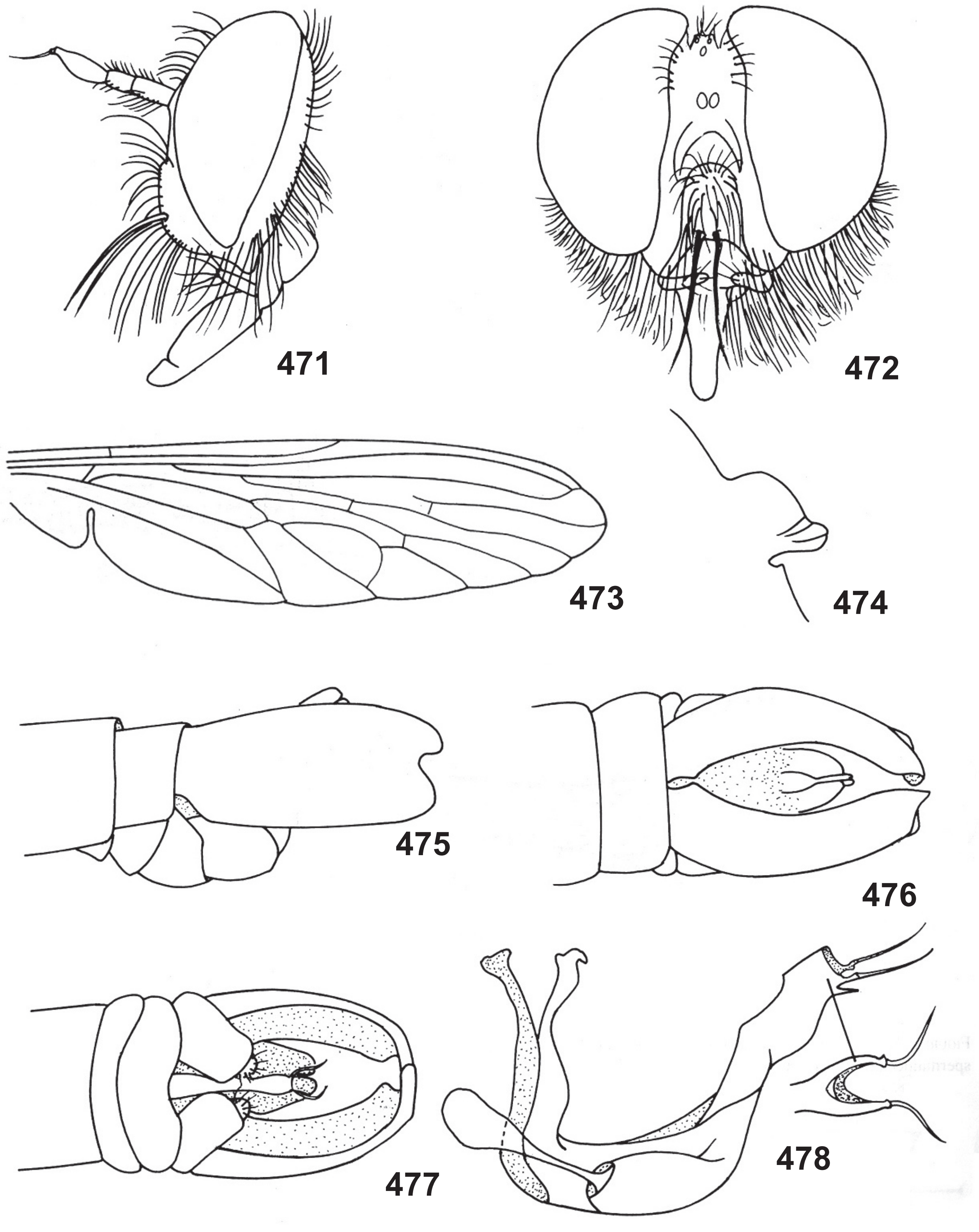
Figs. 451-455. *Tsacasia wagneri* Artigas & Papavero, 1998: 451, antenna; 452, profile of scutellum; 453-455, male terminalia in lateral, dorsal and ventral views; 456-457, female ovipositor in lateral and dorsal views.



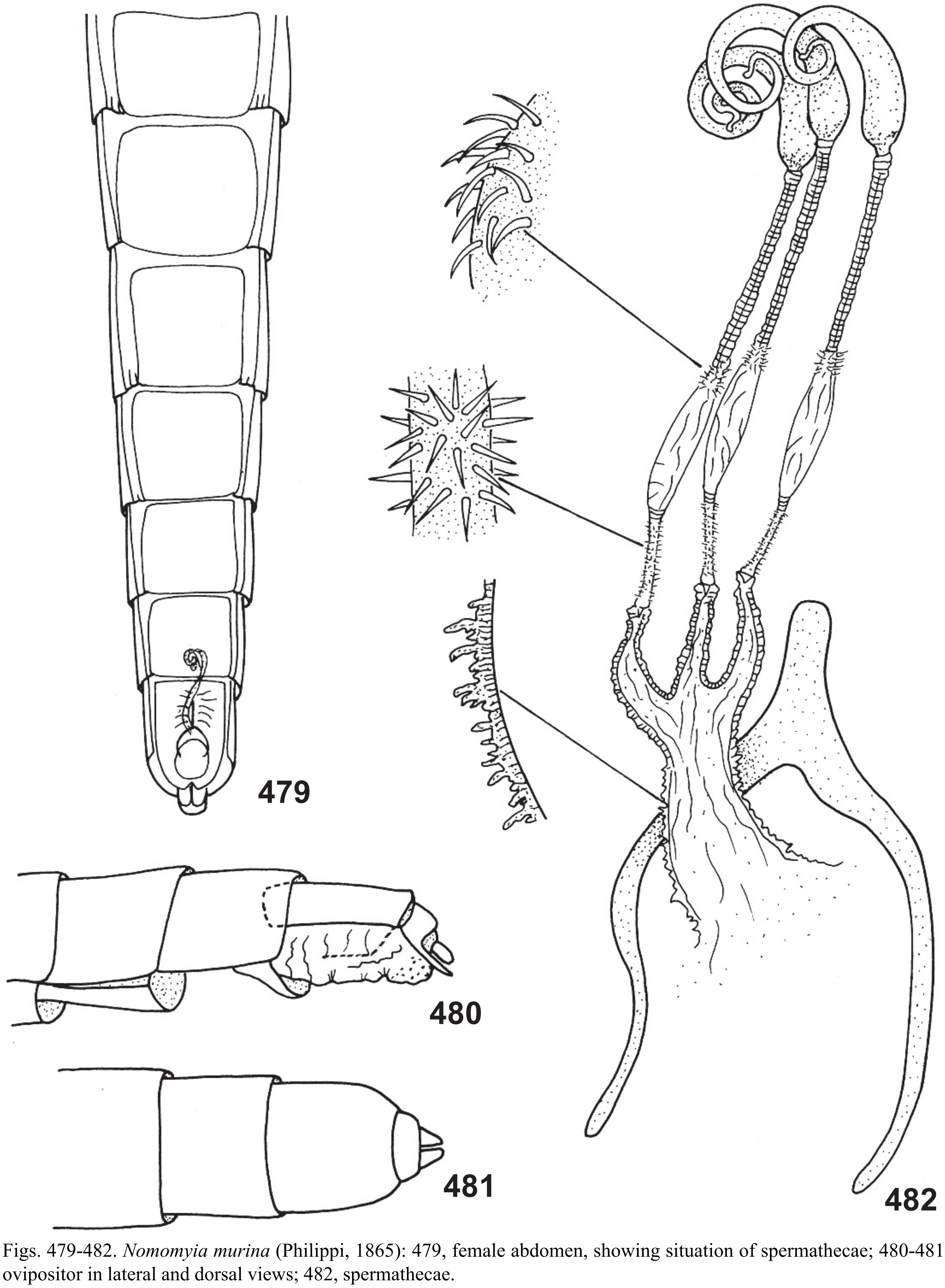
Figs. 458-466. *Megalometopon immisericorde* (Artigas, 1970): 458-459, head in lateral and frontal views; 460, wing; 461, profile of scutellum. 462-464, male terminalia in lateral, dorsal and ventral views; 465-466, aedeagus in lateral and dorsal views.



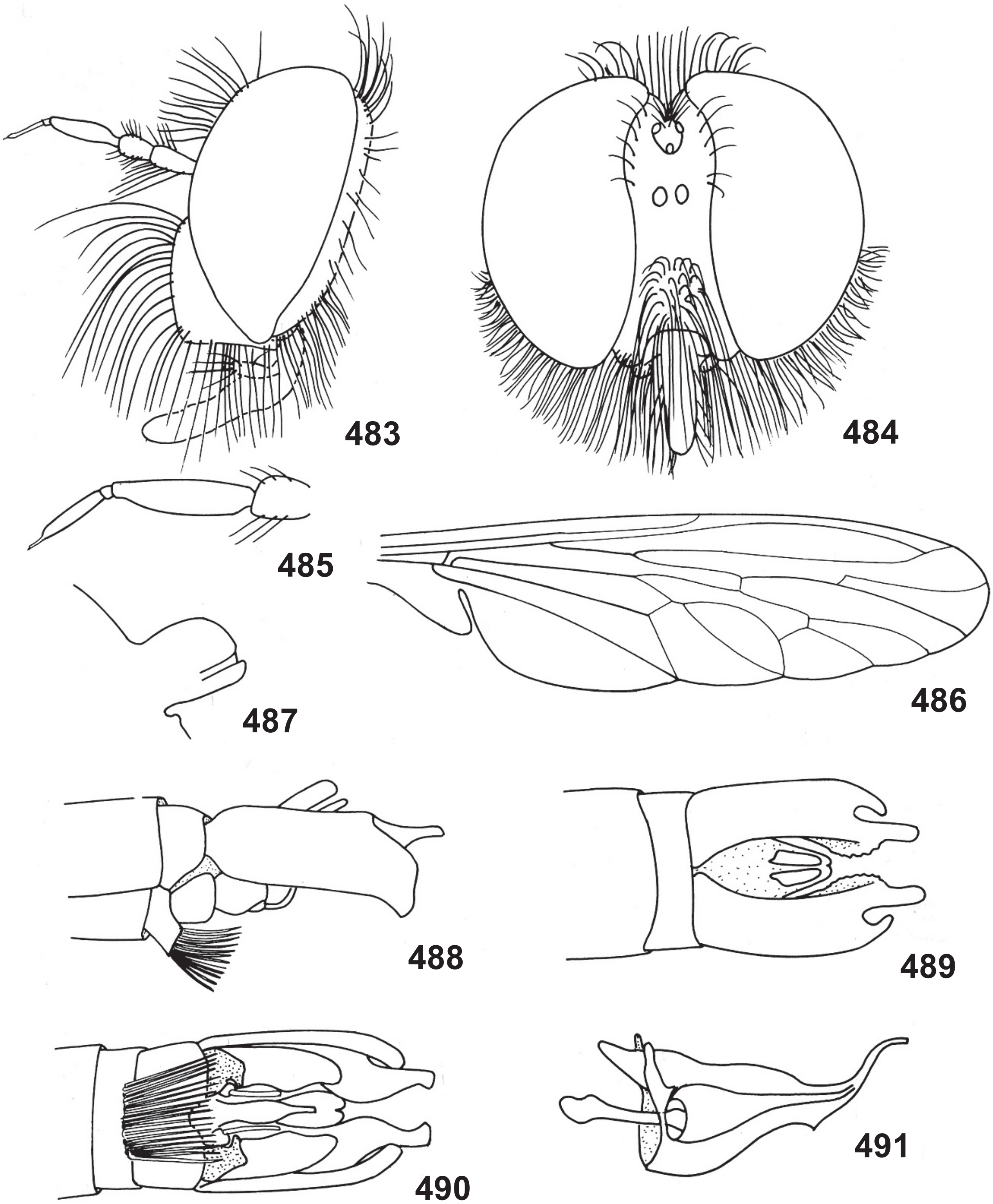
Figs. 467-470. *Megalometopon immisericorde* (Artigas, 1970): 467-469, ovipositor in lateral, dorsal and ventral views (fig. 467 shows the situation f the spermathecae in the abdomen); 470, spermatheca.



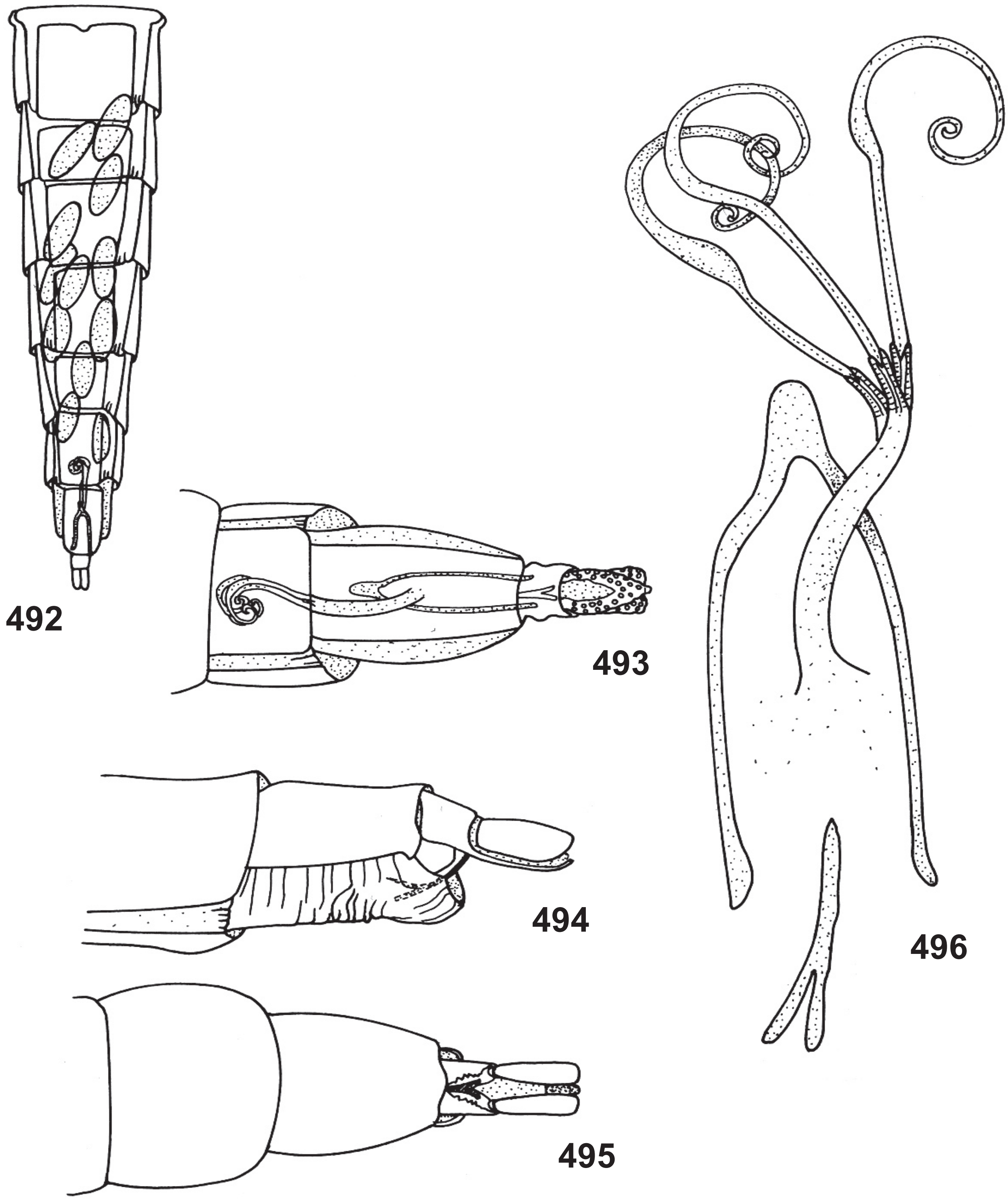
Figs. 471-478. *Nomomyia ivetteae* Artigas, 1970: 471-472, head in lateral and frontal views; 473, wing; 474, profile of scutellum; 475-477, male terminalia in lateral, dorsal and ventral views; 478, aedeagus.



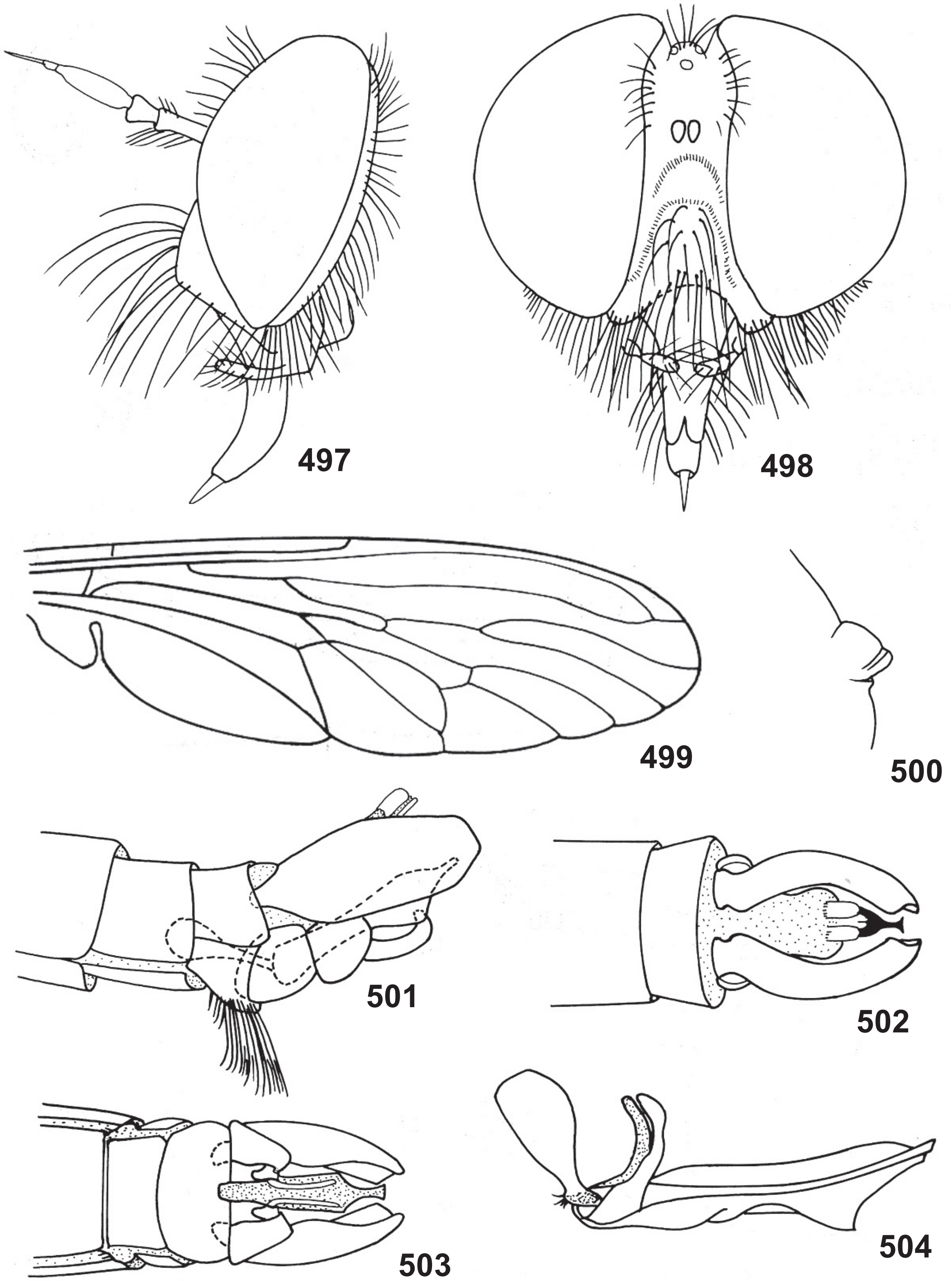
Figs. 479-482. *Nomomyia murina* (Philippi, 1865): 479, female abdomen, showing situation of spermathecae; 480-481, ovipositor in lateral and dorsal views; 482, spermathecae.



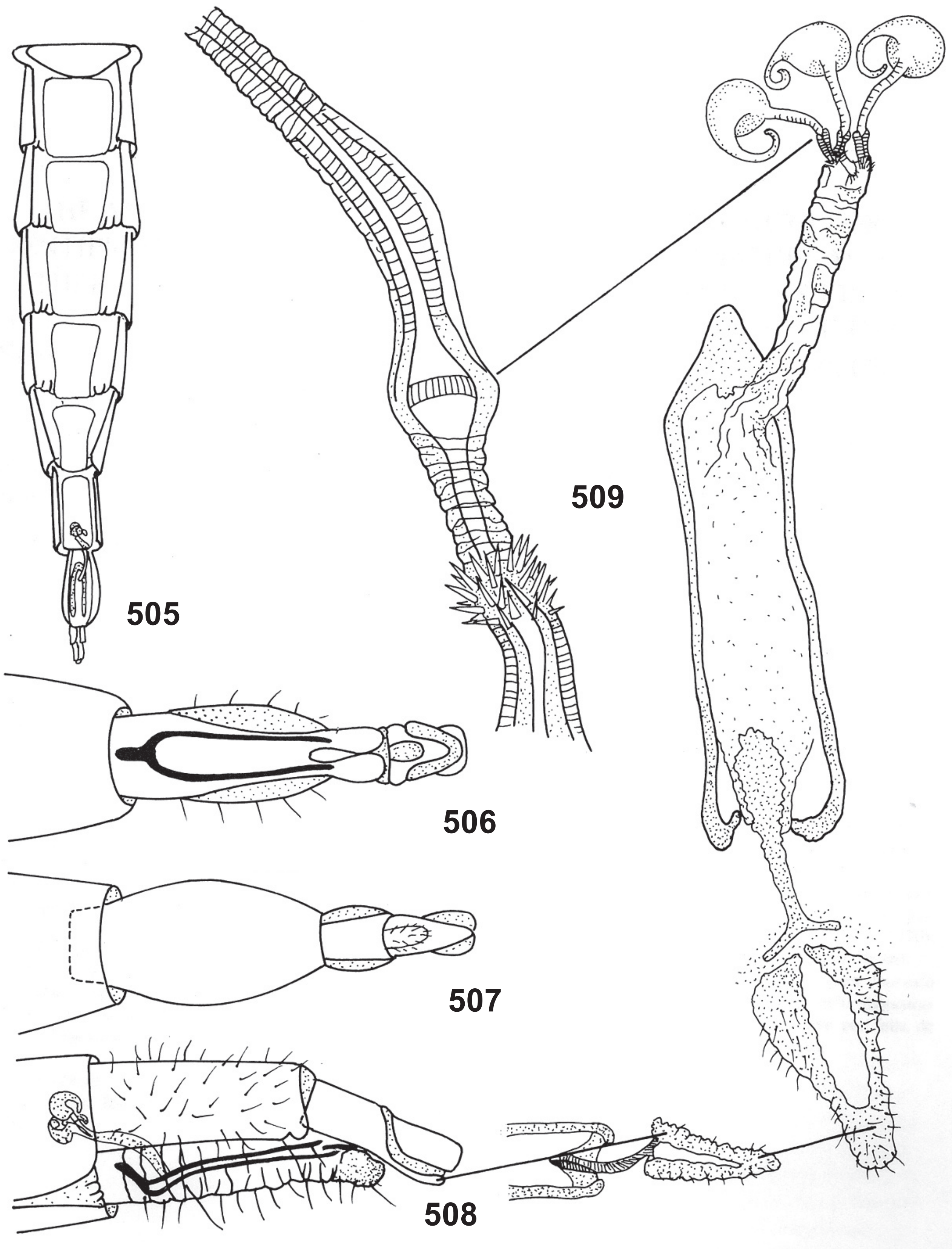
Fics. 483-487. *Zoticus fitzroyi* Artigas, 1974: 483-484, head in lateral and frontal views; 485, antenna; 486, wing; 487, profile of scutellum. Figs. 488-4912. *Zoticus toconaoensis* Artigas, 1970: 488-490, male terminalia in lateral, dorsal and ventral views; 491, aedeagus.



Figs. 492-496. *Zoticus fitzroyi* Artigas, 1974: 492, female abdomen, ventral view, showing situation of spermathecae and eggs; 493-495, ovipositor in ventral, lateral and dorsal views (showing situation of spermathecae); 496, spermathecae.



Figs. 497-504. *Leptoharpacticus sp.*: 497-498, head in lateral and frontal views; 499, wing; 500, profile of scutellum; 501-503, male terminalia in lateral, dorsal and ventral views; 504, aedeagus.



Figs. 505-509. *Leptoharpacticus sp.*: 505, female abdomen, ventral view, showing situation of spermathecae; 506-508, ovipositor in ventral, dorsal and lateral views (showing situation of spermathecae); 509, spermathecae.

2. Subfamily Dasypogoninae [Figs. 510-725]

Key to the genera

1. Antenna with three flagellomeres, the second minute (Figs. 513, 523, 527). Fore tibial spur weak, sigmoid (Figs. 515, 516, 524). First tarsomere of fore leg never with basal flange. All wing cells open (Fig. 518), although sometimes cell cup almost closed at wing margin. Anatergite bare. Hypandrium free from epandrium. Female tergite 10 with spines. Tribe Isopogonini 2
Antenna with one or two flagellomeres. Other combinations of characters 11

2(1). Pulvilli present, even if reduced (in *Theromyia* Wiilliston pulvilli one-fourth length of claws (Fig. 566) 3
Pulvilli entirely absent 10

3(2). First tarsomere of fore leg without basal denticles (Fig. 524) (except in *Alvarenga* Carrera, with several series of peg-like structures (Figs. 515-516), but not with denticles) 4
First tarsomere of fore leg with a series of evident, small, black denticles basally 8

4(3). Mystax dense, occupying entire face, bristles longer at lower margin (Fig. 511) 5
Mystax thin, reduced to subcranial margin; with at most sparse hairs above mystax 6

5(4). Mesonotum strongly arched and compressed medianly, bearing a strong mane of long, dense, erect hairs. Third antennal flagellomere thin and slender. Male terminalia and aedeagus as in Figs. 532-537. Spermathecae as in Fig. 531 (Canada, U. S. A.) .... *Comantella* Curran, 1923
Mesonotum also strongly arched, but not compressed medianly and without a mane; hairs on mesonotum decumbent (Fig. 510). Third antennal flagellomere strongly flattened laterally and as wide as first flagellomere (Fig. 513). Female terminalia and spermathecae as in Figs. 519-522. (Brazil, Argentina) .... *Alvarenga* Carrera, 1960

6(4). Male abdomen with only 6 visible segments, the last two (5-6) widened, flat, spatulate, covered with dense silvery pollen (Figs. 551-552), the male terminalia usually hidden beneath these segments. Wing, in both sexes, spotted brown at crossveins and bifurcations (pattern pale in male of *N. pictus*), or brown almost to the apex, including bifurcation of R4 and R5. Male terminalia and aedeagus as in Figs. 553-557. Spermathecae as in Fig. 559. (U. S. A. to Ecuador) .... *Nicocles* Jaennicke, 1867
Male abdomen with 7 visible segments, the last two (6-7) not modified as above. Wing hyaline, or basal two-thirds brown, not spotted as above, or entirely infuscated 7

7(6). Both male and female with a noticeable excision at apex of middle tibia, bearing two short spines (one longer) (Fig. 525). First tarsomere of hind leg with a row of 5 to 9 spines of similar length. Epandrial lobes characteristically expanded, narrowed basally and then flap-like (Fig. 526). Spermathecae as in Fig. 530. (Brazil: Minas Gerais, Rio de Janeiro, São Paulo) .... *Aspidopyga* Carrera, 1949
Middle tíbia not excised at apex, with only two apical bristles. First tarsomere of hind leg without row of spines. Epandrial lobes never as above. Male aedeagus and terminalia as in Figs. 538-542. Spermathecae as in Figs. 543-545. (U. S. A. and Mexico south to Ecuador, Peru and Argentina) .... *Cophura* Osten Sacken, 1887

8(3). Anterior tarsus lengthened, twice as long as fore tibia. Face strongly produced. (Brazil: Minas Gerais) .... *Annamyia* Pritchard, 1941
Anterior tarsus of usual length. Face not as above 9

9(8). Pulvilli as long as claws. Male terminalia extremely developed (Fig. 528), aedeagus very long, exposed, longer than height of terminalia. Spermathecae as in Fig. 529. (Panama and South America, but not in Chile) .... *Aphamartania* Schiner, 1866
Pulvilli reduced, one-fourth length of claws. Male terminalia also developed, but aedeagus short, hidden inside the terminalia (Figs. 562-566). (Chile) .... *Theromyia* Williston, 1891

1 (2). Dorsocentral bristles erect and extending to mesonotal declivity. Face with a dense fringe of long, adjacent, tectiform, drooping bristles, reaching nearly up to base of antennae. Scape and pedicel with stout, long bristles. Diameter

of all femora uniform. Spermathecae as in Fig. 560 (U. S. A.: Washington, California, Texas) .... *Omninablautus* Pritchard, 1935

Dorsocentral bristles recumbent when present, confined to mesonotal declivity. Mystax composed of hair-like bristles, never as above. Scape and pedicel without long, stiff, ventral bristles. Diameter of hind femora 1.3-1.5 times diameter of middle femora. Male terminalia and aedeagus as in Figs. 546-550. Spermathecae as in Fig. 558 (U. S. A.: California, Arizona, Colorado; Mexico: Sonora, Zacatecas) .... *Hodophylax* James, 1933

11(1). Males 12

Females 18

12(11). Epandrial lobes fused into a single plate, which in turn is fused to the hypandrium, i. e., segment 9 forms a complete ring. Antenna with one or two flagellomeres. Wing with cells r1, r5, m3 and cup open or closed. Anatergite bare or pilose. Tribe Megapodini 13

Epandrial lobes separated (except in *Neoderomyia* Artigas), with divergent apices, but in no case fused to hypandrium 18

13(12). Cell r1 open. Anatergite bare, only micropubescent (if anatergite pilose, the hairs located *under* the callosity). Hypandrium short and mammiform, or prolonged tongue-like between the gonocoxites 14

Cell r1 closed (if open, face strongly concave medianly and projected into a thick lip inferiorly). Anatergite with erect hairs. Hypandrium short and wide, strongly concave medianly 16

14(13). Second antennal segment present (Fig. 568); if absent, a minute spine on dorsum of flagellomere present, either medianly or subapically placed (Fig. 567). Posterior margin of tergite 1 with ‘bullae’ 15

Only one flagellomere present, with apical spine (Fig. 572). Posterior margin of tergite 1 without ‘bullae’. Male terminalia and aedeagus as in Figs. 596-600. Spermathecae as in Fig. 604. (Guiano-Brazilian subregion) .... *Senobasis* Macquart, 1838

15(14). Two flagellomeres present (Fig. 568). Male terminalia and aedeagus: see Artigas, 1970: figs. 175, 176, 179, 180. Spermathecae: see Artigas, 1971: figs. 12-13 (Chile) ....*Deromyia* Philippi, 1865

Second flagellomere absent, a minute spine present on dorsum of flagellomere, either medianly or subapically placed (Fig. 567). Male terminalia and aedeagus as in Figs. 574-578. Spermathecae as in Fig. 603 (Guiano-Brazilian subregion) .... *Cyrtophrys* Loew, 1851

16(13). Face strongly prominent, triangular in lateral view (Fig. 569) 17

Face strongly concave, produced only inferiorly, into a very thick lip (Fig. 570). Second flagellomere absent (except in *P. martini* (Fig. 571). Male terminalia and aedeagus as in Figs. 591-595. Spermathecae as in Fig. 606 (Sonoran Desert to southern Brazil) .... *Pseudorus* Walker, 1851

17(16). Face extremely produced, with a central, triangular, yellow pollinose area, almost bare of hairs. Second antennal flagellomere well developed. Frons with longitudinal sulci. Legs moderately strong and robust. Male terminalia as in Figs. 585-590. Spermathecae: see Artigas, 1971: fig. 72 (Peru, Chile) .... *Pronomopsis* Hermann, 1912

Face not so produced, without the pollinose central triangle. Palpi very elongate, surpassing tip of face in lateral view. Second flagellomere partially fused to first flagellomere. Frons with lateral ‘bullae’. Male terminalia and aedeagus as in Figs. 580-584. Spermathecae as in Fig. 605 (Guiano-Brazilian subregion) .... *Megapoda* Macquart, 1834

18(12). Veins CuA1 and M3 ending separately at wing margin (i. e., cell m3 open) (if cell m3 closed, veins CuA1 and M3 meet only at wing margin). First flagellomere normally without small bristles on lower dorsal surface. Second flagellomere present or absent. Cell r1 open. Tribe Dasypogonini 19

Veins CuA1 and M3 fused before wing margin (i. e., cell m3 closed and petiolate) (if cell M3 open, as in *Pseudorus piceus* [Megapodini], then anatergite pilose). Cell r1 open or closed. First antennal flagellomere with small bristles on lower dorsal surface (if these bristles absent [Megapodini], then anatergite pilose) 29

19(18). Pulvilli absent (Fig. 612). Antennal stylus variable. Male terminalia and aedeagus as in Figs. 647-651. Spermathecae as in Fig. 652 (Nearctic) .... *Parataracticus* Cole, 1924

Pulvilli present 20

20(19). Only one flagellomere present, with an apical or dorsal spine (Fig. 607) 21
Two antennal flagellomeres present (Fig. 608) 25

21(20). Flagellomere with a dorsal incision near its middle or apical third, bearing a spine (Fig. 613). Abdomen notoriously punctate. Male terminalia and aedeagus as in Figs. 660-664. Spermathecaeas in Fig. 665 (U. S. A., Mexico) .... *Taracticus* Loew, 1872
Flagellomere always with a minute apical spine 22

22(21). Face concave (Fig. 633) 23
Face flat (Fig. 610) 24

23(24). Scape and pedicel subequal in length. Marginal scutellar bristles present. Body pollinose. Male terminalia and aedeagus as in Figs. 614-619. Spermathecae as in Fig. 625 (Argentina) .... *Aczelia* Carrera, 1955
Scape two or three times length of pedicel (Fig. 634). Marginal scutellar bristles absent (except in *Amorimius martinorum* (Artigas & Papavero, 1988)). Body bare, mostly shining. Male terminalia and aedeagus as in Figs. 635, 637-641. Spermathecae as in Fig. 636 (Mexico south to Brazil) .... *Amorimius* Papavero, 2009

24(22). Face exceptionally high, the antennae arising near vertex (Fig. 610). Scape twice as long as pedicel. First tarsomere of fore leg without basal denticles. Marginal scutellar bristles present. (Brazil: Pará) ...... *Tocantinia* Carrera, 1955
Face short, never as above. Scape and pedicel subequal in length. First tarsomere of fore leg with basal denticles. Marginal scutellar bristles absent (Brazil: Amazonas) .... *Austenmyia* Carrera, 1955

25(20). At least three pairs of presutural dorsocentrals present 26
No presutural dorsocentral bristles, or, at least, undistinguishable from pilosity 28

26(25). Lower 2/3 of face with a pronounced, haired swelling or gibbosity. Presutural dorsocentral bristles extremely developed, semi-erect (Western Nearctic) .... *Lestomyia* Williston, 1889
Face plane or slightly prominent at subcranial margin. Presutural dorsocentral bristles short and recumbent (Chile) 27

27(26). Abdomen slender, as long as five times width of first tergite. No more than three pairs of well-developed presutural dorsocentral bristles. Male terminalia and aedeagus as in Figs. 642-646. Spermathecae as in Artigas, 1971: fig. 18 (Chile) .... *Neoderomyia* Artigas, 1971
Abdomen as broad as mesonotum. Dorsocentral bristles reaching anterior margin of mesonotum. Male terminalia and aedeagus as in Figs. 620-624. Spermathecae as in Fig. 626 (Chile) .... *Araucopogon* Artigas & Papavero, 1998

28(25). Face short, produced in lateral view and triangular, the subcranial margin wider than width of frons (Figs. 608-609). Male tergites 5-6 with a cluster of squamiform setae laterally (Fig. 611). Male terminalia and aedeagus as in Figs. 628-632. Spermathecae as in Fig. 626 (Brazil) .... *Cleptomyia* Carrera, 1949
Face never as above. Subcranial margin subequal to width of frons or shorter. No such squamiform setae present on male tergites 5-6. Male terminalia and aedeagus as in Figs. 655-659. Spermathecae as in Figs. 653-654 (Worldwide) .... *Saropogon* Loew, 1847

29(18). Anatergite with erect hairs. Females with seven visible tergites. Female terminalia begins with segment 8. In males, hypandrium fused to epandrium, forming a complete ring; hypandrium short, strongly concave medianly .... Tribe Megapodini, part [go back to couplet 16]
Anatergite bare. Female with 8 visible tergites. Male hypandrium variable 30

30(29). Second flagellomere present; if absent, spine placed on dorsum of flagellomere, either medianly or subapically. In males, hypandrium fused to epandrium, forming a complete ring, and hypandrium tongue-like, prolonged between gonocoxites. Posterior margin of tergite 1 with 'bullae'. Cells m3 and cup closed and petiolate .... Tribe Megapodini, part [go back to couplet 15]
Second flagellomere always present, spine always on tip of second flagellomere (Fig. 572) 31

31(30). Only one palpal segment (Fig. 573). Female terminalia in the shape of a triangular plate, formed by segment 9, without spines (Figs. 601-602). In males, hypandrium fused to epandrium, forming a complete ring Figs. 596-598). Female spermathecae as in Fig. 605. Tribe Megapodini, part (Guiano-Brazilian subregion) .... *Senobasis* Macquart, 1838

Palpus two-segmented. Female tergite 10 with spines. In males, hypandrium free from epandrium. Tribe Lastaurini ... 32

32(31). At least anepisternum and katepisternum with relatively long and dense hairs. At least tergites 2-4 with long, soft hairs laterally or posteriorly, normally forming tufts parted in the middle. Generally very hirsute flies. Dorsocentral rows either complete, all the bristles long and well developed, or dorsocentrals beginning at level of posterior margin of humeri, becoming longer towards scutellum 33

Pleura almost completely naked; if sometimes posterior margin of anepisternum with some hairs, then tergites 2-4 never with long tufts of hairs. Extremely bare flies. Dorsocentrals long and well developed only post-suturally, sometimes strongly reduced or absent 36

33(32). First tarsomere of hind leg slender, narrower than its tibia and almost as long as, or longer than, tarsomeres 2-4 together (Figs. 666-667). Tergites 2-4 at least with patches of more or less long, light hairs, laterally and posteriorly 34

Tarsomeres (and also normally tibiae) inflated. First tarsomere of hind tibia subequal in width to its tibia, relatively short and thick, subequal to, or longer than, tarsomeres 2-3 (Figs. 668-669). Normally very hirsute flies, sometimes with hair tufts only on tergites 1-4 35

34(33). Cell r1 open. Male terminalia and aedeagus as in Figs. 695-698. Spermathecae as in Fig. 715 (Brazil) ..... *Neodiogmites* Carrera, 1949

Cell r1 closed and petiolate (Guyana) ..... *Apolastauroides* Artigas & Papavero, 1988

35(33). Dorsocentral rows complete; anterior dorsocentrals well developed. Predominantly yellow or reddish-black species, with yellow vestiture. Legs yellowish or reddish. Mystax golden-yellow. Male terminalia and aedeagus as in Figs. 687-691. Spermathecae as in Fig. 714 (Brazil, Argentina) ..... *Lastaurina* Curran, 1935

Dorsocentral rows incomplete; anterior dorsocentrals, if present, hair-like. Predominantly black species, with predominantly black vestiture. Sometimes abdomen and mesonotum with patches of yellow or rufous hairs. Legs always black. Mystax entirely black, entirely yellow, or mixed black and white. Male terminalia and aedeagus as in Figs. 699-703. Spermathecae as in Fig. 716 (Neotropical) ..... *Lastaurus* Loew, 1851

36(32). Marginal scutellar bristles present 37

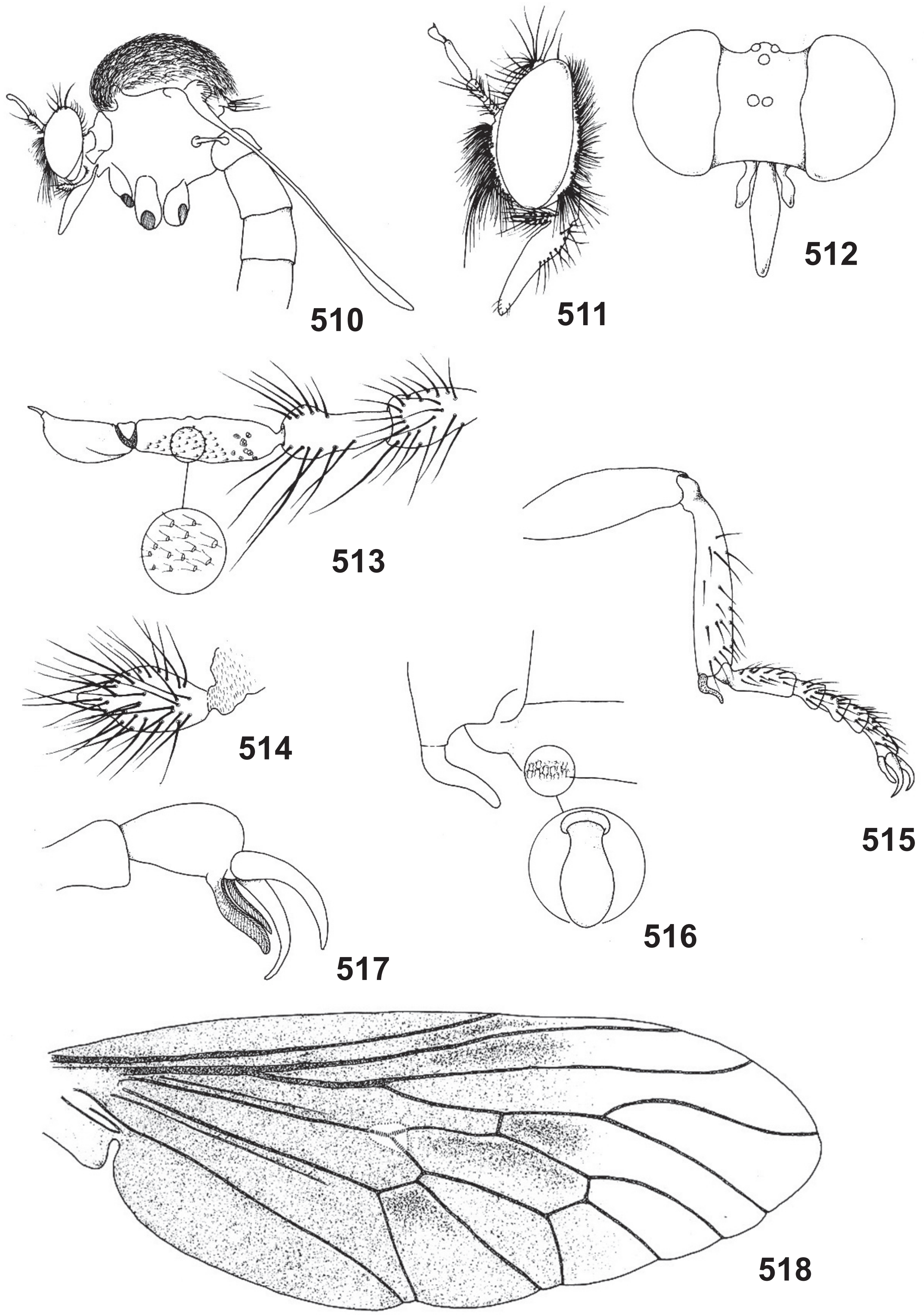
Marginal scutellar bristles absent 38

37(36). Face narrower than width of an eye (Fig. 671). Pulvilli of hind leg reaching at least half length of claw (Fig. 672). Male terminalia and aedeagus as in Figs. 682-686. Spermathecae as in Figs. 706-713 (Americas) ..... *Diogmites* Loew, 1866

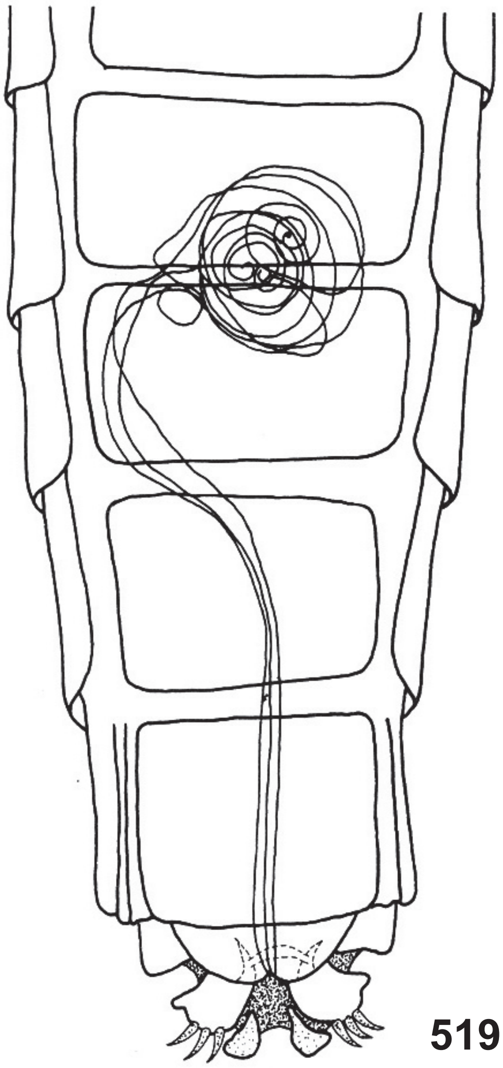
Face as wide as, or wider than, width of an eye (Fig. 673). Pulvilli of hind leg half length of law, or shorter, to almost absent (Fig. 674). Male aedeagus as in Figs. 675-676. Spermathecae as in Fig. 704 (Brazil, Argentina) ..... *Caenarolia* Thomson, 1869

38(36). Prosternum dissociated from proepisternum, separated by a membranous area (Fig. 724). Very large, robust flies. Male terminalia and aedeagus as in Figs. 719-723. Spermathecae as in Fig. 717 (Brazil, Argentina) ..... *Phonicocleptes* Lynch Arribálzaga, 1881

Prostermum fused to proepisternum, forming a complete ring (Fig. 725). Medium-sized flies. Male terminalia and aedeagus as in Figs. 677-681. Spermathecae as in Fig. 705 (Neotropical, but not in Chile) ..... *Blepharepium* Rondani, 1848



Figs. 510-518. *Alvarenga icarius* Carrera, 1960: 510, lateral view of thorax; 511, head, lateral; 512, do., frontal; 513, antenna; 514, palpus; 515, front leg; 516, detail of tibial spur; 517, apical tarsomere and pulvilli; 518, wing.



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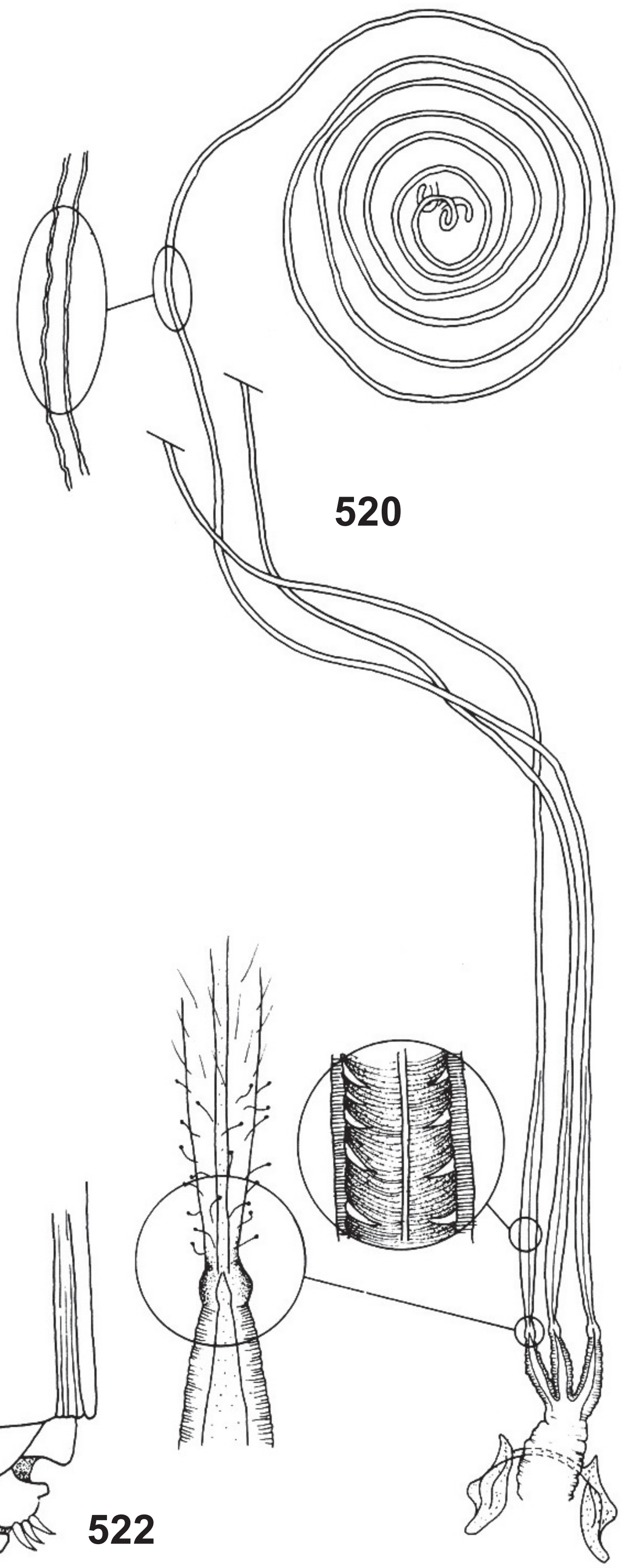

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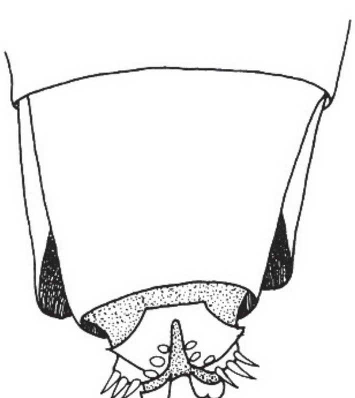

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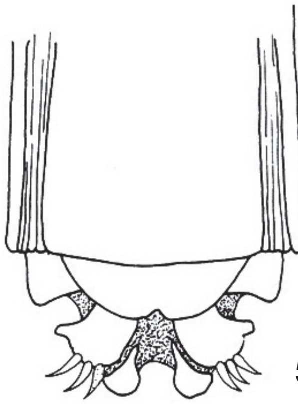

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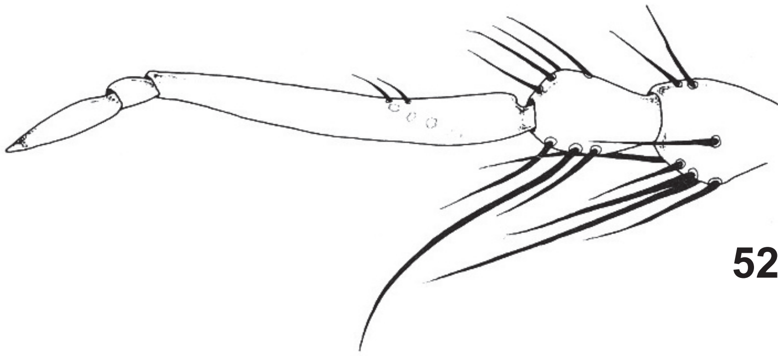
Figs. 519-522. *Alvarenga matilei* Papavero, 1971: 519, situation of spermathecae in the abdomen; 520, spermathecae and details of spermathecae; 521, female terminalia, dorsal; 522, do., ventral.



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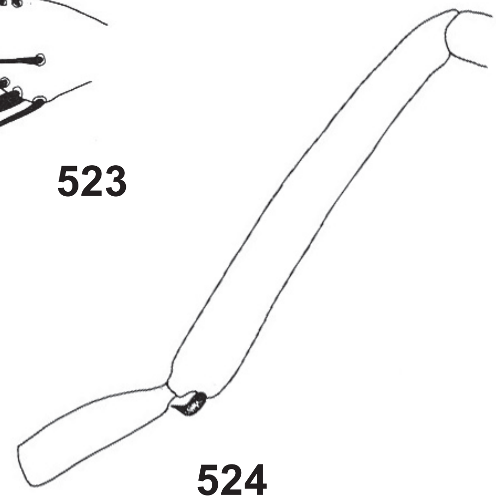

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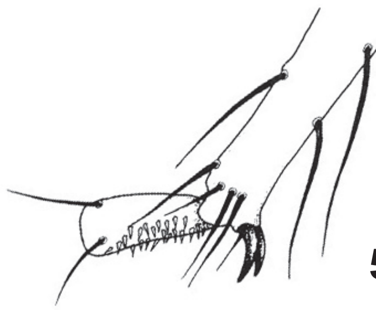

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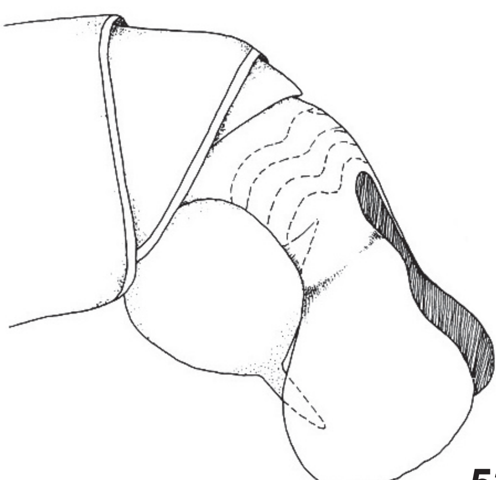

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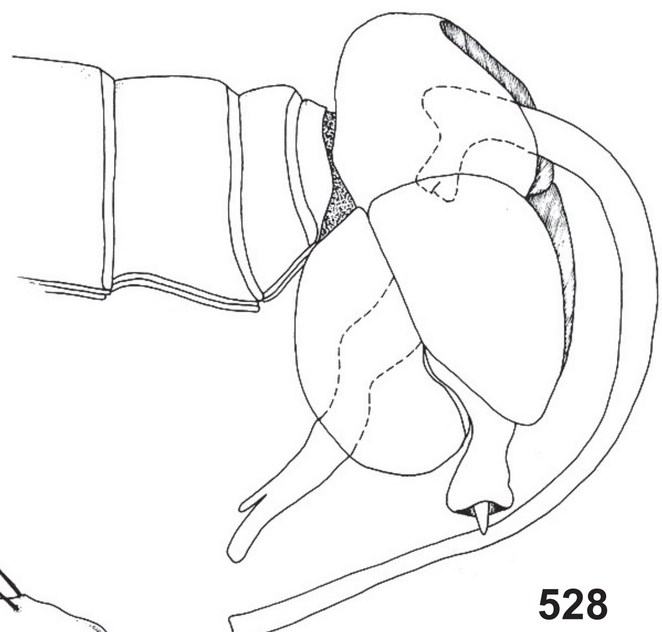

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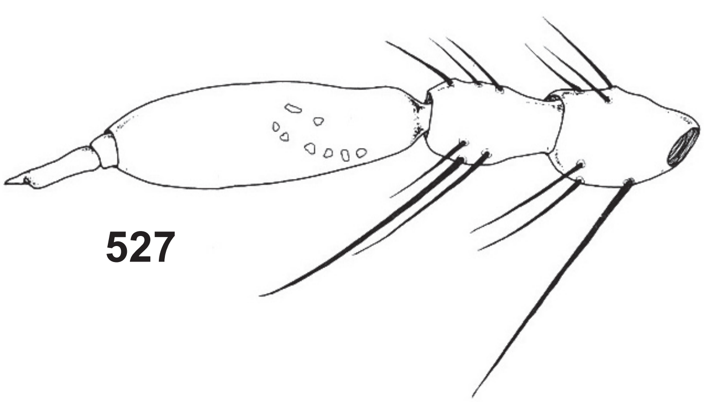

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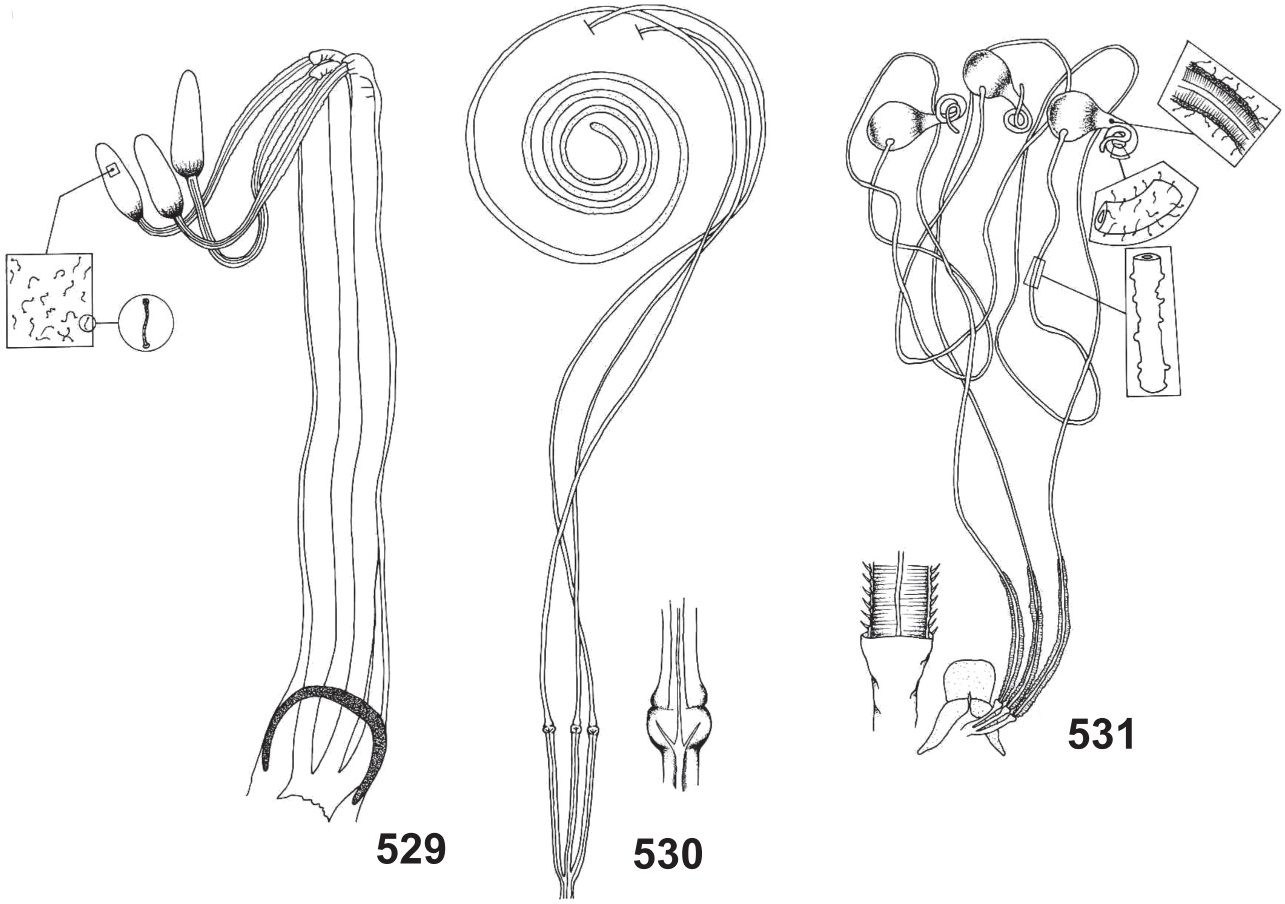
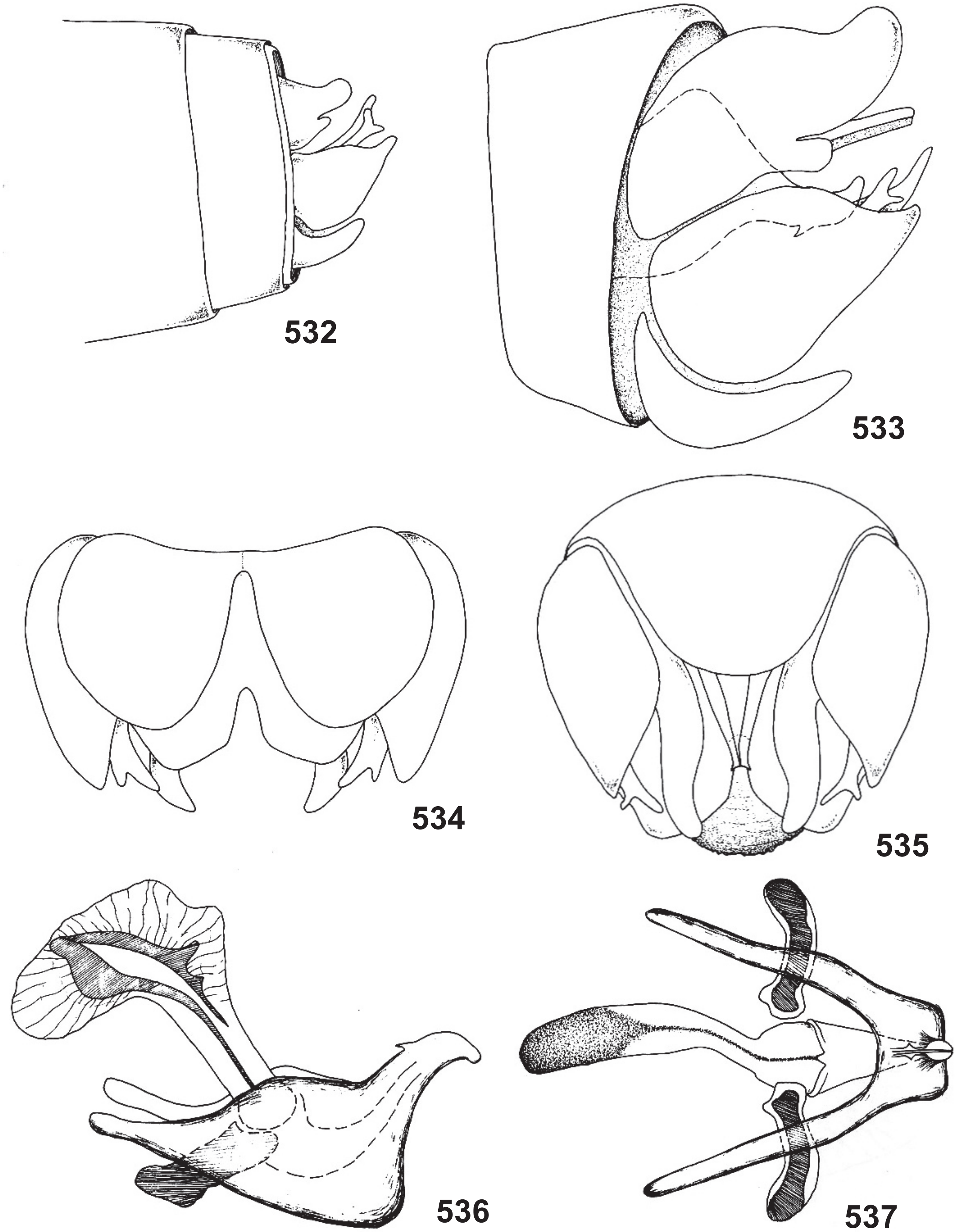
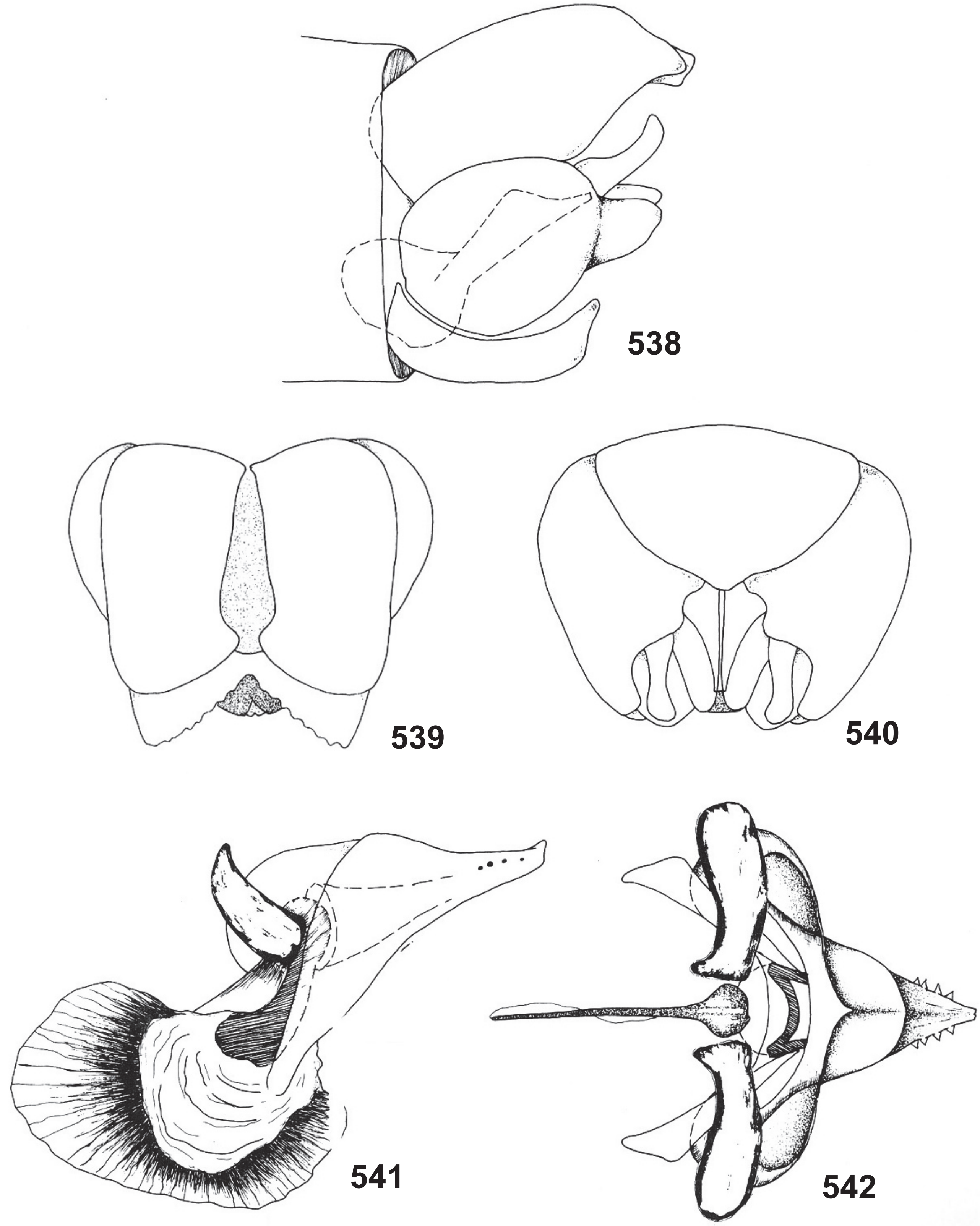
Figs. 523-526. *Aspidopyga cophuroides* Carrera, 1949: 523, antenna; 524, front leg; 525, detail of midtibial spur; 526, male terminalia, lateral. Figs. 517-528, *Aphamartania maculipennis* (Macquart, 1838): 527, antenna; 528, male terminalia, lateral.



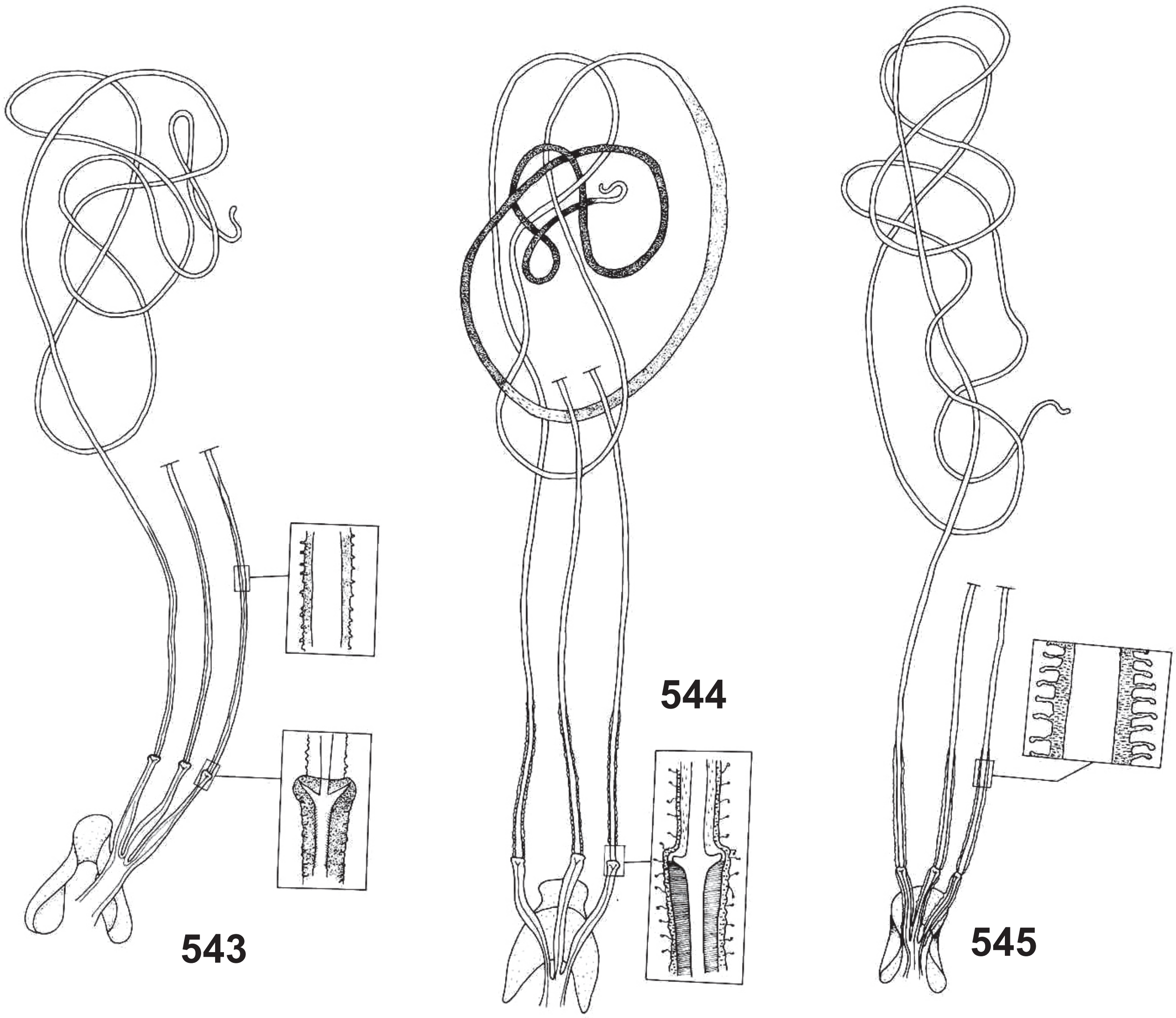
Figs. 529-531. Spermathecae of: 529, *Aphamartania maculipennis* (Macquart, 1838); 530, *Aspidopyga cophuroides* Carrera, 1949; 531, *Comantella rotgeri* James, 1937.



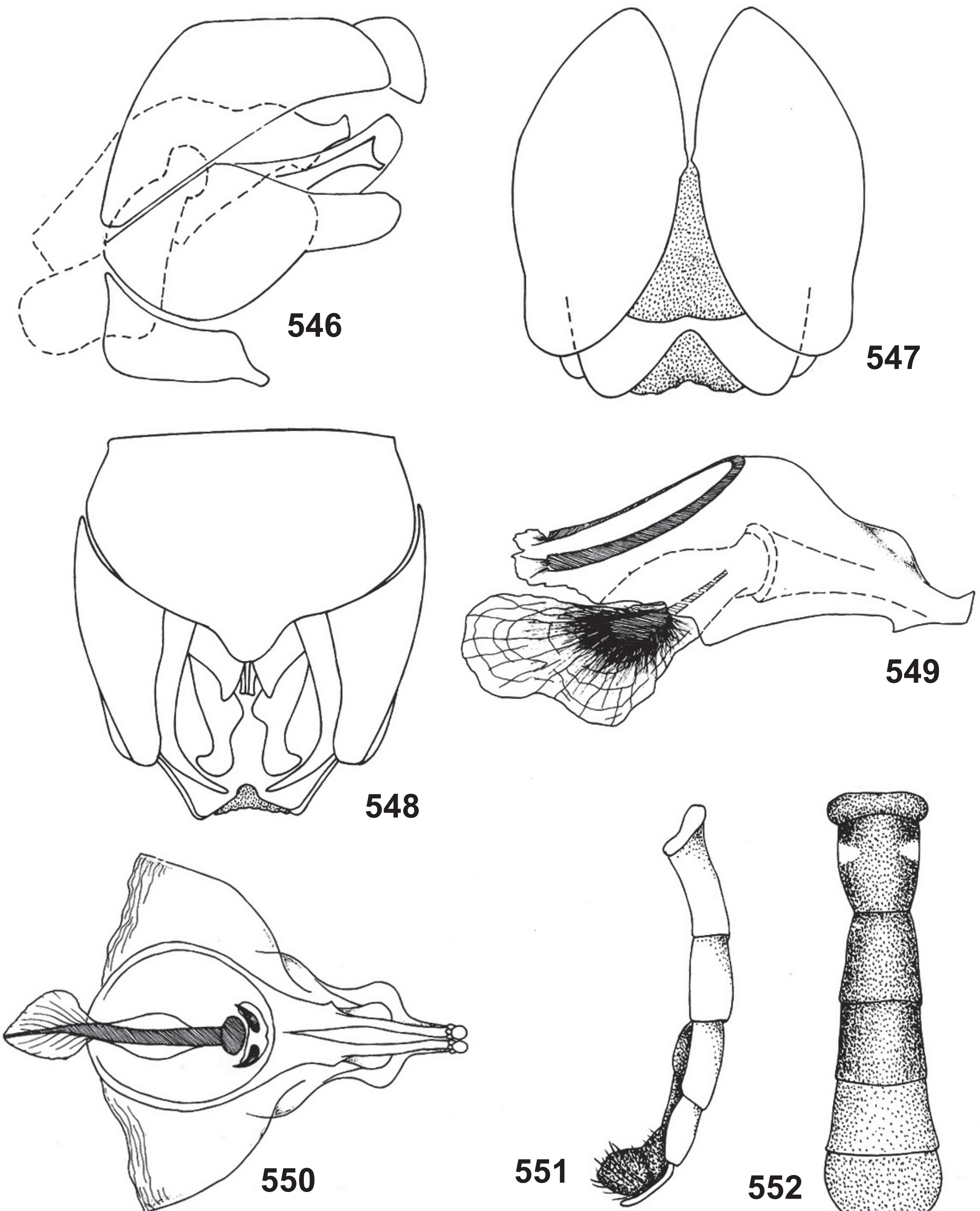
Figs. 532-537. *Comantella fallei* (Back, 1909): 532-535, male terminalia, *in situ*, lateral, dorsal and ventral views; 536-537, aedeagus, lateral and dorsal.



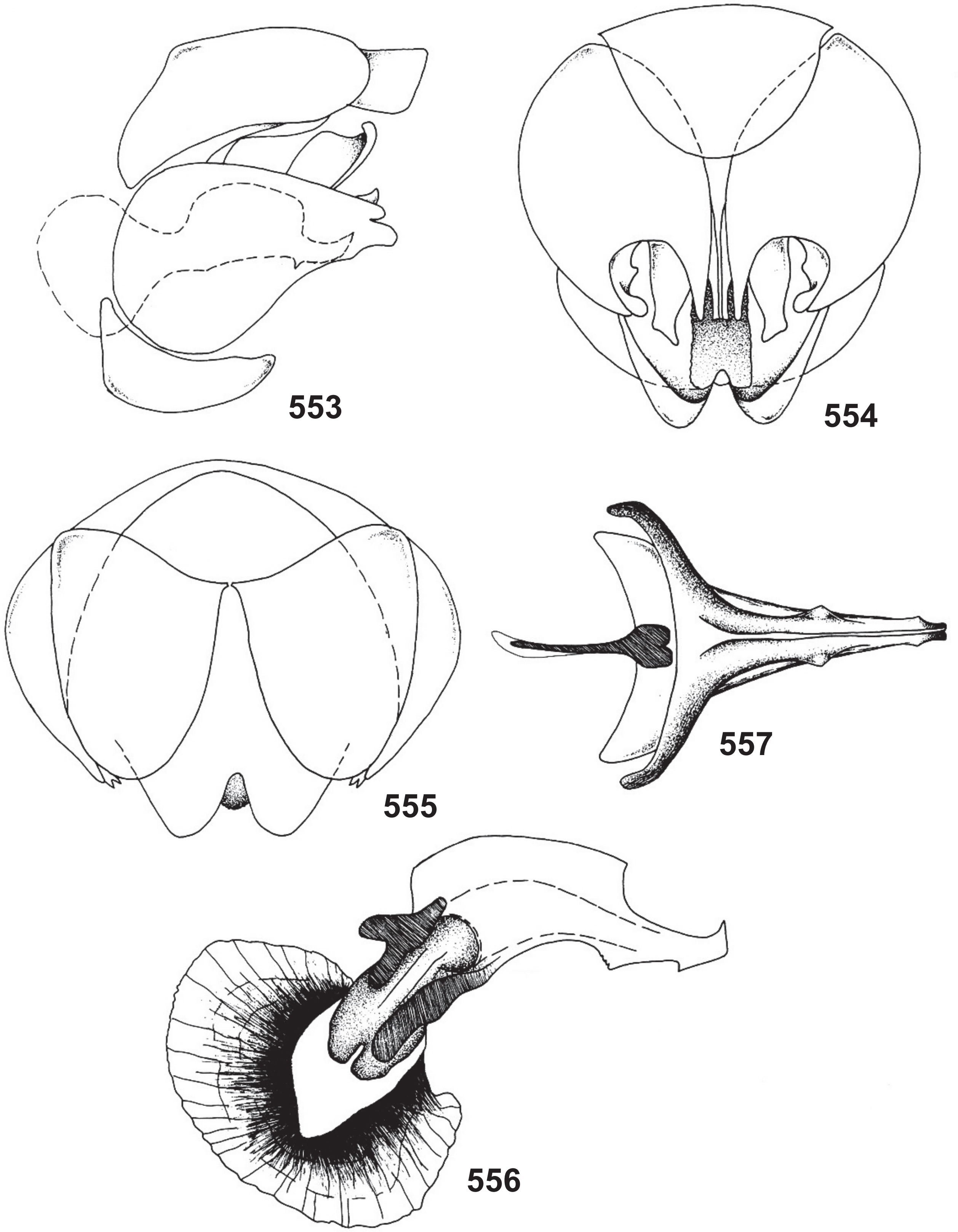
Figs. 538-542. *Cophura arizonensis* (Schaeffer, 1916): 538-540, male terminalia, lateral, dorsal and ventral views; 541-542, aedeagus, lateral and dorsal views.



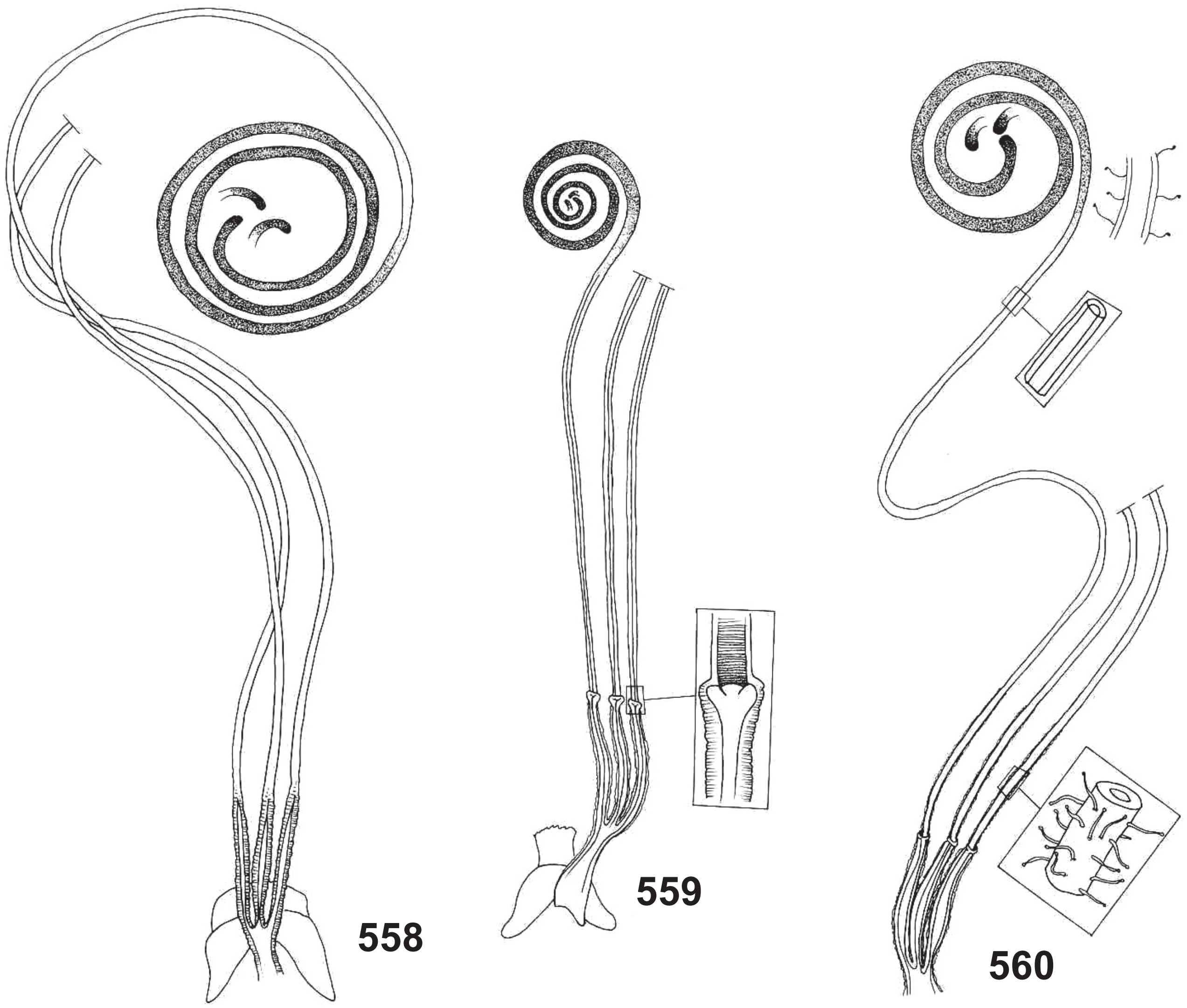
Figs. 543-545. Spermathecae of: 543. *Cophura arizonensis* (Schaeffer, 1916); 544. *Cophura bella* (Loew, 1872); 545. *Cophura brevicornis melanochaeta* Melander, 1924.



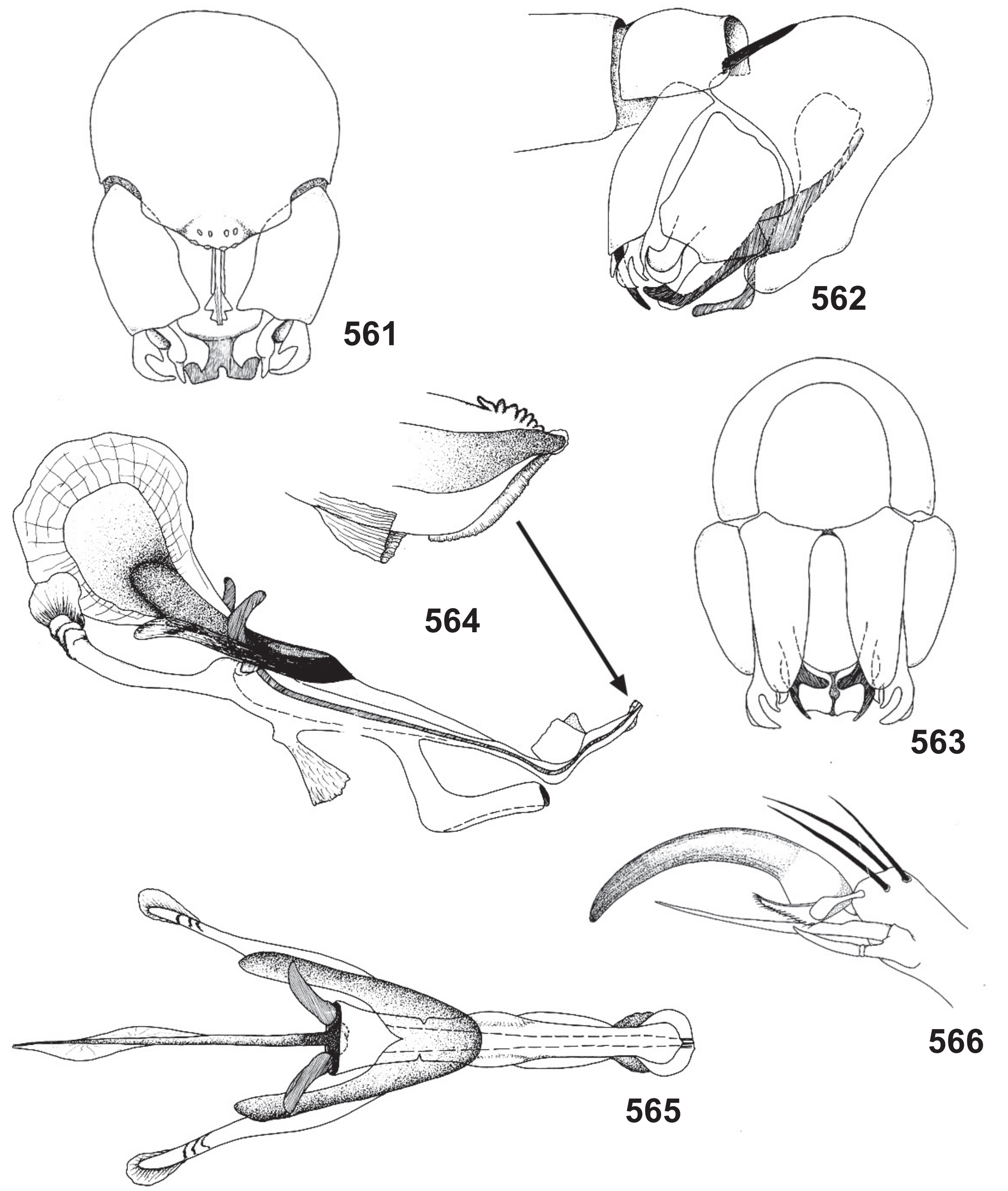
Figs. 546-550. *Hodophylax basingeri* Pritchard, 1938: 546-548, male terminalia in lateral, dorsal and ventral views; 549-550, aedeagus in lateral and dorsal views. Figs. 551-552, *Nicocles aemulator* (Loew, 1872), abdomen in lateral and dorsal views.



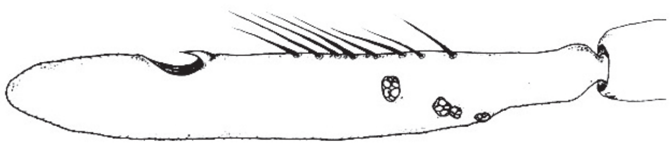
Figs. 553-557. *Nicocles argentatus* Coquillett, 1893: 553-555, male terminalia, lateral, ventral and dorsal; 556-557, aedeagus in lateral and dorsal views.



Figs. 558-560. Spermathecae of: 558, *Hodophylax aridus* James, 1933; 559, *Nicocles argentatus* Coquillett, 1893; 560, *Omninablautus nigronotum* (Wilcox, 1935).



Figs. 561-565. *Theromyia pegnai* Artigas, 1970: 561-563, male terminalia, lateral, ventral and dorsal views; 564-565, aedeagus, lateral and dorsal views. Fig. 566, *Theromyia murina* (Philippi, 1865): detail of fore apical tarsomere showing reduced pulvilli.



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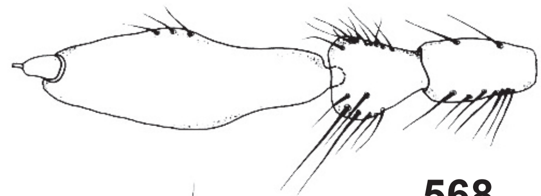

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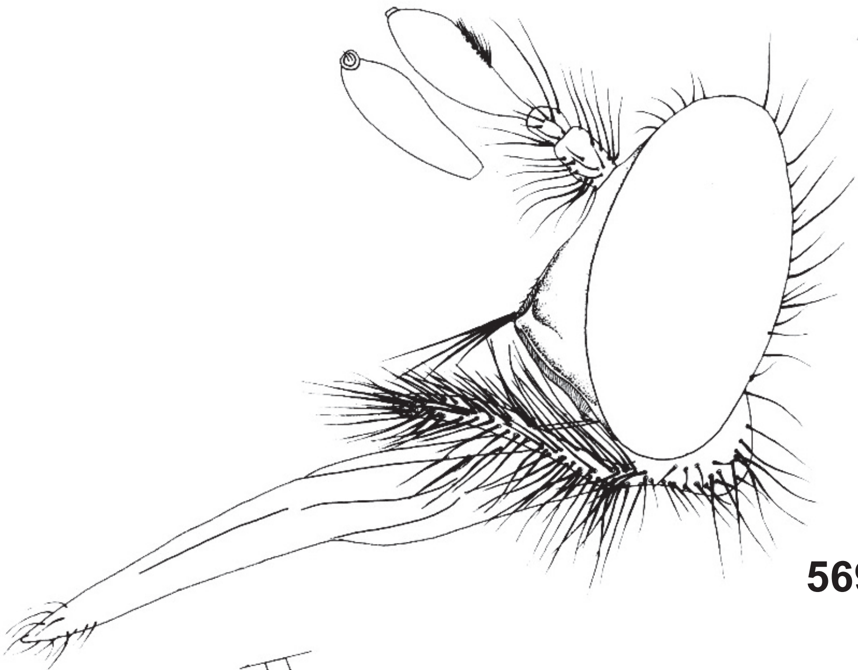

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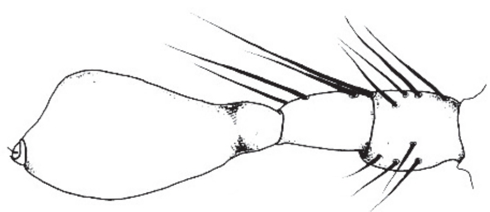

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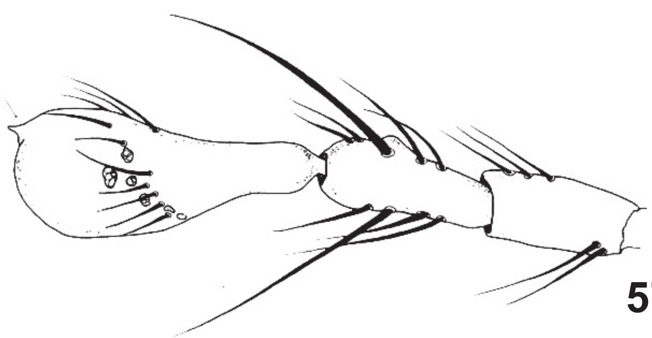

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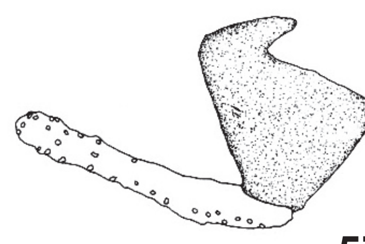

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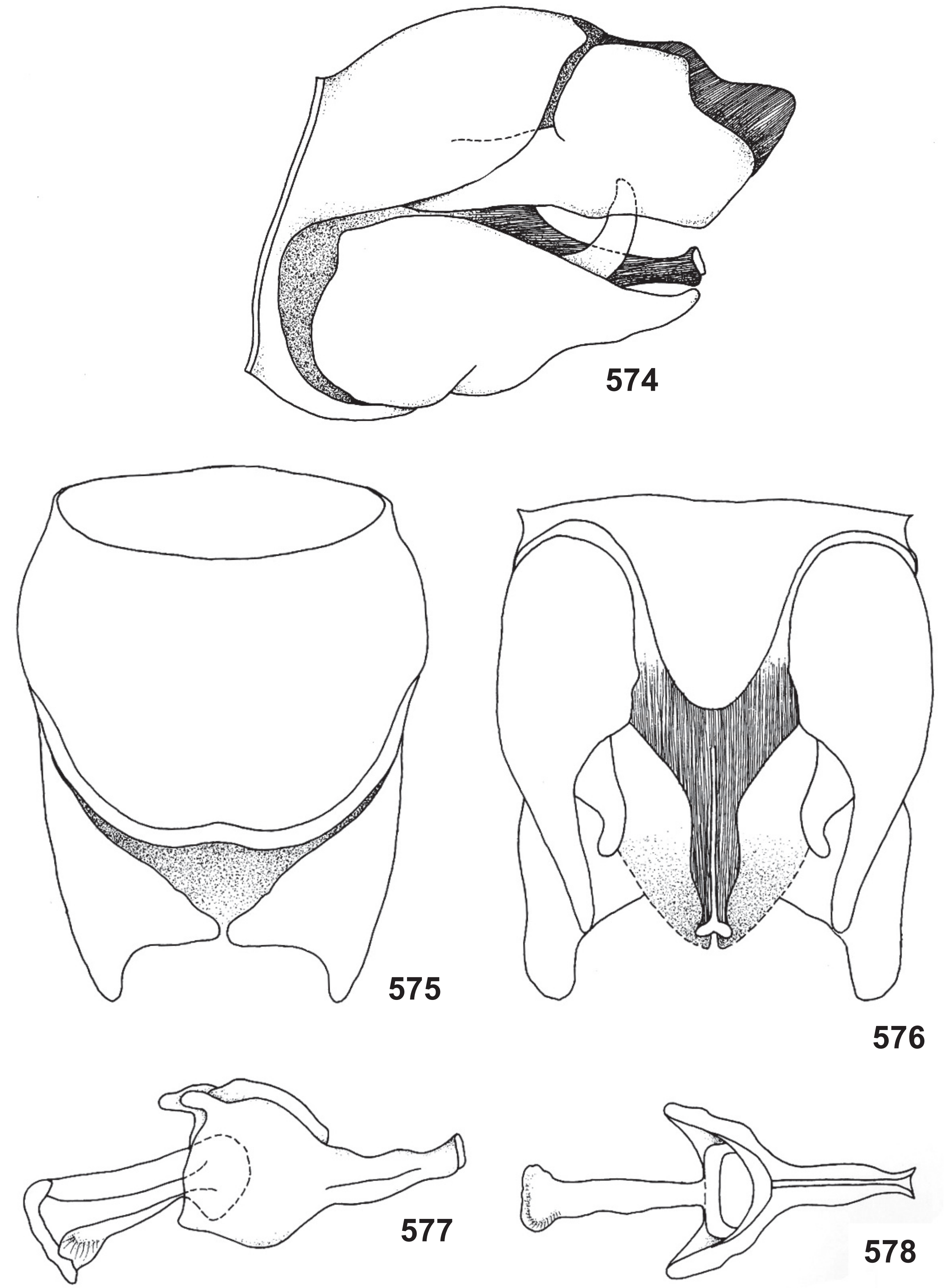
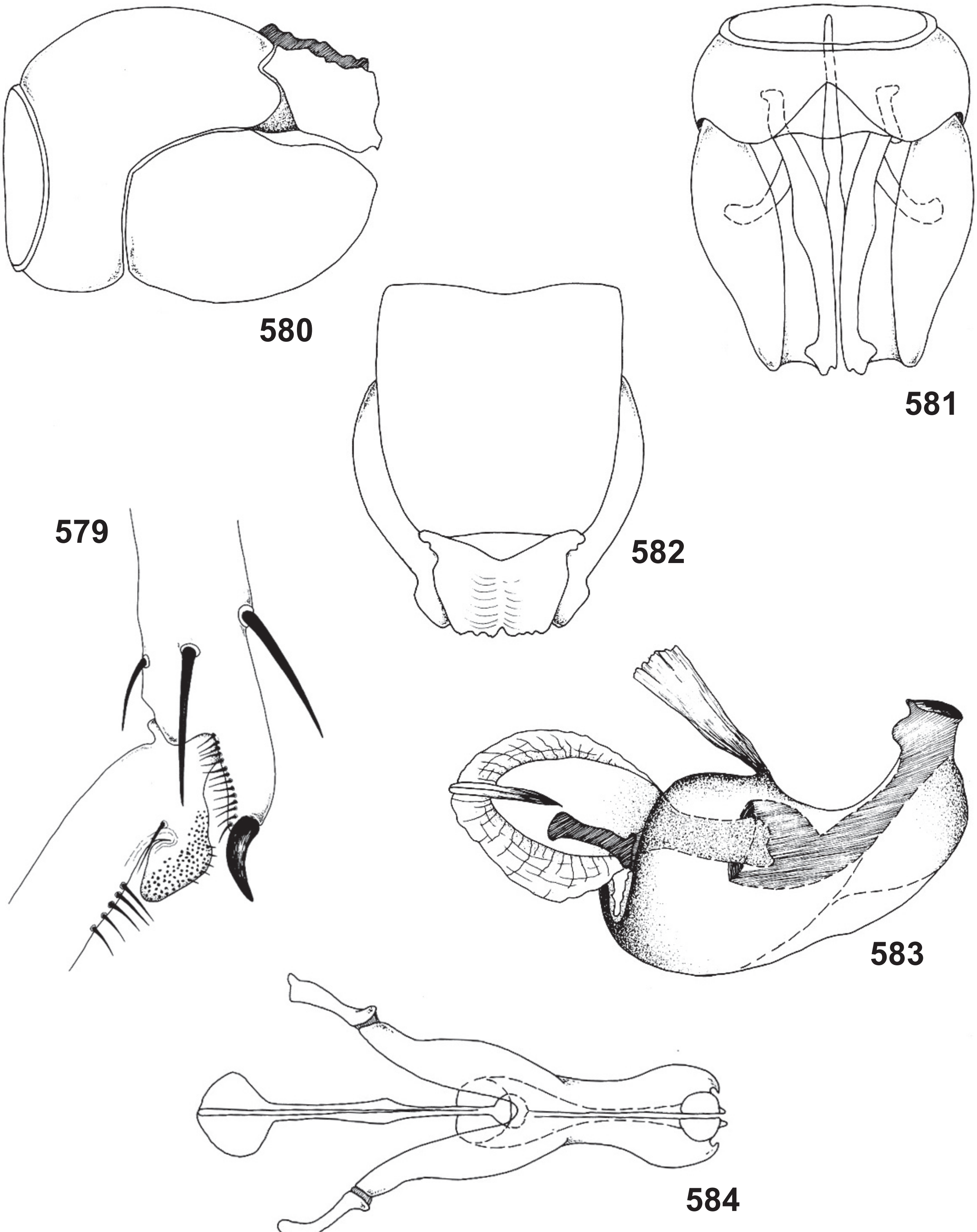
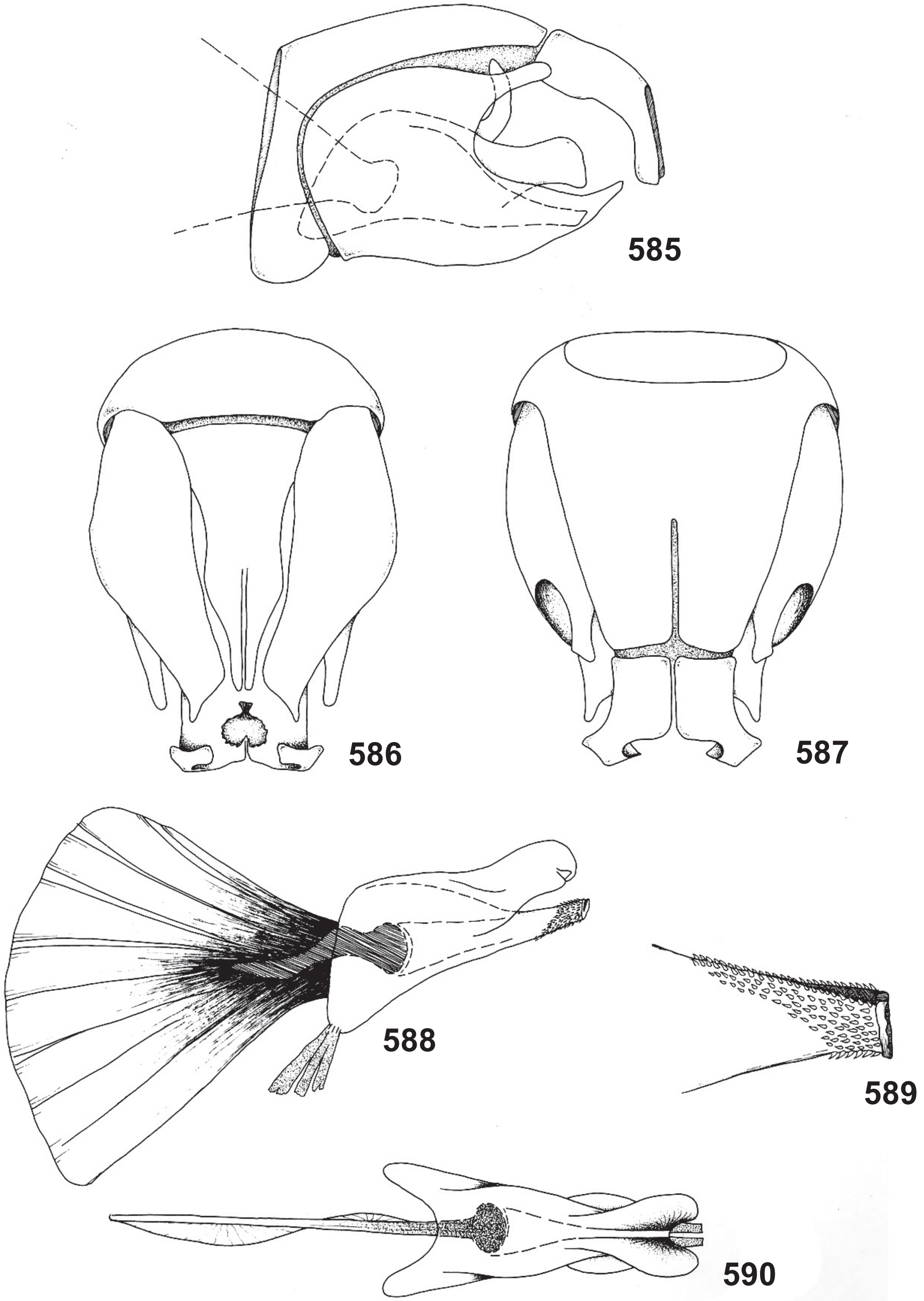
Fig. 567. *Cyrtophrys albimanus* (Carrera, 1949), antenna. Fig. 568, *Deromyia fuscipennis* (Blanchard, 1852), antenna. Fig. 569, *Megapoda labiata* (Fabricius, 1805), head, lateral view. Figs. 570-571, *Pseudorus martini* Papavero, 1975, head, lateral view (570) and antenna (571). Figs. 572-573, *Senobasis claripennis* (Schiner, 1867): antenna (572) and palpus (573).



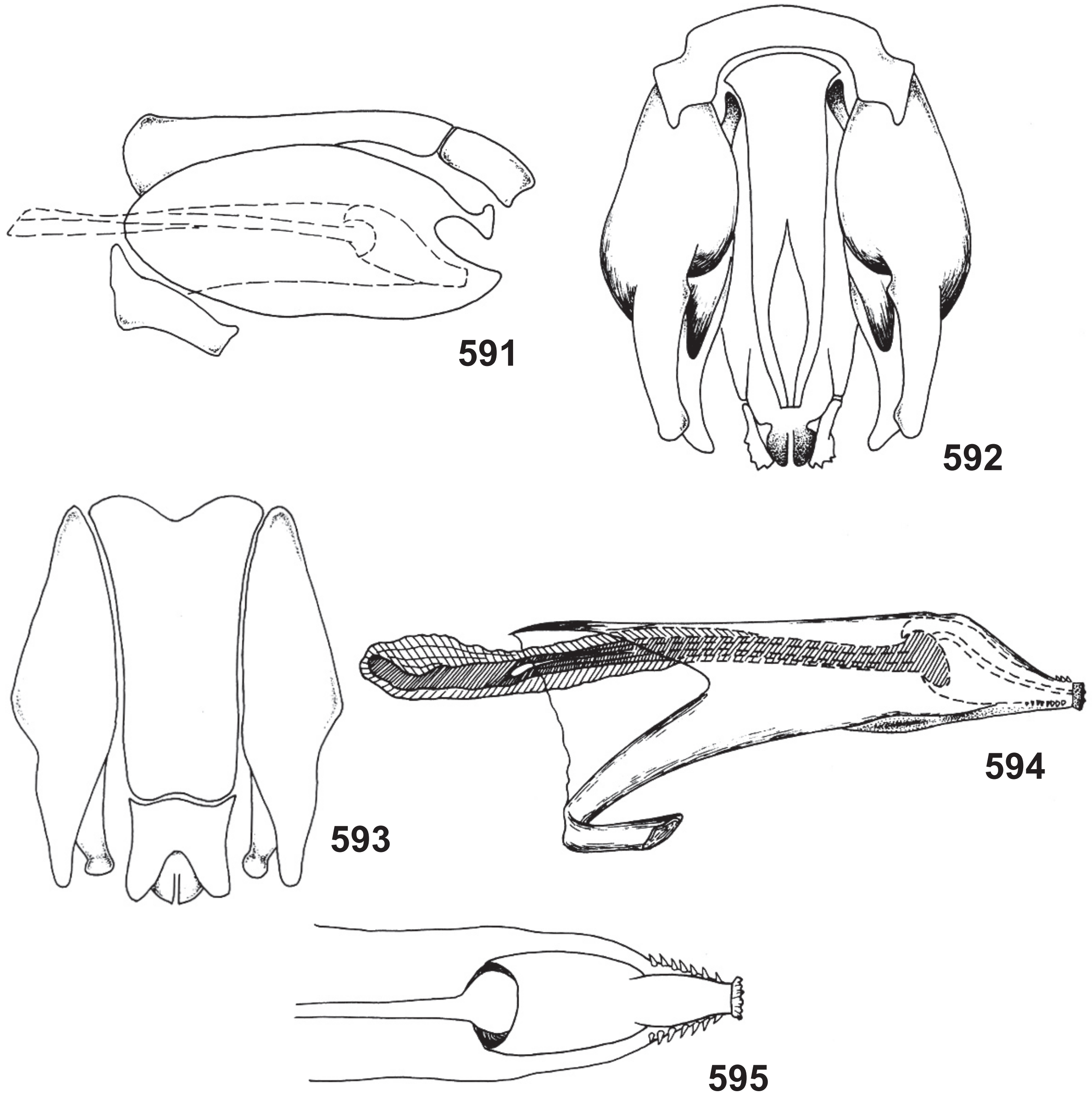
Figs. 574-578. *Cyrtophrys attenuatus* (Loew, 1851): 574-576, male terminalia, lateral, dorsal and ventral views; 577-578, aedeagus in lateral and dorsal views.



Figs. 579-584. *Megapoda labiata* (Fabricius, 1805): 579, apex of fore tibia showing spur and basal flagellomere with flange and denticles; 580-582, male terminalia, lateral, ventral and dorsal views; 583-584, aedeagus in lateral and dorsal views.



Figs. 585-590. *Pronomopsis rubripes* Hermann, 1912: 585-587, male terminalia in lateral, ventral and dorsal views; 588-590, aedeagus, lateral view, detail of apex, dorsal view.



Figs. 591-595. *Pseudorus distendens* (Wiedemann, 1828): 591-593, male terminalia in lateral, ventral and dorsal views; 594-595, aedeagus in lateral and dorsal views.

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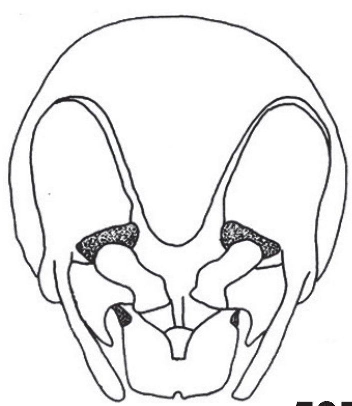

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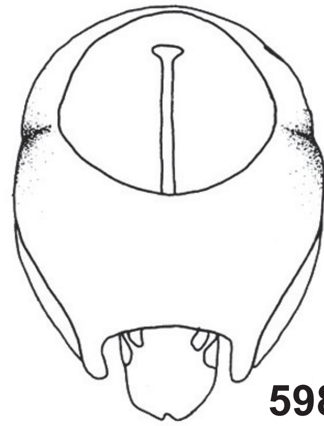

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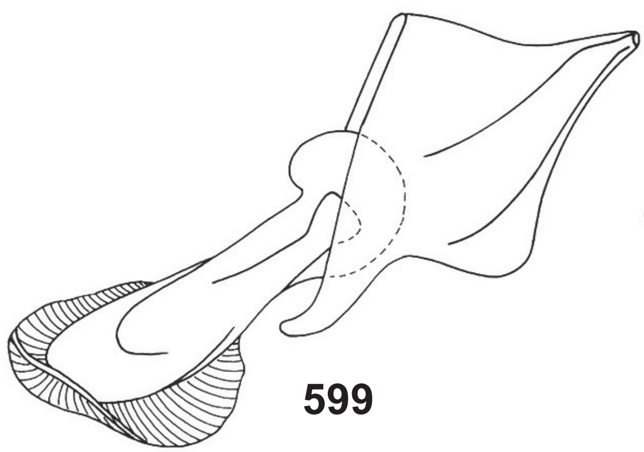

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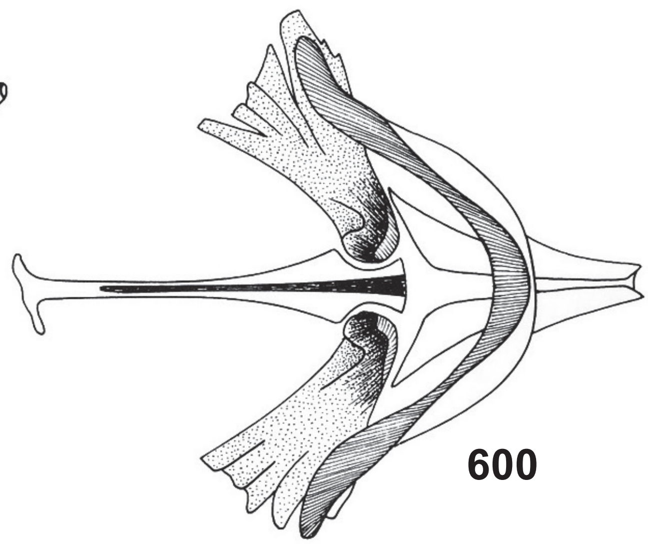

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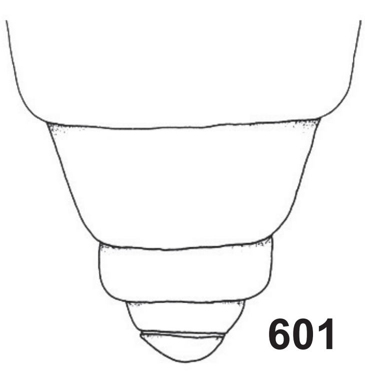

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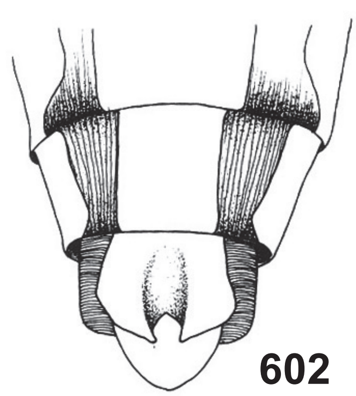

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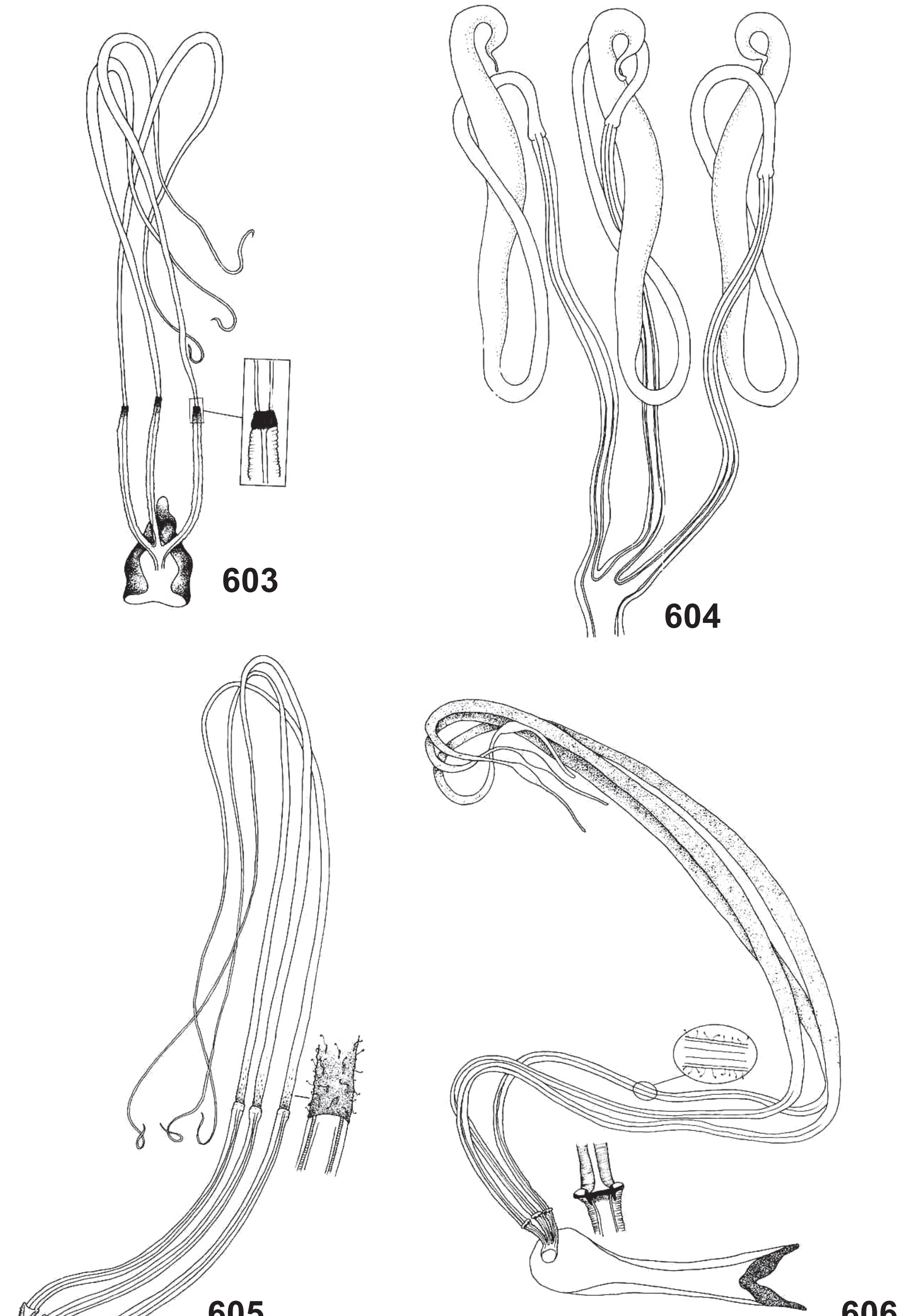
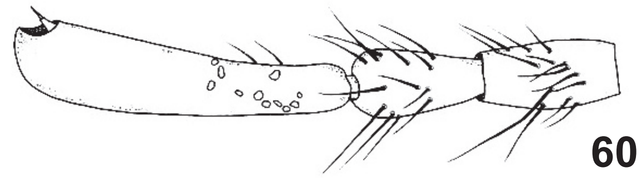
Figs. 596-598. *Senobasis apicalis* (Schiner, 1867): 596-598, male terminalia in lateral, ventral and dorsal views; 599-600, aedeagus in lateral and dorsal views; 601-602, female abdomen in dorsal and ventral views.



Figs. 603-606. Spermathecae of: 603, *Cyrtophrys attenuatus* (Loew, 1851); 604, *Megapoda labiata* (Fabricius, 1805); 605, *Senobasis bromleyana* Carrera, 1949; 606, *Pseudorus distendens* (Wiedemann, 1828).



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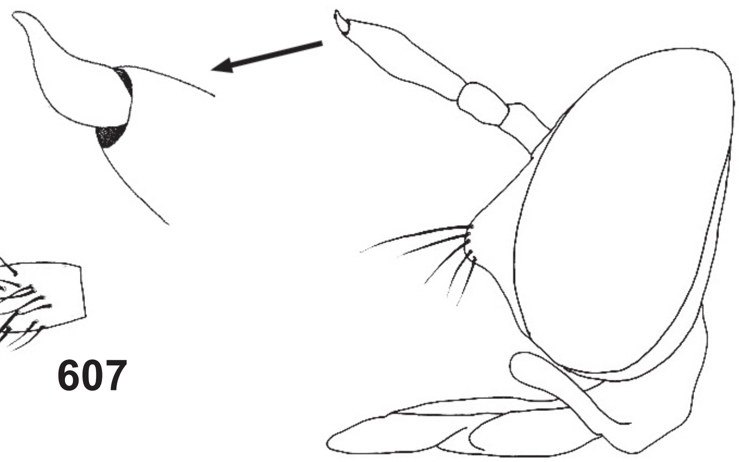

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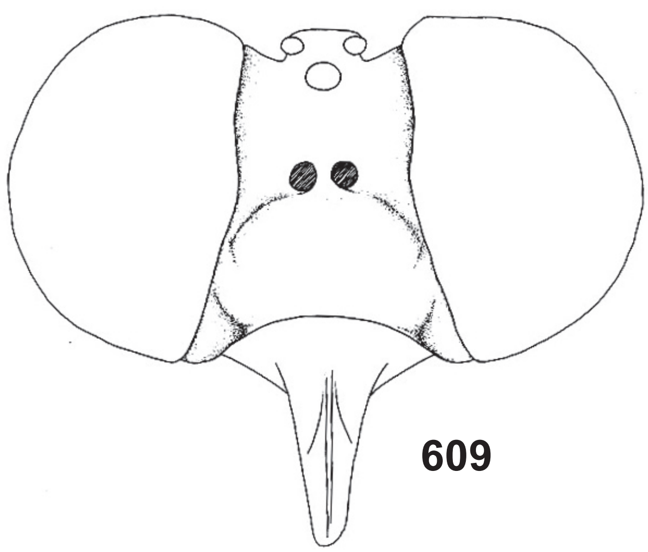

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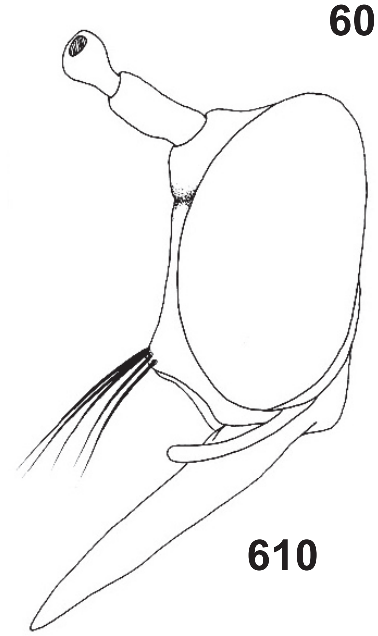

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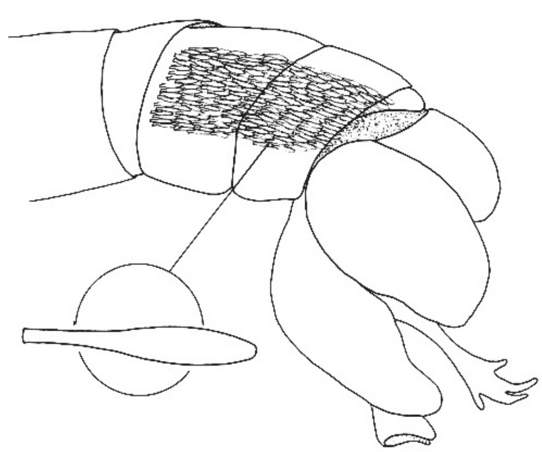

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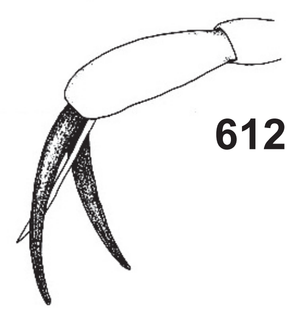

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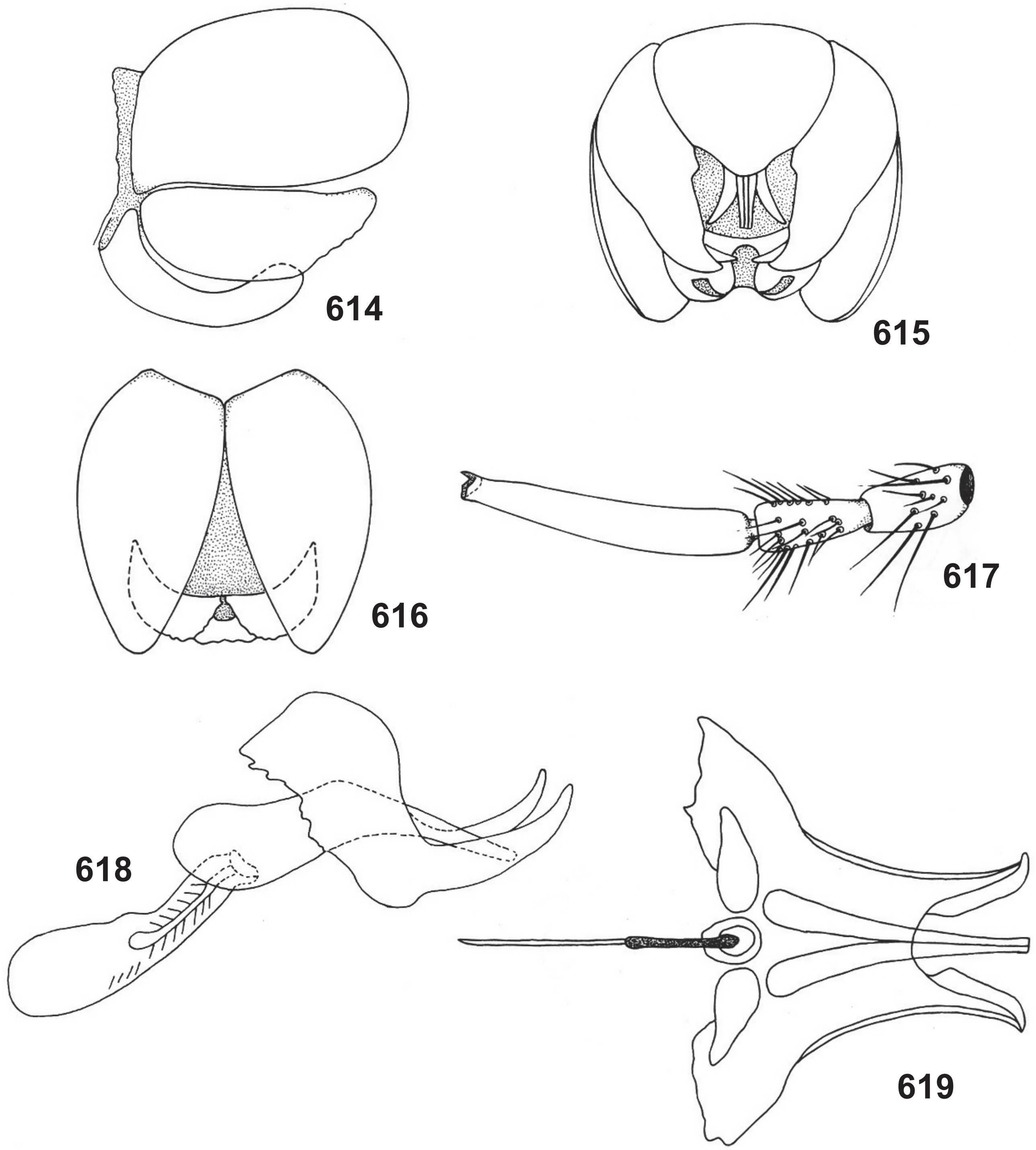
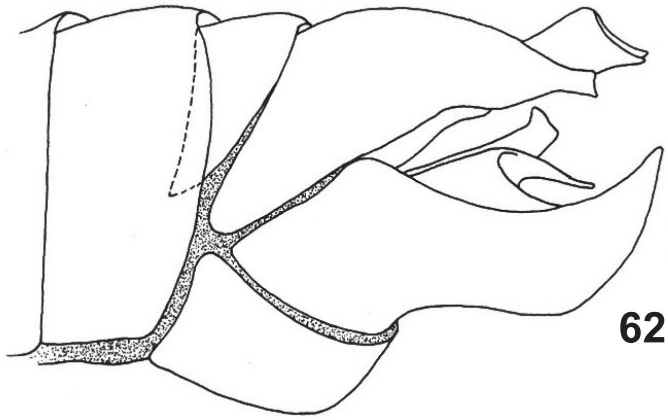
Fig. 607. *Austenmyia amazona* Carrera, 1955, antenna. 608-609. 611, *Cleptomyia tripartita* (Walker, 1854), head and detail of flagellomere (608), head, frontal view (609), apex of male abdomen (611). 610, *Tocantinia misera* (Walker, 1854), head, lateral view. 613, *Parataracticus arenicolus* Martin, 1968, apical tarsomere showing absence of pulvilli. 614, *Taracticus octopunctatus* (Say, 1823), antenna.



Figs. 614-619. *Aczelia tsacasi* Papavero, 1971: 614-616, male terminalia in lateral, ventral and dorsal views. Figs. 617-619, *Aczelia argentina* (Wulp, 1882): antenna (617) and aedeagus in lateral and dorsal views (618-619).



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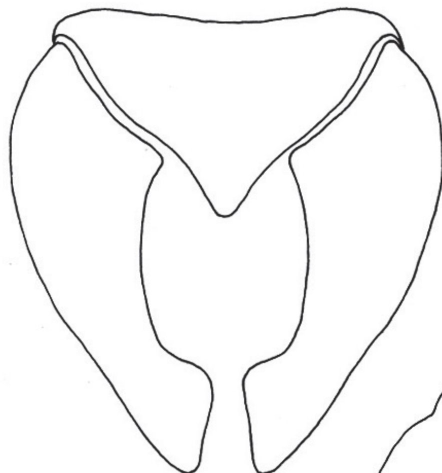

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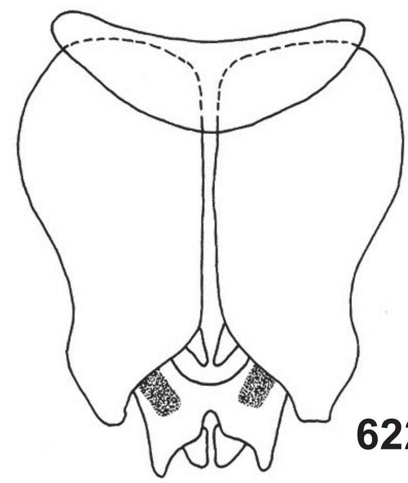

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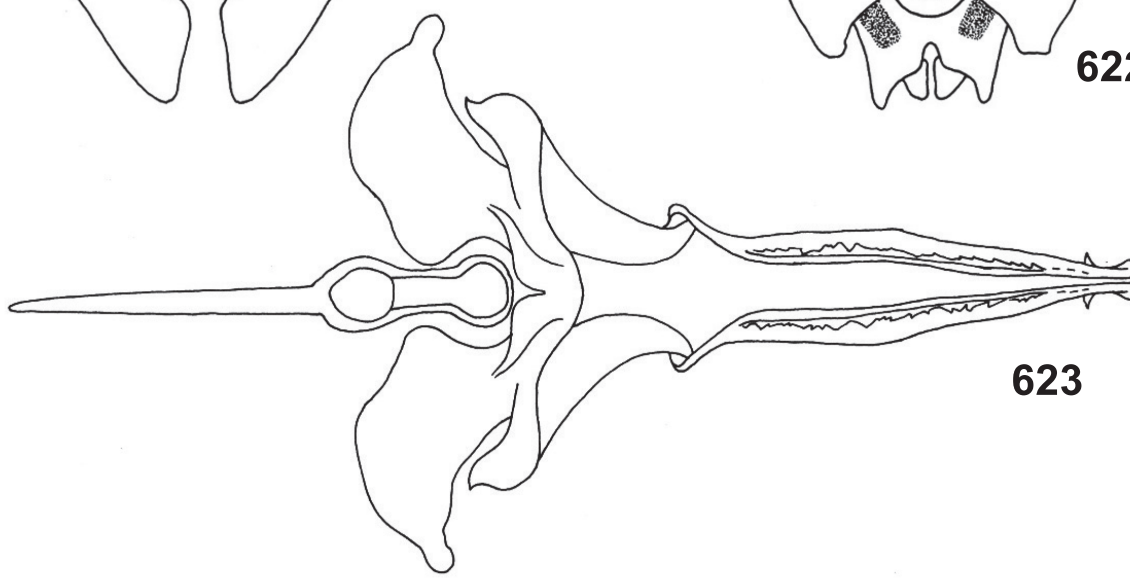

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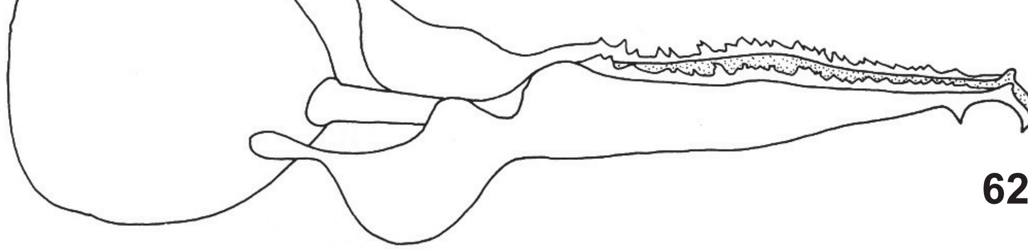

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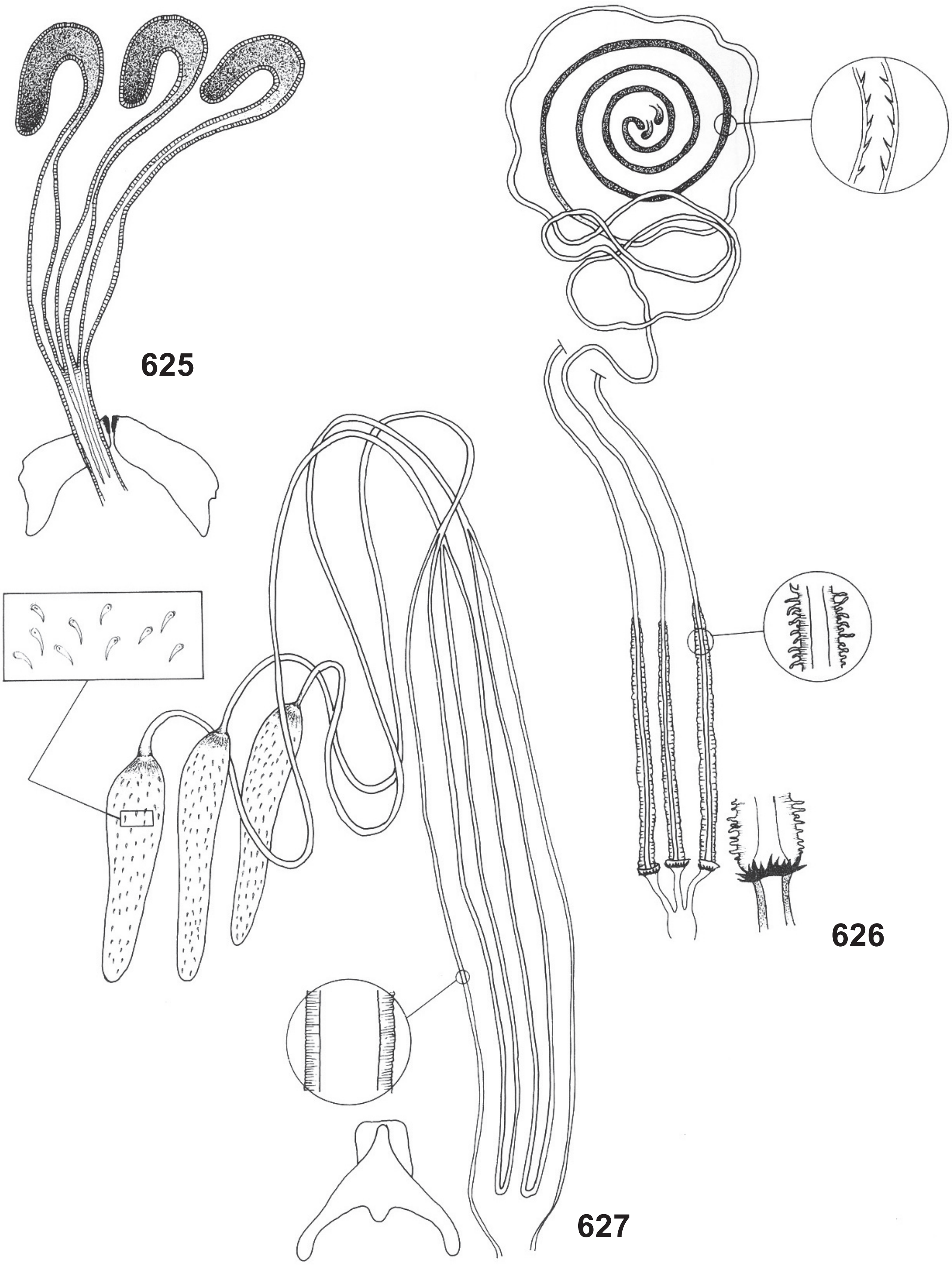
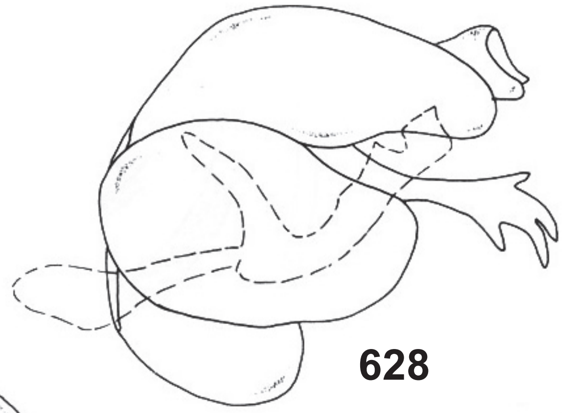
Figs. 620-624. *Araucopogon cyanogaster* (Loew, 1851): 620-622, male terminalia in lateral, ventral and dorsal views; 623-624, aedeagus in dorsal and lateral views.



Figs. 625-627. Spermathecae of: 625, *Aczelia argentina* (Wulp); 626, *Araucopogon cyanogaster* (Loew); 627, *Cleptomyia tripartita* (Walker, 1854).



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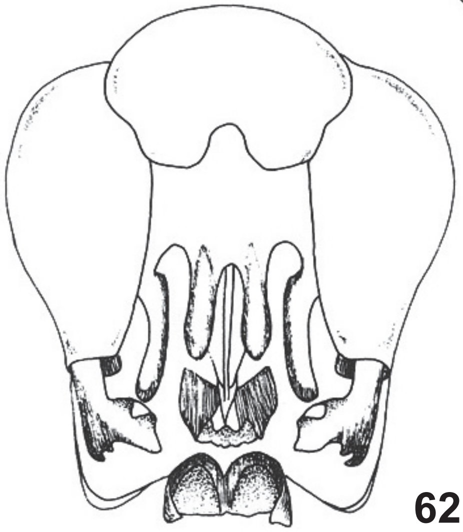

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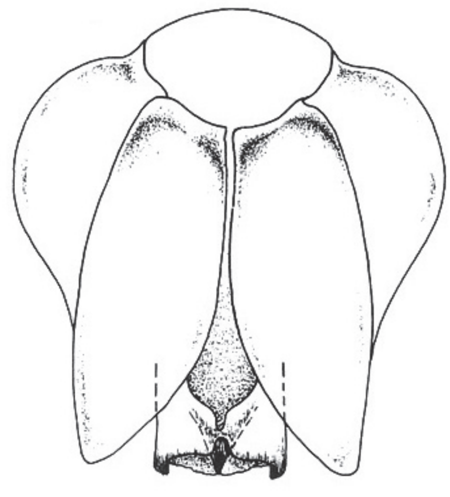

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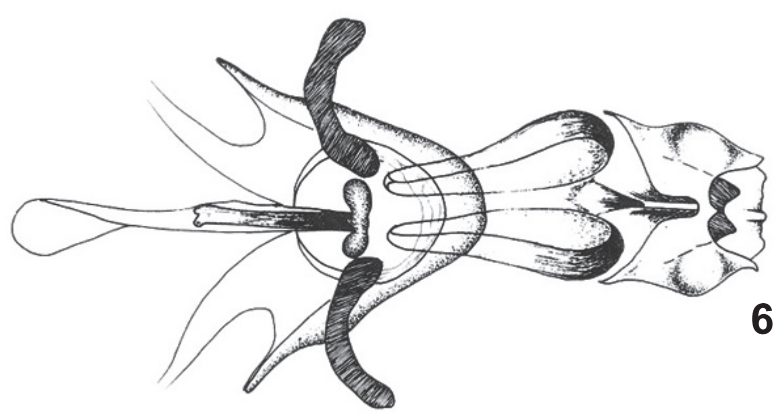

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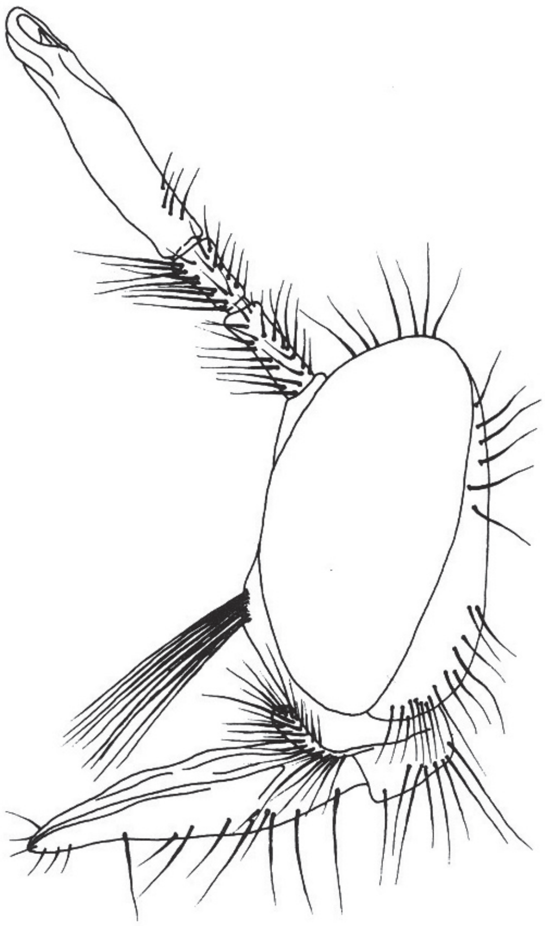
Figs. 628-632. *Cleptomyia tripartita* (Walker, 1854): 628-630, male terminalia in lateral, ventral and dorsal views; 631-632, aedeagus in lateral and dorsal views.



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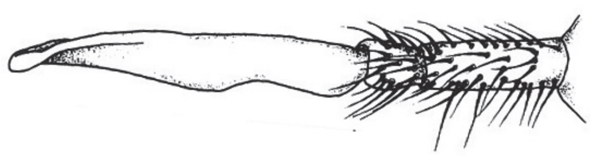

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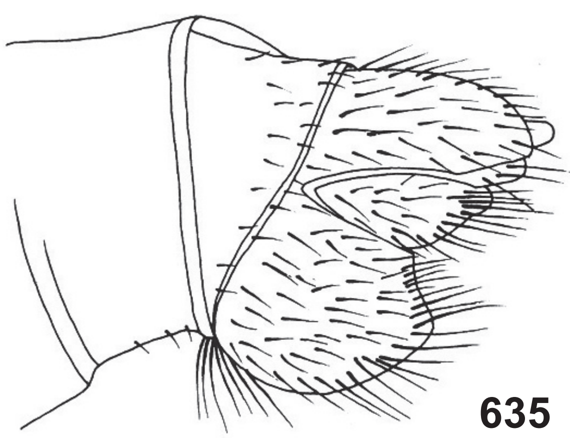

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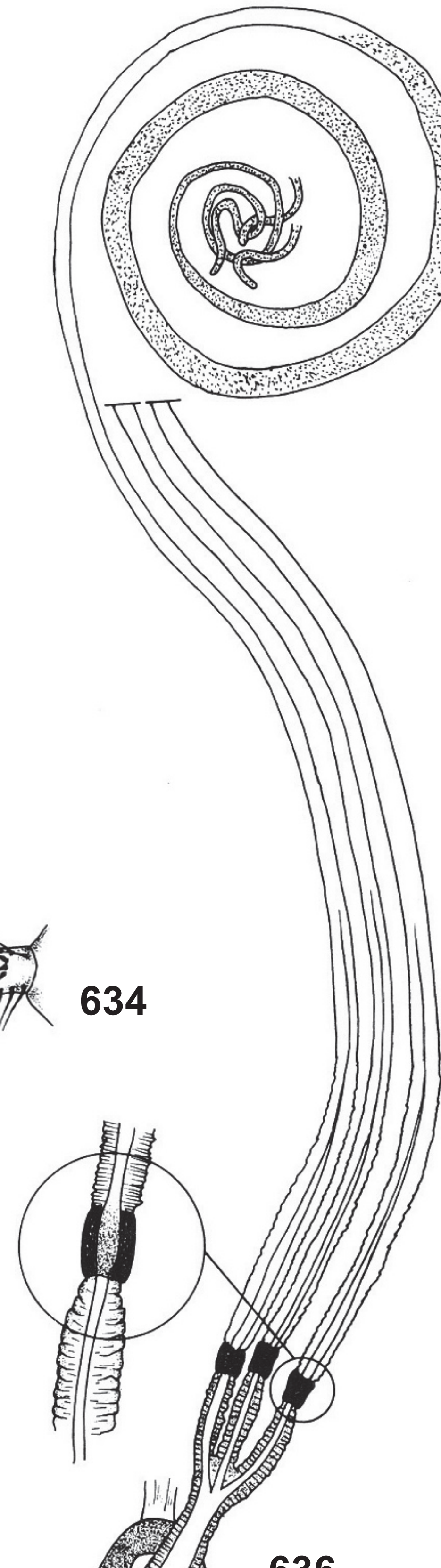

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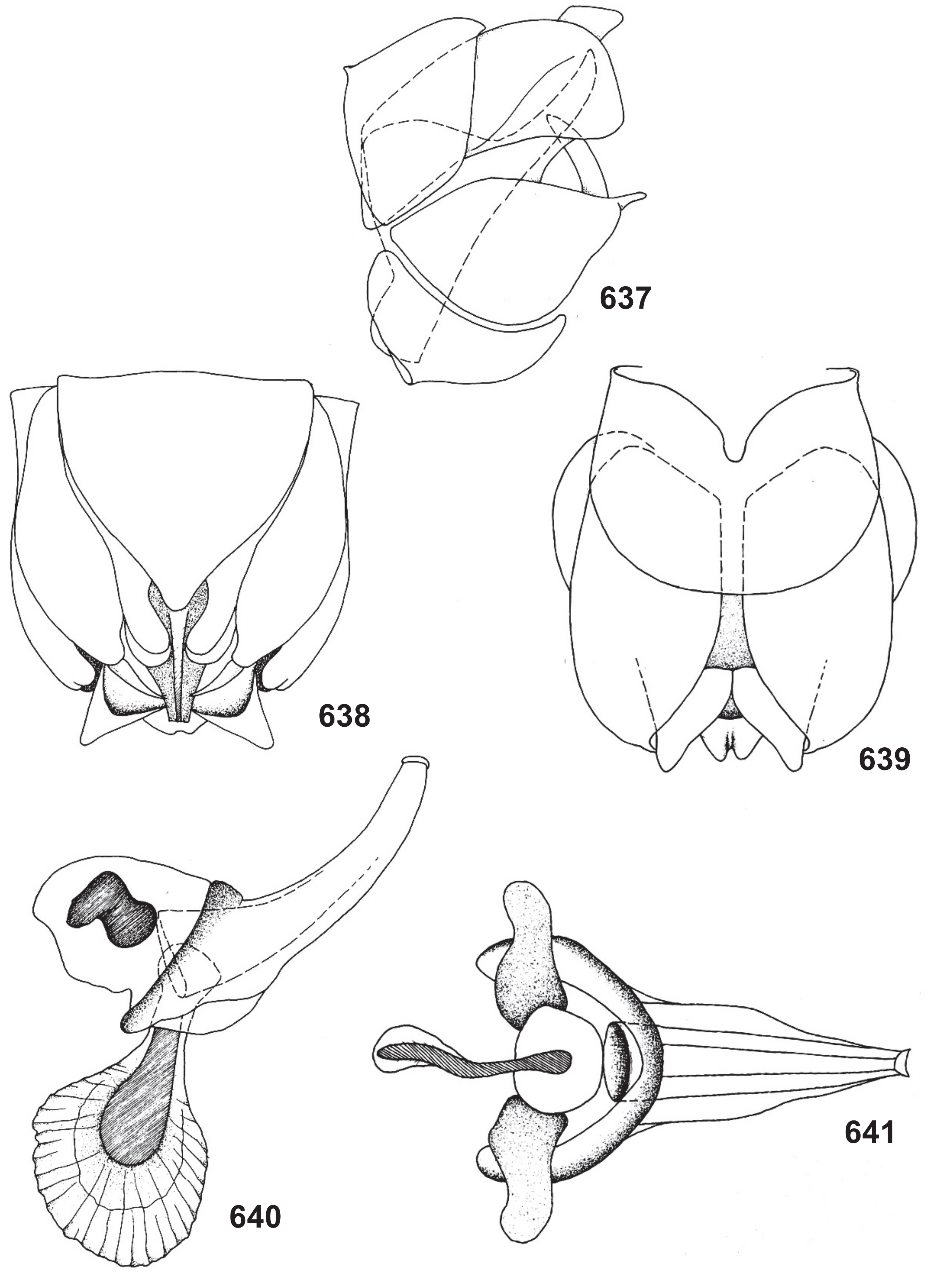
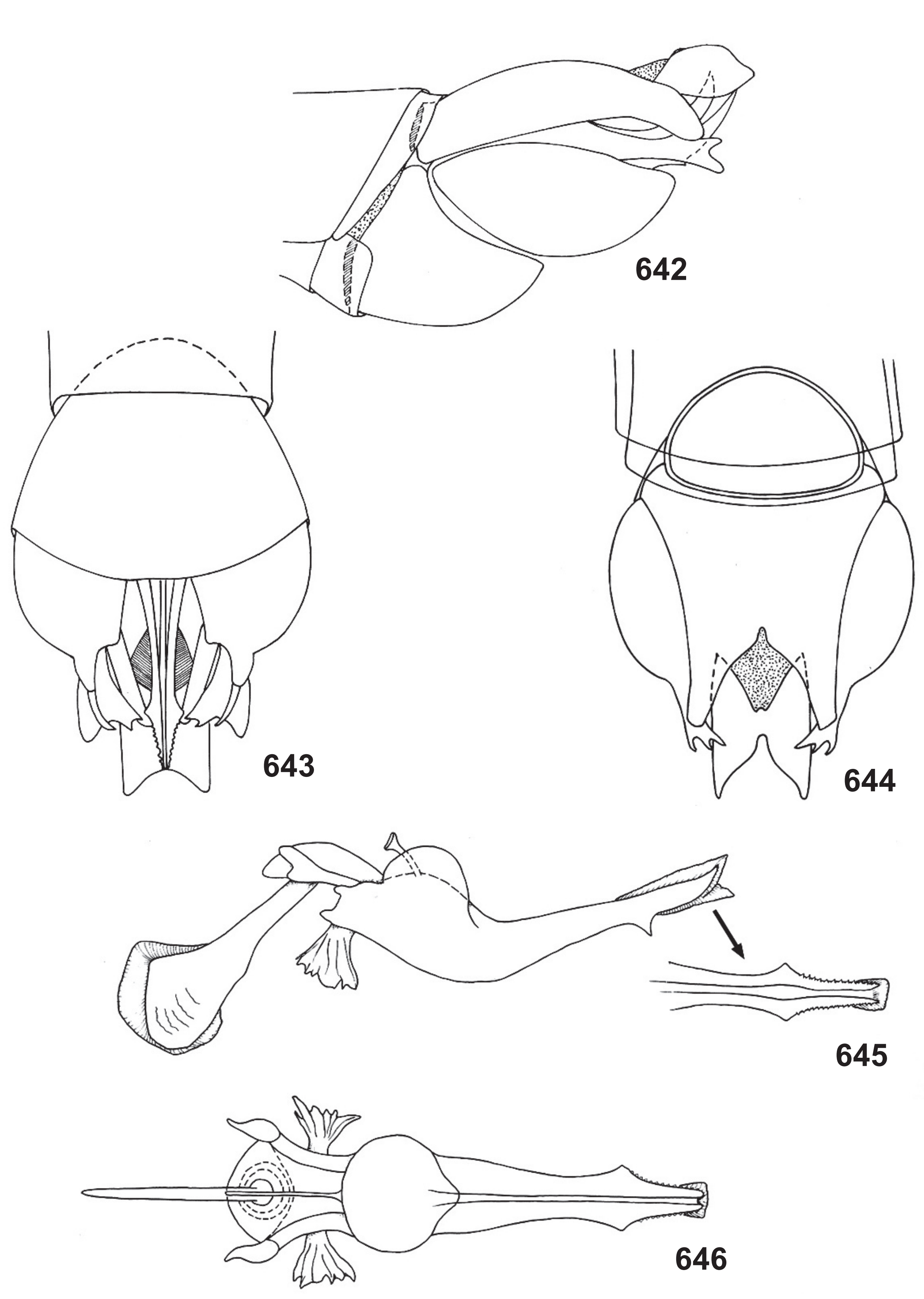
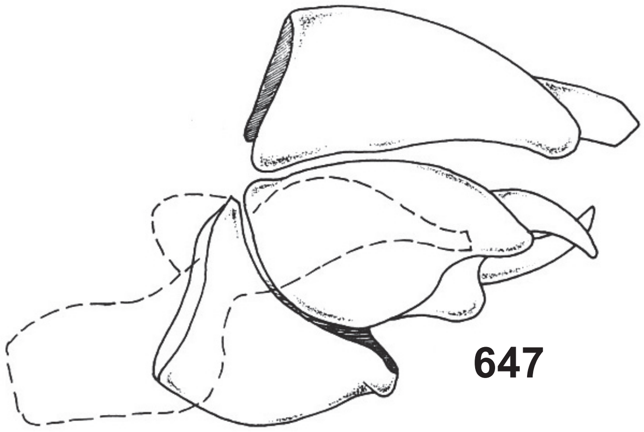
Figs. 633-634, 636. *Amorimius bicolor* (Engel, 1924): 633, head in lateral view; 634, antenna; 636, spermatheca. Fig. 635, *Amorimius martinorum* (Artigas & Papavero, 1988), male terminalia in lateral view.



Figs. 637-641. *Amorimius bicolor* (Engel, 1929): 637-639, male terminalia in lateral, ventral and dorsal views; 640-641, aedeagus in lateral and dorsal views.



Figs. 642-646. *Neoderomyia fulvipes* (Philippi, 1865): 642-644, male terminalia in lateral, ventral and dorsal views; 645-646, aedeagus in lateral and dorsal views.



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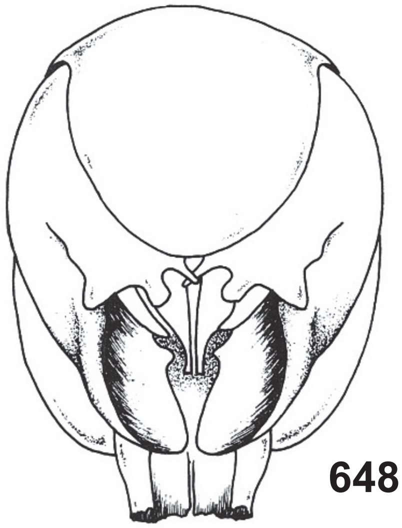

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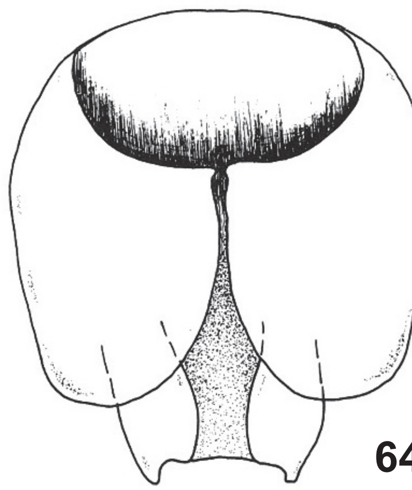

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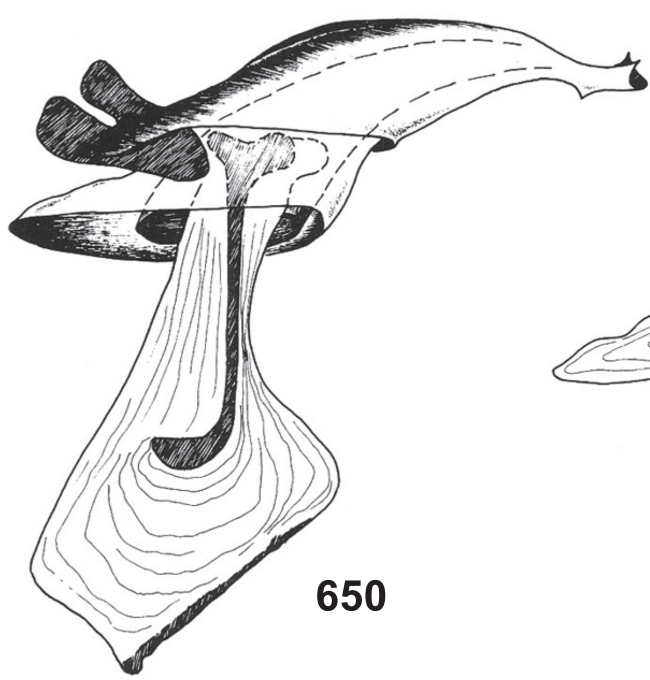

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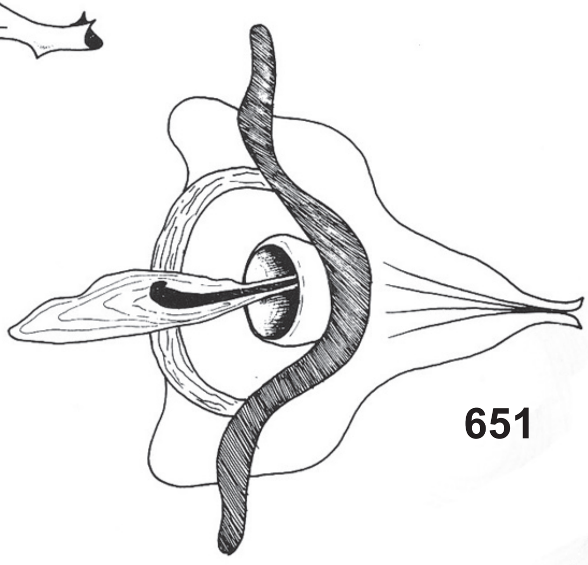

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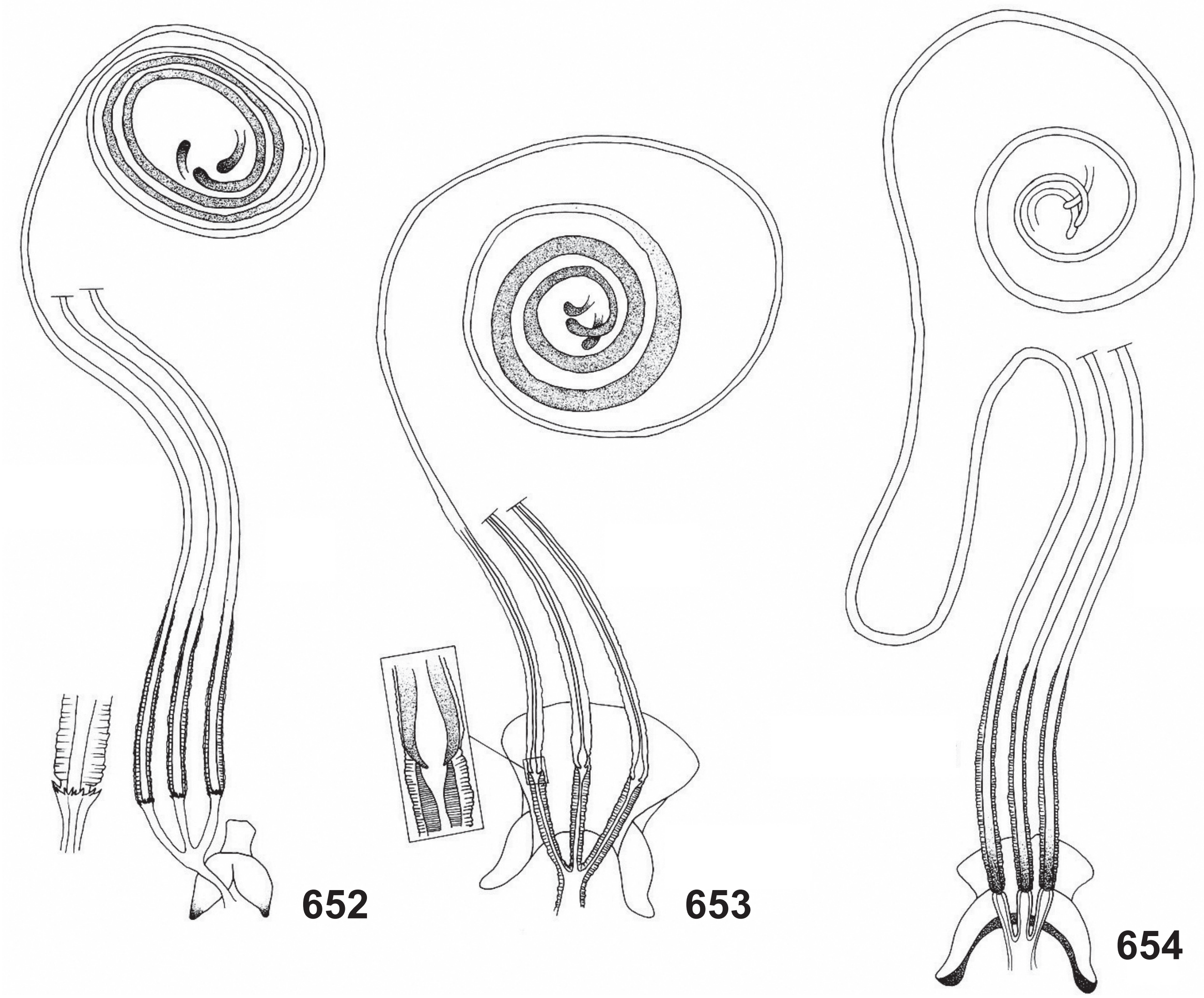
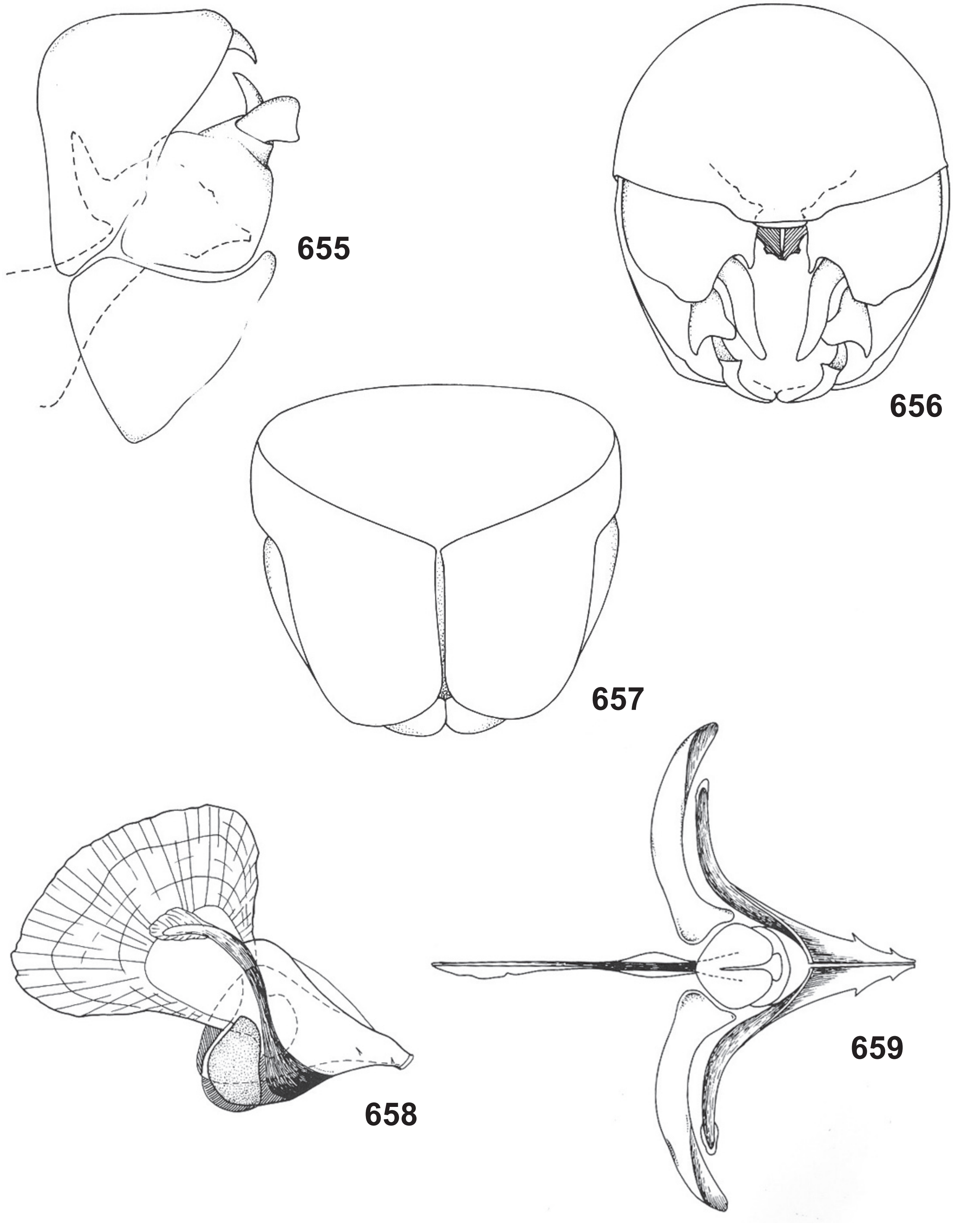
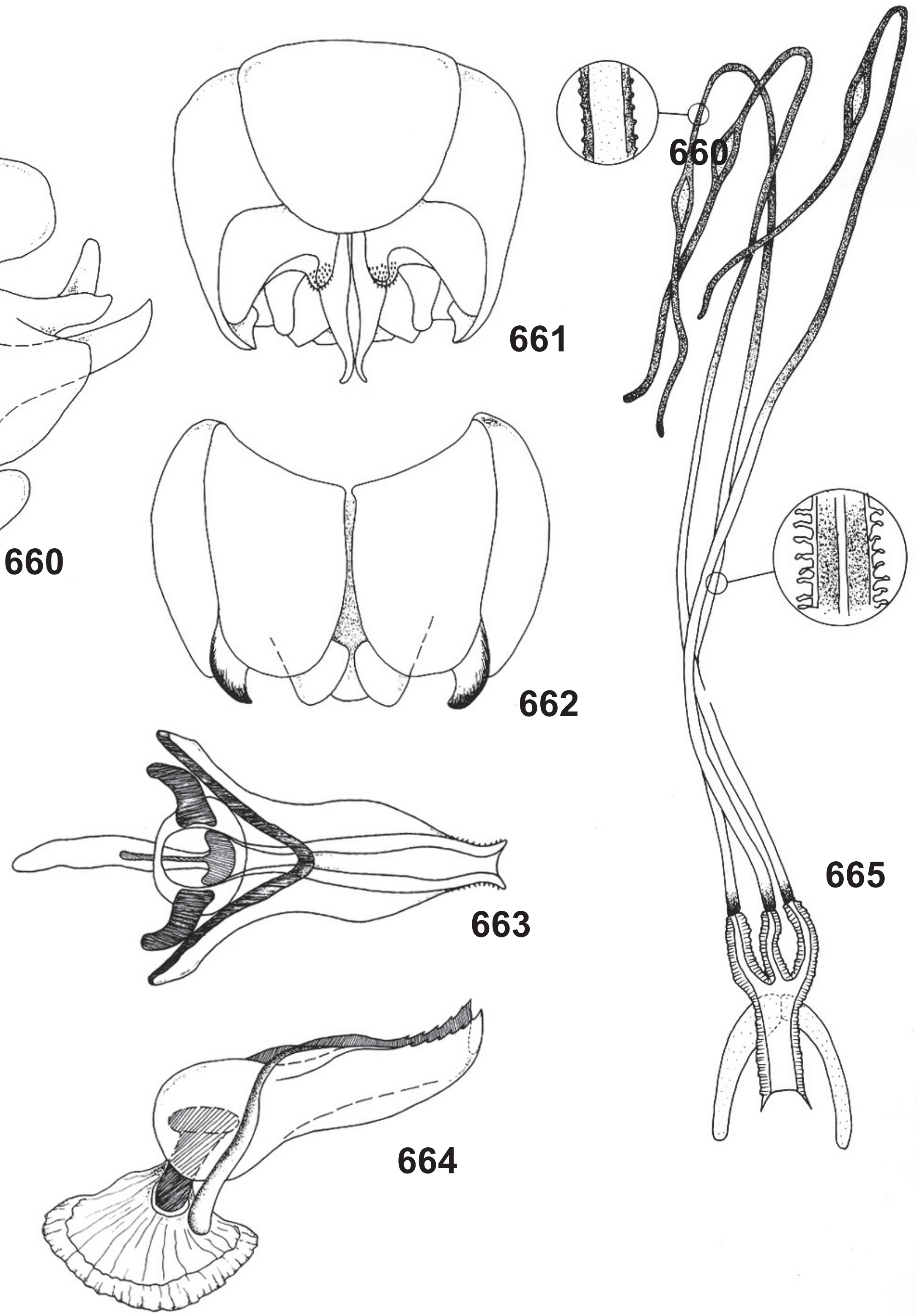
Figs. 647-651. *Parataracticus rubidus* Cole, 1924: 647-649, male terminalia in lateral, ventral and dorsal views; 650-651, aedeagus in lateral and dorsal views.



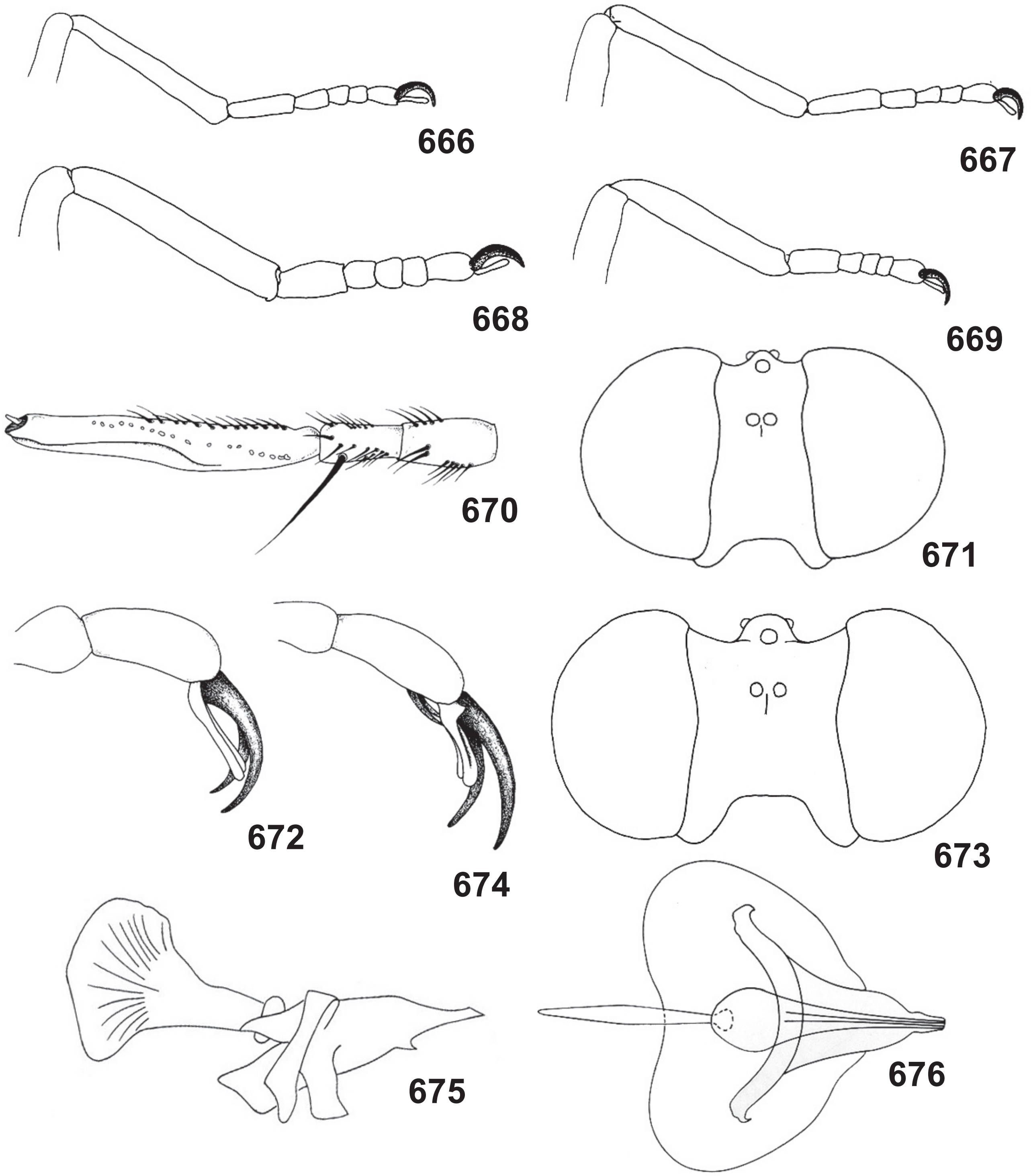
Figs. 652-654. Spermathecae of: 652, *Parataracticus rubidus* Cole, 1924; 653, *Saropogon díspar* Coquillett, 1902; 654, *Saropogon luteus* Coquillett, 1904.



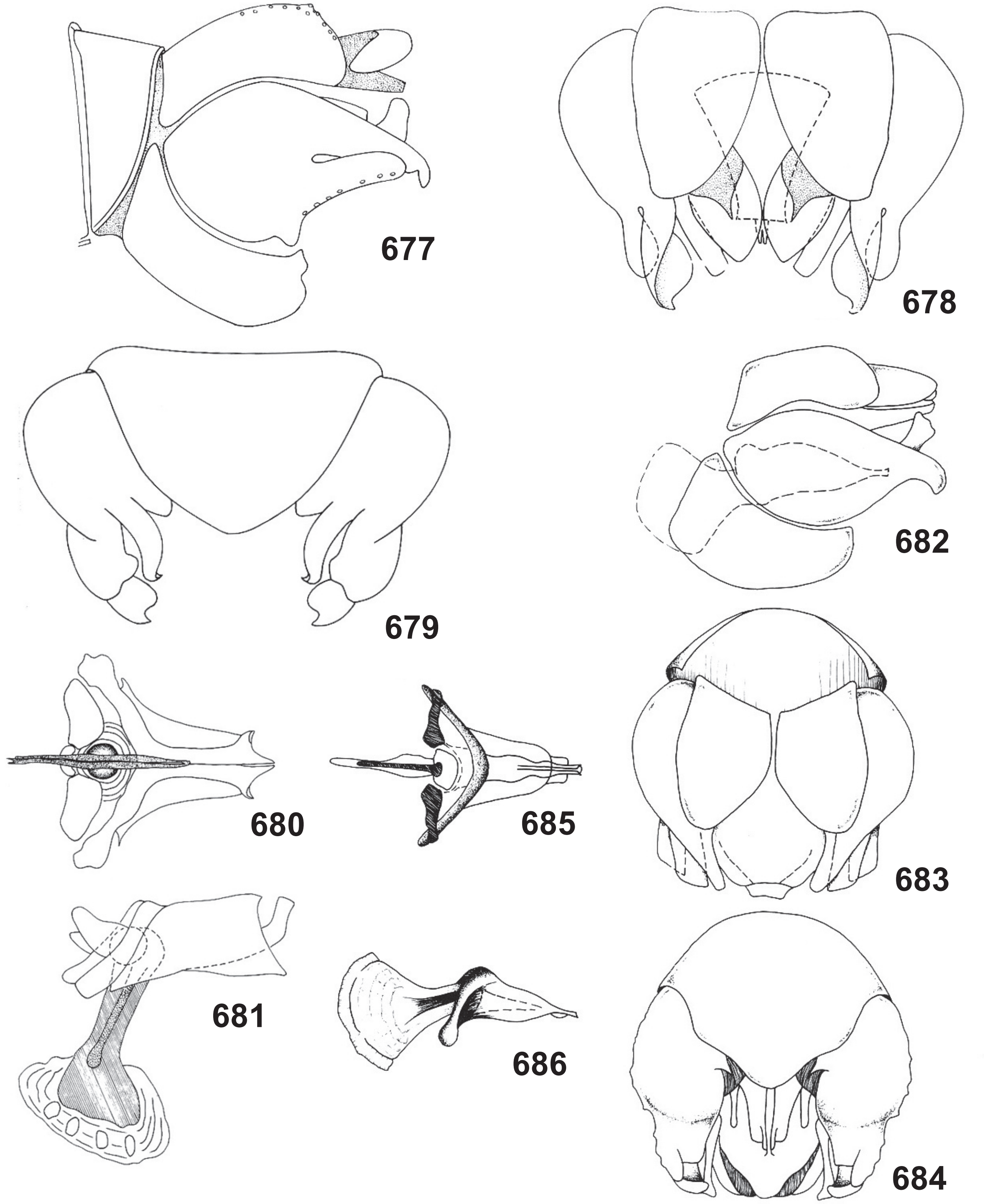
Figs. 655-659. *Saropogon díspar* Coquillett, 1904: 655-657, male terminalia in lateral, ventral and dorsal views; 658-659, aedeagus in lateral and dorsal views.



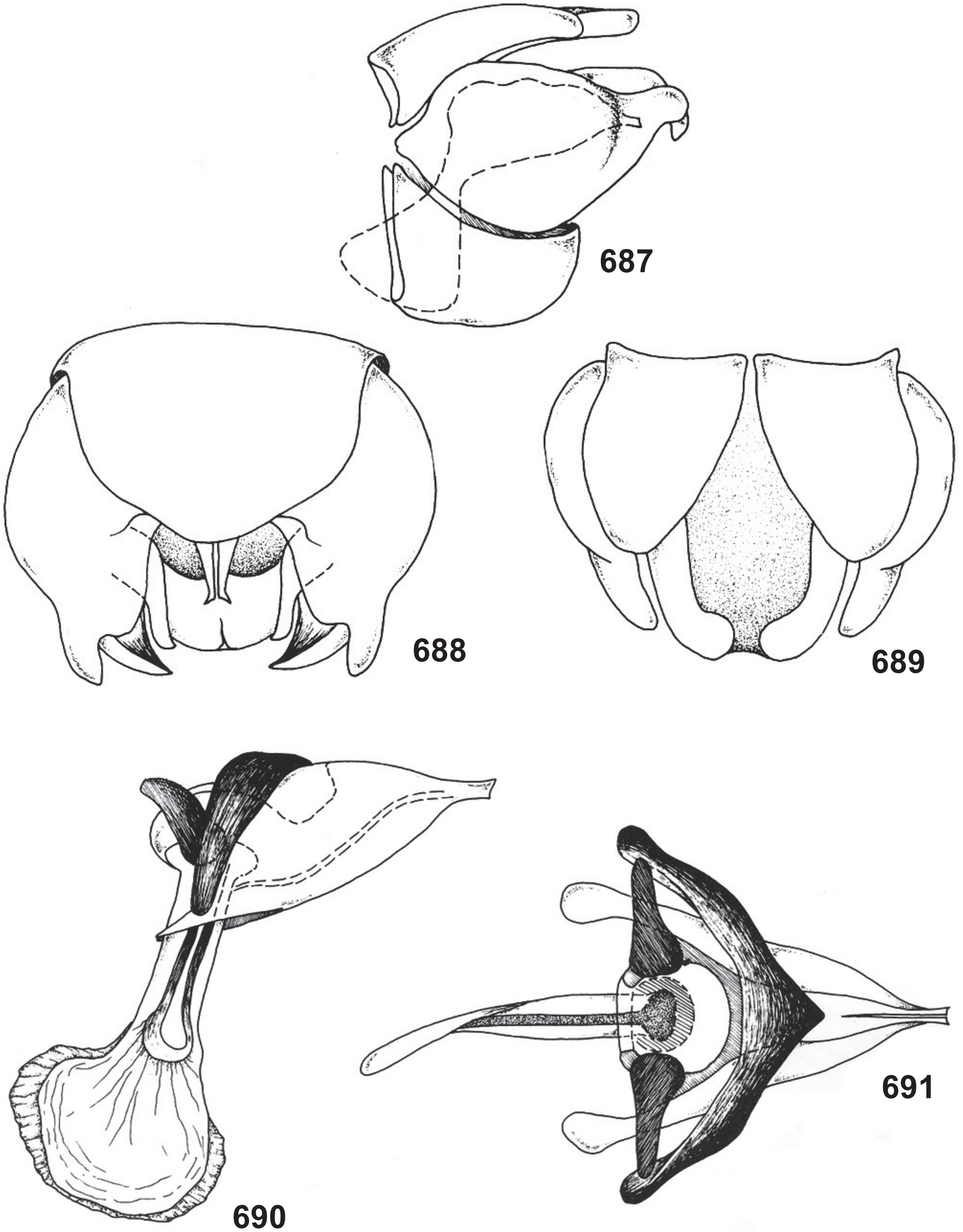
Figs. 660-665. *Taracticus octopunctatus* (Say, 1823): 660-662, male terminalia in lateral, ventral and dorsal views; 663-664, aedeagus in lateral and dorsal views; 665, spermathecae.



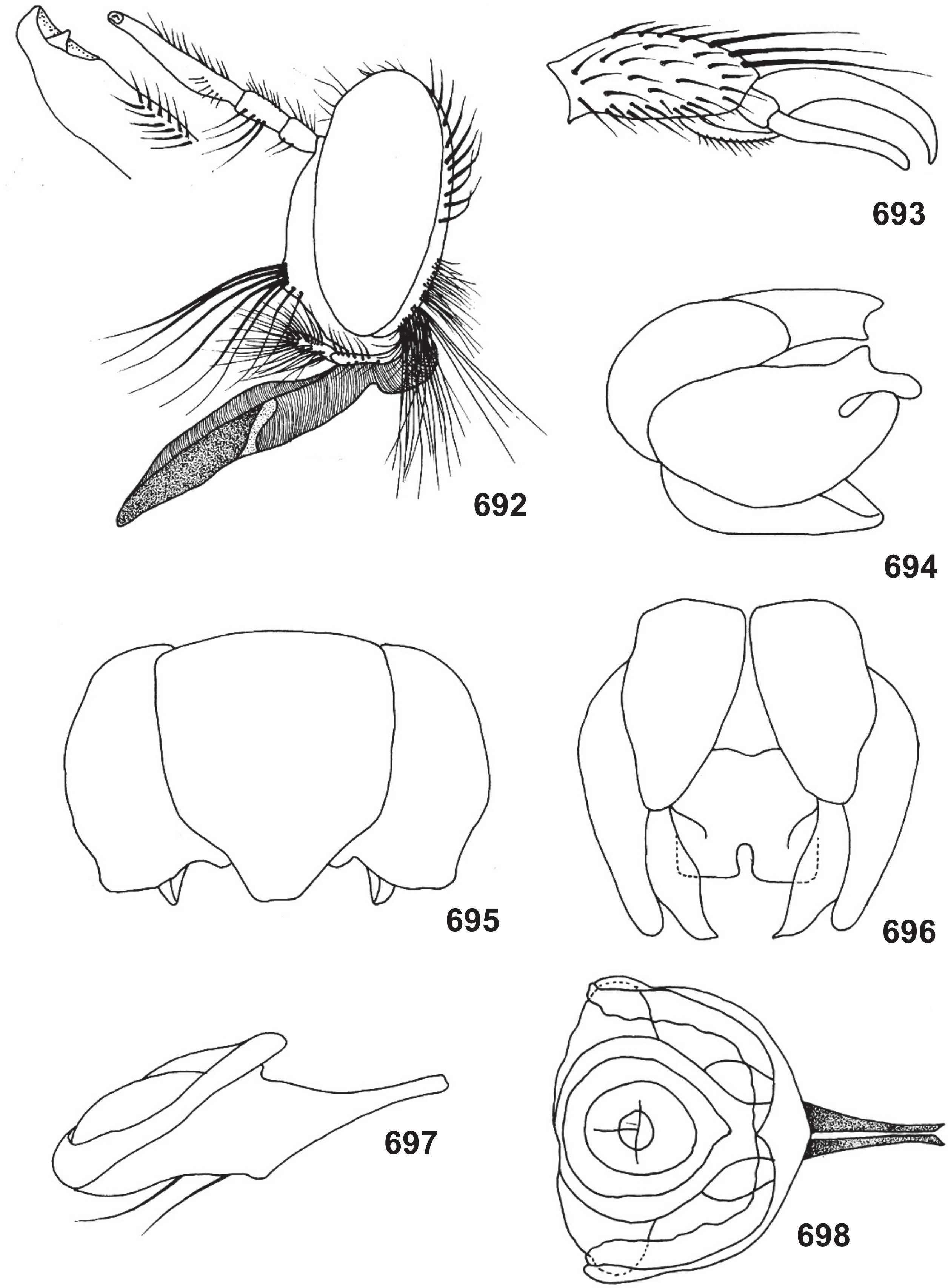
Figs. 666-670. Hind legs of: 666, *Neodiogmites hirtuosus* (Wiedemann); 667, *Neodiogmites mixtus* (Carrera, 1949); 668, *Lastaurina travassosi* (Carrera, 1949); 669. *Lastaurus lugubris* (Macquart, 1846). Fig. 670, *Lastaurus robustus* Carrera, 1949, antenna. Figs. 671-672, *Diogmites vulgaris* Carrera, 1947, head in frontal view (671) and hind apical tarsomere (672). Figs. 673-674, *Caenarolia tessellata* (Wiedemann, 1828), head in frontal view (673) and hind apical tarsomere (674). Figs. 675-676, *Caenarolia vittata* (Wiedemann, 1828), aedeagus in lateral (675) and dorsal (676) views.



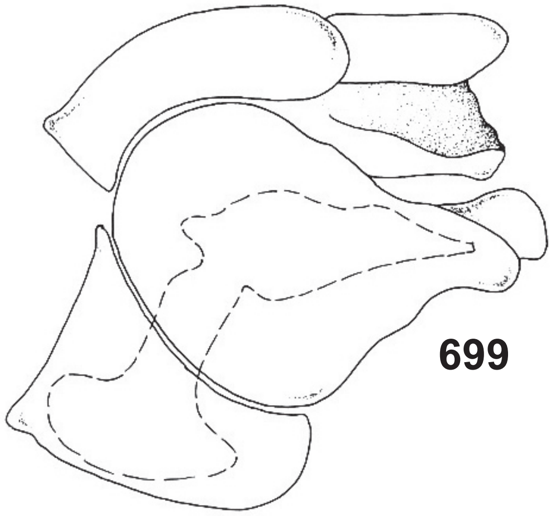
Figs. 677-681. *Blepharepium fuscipennis* (Macquart, 1834), male terminalia in lateral (677), dorsal (678) and ventral (679) views, and aedeagus in dorsal (680) and lateral (681) views. Figs. 682-686, *Diogmites ferrugineus* (Lynch Arribálzaga, 1880), male terminalia in lateral (682), ventral (683) and dorsal (684) views, and aedeagus in dorsal (685) and lateral (686) views.



Figs. 687-691. *Lastaurina ardens* (Wiedemann, 1828), male terminalia in lateral (687), ventral (688) and dorsal (689) views, and aedeagus in lateral (690) and dorsal (691) views.



Figs. 692-698. *Neodiogmites carrerai* Artigas & Papavero, 1988: 692, head; 693, apical tarsomere; 694-696, male terminalia in lateral (694), dorsal (695) and ventral (696) views; 697-698, aedeagus in lateral (697) and dorsal (698) views.



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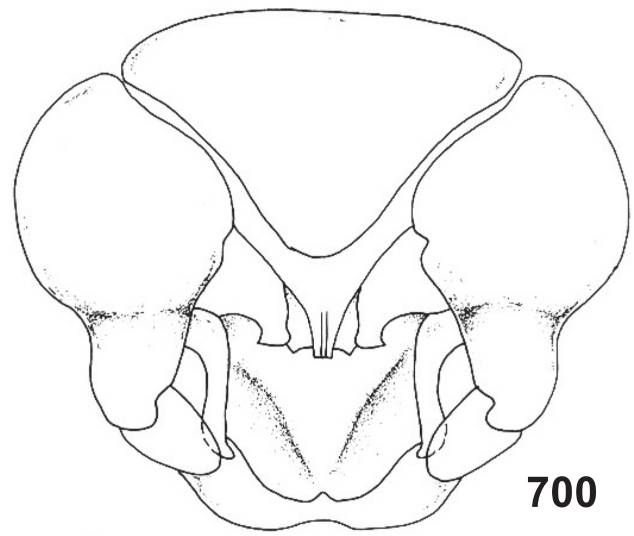

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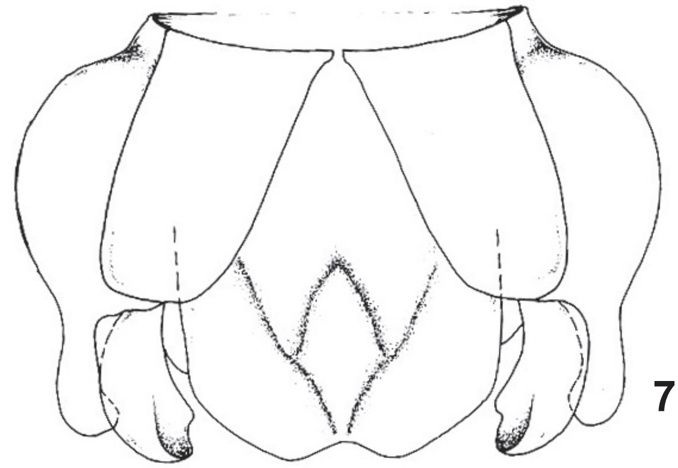

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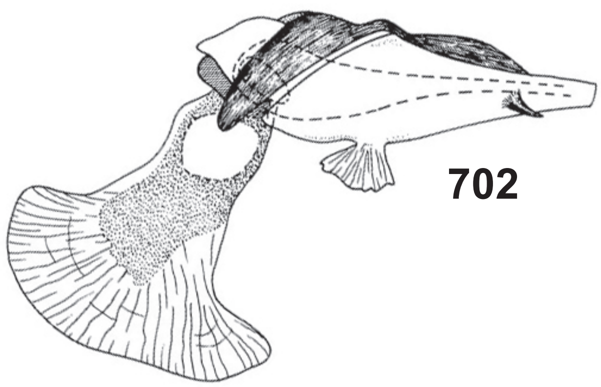

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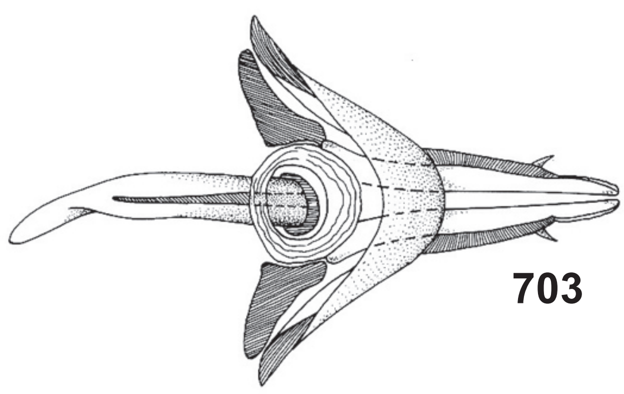

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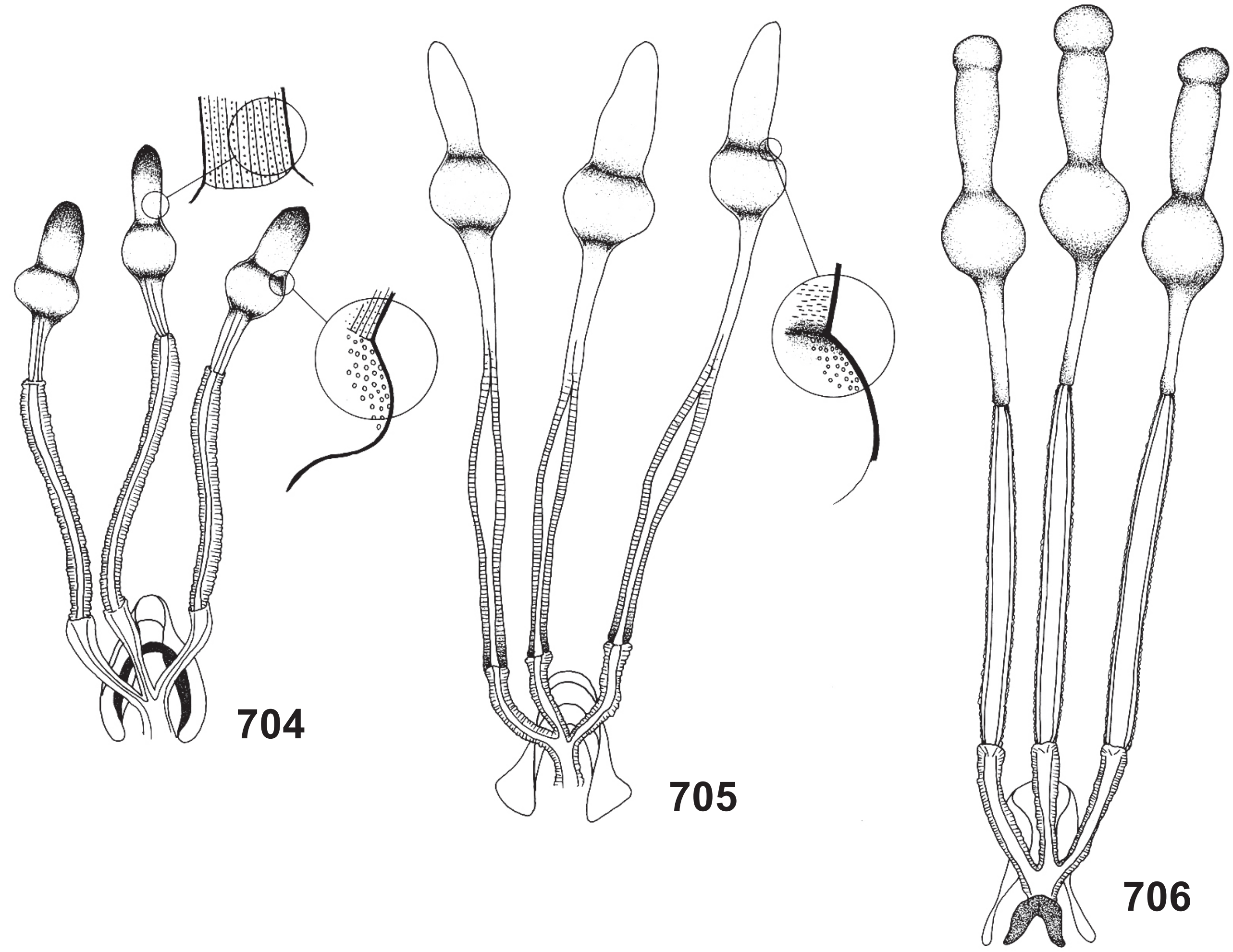
Figs. 699-703. *Lastaurus fallax* (Macquart, 1846): 699-701, male terminalia in lateral (699), ventral (700) and dorsal (701) views; 702-703, aedeagus in lateral (702) and dorsal (703) views.



Figs. 704-706. Spermathecae of: 704, *Caenarolia vittata* (Wiedemann, 1828); 705, *Blepharepium luridum* Rondani, 1848; 706, *Diogmites castaneus* (Macquart, 1838).

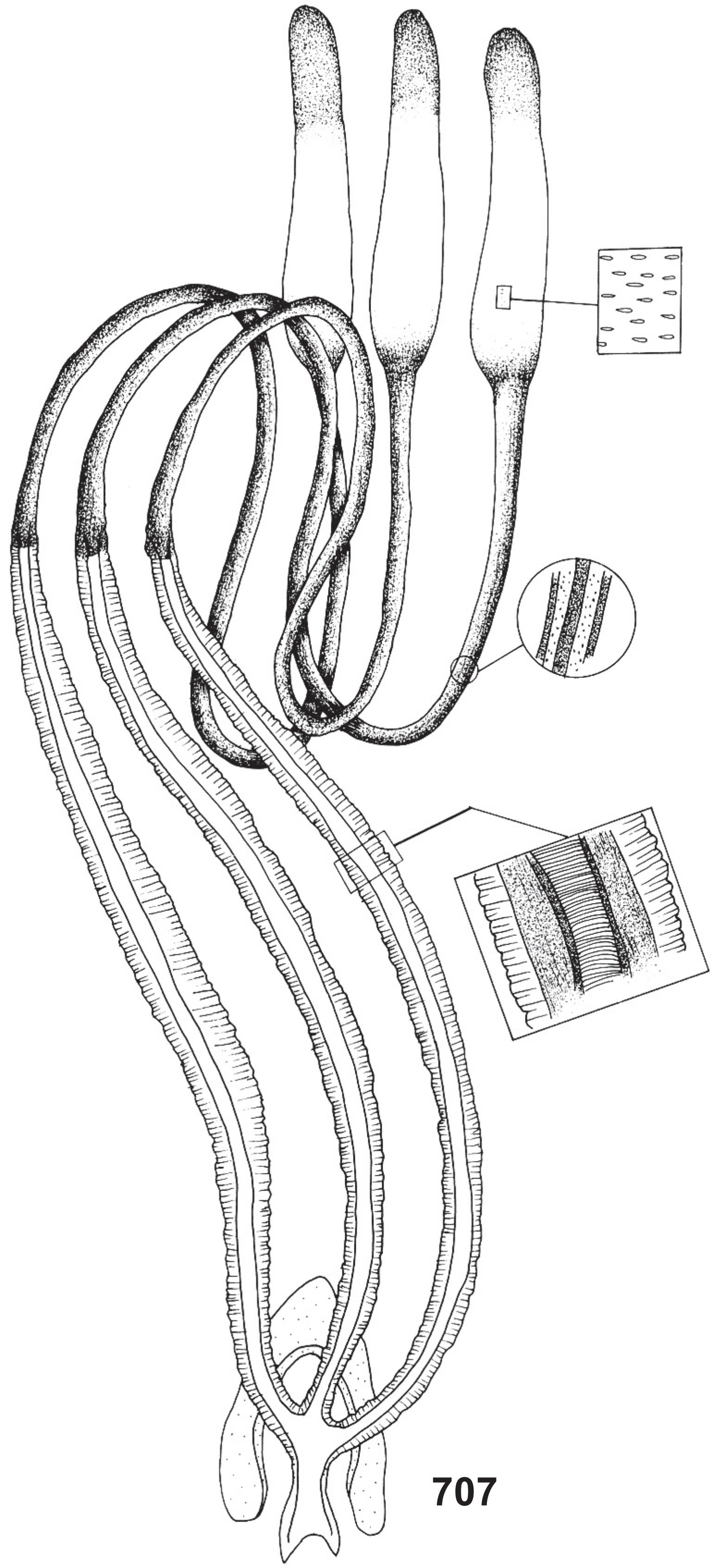


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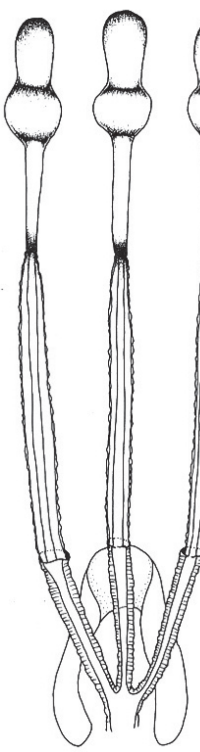
Fig. 707. Spermathecae of *Diogmites ferrugineus* (Lynch Arribálzaga, 1880).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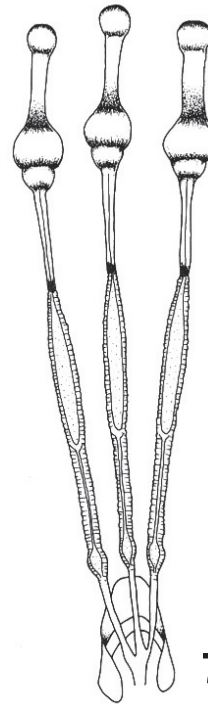
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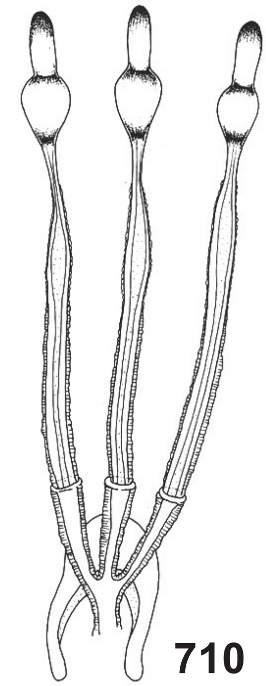
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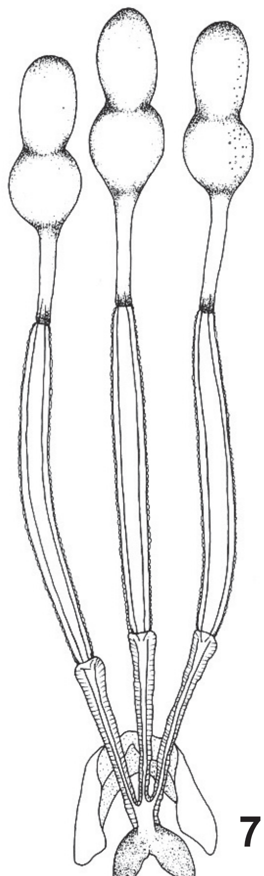
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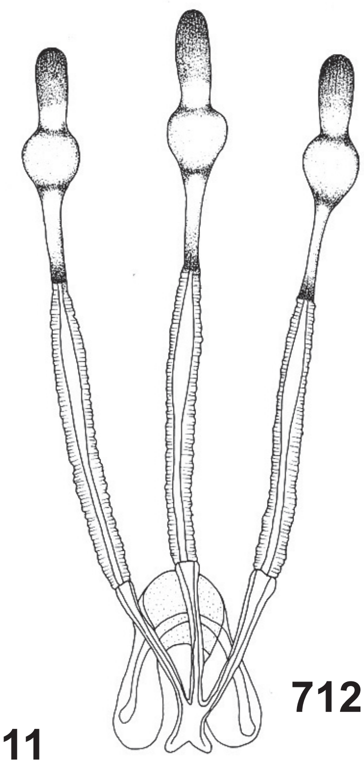
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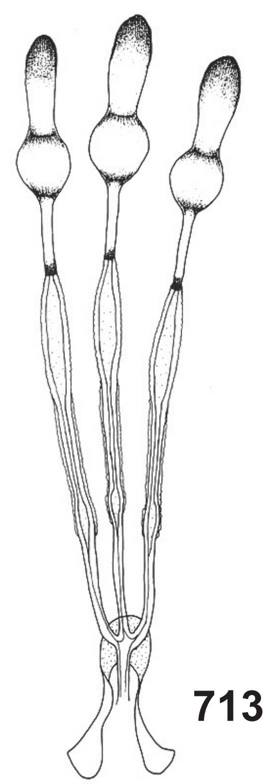
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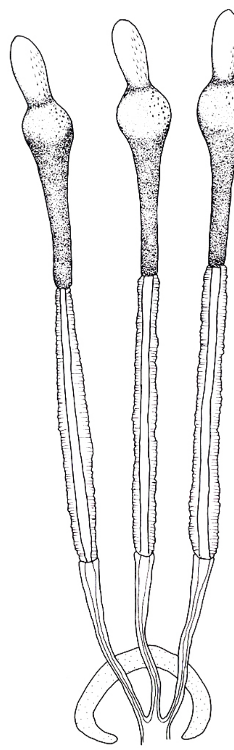
Figs. 708-713. Spermathecae of: 708, *Diogmites coffeatus* (Wiedemann, 1819); 709, *Diogmites jubatus*, auct.; 710, *Diogmites discolor* Loew, 1866; 711, *Diogmites symmachus* Loew, 1872; 712, *Diogmites basalis* (Walker, 1851); 713, *Diogmites winthemi* (Wiedemann, 1821).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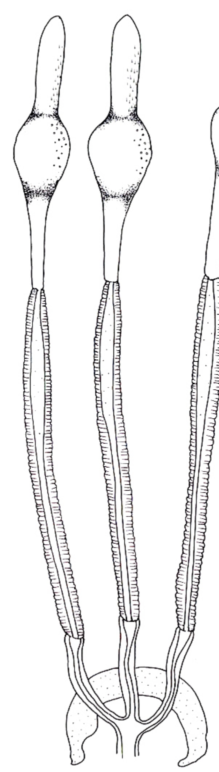
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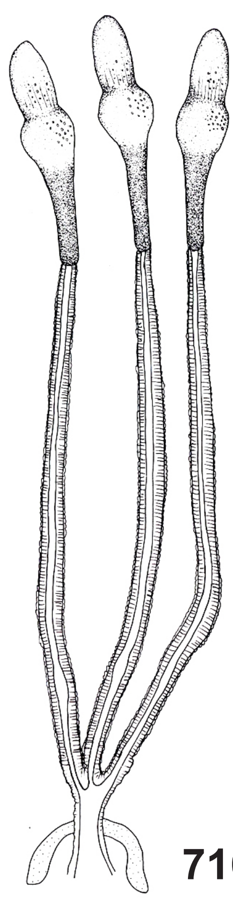
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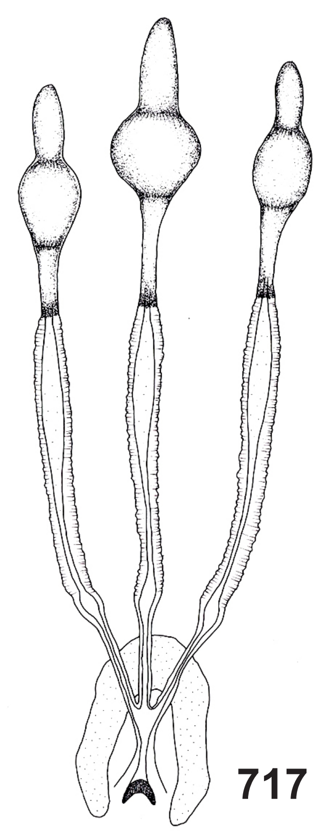
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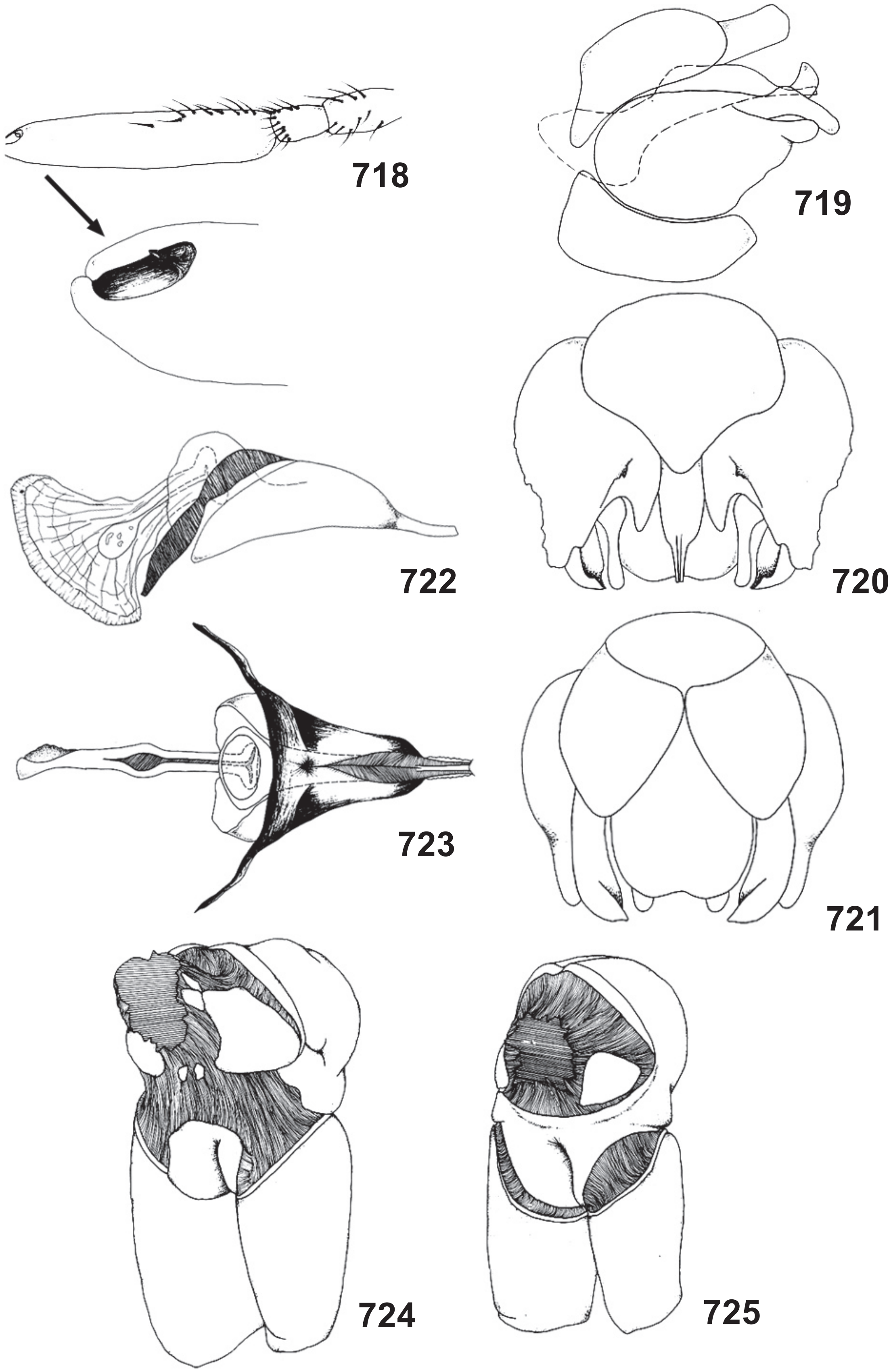
Figs. 714-717. Spermathecae of: 714, *Lastaurina ardens* (Wiedemann, 1828); 715, *Neodiogmites alexanderi* (Carrera, 1949); 716, *Lastaurus lugubris* (Macquart, 1846); 717, *Phonicocleptes busiris* Lynch Arribálzaga, 1881.



Figs. 718-724. *Phonicocleptes longipes* (Macquart, 1838): 718, antenna and detail of apex; 719-723, male terminalia in lateral (719), ventral (720) and dorsal (721) views, and aedeagus in lateral (722) and dorsal (723) views; 724, prosternum. Fig. 725, *Blepharepium cajennense* (Fabricius, 1787), prosternum.

4. Subfamily Laphriinae [Figs. 726-901]

The genus *Bathropsis* Hermann, 1912 was not included in the key since material was not available to us.

Key to the genera

1. Postmetacoxal area membranous ... 2
Postmetacoxal area with a transverse sclerotized bridge ... 17

2(1). Face more or less flat, never excavated or gibbous. Proboscis almost triangular in cross-section. Tribe Dasytrichini ... 3
Face excavated and gibbous. Proboscis either subcylindrical, with tuft of long bristles above, or laterally or dorsoventrally compressed (at least on apical half) ... 5

3(2). Cell r5 open ... 4
Cell r5 closed and petiolate. Antenna with three flagellomeres. Female spermathecae as in Figs. 726-727 (Chile, Argentina, Paraguay) ... *Dasythrix* Loew, 1851

4(3). Mystax composed of bristles of uniform length up to the base of antennae. Antenna with two flagellomeres. Predominantly dark-brown to black, somber flies. Female spermathecae as in Figs. 728-729 (Colombia, Brazil) ... *Cryptomerynx* Enderlein, 1914
Upper face with two strongly differentiated, long bristles, detached from other bristles of mystax. Antenna with only one flagellomere. Gawdy-colored, yellowish-brown flies with black stripes or markings, especially on abdomen (Figs. 730-734, 735-741). Male terminalia as in Figs. 742-745, 748-751, 752-755, 756-759, 760-763, 764-767). Female spermathecae as in Figs. 746-747 (Central America and South America, but not in Chile) ... *Smeryngolaphria* Hermann, 1912

5(2). Proboscis subcylindrical, middorsal margin with numerous, long, stout, proclinate bristles. Anatergite with fine hairs. Female spermathecae as in Figs. 768-769 (Guianas, Brazil). Tribe Neophoneini ... *Neophoneus* Williston, 1889
Proboscis either laterally or dorsoventrally flattened, without strong bristles on middorsal margin. Anatergite with or without hairs or bristles ... 6

6(5). Proboscis clearly flattened laterally. Tribe Laphriini ... 7
Proboscis clearly flattened dorsoventrally, at least on its apical half. Tribe Andrenosomini ... 13

7(6). Hind femur thickened, with one or more ventral tubercles which sometimes bear a spine, and femur occasionally with a basal spur-like swelling ... 8
Hind femur never as above ... 9

8(7). Anatergite bare. Scutellum with bristles. Female spermathecae as in Figs. 770-771 (Neotropical) ... *Lampria* Macquart, 1838
Anatergite with bristly pile. Scutellum only with short hairs. Spermathecae as in Figs. 772-773 (Nearctic) ... *Brychomyia* Hull, 1962

9(7). Cell r5 open ... 10
Cell r5 closed ... 11

10(9). Face with scale-like hairs in addition to the usual bristles and pile. Head quite short and wide. First flagellomere 2 to 2.5 times combined length of scape and pedicel. Abdomen short, oval, not constricted at base. Mesonotum with scanty, subappressed setae and extensive, lateral, apilose areas. Female spermathecae as in Figs. 774-775 (Surinam, Peru, Brazil: Amazonas) ... *Joartigasia* Martinez & Martinez, 1974
Face without scale-like hairs. Other combinations of characters. Male terminalia and aedeagus as in Figs. 779-781. Female spermathecae as in Figs. 781-782, 785 (Holarctic, Afrotropical, Oriental) ... *Laphria* Meigen, 1803

11(9). Scape short, about as long as wide. Face without scale-like hairs (Jamaica, Brazil) ... *Phellopteron* Hull, 1962
Scape elongate, over five times as long as wide. Face with scale-like bristles in addition to normal hairs and bristles ... 12

12(11). Abdomen clearly pedunculate, wasp-like, the second segment 1/3 to 1/2 width of tergite 4 (Fig. 786). Female

spermathecae as in Figs. 786-787 (Cuba, Bolivia, Brazil) ....*Rhopalogaster* Macquart, 1834
Abdomen not pedunculate. (Brazil) ....*Ichneumolaphria* Carrera, 1951

13(6). R2+3 and R4 connected by a short extra crossvein (i. e., three submarginal cells present) (Western U. S. A., Mexico) .... *Pogonosoma* Rondani, 1856
R2+3 and R4 not connected by a short extra crossvein (i. e., only two submarginal cells present) 14

14(13). Apex of proboscis greatly thinned dorsoventrally and pointed in lateral view, but comparatively wide and shovel-like in dorsal view. Anatergite with bristles. Cell r5 open or closed. Male terminalia as in Figs. 790-793. Female spermathecae as in Figs. 788-789 (Neotropical) .... *Pilica* Curran, 1931
Apex of proboscis as greatly narrowed laterally or dorsoventrally. Anatergite bare or pilose 15

15(14). Ambient vein absent or evanescent. Mystax tectiform, decumbent, extending nearly to base of antennae. Hind femur swollen distally. Pile reduced on thorax and abdomen. Cell r5 closed with a long stalk (U. S. A.) .... *Cerotainiops* Curran, 1930
Ambient vein normally developed 16

16(15). Mystax dense, tectiform, directed downward and forward, beyond and enclosing proboscis. Large flies with broad, rather flattened abdomen and bright colored pile in part. Wing often banded. Mimics of *Eulaema* bees. Anatergite pilose (except in *Dasyllis croceiventris*). Female spermathecae as in Figs. 794-795 (South America) ... . *Dasyllis* Loew, 1851
Mystax hirsute, directed upward and then forward. Small to medium-sized flies. Abdomen elongate, cylindroid, never as above. Pile everywhere more or less reduced and usually moderate in quantity. Anatergite bare. Female spermathecae as in Figs. 796-797 (Worldwide) .... *Andrenosoma* Rondani, 1856

17(1). Large (over 2.5 cm long) flies, resembling bumblebees. Entire body densely haired. Second palpal segment enormously swollen and clavate. Proboscis very short and swollen. Second flagellomere stout, cylindrical, apically truncate, twice as long as wide (Eastern U. S. A., Utah) .... *Dasylechia* Williston, 1907
Small, relatively bare, generally black flies. Other combinations of characters. Tribe Atomosiini 18

18(17). Anatergite with soft or coarse hairs, but never with spine- or spike-like bristles 19
Anatergite with characteristic spine- or spike-like bristles 29

19(18). Antenna with two flagellomeres (Fig. 799). Face extremely narrow; two very long and stout ocellar bristles (Fig. 798). At least four pairs of stout, stiff bristles on upper occiput. Mesonotum slightly bare, shining, with 1 notopleural, 1 supraalar and 1 postalar bristles, all long and stout. Scutellum with a pair of exceptionally long and stout marginal bristles. Abdomen parallel-sided, with fine and scattered punctures; lateral bristles present on tergites 1-6 or 1-3. Hind femur with (Fig. 800) or without moderately long, tuberculate spines on apical half of ventral surface. Male terminalia and aedeagus as in Figs. 801-805 and 808-812. Female spermathecae as in Figs. 806=807 and 823-814 (South America, but not in Chile) .... *Dissmeryngodes* Hermann, 1912
Antenna with a single flagellomere. Other combinations of characters 20

20(19). Lateral bristles present on all tergites. Large (10-12 mm long), robust flies. Face entirely convex, no projection at the subcranial margin, the coarse bristles of the mystax covering entire length of face. Abdomen, in dorsal view, with 6 tergites. Frons with convergent slopes 21
Lateral bristles restricted to tergites 1-3 or only to tergite 1. Other combinations of characters 22

21 (20). Scape twice as long as pedicel. Flagellomere three times length of scape and pedicel together, truncate at apex, with a dorsally placed spine. Body black. Male terminalia and aedeagus as in Figs. 815-819. Female spermathecae as in Figs. 820-821 (Mexico to southern Brazil) .... *Aphestia* Schiner, 1866
Scape subequal in length to pedicel. Flagellomere of variable length, but apex prolonged into a filiform process and spine subapically placed. Ground color of abdomen yellowish-brown, with or without dark spots and stripes (Peru, Brazil: Bahia to Rio Grande do Sul) ....*Aphractia* Artigas & Papavero, 1991

22(20). Frons with divergent slopes 23
Frons with convergent slopes 26

23(22). Vein M2 absent beyond cell d (i. e., only four posterior cells present). (U. S. A., Mexico) ......*Atomosiella* Wilcox, 1937
Vein M2 present beyond cell d (i. e., five posterior cells present) 24

24(23). Face and antennae with long and thick pile. Also the occiput very thickly pilose. Mesonotum entirely covered with semierect, thick pile. Tarsal claws thick at base and empodial bristle developed, almost claw-like. Male terminalia as in Artigas (1971: fig. 69). Female spermathecae as in Artigas (1971: fig. 70) and our Figs. 25-16. (Chile) .... *Lamprozona* Loew, 1851
Hairs of head and thorax relatively scarce. Tarsal claws and empodial bristle not developed as above 25

25(24). Eye, in lateral view, narrower on lower half, due to a recession of its postero-inferior margin. Face slightly prominent at subcranial margin. Scutellum with smooth or impressed rim, and with two long marginal bristles, or two long and two short marginal bristles, or yet with several long and short marginal bristles intermingled. Male terminalia and aedeagus as in Figs. 824-828. Female spermathecae as in Figs. 829-830 (North and South America, but not in Chile) .... *Eumecosoma* Schiner, 1866
Eye, in lateral view, as wide above as below (i. e., eye almost symmetrical in relation to its equator). Face prominent or not at subcranial margin. Scutellum with short or long marginal hairs, but never with differentiated long bristles. Male terminalia and aedeagus as in Figs. 831-835. Female spermathecae as in Figs. 836-837, 838-840, 841-842, 843-844 (Neotropical, but not in Chile) .... *Oidardis* Hermann, 1912

26(22). Minute (5 mm long) flies, with globose head. Face not visible in lateral aspect. Mystax composed of about 6 bristles restricted to subcranial margin of face. Thorax and abdomen micropilose. Mesonotum with a few lateral bristles. Scutellum short pilose, with two marginal bristles (Peru) .... *Strombocodia* Hermann, 1912
Larger flies. Head never globose. Other combinations of characters 27

27(22). Face relatively wide and evenly convex. Flagellum prolonged into a filiform process. Abdomen very wide and short, cup-shaped. Body with blue reflections. *Cyphomyia*-like flies (Brazil: Goiás) ....
.... *Cyphomyiactia* Artigas & Papavero, 1991
Face flat above, prominent below. Abdomen never as above 28

28(27). Antennal flagellomere with acute apex, sometimes prolonged into a more or less filiform process and with a subapically or dorsally placed spine (if dorsal, spine always placed distally to middle of flagellum). Male terminalia and aedeagus as in Figs. 845-849 and 852-853. Female spermathecae as in Figs. 850-851 (Central and South America, but not in Chile) .... *Hybozelodes* Hermann, 1912
Antennal flagellomere truncate at apex and spine always placed dorsally and always situated before middle of flagellum. Male terminalia and aedeagus as in Figs. 854-85. Female spermathecae as in Figs. 859-862 (Brazil: Amazonia and southern states) .... *Lycosimyia* Hull, 1958

29(18). Antenna with two flagellomeres 30
Antenna with one flagellomere 31

30(29). Scape and pedicel subequal in length. Frons with divergent slopes. Male terminalia and aedeagus as in Figs. 863-867. Female spermathecae as in Figs. 868-869 (Mexico to southern Brazil) .... *Atoniomyia* Hermann, 1912
Scape about three times as long as pedicel. Frons with (?) convergent slopes. (Panama, Venezuela, Peru) ....
.... *Oidardis* Hermann, 1912 [not seen]

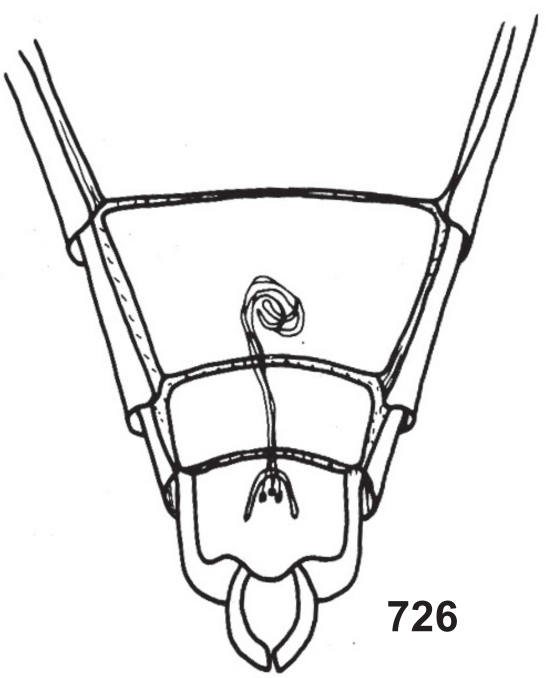
31(29). Frons relatively narrow, with convergent slopes. Scape never several times longer than pedicel 32
Frons extremely widened, with slopes definitely divergent (Fig. 886). Scape several times longer than pedicel (Fig. 887). Male terminalia and aedeagus as in Figs. 888-892 and 895-899. Female spermathecae as in Figs. 893-894 and 900-901 (North and South America, but not in Chile) .... *Cerotainia* Schiner, 1866

32(31). Flagellum with acute apex prolonged into a filiform process, and spine subapically placed (Southern Brazil) ....
.... *Atractia* Macquart, 1838
Flagellum truncate at apex, with spine definitely dorsal in position 33

33(32). Frons extremely shallow. Pleura, mesonotum and abdomen very coarsely punctate. Scutellum with a pair of fine, stiff, marginal hairs. Lateral bristles confined to first two tergites and replaced by spiky bristles on tergites 3-6. Apex of abdomen strongly cupped. Pronotum with a collar of spike-like bristles. Occipital bristles very weak.

Female spermathecae as n Figs. 870-871 (Brazil: Distrito Federal) .... *Hodites* Hull, 1962

Frons deeply excavated. Body punctures variable. Scutellum with several marginal hairs, or with 2-6 or more spike-like bristles. Lateral bristles variable: from confined to tergite 1 to present on all tergites. Pronotum with or without long spike-like bristles. Occipital bristles variable. Male terminalia as in Figs. 872-876 and 879-883. Female spermathecae as in Figs. 877-878 and 884-885 (Americas, but not in Chile) .... *Atomosia* Macquart, 1838



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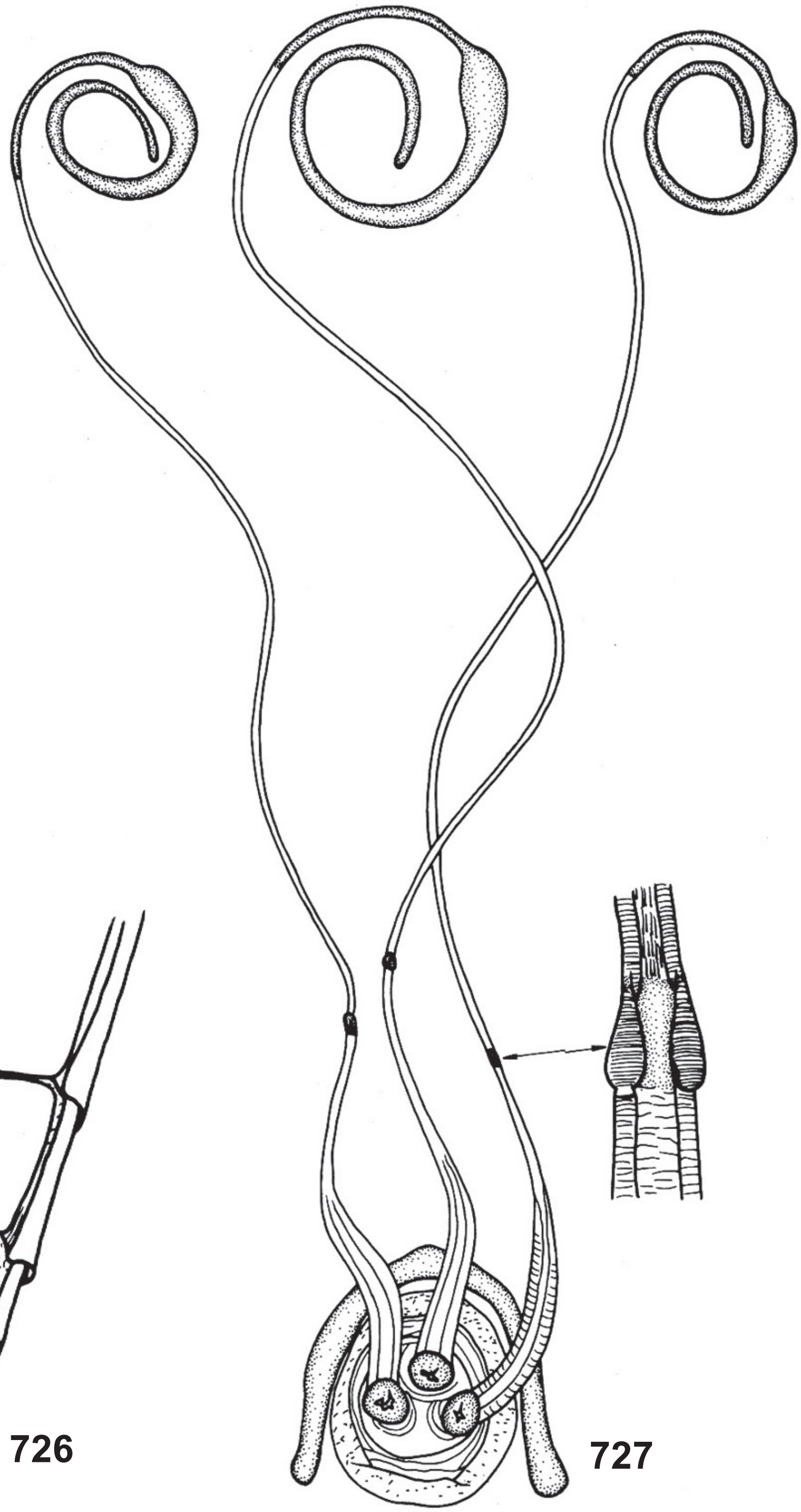

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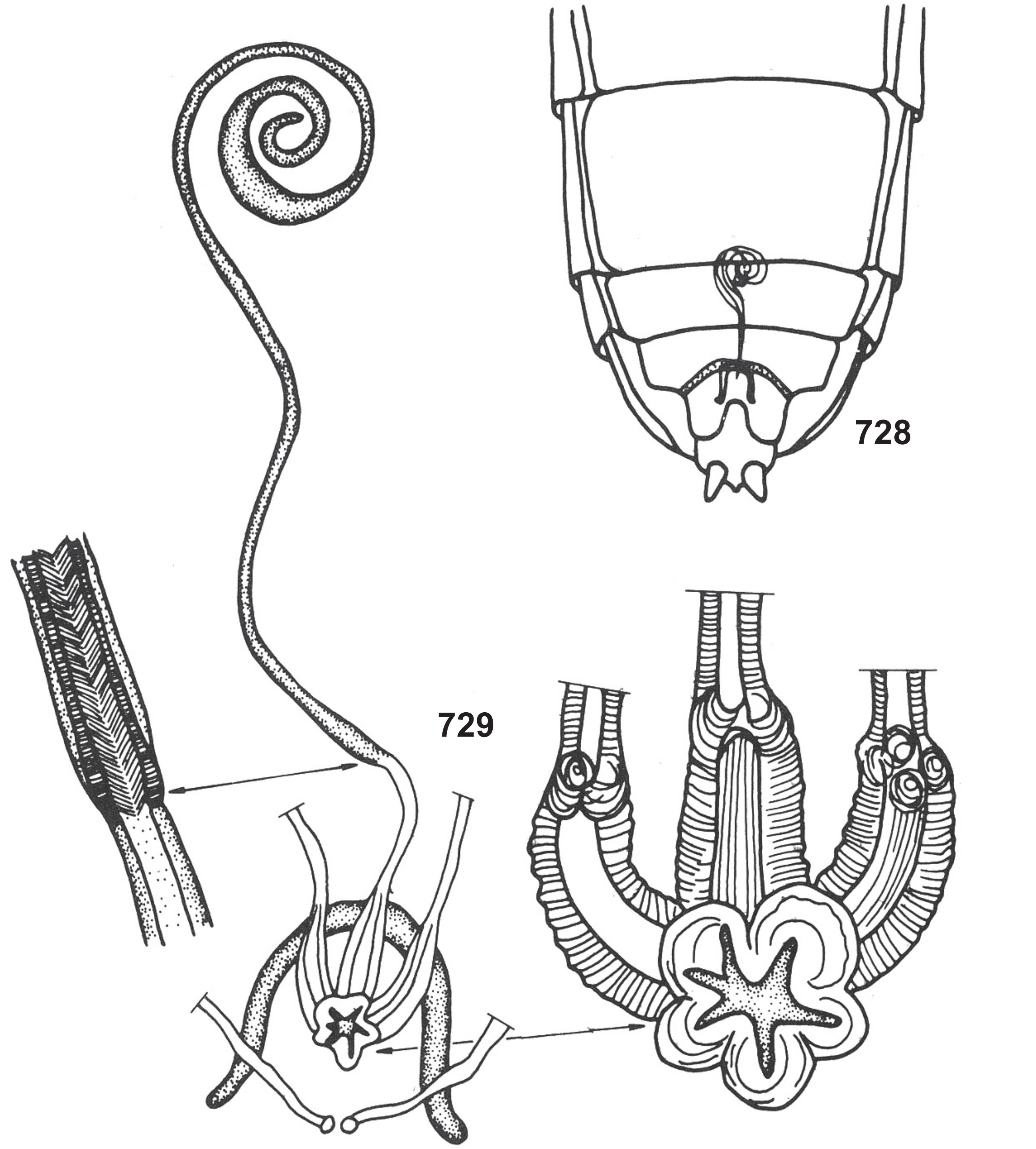
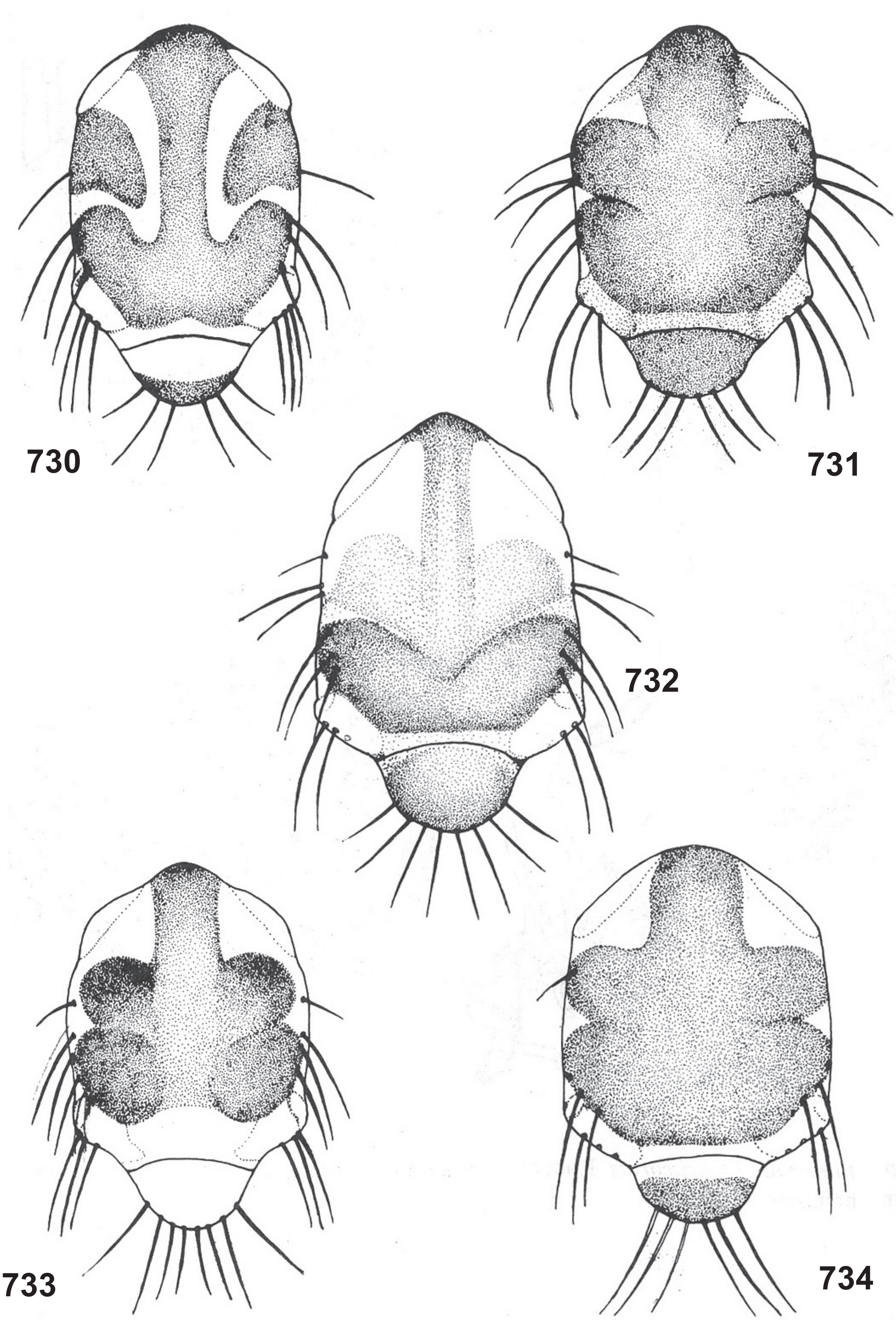
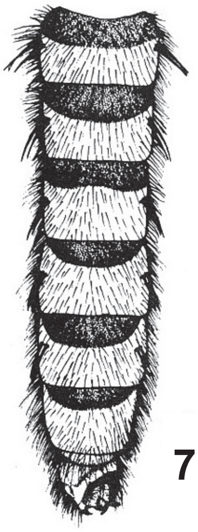
Figs. 726-727. *Dasythrix sp.*: 726, situation of spermathecae in the abdomen; 727, spermathecae.



Figs. 728-720. *Cryptomerynx laphriicornis* Enderlein, 1914: 728, situation of spermathecae in the abdomen; 729, spermathecae.



Figs. 730-734. Color pattern of mesonotum of *Smeryngolaphria*: 730, *S. numitor* (Osten Sacken, 1887); 731, *S. seabrai* Carrera, 1960; 732, *S. gorayebi* Artigas, Papavero & Pimentel, 1988; 733, *S. taperignae* Artigas, Papavero & Pimentel, 1988; 734, *S. gurupi* Aretigas, Papavero & Pimentel, 1988.



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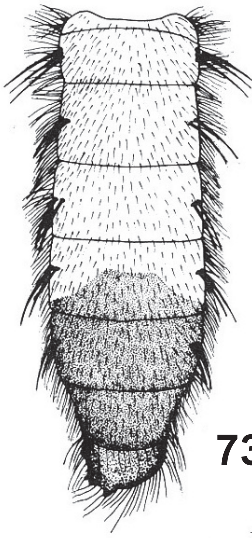

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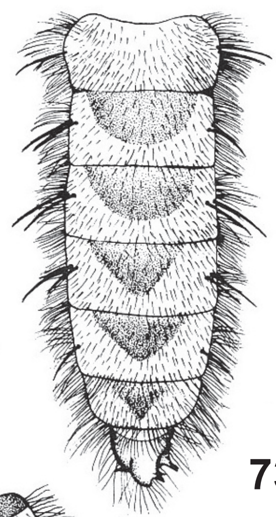

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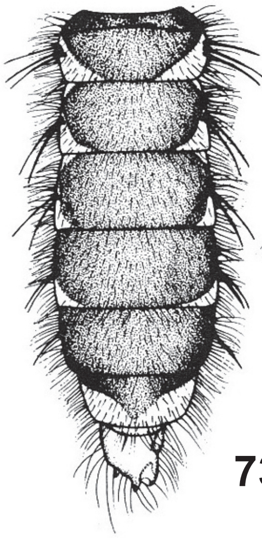

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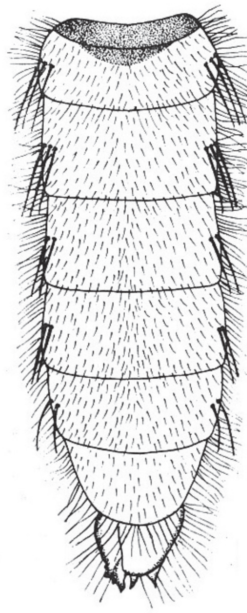

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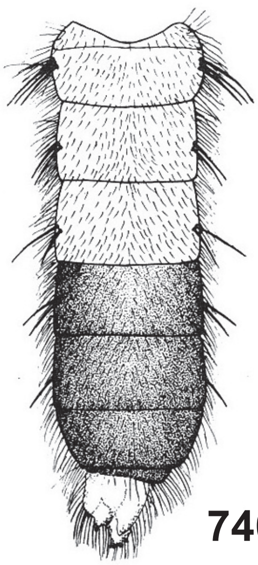

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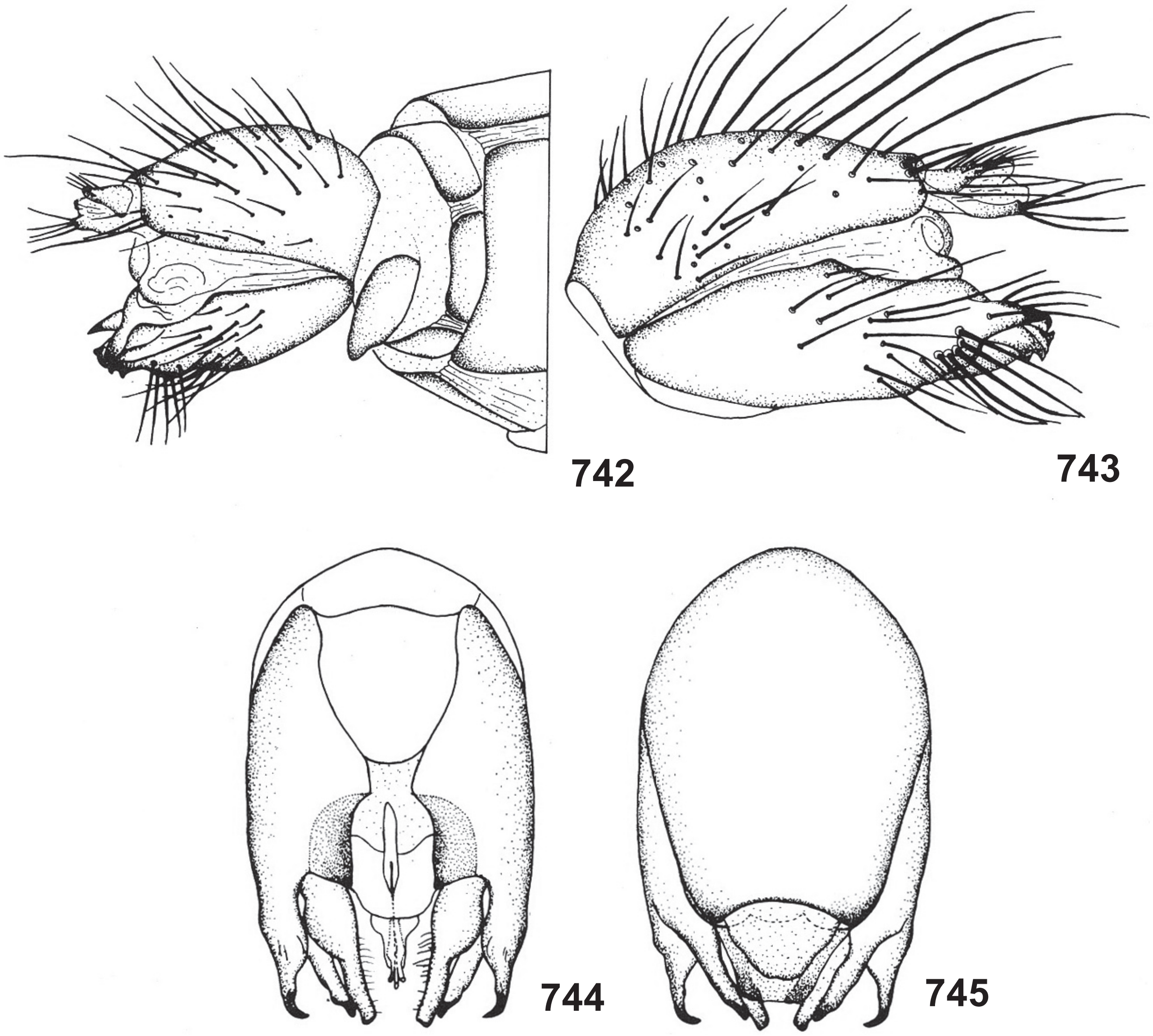
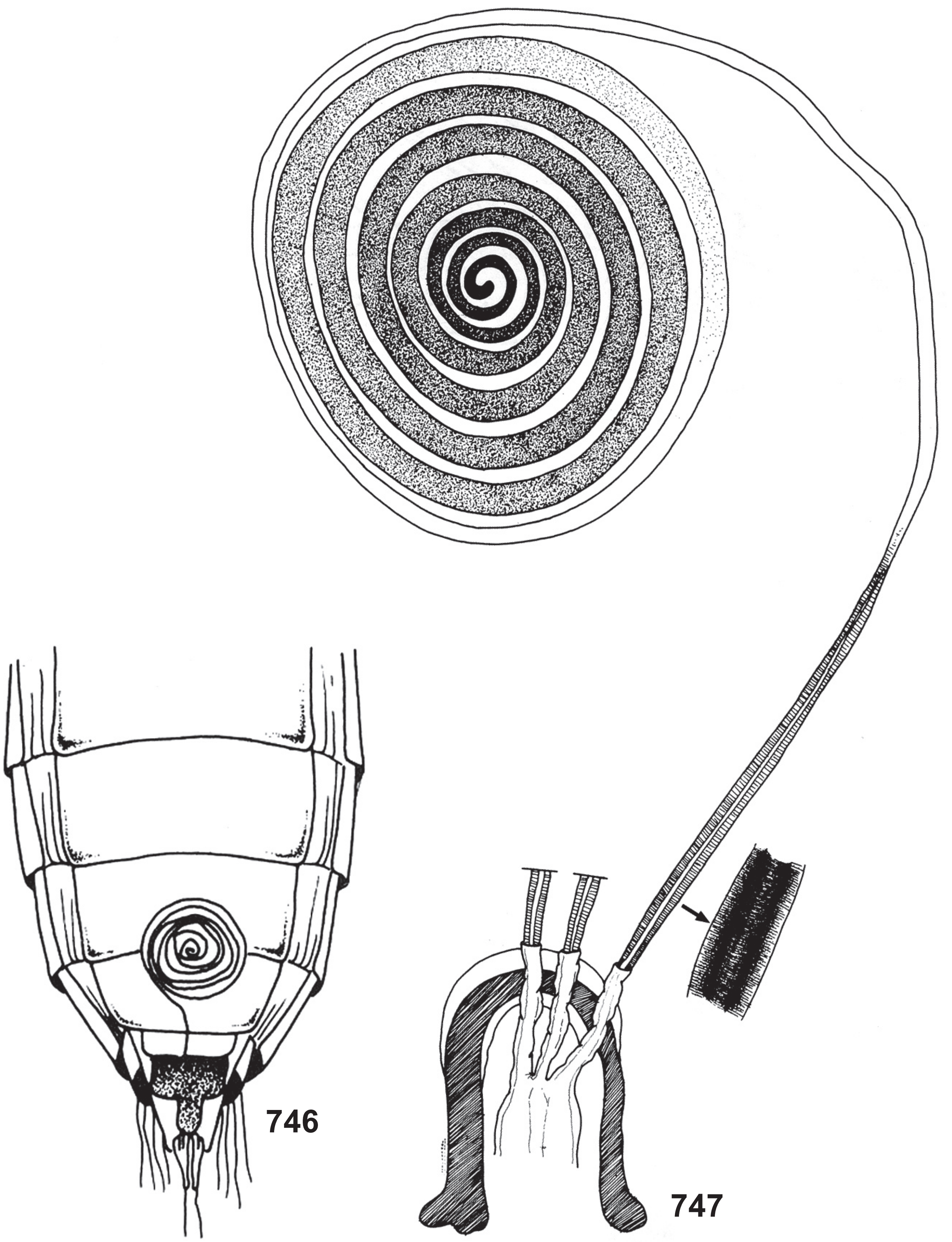
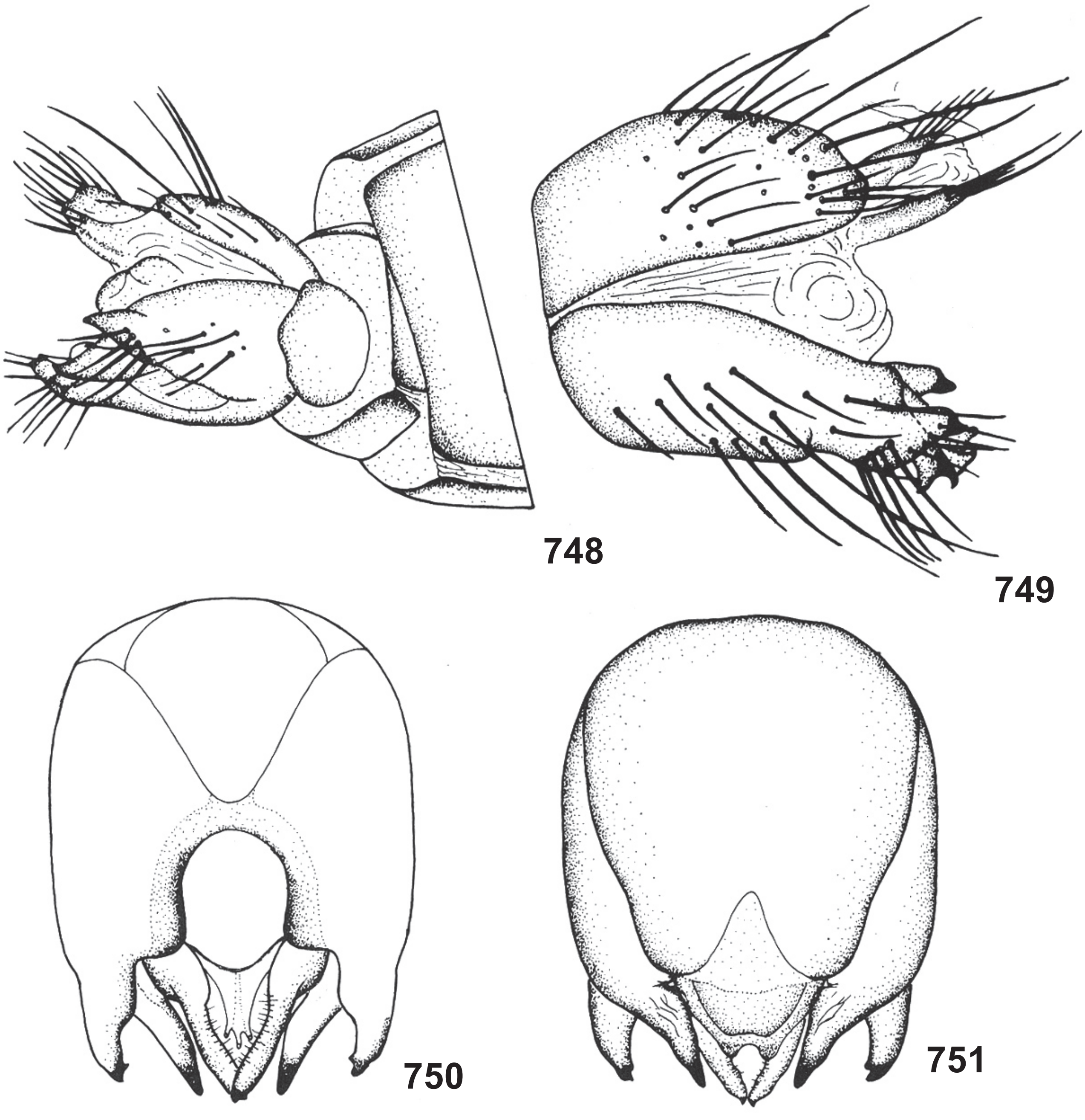
Figs. 735-741. Color patterns of abdomen in *Smeryngolaphria*: 735, *S. numitor* (Osten Sacken, 1887). 736, *S. melanura* (Wiedemann, 1828); 737, *S. maculipennis* (Macquart, 1846); 738, *S. seabrai* Carrera, 1960; 739, *S. gorayebi* Artigas, Papavero & Pimentel, 1988; 740, *S. taperignae* Artigas, Papavero & Pimentel, 1988; 741, *S. gurupi* Artigas, Papavero & Pimentel, 1988.



Figs. 742-745. *Smeryngoplaphria gorayebi* Artigas, Papavero & Pimentel, 1988: male terminalia *in situ* (742), in lateral (743), ventral (744) and dorsal (745) views.

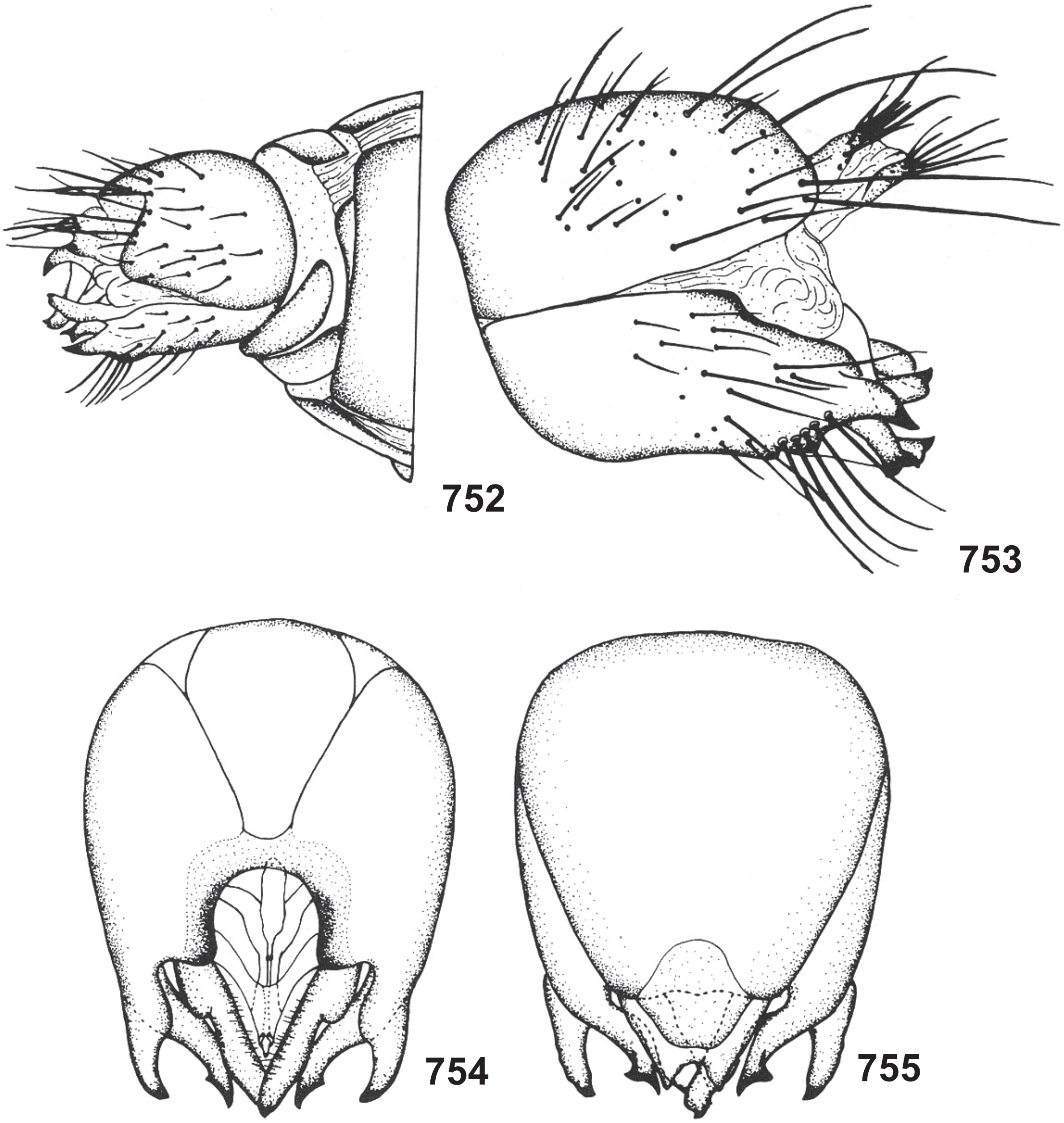


Figs. 746-747. *Smeryngolaphria gorayebi* Artigas, Papavero & Pimentel, 1988: 746, situation of spermathecae in the abdomen; 747, spermathecae.

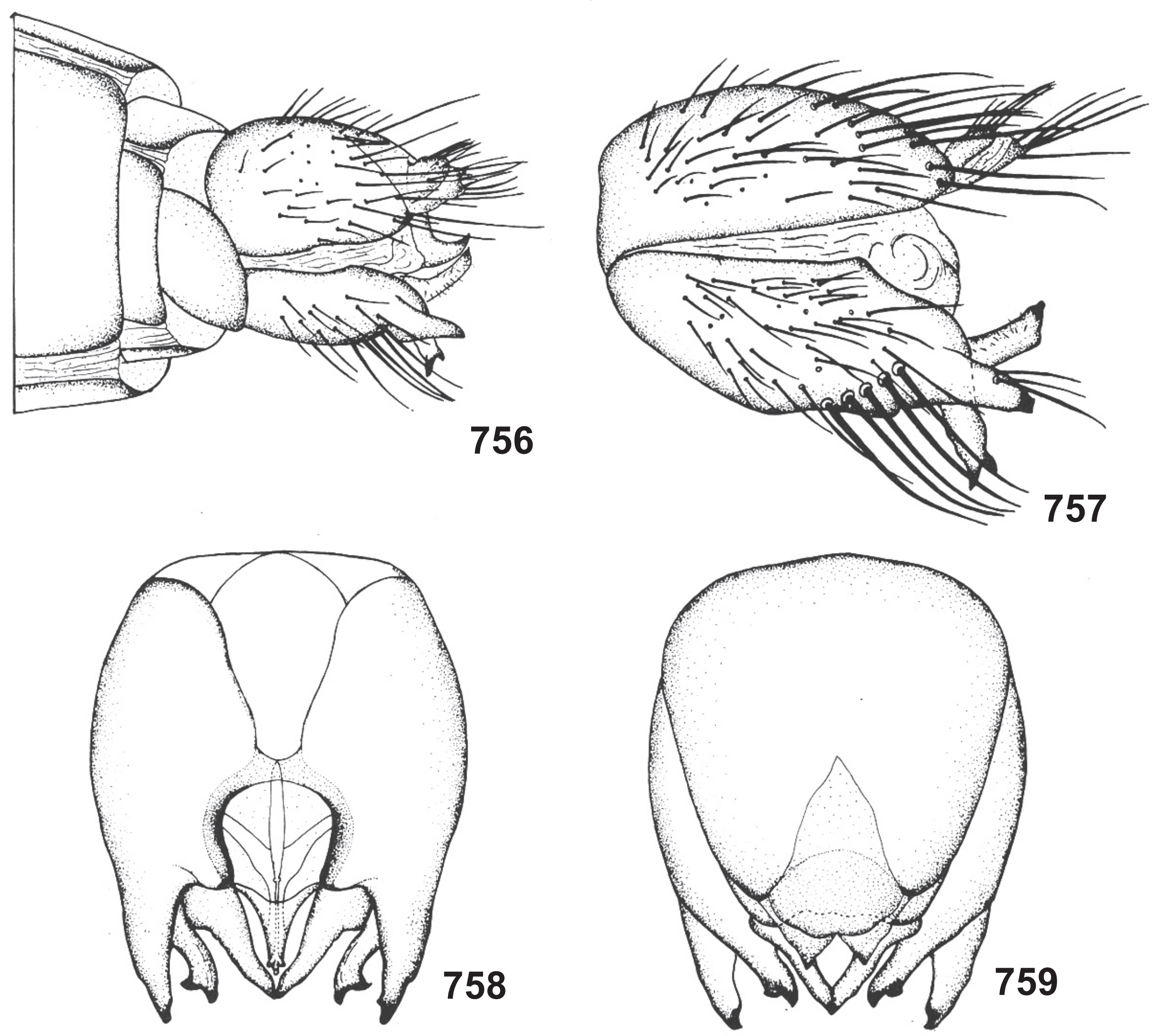


748 749 750 751

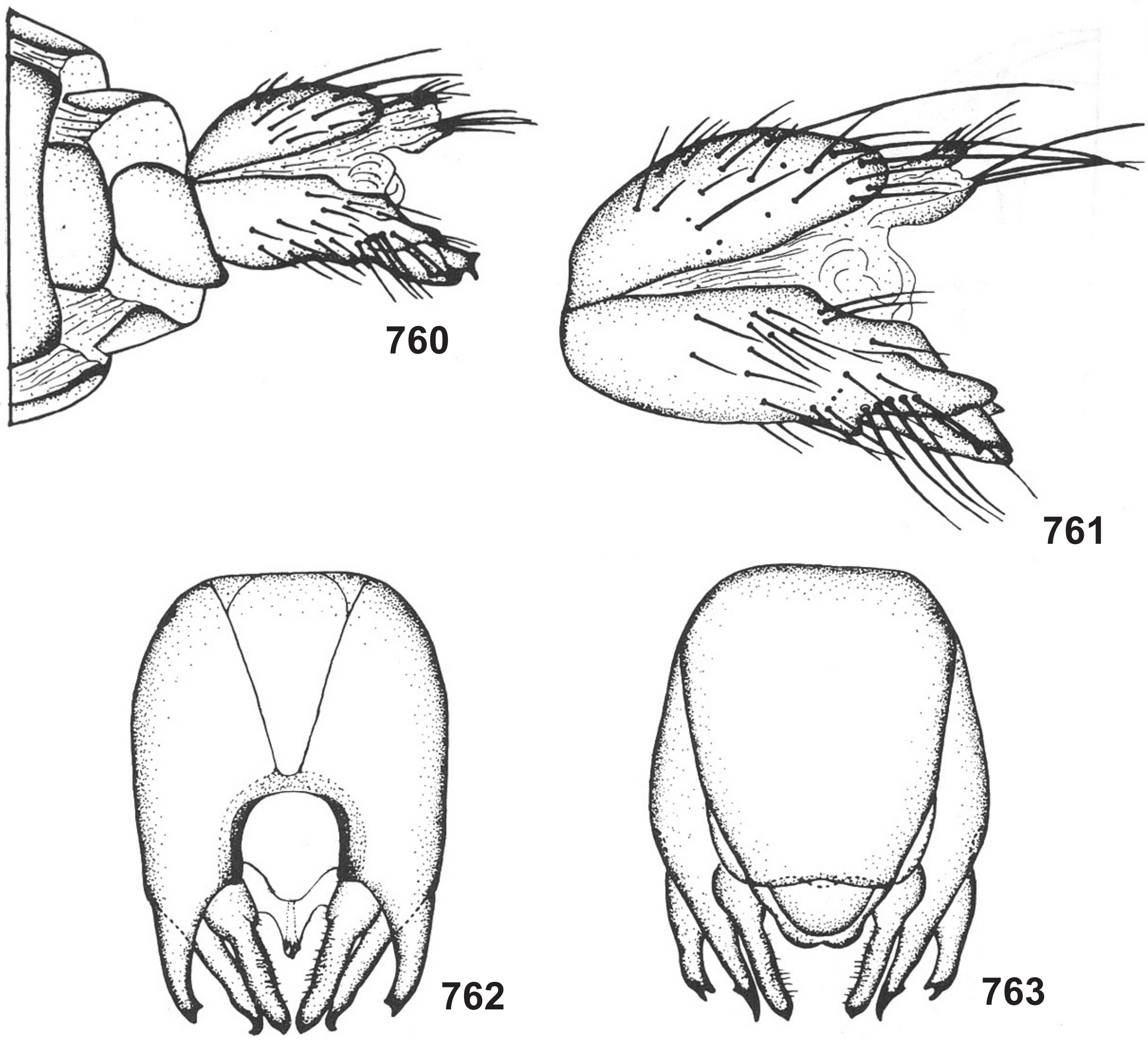
Figs. 748-751. *Smeryngolaphria maculipennis* (Macquart, 1846), male terminalia *in situ* (748), in lateral (749), ventral (750) and dorsal (751) views.



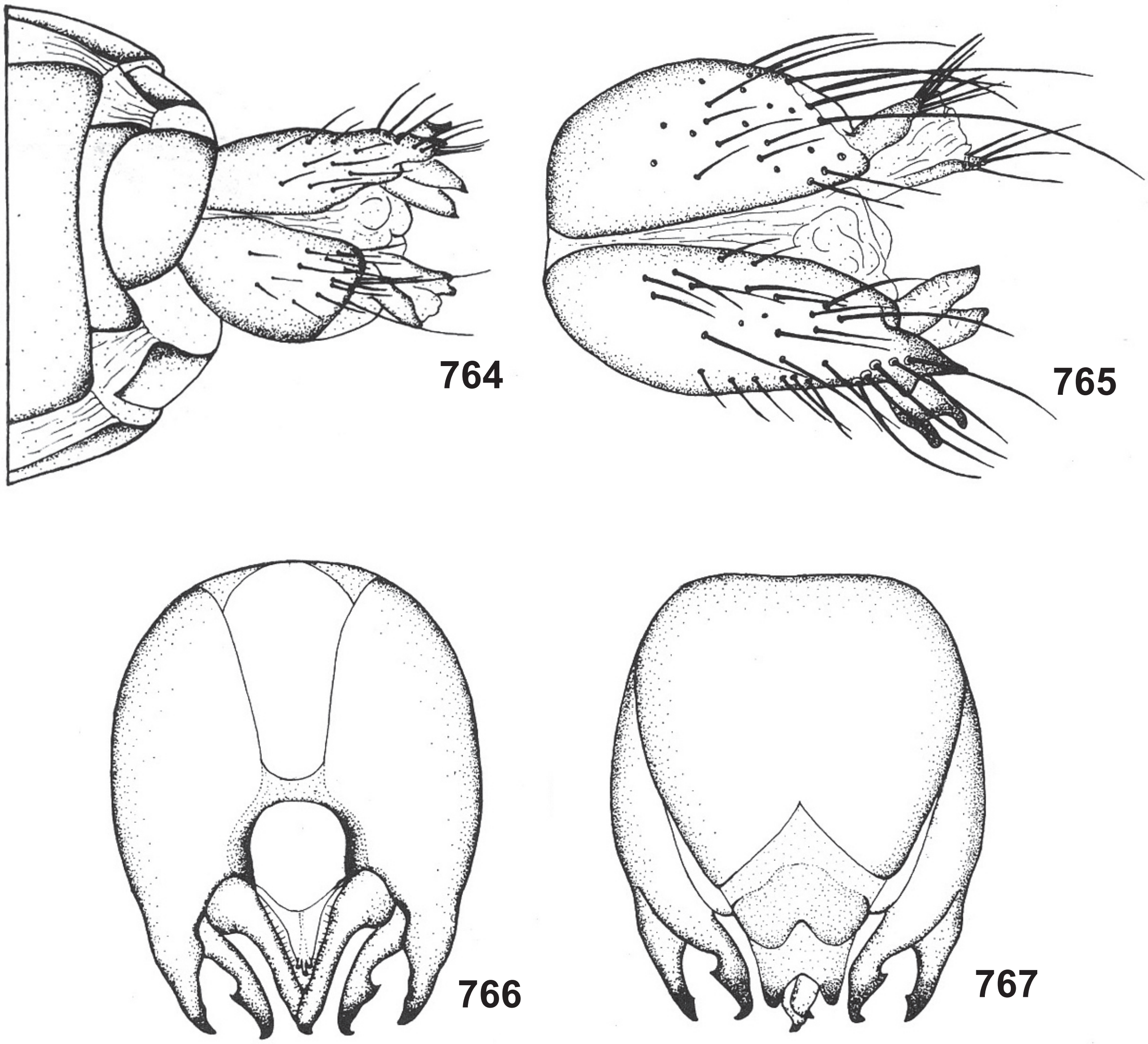
Figs. 752-755. *Smeryngolaphria melanura* (Wiedemann, 1828), male terminalia *in situ* (752), in lateral (753), ventral (754) and dorsal (755) views.



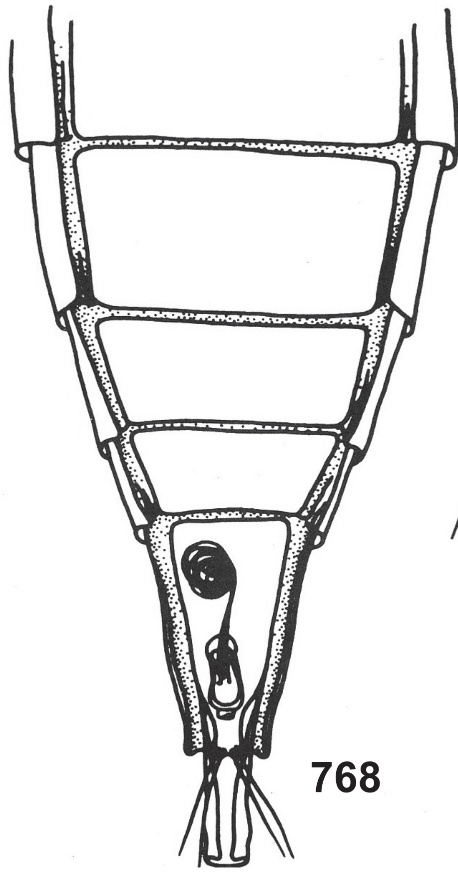
Figs. 756-759. *Smeryngolaphria numitor* (Osten Sacken, 1887), male terminalia *in situ* (756), in lateral (757), ventral (758) and dorsal (759) views.



Figs. 760-763. *Smeryngolaphria seabrai* Carrera, 1960, male terminalia *in situ*, in lateral (760), ventral (761), dorsal (762) and ventral (763) views.



Figs. 764-767. *Smeryngolaphria taperignae* Artigas, Papavero & Pimentel, 1988, male terminalia *in situ* (764), in lateral (765), ventral (766) and dorsal (767) views.



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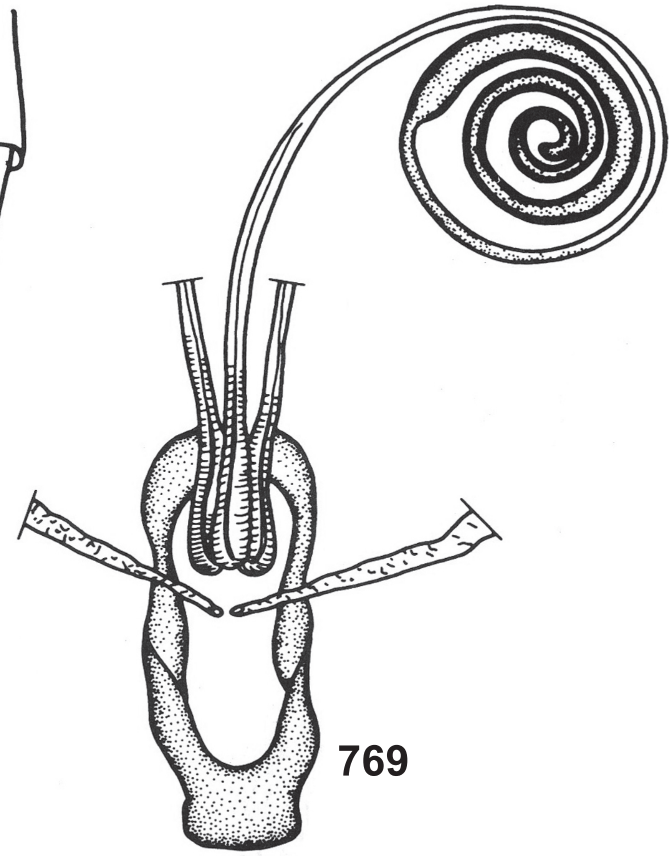

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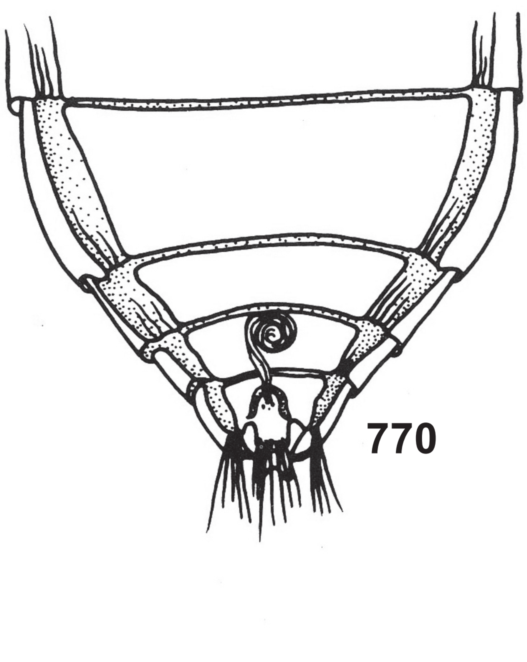

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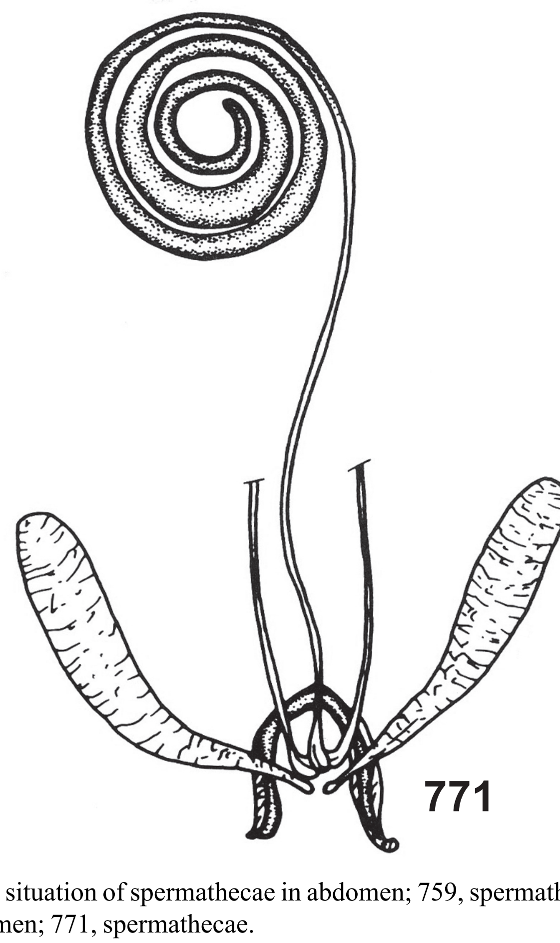

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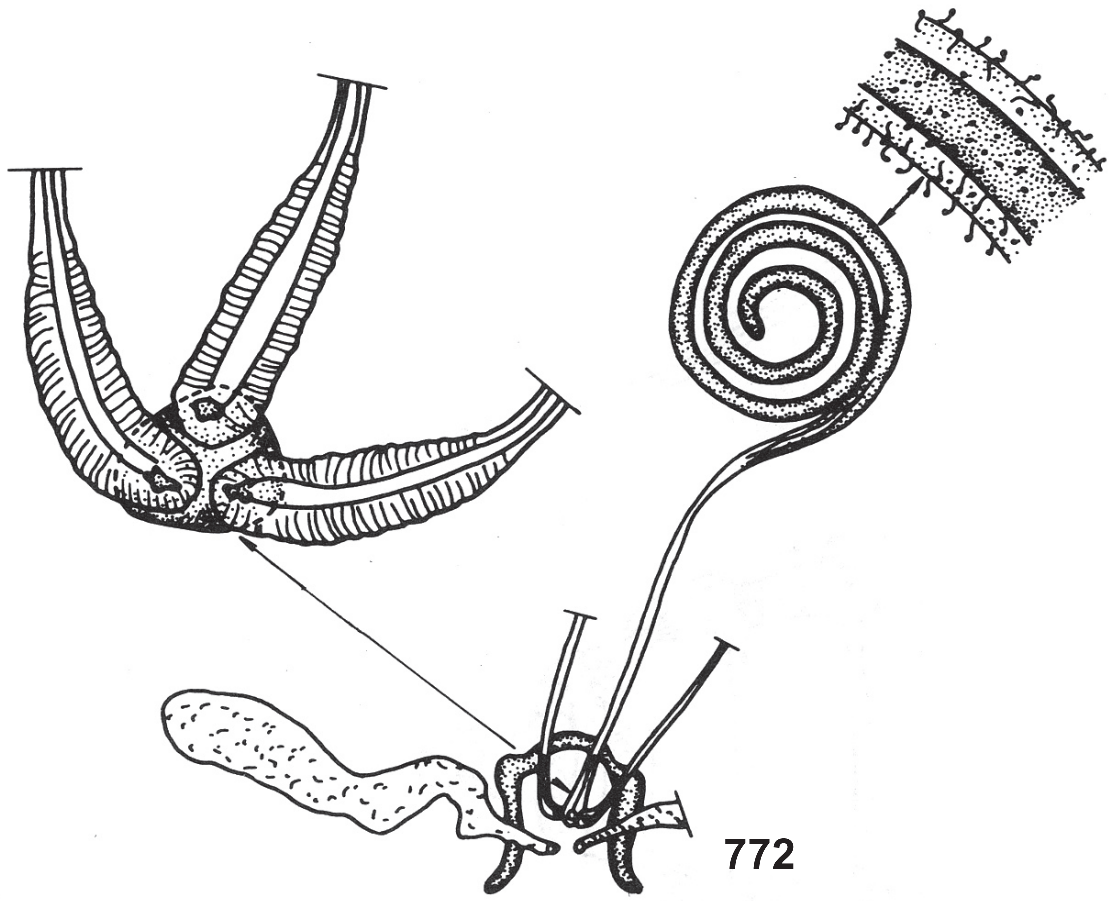
Figs. 768-769. *Neophoneus mustela* Hermann, 1912: 768, situation of spermathecae in abdomen; 759, spermathecae. 770-771. *Lampria sp.*: 770, situation of spermathecae in abdomen; 771, spermathecae.



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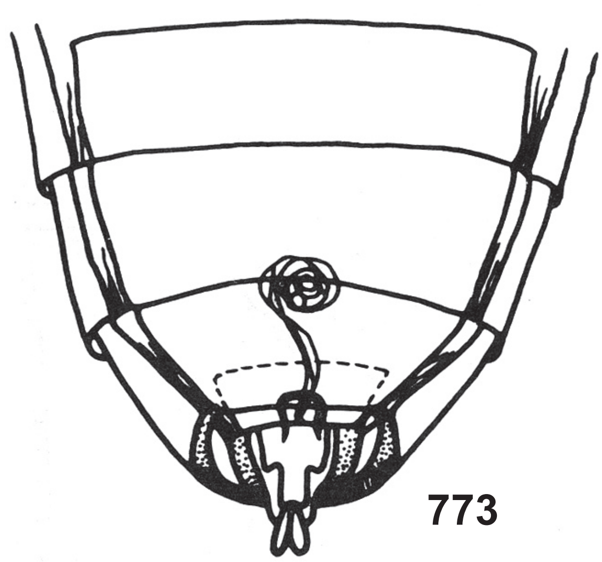

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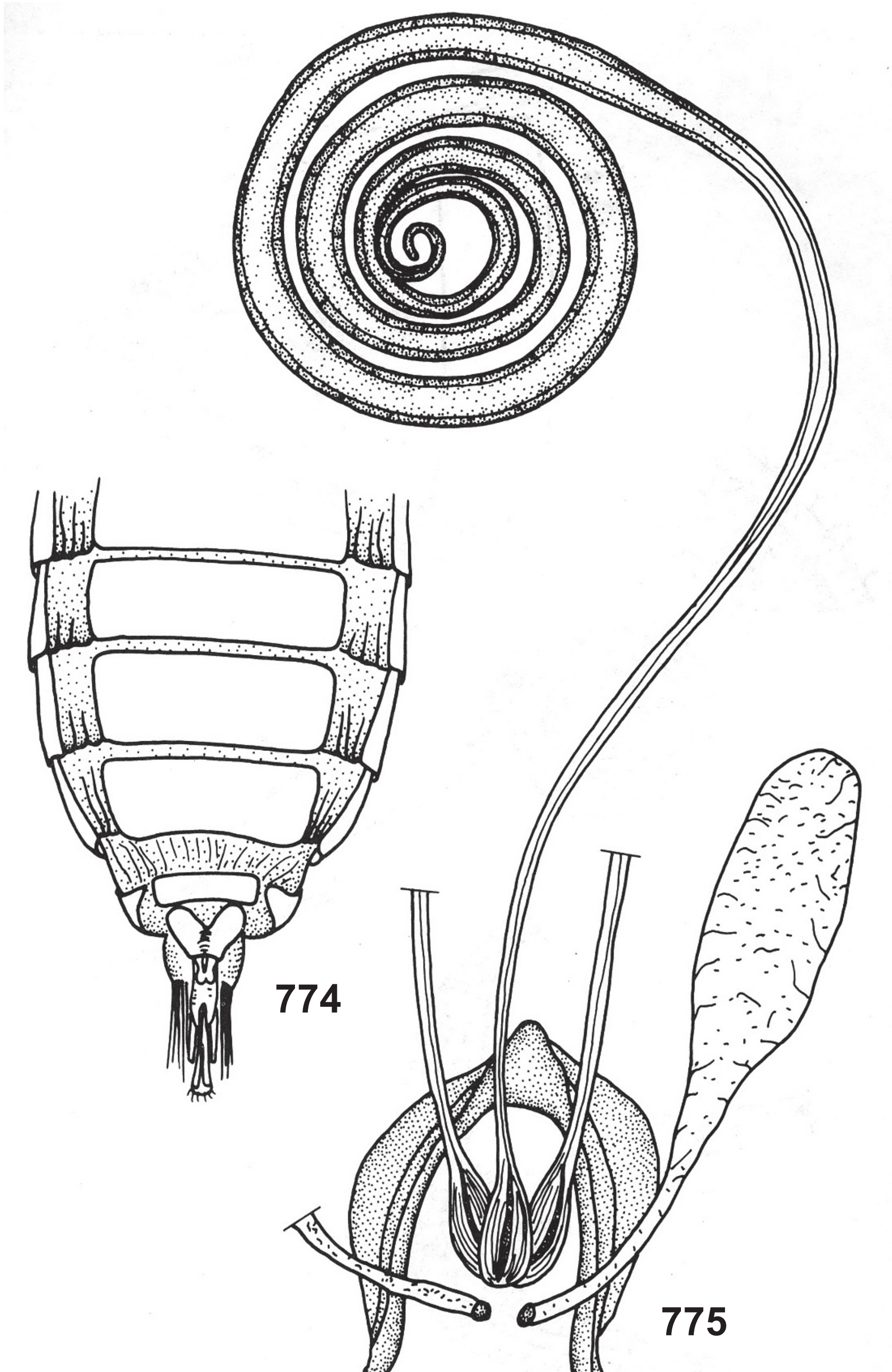
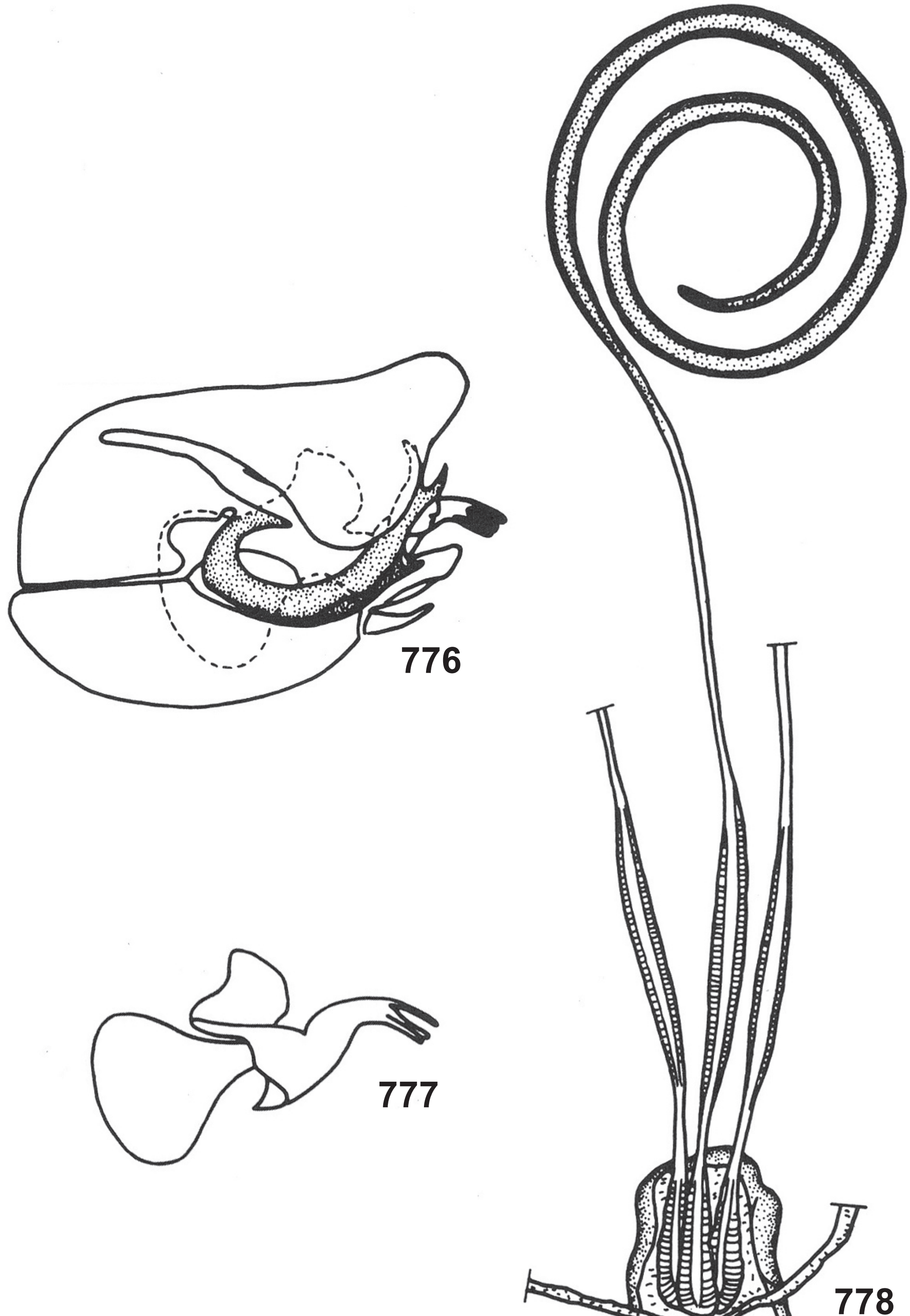
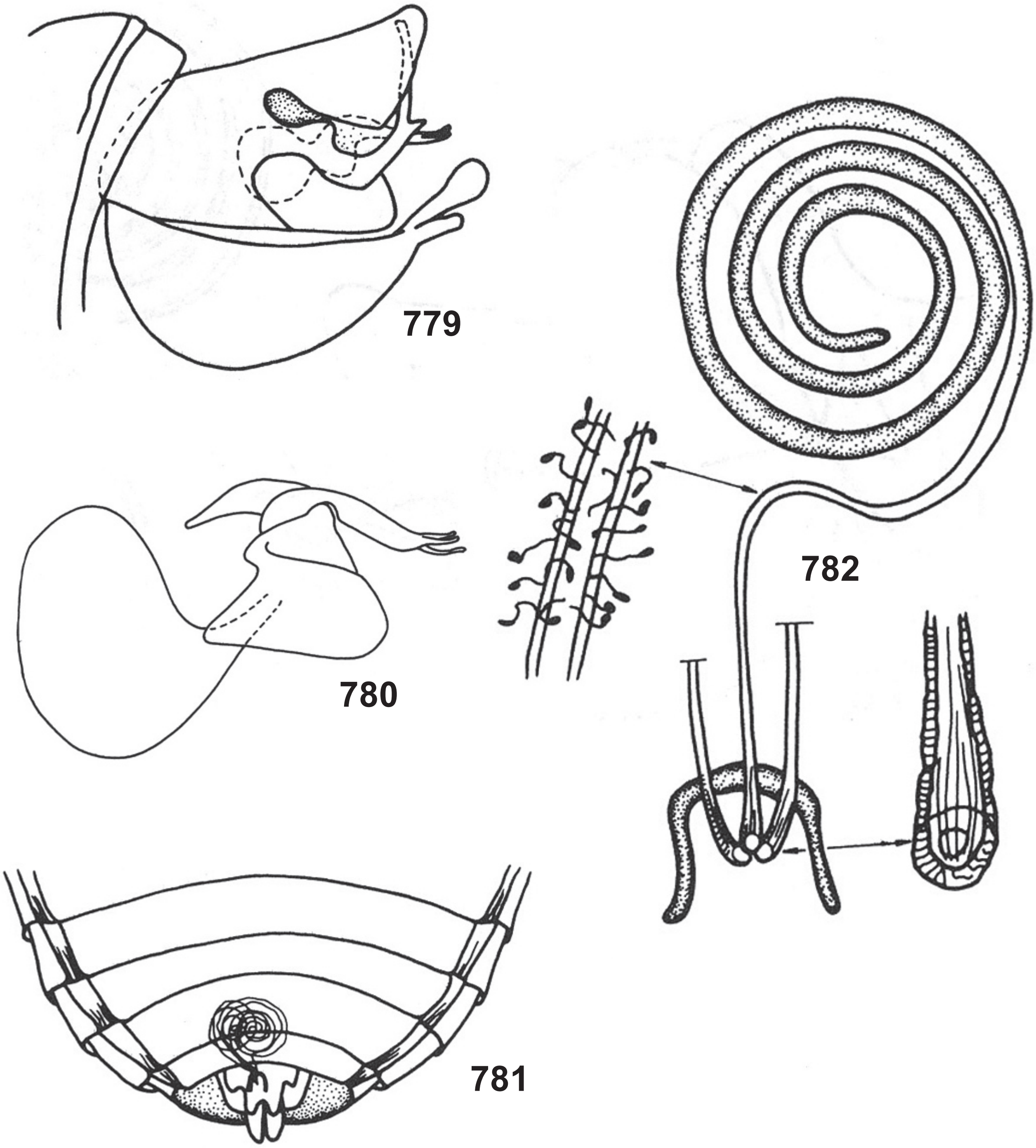
Figs. 772-773. *Brychomyia bicolor* (Wiedemann, 1828): 772, situation of spermathecae in the abdomen; 773, spermathecae.



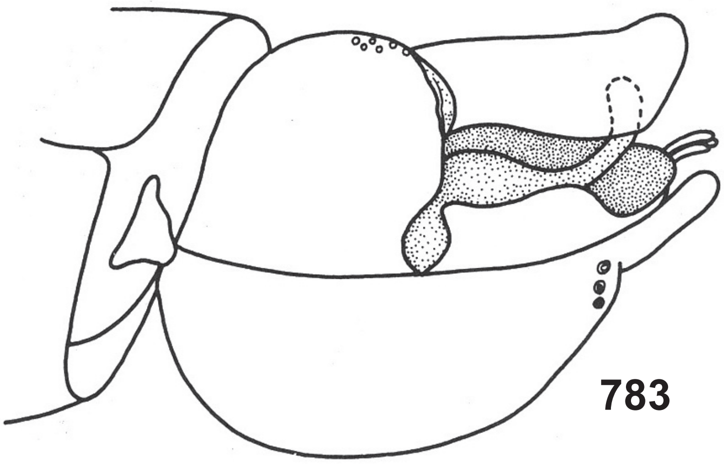
Figs. 774-775. *Joartigasia sp.*: 774, situation of spermathecae in the abdomen; 775, spermathecae.



Figs. 776-778. *Laphria flava* (Linnaeus, 1761): 776, male terminalia in lateral view; 777, aedeagus in lateral view; 778, spermathecae.



Figs. 779-782. *Laphria flavicollis* Say, 1824: 779, male terminalia in lateral view; 780, aedeagus in lateral view; 781, situation of spermathecae in the abdomen; 782, spermathecae.



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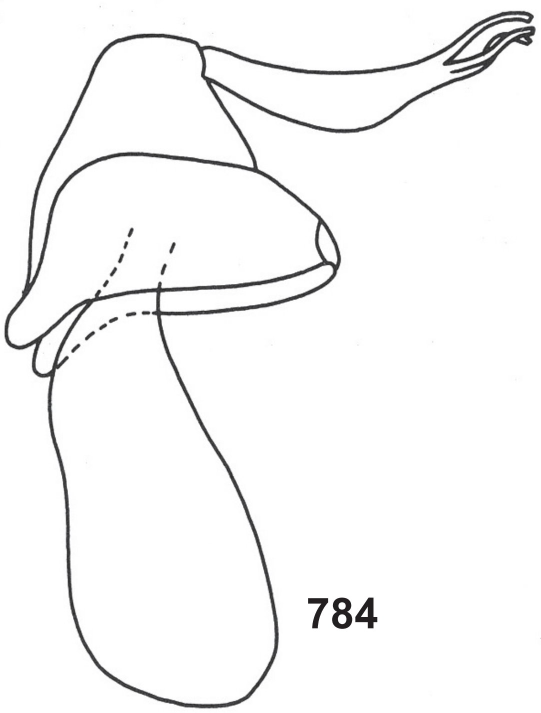

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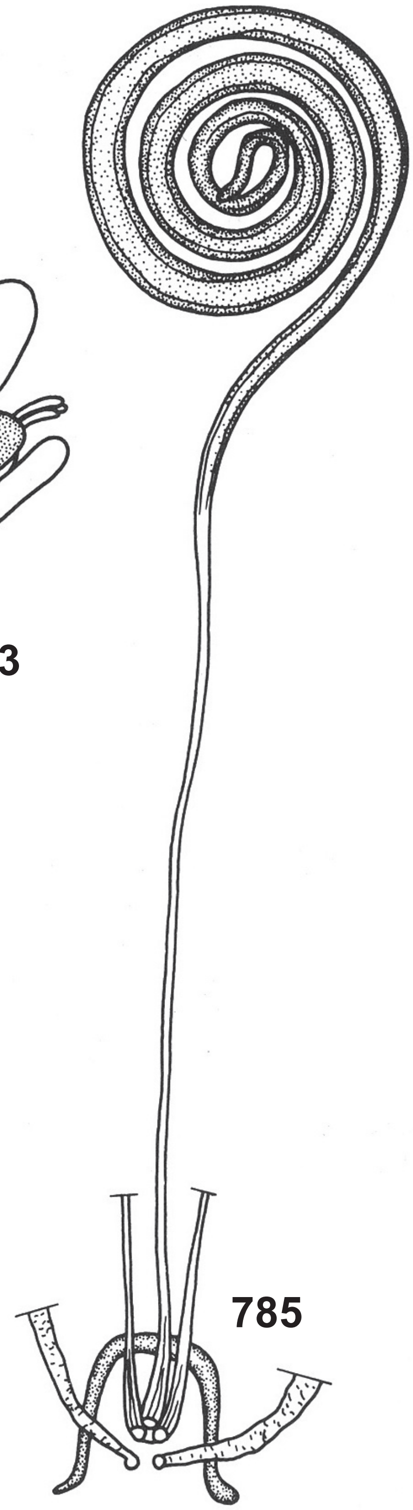

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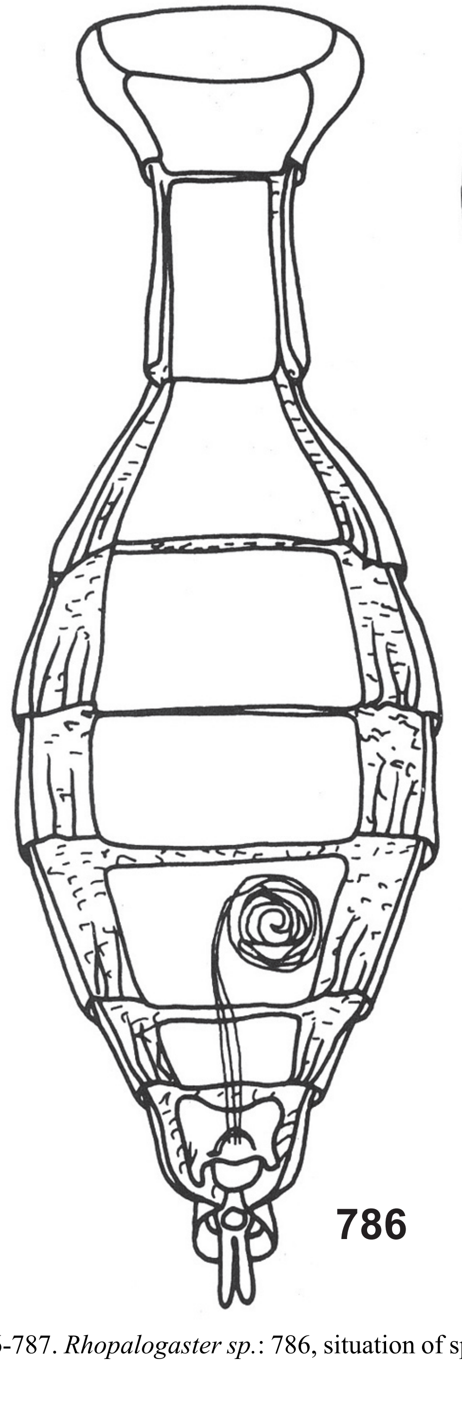
Figs. 783-785. *Choerades ignea* (Meigen, 1820): 783, male terminalia in lateral view; 784, aedeagus in lateral view; 785, spermathecae.



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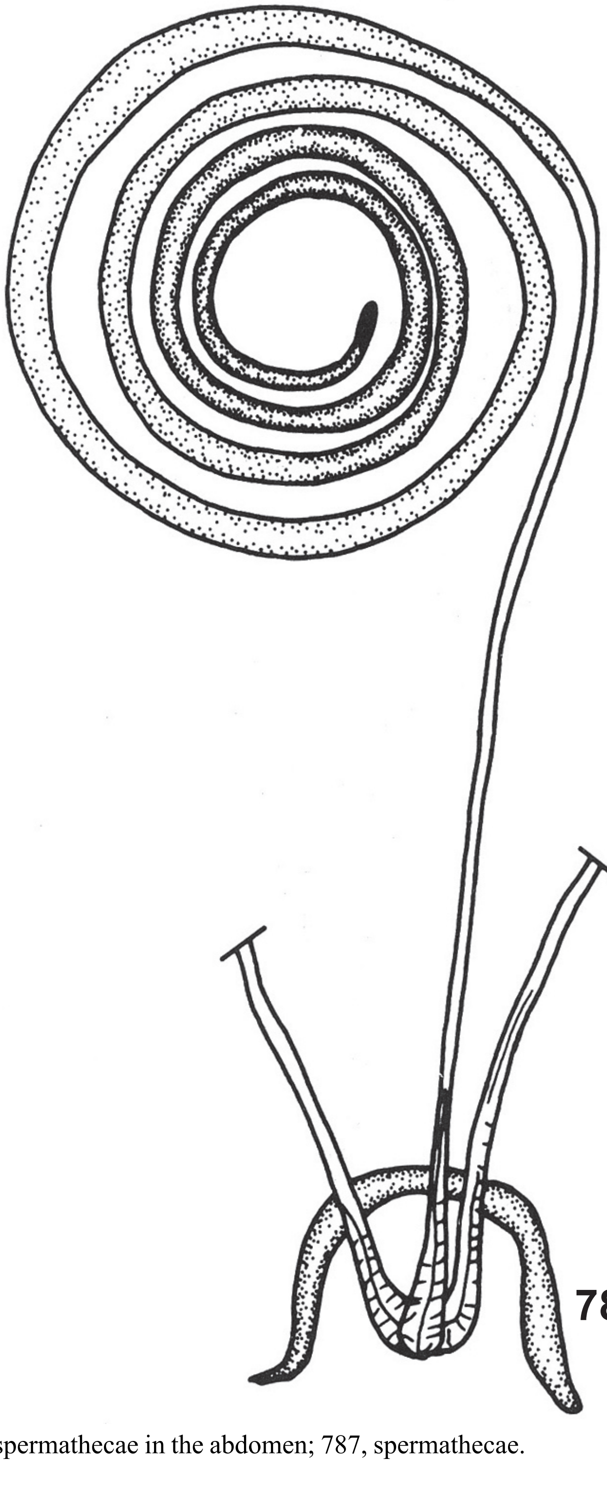

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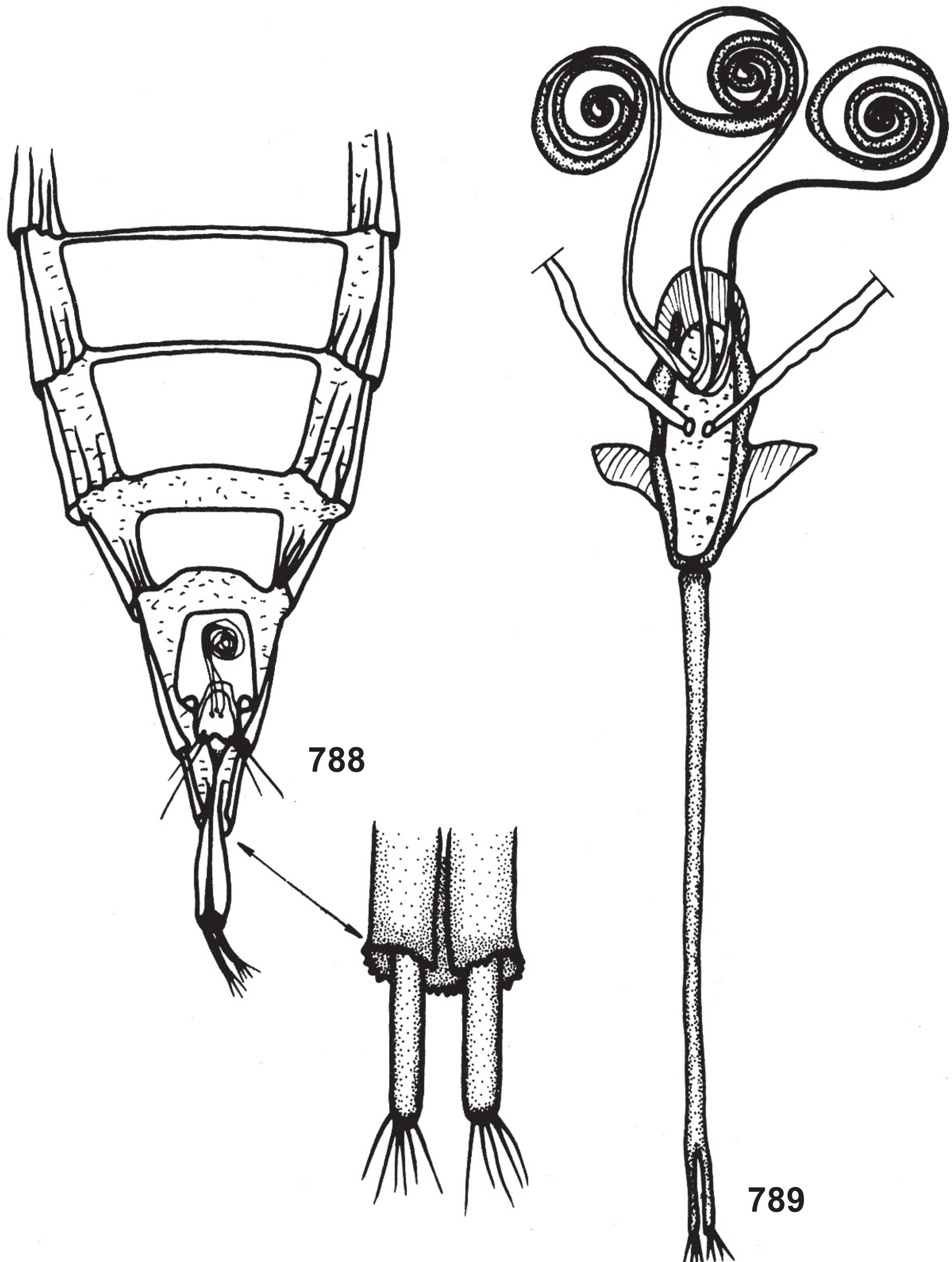
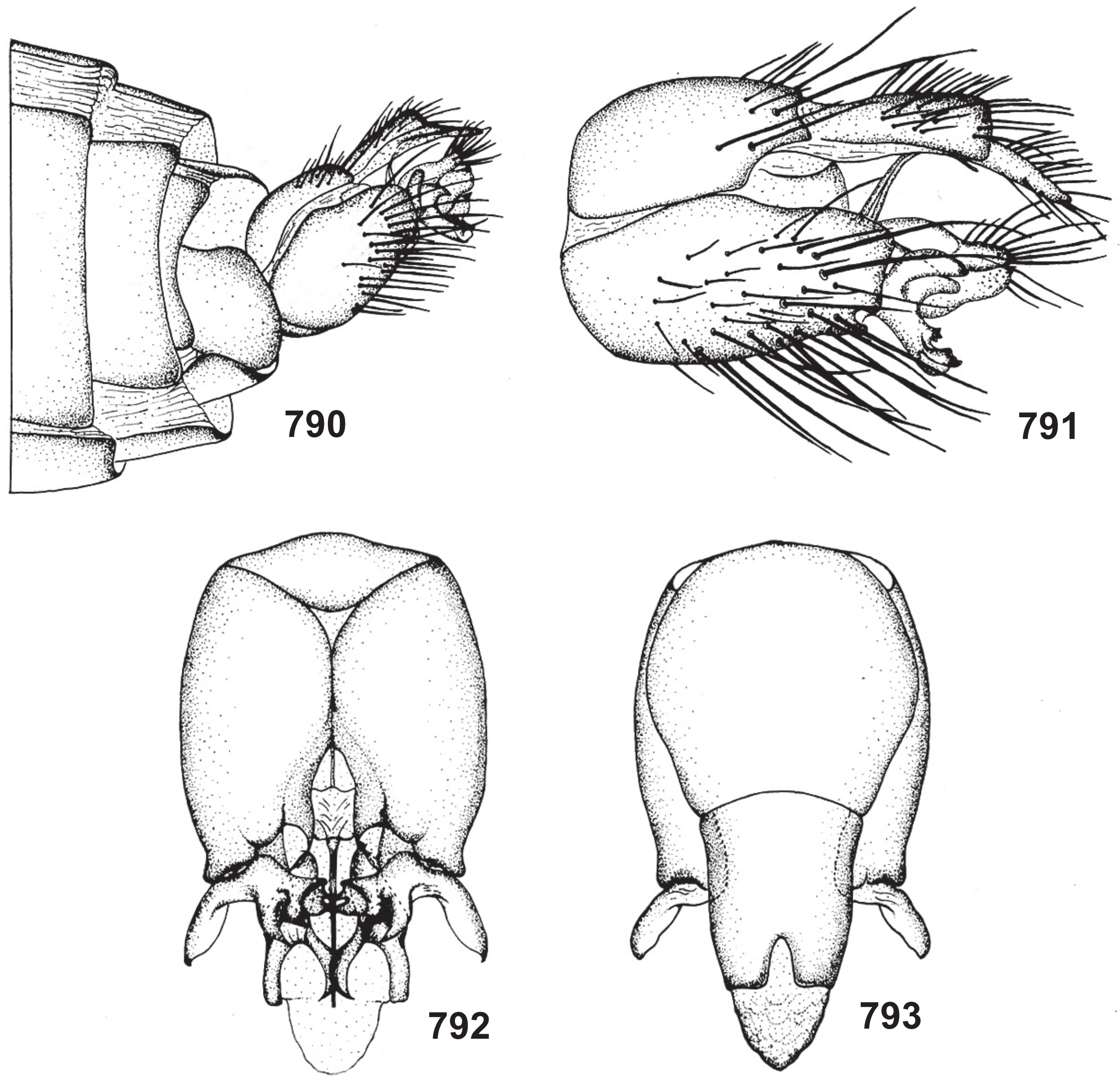
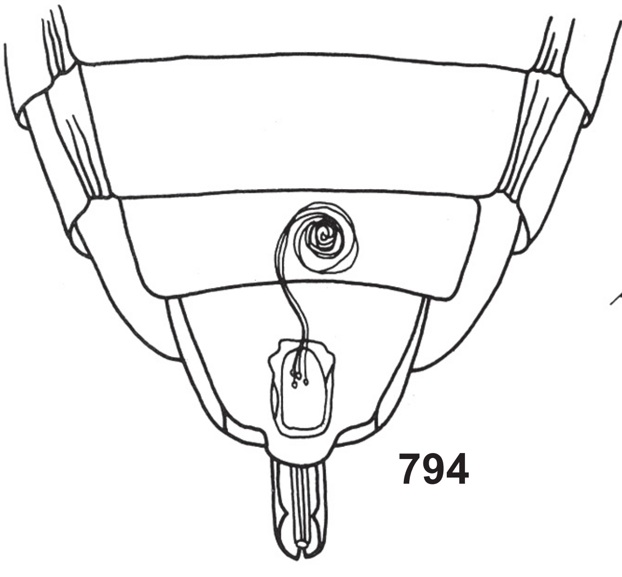
Figs. 786-787. *Rhopalogaster sp.*: 786, situation of spermathecae in the abdomen; 787, spermathecae.



Figs. 788-789. *Pilica erythrogaster* (Wiedemann, 1828): 788, situation of spermathecae in the abdomen; 789, spermathecae.



Figs. 790-793. *Pilica zanutoi* Artigas, Papavero & Pimentel, 1998, male genitalia *in situ* (790), in lateral (791), ventral (792) and dorsal (793) views.



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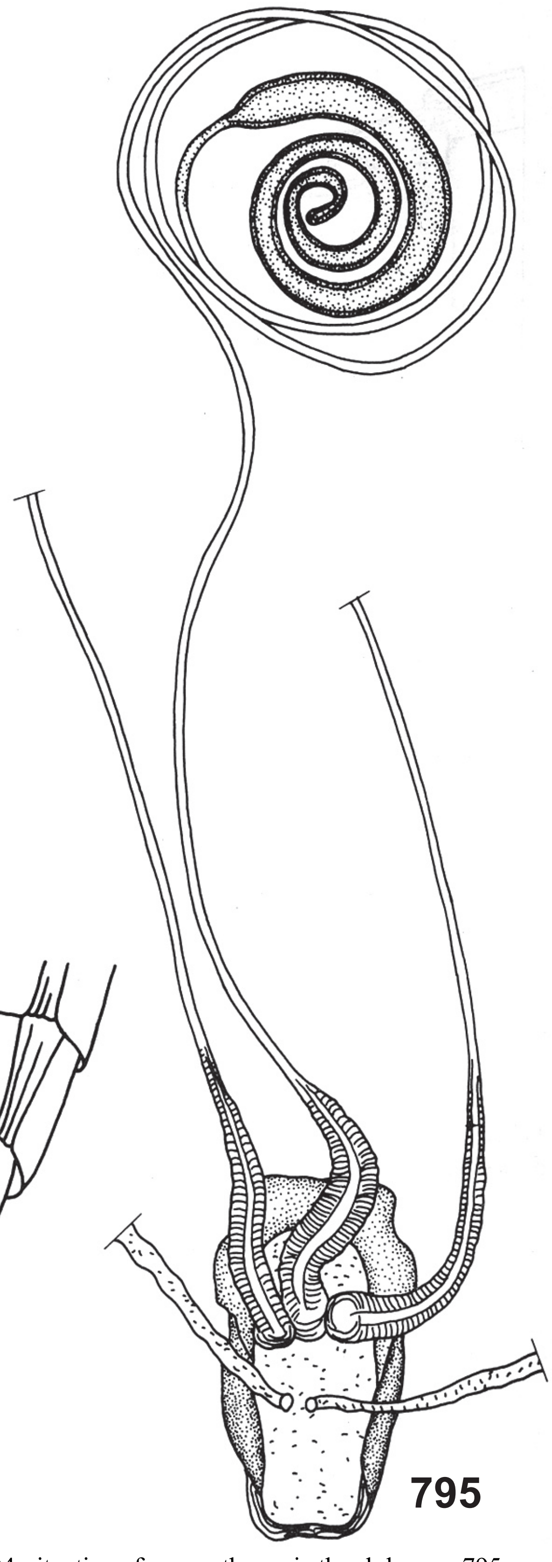

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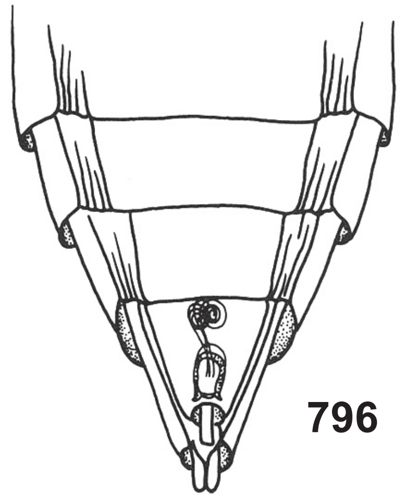
Figs. 794-795. *Dasyllis croceiventris* (Wiedemann, 1821): 794, situation of spermathecae in the abdomen; 795, spermathecae.



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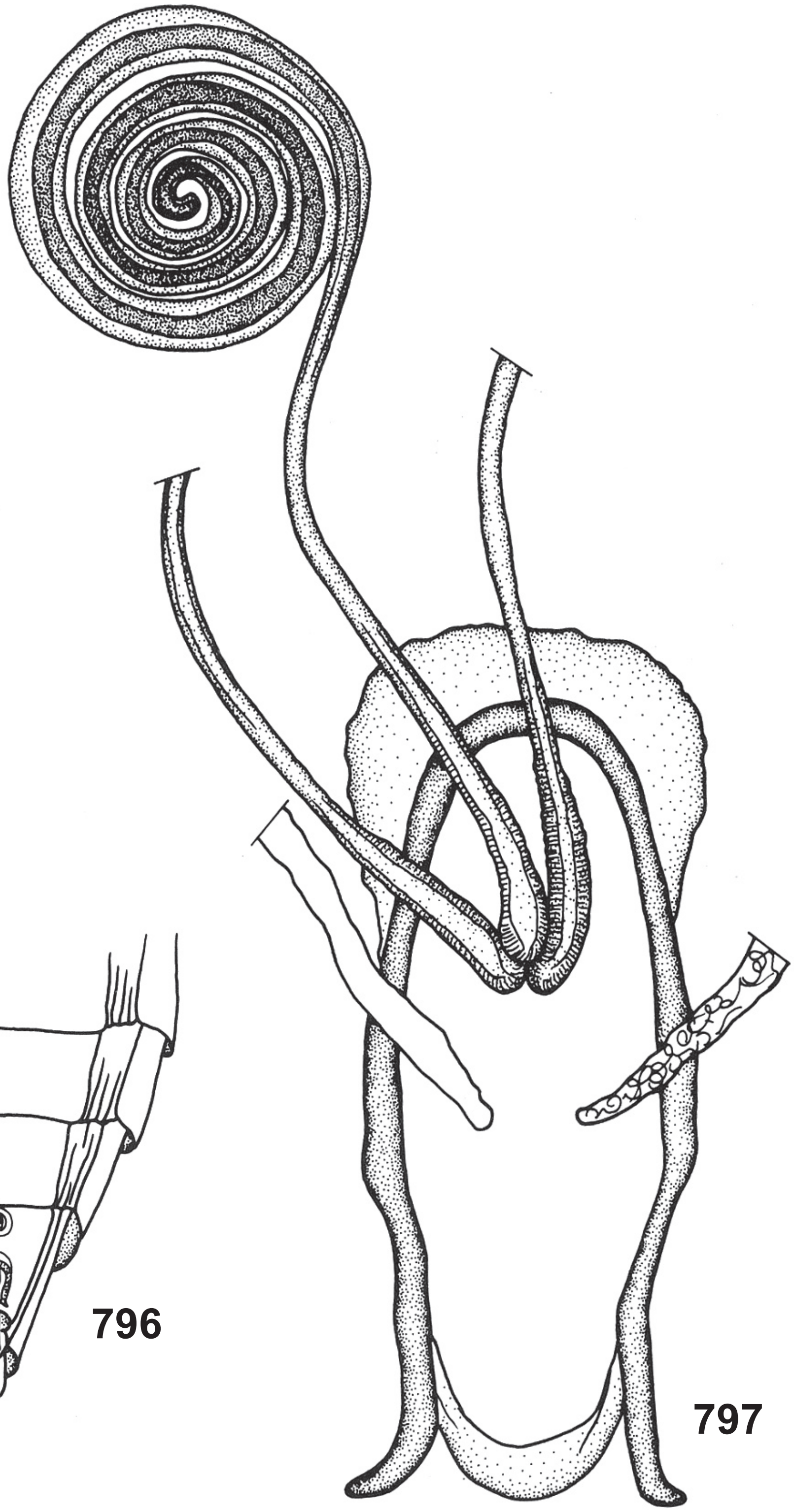

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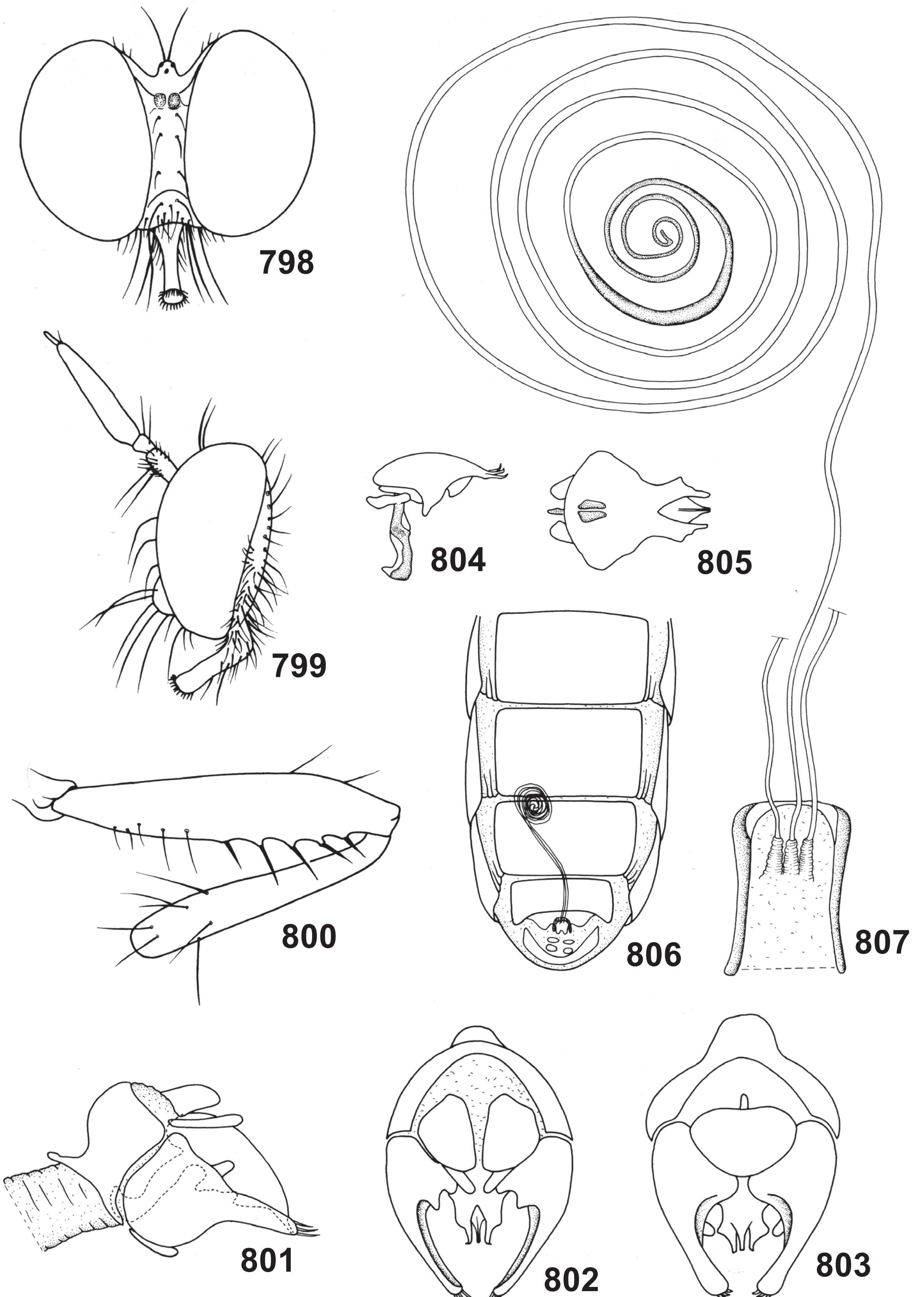
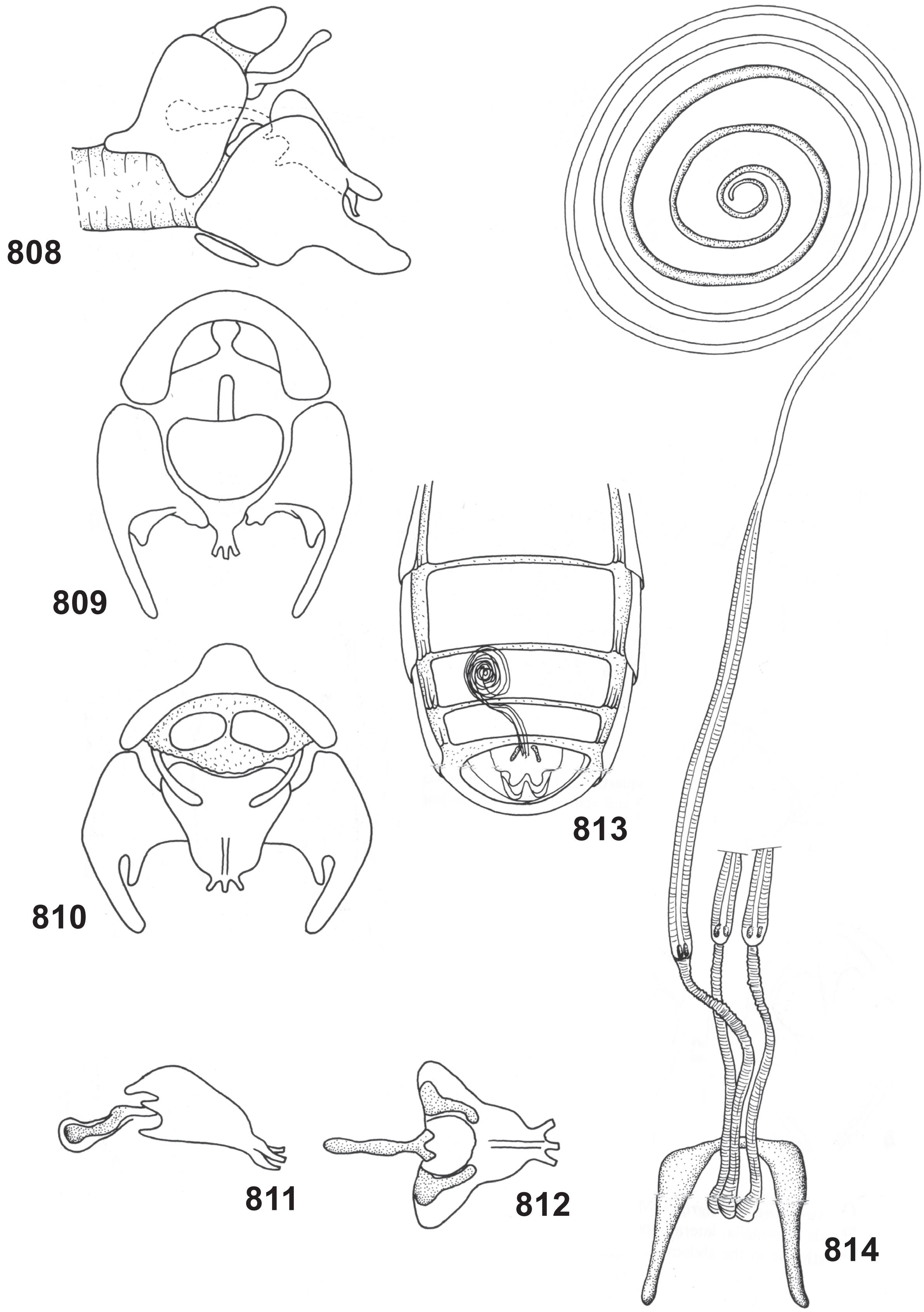
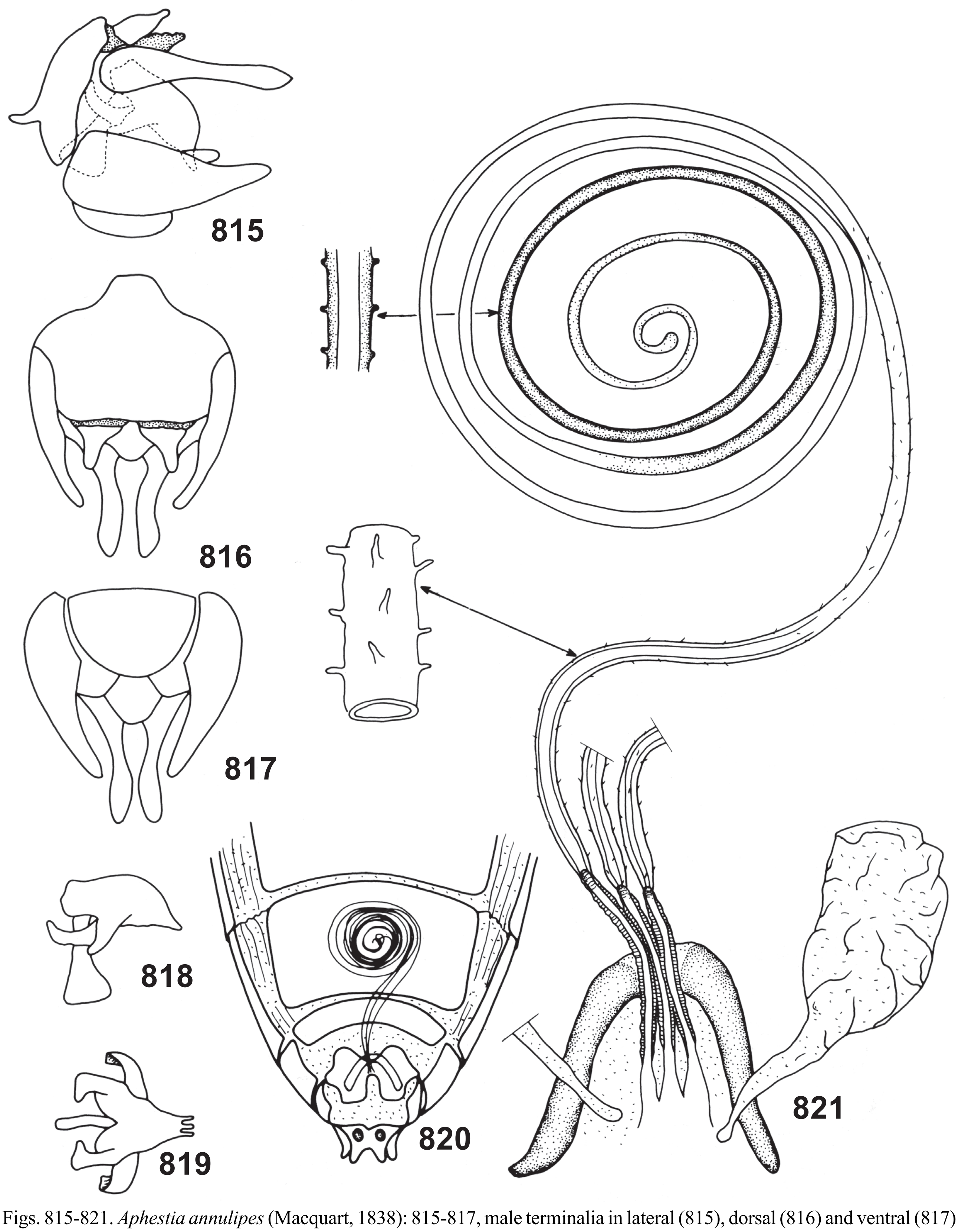
Figs. 796-797. *Andrenosoma xanthocnema* (Wiedemann, 1828): 796, situation of spermathecae in the abdomen; 797, spermathecae.



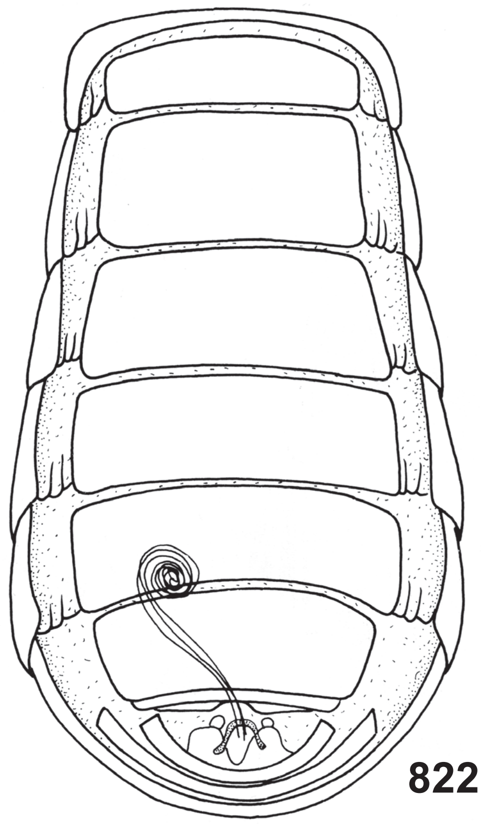
Figs. 798-807. *Dissmeryngodes nigripes* (Macquart, 1838): 798-799, head in frontal (798) and lateral (994) views; 800, hind femur and tibia, lateral view; 801-803, male terminalia in lateral (801), ventral (802) and dorsal (803) views; 804-805, aedeagus in lateral (804) and dorsal (805) views; 806, situation of spermathecae in the abdomen; 807, spermathecae.



Figs. 808-814. *Dissmeryngodes anticus* (Wiedemann, 1828): 808-810, male terminalia in lateral (808), ventral (809) and dorsal (810) views; 811-812, aedeagus in lateral (811) and dorsal (812) views; 813, situation of spermathecae in the abdomen; 814, spermathecae.



Figs. 815-821. *Aphestia annulipes* (Macquart, 1838): 815-817, male terminalia in lateral (815), dorsal (816) and ventral (817) views; 818-819, aedeagus in lateral (818) and dorsal (819) views; 820, situation of spermathecae in the abdomen; 821, spermathecae.



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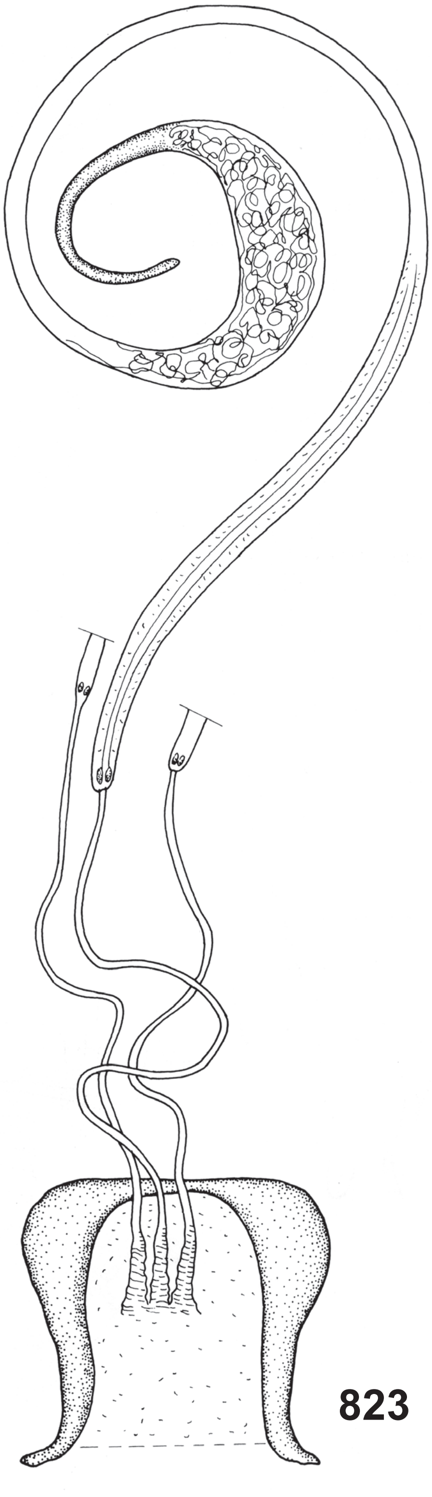

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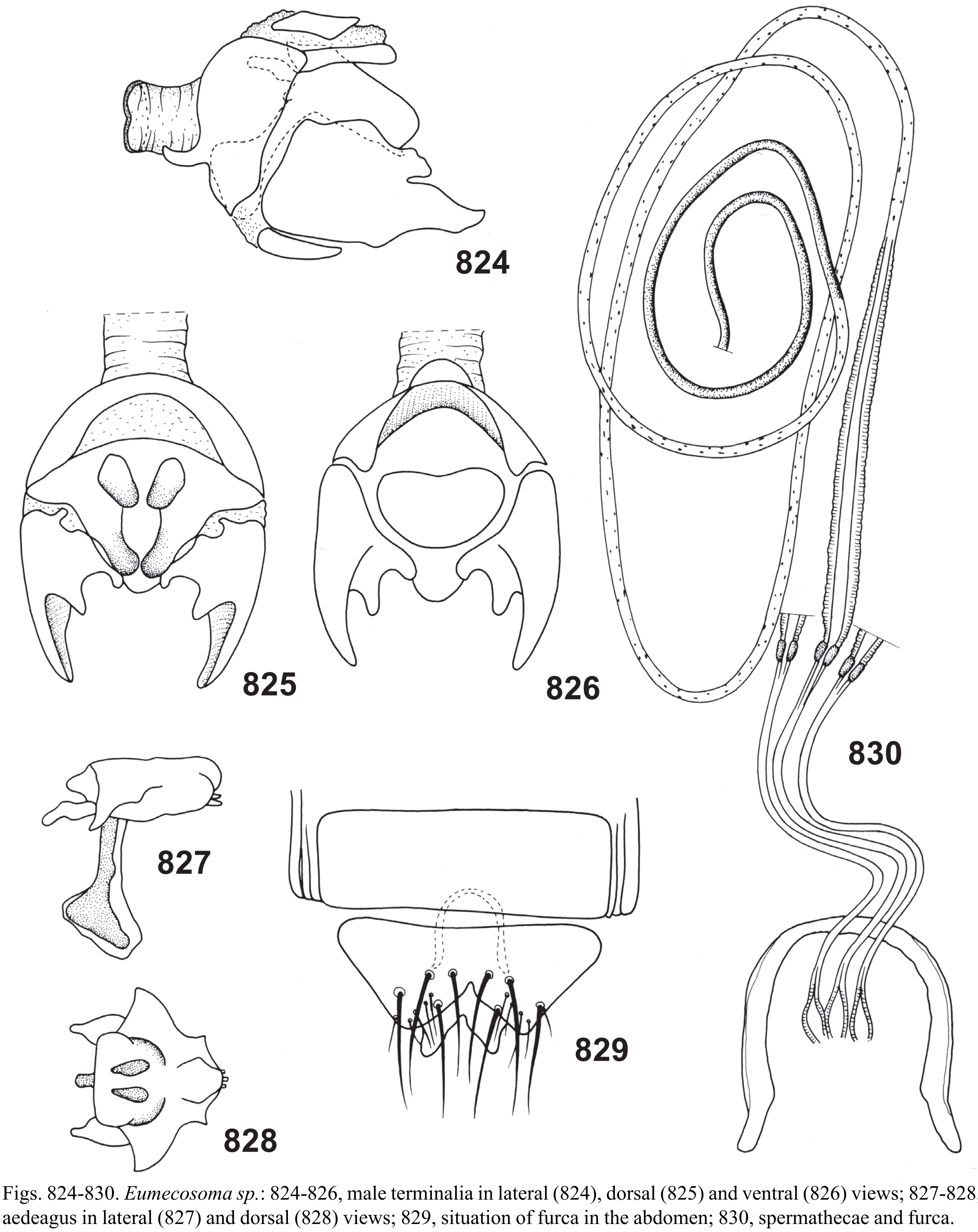
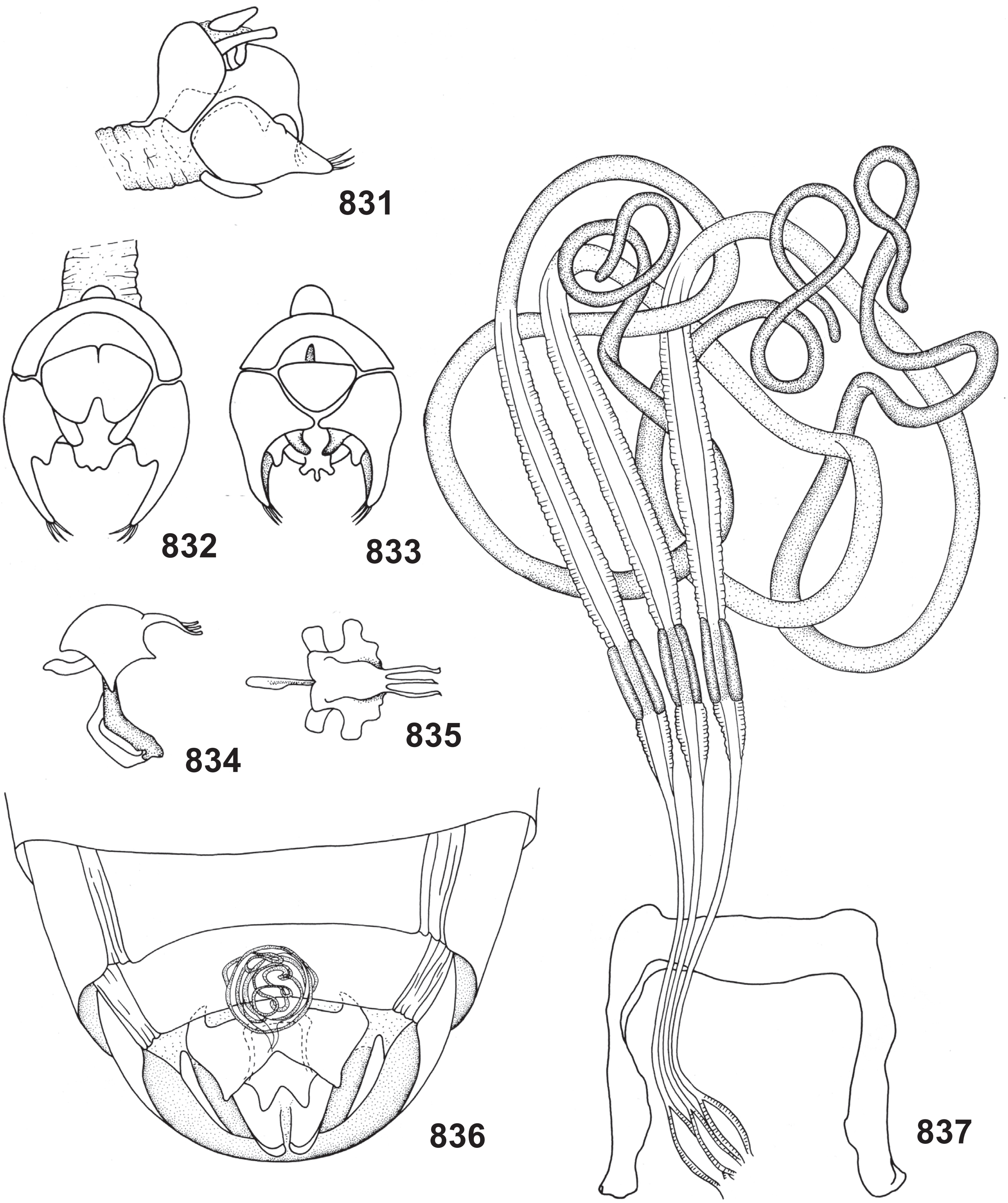
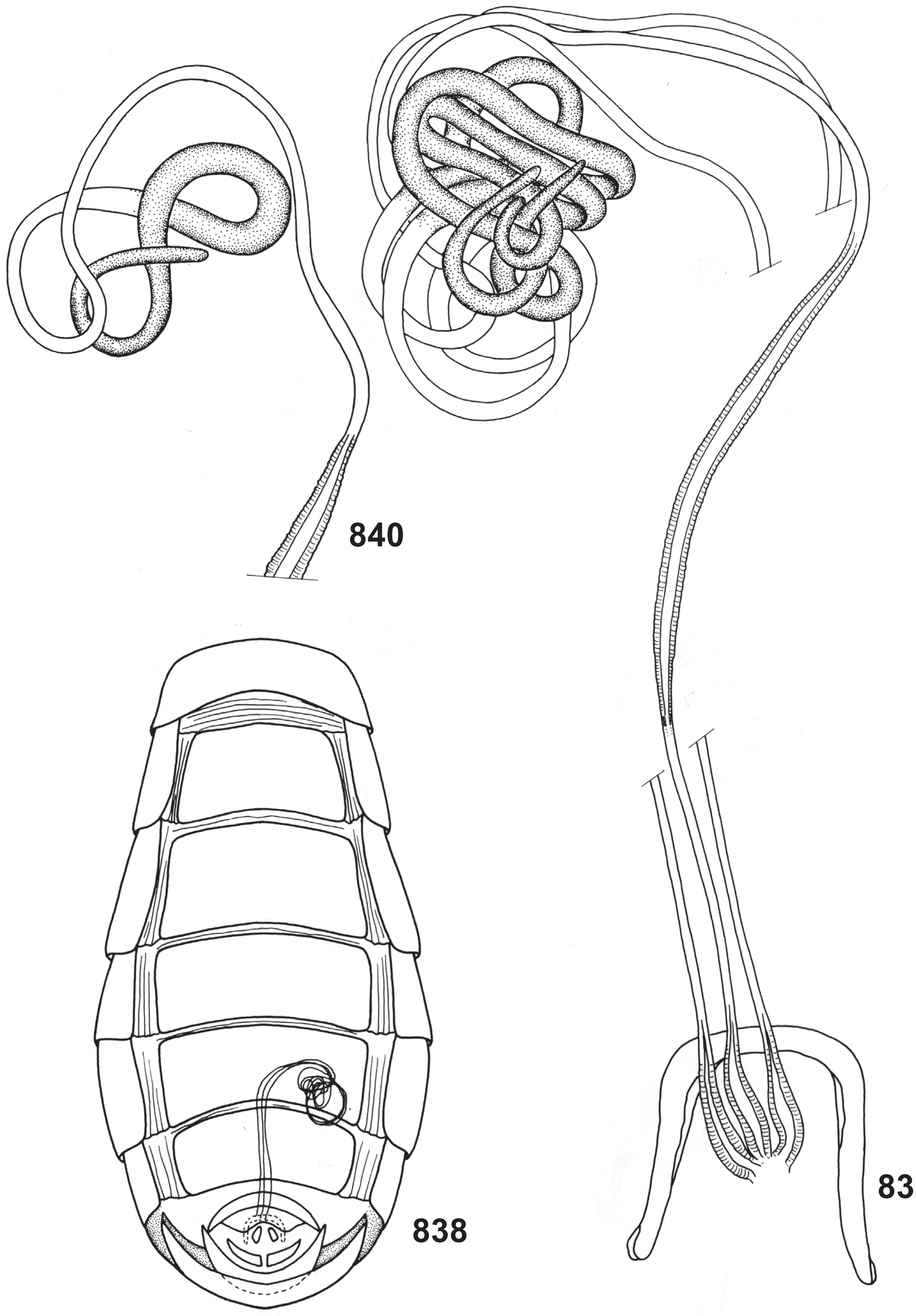
Figs. 822-823. *Lamprozona auricincta* (Loew, 1851): 822, situation of spermathecae in the abdomen; 823, spermathecae.



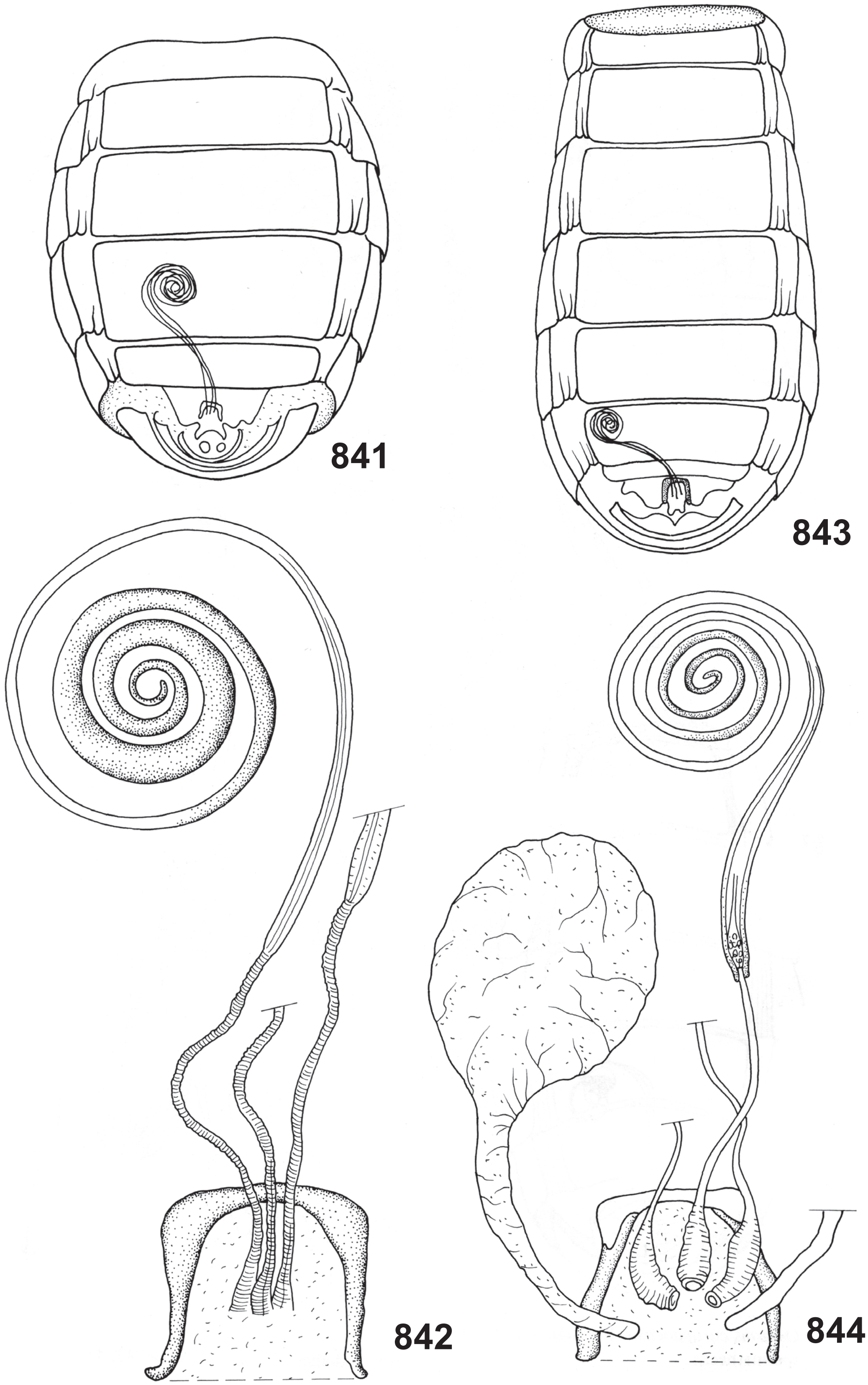
Figs. 824-830. *Eumecosoma sp.*: 824-826, male terminalia in lateral (824), dorsal (825) and ventral (826) views; 827-828, aedeagus in lateral (827) and dorsal (828) views; 829, situation of furca in the abdomen; 830, spermathecae and furca.



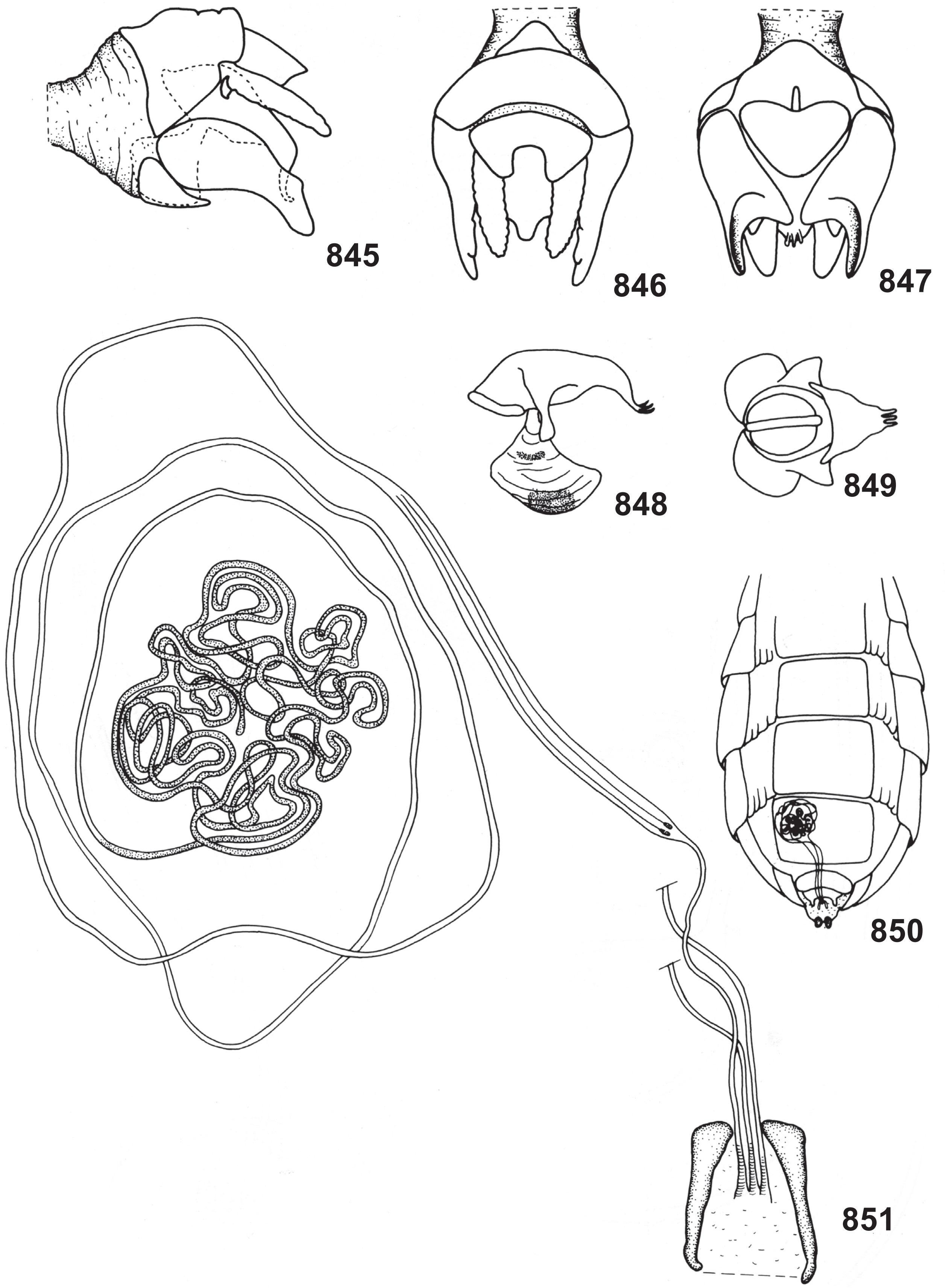
Figs. 831-837. *Oidardis sp.*: 831-833, male terminalia in lateral (831), dorsal (832) and ventral (833) views; 834-835, aedeagus in lateral (834) and dorsal (835) views; 836, situation of furca and spermathecae in the abdomen; 837, spermathecae.



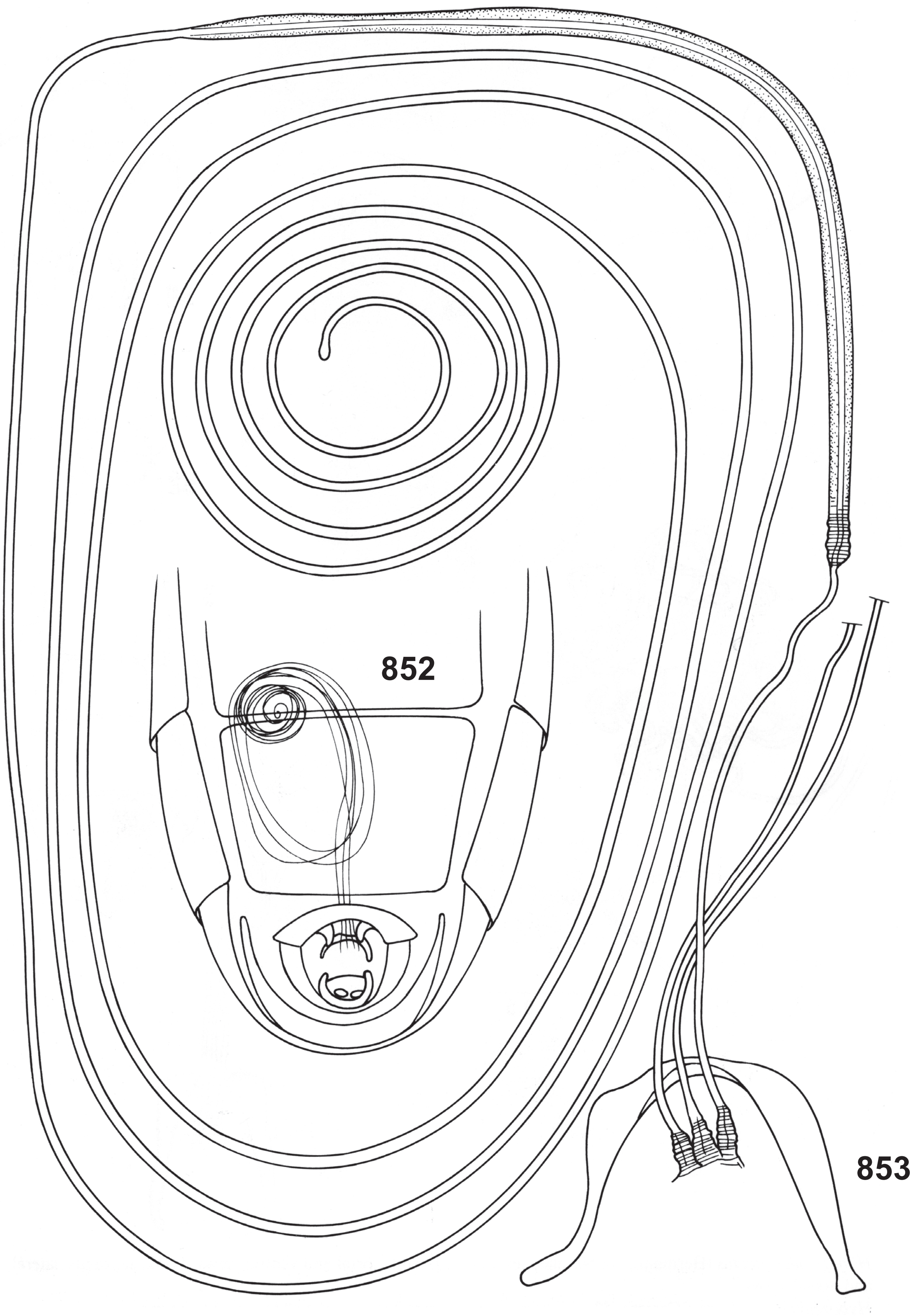
Figs. 838-840. *Oidardis curupaoensis* (Kaletta, 1978): 838, situation of furca and spermathecae in the abdomen; 839, furca and spermathecae; 840, detail of spermatheca.



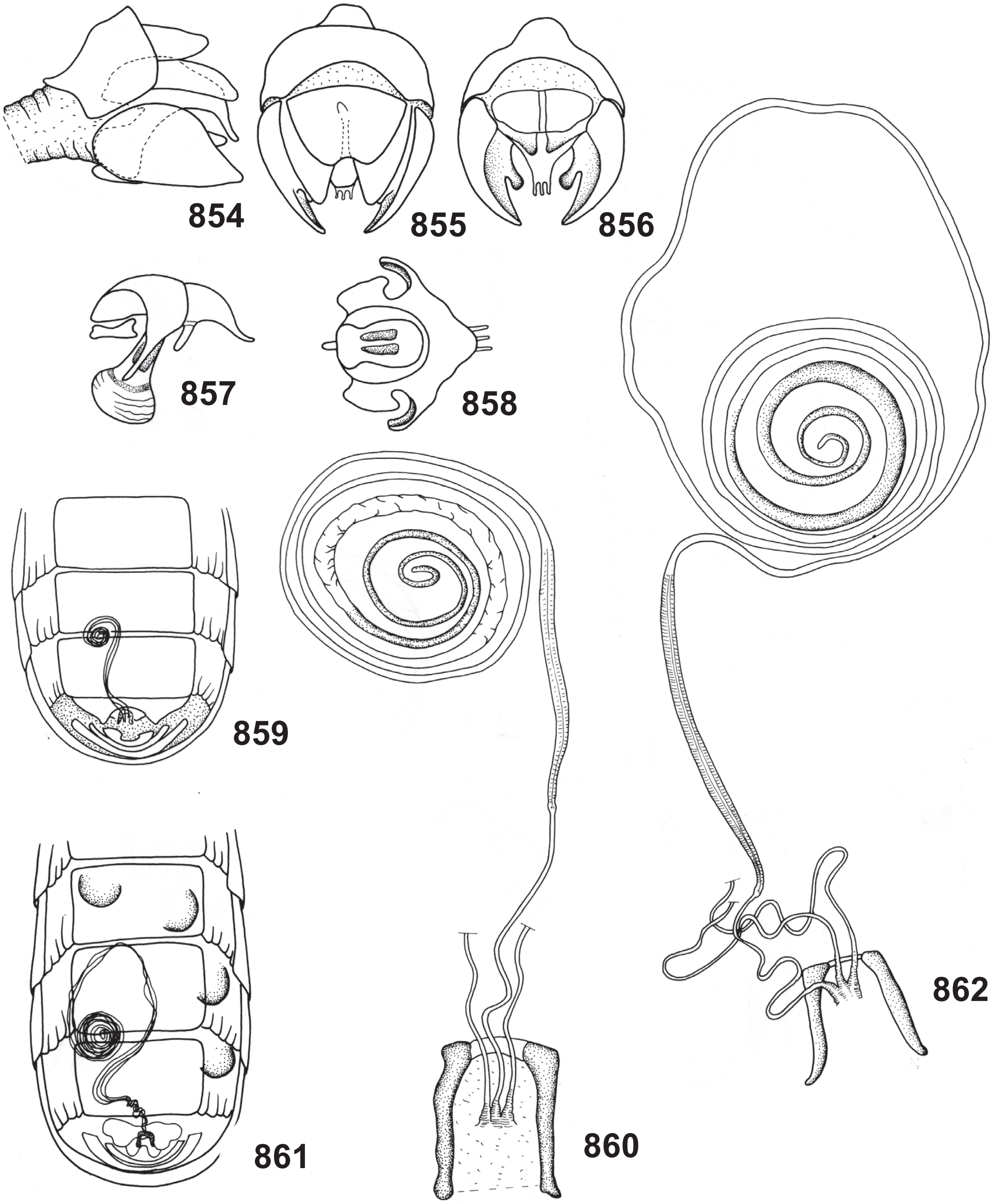
Figs. 841-842. *Oidardis gibba* (Curran, 1930): 841, situation of furca and spermathecae in the abdomen; 842, furca and spermahecae. Figs. 843-844. *Oidardis triangularis* (Hermann, 1921): 118, situation of furca and spermathecae in the abdomen; 119, furca and spermathecae.



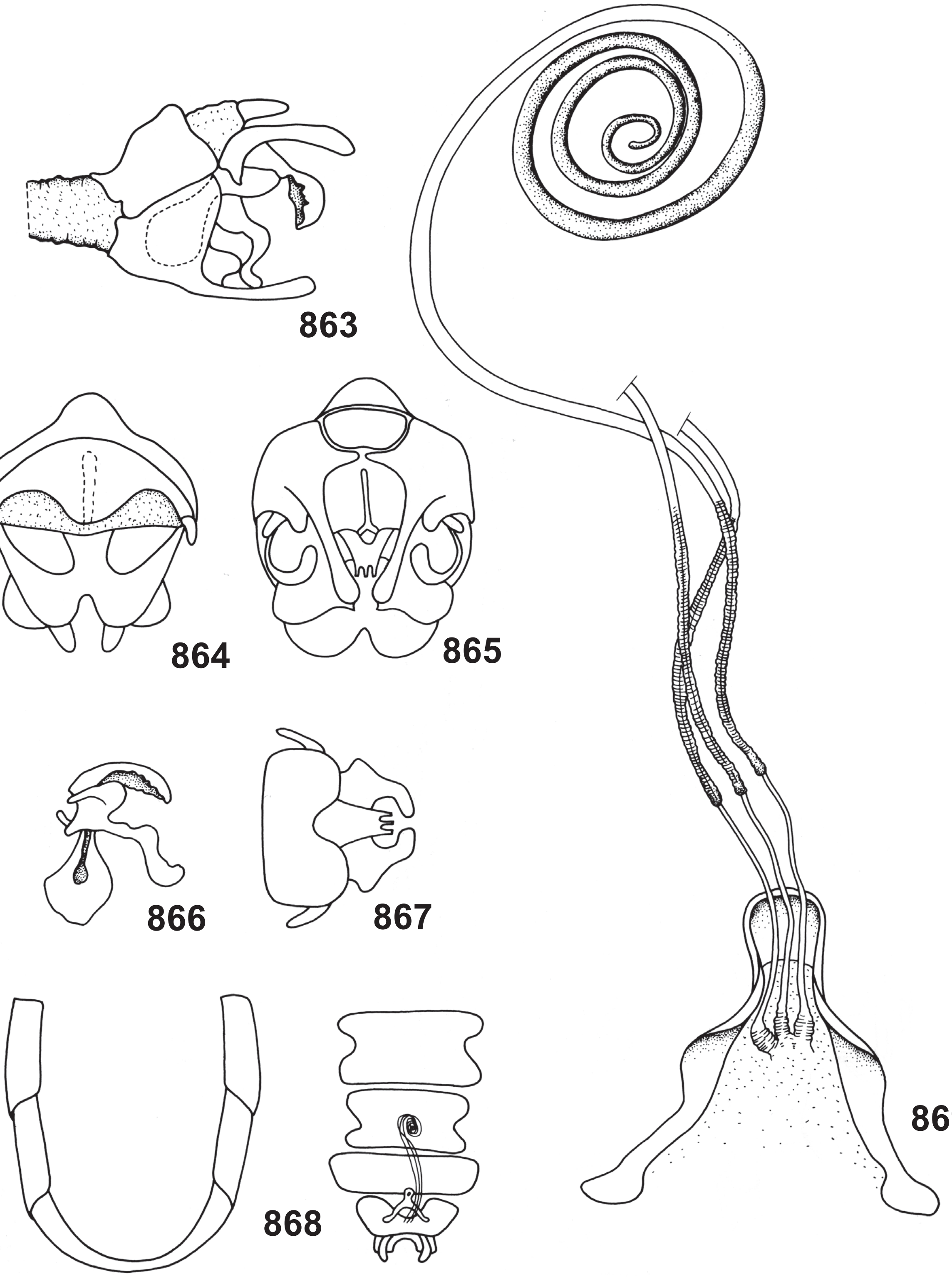
Figs. 845-849. *Hybozelodes lucidus* (Hermann, 1912): 845-847, male terminalia in lateral (845), dorsal (846) and ventral (847) views; 948-849, aedeagus in lateral (848) and dorsal (849) views. Figs. 850-851. *Hybozelodes acuticornis* Carrera, 1945: 850, situation of furca and spermathecae in the abdomen; 851, furca and spermatheca.



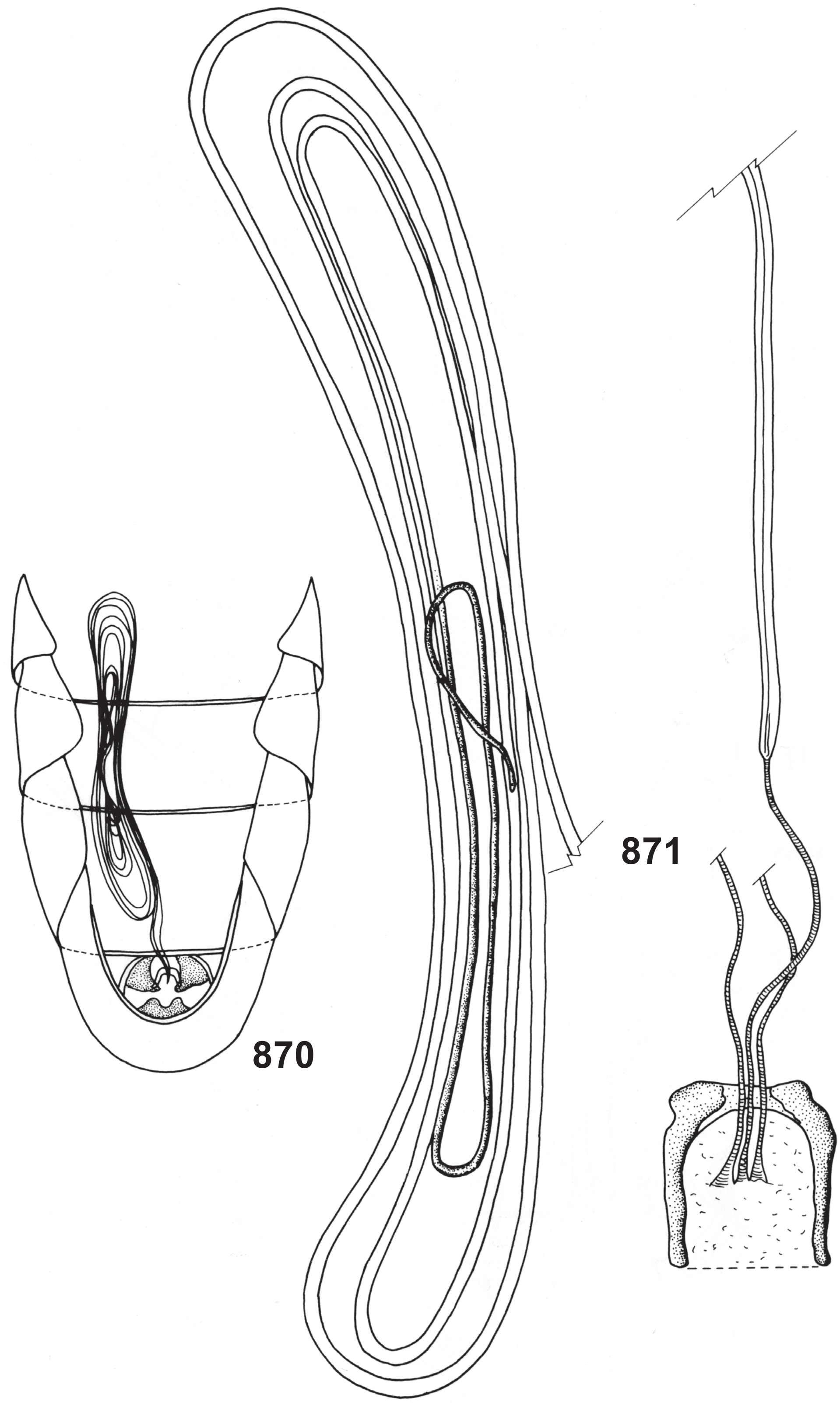
Figs. 852-853. *Hybozelodes lucidus* (Hermann, 1912): 852, situation of furca and spermathecae in the abdomen; 853, furca and spermathecae.



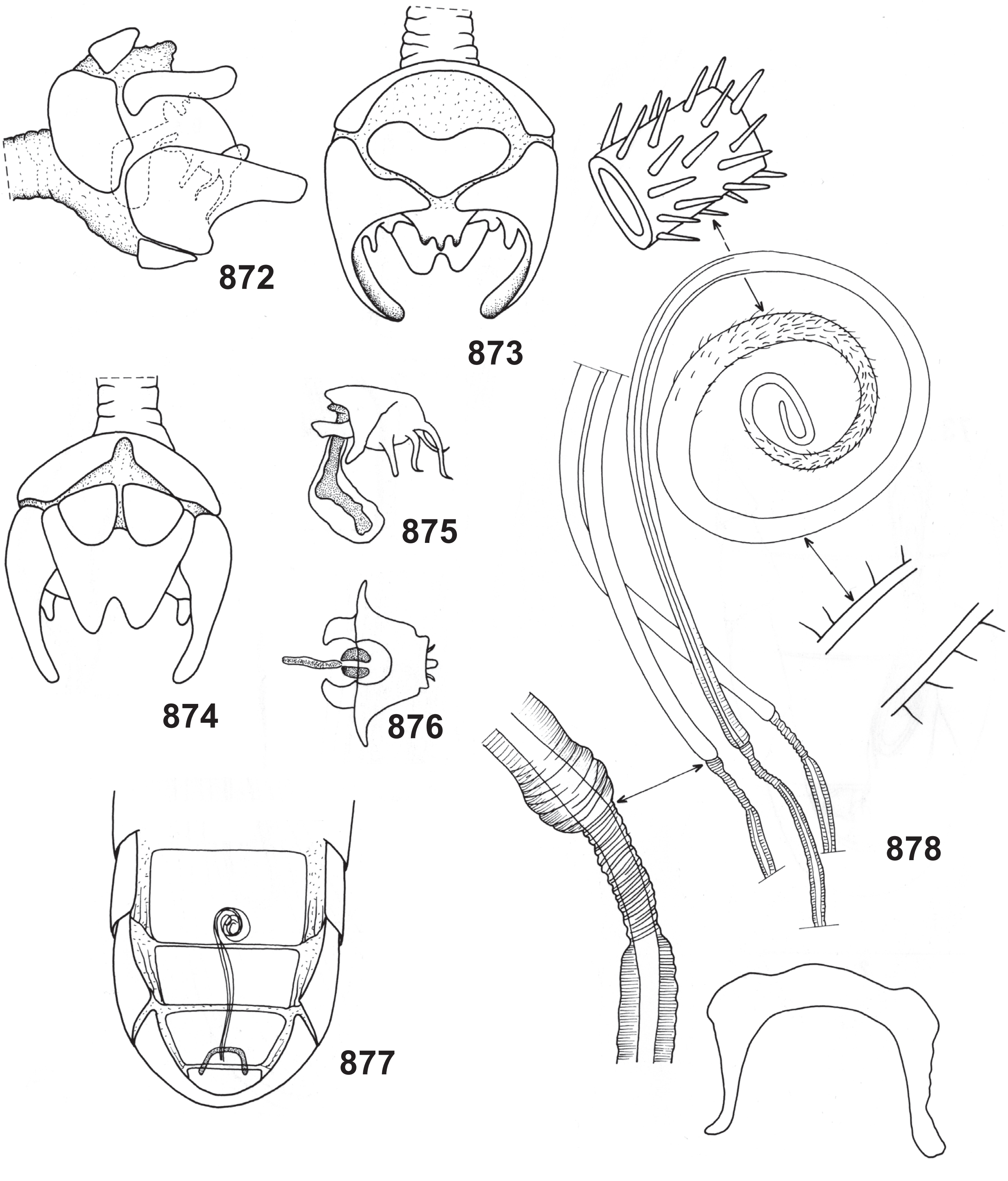
Figs. 854-860. *Lycosimyia sp*. (Brazil, Pará, Santarém (Fazenda Taperinha)): 854-856, male terminalia in lateral (854), dorsal (855) and ventral (856) views; 857-858, aedeagus in lateral (857) and dorsal (858) views; 859, situation of furca and spermathecae in the abdomen; 860, spermathecae and furca. Figs. 861-862. *Lycosimyia sp.* (Brazil, Rio de Janeiro, Rio de Janeiro): 861, situation of furca and spermathecae in the abdomen; 862, furca and spermathecae.



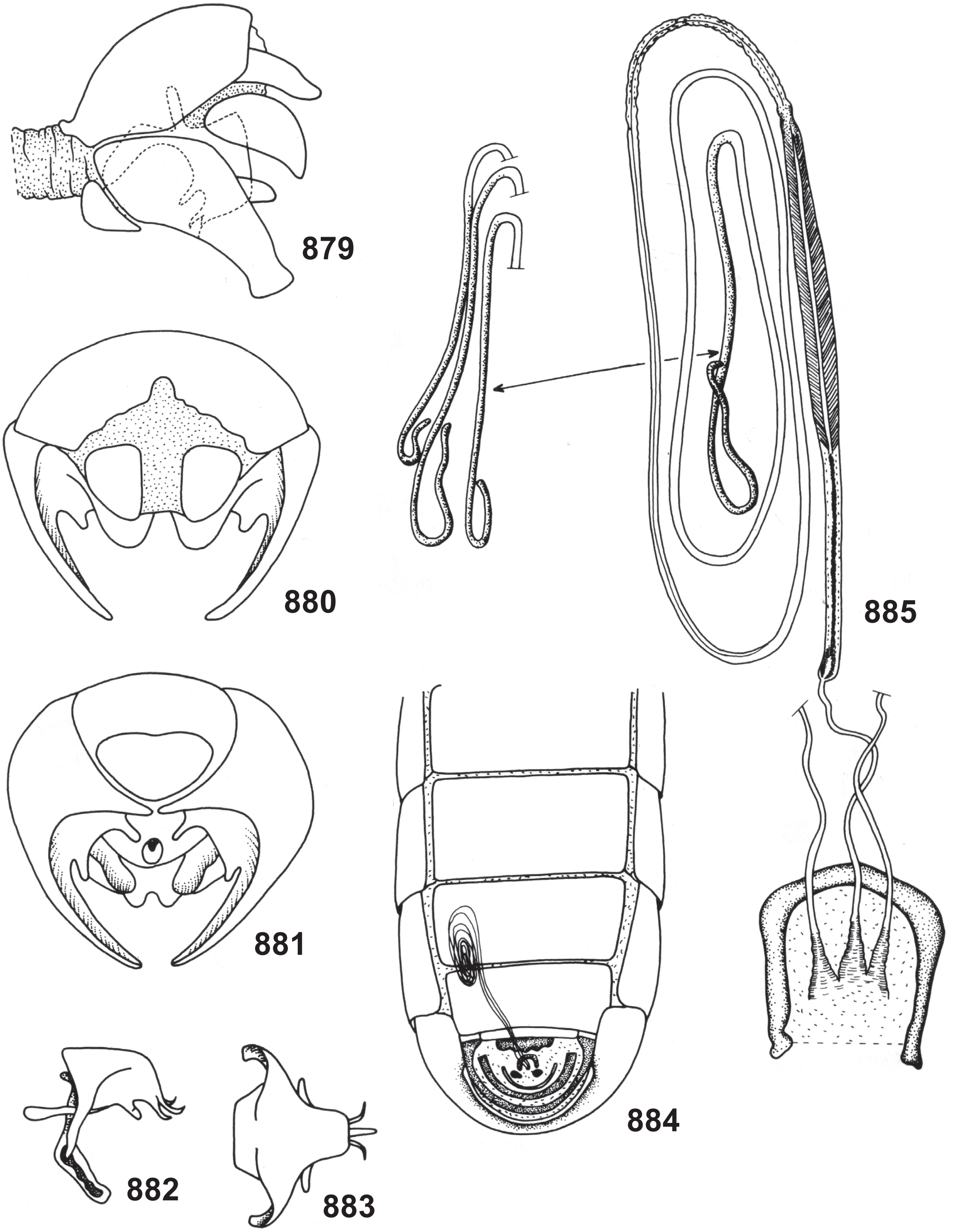
Figs. 863-869. *Atoniomyia sp.*: 863-865, male terminalia in lateral (863), dorsal (864) and ventral (865) views; 866-867, aedeagus in lateral (866) and dorsal (867) views; 868, abdomen, sternites removed, showing situation of furca and spermathecae; 869, furca and spermathecae.



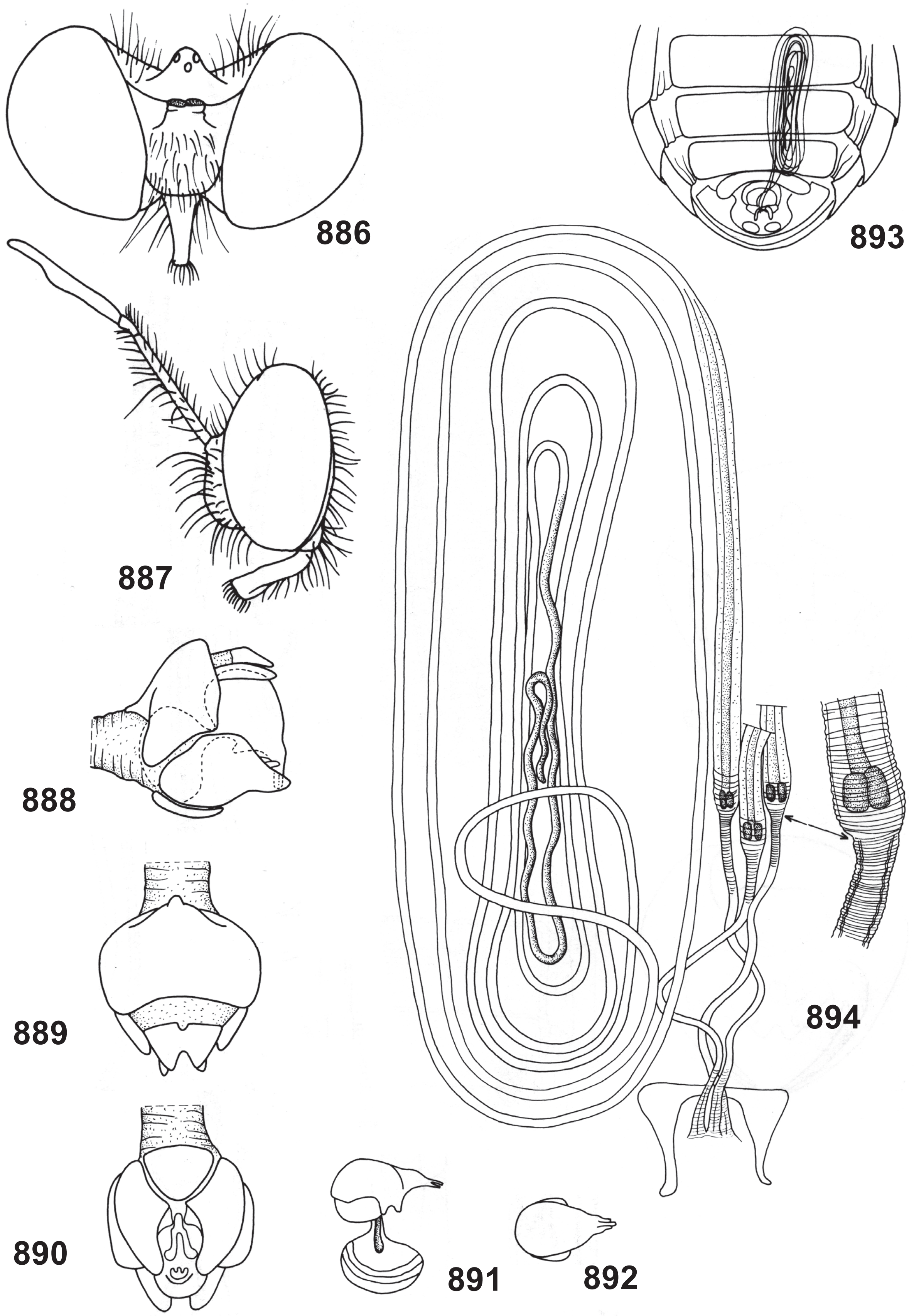
Figs. 870-871. *Hodites punctissima* Hull, 1962: 870, situation of furca and spermathecae in the abdomen; 871, furca and spermathecae.



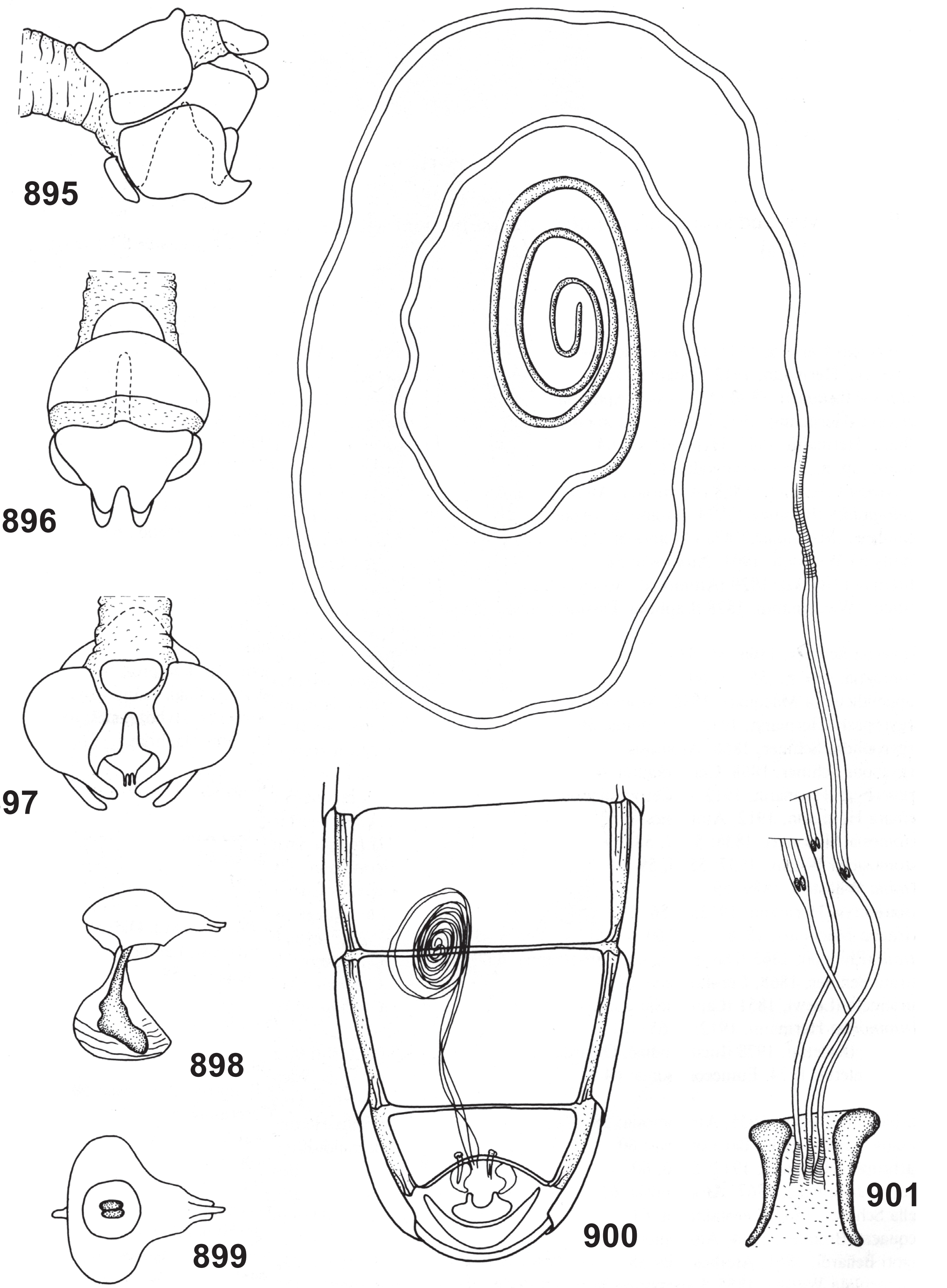
Figs. 872-878. *Atomosia puella* (Wiedemann, 1828): 872-874, male terminalia in lateral (872), ventral (873) and dorsal (874) views; 875-876, aedeagus in lateral (875) and dorsal (876) views; 877, situation of furca and spermathecae in the abdomen; 878, furca and spermathecae.



Figs. 879-885. *Atomosia sp.*, near *dasypus* (Wiedemann, 1828): 879-881, male terminalia in lateral (879), dorsal (880) and ventral (881) views; 882-883, aedeagus in lateral (882) and dorsal (883) views; 884, situation of furca and spermathecae in the abdomen; 885, furca and spermathecae.



Figs. 886-894. *Cerotainia leonina* Hermann, 1912: 886-887, head in frontal (886) and lateral (887) views; 888-890, male terminalia in lateral (888), dorsal (889) and ventral (890) views; 891-891, aedeagus in lateral (891) and dorsal (892) views; 893, situation of furca and spermathecae in the abdomen; 894, furca and spermathecae.



Figs. 895-901. *Cerotainia lynchii* (Williston, 1889): 895-897, male terminalia in lateral (895), dorsal (896) and ventral (897) views; 898-899, aedeagus in lateral (898) and dorsal (899) views; 900, situation of furca and spermathecae in the abdomen; 901, furca and spermathecae.

5. Subfamily Laphystiinae [Figs. 902-1037]

Key to the genera

1. Dorsocentral bristles extending to anterior slope of mesonotum and always visible, even if hair-like (except in *Hexameritia* Speiser, where they cannot be discerned, due to exceptionally dense mesonotal pilosity; *Hexameritia* may be recognized by the exceptionally wide face (Fig. 904)). Scutellar margin with 6 or more (sometimes very numerous) long (twice or more length of scutellum) and slender hairs 2

Dorsocentral bristles, if present, restricted to post-sutural area of mesonotum. Scutellar margin with 4-5 pairs of bristles (Fig. 947), 2-4 strong bristles (Figs. 938-942), bare (Figs. 943-946, 948), or with hairs which sometimes are very numerous and shorter than length of scutellum (Fig. 949) 5

2 (1). Abdomen with numerous lateral bristles on tergites 1 and 2; tergite 3 and sometimes 4-5 with 1 or 2 bristles. Wing with cell r5 closed, usually petiolate. Costa complete, or greatly reduced in width or absent beyond wing apex. Lower 55% to 70% of face gibbous and covered with slender bristles subequal in length to antennae, flat part with short hairs (Figs. 902-903). Ocellar tubercle with 2-4 bristles (Figs. 902-903). Antenna with 3 or 2 flagellomeres; scape subequal to l.5 times length of pedicel; first flagellomere ¾ as long as scape and pedicel together, slightly to strongly swollen just beyond middle. Scutellum with 10-20 long marginal bristles (Fig. 934). Anatergite with about 20 long, slender bristles. Apical hind tarsomere with a weak spur on ventral surface. Male terminalia (cf. Fisher, 1977: figs. 33, 36, 37): hypandrium present, fused to basistyli, bilobed, the lobes divergent to contiguous; aedeagus with only one tube; epandrium longer than wide. Female spermathecae as in Figs. 952-953. All species sexually dimorphic; females have a wider face, longer wings and wider abdomen; generally more extensively tomentose dorsally; tibiae arcuate in males, straight in females (Nearctic, extending to Baja California and northwesternmost Mexico) .... *Zabrops* Hull, 1957

At most tergite 1 with lateral bristles. Wing with cell r5 open. Apical hind tarsomere without spur on ventral surface. Other combinations of characters 3

3 (2). Head exceptionally wide, 2 times its own height, and face wide (1/3 head width; Fig. 904). Face prominent, longest ventrally, of reduced height, strongly rounded (Fig. 905). Face, front and occiput with dense, fine pile. Abdomen broad, flattened, the margin densely fine pilose. Dense, rather woolly pilose flies (especially head, thorax and lateral margins of abdomen). Male terminalia (Figs. 954-957): hypandrium present, but reduced; epandrium very short basally, with extremely long lateral prolongations; basistylus with stiff, long, apical bristles; aedeagus with a single tube. Spermathecae with a common duct (cf. Artigas, 1971: fig. 26) (Chile) ... *Hexameritia* Speiser, 1920

Head never as above and face narrow (Figs. 906-907, 7908-909). Rather bare flies. Epandrium never as above. Spermathecae with ducts fused basally, but not forming a single duct (Figs. 964, 971) 4

4 (3). Normally only 6 bristly long hairs on scutellar margin (Fig. 936). Mesonotum and abdomen with short, appressed pile. First two pairs of femora normal, hind pair only slightly thickened; hind tibia moderately thickened; neither posterior femur nor tibia arcuate. Ocellar tubercle with a pair of slender, long, divergent bristles between ocelli (Fig. 907). Male terminalia (Figs. 958-962): hypandrium present, elongate and slender, with two prolongations at apex, these prolongations showing short spines. Spermathecae as in Figs. 963-964 (Brazil: Santa Catarina) ....*Helolaphyctis* Hermann, 1920

Several brisly long hairs on scutellar margin (Fig. 937). Mesonotum with fine, long, bristly, erect pile. Hind femur arched and thickened. Ocellar tubercle without strong bristles. Male terminalia as in Figs. 965-969: hypandrium short, grossly horseshoe-shaped. Spermathecae as in Figs. 970-971 (Brazil: Goiás to Santa Catarina) .... *Apoxyria* Schiner, 1866

5 (1). Antenna with 3 flagellomeres (Fig. 911) 6

Antenna with 1 or 2 flagellomeres 7

6 (5). Face below antennae ¼ head width and divergent below (Fig. 910); in lateral view nearly plane with eye, except for lower 1/3 which, while relatively short, is gently rounded and gibbose, with a few bristles and hairs (Fig. 911). Scape about four times as long as the short, beadlike pedicel; flagellum slender, longer than combined length of scape and pedicel, second flagellomere quite short, third longer, wider, blunt, cup-shaped, with enclosed spine (Fig. 911). Abdominal tergites 1-6 with lateral bristles. Wing with Costa continuing all around wing and

cells r1 and r5 widely open. Male terminalia (Figs. 972-975) with epandrium longer than wide, bearing laterally long, thin, transparent, centrally convex, uneven, posteriorly rounded wing-like processes, leaving a deep recess with is notched; hypandrium present, short, semicircular; aedeagus with only one tube (Brazil: Mato Grosso to Argentina (Salta, Jujuy)) .... *Laphygmolestes* Hull, 1962

Face wide, at antennae subequal to one and one-fourth times width of an eye, evenly produced from oral margin to antennae, the gibbosity covered with pile, which is longest and densest at oral margin, where there usually are some slender bristles. Scape subequal to 1.5 times length of pedicel; first flagellomere subequal to one and one third times the combined length of scape and pedicel; third flagellomere much longer than the second, with an oblique excavation bearing a small spine. Dorsocentral bristles absent. Scutellum with marginal bristles or hairs, length and number of these variable. Wing with Costa extending only to apex of cell cup, absent beyond, or, rarely, ending at wing apex; cell r1 narrowly closed to narrowly open; cell r5 generally open, but closed and petiolate in several species. Tergites 1-6 with lateral bristles. Male terminalia (cf. Fisher, 1977: figs. 5, 8, 9): hypandrium absent; epandrium wider than long; aedeagus with a single tube (Predominantly Holarctic, a few species in the Oriental and Afrotropical regions) .... *Laphystia* Loew, 1847

7(6). Face extremely narrow, at level of antennae about 1/5 head width (Figs. 913-914). Antenna with only 1 flagellomere. All wing cells open. Scutellar margin with 2-4 strong bristles (Figs. 939-940). Ventral surface of apical hind tarsomere with a weak spur 8

Face wider, ¼ to 1/3 head width (Figs. 916, 918, 920, 922, 924, 927, 928, 930, 932). Antenna with 1 or 2 flagellomeres. Cells r1 and r5 open or closed. Scutellum with marginal bristles, short hairs (which may be very numerous) or bare. Ventral surface of apical hind tarsomere with or without a spur 9

8(7). Posterior dorsocentral bristles present. Abdomen with tergites 1-3 with lateral bristles. Male terminalia with hypandrium present and aedeagus with a single tube (Figs. 976-979). Spermathecae as in Figs. 980-981 (Chile) .... *Cymbipyga* Artigas, Papavero & Costa, 1997

Dorsocentral bristles absent. All abdominal tergites with lateral bristles. Hypandrium absent (or fused with bases of gonopods?); aedeagus with three clearly visible apical tubes (Figs. 982-986). Spermathecae as in Figs. 987-988 (Nearctic, Neotropical, but not in Chile) .... *Psilocurus* Loew, 1874

9(6). Cell r5 open 10

Cell r5 closed and petiolate 13

10(9). Scutellar margin with 2 strong bristles Figs. 941-942). Antenna with 2 flagellomeres. Cell r1 open or closed. Only one pair (normally weak) of posterior dorsocentrals. Ventral surface of apical hind tarsomere with a strong spur, plus 2 to 20 spines 11

Scutellar margin bare (Figs. 943-944). Antenna with 1 or 2 flagellomeres. Cell r1 closed. Posterior pair of dorsocentrals present or absent. Ventral surface of apical hind tarsomere with or without a spur, with or without spines 12

11(10). Pulvilli absent (Fig. 951A). Ventral surface of apical hind tarsomere with a spur and 16-20 spines in two more or less parallel rows of 8-10 (Fig. 951A). Cell r1 open. Male terminalia (Figs. 989-992): hypandrium subtriangular, apex very slender and acuminate; basistyli almost ovoid, relatively short, with typical curved, apically bifid dististyli; aedeagus a single tube; epandrium large, ovoid. Female spermathecae with a common duct (Figs. 993-994) (Peru, Brazil) .... *Macahyba* Carrera, 1947

Pulvilli present. Ventral surface of apical hind tarsomere without spur, only 2-4 spines present. Cell r1 closed. Male terminalia (Figs. 995-996): hypandrium triangular, wider than high, the apex not produced; basistyli much longer than in *Macahyba*, dististyli simple, short, epandrium subtrapezoidal. Female spermathecae with a common duct (Figs. 997-998) (Peru, Bolivia) .... *Martinomyia* Özdikmen, 2007

12(10). Antenna with only 1 flagellomere, apically flattened, spatulate, with a shallow concavity bearing a spine (Fig. 921). Three or more pairs of post-sutural dorsocentral bristles. Ventral surface of apical hind tarsomere only with 2 spines; no spur present. Male terminalia (Figs. 999-1002): hypandrium almost an equilateral triangle; basistyli short, subtriangular, with elongate, simple, curved dististyli; aedeagus a single tube; epandrium almost ovoid, with concave apex. Female spermathecae with a common duct (Figs. 1003-1004) (Brazil: Goiás) ....*Cochleariocera* Artigas, Papavero & Costa, 1997

Antenna with 2 flagellomeres (Fig. 923). Dorsocentral bristles absent. Ventral surface of apical hind tarsomere with 2-3 spines, plus a definite spur. Male terminalia (Figs. 1005-1008, 1009): hypandrium with wide base and narrow, tongue-like apex; aedeagus a single tube; epandrium similar to an ant's head. Female spermathecae with a common duct; spermathecal capsules elongate, curled, thick (Figs. 1010-1011) (Colombia, Brazil: Amazonas, Mato Grosso) ....*Protometer* Artigas, Papavero & Costa, 1997

13(9). Cell r1 open. Ventral surface of apical hind tarsomere without spur and without small spines. Basistyli without an apical row of stiff bristles or short spines (Fig. 1012) 14

Cell r1 closed. Ventral surface of apical hind tarsomere with a definite spur, with or without small spines in addition to spur. Basistyli apically with a row of stiff bristles or short spines (Figs. 1020, 1026-1027, 1032-1033) 15

14(13). Hind femur exceptionally stout and enlarged, bearing tuberculate spines ventrally (Fig. 950). Relatively large, robust flies, with dense, flat, appressed, glittering, matted, conspicuous abdominal pile. Abdomen usually robust and short oval, tergites 1-2 only with lateral bristles. Male terminalia (Figs. 1012-1015): hypandrium almost heart-shaped; basistylus with apical prolongation; dististylus elongate; aedeagus a single tube; epandrium with a characteritic 'U'-shape. Female spermathecae with common duct (Figs. 1016-1017) (Colombia to Argentina, but not in Chile) .... *Triclioscelis* Roeder, 1900

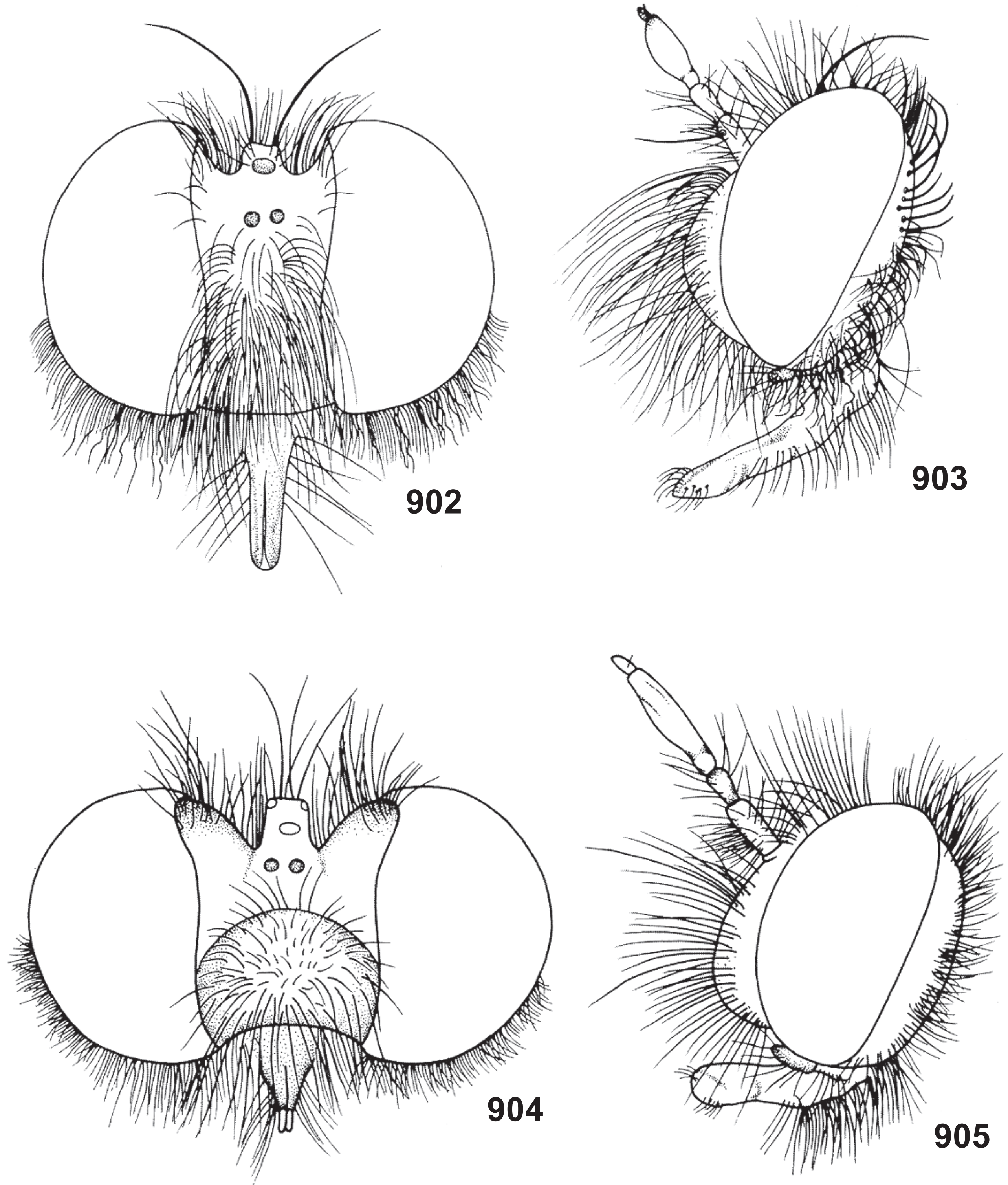
Femur of normal width. Body pile moderately abundant and shorter. Mystax with a row of strong bristles on oral margin and dense, recumbent, squamose hairs above (Figs. 926-927). Only tergite 1 with lateral bristles. Pronotum with strong dorsal and posterolateral bristles. Female spermathecae (Figs. 1018-1018) with a common duct (Holarctic) .... *Perasis* Hermann, 1905

15(13). Scutellar margin with bristles (Fig. 947). Pulvilli absent (Fig. 951B). Ventral surface of apical hind tarsomere with 9 small spines in addition to spur, forming a triangle (Fig. 951B). Male terminalia as in Figs. 1020-1023. Female spermathecae (Figs. 1024-1025) with a common duct (Argentina) ....*Asicya* Lynch Arribálzaga, 1880

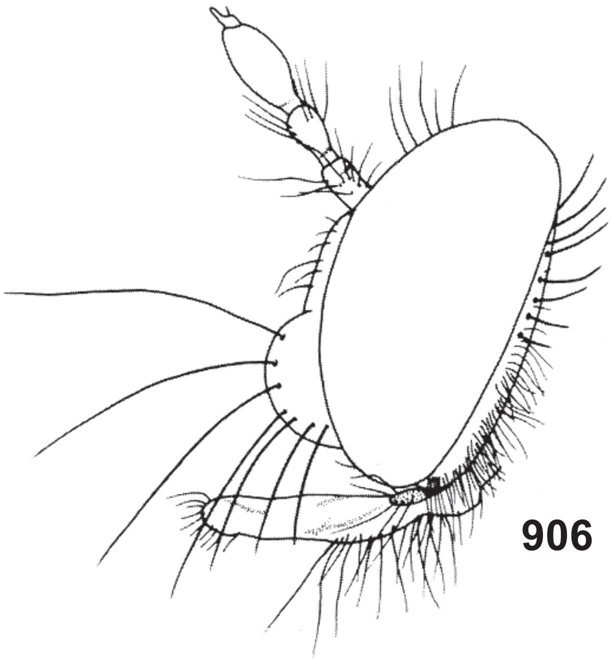
Scutellar margin bare, or margin with dense, short, upturned pile (Figs. 948-949). Pulvilli present. Ventral surface of apical hind tarsomere without small spines in addition to spur 16

16(13). Mystax restricted to lower face (Figs. 930-931). Relatively large (13.5 mm), blackish, almost bare flies. Mesonotal and scutellar discs covered with spinules (Fig. 948). Male terminalia very peculiar (Figs. 1026-1029). Female spermathecae (Figs. 1030-1031) with a common duct; capsules forming an extremely coiled spire (Venezuela) .... *Gymnotriclis* Artigas, Papavero & Costa, 1997

Mystax dense, occupying entire face (Figs. 932-933). Short, broad, yellowish, densely pilose flies. Scutellum covered with dense, silky, recumbent yellow hairs (Fig. 949). Male terminalia as in Figs. 1032-1035. Female spermathecae (Figs. 1036-1037) with a common duct; capsule with many coils (Argentina) ....*Chrysotriclis* Artigas, Papavero & Costa, 1997



Figs. 902-905. Laphystiinae, head. 902, *Zabrops tagax* (Williston, 1883).frontal (902, 904) and lateral (903, 905) views. 902-902, 904-905, *Hexameritia micans* (Philippi, 1865).



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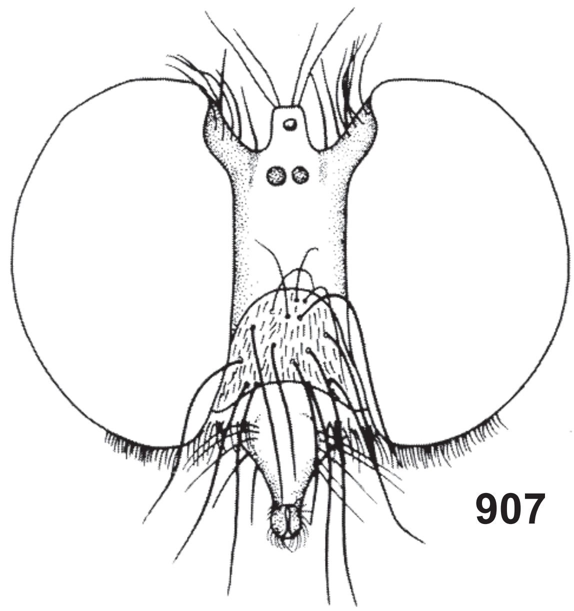

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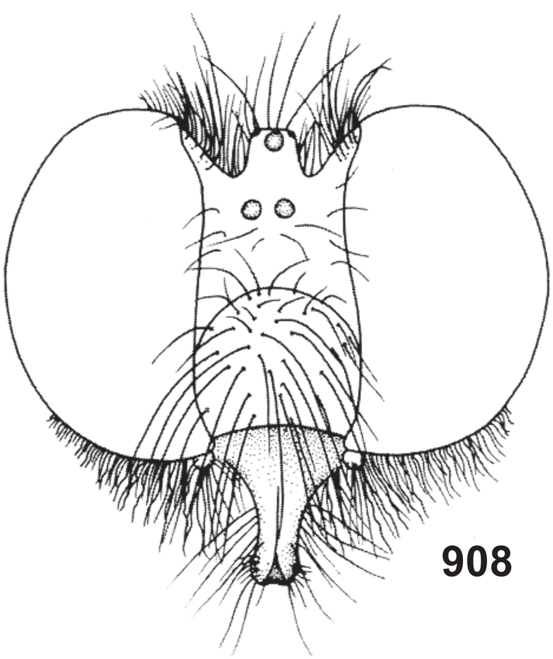

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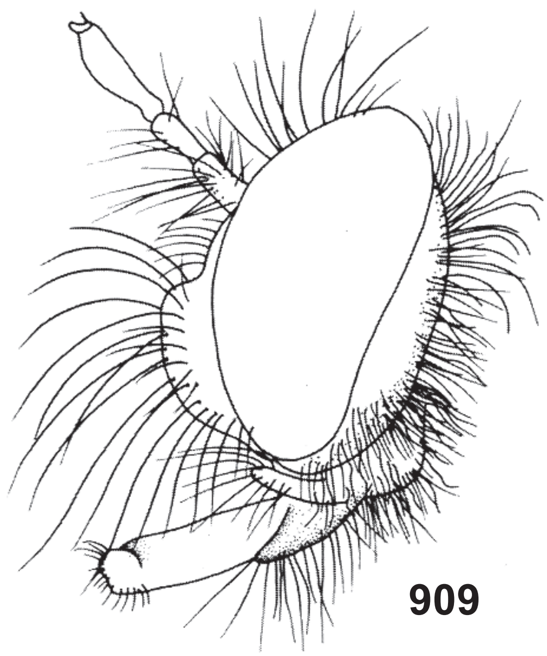

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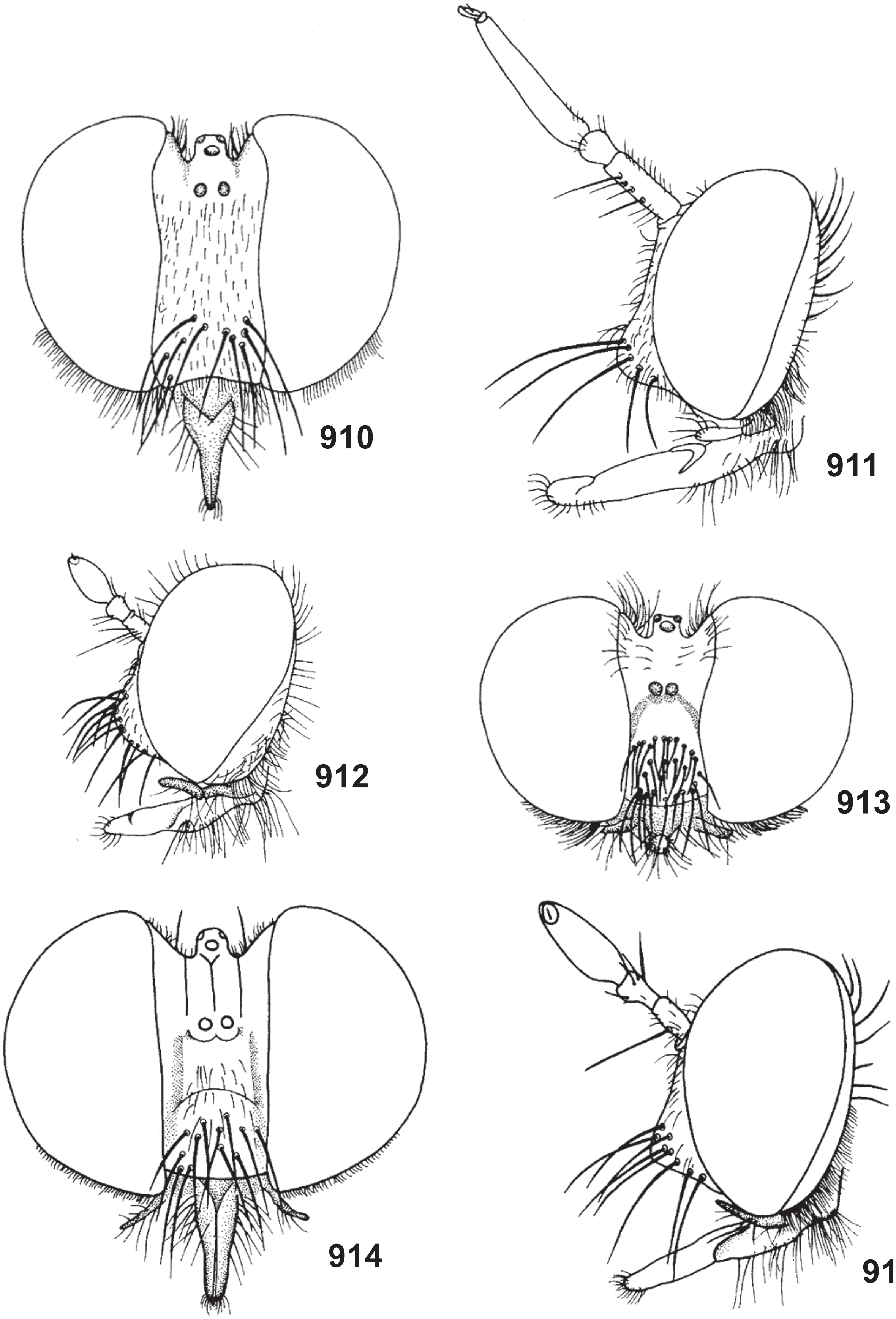
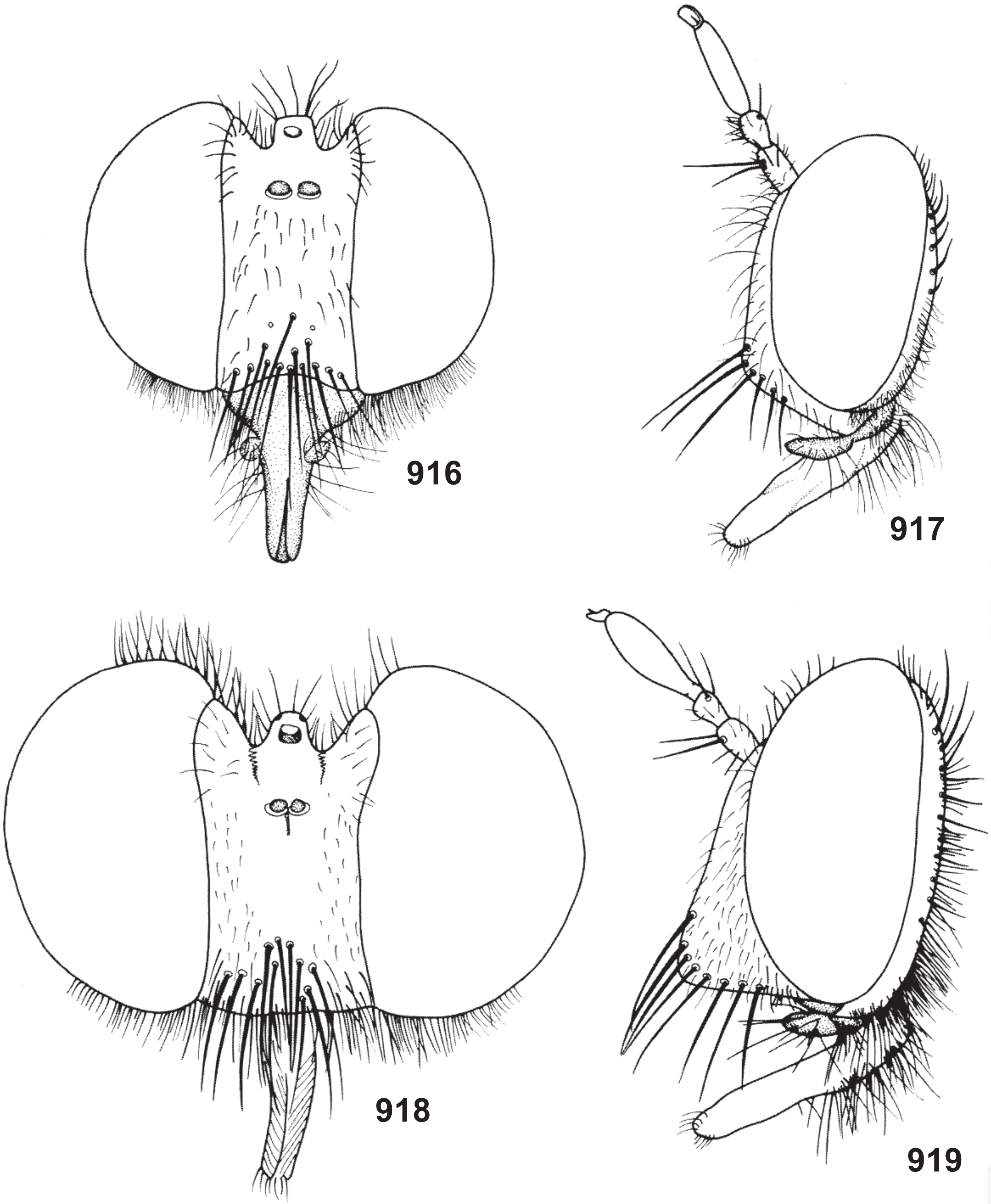
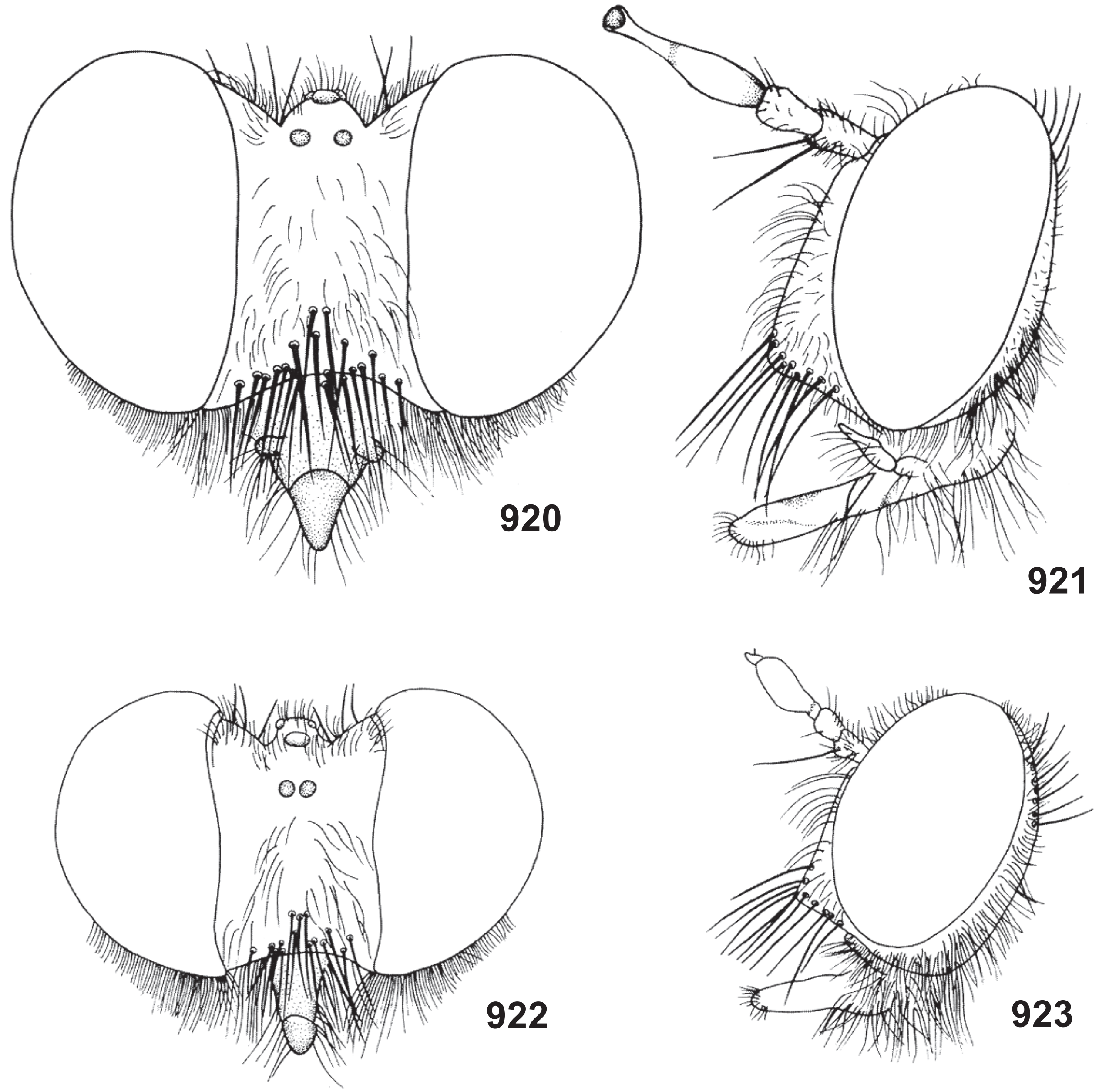
Figs. 906-909. Head, frontal (906, 908) and lateral (907, 909) views. 906-907, *Helolaphyctis sp.*; 908-909, *Apoxyria americana* Carrera, 1955.



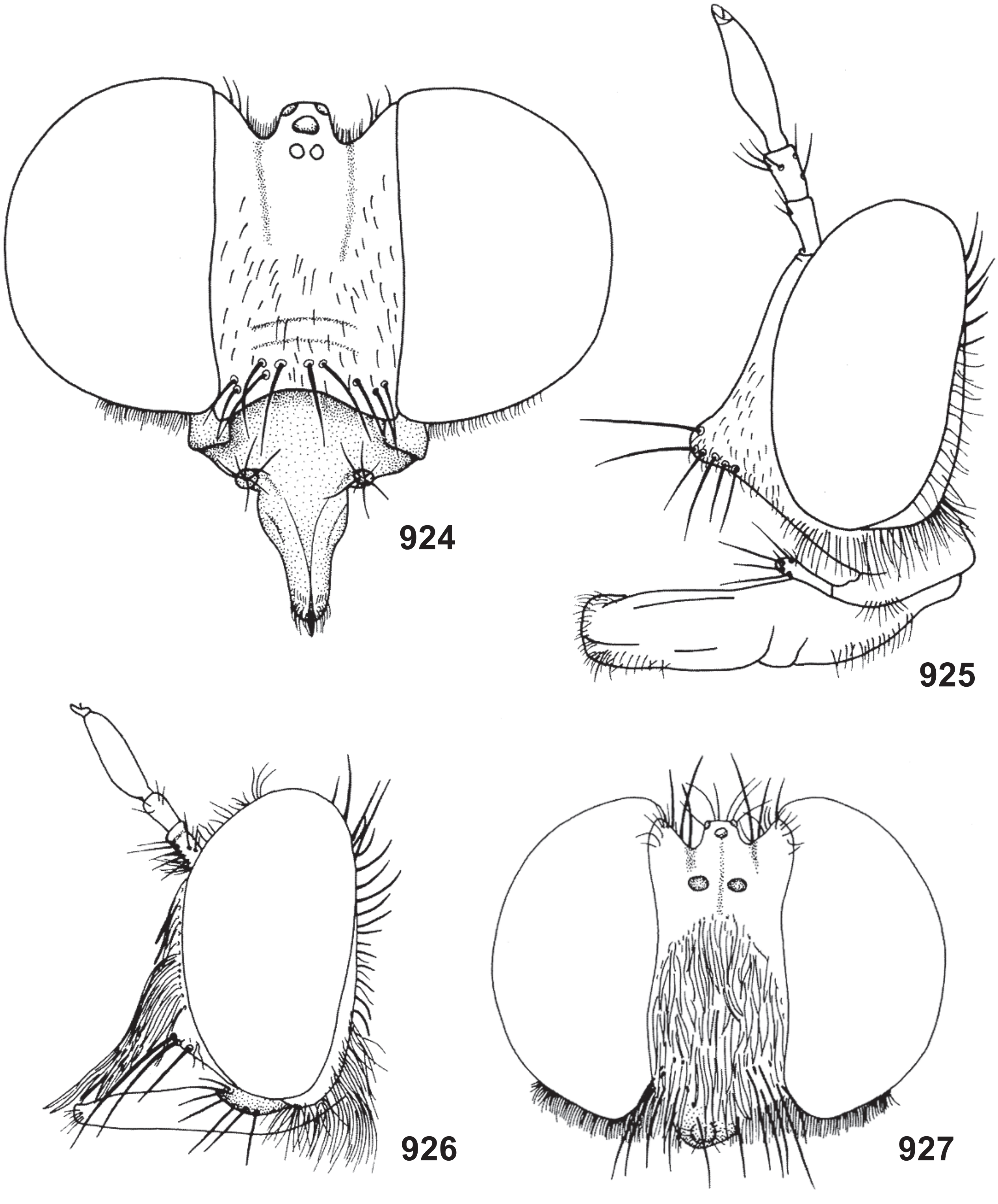
Figs. 910-915. Head, frontal (910, 912, 914) and lateral (911, 913, 915) views. 910-911, *Lapgygmolestes flavipes* Hull, 1962; 912-913, *Cymbipyga cymbafera* (Artigas, 1983); 914-915, *Psilocurus sp.*



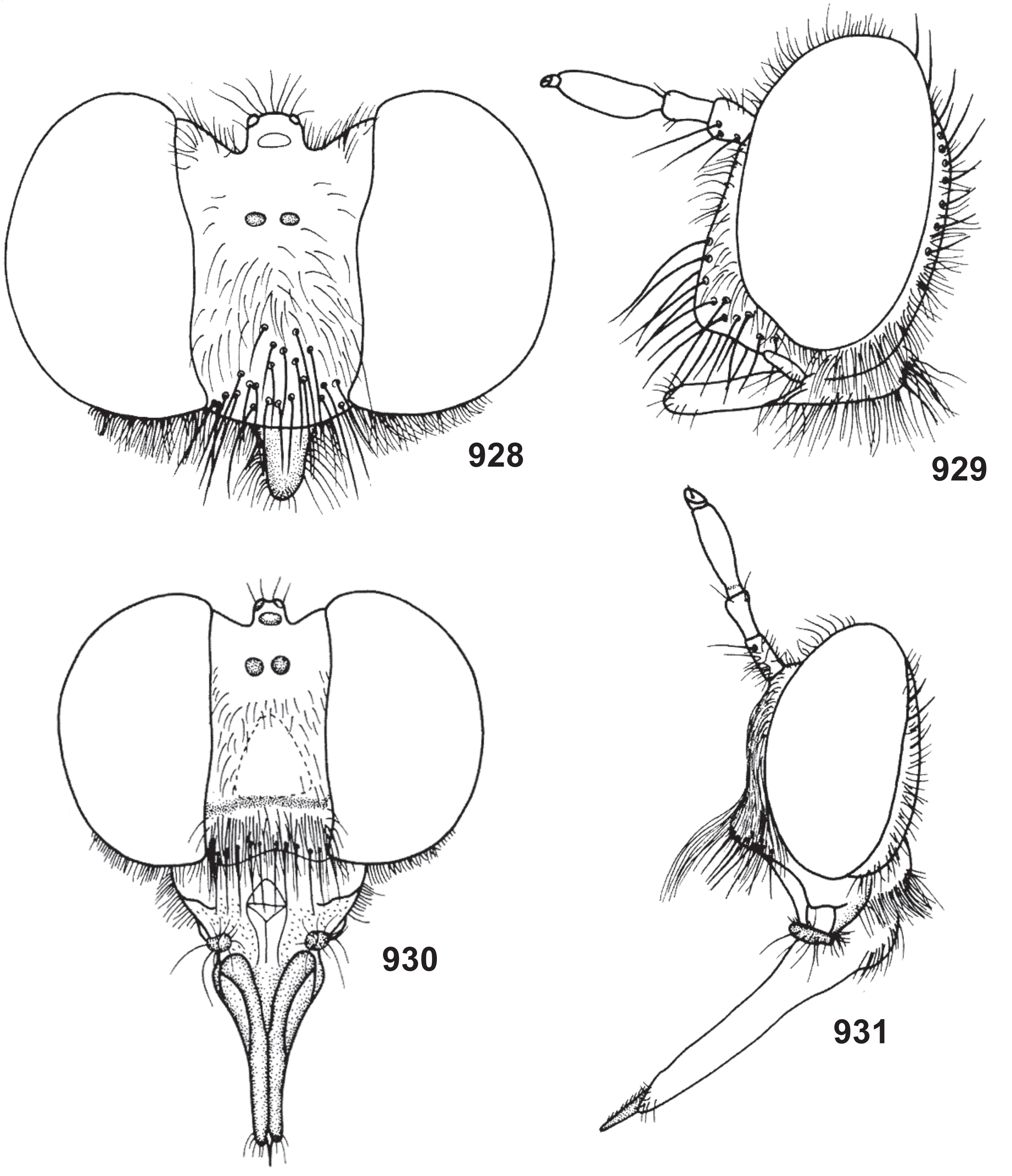
Figs. 916-919. Head, frontal (916, 918) and lateral (917, 919) views. 916-917, *Macahyba nordestina* Carrera, 1947; 918-919, *Martinomyia sp.*



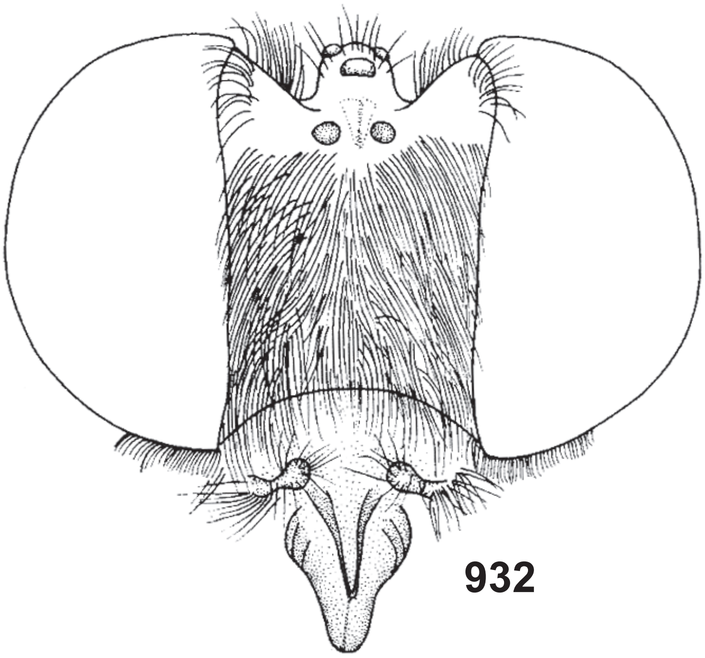
Figs. 920-923. Head, frontal (920, 922) and lateral (921, 923) views. 920-921, *Cochleariocera neusae* Artigas, Papavero & Costa, 1997; 922-923, *Protometer evae* Artigas, Papavero & Costa, 1997.



Figs. 924-927. Head, frontal (914, 926) and lateral (925, 927) views. 924-925, *Triclioscelis femorata* Roeder, 1900; 926-927, *Perasis sp.*



Figs. 928-931. Head, frontal (928, 930) and lateral (929, 931) views. 928-929, *Asicya sp.*; 930-931, *Gymnotriclis coscaronorum* Artigas, Papavero & Costa, 1997.



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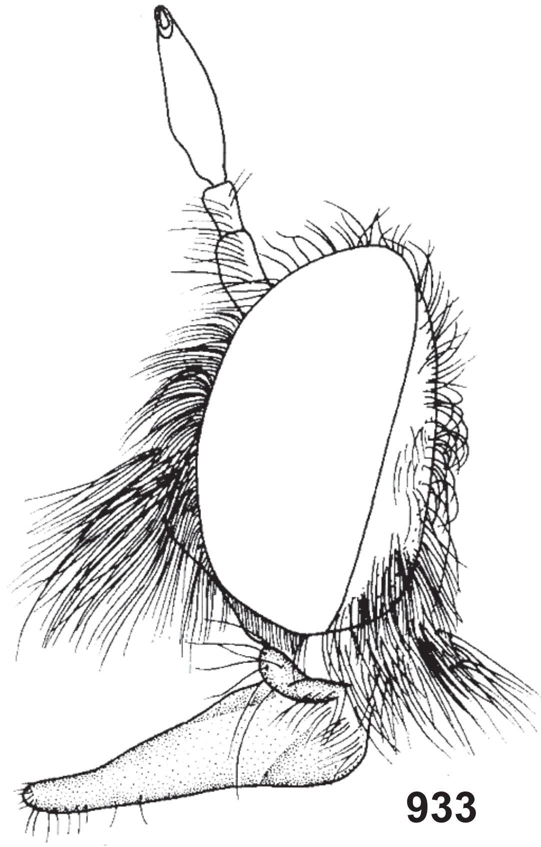

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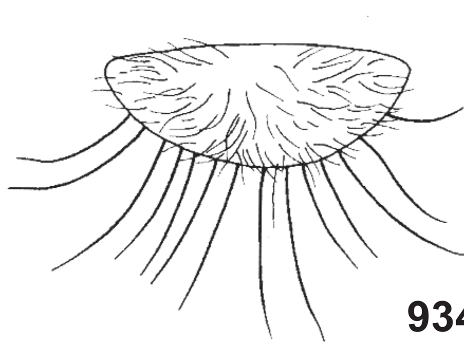

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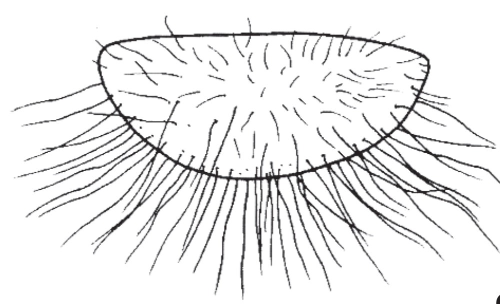

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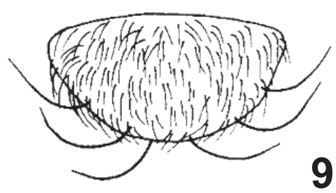

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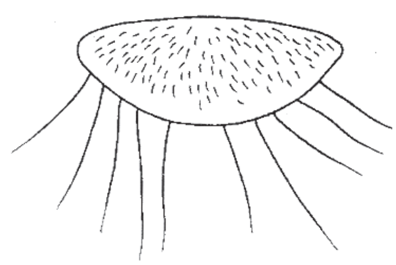

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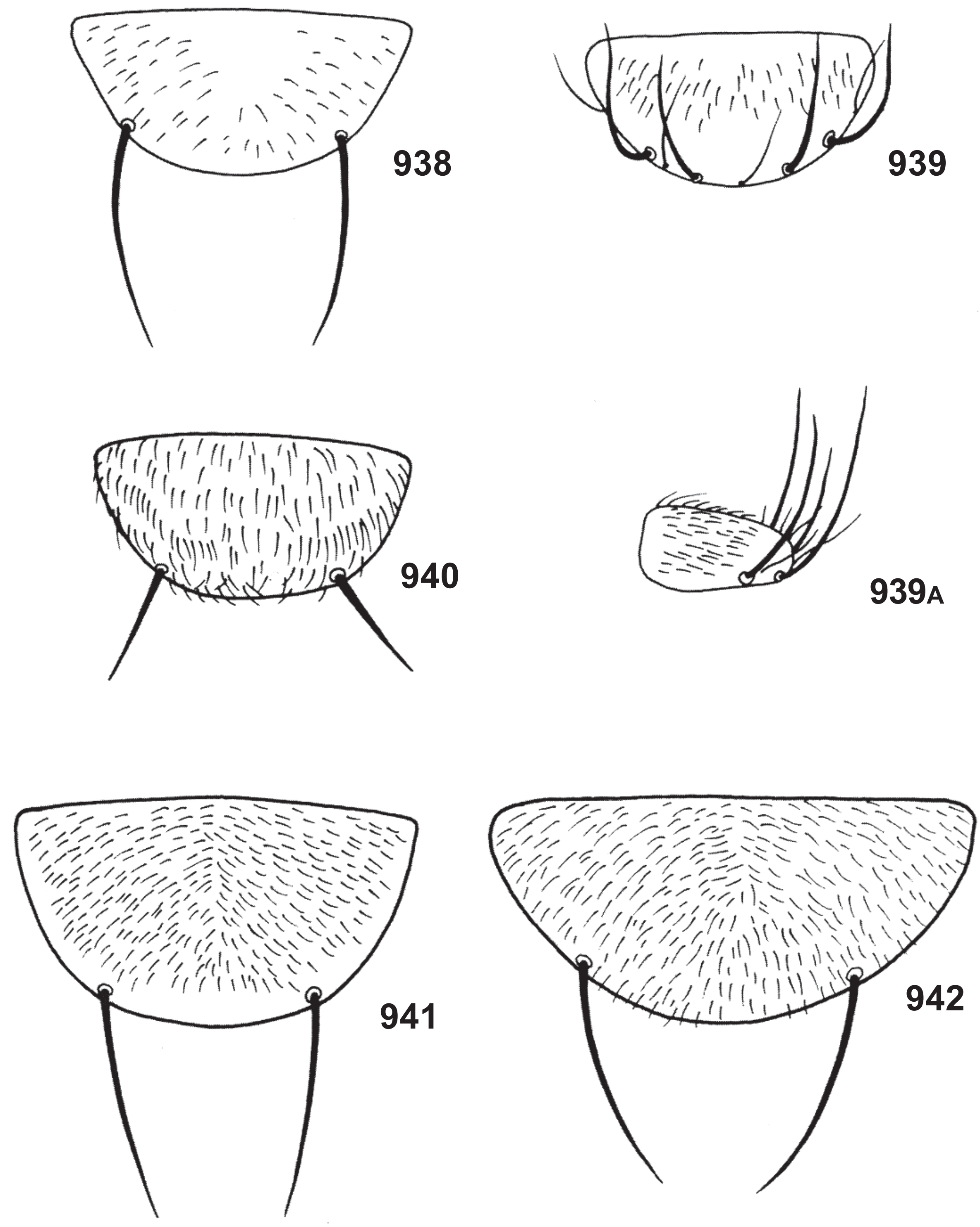
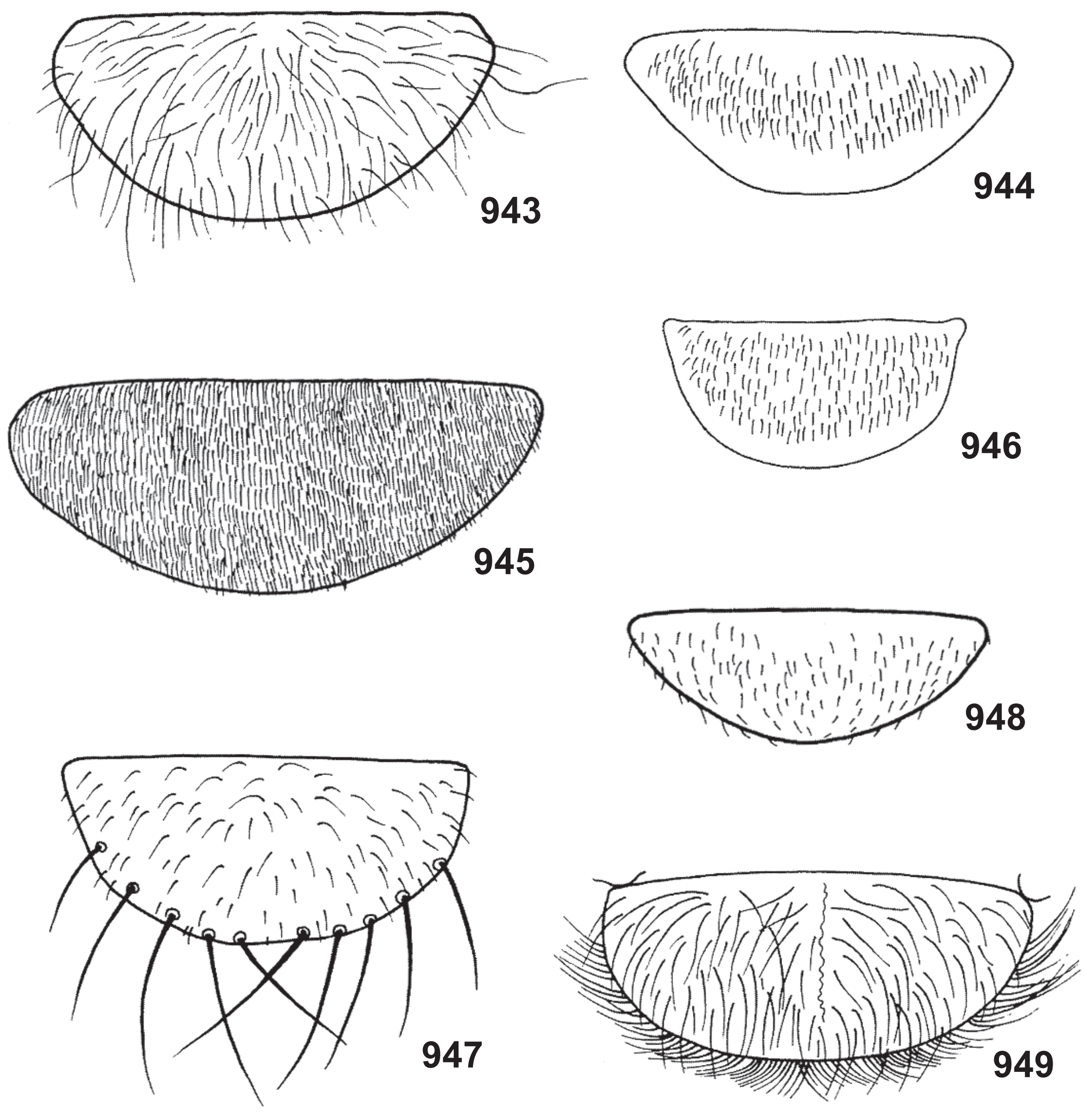
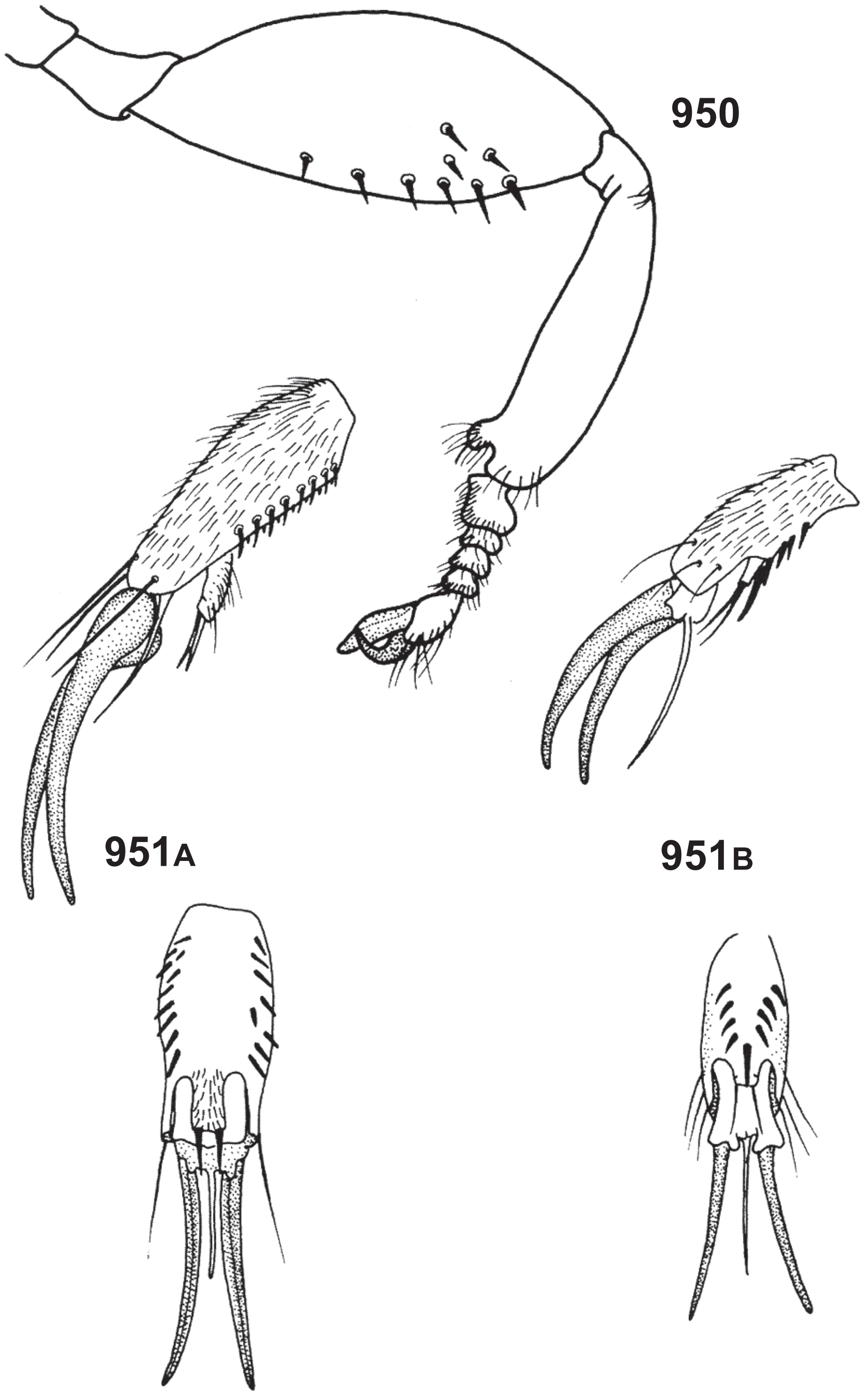
Figs. 932-933. *Chrysotriclis willinkorum* Artigas, Papavero & Costa, 1997, head in frontal and lateral views. Figs. 934-937. Scutellum, dorsal view; 934, *Zabrops tagax* (Williston, 1883); 935, *Hexameritia micans* (Philippi, 1865); 936, *Helolaphyctis sp.*; 937, *Apoxyria americana* Carrera, 1955.



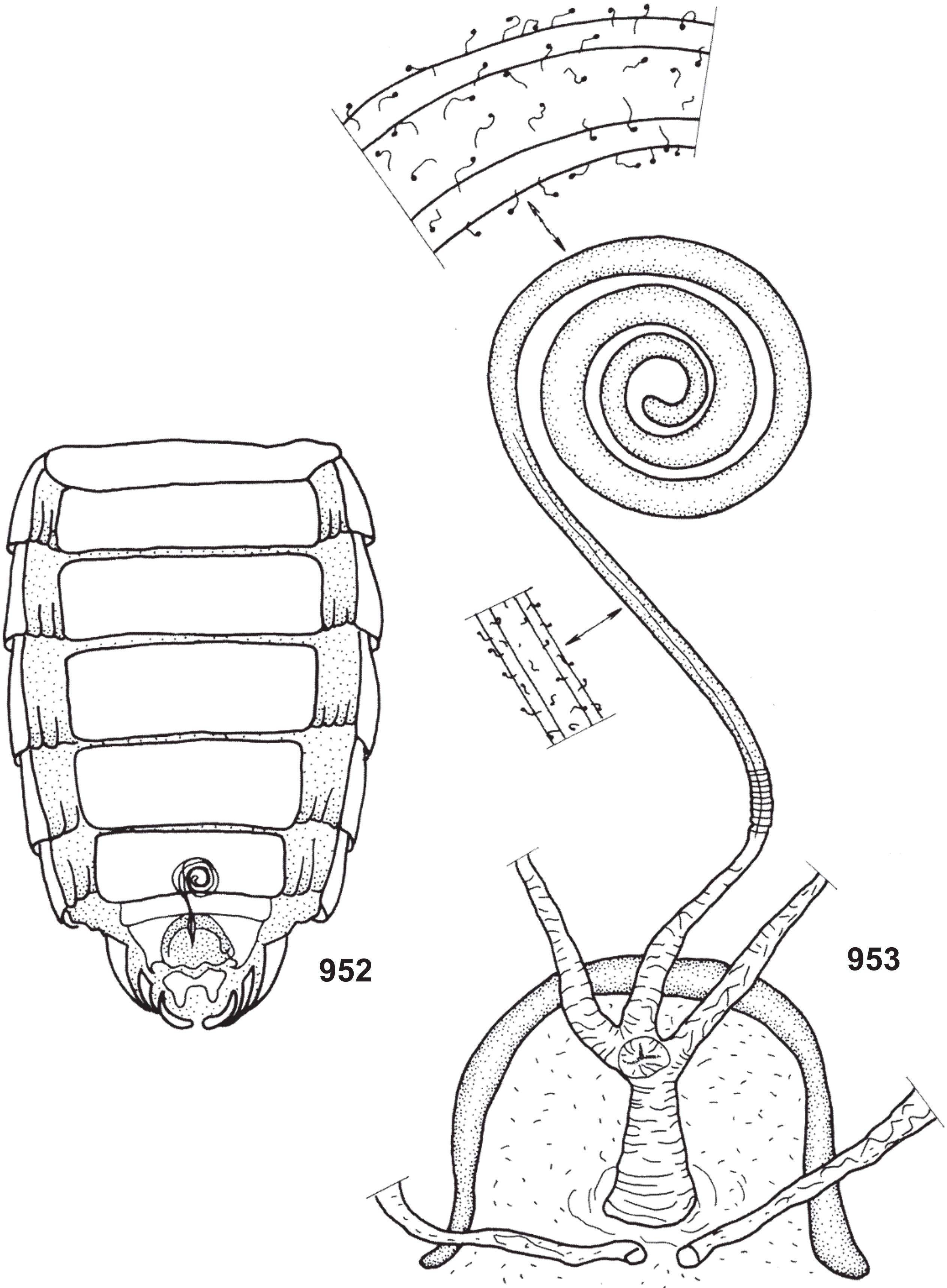
Figs. 938-942. Scutellum, dorsal and lateral (939A) views. 938, *Laphygmolestes flavipes* Hull, 1962; 939-939A: *Cymbipyga cymbafera* (Artigas, 1983); 940, *Psilocurus sp.*; 941, *Macahyba nordestina* Carrera, 1947; 942. *Martinomyia sp.*



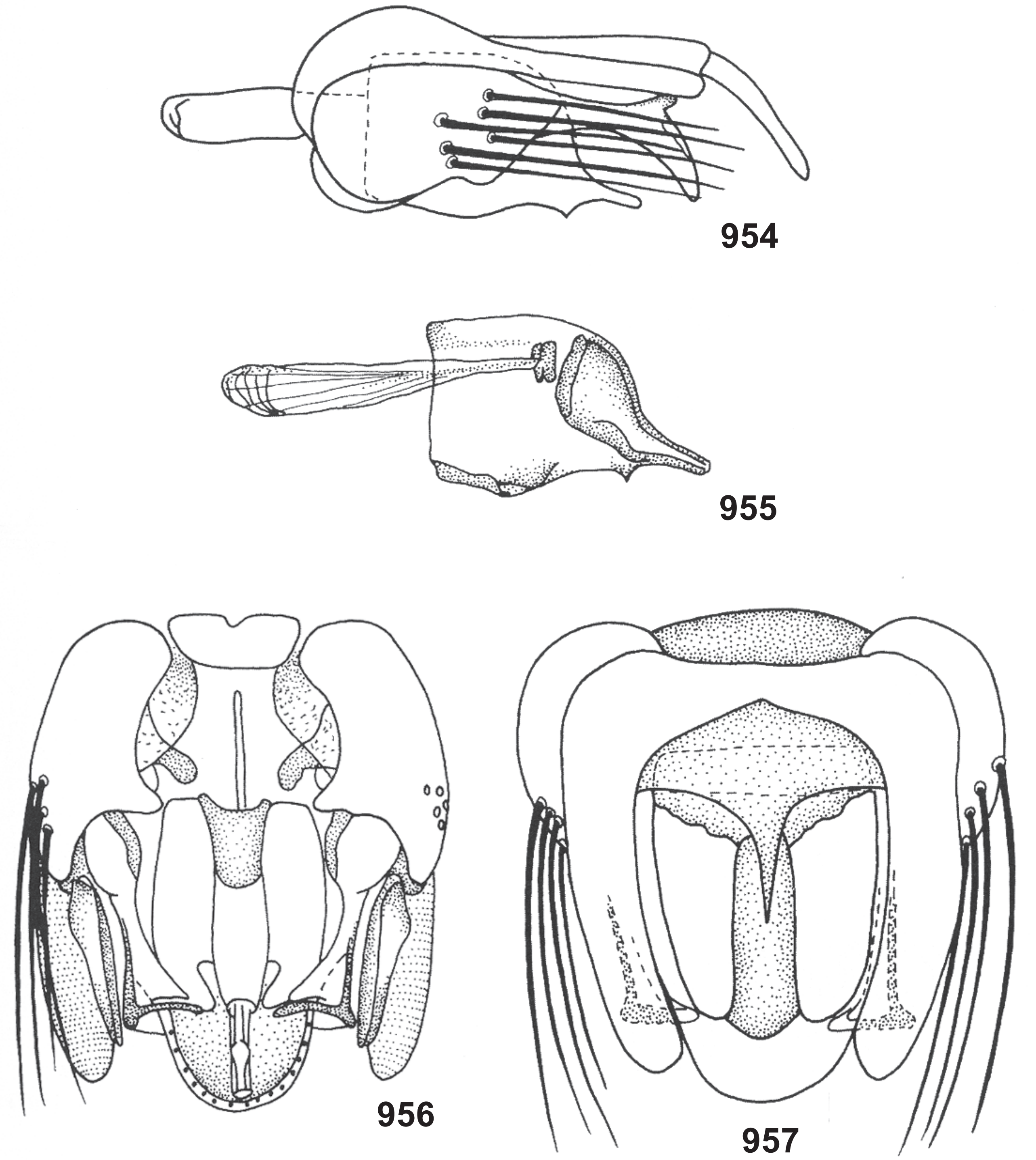
Figs. 943-949. Scutellum, dorsal view. 943, *Cochleariocera neusae* Artigas, Papavero & Costa, 1997; 944, *Protometer evae* Artigas, Papavero & Costa, 1997; 945, *Triclioscelis femorata* Roeder, 1900; 946, *Perasis sp.*; 947, *Gymnotriclis coscaronorum* Artigas, Papavero & Costa, 1997; 948, *Gymnotriclis coscaronorum* Artigas, Papavero & Costa, 1997; 949, *Chrysotriclis willinkorum* Artigas, Papavero & Costa, 1997.



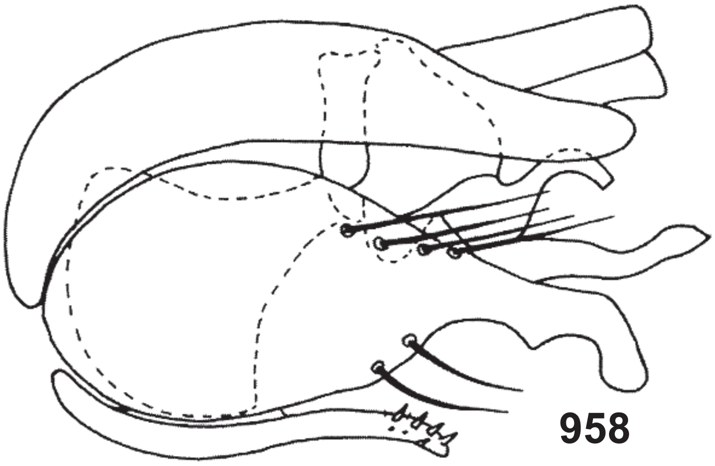
Figs. 950-951B. 950, *Triclioscelis femorata* Roeder, 1900, hind leg; 951A, apical hind tarsomere of *Macahyba nordestina* Carrera, 1947, lateral and ventral views; 958B, apical hind tarsomere of *Asicya sp.*, lateral and ventral views.



Figs. 952-953. *Zabrops tagax* (Williston, 1883), situation of spermathecae in the abdomen (952) and spermathecae (953).



Figs. 954-957. *Hexameritia micans* (Philippi, 1865), male terminalia in lateral (954), ventral (956) and dorsal (957) views, and aedeagus in lateral view (955).



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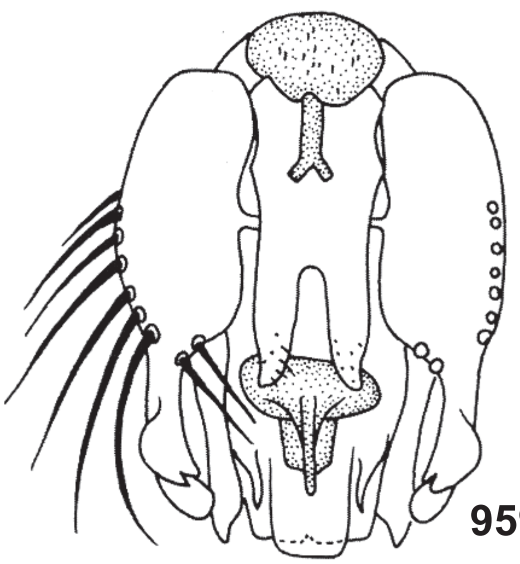

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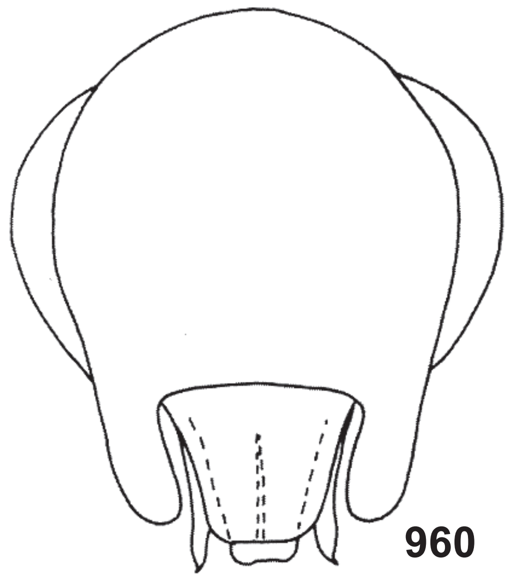

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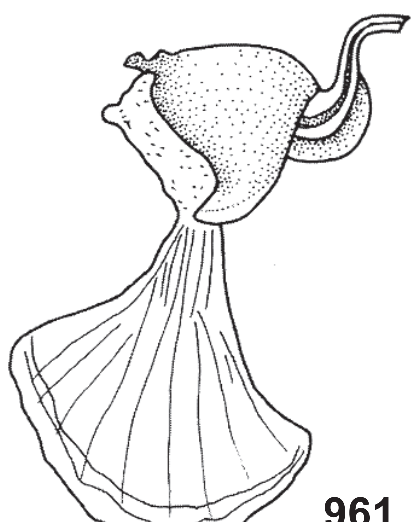

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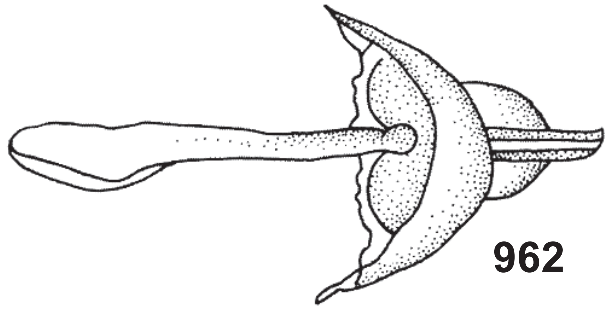

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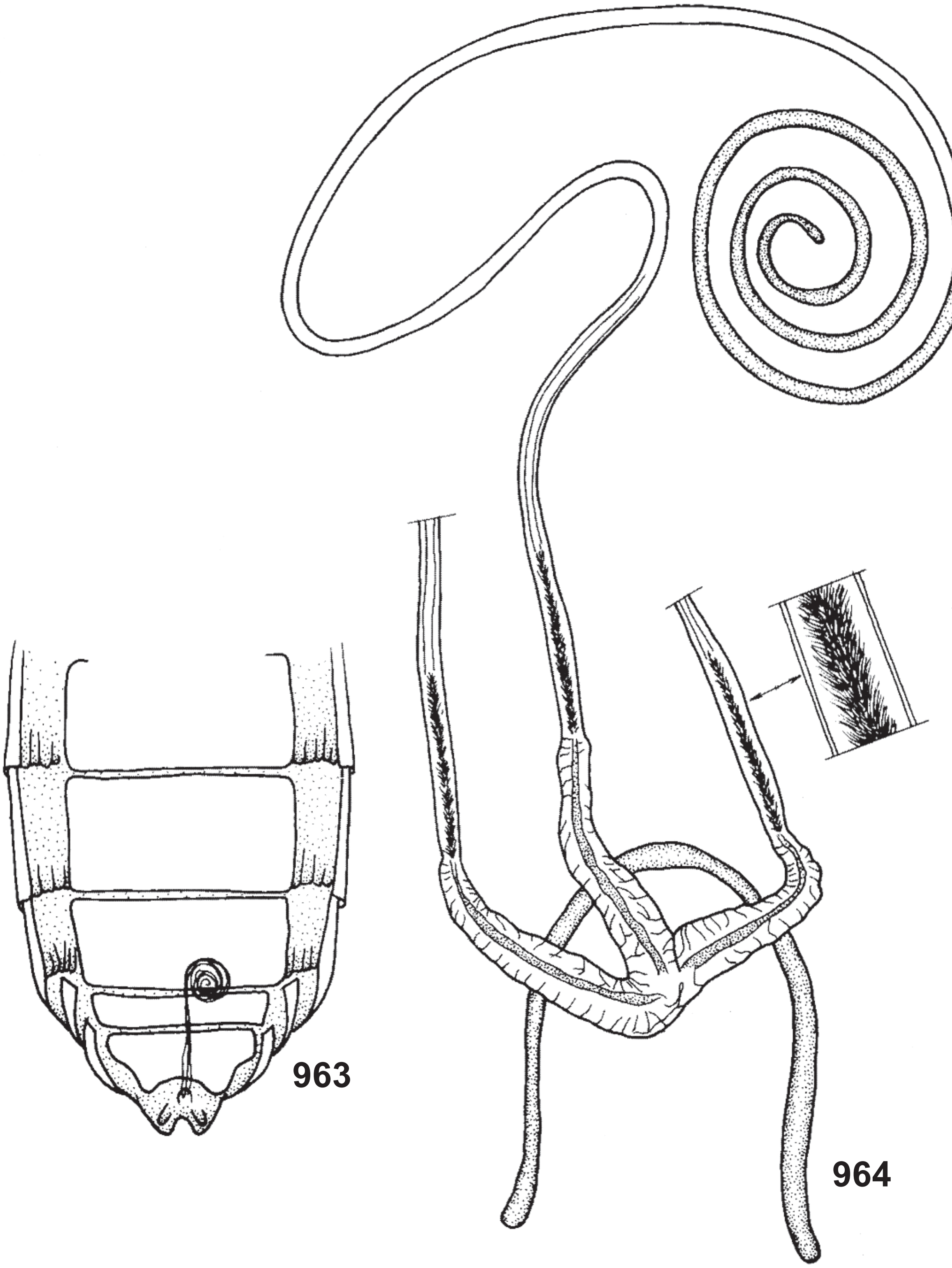
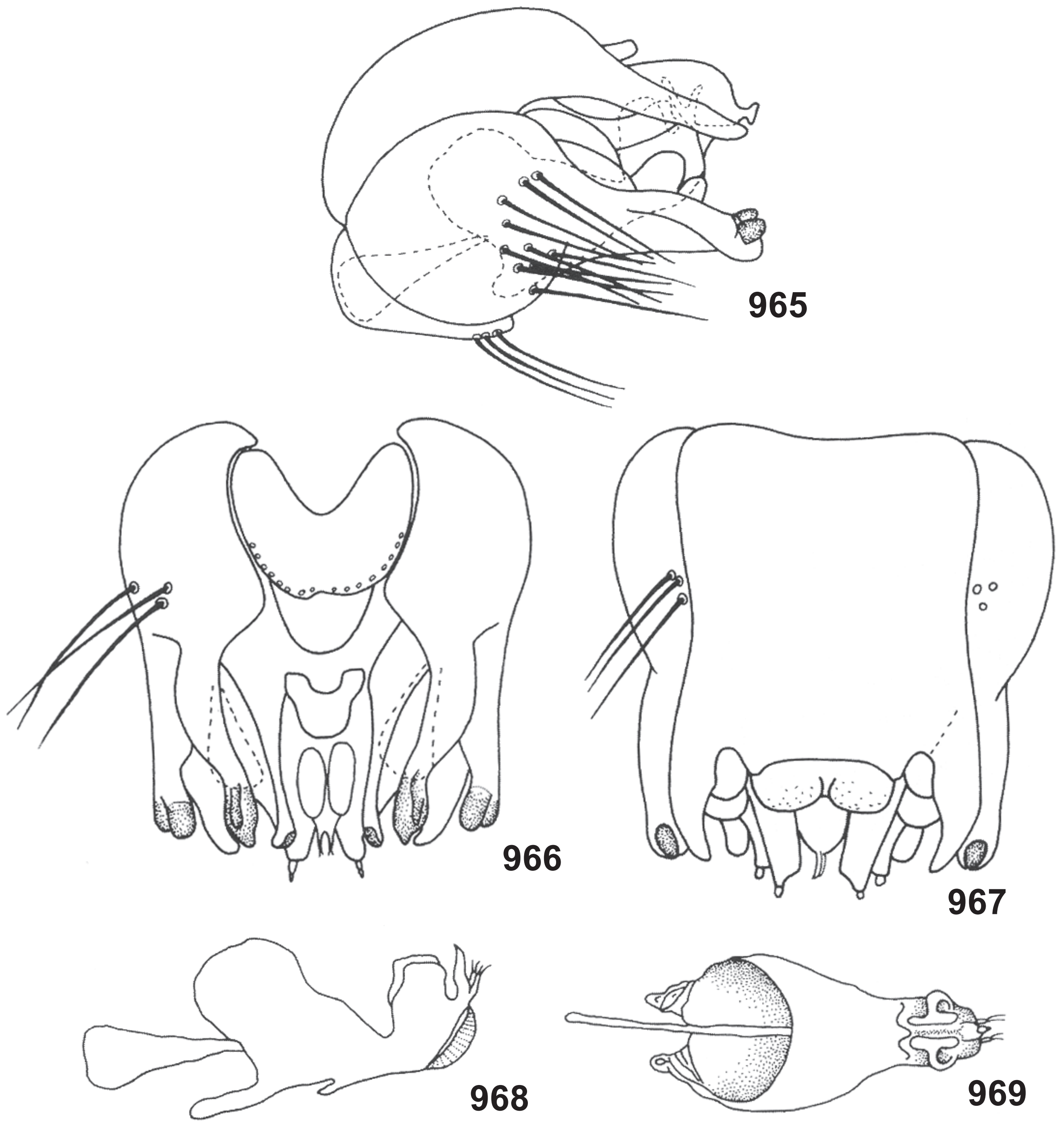
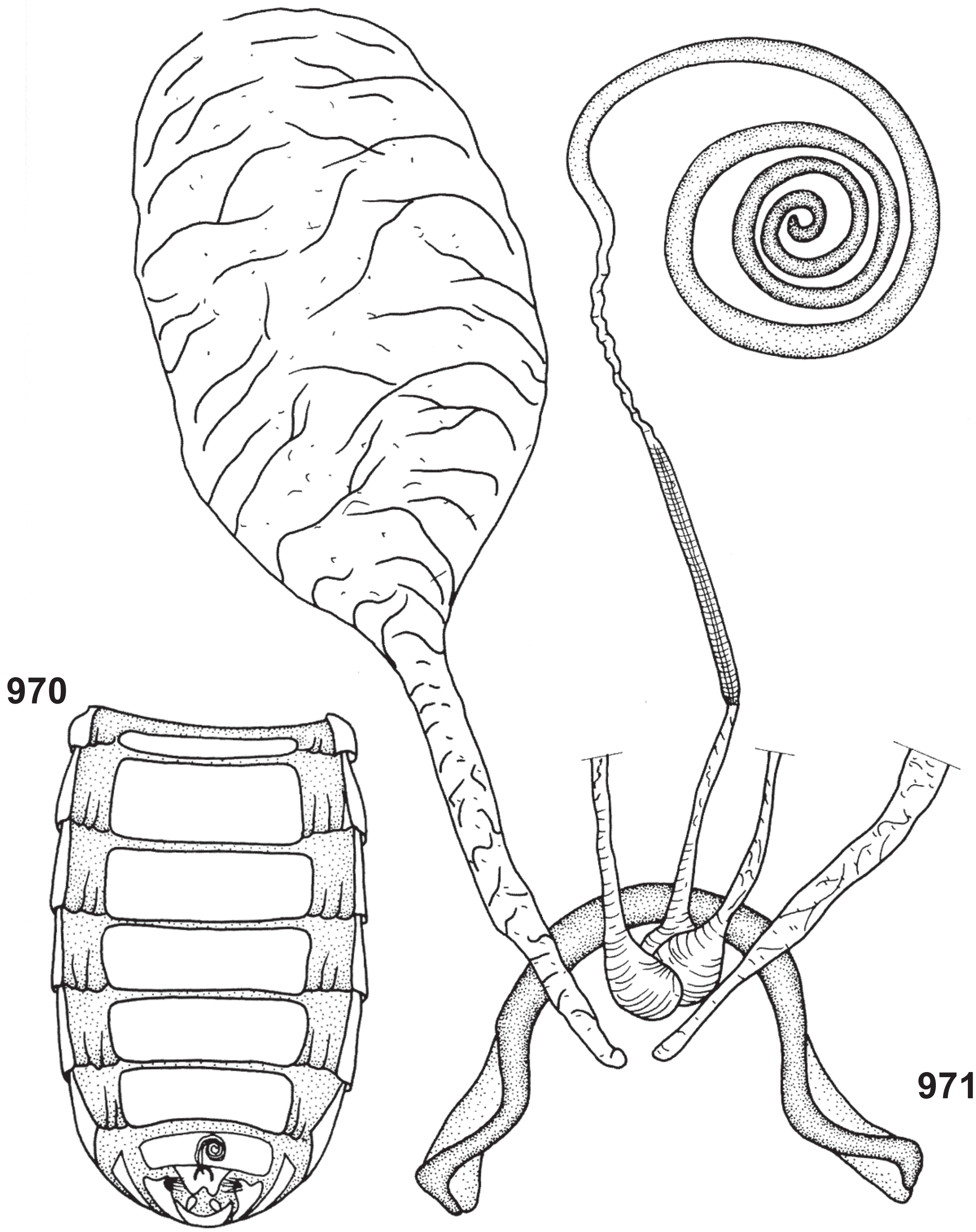
Figs. 958-962. *Hexameritia sp.*, male terminalia in lateral (958), ventral (959) and dorsal (960) views, and aedeagus in lateral (961) and dorsal (962) views.



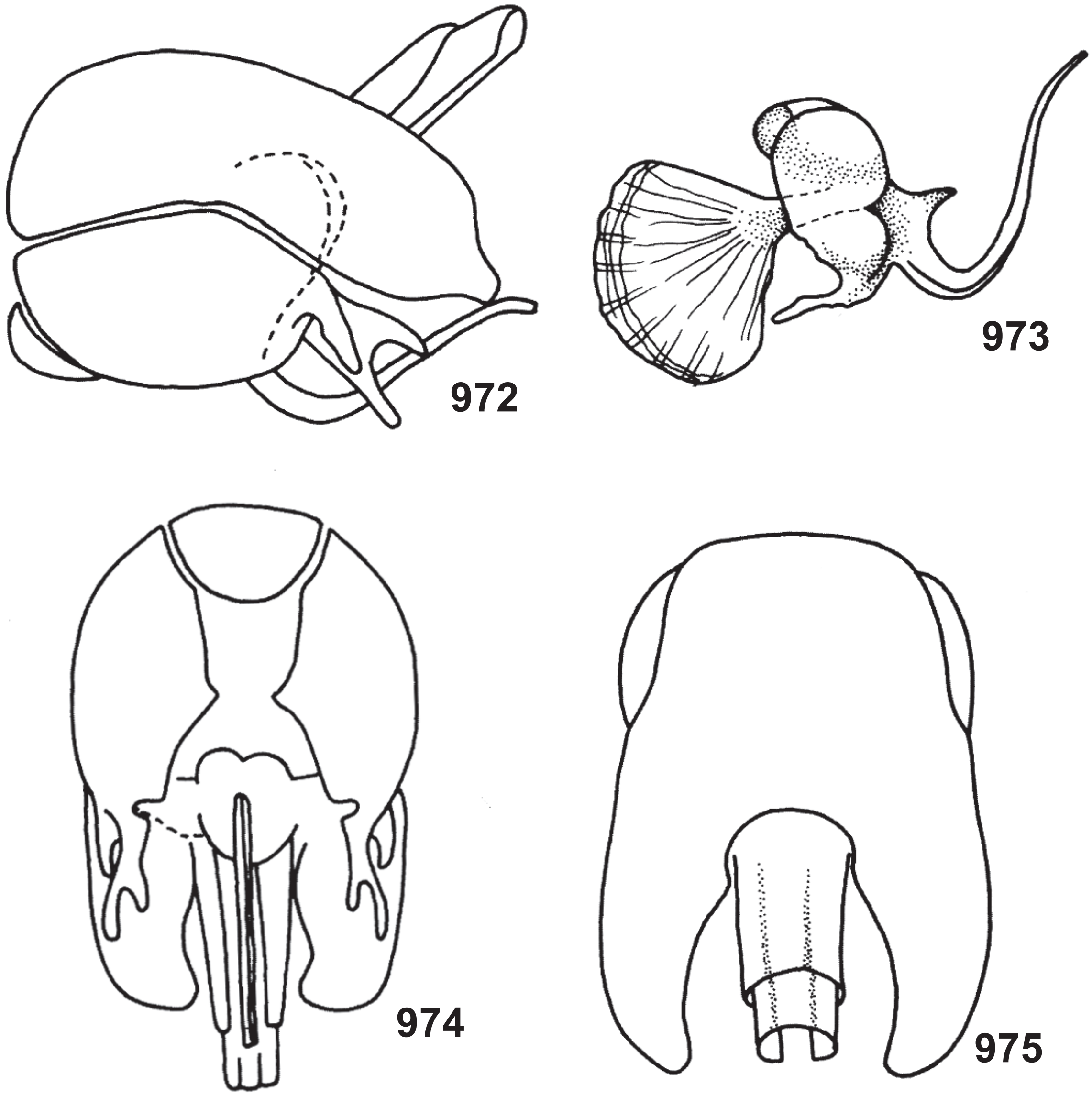
Figs. 963-964. *Helolaphyctis sp.*, situation of spermathecae in the abdomen (963) and spermathecae (964).



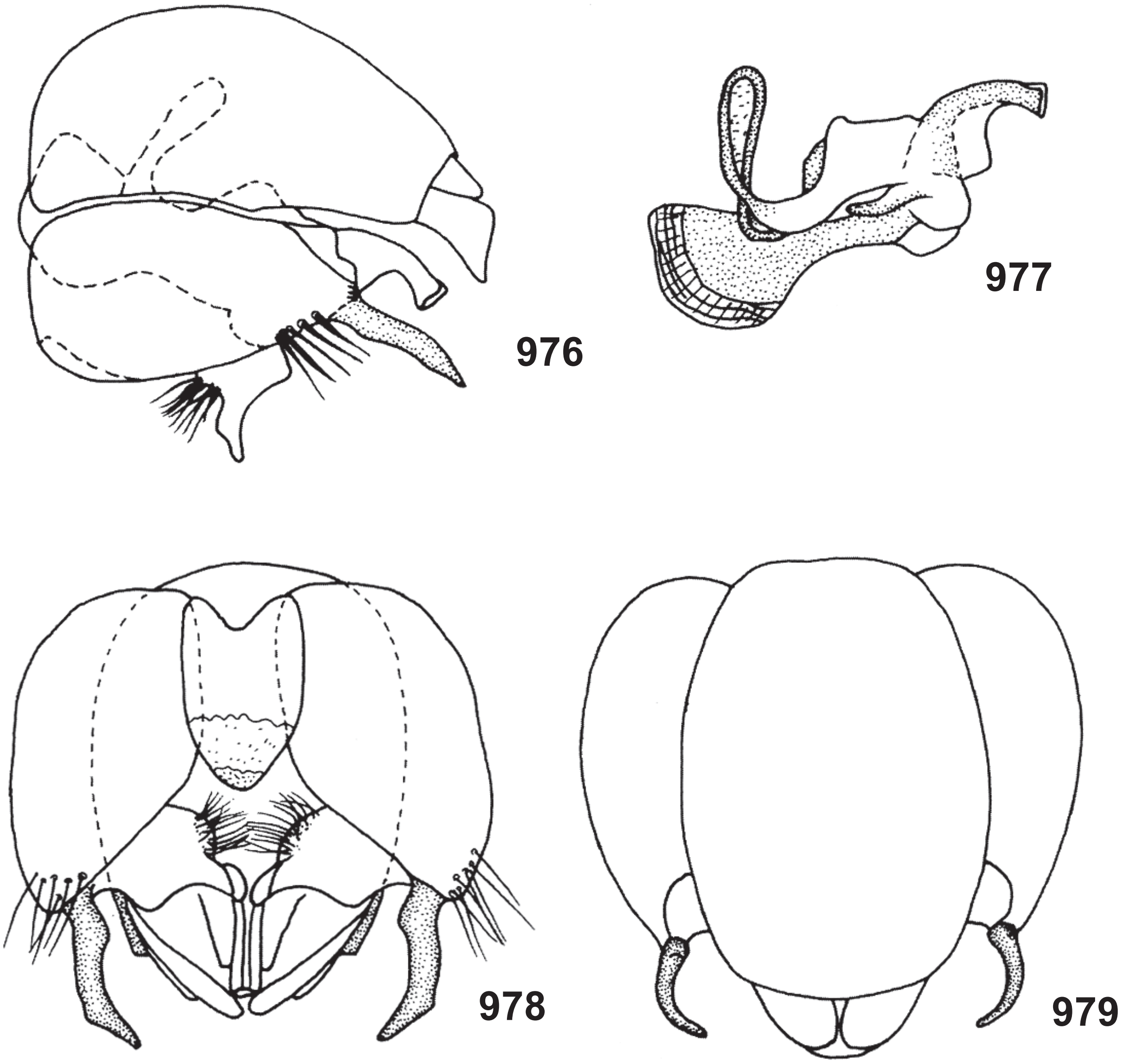
Figs. 965-969. *Apoxyria americana* Carrera, 1955, male terminalia in lateral (965), ventral (966) and dorsal (967) views, and aedeagus in lateral (968) and dorsal (969) views.



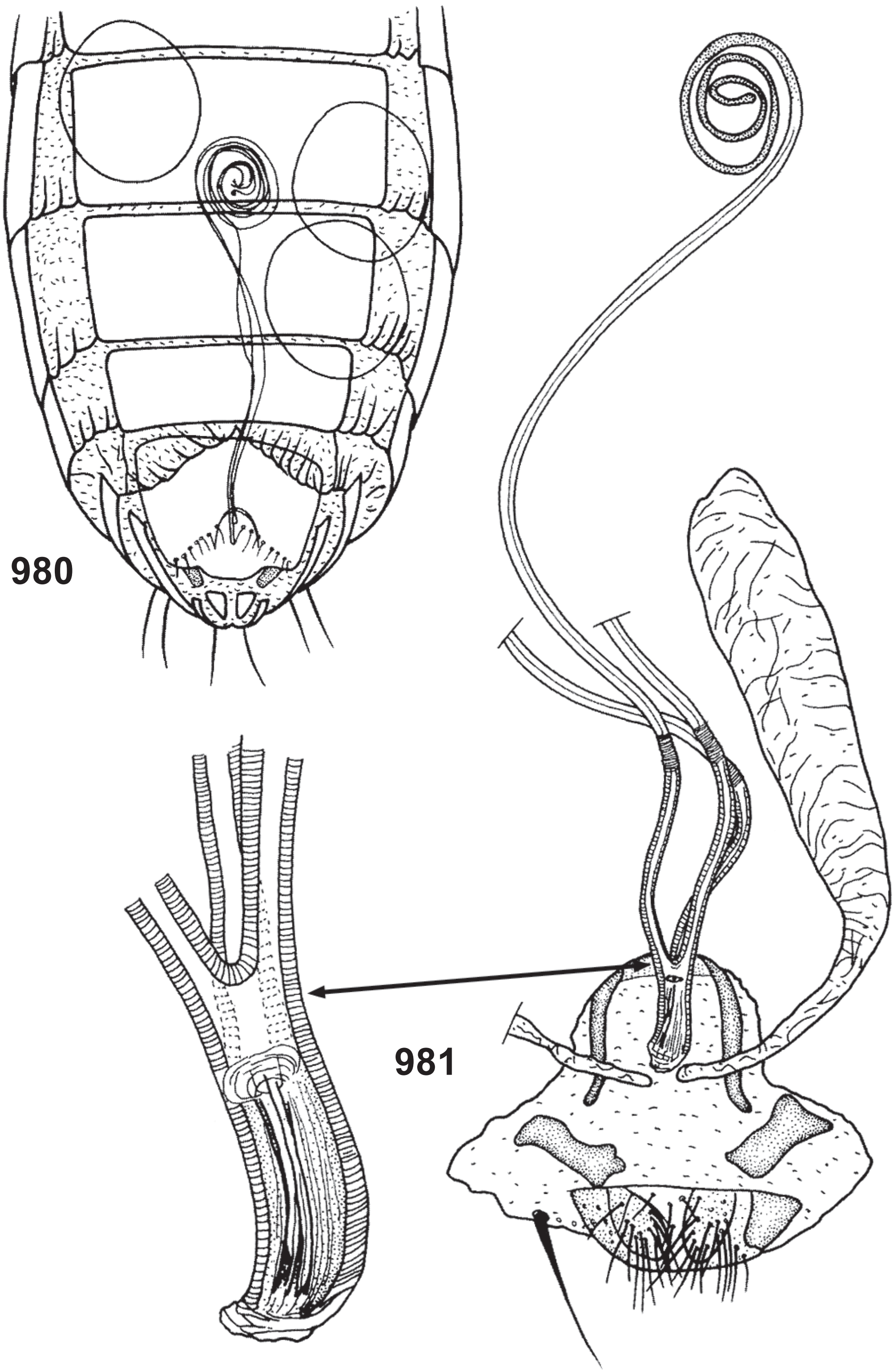
Figs. 970-971. *Apoxyria americana* Carrera, 1955, situation of spermathecae in the abdomen (970) and spermathecae (971).



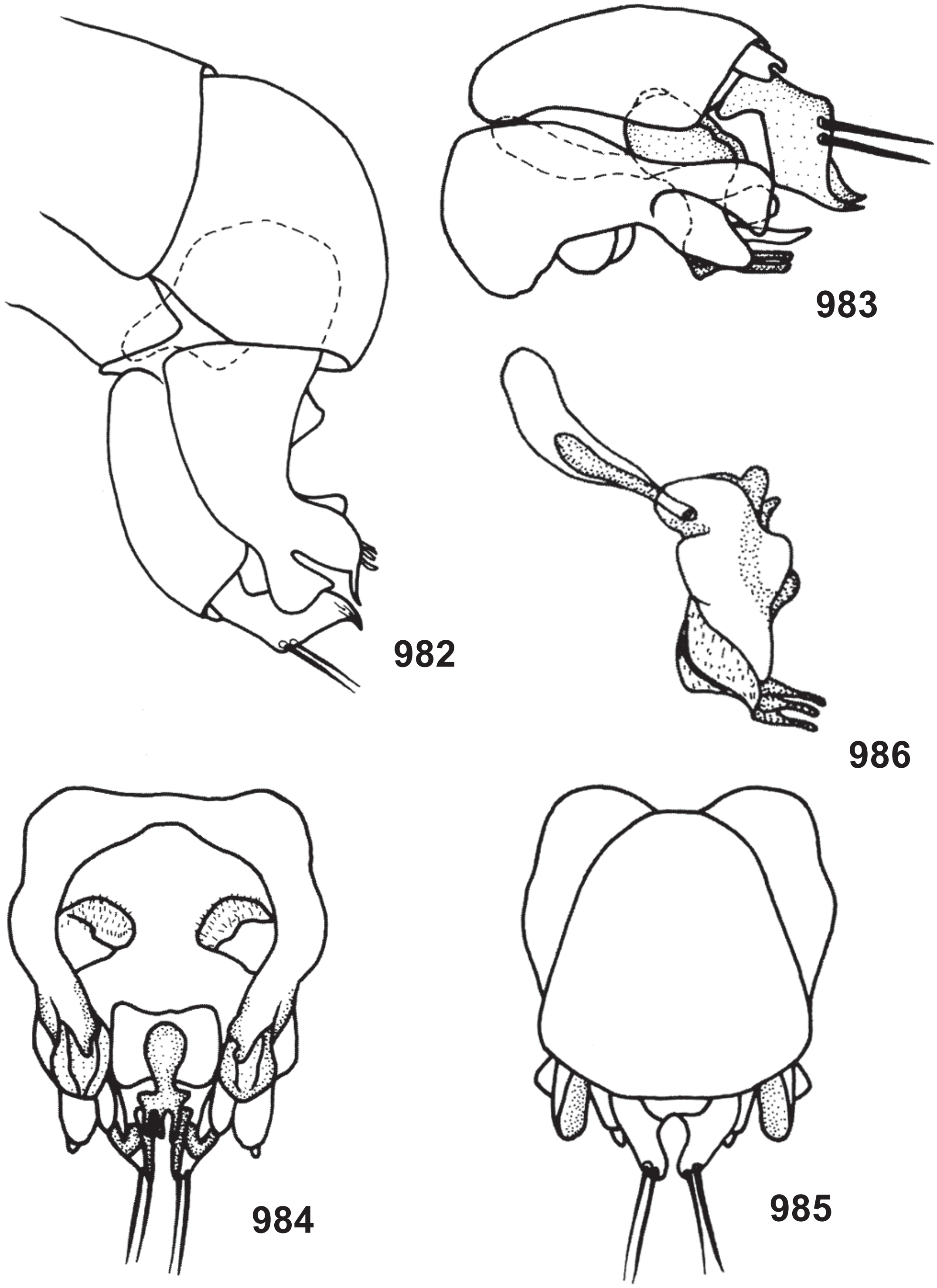
Figs. 972-975. *Laphygmolestes flavipes* Hull, 1962, male terminalia in lateral (972), ventral (974) and dorsal (975) views, and aedeagus in lateral view (973).



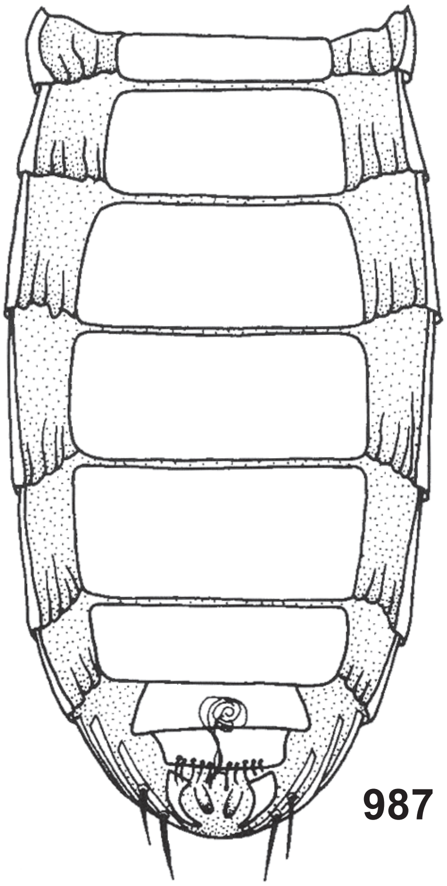
Figs. 976-979. *Cymbipyga cymbafera* (Artigas, 1983), male terminalia in lateral (976), ventral (978) and dorsal (979) views, and aedeagus in lateral view (977).



Figs. 980-981. *Cymbipyga cymbafera* (Artigas, 1983), situation of spermathecae in the abdomen (980) and spermathecae (981).



Figs. 982-986. *Psilocurus sp.*, male terminalia 'in loco' (982) and in lateral (983), ventral (984) and dorsal (985) views, and aedeagus in lateral view (986).



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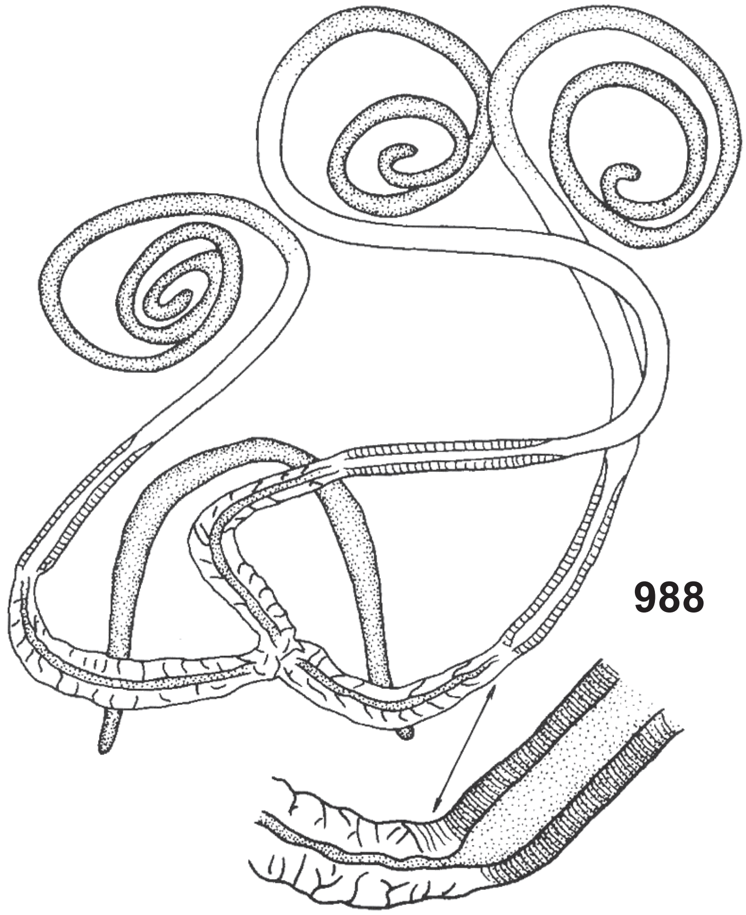

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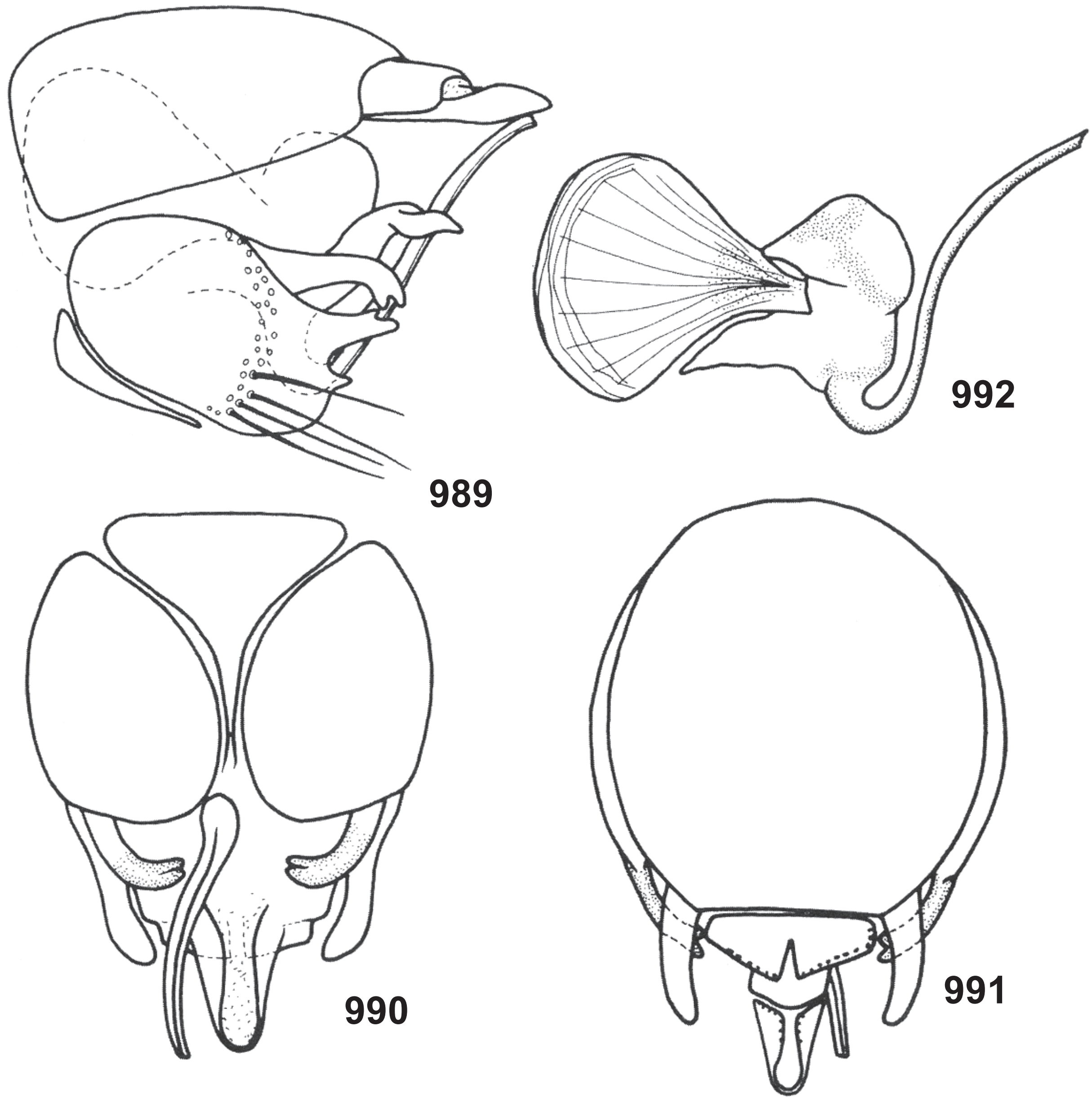
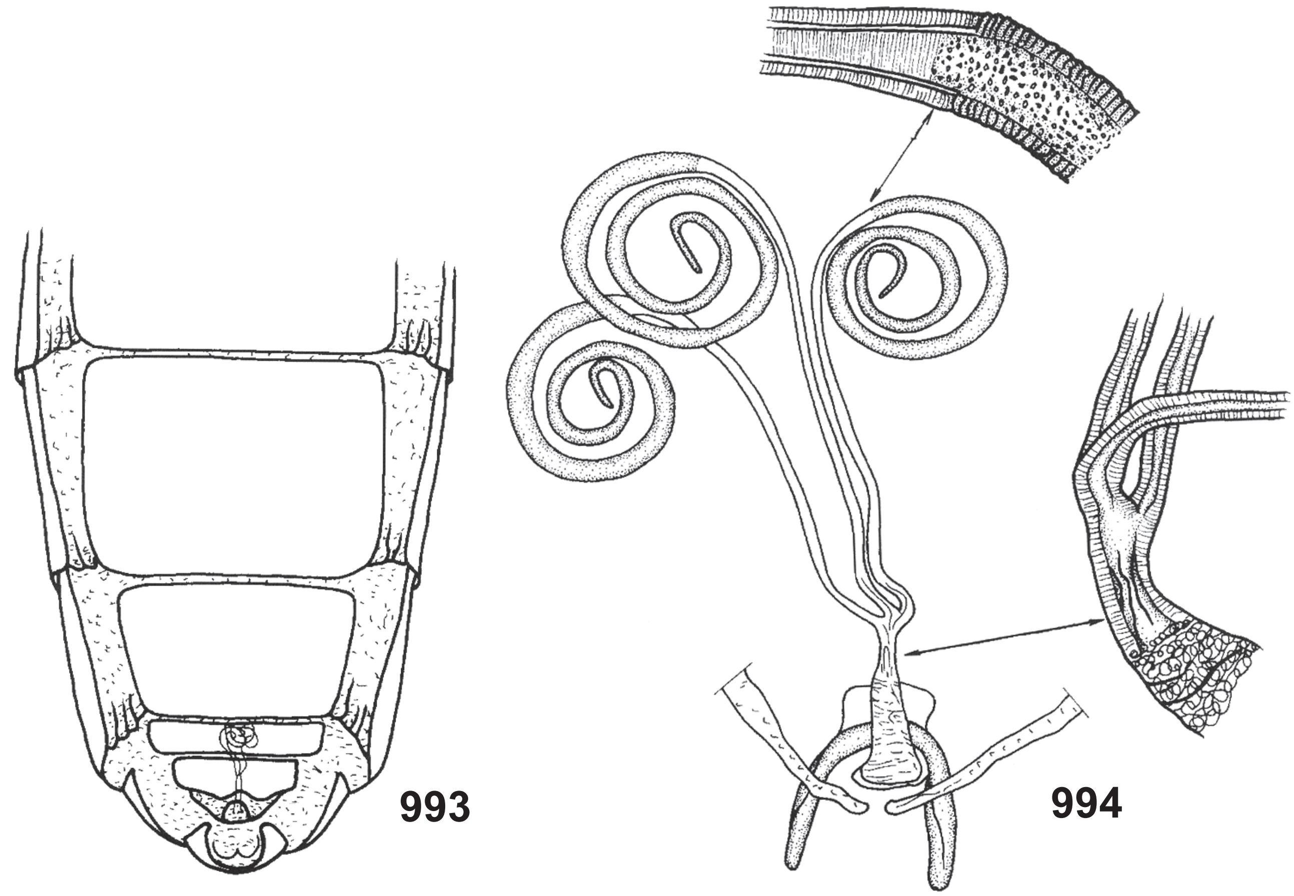
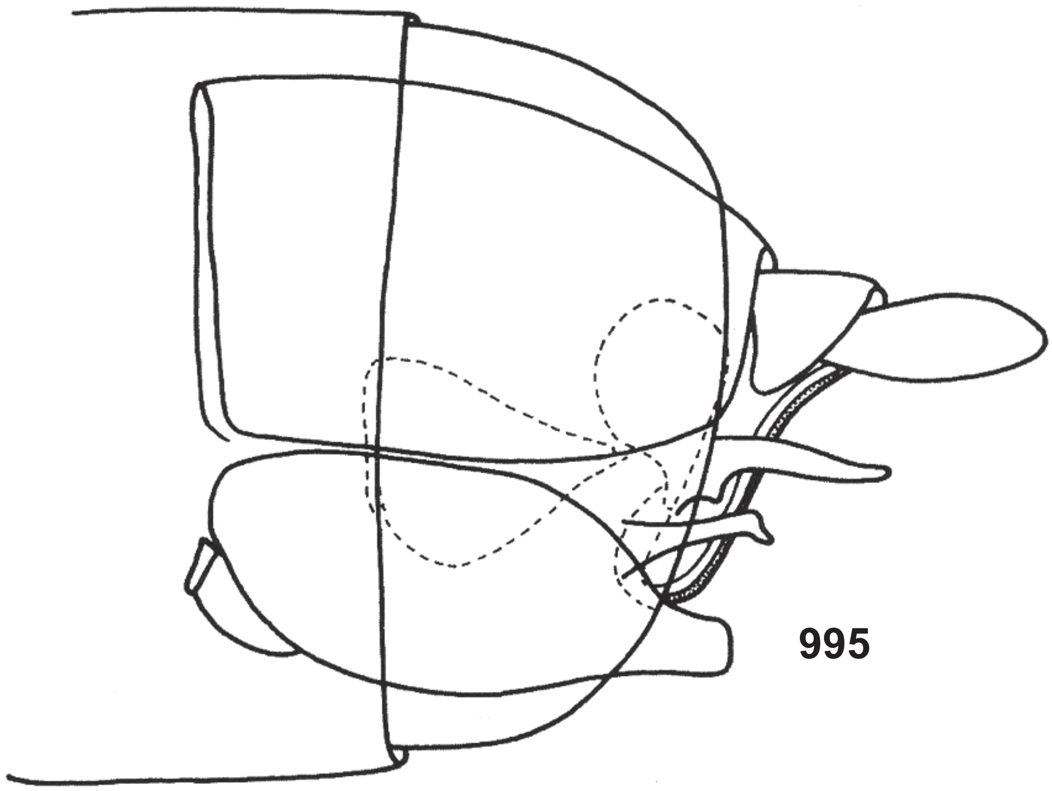
Figs. 987-988. *Psilocurus sp.*, situation of spermathecae in the abdomen (987) and spermathecae (988).



Figs. 989-992. *Macahyba nordestina* Carrera, 1947, male terminalia in lateral (989), ventral (990) and dorsal (991) views, and aedeagus in lateral view (992).



Figs. 993-994. *Macahyba nordestina* Carrera, 1947, situation of spermathecae in the abdomen (993) and spermathecae (994).



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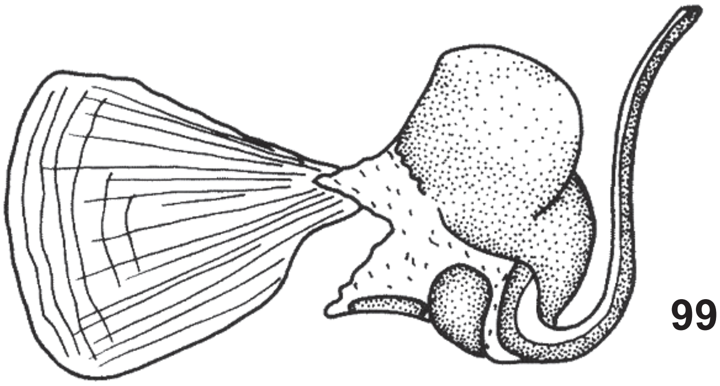

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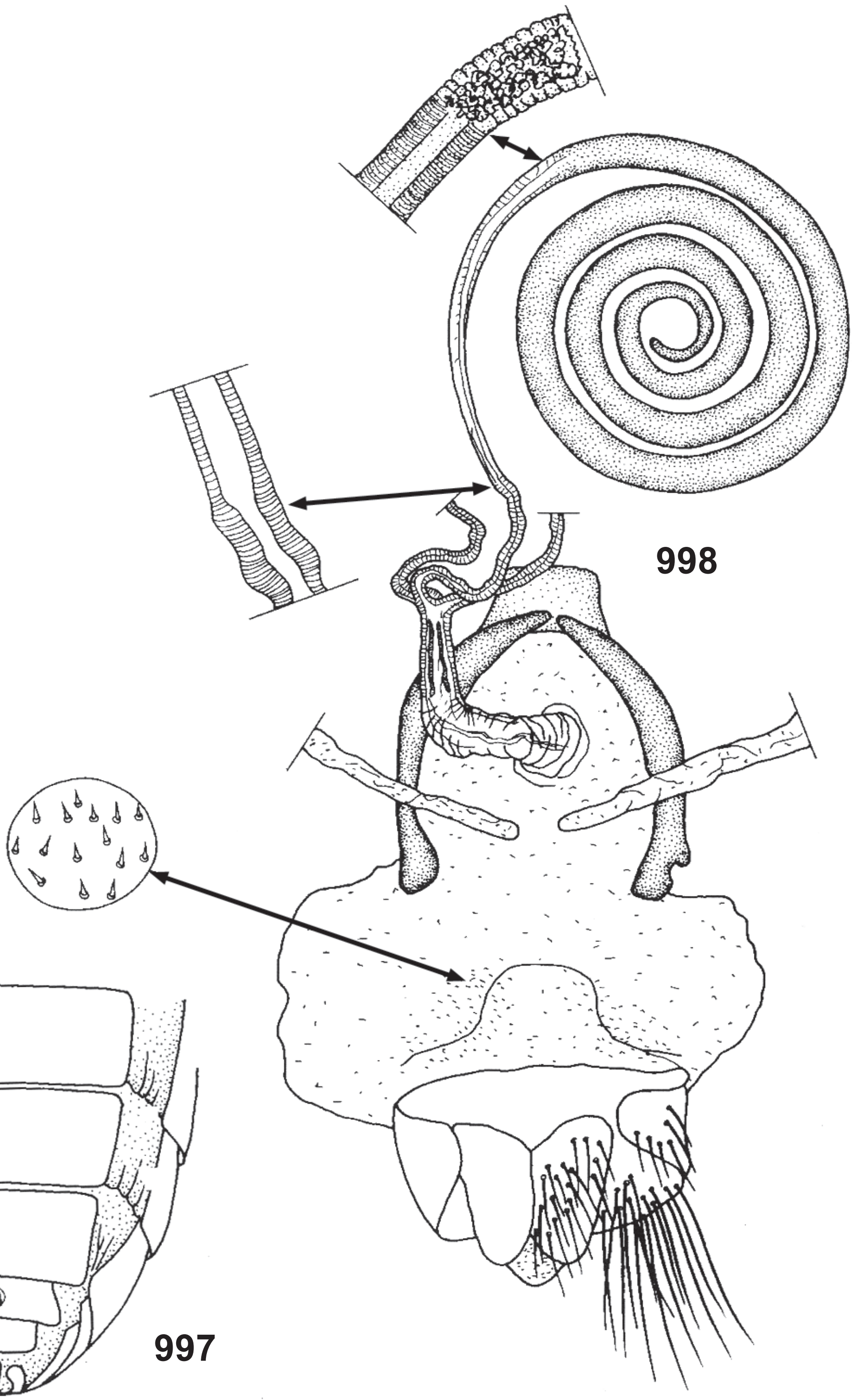
Figs. 995-996. *Martinomyia sp.*, male terminalia ‘in loco’ (995) and aedeagus in lateral view (996).



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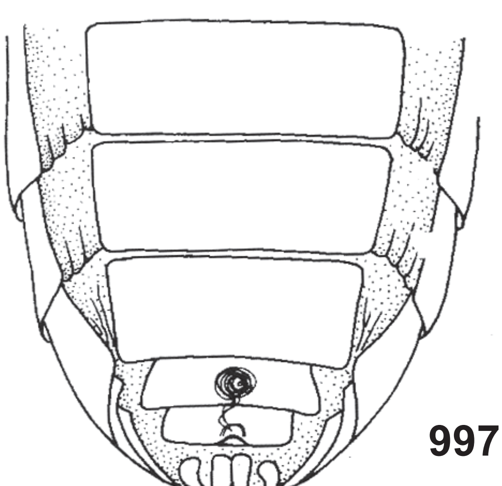

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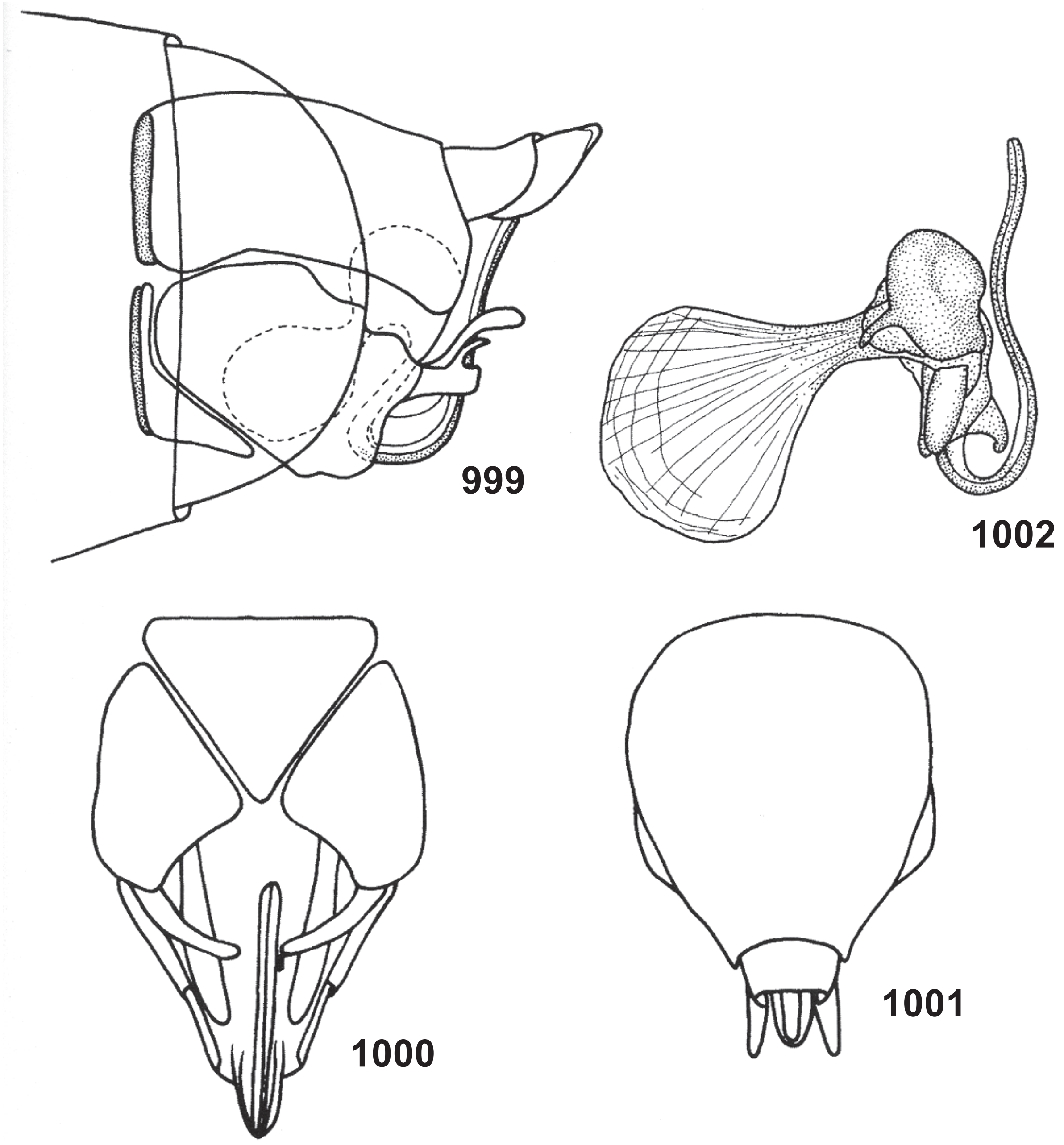
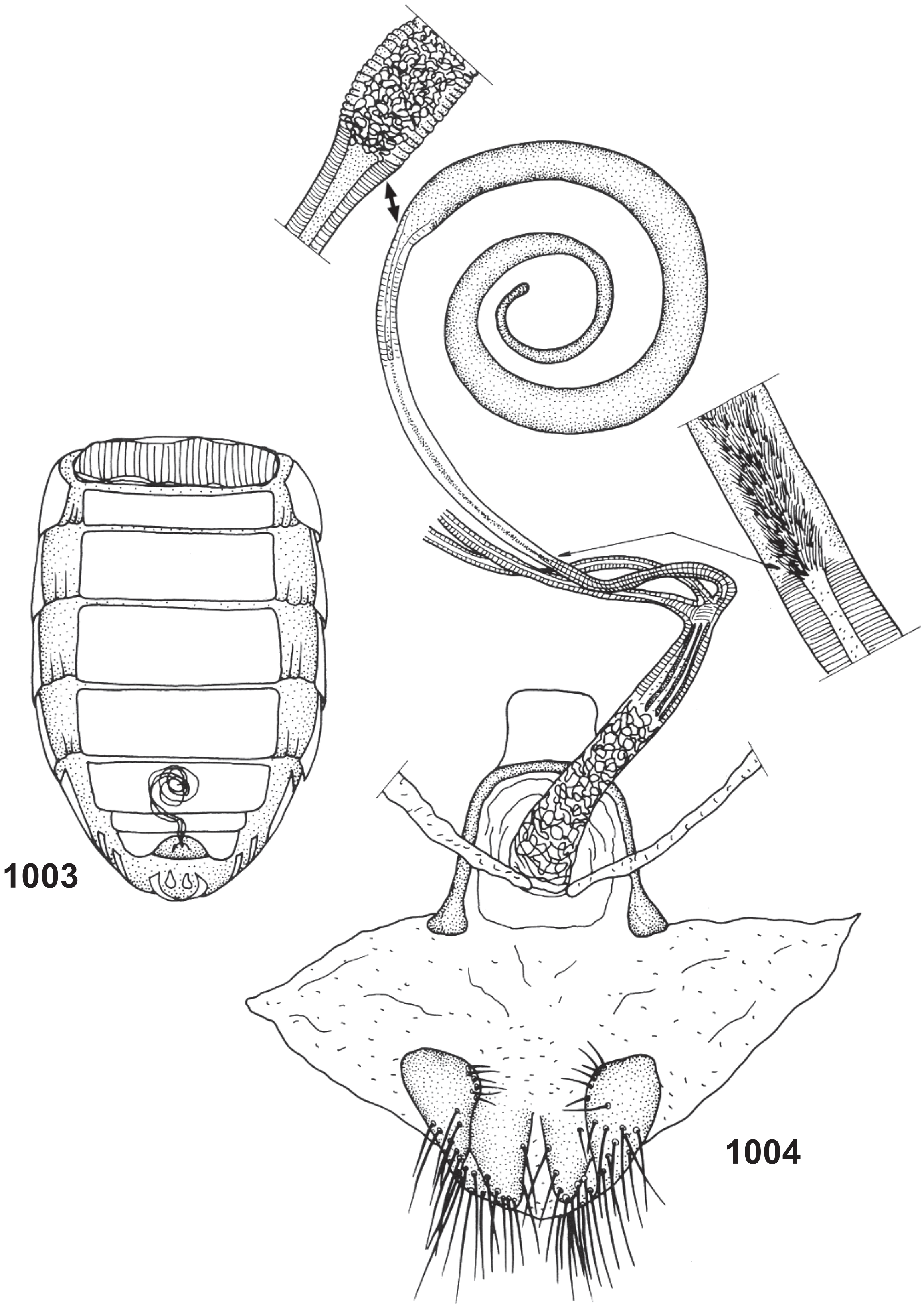
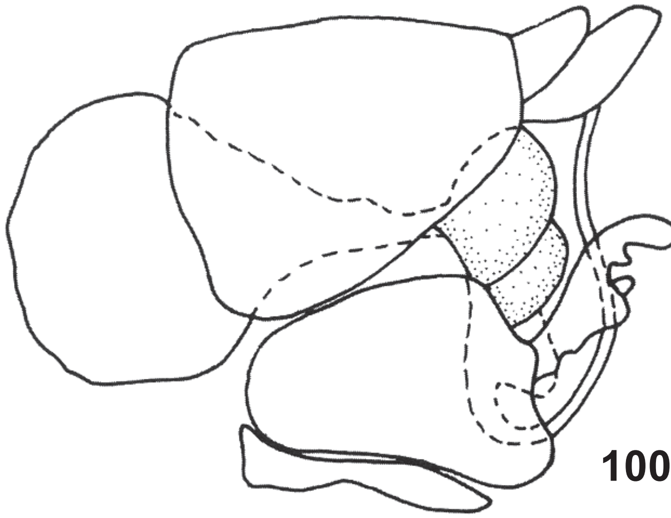
Figs. 997-998. *Martinomyia sp.*, situation of spermathecae in the abdomen (997) and spermathecae (998).



Figs. 999-1002. *Cochleariocera neusae* Artigas, Papavero & Costa, 1997, male terminalia 'in loco' (999) and in ventral (1000) and dorsal (1001) views, and aedeagus in lateral view (1002).



Figs. 1003-1004. *Cochleariocera neusae* Artigas, Papavero & Costa, 1997, situation of spermathecae in the abdomen (1003) and spermathecae (1004).



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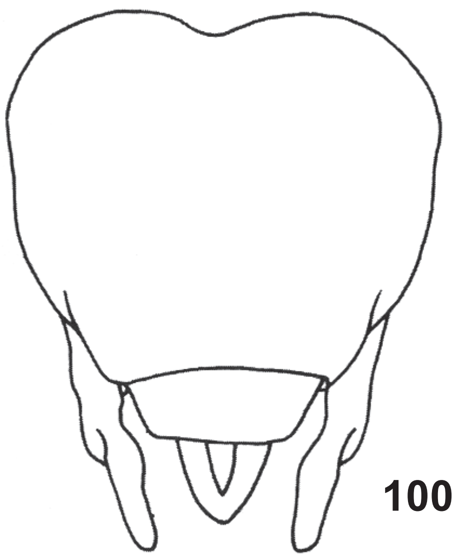

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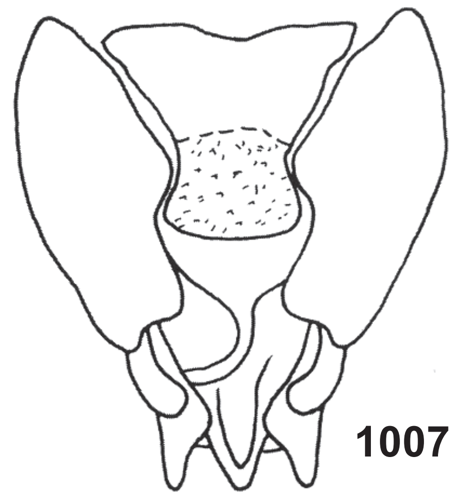

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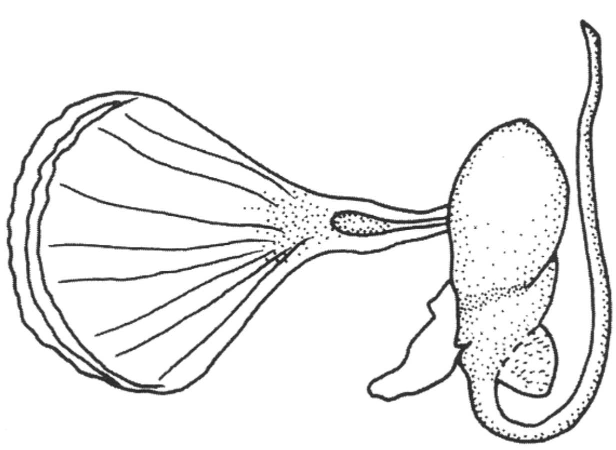

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Figs. 1005-1008. *Protometer evae* Artigas, Papavero & Costa, 1997, male terminalia in lateral (1005), dorsal (1006) and ventral (1007) views, and aedeagus in lateral view (1008).

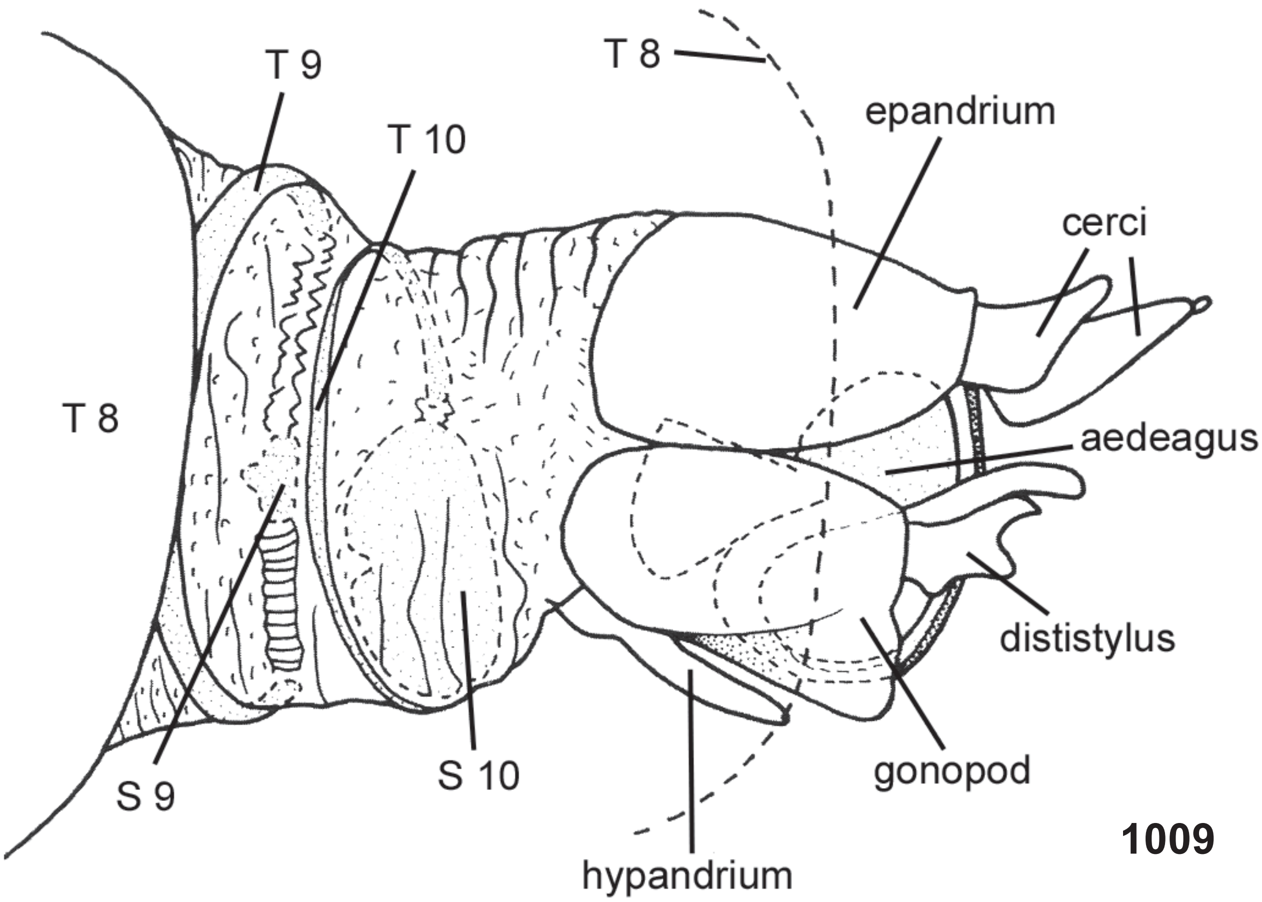
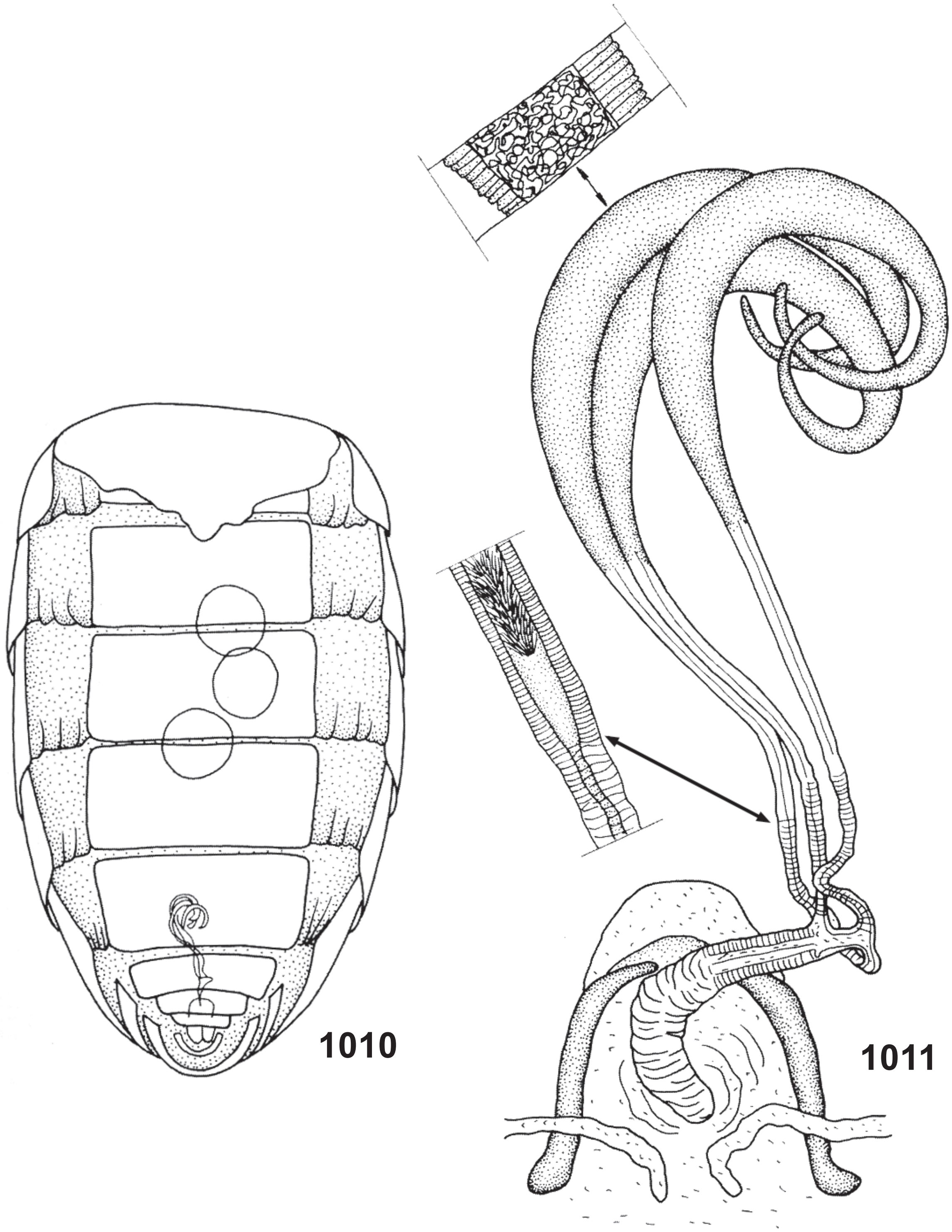
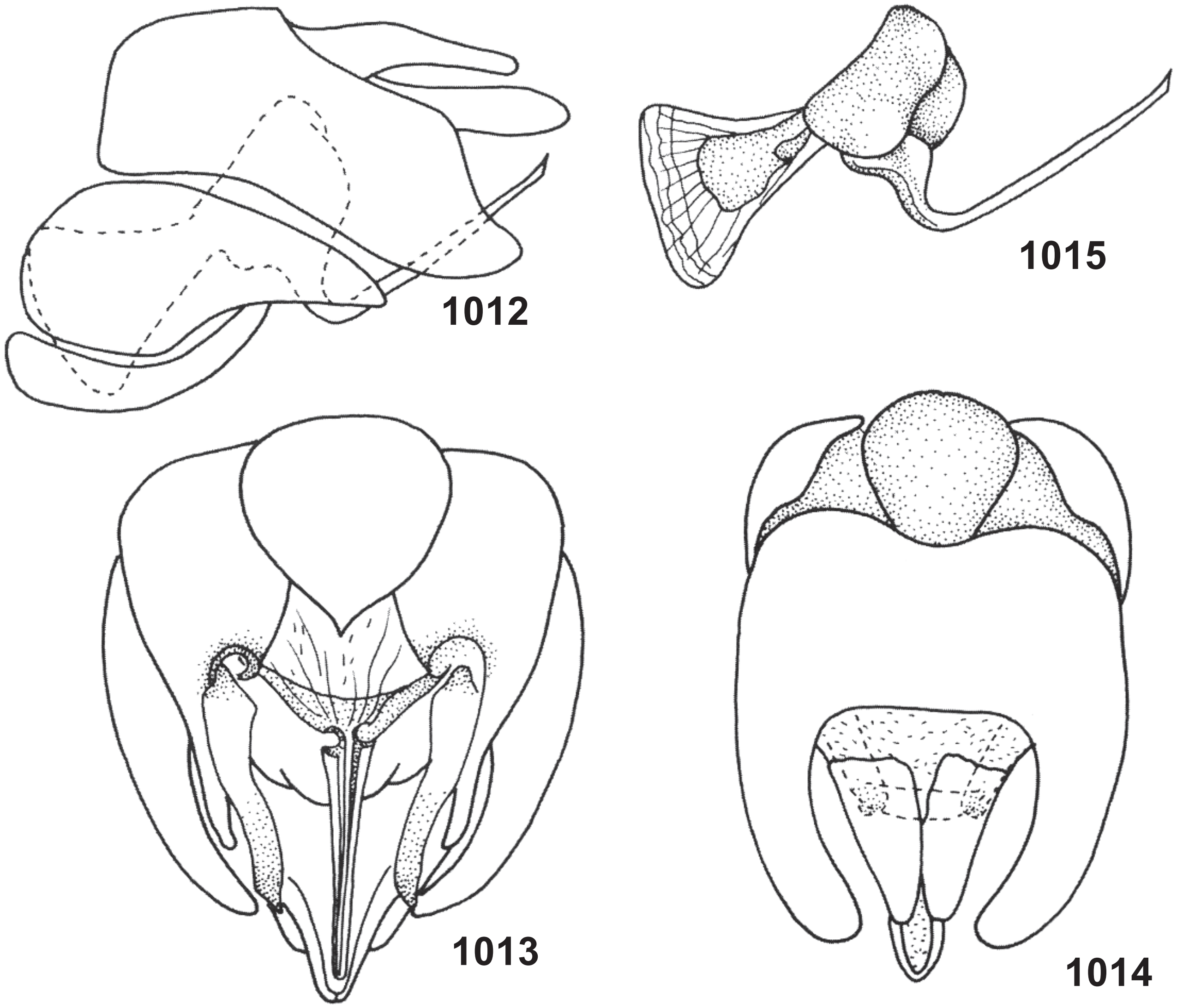


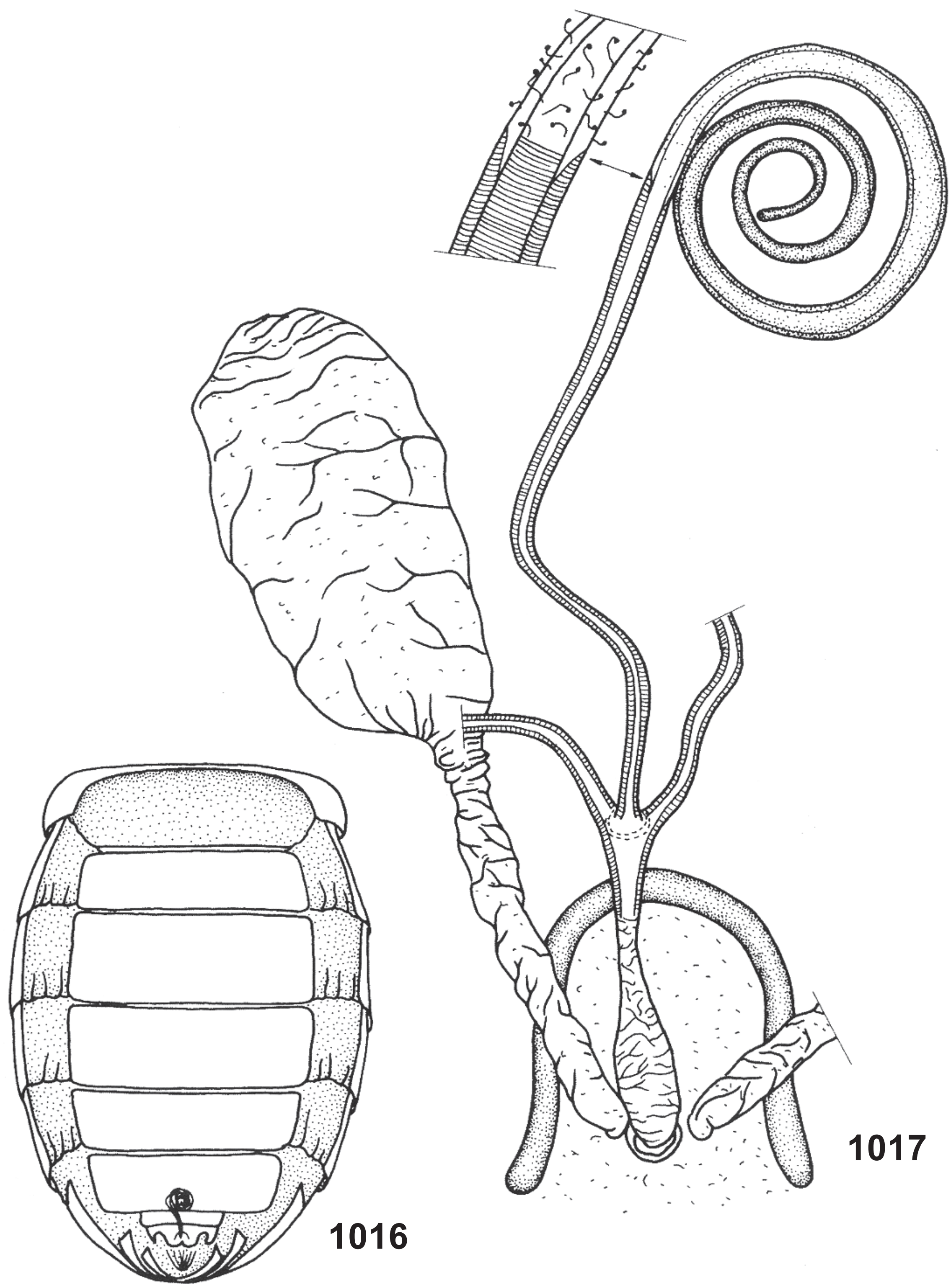
Fig. 1009. *Protometer evae* Artigas, Papavero & Costa, 1997, male terminalia at apex of abdomen, lateral view. tg 8: tergite 8; tg 9: tergite 9; tg 10: tergite'10; st 9: sternite 9; st 10: sternite10.



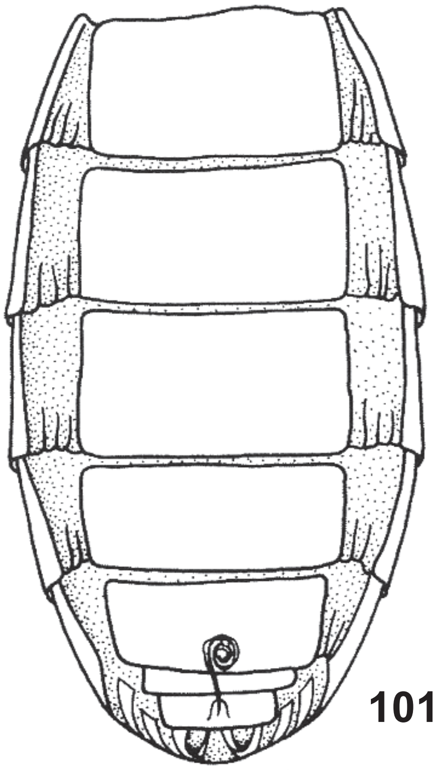
Figs. 1010-1011. *Protometer evae* Artigas, Papavero & Costa, 1997, situation of spermathecae in the abdomen (1010) and spermathecae (1011).



Figs. 1012-1015. *Triclioscelis femorata* Roeder, 1900, male terminalia in lateral (1012), ventral (1013) and dorsal (1014) views, and aedeagus in lateral view (1015).



Figs. 1016-1017. *Tricliocelis femorata* Roeder, 1900, situation of spermathecae in the abdomen (1016) and spermathecae (1017).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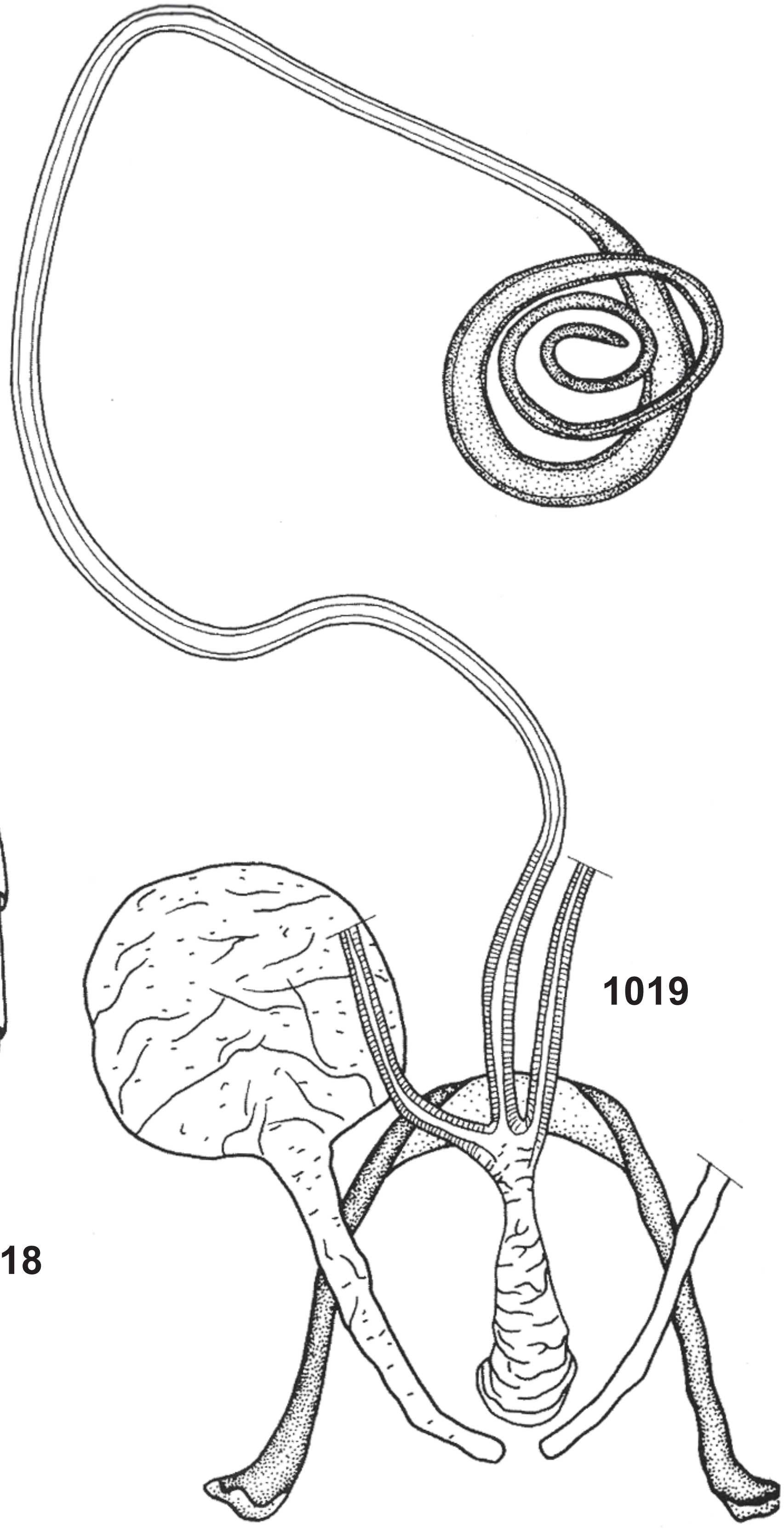
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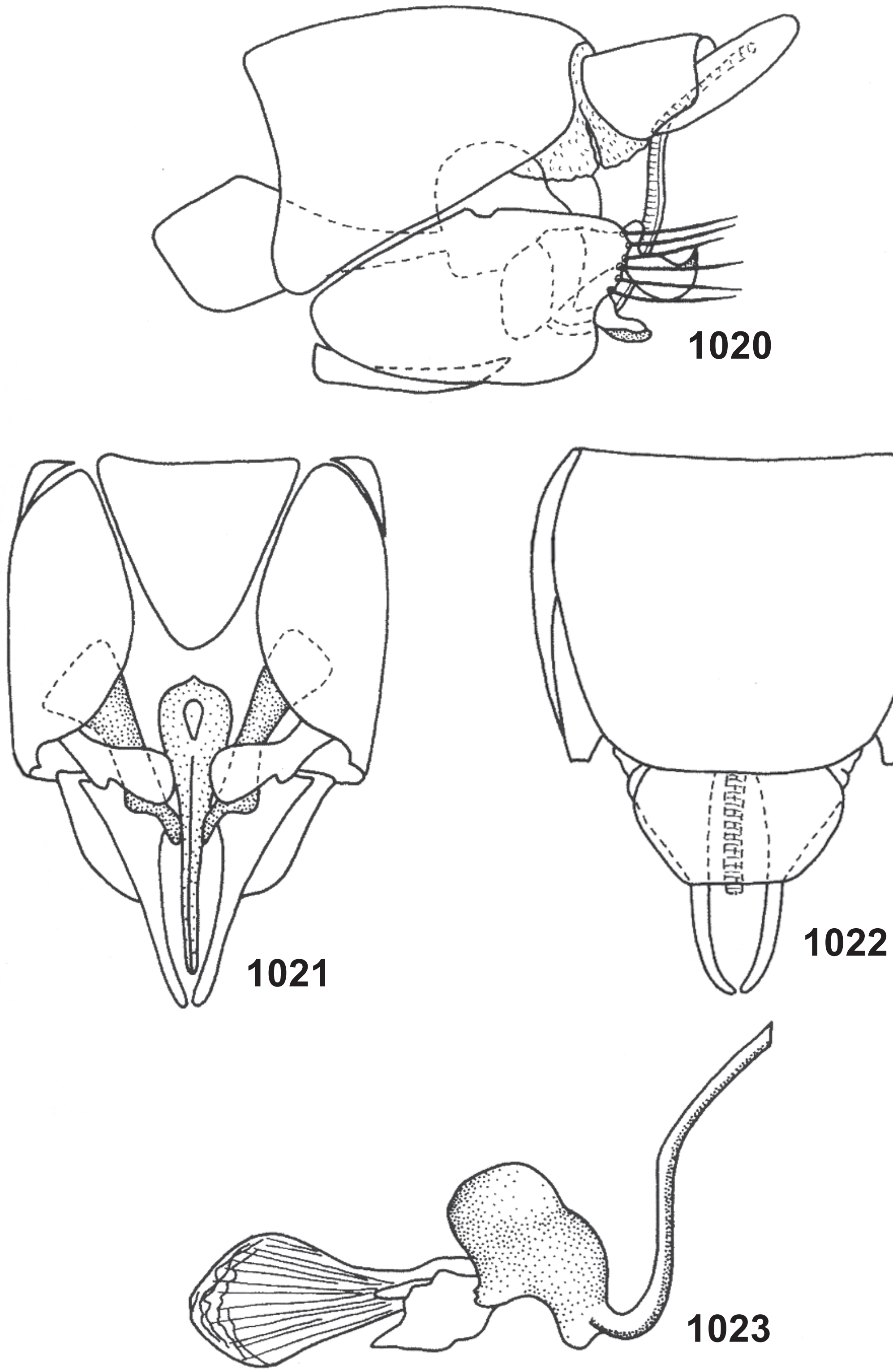
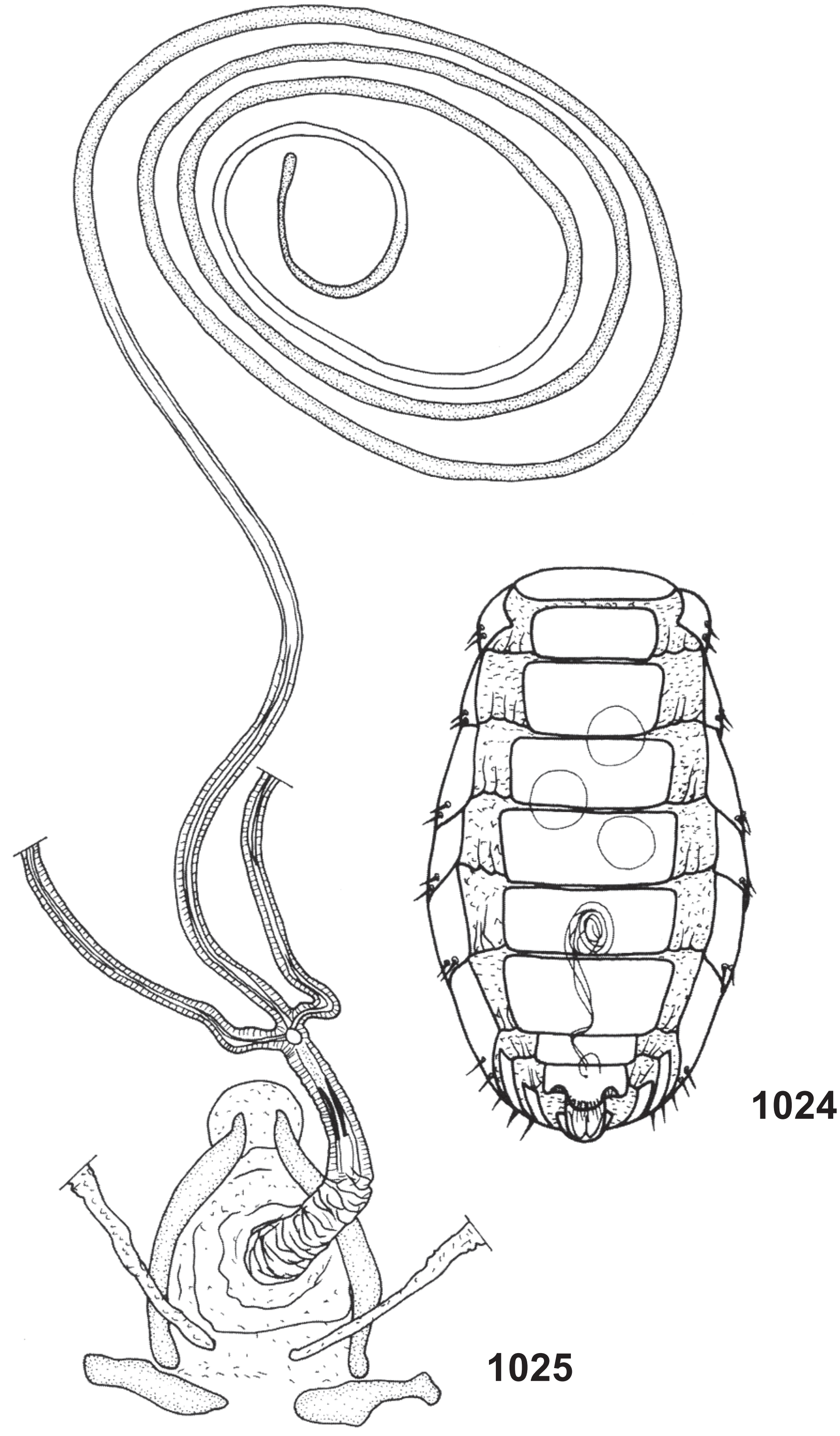
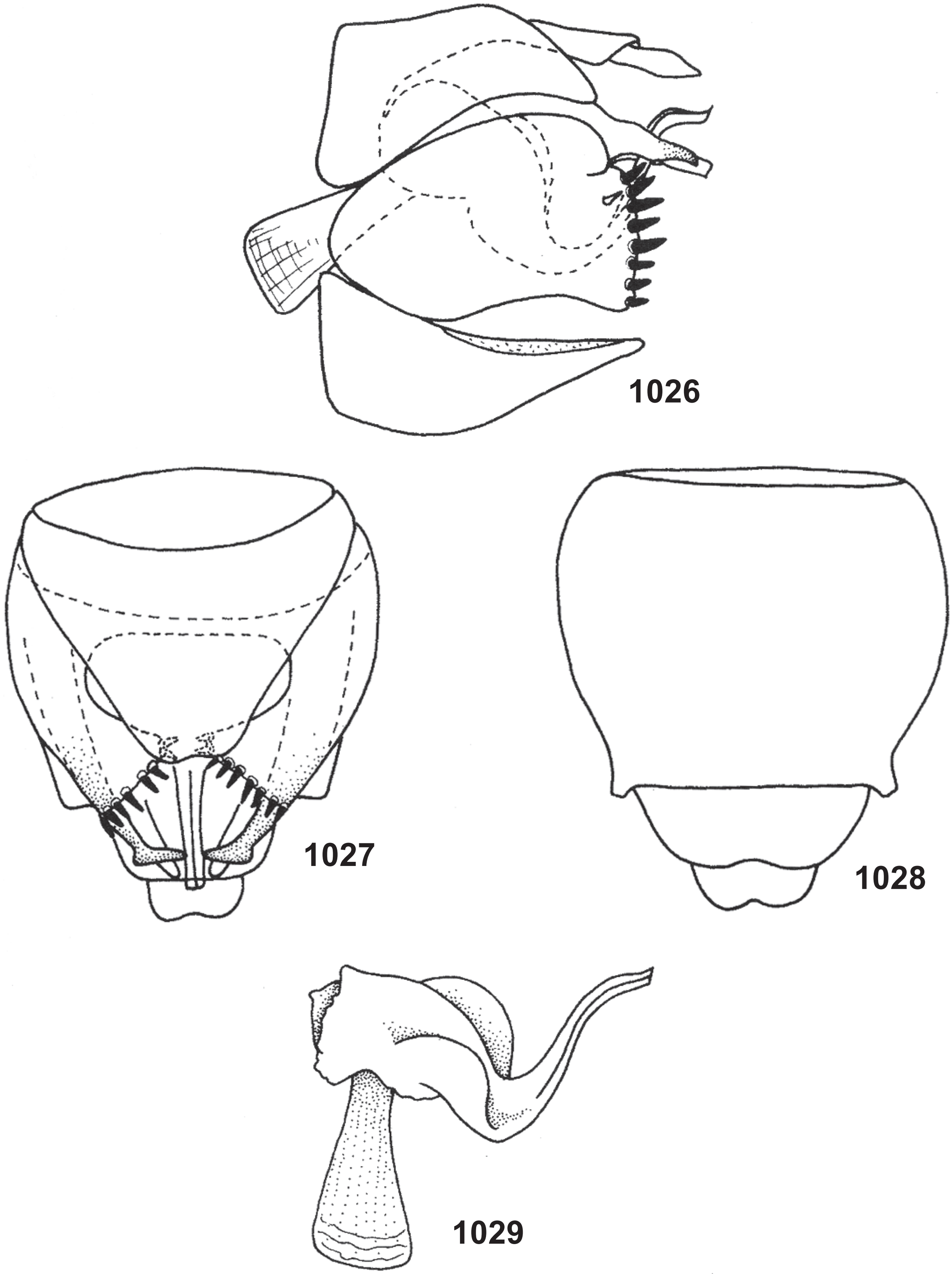
Figs. 1018-1019. *Perasis sp.*, situation of spermathecae in the abdomen (1018) and spermathecae (1019).



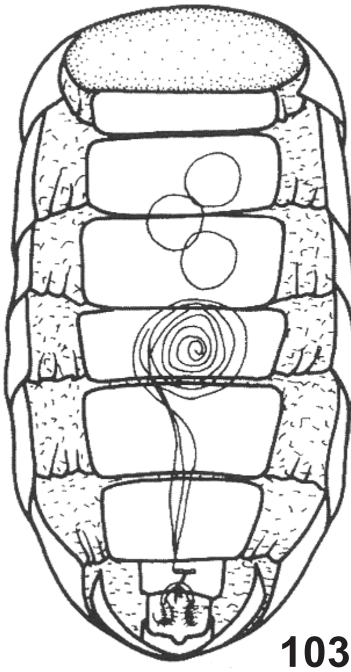
Figs. 1020-1023. *Asicya sp.*, male terminalia in lateral (1020), ventral (1021) and dorsal (1022) views, and aedeagus in lateral view (1023).



Figs. 1024-1025. *Asicya sp.*, situation oof spermathecae in the abdomen (1024) and spermathecae (1025).



Figs. 1026-1029. *Gymnotriclis coscaronorum* Artigas, Papavero & Costa, 1997, male terminalia in lateral (1026), ventral (1027) and dorsal (1028) views, and aedeagus in lateral view (1029).



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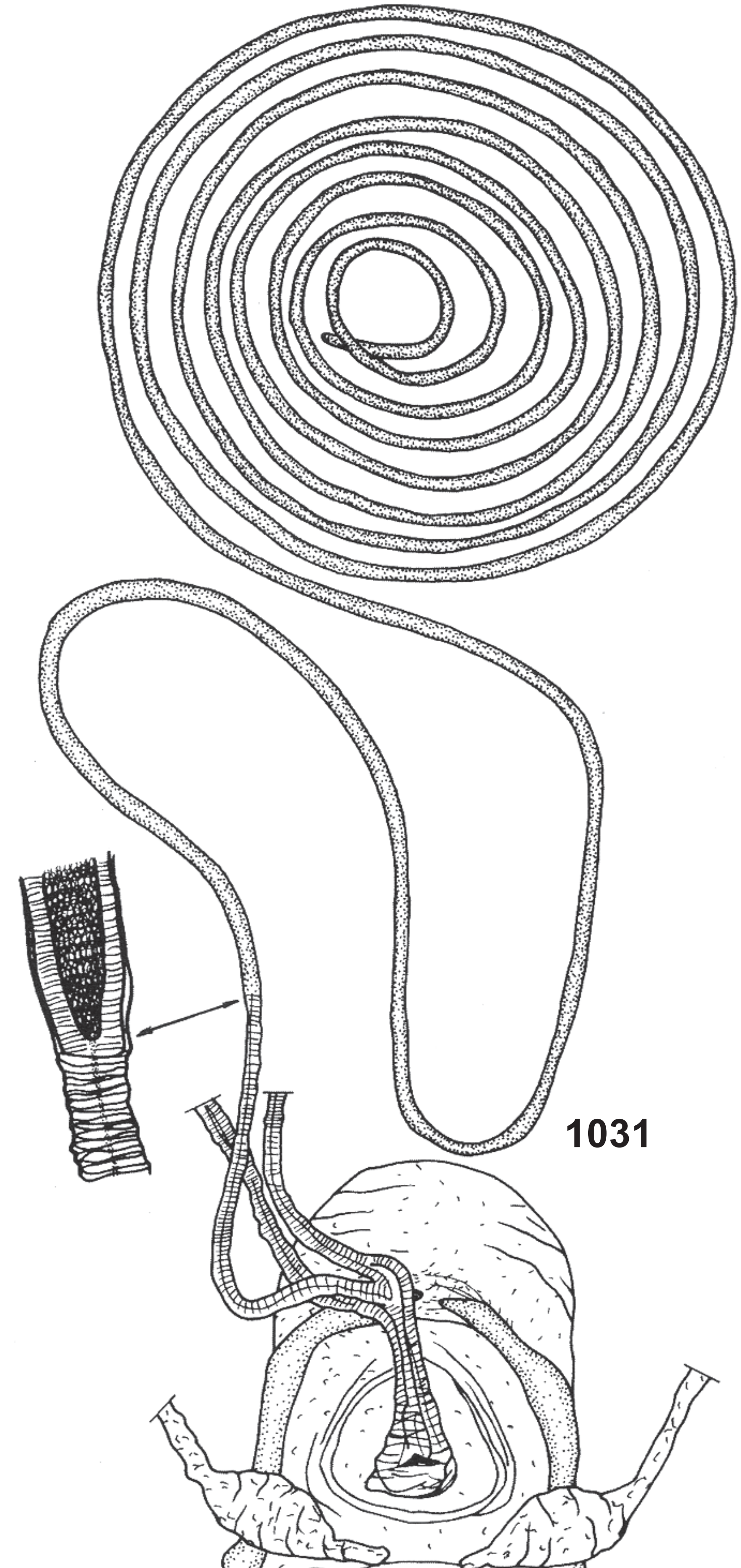

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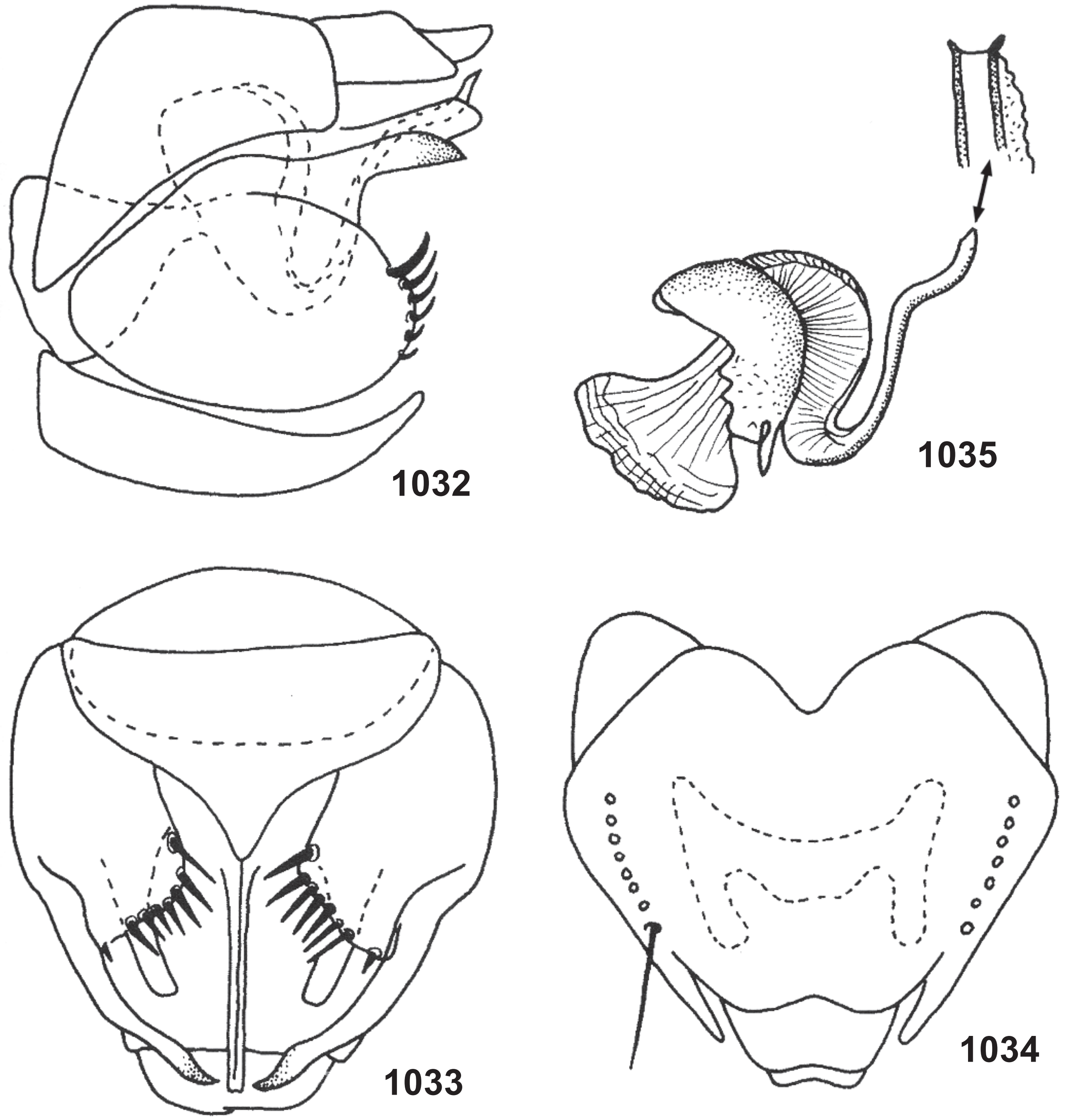
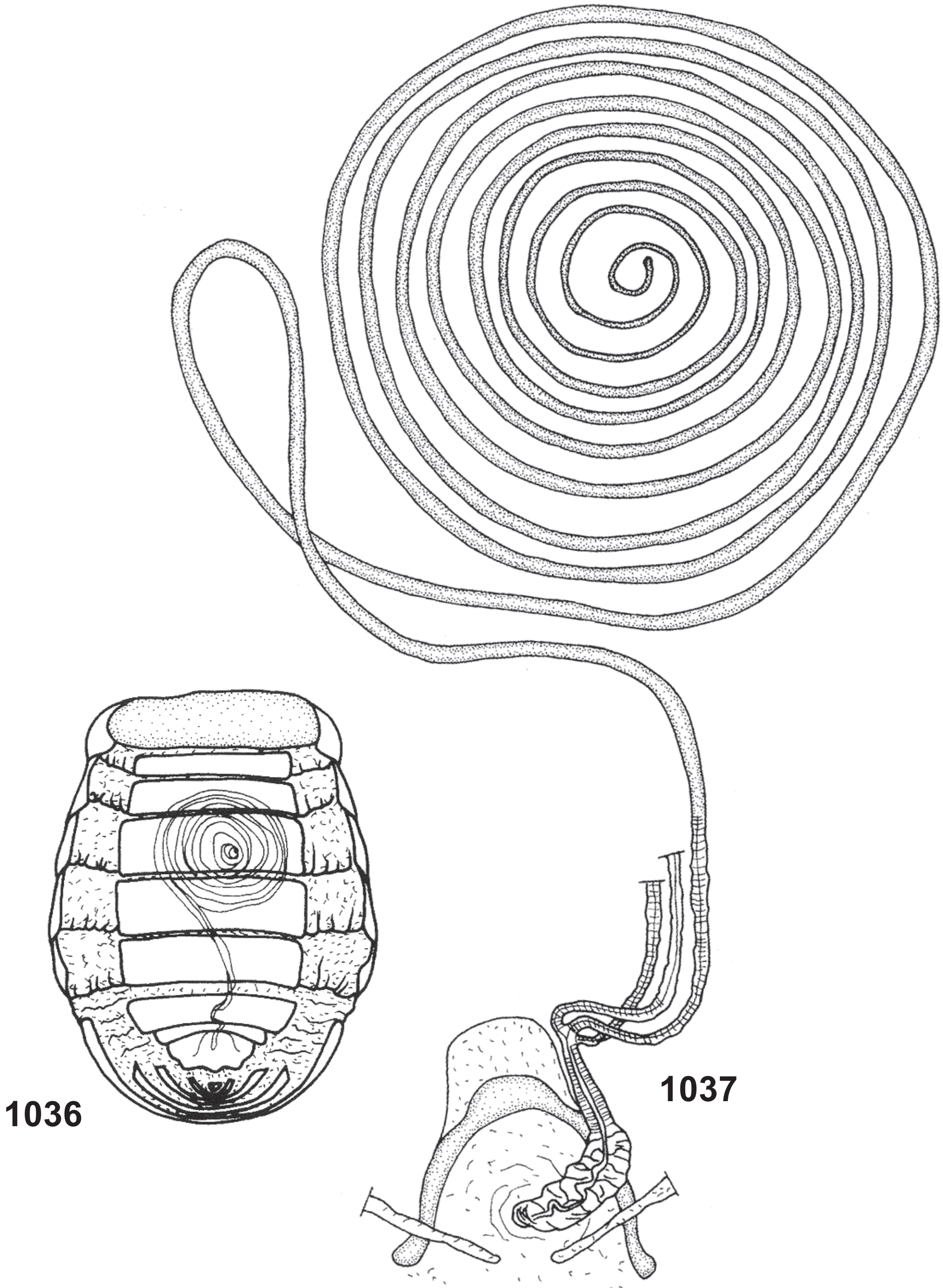
Figs. 1030-1031. *Gymnotricilis coscaronorum* Artigas, Papavero & Costa, 1997, situation of spermathecae in the abdomen (1030) and spermathecae (1031).



Figs. 1032-1035. *Chrysotriclis willinkorum* Artigas, Papavero & Costa, 1997, male terminalia in lateral (1032), ventral (1033) and dorsal (1034) views, and aedeagus in lateral view (1035).



Figs. 1036-1037. *Chrysotriclis willinkorum* Artigas, Papavero & Costa, 1997, situation of spermathecae in the abdomen (1036) and spermathecae (1037).

5. Subfamily Leptogastrinae [Figs. 1038-1096]

Key to the genera

1. Anal angle of wing absent, CuA unbranched and A1 absent (Fig. 1038). Halter as long as mesonotum 2
Anal angle of wing reduced but not absent. CuA branched to form CuA1 and CuA2, and A1 present (Figs. 1044, 1058, 1076). Halter much shorter than mesonotum 3

2(1). Basal half of wing reduced to a remarkably slender, hairlike stalk, bearing a few, fine cilia on each side. Discoidal cell absent, M with only two branches. Empodium well developed (Central America) .... *Eurhabdus* Aldrich, 1923
Basal half of wing not as above, discoidal cell present and M three-branched (Fig. 1038). Empodium reduced to half length of claws on first four legs, a little longer and stouter on hind legs (Fig. 1040). Spermathecae as in Figs. 1041-1042 (U. S. A. to Argentina) .... *Leptopteromyia* Williston, 1907

3(1). Claws unequal in length and empodium lacking (Fig. 1043). Radial and medial veins, on both sides, with regularly spaced, long, conspicuous setae (Fig. 1044). Flagellum laterally compressed and attenuated basally, its dorsal apex with a short or long style or bristle (Fig. 1045). Spermathecae as in Figs. 1046-1047 (Neotropical) ... . *Schildia* Aldrich, 1923
Claws of same length (Fig. 1048); empodium present (sometimes claw-like) or absent. Radial and medial veins with only the usual dense, minute micropubescence. Flagellum sometimes a little narrowed at base, but attenuate distally, the style well developed 4

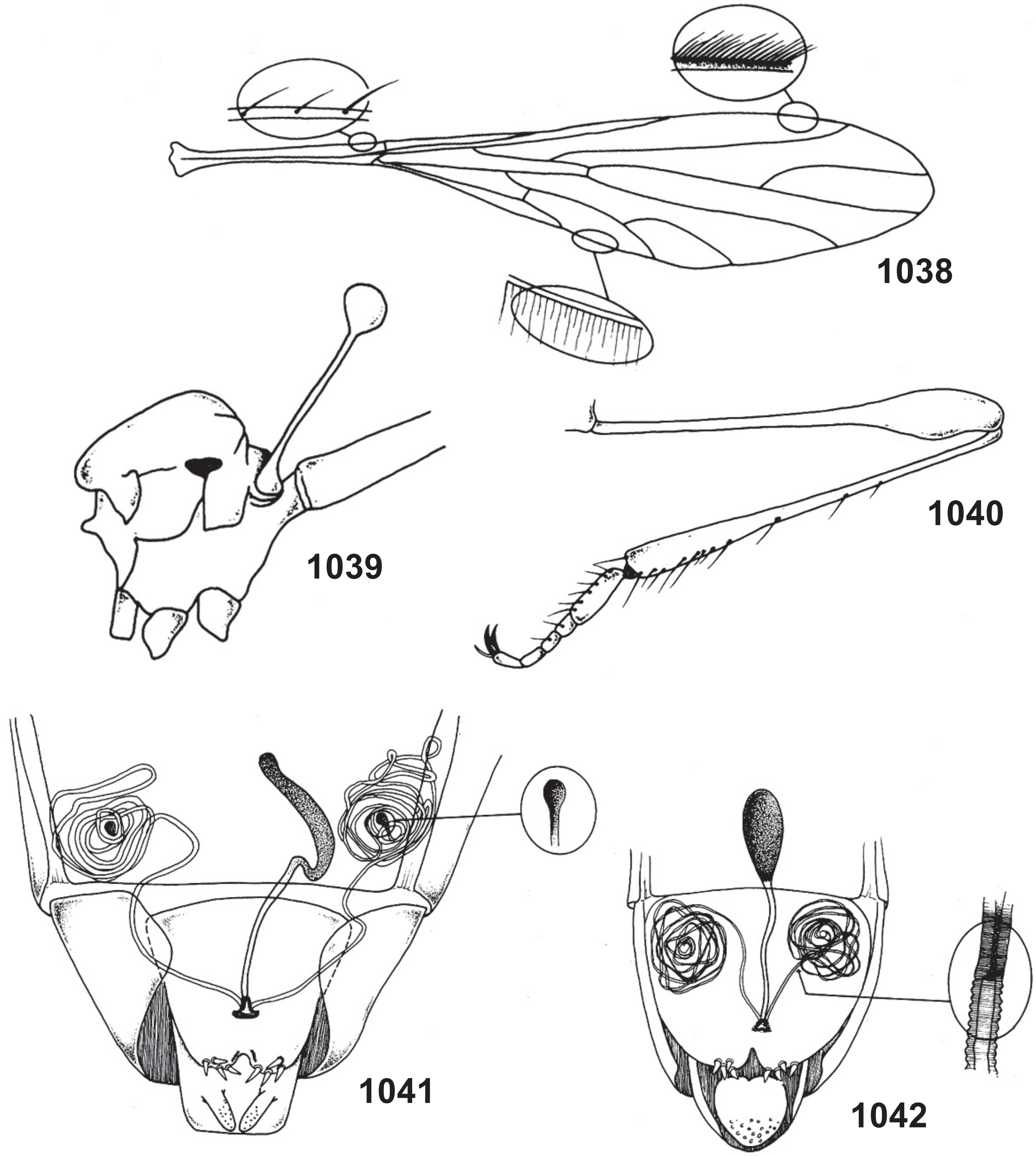
4(3). Wing with diffuse spots or bands. Hind femur gradually swollen from the base, bearing more or less dense pile on all surfaces, subappressed laterally, erect elsewhere (Fig. 1049). Male terminalia and aedeagus as in Figs. 1050-1054. Spermathecae as in Figs. 1055-1056 (Brazil) .... *Systologaster* Papavero, 2009
Wing hyaline, never with spots or bands. Hind femur not as above 5

5(4). Middle of abdominal tergite 2 with a transverse band of long hairs (Fig. 1057). Base of M1 closing discoidal cell short, not more than 1.5 times length of crossvein m-m; crossvein m-cu present but short, or M3 and CuA1 narrowly united with each other, the union shorter than length of crossvein r-m (Fig. 1058) 6
Abdominal tergite 2 without transverse band of hairs at middle. Base of M2 long, twice or more length of crossvein m-m; crossvein m-cu absent; M3 and CuA1 broadly united, the union longer than length of crossvein r-m (Fig. 1076) 7

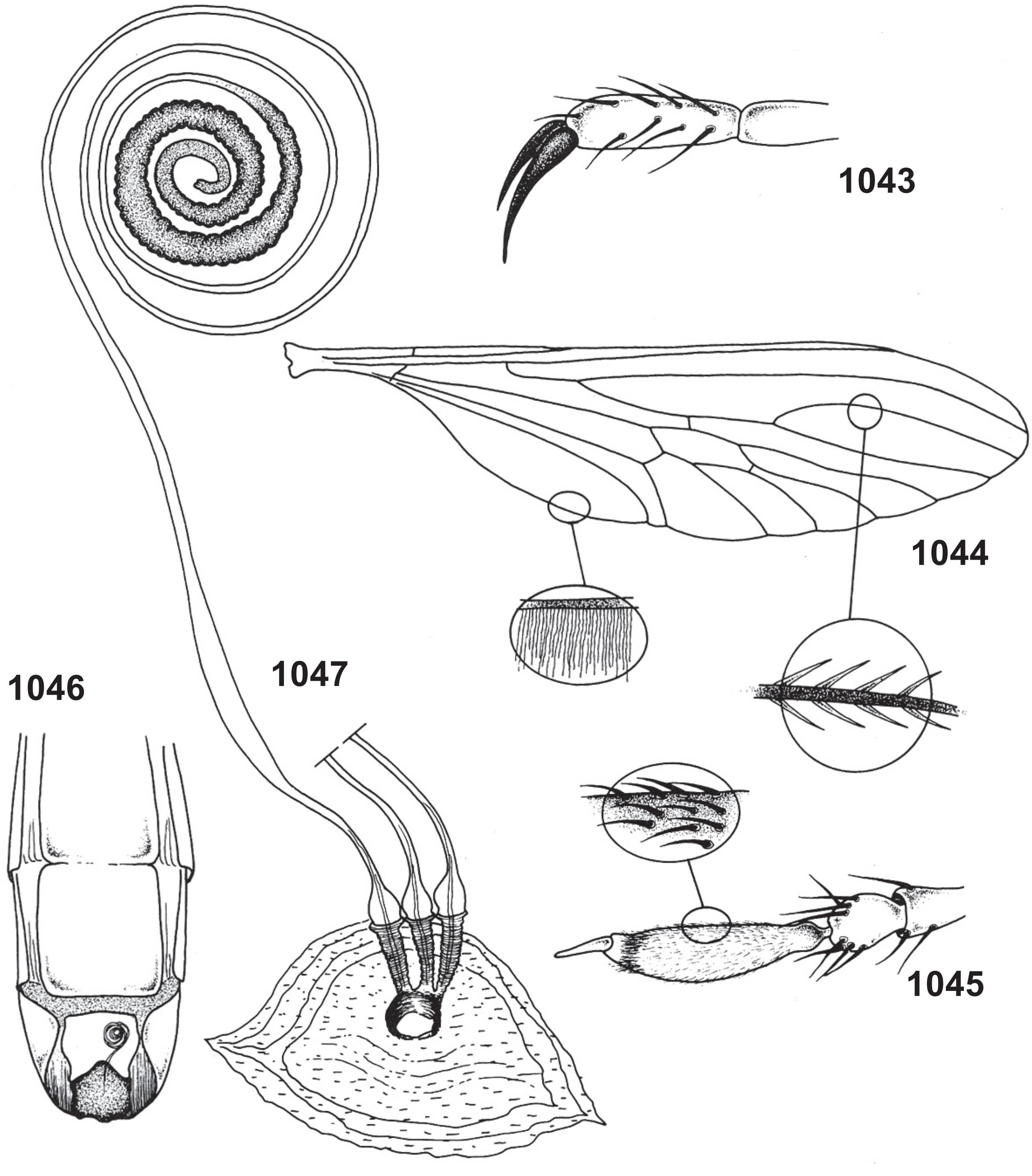
6(5). Width of face, at its narrowest point, no wider than diameter of an adjacent eye facet (Fig. 1059). Empodium lacking (Fig. 1061). Epandrial lobe of male deeply divided, almost to base, forming narrow dorsal and wider ventral lobes (Figs. 1062-1064). Aedeagus as in Fig. 1065. Spermathecae as in Figs. 1066-1067 and 1068-1069(Americas) .... *Psilonyx* Aldrich, 1923
Width of face, at its narrowest point, 1.5-3.0 times the diameter of an adjacent eye facet (Fig. 1070). Empodium usually present. Epandrial lobe of male at most shallowly notched (Figs. 1072-1074). Spermathecae as in Figs. 1075-1077 (Americas) .... *Beameromyia* Martin, 1957

7(5). Hind femur with distal swelling arising gradually, beginning at or before mid length. Scutellar margin with bristles or with hairs on disc as long as crossvein r-m. Epandrial lobe of male deeply divided almost to base, with ventral branch subequal in length to and narrower than dorsal branch. (U. S. A., Mexico, Bahamas, Jamaica) .... *Apachekolos* Martin, 1957
Hind femur with distal swelling arising at about two-thirds or more distance from the base (Fig. 1079). Scutellar margin and disc bare or with a few small hairs. Epandrial lobe of male undivided, or, if divided, with the ventral branch longer and wider than the dorsal lobe (*Leptogaster*) or with both branches of equal length (*Tipulogaster*) 8

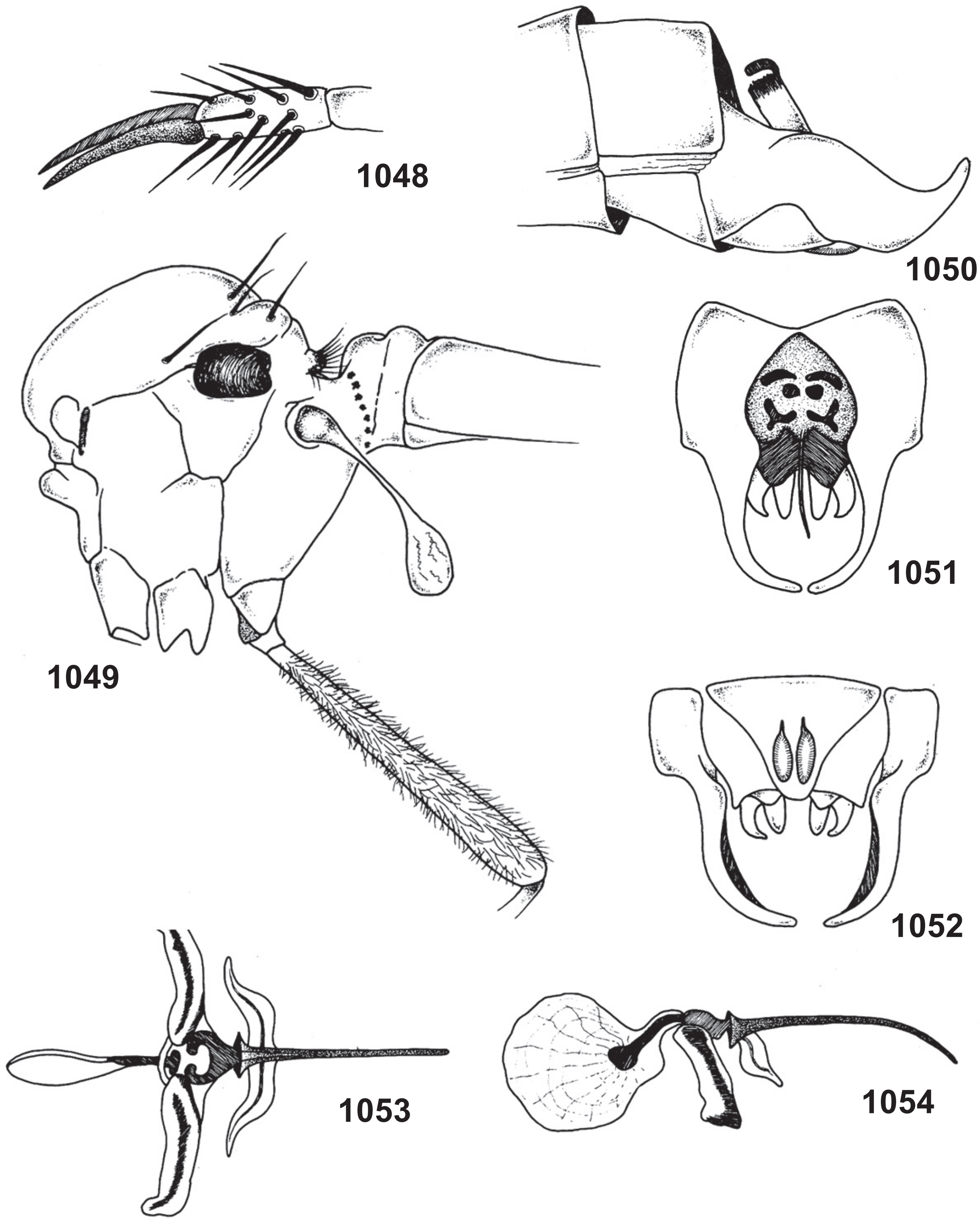
8(7). Flagellum 2.5 times or more as long as the combined length of scape and pedicel and one-sixth as wide as long (Fig. 1081). Male terminalia and aedeagus as in Figs. 1083-1087. (Americas) ....*Tipulogaster* Cockerell, 1913
Flagellum not more than twice as long as combined length of scape and pedicel and one-quarter as wide as long (Fig. 1082). Male terminalia and aedeagus as in Figs. 1090-1094. Spermathecae as in Figs. 1088-1089, 1095-1096 (Worlwide) .... *Leptogaster* Meigen, 1803



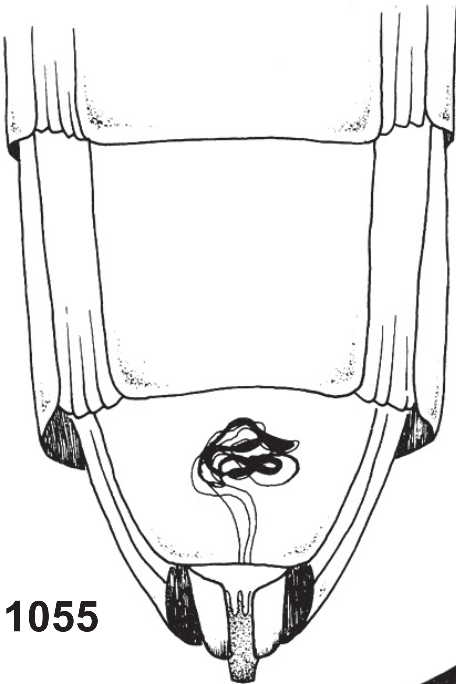
Figs. 1038-1041. *Leptopteromyia gracilis* Williston, 1908: 1038, wing; 1039, lateral view of thorac, showing elongated halter;1040, hind leg; 1041, spermathecae. Fig. 1042, *Leptopteromyia americana* D. E, Hardy, 1947, spermatrhecae.



Figs. 1043-1047. *Schildia fragilis* (Carrera, 1944): 1043, apical tarsomere showing claws unequal in length and lack of empodium; 1044, wing; 1045, antenna; 1046, situation of spermathecae in the abdomen; 1047, spermathecae.



Figs. 1048-1054. *Systologaster fascipennis* (Schiner, 1867): 1048, claws; 1049, lateral view of thorax and hind femur; 1050-1052, male terminalia in lateral (1050), dorsal (1051) and ventral (1052) views; 1053-1054, aedeagus in dorsal (1053) and lateral (1054) views.



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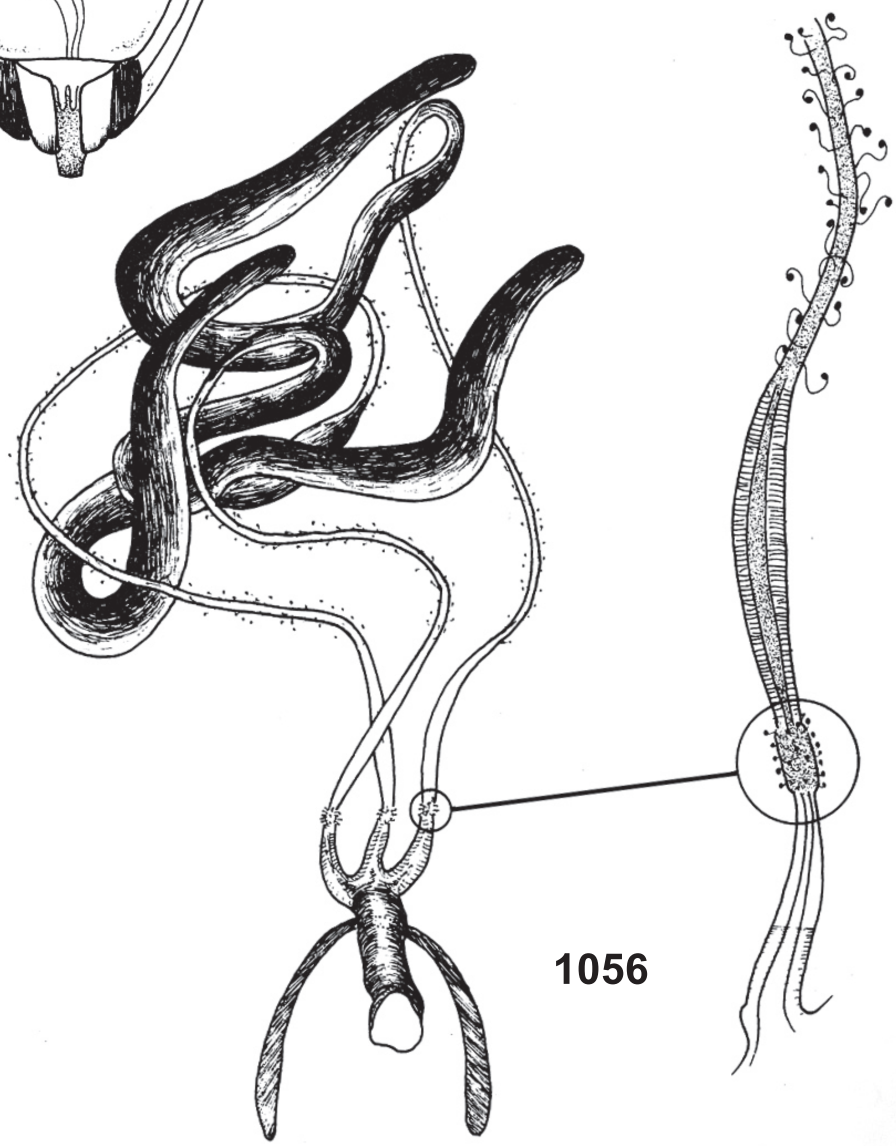

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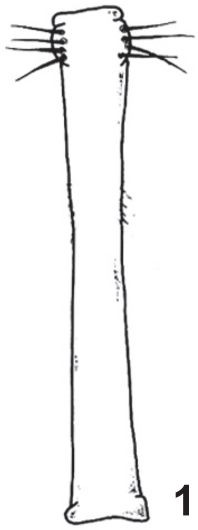
Figs. 1055-1056. *Systologaster fascipennis* (Schiner, 1867): 1055, situation of spermathecae in the abdomen; 1056, spermathecae.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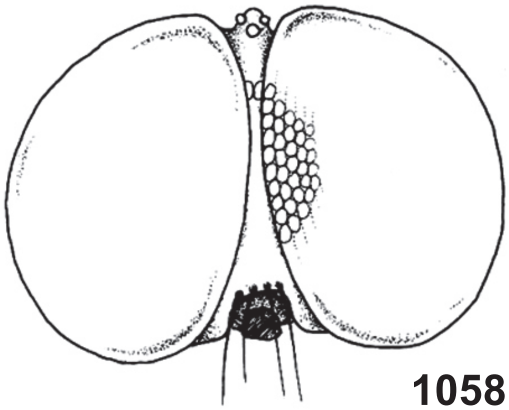
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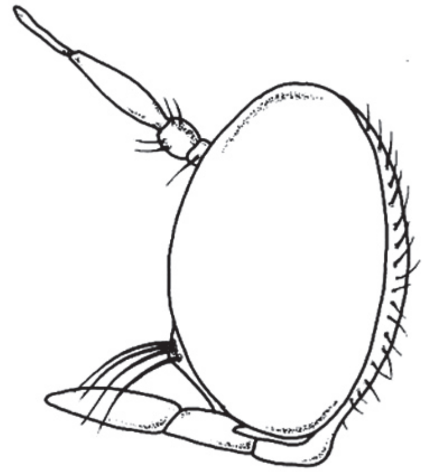
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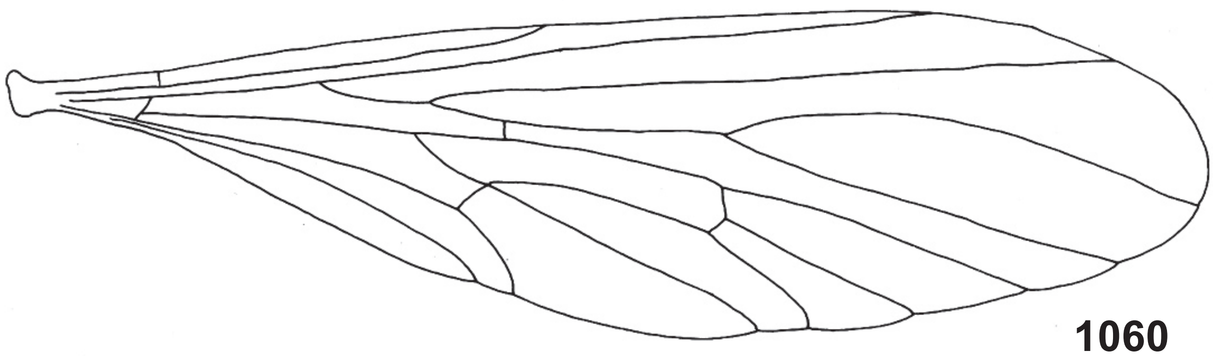
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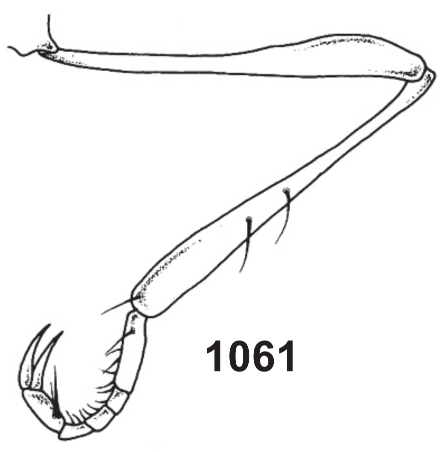
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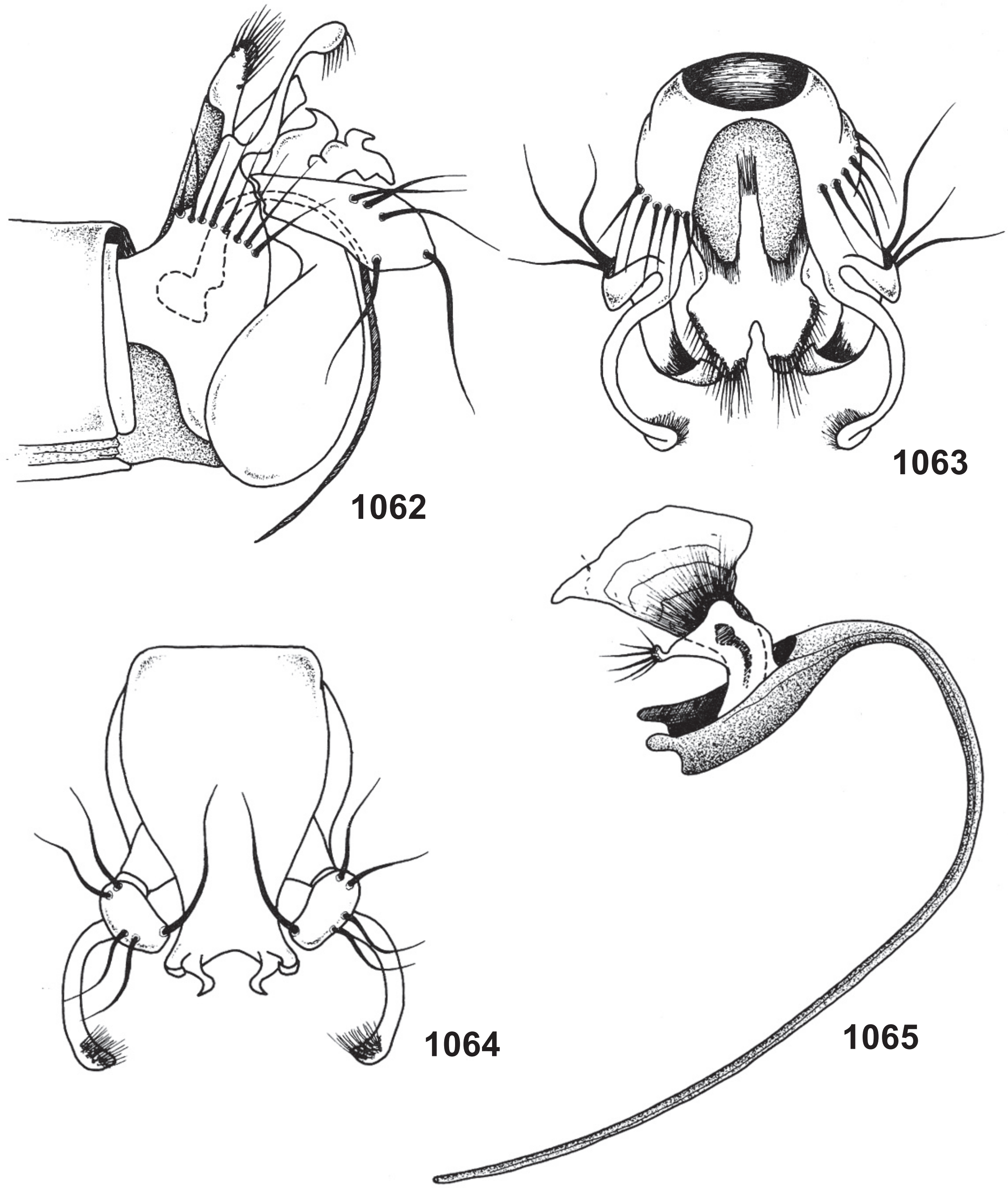
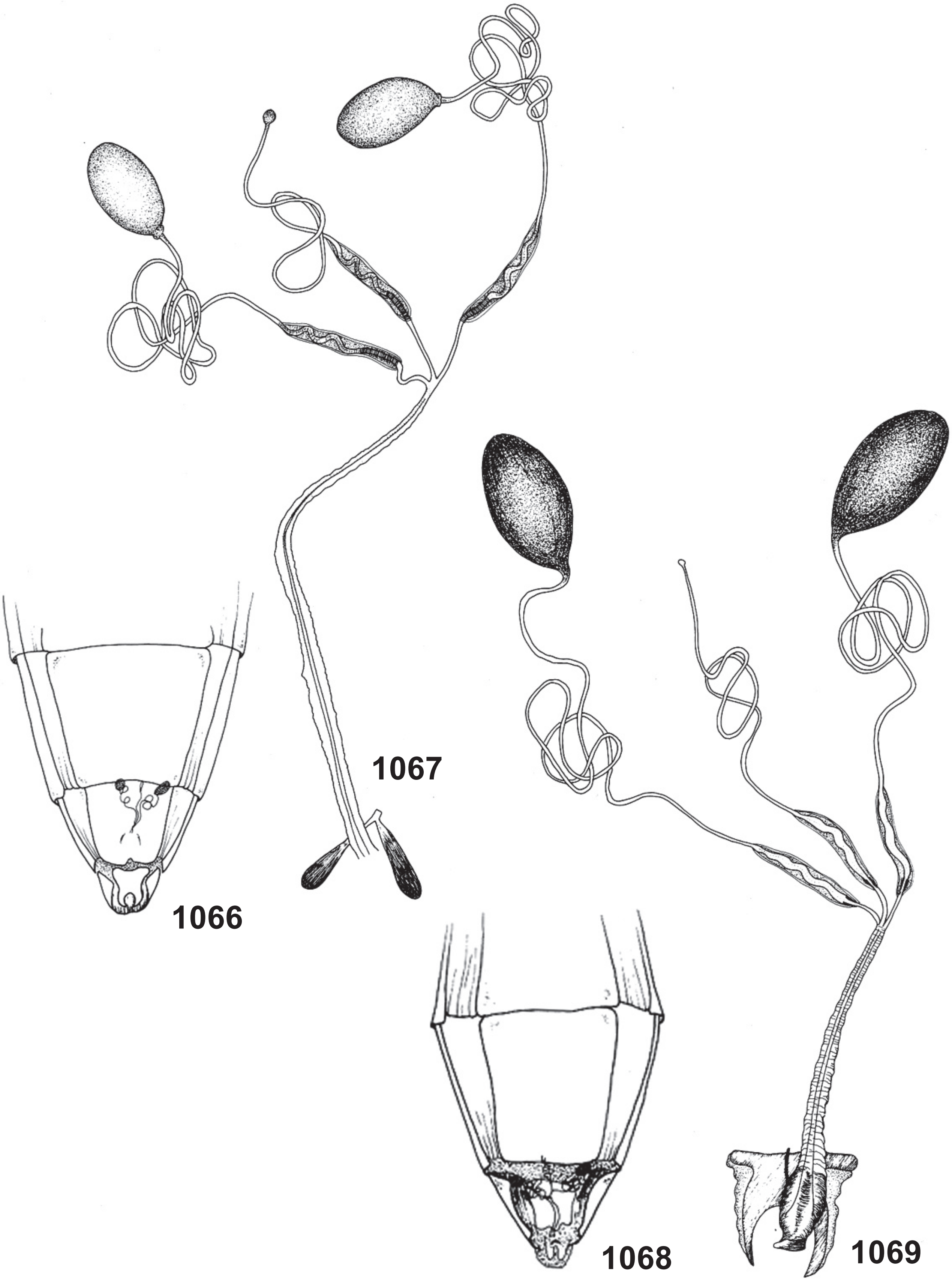
Figs. 1057-1058. *Psilonyx sp.*, tergite 2 (1057) and wing (1058). Figs. 1059-1061, *Psilonyx annulatus* (Say, 1823), head in frontal (1059) and lateral (1060) views, and hind leg (1061).



Figs. 1062-1065. *Psilonyx sp.*, male terminalia in lateral (1062), ventral (1063) and dorsal (1064) views, and aedeagus in lateral view (1065).



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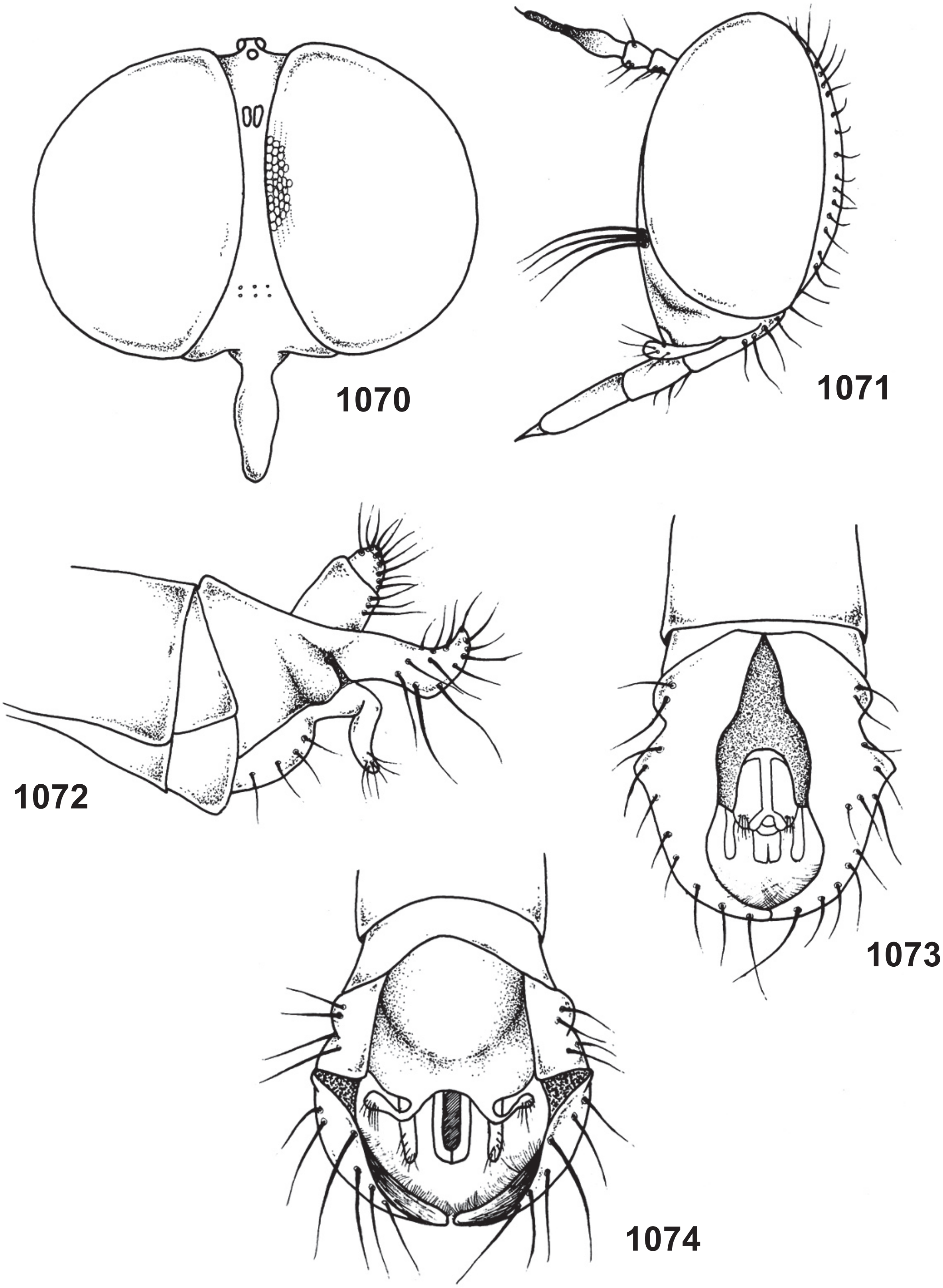
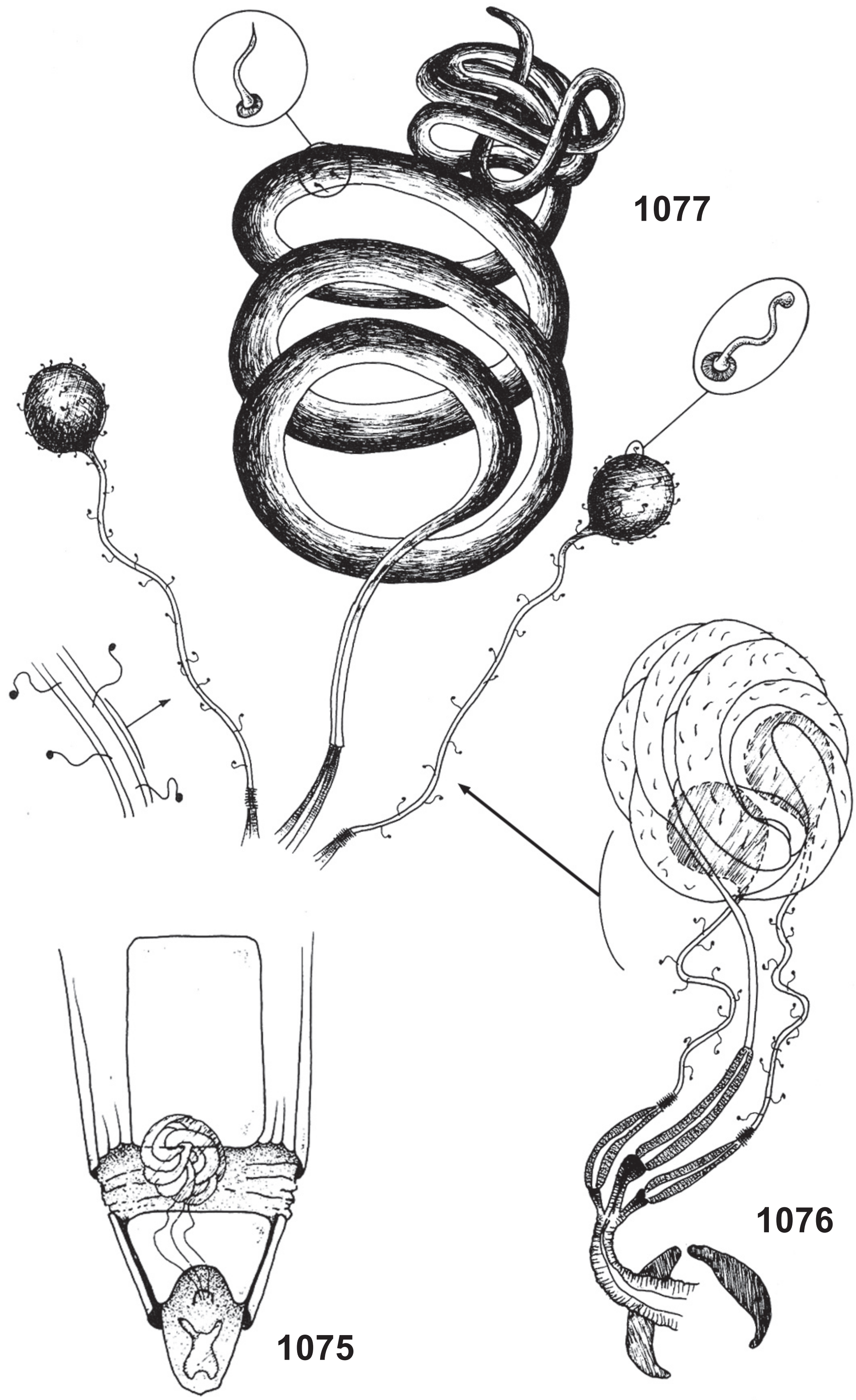
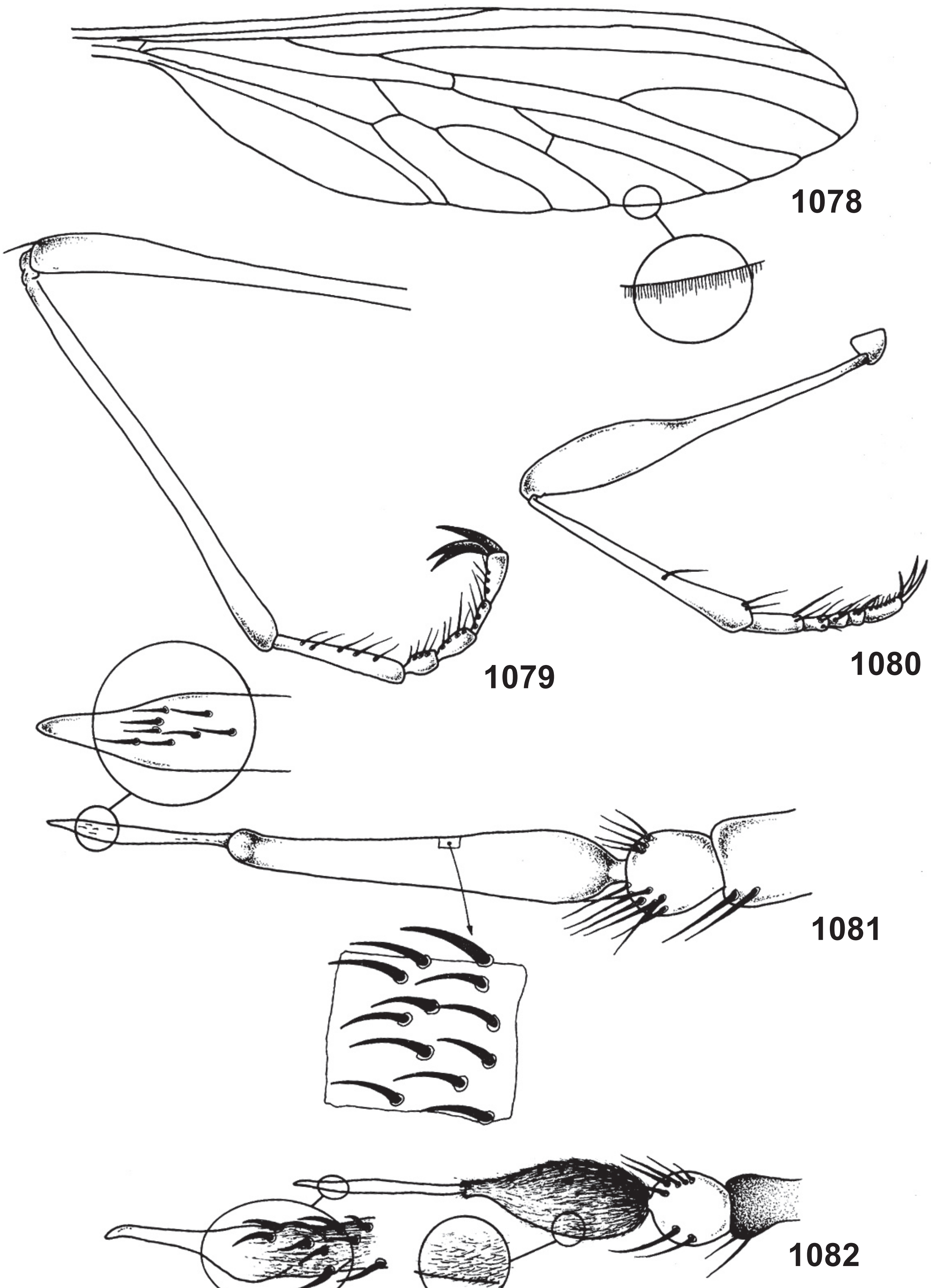
Figs. 1066-1067. *Psilonyx annulatus* (Say, 1823), situation of spermathecae in the abdomen (1066) and spermathecae (1067). Figs. 1068-1069, *Psilonyx sp.*, situation of spermathecae in the abdomen (1068) and spermathecae (1069).



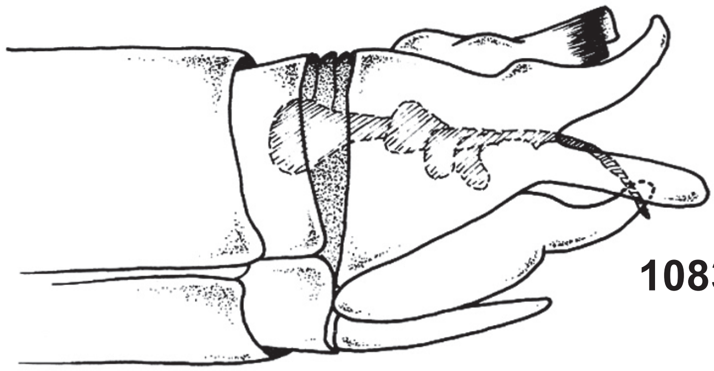
Figs. 1070-1074. *Beameromyia bifida* (D. E. Hardy, 1942): 1070-1071, head in frontal (1070) and lateral (1071) views; 1072-1074, male terminalia in lateral (1072), dorsal (1073) and ventral (1074) views.



Figs. 1075-1077. *Beameromyia sp.*: 1075, situation of spermathecae in the abdomen; 1076, spermathecae; 1077, spermathecae with components separated.



Figs. 1078-1079, 1081. *Leptogaster titanus* Carrera, 1958: 1078, wing; 1079, hind leg; 1081, antenna. Fig. 1080, *Leptogaster cultaventris* Martin, 1957, hind leg. Fig. 1082, *Leptogaster cylindrical* (De Geer, 1776), antenna.



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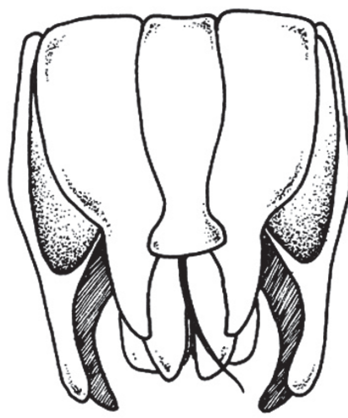

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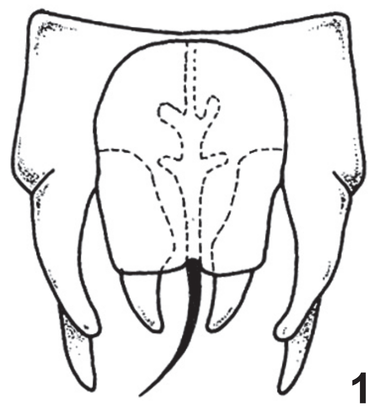

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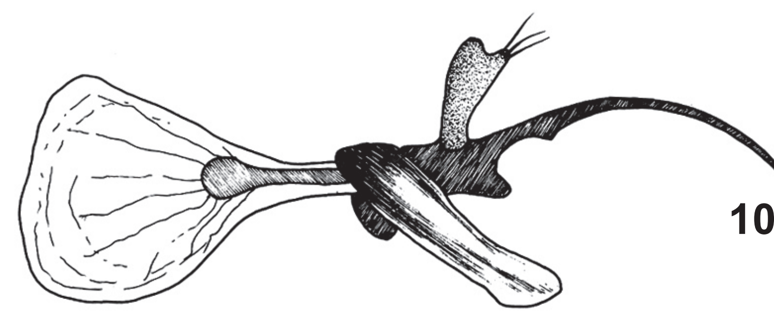

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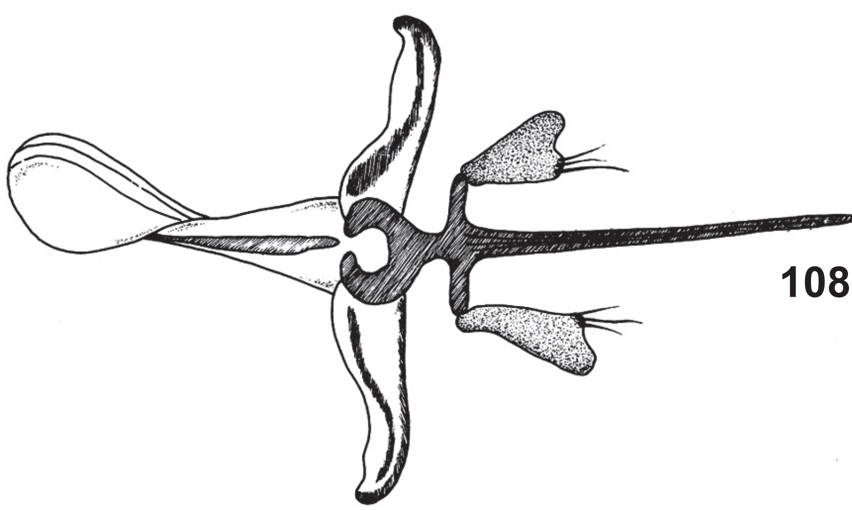

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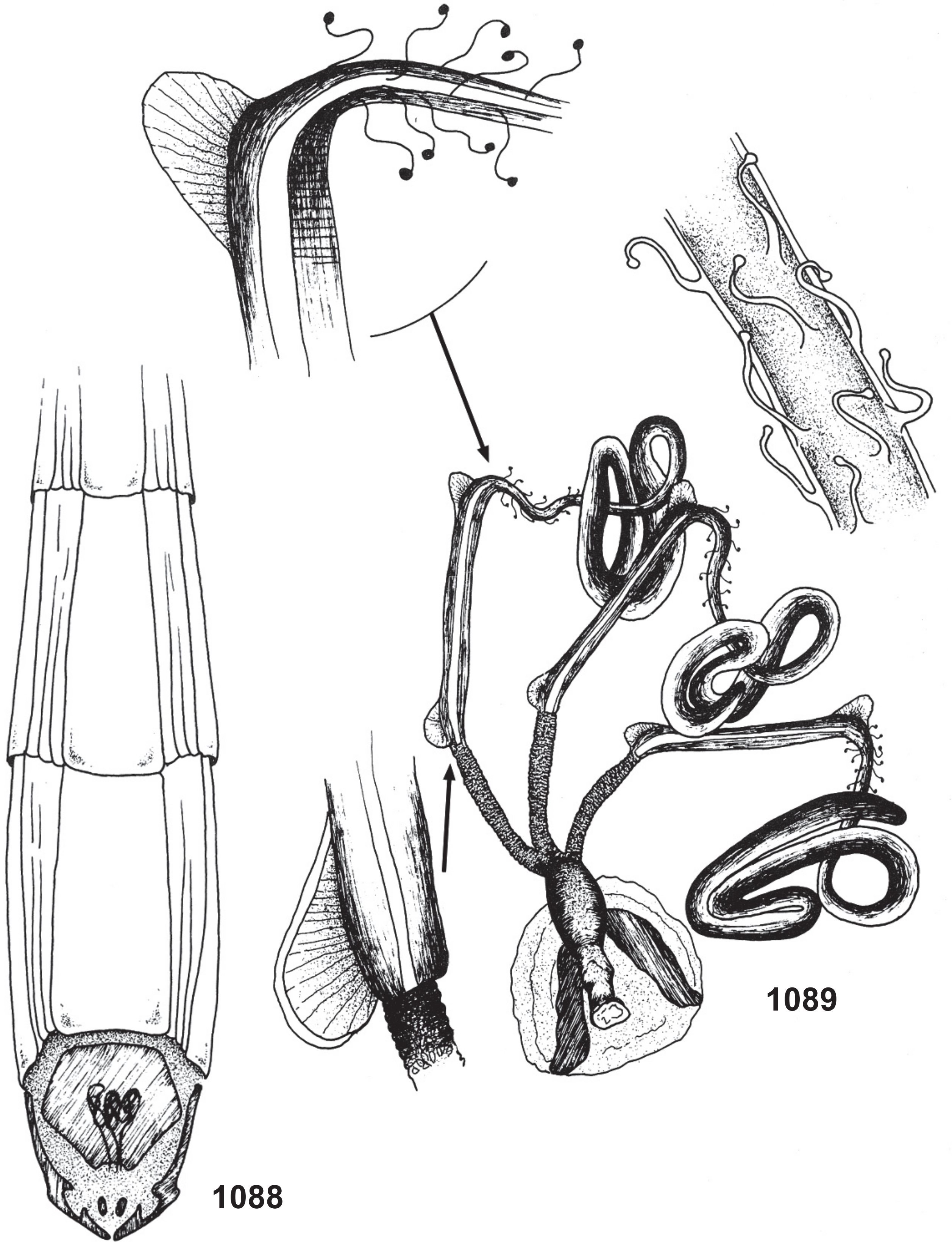
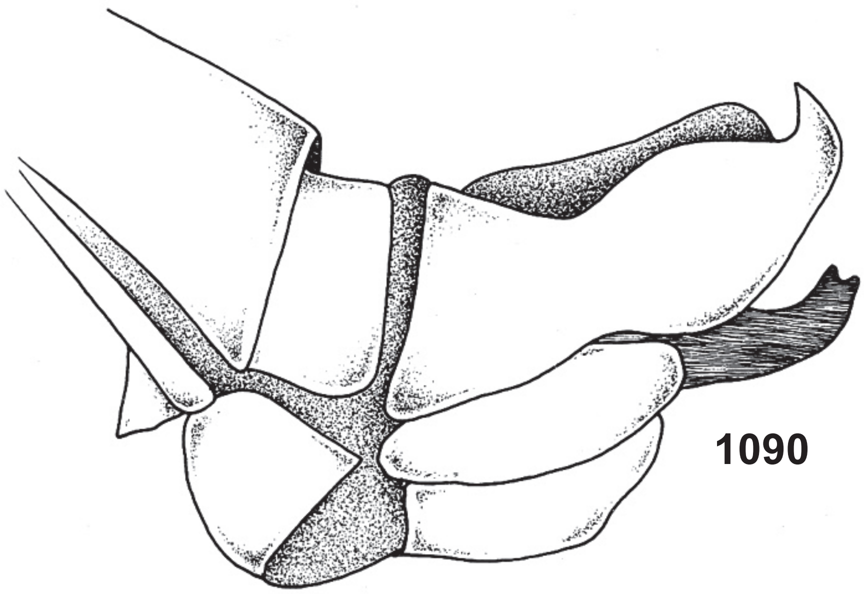
Figs. 1083-1087. *Tipulogaster glabrata* (Wiedemann, 1828): 1083-1085, male terminalia in lateral (1083), ventral (1084) and dorsal (1085) views; 1086-1087, aedeagus in lateral (1086) and dorsal (1087) views.



Figs. 1088-1089. *Leptogaster titanus* Carrera, 1958: 1088, situation of spermathecae in the abdomen; 1089, spermathecae.



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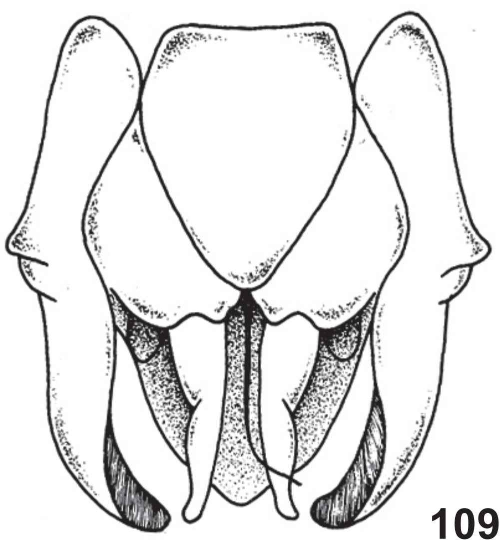

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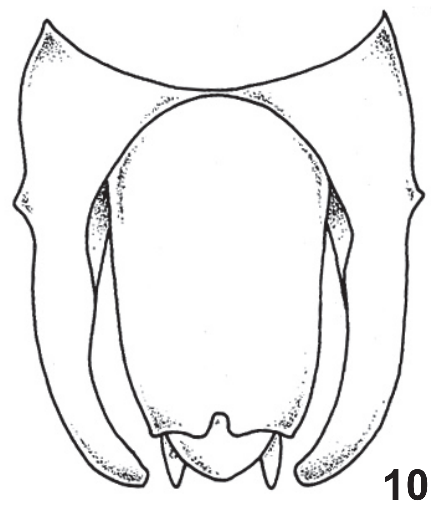

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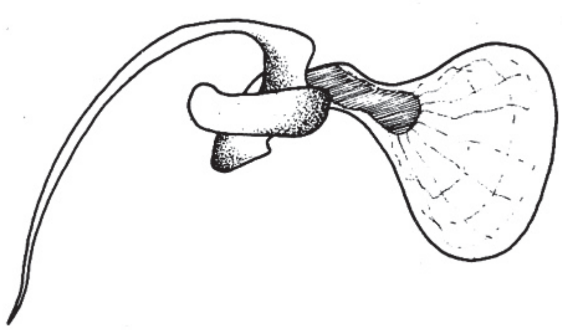

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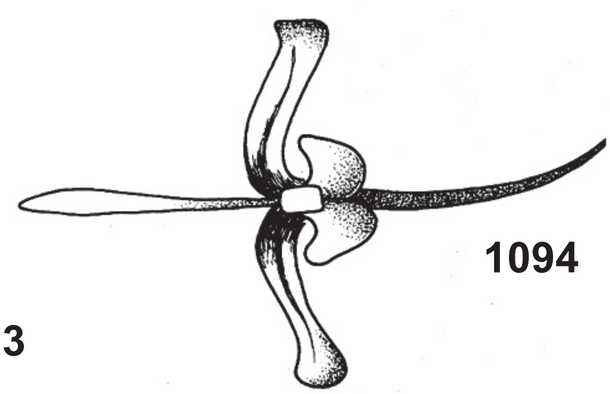

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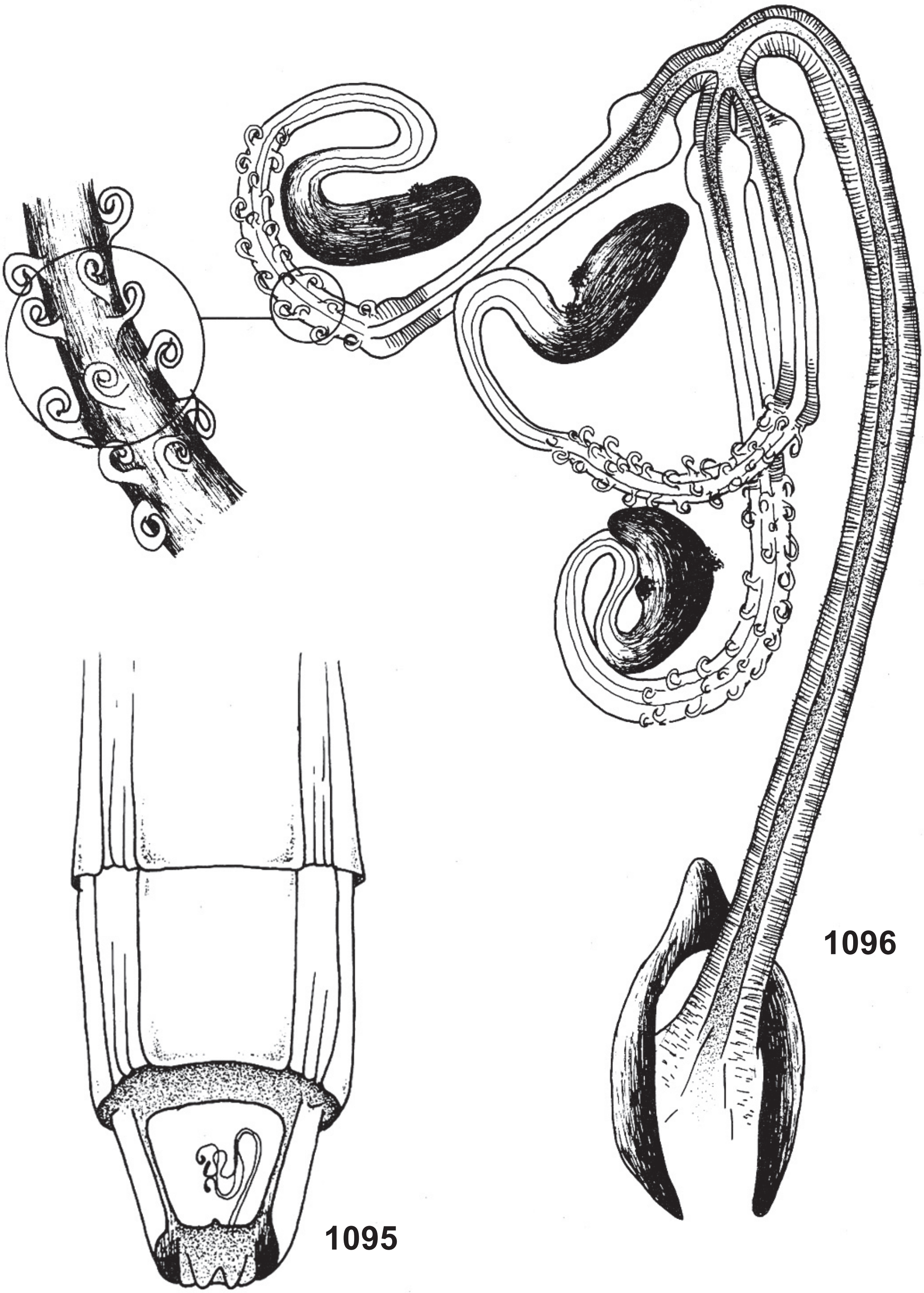
Figs. 1090-1094. *Leptogaster cylindrica* (De Geer, 1776): 1090-1092, male terminalia in lateral (1090), ventral (1091) and dorsal (1092) views; 1093-1094, aedeagus in lateral (1093) and dorsal (1094) views.



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Figs. 1095-1096. *Leptogaster cylindrica* (De Geer, 1776): 1095, situation of spermathecae in the abdomen; 1096, spermathecae. Specimen from Switzerland, “Rheinwald”(Rheinwaldhorn Mts.?).

7. Subfamily Stenopogoninae [Figs. 1097-1231]

Key to the American tribes and genera

1. Face extremely narrow. Head, in frontal view, clearly circular and notoriously narrower than thorax. Scond and third flagellomeres present or absent. Female terminalia with acanthophorites present or absent. Tribe Stenopogonini 2
   Face normally wider (if somewhat narrow, then triangular, as in Plesiommatini and Acronychini, and head never circular and narrower than thorax) 4

2(1). Katatergite without hairs or bristles. Spermathecae as in Figs. 1097-1098. (U. S. A., Mexico) ... *Stenopogon* Loew, 1847
   Katatergite with hairs, bristles, or both 3

3(2). First flagellomere less than 1.75 times the combined length of scape and pedeicel; scape 1-1.5 times length of pedicel; second and third flagellomeres forming an apically pointed stylus, with a short spine at apex. Wing usually hyaline. Two or more anterior dorsocentral bristles present. Spermathecae as in Figs. 1099-1100 (U. S. A., Mexico) .... *Scleropogon* Loew, 1866
   First flagellomere two or more times the combined length of scape and pedicel; scape twice or more as long as pedicel; second and third flagellomeres absent, or, if present, truncate at apex, with spine arising from pit. Wing normally brown. No anterior dorsocentral bristles. Spermathecae as in Figs. 1101-1102 (U. S. A., Mexico) .... *Ospriocerus* Loew, 1866

4(2). Antenna with three flagellomeres........ 5
   Antenna with one or two flagellomeres 30

5(4). Cell m2 extremely wide, over twice as wide as high. Large flies (25-35 mm long). Face gradually sloping from antennae to oral margin (Fig. 1103). Proboscis very long and slender, much longer than length of bristles of mystax or height of face (Figs. 1103-1104). Occiput entirely covered with dense bristles and bristle-like hairs (Fig. 1103). Wing slightly longer than abdomen. Humeri with several strong bristles. Femora slender. Pleura pilose, especially above second coxa. Male terminalia large and globose (Figs. 1107-1109); aedeagus as in Figs. 1105-1106. Spermathecae as in Fig. 1110. Tribe Bathypogonini (Argentina, Chile) ..... *Carebaricus* Artigas & Papavero, 1991
   Cell m2 distinctly trapezoidal, higher than wide. Medium to small-sized flies. Other combinations of characters 6

6(5). Antennal style very robust, as wide as or wider than first flagellomere .... Tribe Ceraturgini (Nearctic, with the genera *Myelaphus* Bigot, 1882 and *Ceraturgus* Wiedemann, 1824; no Neotropical representatives known)
   Antennae never as above 7

7(6). Face, in frontal view, distinctly triangular. Tribe Plesiommatini 8
   Face never triangular in frontal view. Tribe Cyrtopogonini 10

8(7). Face triangular in profile, moderately produced at oral margin. Oral margin distinctly oblique. Mystax in one or three rows, limited to lower margin of face. Proboscis extending slightly beyond face 9
   Face strongly produced and convex. Oral margin almost horizontal. Mystax ìn several rows, extending up to base of antennae. Proboscis short, almost not extending beyond face. Spermathecae as in Figs. 1111-1112 (Mexico to Uruguay, but not in Chile) .... *Cystoprosopa* Hull, 1961

9(8). Mystax ìn only one row, with scattered bristles. Scape not thickened. Relatively bare, medium-sized flies. Spermathecae as in Figs. 1113-114 (Neotropical, but not in Chile) .... *Plesiomma* Macquart, 1838
   Mystax in 2-3 rows, occupying lower half of face. First antennal segment thickened, heavily pilose. Small to medium-sized, slender, pilose flies (Dominican Republic, Haiti) .... *Dapsilochaetus* Hull, 1962

10(7). Face flat or evenly rounded 11
   Face decidedly gibbous or sometimes (*Sintoria* Hull) higher near antennae 22

11(10). Hairs normally dense, plumose, crinkly, on head, thorax and abdomen ... 12
Hairs never plumose, even if very dense ... 13

12(11). Hind tibiae much enlarged, as thick as or thicker than hind femur. CuA2 and A1 joined before wing margin (i. e., anal cell closed, with short pedicel). Male terminalia as in Figs. 1115-1117 and aedeagus as in Figs. 1118-1119. Spermathecae as in Figs. 1120-1121 (Nearctic) ... *Holopogon* Loew, 1847
Hind tibiae more slender, thicker than femur. Anal cell open. Spermathecae as in Figs. 1122-1123 (Nearctic) ... *Heteropogon* Loew, 1847

13(10). Disc of scutellum without fine, semierect pile, at most micropubescent ... 14
Disc of scutellum with a variable number of fine, semierect pile ... 20

14(13). Midtibia with a pair of moderately strong, black, ventral bristles at apex, directed approximately at an angle of 60º-90º. Spermathecae as in Figs. 1124-1125 (Nearctic) ... *Callinicus* Loew, 1872
Midtibia with 3-5 bristles directed distally ... 15

15(14). Pulvilli absent ... 16
Pulvilli present ... 17

16(15). Thorax, legs and pronotum and base of C with appressed, white, scale-like hairs. C continuing after CuA2 + A1. Spermathecae as in Figs. 1126-112 (Western U. S. A.) ... *Ablautus* Loew, 1866
Thorax, legs, pronotum and base of C never with scale-like hairs. C evanescent after CuA2 + A1 (Fig. 1131) (Chile) ... *Nothopogon* Artigas & Papavero, 1991

17(15). Wing with four posterior cells (Fig. 1148). Mesonotum with shining black spots, the rest of it gray. Abdomen at least in part reddish. Ambient vein absent after tip of M1. Spermathecae as in Figs. 1132-1133 (Southwestern U. S. A.) ... *Itolia* Wilcox, 1936
Wing with five posterior cells (Fig. 1137). Ambient vein after tip of CuA2 + A1 present, evanescent, or absent ... 18

18(17). Very small (2.8-3.6 mm long) flies. Vertex tumid, not excavated (Fig. 1134). Ambient vein evanescent after CuA2+A1 (Fig. 1137). Male terminalia as in Figs. 1138-1140, aedeagus as in Fig. 1141. Spermathecae as in Figs. 1142-1143 (Chile, Argentina) ... *Ivettea* Artigas & Papavero, 1991
Larger flies (5.5-8.0 mm long). Vertex excavated. Ambient vein present or absent after CuA2+A1 ... 19

19(18). Ambient vein clearly present after tip of CuA2 + A1. Face narrow (Chile) ... *Raulcortesia* Artigas & Papavero, 1991
Ambient vein clearly absent after tip of CuA2 + A1 (Fig. 1147). Face wide (Fig. 1145). Spermathecae as in Figs. 1149-1150 (Chile) ... *Dasycyrton* Philippi, 1865

20(13). Five posterior cells present on wing ... 21
Only three sessile posterior cells on wing. Ambient vein ending at tip of M1. Mystax occupying entire face. Mesonotum and abdomen entirely black. Spermathecae as in Artigas (1971: Fig. 45) (Chile) ... *Dasypecus* Philippi, 1865

21(20). Face and frons narrow, lower face in anterior view narrower than half width of an eye. Mystax with a dense patch of short bristles in middle of lower margin and longer, less densely spaced bristles on remainder of face. Small black flies with sparse pollinosity on thorax and shining abdomen (U. S. A.: Texas, Oklahoma) ... *Hadrokolos* Martin, 1959
Face widening below, lower face slightly wider than inferior width of an eye. Mystax not as above. Densely white-gray pollinose flies including abdomen. Spermathecae as in Figs. 1151-1152 (Southwestern U. S. A.) ... *Wilcoxia* James, 1941

22(10). Thorax more or less flat, without a mane ... 23
Thorax strongly arched, with a conspicuous mane of hairs and bristles, at least on posterior half ... 29

23(22). Disc of scutellum bare (at least at center), margin with 2-3 pairs of strong bristles ... 24
Disc of scutellum, at last in part, with sparse, dense hairs or bristles ... 25

24(23). Midtibia at apex with a comb of 4-6 strong bristles. Mystax with bristles and hairs of about same length. Spermathecae as in Figs. 1153-1154 (Southwestern U. S. A.) ... *Nannocyrtopogon* Wilcox & Martin, 1936

Midtibia never as above. Mystax variable. Spermathecae as in Artigas (1971: fig. 41) (Chile) .... *Lonquimayus* Artigas & Papavero, 1991

25(23). Flies not metallic colored. Hind tibia not more than 1.5 times diameter of fore and middle tibiae. Fore tibia only slightly tapered apically. Scutellum with strong marginal bristles and pile on disc either sparse or dense 26

Black flies with metallic blue or green shine. Hind tibia twice the diameter of the fore and middle tibiae. Fore tibia sharply tapered apically. Mesonotal declivity with long pile. Scutellum with semierect pile (U. S. A.: California, Arizona, Utah, Texas; Mexico: Baja California) .... *Sintoria* Hull, 1962

26(25). Body and coxae, rest of legs excepted, entirely white-grey pollinose. Spermathecae as in Artigas (1971: fig. 44) (Chile) .... *Graptostylus* Hull, 1962

Body never as above 27

27(26). Middle tibia at apex with only two strong bristles. Tergites 3-5 with pollinose markings on the anterior margin but not laterally, and on the lateroposterior corners but not dorsally. Scutellar disc with sparse pile; long marginal scutellar bristles present. Pedicel with two, and scape with one noticeable strong bristles. Spermathecae as in Figs. 1158-1159 (U. S. A.: California, New Mexico) ....*Backomyia* Wilcox & Martin, 1957

Middle tibia at apex with a comb of about five strong black spines. Andomen totally pollinose, or either one margin or both anterior and posterior margins of tergites pollinose 28

28(27). Weak dorsocentral and acrostical bristles on mesonotal declivity. Mesonotum with strong lateral bristles and slightly prominent short bristles covering most of the thoracic dorsum. Face moderately gibbous up to the antennae. Large (over 20 mm long) flies, vespid mimics, abdomen predominantly striped and banded with yellow (U. S. A.: California) .... *Pritchardomyia* Wilcox, 1965

Thoracic vestiture pile-like, except for lateral bristles; some species almost bare on thorax. Face more strongly gibbous, almost to the antennae. Flies not marked on abdomen. Length under 20 mm. Spermathecae as in Figs. 1160-1161 (Nearctic) .... *Cyrtopogon* Loew, 1847

29(22). Scutellum with sparse, short to long pile on disc, two strong long bristles at margin. Vein “R3” (reactivation of field of R3) present as a stump vein. Face produced at lower margin, triangular in profile. Spermathecae as in Figs. 1162-1163 (Western U. S. A.) .... *Metapogon* Coquillett, 1904

Scutellar disc with dense, long, wrinkly hairs and long, slender marginal bristles. “R3” stump absent. Face strongly produced in profile. Spermathecae as in Figs. 1164-1165 (Nearctic) .... *Eucyrtopogon* Curran, 1923

30(4). Veins CuA1 and M3 ending separately at wing margin (i. e., cell m3 open); if cell m3 closed, veins CuA1 and M3 meet only at wing margin, or, as in *Zabrotica* Hull, second flagellomere broad and tick, fused or absent and vertex inexcavated. First flagellomere normally without small bristles on lower dorsal surface. Second flagellomere present or absent. Cell r1 open 31

Veins CuA1 and M3 fused before wing margin (i. e., cell m3 closed and petiolate). First antennal flagellomere normally with small bristles on lower dorsal surface. Cell r1 open or closed 41

31(30). Pulvilli and empodium absent. Proboscis thick, blunt and rounded at apex. Face triangular in frontal view, more or less short, due to the great height of oral margin. Frons narrowing towards apex, upper margin of eyes separated by a very short distance. Body pollinose. Spermathecae as in Figs. 1176-1177. TribeAcronychini (Neotropical, but not in Chile) .... *Acronyches* Williston, 1908

Pulvilli and empodium present (if pulvilli absent, never with the other characters cited above). Other combinations of characters 32

32(31). Face extremely narrow, the antennal sockets occupying the full width of face. Frons and vertex greatly expanded, *Stichopogon*-like. First antennal flagellomere ovoid, 1.5-2 times with of pedicel. Mystax compact, restricted to oral margin. Two to four postsutural dorsocentral bristles. Spermathecae as in Figs. 1178-1179. Tribe Willistoninini (Nearctic) ....*Willistonina* Back, 1909

Face never as above. Other combinations of characters 33

33(32). Second antennal flagellomere sometimes fused to first flagellomere or second flagellomere entirely absent. Tribe Tillobromatini 34

Second flagellomere transverse, spoon-shaped, thick and hairy 40

34(33). Slender, bare flies. Abdomen long and slender, narrower than thorax and coarctate (at least on second abdominal segment). Mystax thin, in only one row, confined to oral margin (Figs. 1180-1181). Scutellum bare of hairs and bristles. Proboscis tapering to the apex, as long as mystax, pointed apically and bent downwards (Fig. 1180-1181). Face almost parallel-sided (Fig. 1181). Legs very long and slender (Fig. 1183) (Brazil: Rio de Janeiro) .... *Grajahua* Artigas & Papavero, 1991

More robust, pilose, or more or less bare flies. Abdomen more or less flattened, short and robust, almost as wide as thorax. Other combinations of characters 35

35(34). Mystax of variable shape, but always with mixed bristles and hairs. Anterior dorsocentral bristles, if present, mixed with more or less abundant, moderately long pile (South America) 36

Mystax consisting of very strong, stiff bristles, extending from oral margin to base of antennae. Dorsocentral bristles also very strong, beginning on the anterior slope of mesonotum. Thorax and head without pile, all bristles stiff and evident. Spermathecae a long, slender, coiled tube (Figs. 1184-1185) (Western North America) .... *Coleomyia* Wilcox & Martin, 1935

36(35). Face strongly gibbous and first flagellomere narrowed on lower third or half and then suddenly expanded above middle (cf. Artigas, 1970: figs. 87, 101, 115). Male terminalia as in Artigas (1970: figs. 88, 90-91, 92-99, 100, 102-106, 107-114, 116-117, 119-121, 122-126, 129). Spermathecae as in Artigas (1971: figs. 46, 48, 50, 52, 53, 56); capsule elongate, somewhat thickened, coiled (Peru, Bolivia, Chile, Argentina, southern Brazil) ... *Tillobroma* Hull, 1962

Face either evenly rounded or from slightly to moderately prominent, but never strongly gibbous and first antennal flagellomere never as above 37

37(36). Mystax thick, but confined to lower half of face and proboscis long and thin, longer than mystax (almost surpassing tip of antennae) (Fig. 1186). Face produced at oral margin, forming a thick triangle in profile (Fig. 1186). Spermathecae with more or less falciform elongate capsules (Artigas, 1971: fig. 66) (Chile, Argentina) .... *Euthrixius* Artigas, 1971

Mystax occupying lower 2/3 of face or more (Figs. 1187-1188). Spermathecae with more or less rounded capsules (Figs. 1189-1190, 1196) 38

38(37). Proboscis much longer than mystax (Fig. 1187). Face almost triangularly produced, in lateral view, on its lower 2/3 (Fig. 1187). Male terminalia as in Artigas (1970: figs. 152-153, 155-156, 157-158). Spermathecae as in Artigas (1971: fig. 63) (Chile) .... *Scylaticodes* Artigas & Papavero, 1991

Proboscis shorter than length of mystax (Fig. 1188). Face not as above 39

39(38). Cell m3 closed, with a long petiole. Face with a flattened gibbosity occupying 4/5 of its height, a shallow concavity between gibbosity and base of antennae. First flagellomere subequal in length to combined length of scape and pedicel. Spermathecae as in Figs. 1189-1190 (Peru) .... *Zabrotica* Hull, 1962

Cell m3 open. Face more or less flat, only very gradually sloping from base of antennae to oral margin (Fig. 1188). First antennal flagellomere more or less twice combined length of scape and pedicel. Male terminalia and aedeagus as in Figs. 1191-1195. Spermathecae as in Fig. 1196 (Argentina: Trucumán) .... *Scylaticina* Artigas & Papavero, 1991

40(33). R4 ending behind wing tip. Alula absent. Ocellar tubercle without strong bristles. Hind femur club-shaped, abruptly enlarged apically. Hind metatarsus conspicuously enlarged, at least as long as subsequent three tarsomeres. Apex of proboscis pointed, opening between labella dorsal and subapical, hypopharynx protruded above and slightly proximad at apex; labella without subapical notch; prementum shorter than labella, with sparse pile restricted to apex. Antennal base not raised on tubercle, hidden behind eye margin in profile. Second flagellomere short and narrow, one-fifth as long as first flagellomere, subtruncate or cup-shaped Tribe Dioctriini. (U. S. A., Mexico: Chiapas) .... *Nannodioctria* Wilcox & Martín, 1942

R4 ending before wing tip. Alula present. Ocellar tubercle with long hairs or bristles curving forwards. Hind femur thickened subbasally, or at middle, or gradually enlarged apically. Hind metatarsus shorter than three subsequent tarsomeres. Apex of proboscis rounded, opening terminal; labella with subapical notch; prementum as long as or longer than labella, with abundant pile on entire surface. Upper part of face bare. Abdominal tergites strongly arched dorsally, rounded in cross-section, making abdomen chrysidid-like; abdominal segment 2 with a groove about one-third to one-fourth apart from base of segment, groove extending laterally, separating a shiny crescent-shaped area on the first third of segment. Scutum bare on upper one-third and along posterior margin. Tribe Echthodopini. (U. S. A., Mexico: Baja California) .... *Bohartia* Hull, 1958

41(30). Stump of vein “R3” (reactivation of R3 field) present. Extremely pilose flies resembling bumble-bees. Female ovipositor uniquely shaped, forming a long and thin tube devoid of spines. Tribe Phellini. (Chile) .... *Obelophorus* Schiner, 1866
Stump of vein “R3” absent. Never extremely pilose flies. Female ovipositor with spines on acanthophorites. Tribe Enigmomorphini 42

42(41). Anterior dorsocentral bristles present, long 43
Anterior dorsocentral bristles absent or reduced to short pile (as long as antennal scape) 49

43(42). Face nearly flat, or only bulging at oral margin 44
Face either uniformly rounded from base of antennae to oral margin or strongly gibbous 45

44(43). Cell r1 open. Antenna with two visible flagellomeres. Male terminalia and aedeagus as in Artigas (1970: figs. 43, 45, 46; 1971: fig. 28). Female spermathecae as in Artigas (1971: figs. 29, 30, 31) (Chile) ....*Alyssomyia* Hull, 1962
Cell r1 closed and petiolate. Second flagellomere fused to first. Face relatively wide and short, the mystax dense, in several rows, limited to basal 1/3 of face. Spermathecae as in Figs. 1197-1198 (Paraguay, Brazil: Mato Grosso, Minas Gerais, São Paulo) .... *Enigmomorphus* Hermann, 1912

45(43). Face uniformly rounded from base of antennae to oral margin. Male terminalia and aedeagus as in Figs. 1200-1204. Spermathecae as in Figs. 1205-1206 (Brazil: Pernambuco) .... *Araujoa* Artigas & Papavero, 1991
Face strongly gibbous 46

46(45). Face strongly gibbous only on basal 2/3. Second antennal flagellomere elongate 47
Face entirely gibbous. Second antennal flagellomere relatively short 48

47(46). First antennal flagellomere elongate. Female terminalia with spines on acanthophorites. Male terminalia and aedeagus as in Artigas (1970: figs. 50, 51, 57. 1971: fig. 34). Spermatheca as in Artigas (1971: figs. 32, 33, 45, 36) (Chile) .... *Creolestes* Hull, 1962
First antennal flagellomere distinctly ovoid. Female terminalia elongate, without spines on acanthophorites. Male terminalia and aedeagus as in Artigas (1970: figs. 19-21, 24, 25; 1971: figs. 59, 62). Spermathecae as in Artigas (1971: figs. 58, 60, 61) (Chile, Argentina, southern Brazil) .... *Pritchardia* Stuardo, 1946

48(46). Pulvilli well developed. Claws curved down on apical 1/3 and not sharply pointed. Male terminalia and aedeagus as in Artigas (1973) (Chile) .... *Aymarasilus* Artigas, 1973
Pulvilli reduced, a little longer than basal 1/3 of claws. Claws extended, sharply pointed. Male terminalia as in Artigas (1970: fig. 131b). Spermathecae as in Figs. 1207-1208 (Chile) .... *Leptochelina* Artigas, 1970

49(42). Anatergite with bristles, bristly pile, or both. Venation as in Hull (1962: fig. 475). Spermathecae as in Figs. 1209-1210 (Several zoogeographical regions) .... *Microstylum* Macquart, 1838
Anatergite bare. Wing venation never as above 50

50(49). Face either flat, concave, evenly rounded or gradually sloping from base of antennae to oral margin, but never gibbous. Mystax generally thin, confined to oral margin 51
Face gibbous. Mystax occupying lower 2/3 of face or more 54

51(50). Face moderately rounded from base of antennae to oral margin (Fig. 1211). Generally very robust flies with thick and robust legs, or *Diogmites*-like flies 52
Face flat or slightly concave. Slender flies, with long and slender legs 53

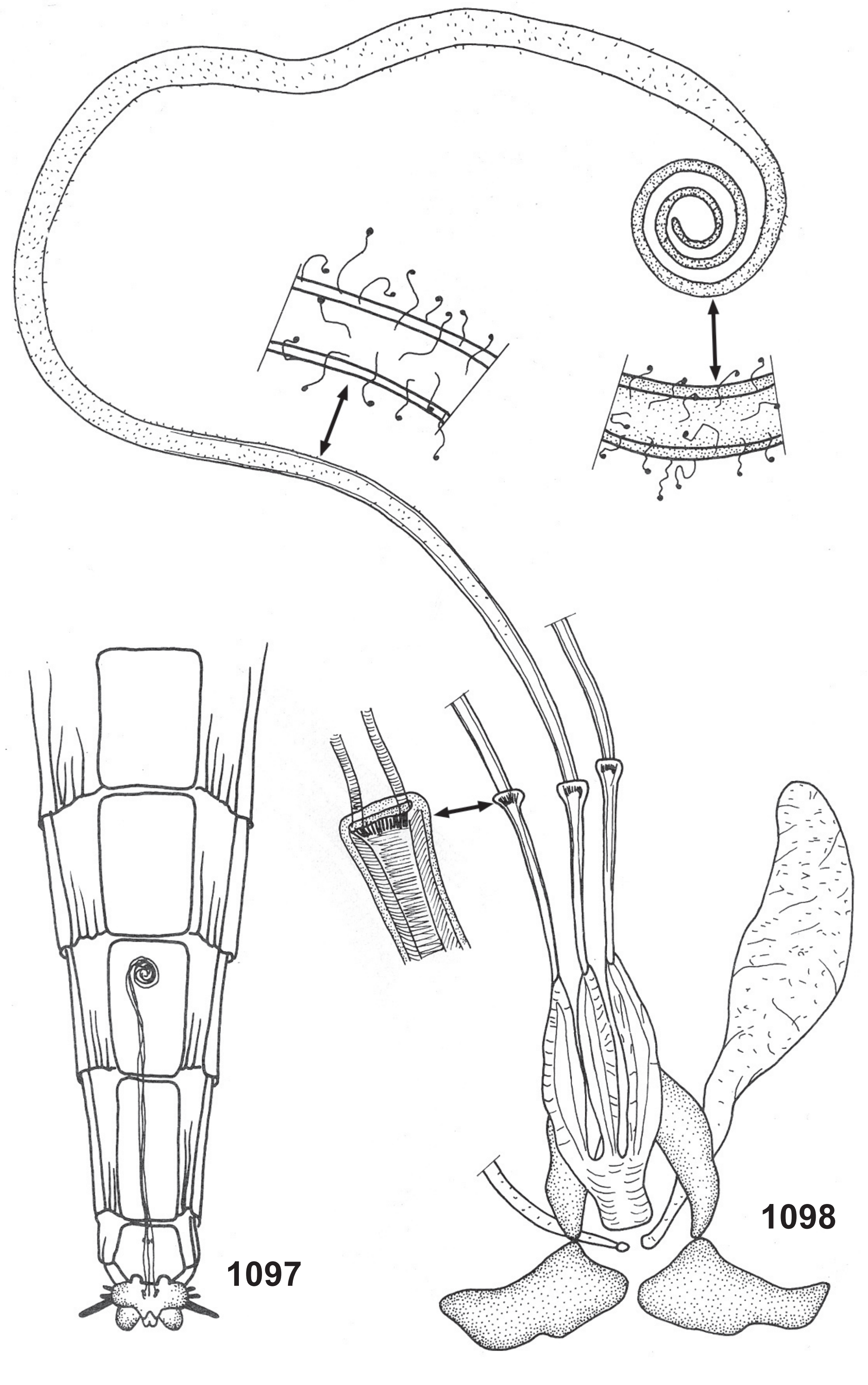
52(51). Pulvilli and claws normally developed. *Diogmites*-like flies. Spermathecae as in Figs. 1214-1215 (Brazil: Amazonas, Pará) .... *Taperigna* Artigas & Papavero, 1991
Pulvilli and empodium absent. Claws extremely developed, very long and slender, plus two claw-like bristles on apical tarsomere. Spermathecae as in Figs. 1216-1217 (Mexico to Argentina, but not in Chile) .... *Dicranus* Loew, 1851

53(51). Face flat. Abdomen cylindrical, as long as or longer than wings, slender, tapering towards apex. Male terminalia as in Papavero & Bernardi (1971). Spermathecae as in Figs. 1218-1219 (Mexico to Uruguay, but not in Chile) ... . *Archilestris* Loew, 1874

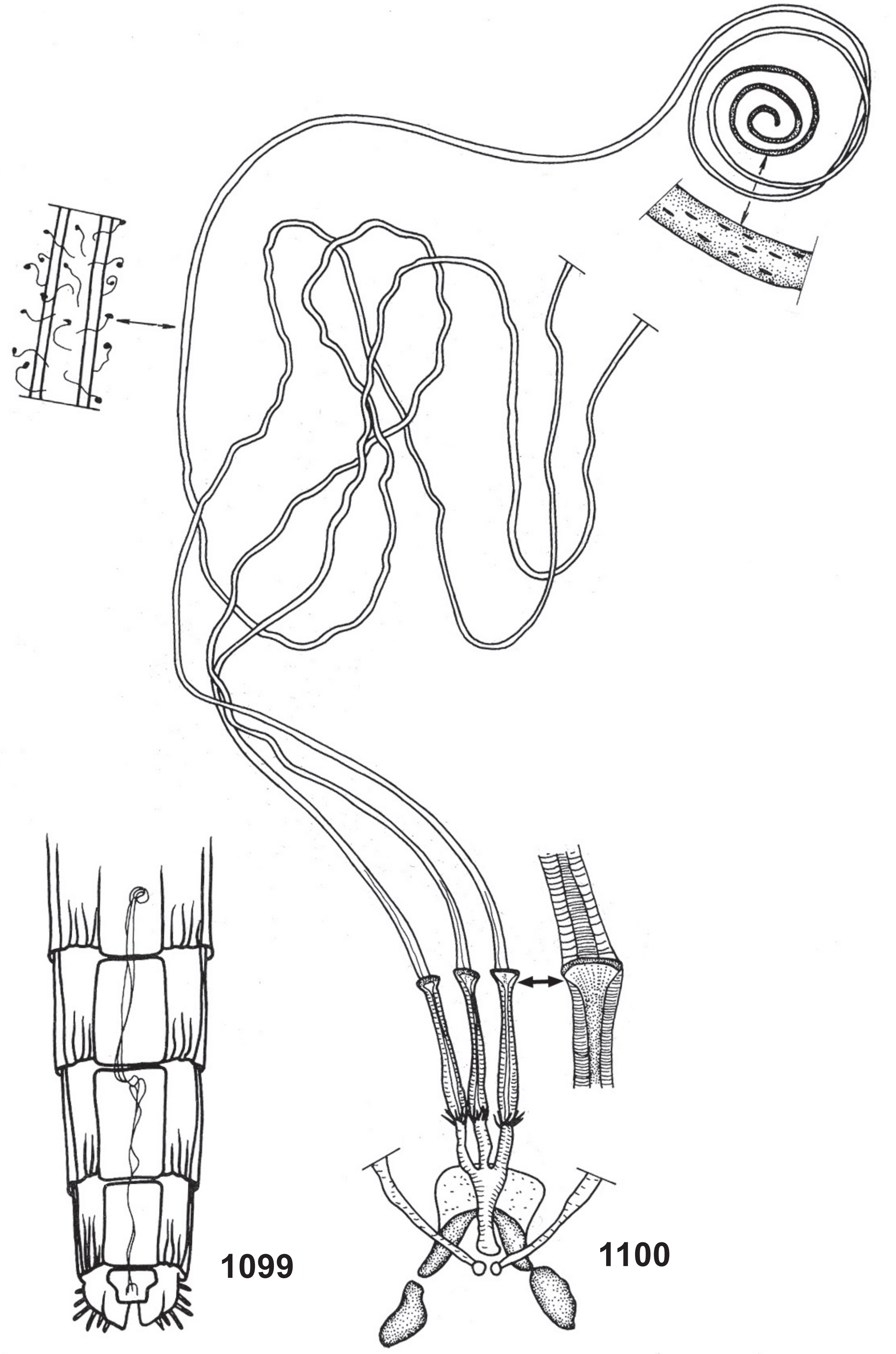
Face slightly concave (Fig. 1220). Abdomen shorter than wings, strongly coarctate. Male terminalia as in Figs. 1222-1224. Spermathecae as in Figs. 1226-1227 (Brazil: Rio de Janeiro, São Paulo) .... *Archilestroides* Artigas & Papavero, 1991

54(50). First flagellomere long, almost four times longer than combined length of scape and pedicel, somewhat curved, with apical pit. Facial gibbosity gently rounded. Proboscis dorsoventrally flattened, with inconspicuous middorsal keel. Male terminalia as in Lamas (1973). Spermathecae as in Figs. 1228-1229 (Brazil: Tocantins to southernmost states, Paraguay, Argentina) .... *Cylicomera* Lynch Arribálzaga, 1881

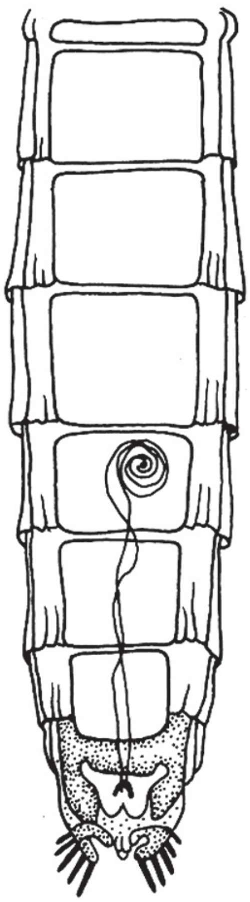
First flagellomere never more than three times longer than combined length of scape and pedicel, straight, wider on middle, either bearing a second flagellomere or only with an apical pit. Facial gibbosity abruptly convex. Proboscis laterally compressed, with conspicuous middorsal keel. Male terminalia as in Lamas (1973). Spermathecae as in Figs. 1230-1231 (Mexico to Cuba and Argentina, ?Chile) .... *Prolepsis* Walker, 1851



Figs. 1097-1098. *Stenopogon inguinatus* Loew, 1866: 1097, situation of spermathecae in the abdomen; 1098, furca and spermathecae.



Figs. 1099-1100. *Scleropogon sp.*: 1099, situation of spermathecae in the abdomen; 1100, furca and spermathecae.



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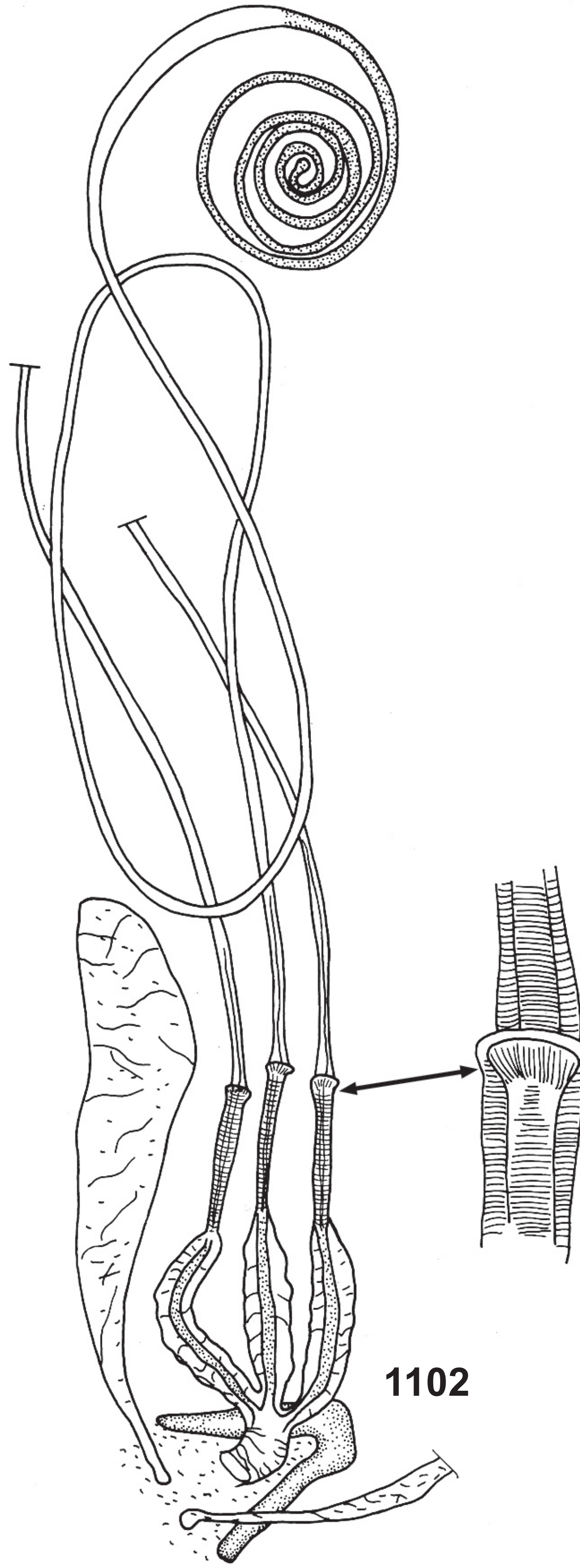

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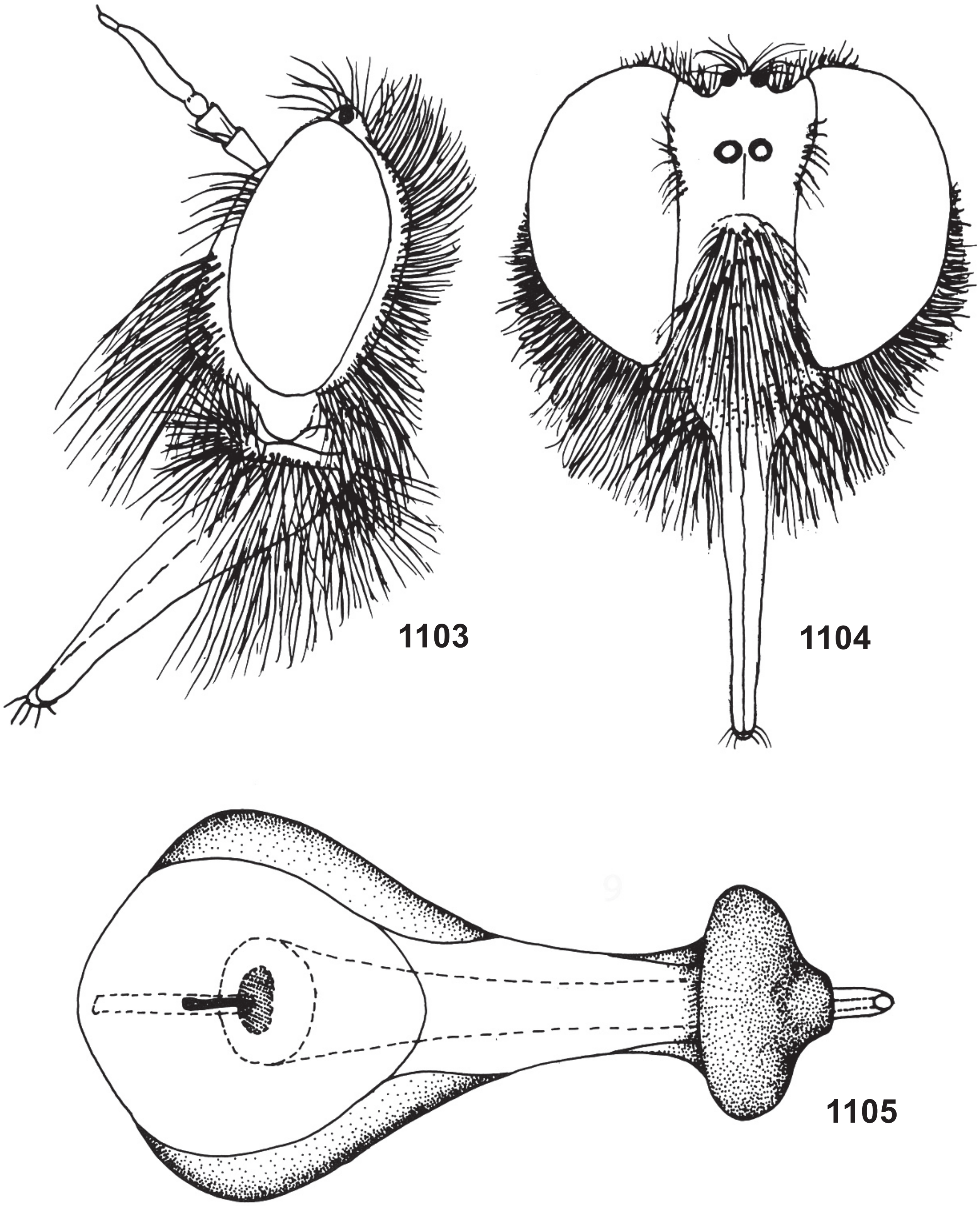
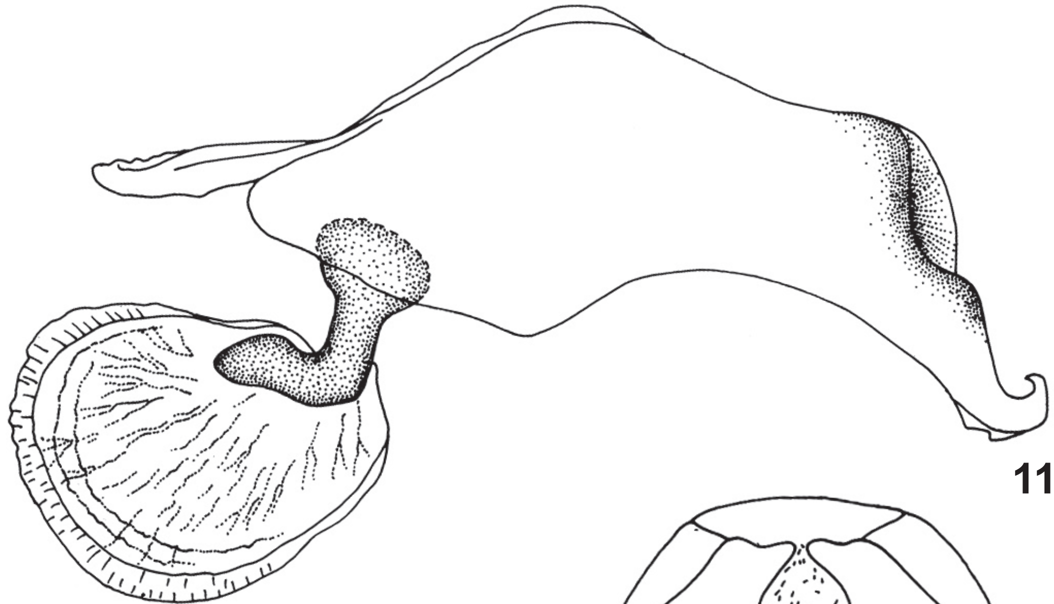
Figs. 1101-1102. *Ospriocerus abdominalis* (Say, 1824): 1101, situation of spermathecae in the abdomen; 1102, furca and spermathecae.



Figs. 1103-1105. *Carebaricus rionegrensis* (Lamas, 1971): 1103-1104, head in lateral (1103) and frontal (1104) views;1105, aedeagus in dorsal view.



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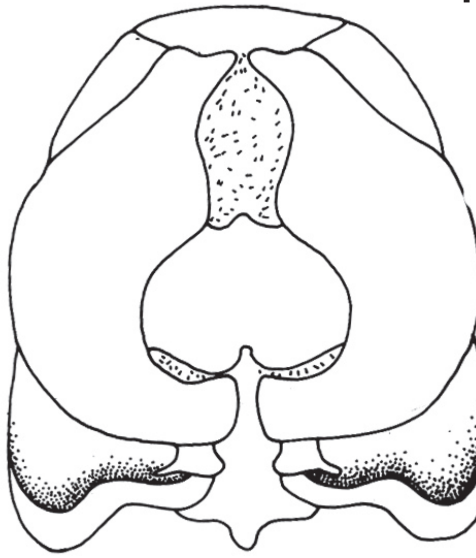

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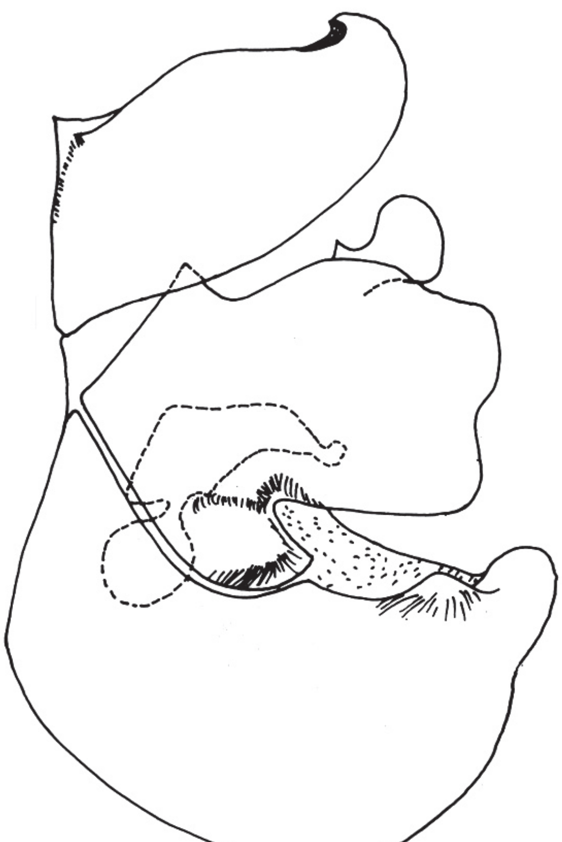

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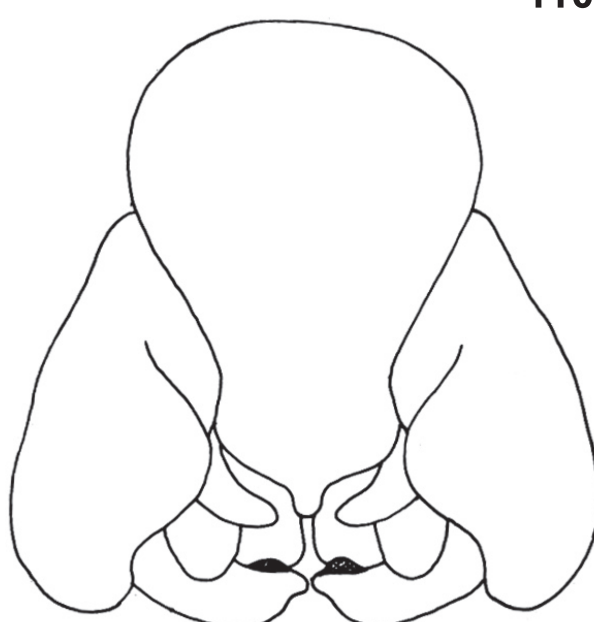

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Figs. 1106-11108. *Carebaricus rionegrensis* (Lamas, 1971): 1106, aedeagus in lateral view; 1107-1109, male terminalia in lateral (1107), dorsal (1108) and ventral (1109) views.

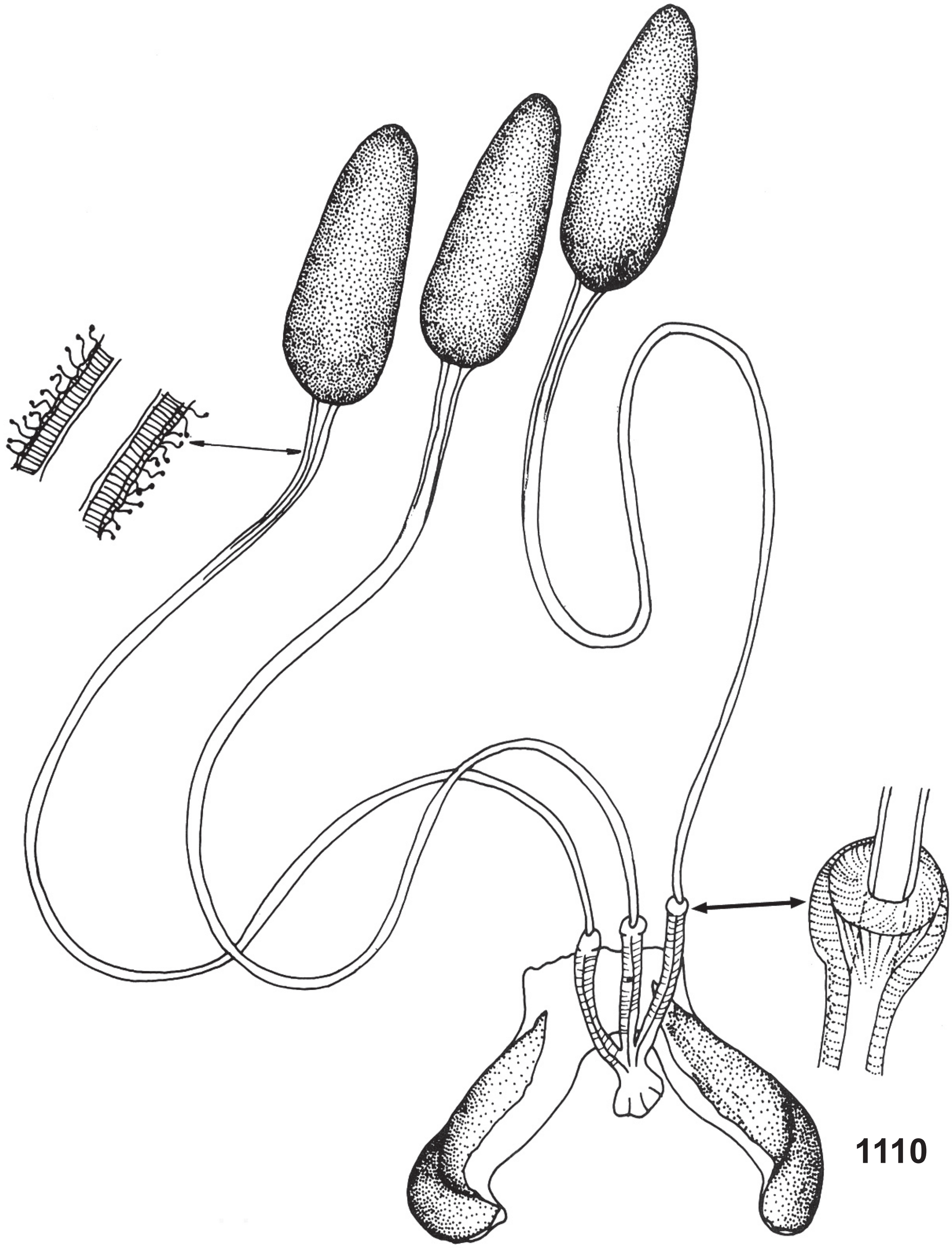
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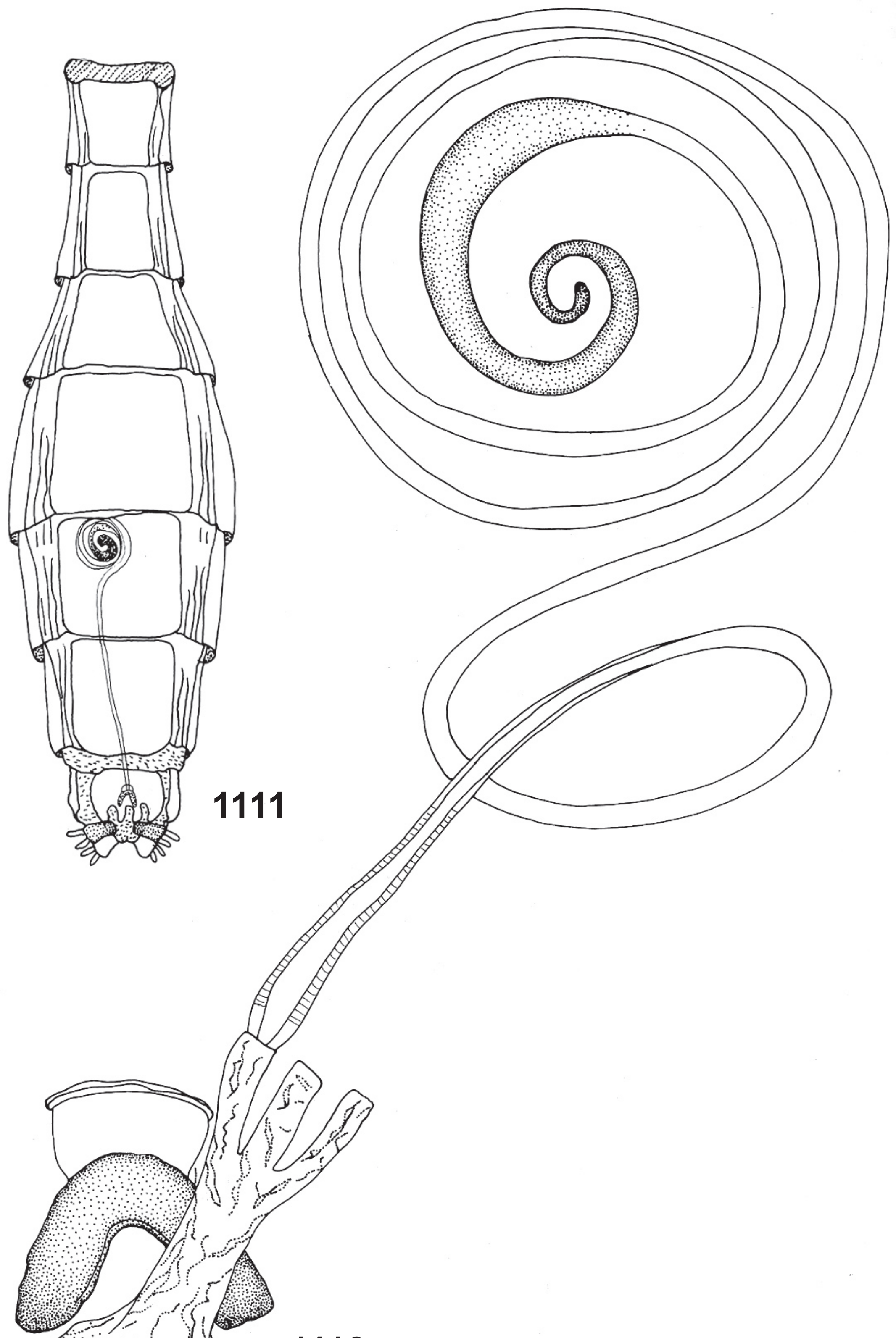
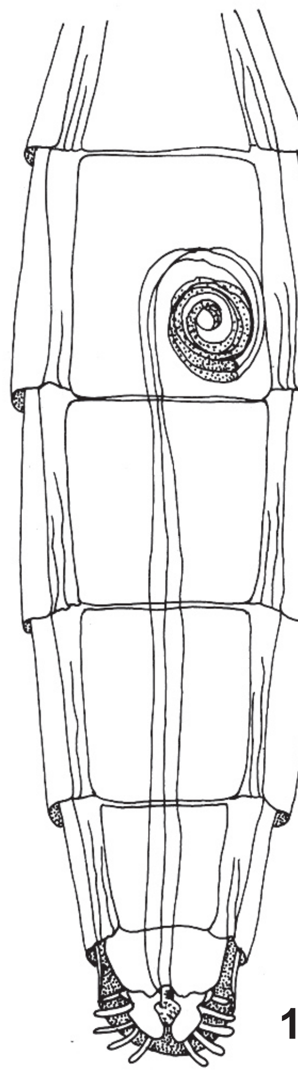
Fig. 1110. *Carebaricus rionegrensis* (Lamas, 1971), furca and spermathecae.



Figs. 1111-1112. *Cystoprosopa semirufa* (Wiedemann, 1828): 1111, situation of furca and spermathecae in the abdomen; 1112, furca and spermathecae.



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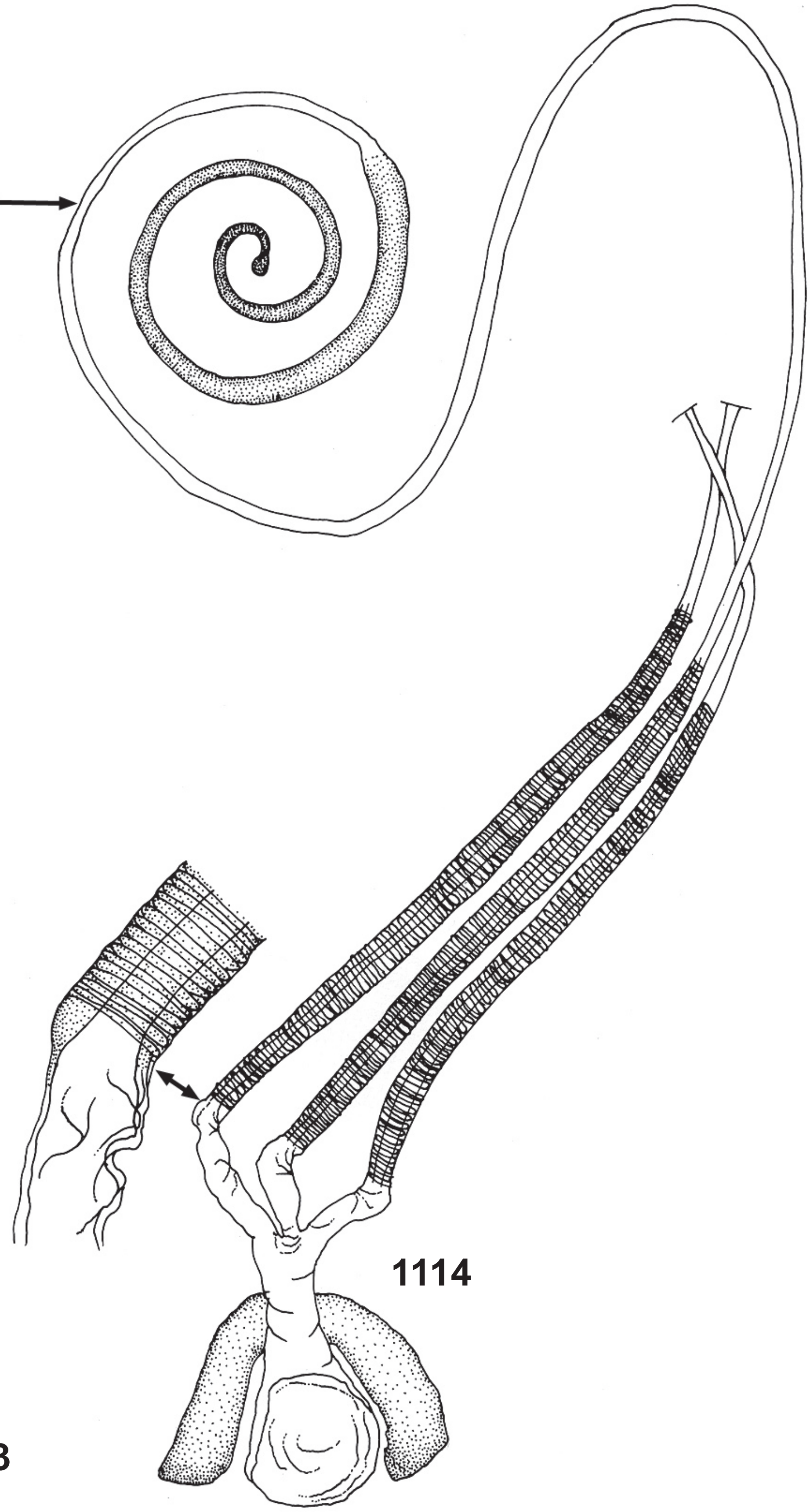

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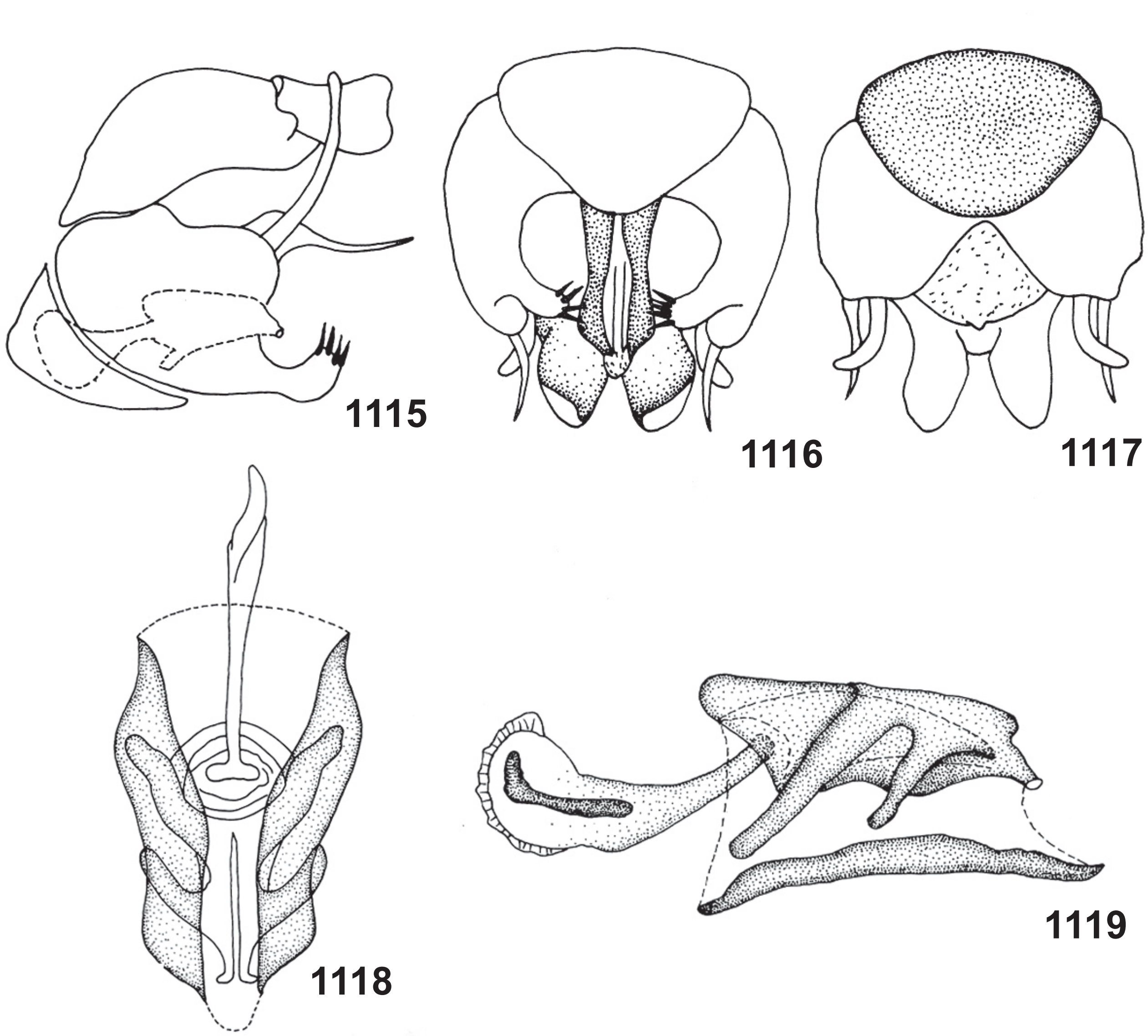
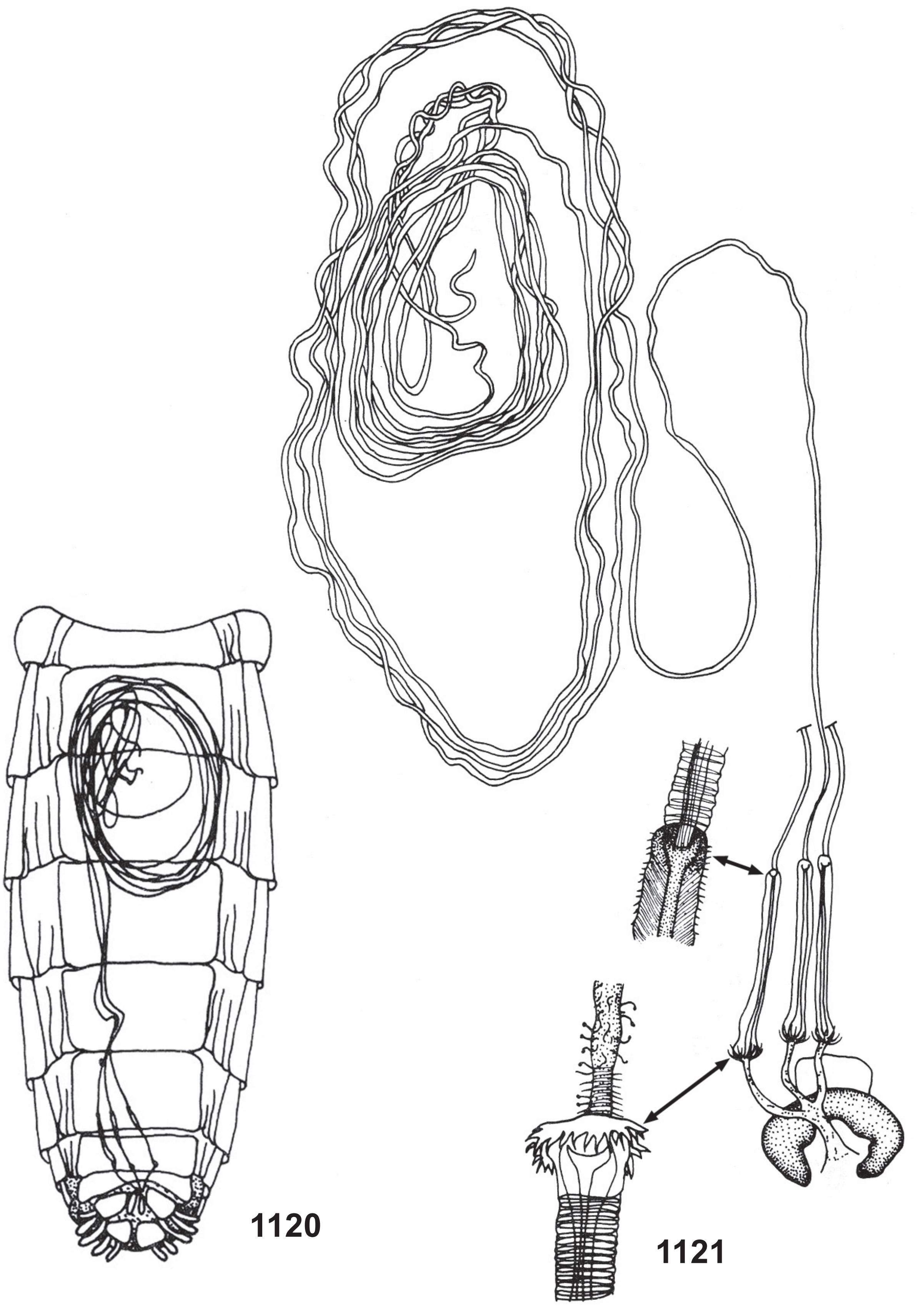
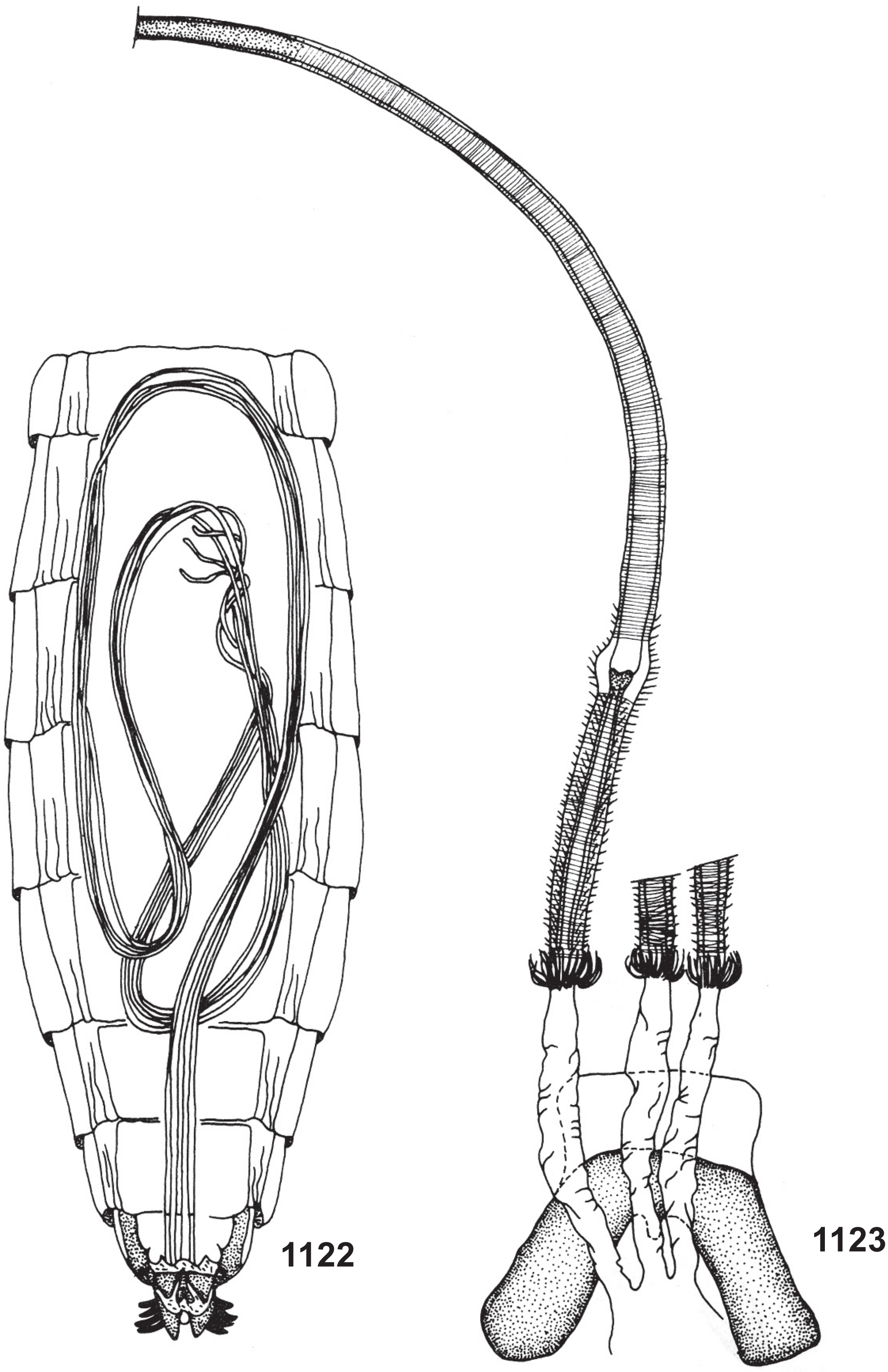
Figs. 1113-1114. *Plesiomma ferrugineum* (Macquart, 1838): 1113, situation of furca and spermathecae in the abdomen; 1114, furca and spermathecae.



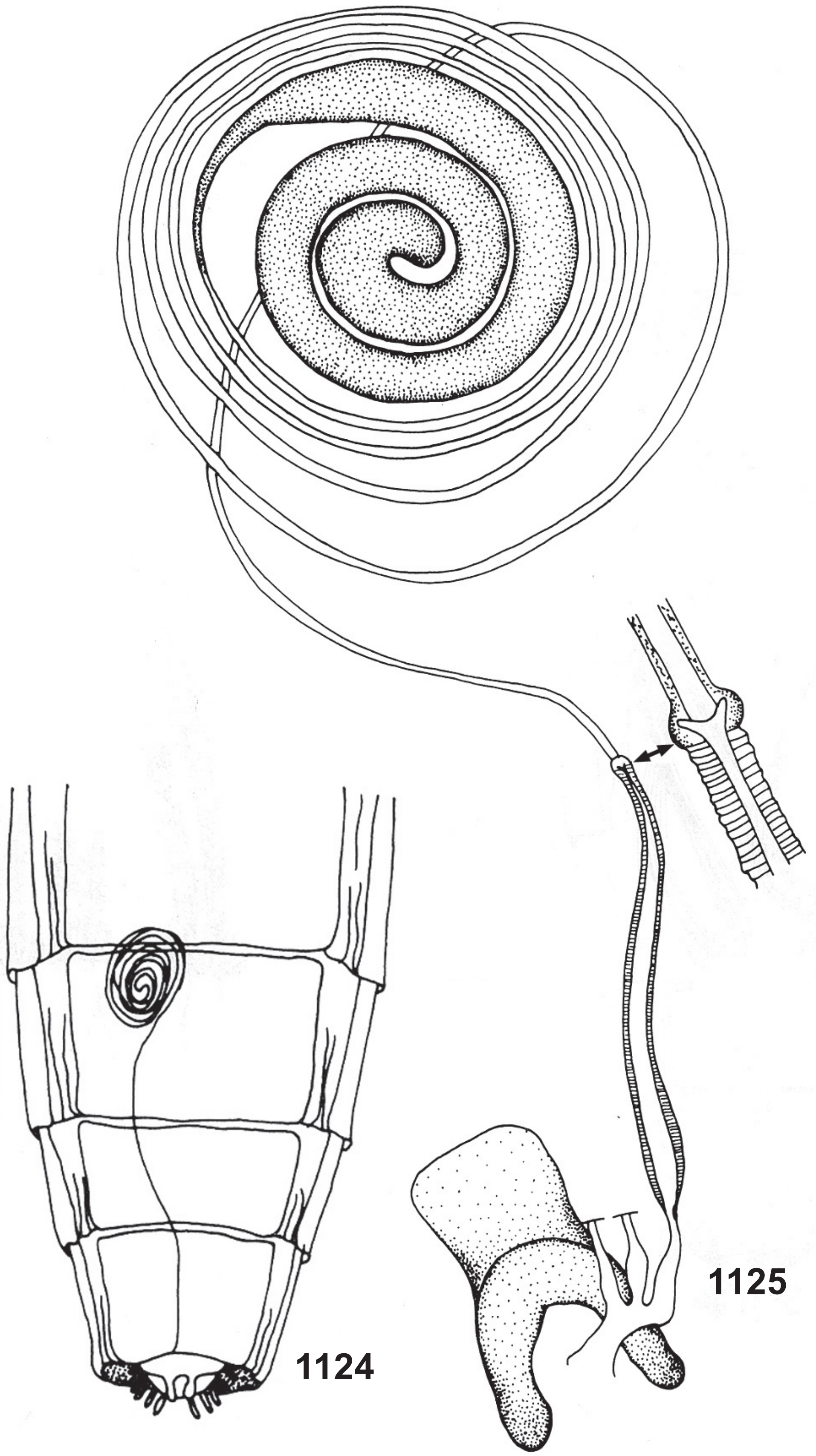
Figs. 1115-1119. *Holopogon nigripennis* (Meigen, 1820): 1115-1117, male terminalia in lateral (1115), ventral (1116) and dorsal (1117) views; 1118-1119, aedeagus in dorsal (1118) and lateral (1119) views.



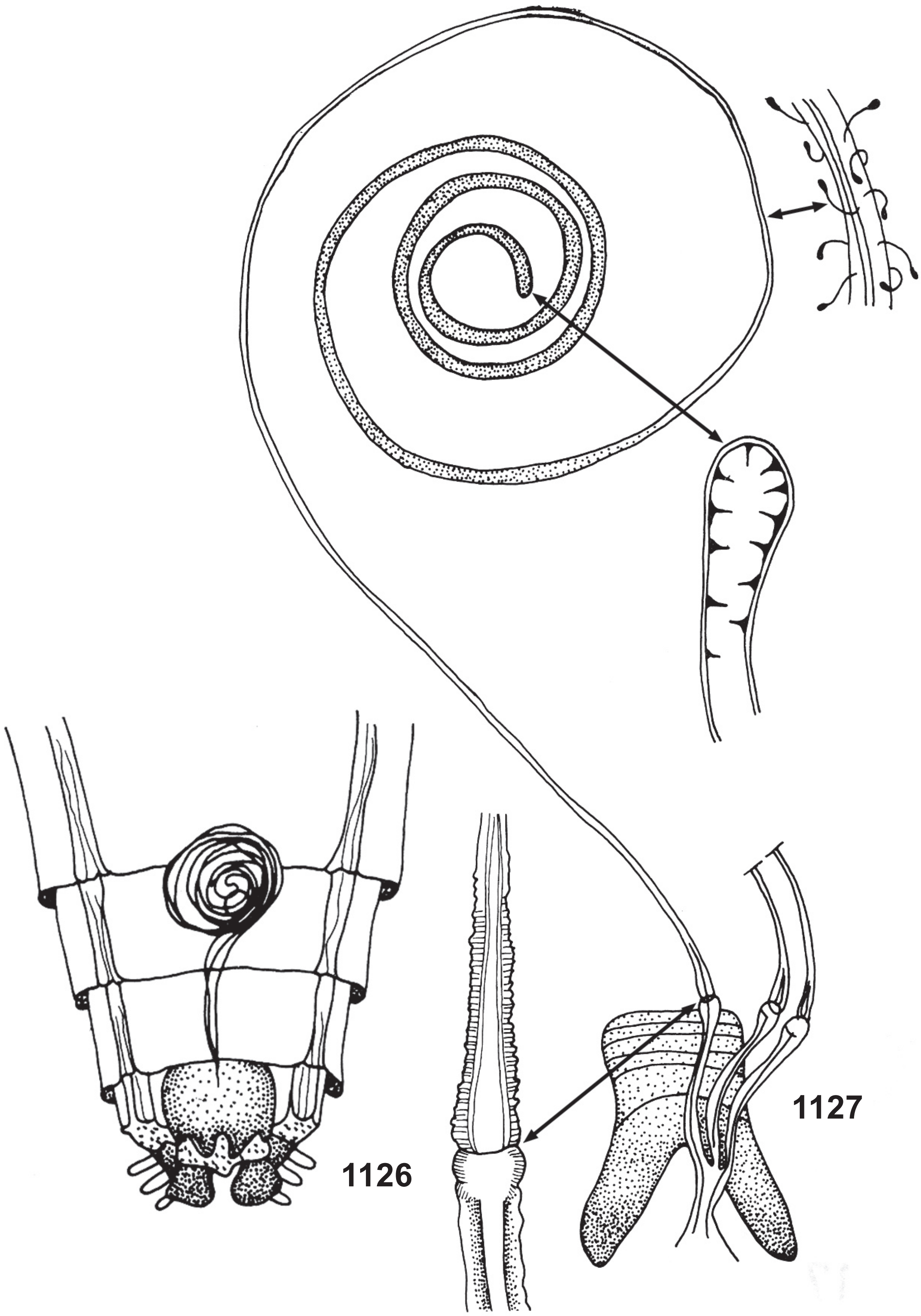
Figs. 1120-1121. *Holopogon phaeonotus* Loew, 1874: 1120, situation of furca and spermathecae in the abdomen; 1121, furca and spermathecae.



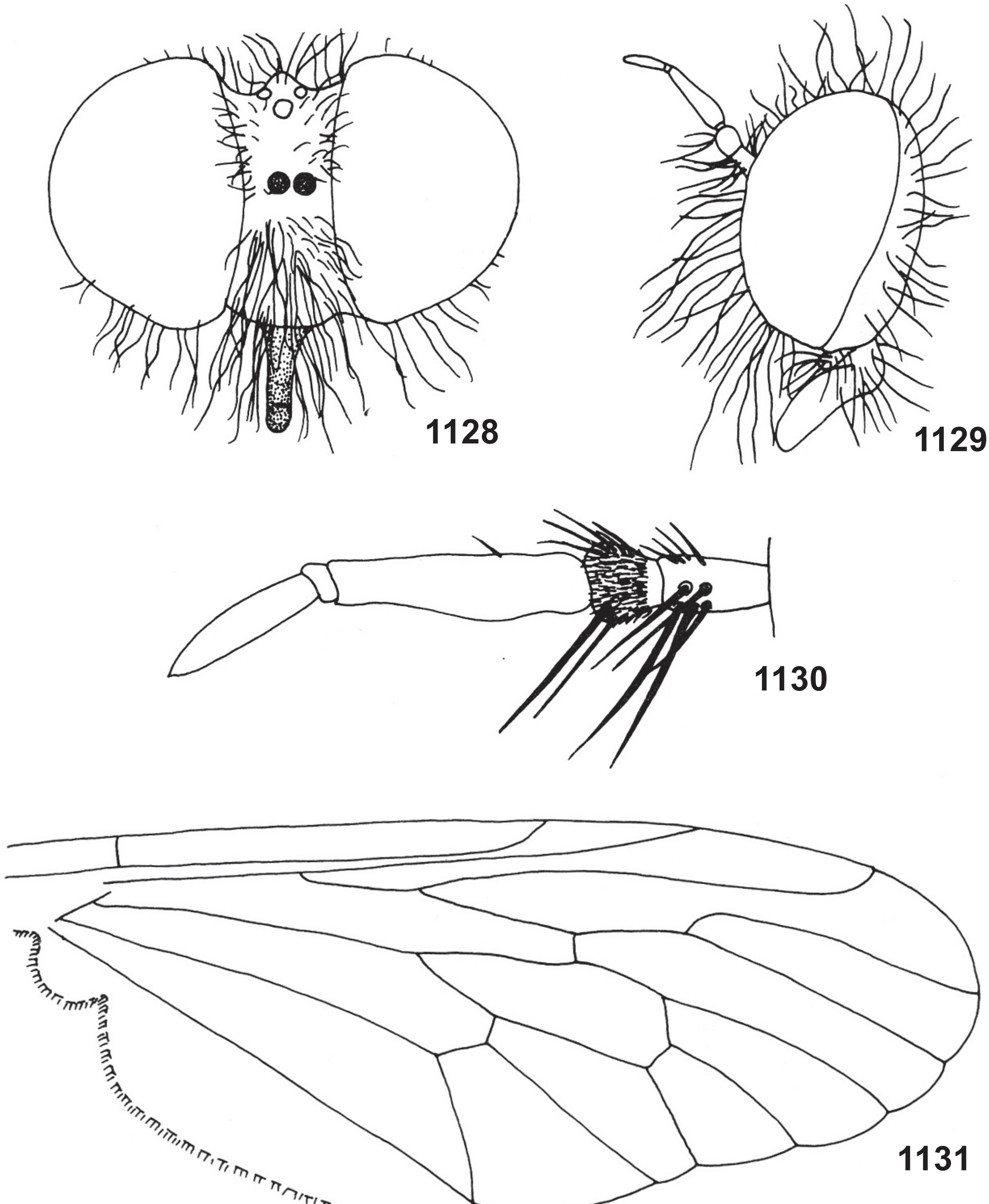
Figs. 1122-1123. *Heteropogon dorothyae* Martin, 1962: 1122, situation of furca and spermathecae in the abdomen; 1123, furca and spermathecae.



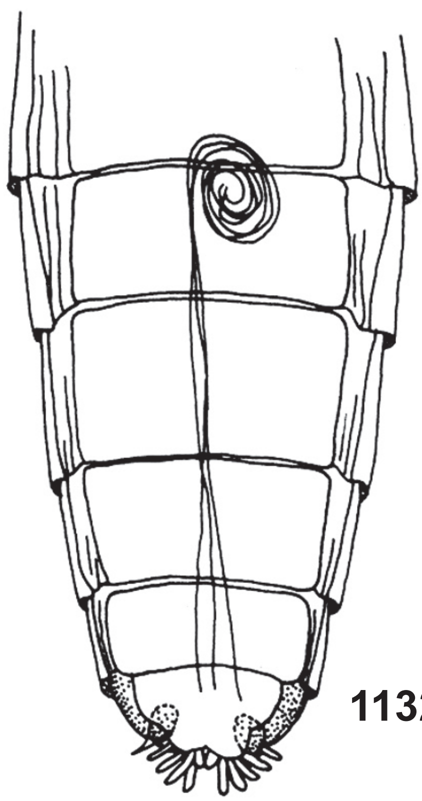
Figs. 1124-1125. *Callinicus pollenius* (Cole, 1919): 1124, situation of furca and spermathecae in the abdomen; 1125, furca and spermathecae.



Figs. 1126-1127. *Ablautus californicus* Wilcox, 1935: 1126, situation of furca and spermathecae in the abdomen; 1127, furca and spermatrhecae.



Figs. 1128-1131. *Nothopogon triangularis* Artigas & Papavero, 1991: 1128-1129, head in anterior (1128) and lateral (1129) views; 1130, antenna; 1131, wing.



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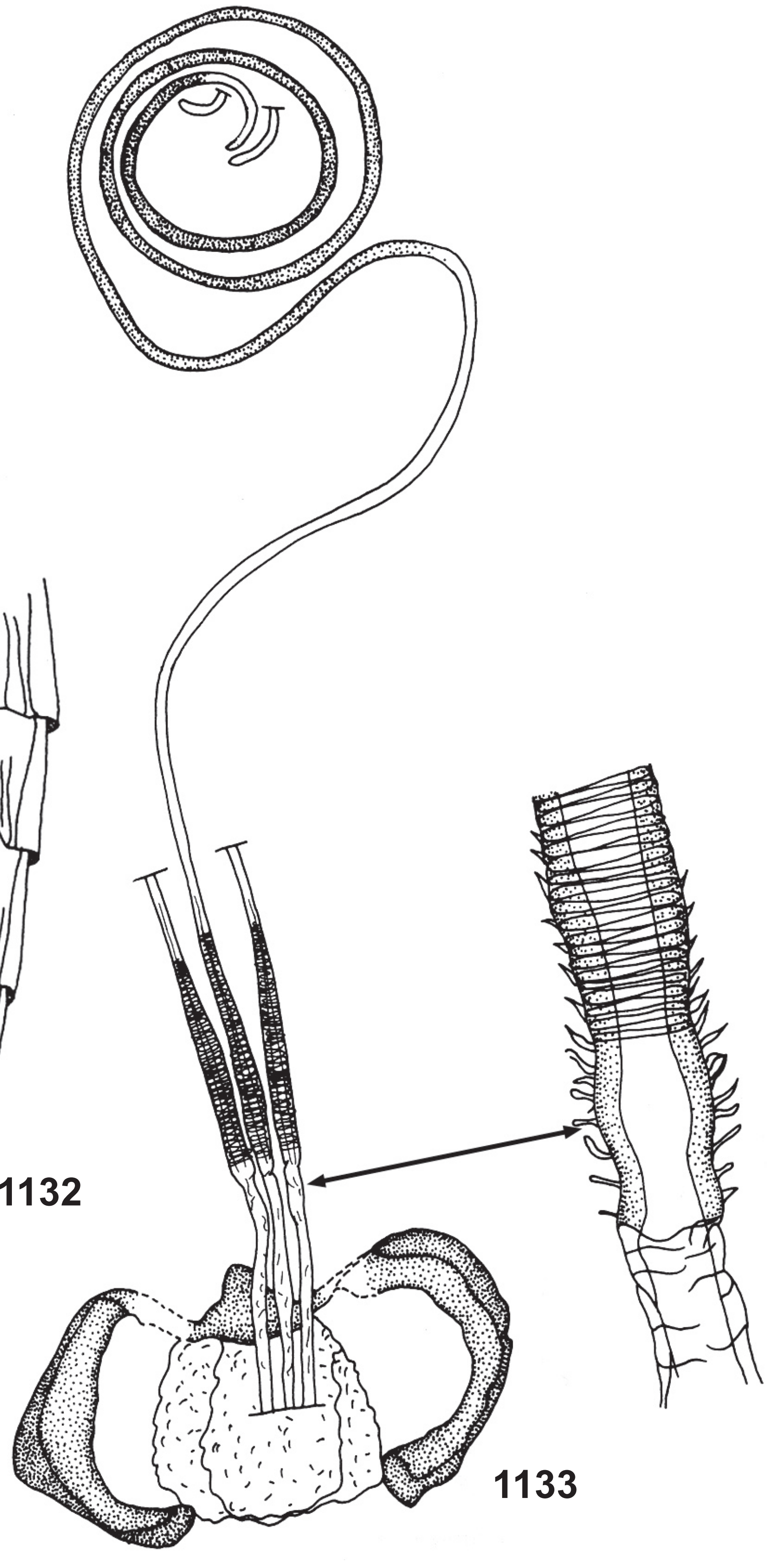

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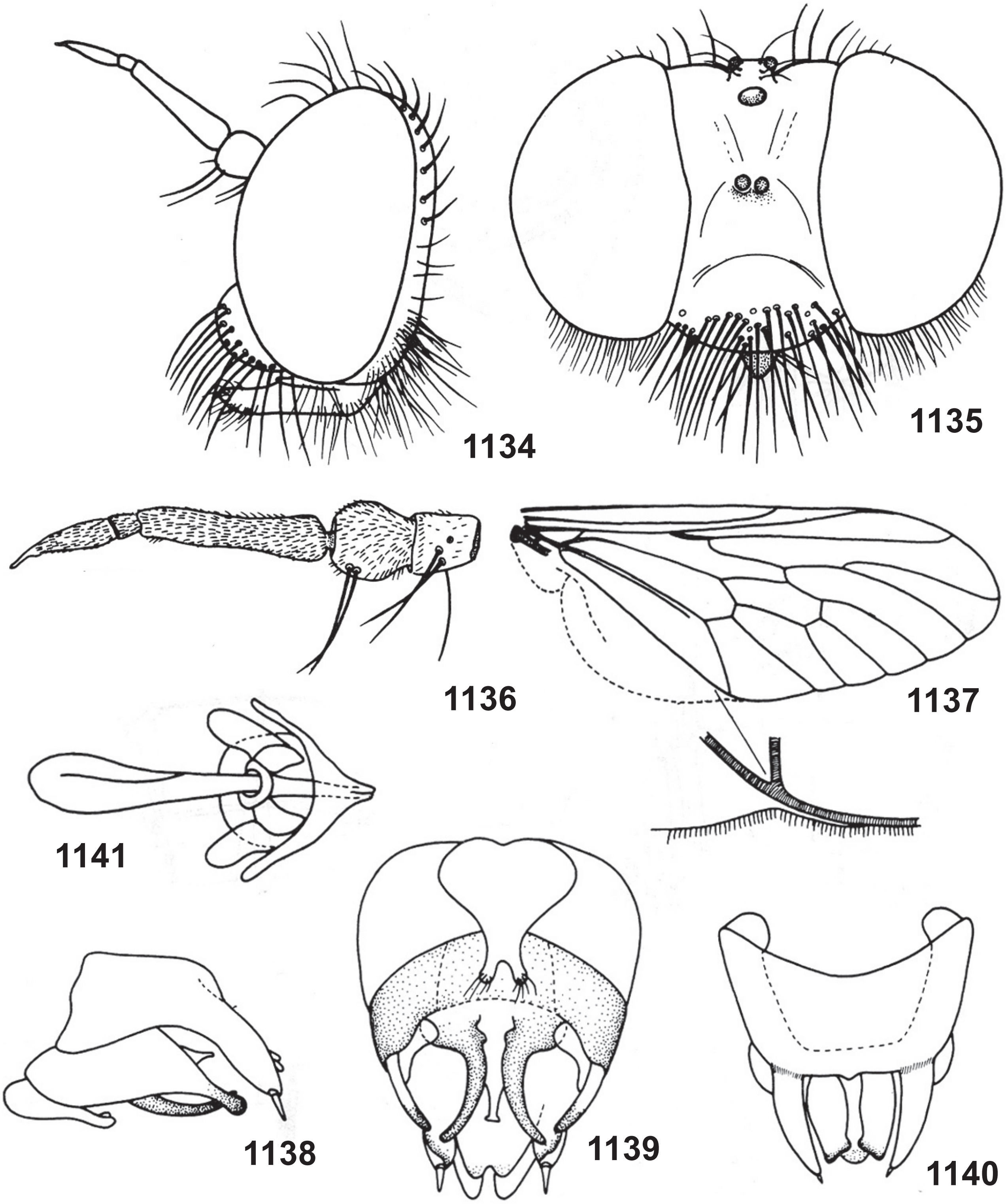
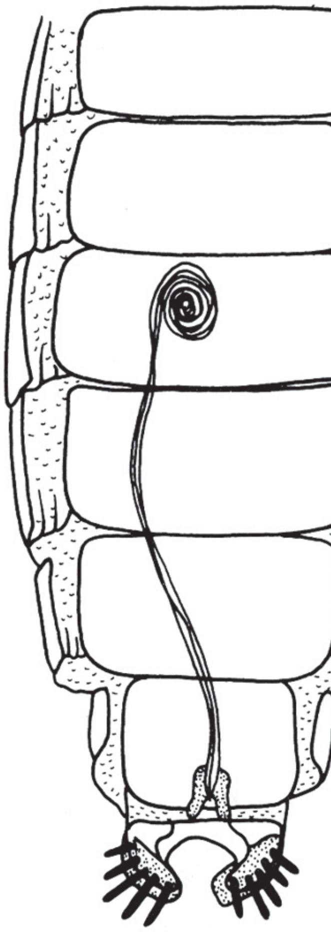
Figs. 1132-1133. *Itolia maculata* Wilcox, 1936: 1132, situation of furca and spermathecae in the abdomen; 1133, furca and spermathecae.



Figs. 1134-1141. *Ivettea minuscula* (Artigas, 1970): 1134-1135, head in lateral (1134) and frontal (1135) views; 1136, antenna; 1137, wing; 1138-1140, male terminalia in lateral (1138), ventral (1139) and dorsal (1140) views; 1141, aedeagus in dorsal view.



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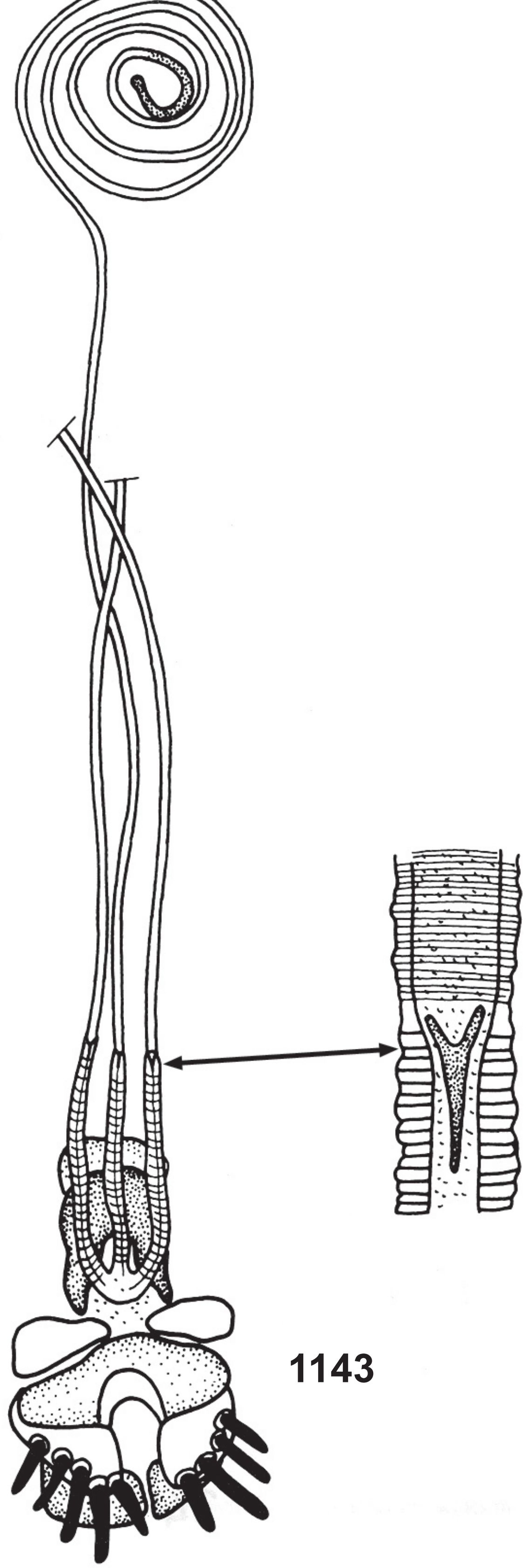

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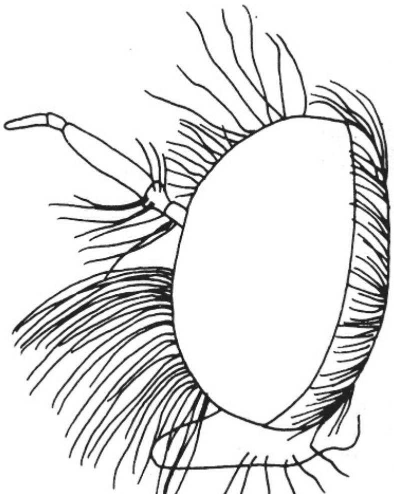
Figs. 1142-1143. *Ivettea minuscula* (Artigas, 1970): 1142, situation of furca and spermathecae in the abdomen; 1143, furca and spermathecae.



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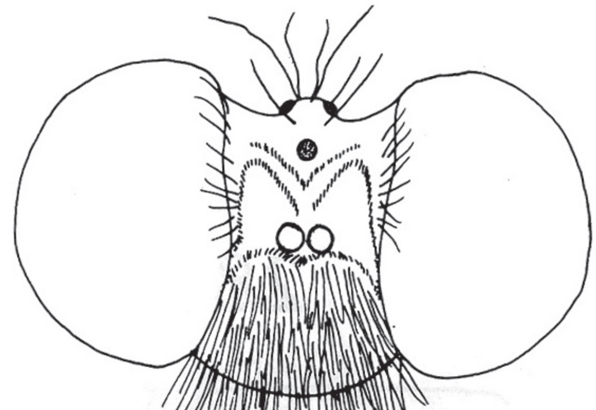

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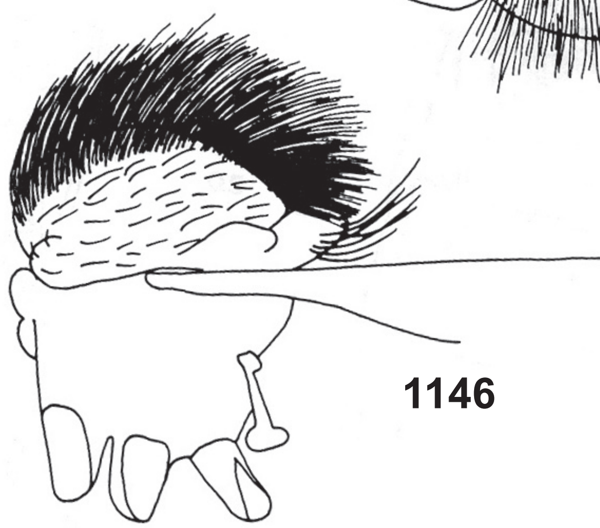

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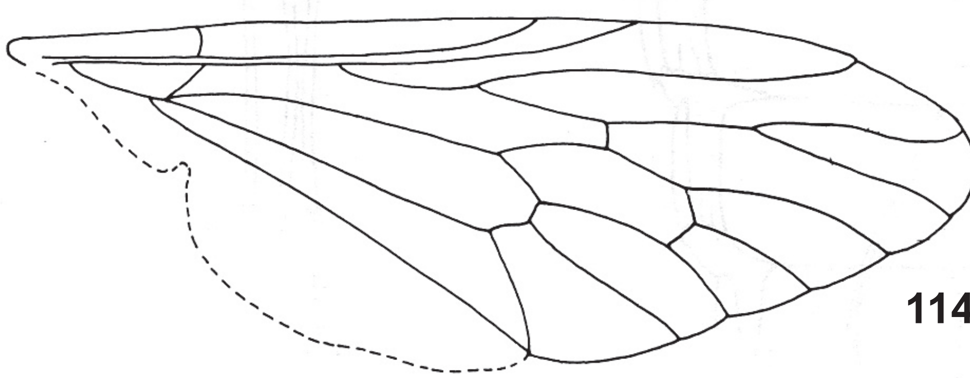

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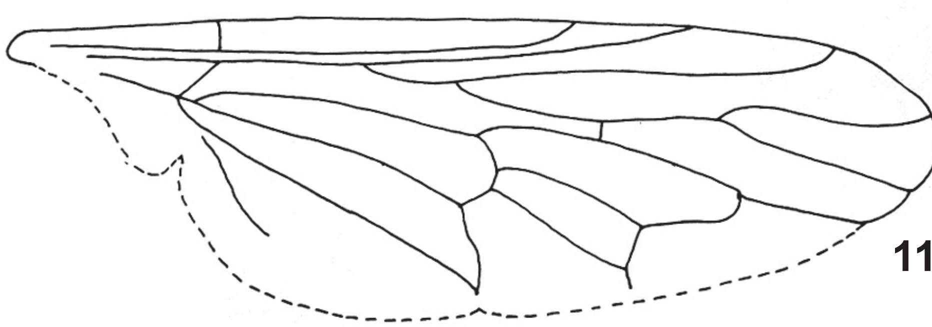

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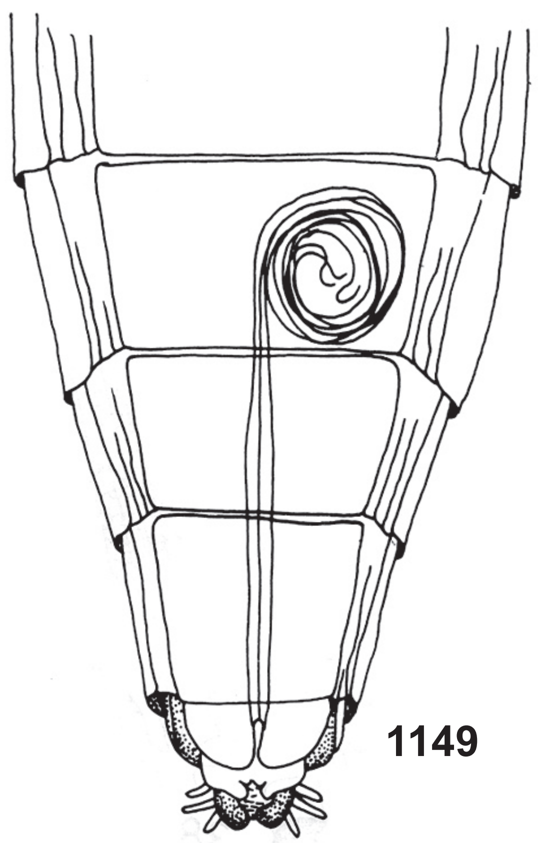
Figs. 1144-1147. *Dasycyrton gibbosus* Philippi, 1865: 1144-1145, head in lateral (1144) and frontal (1145) views; 1146, thorax, lateral view; 1147, wing. Fig. 1148, *Itolia atripes* Wilcox, 1949, wing.



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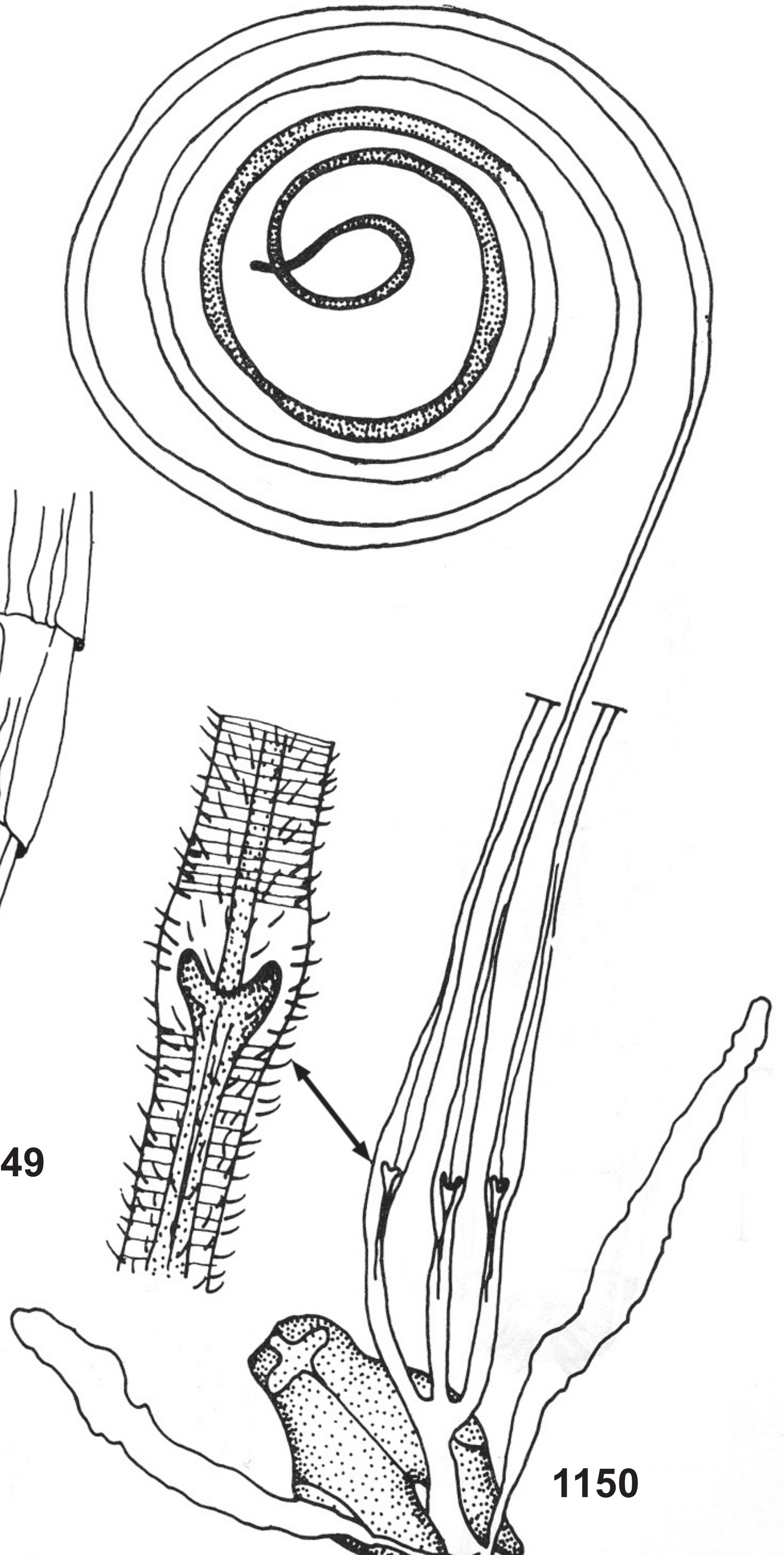

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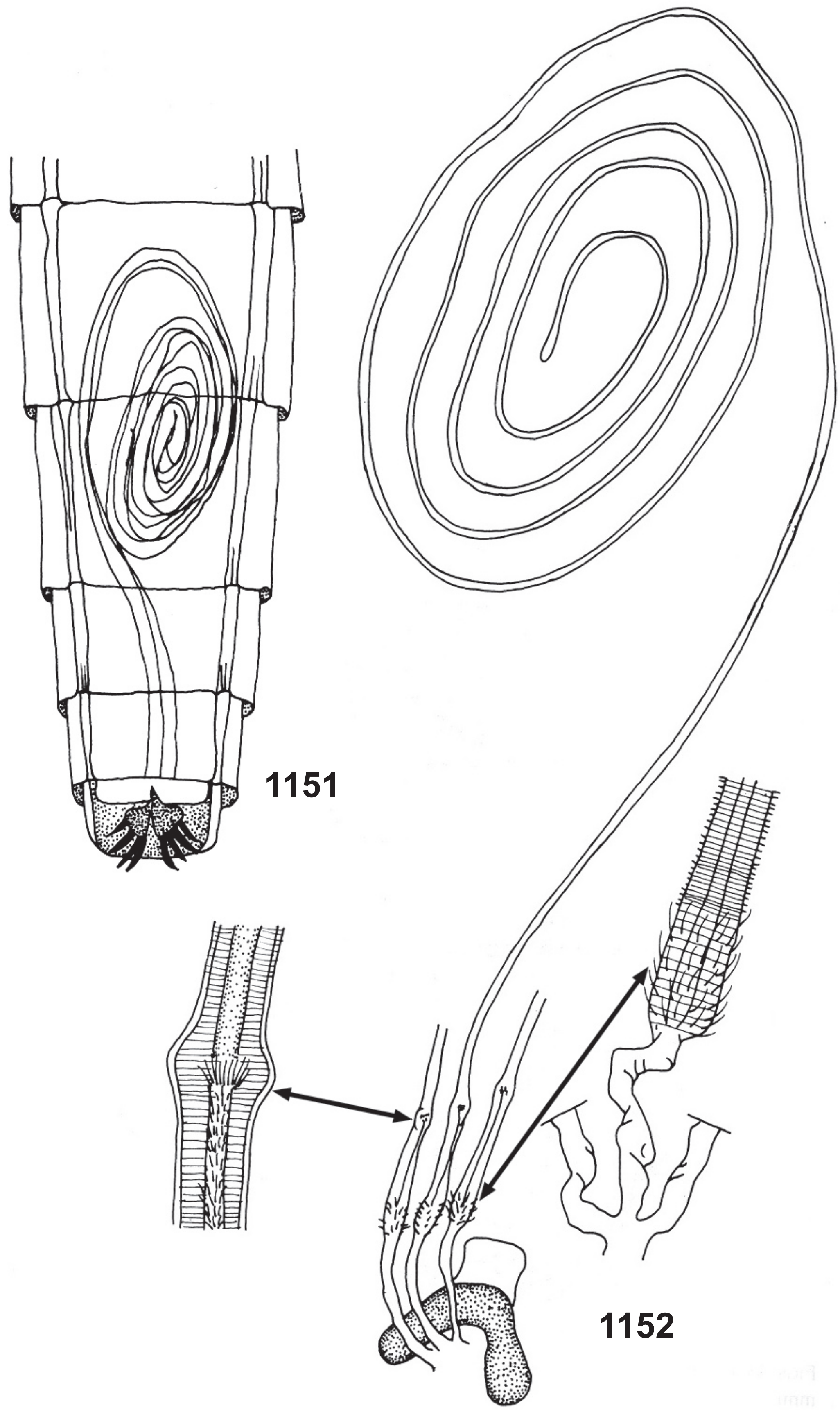
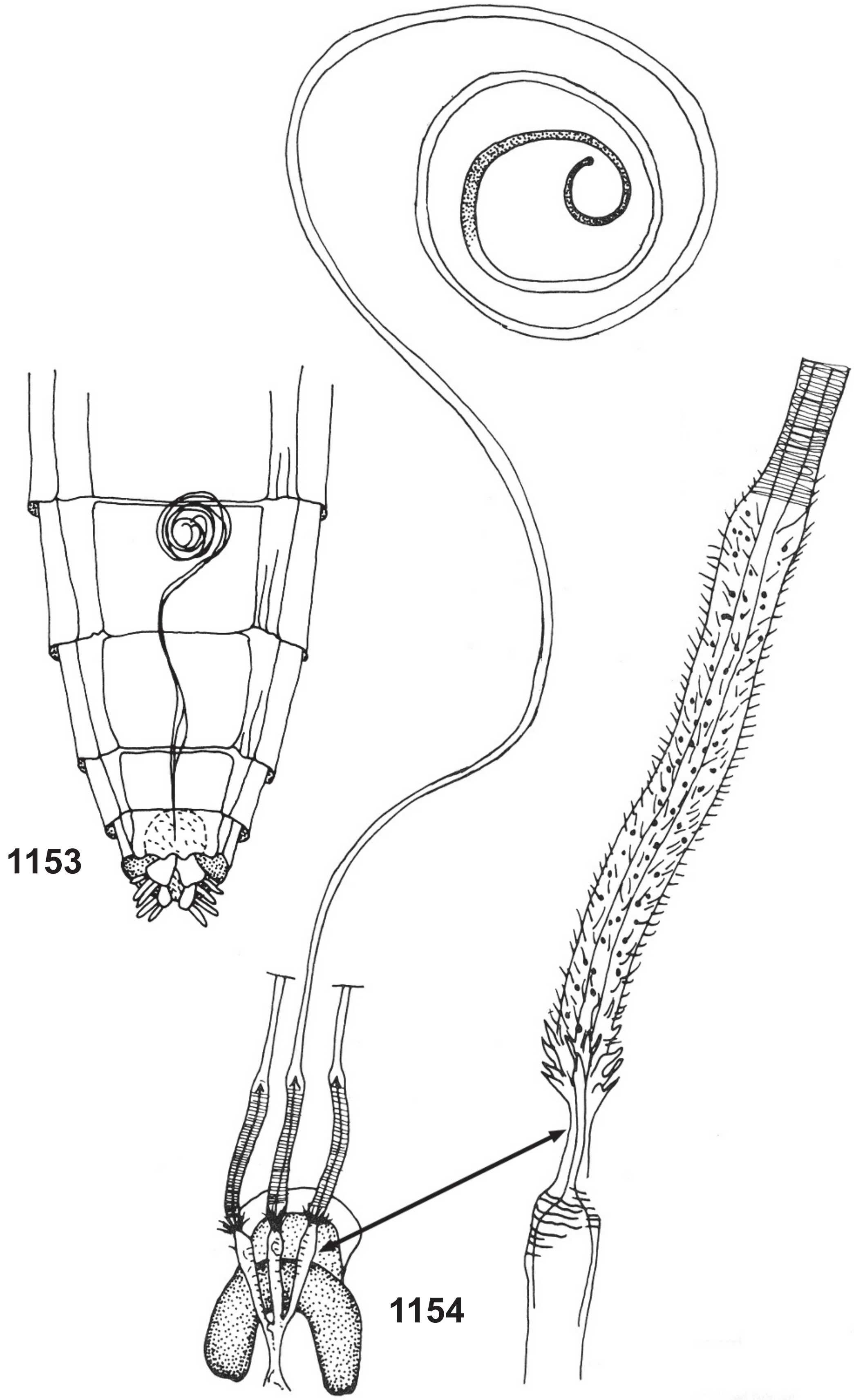
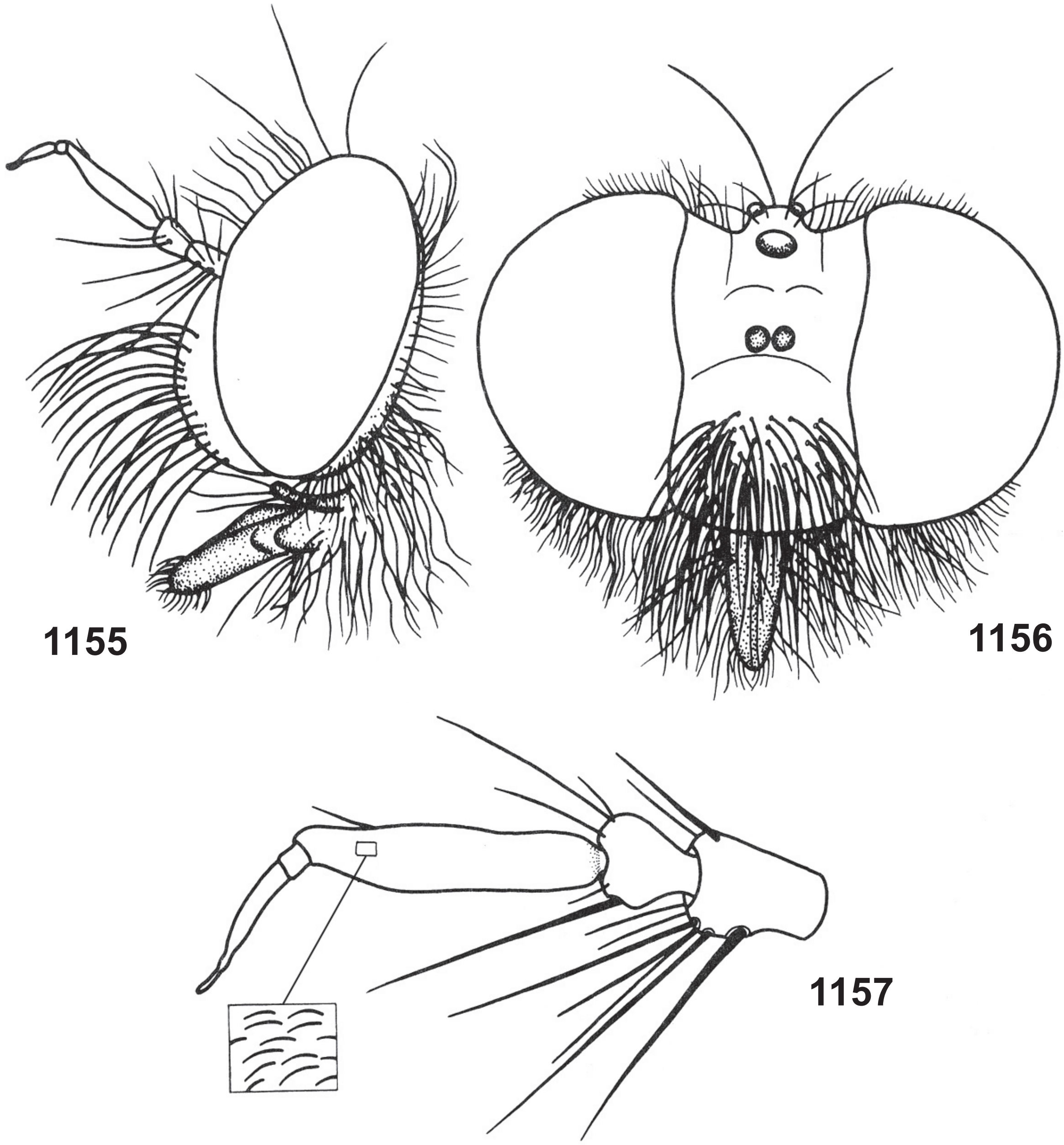
Figs. 1149-1150. *Dasycyrton gibbosus* Philippi, 1865: 1149, situation of furca and spermathecae in the abdomen; 1150, furca and spermathecae.



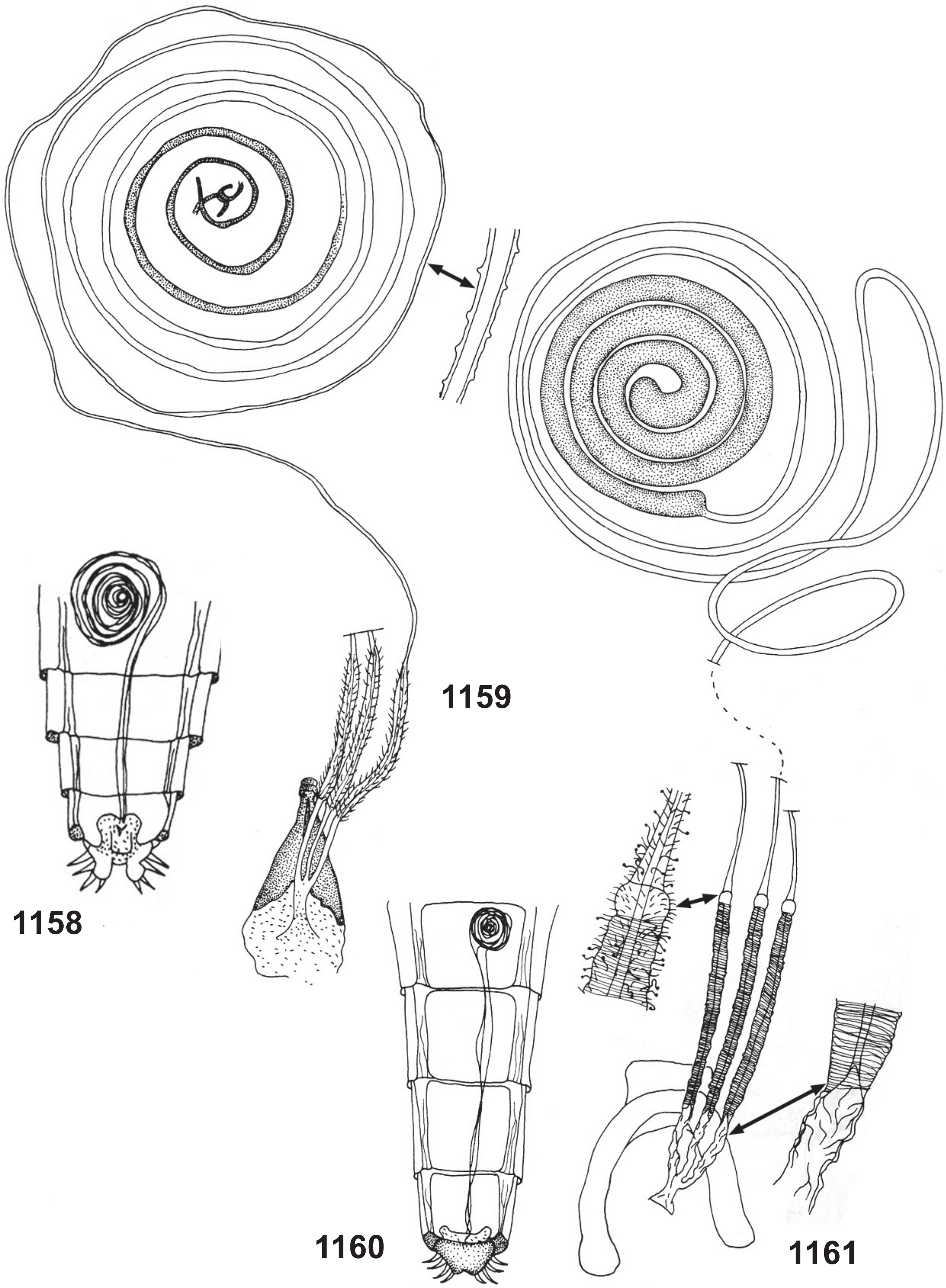
Figs. 1151-1152. *Wilcoxia cinerea* James, 1941: 1151, situation of furca and spermathecae in the abdomen; 1152, furca and spermathecae.



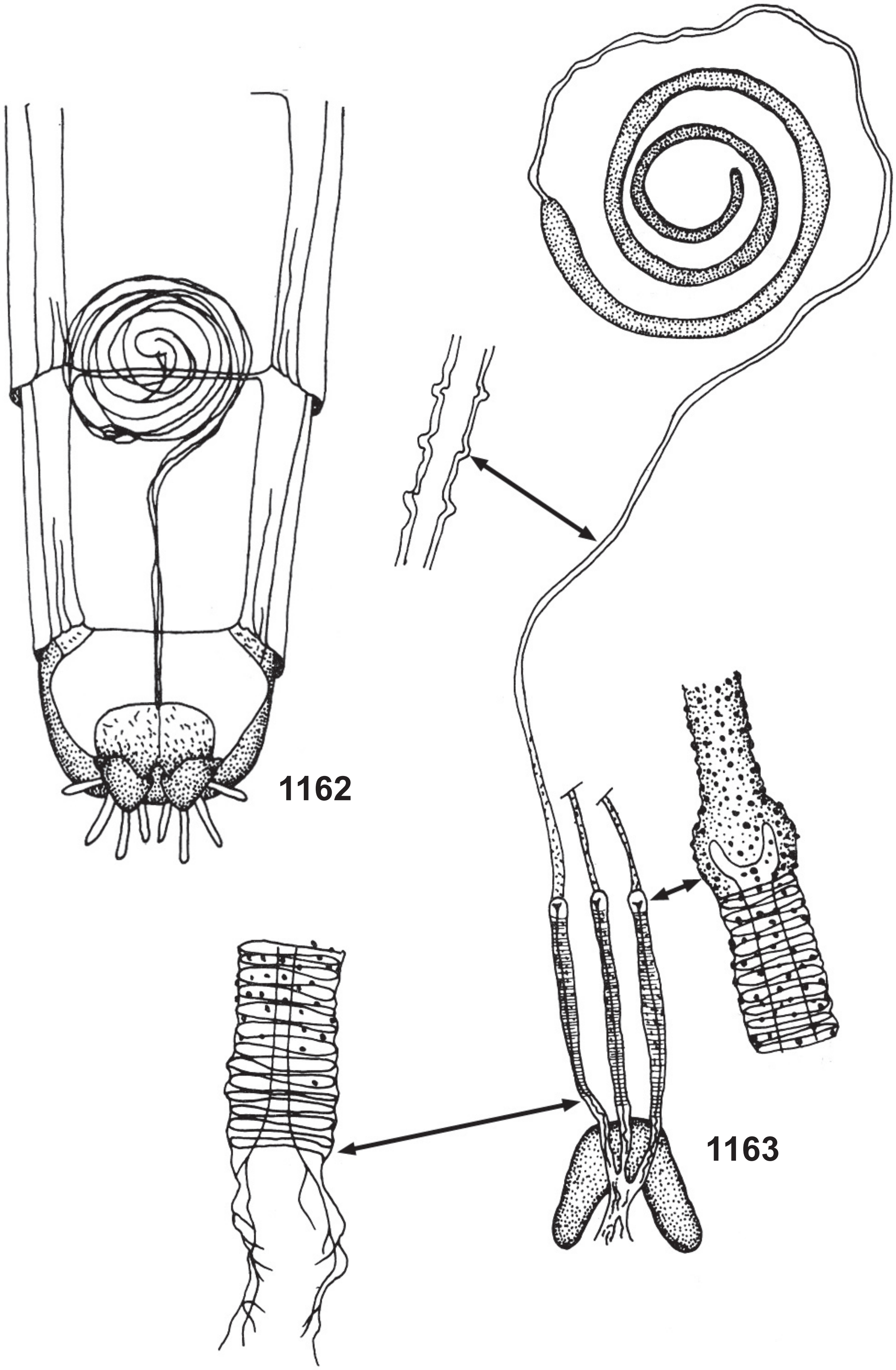
Figs. 1153-1154. *Nannocyrtopogon nigricolor* (Coquillett, 1904): 1153, situation of furca and spermathecae in the abdomen; 1154, furca and spermathecae.



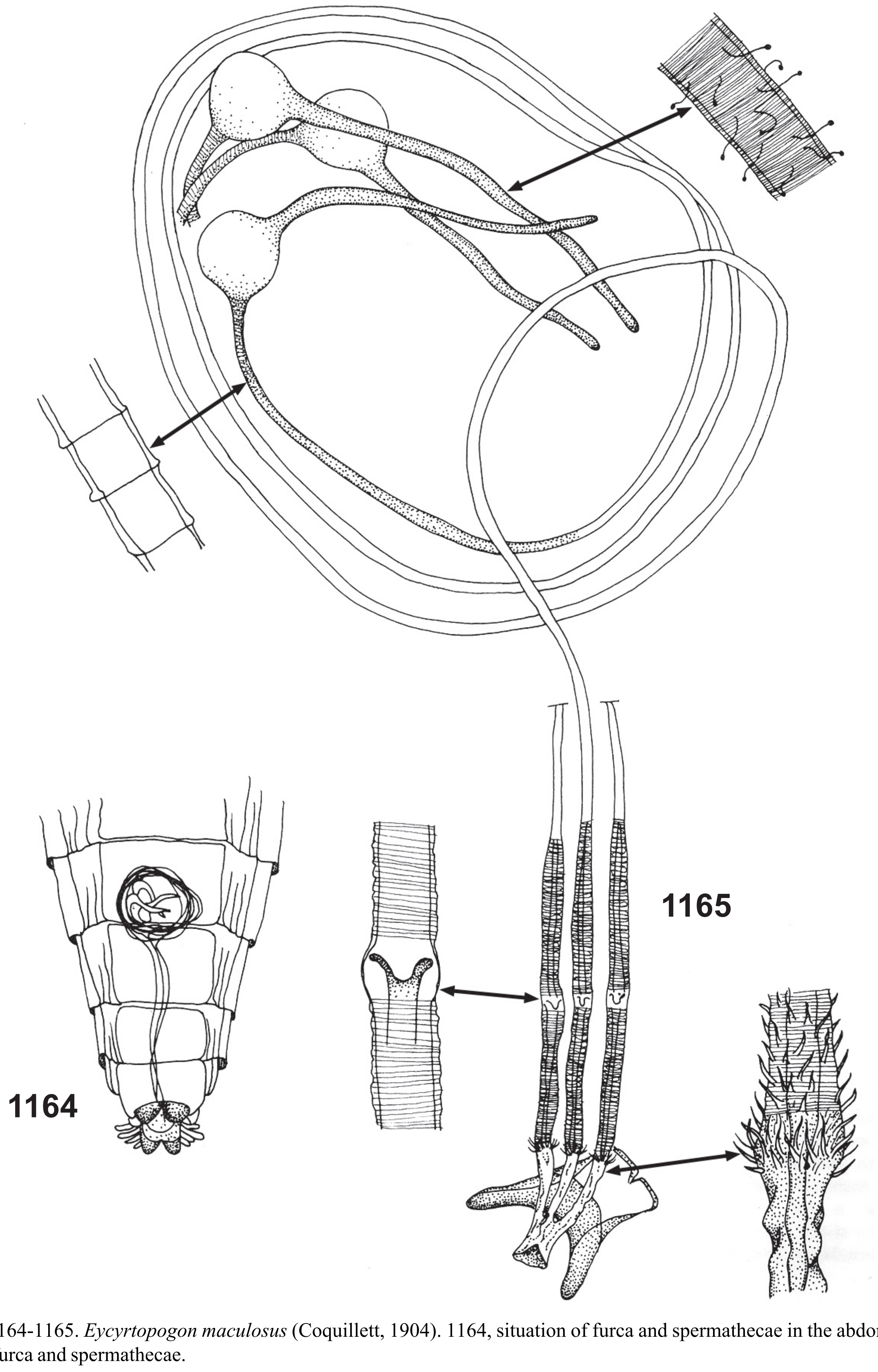
Figs. 1155-1157. *Lonquimayus notocinereatus* (Artigas, 1970): 1155-1156, head in lateral (1155) and frontal (1156) views; 1157, antenna.



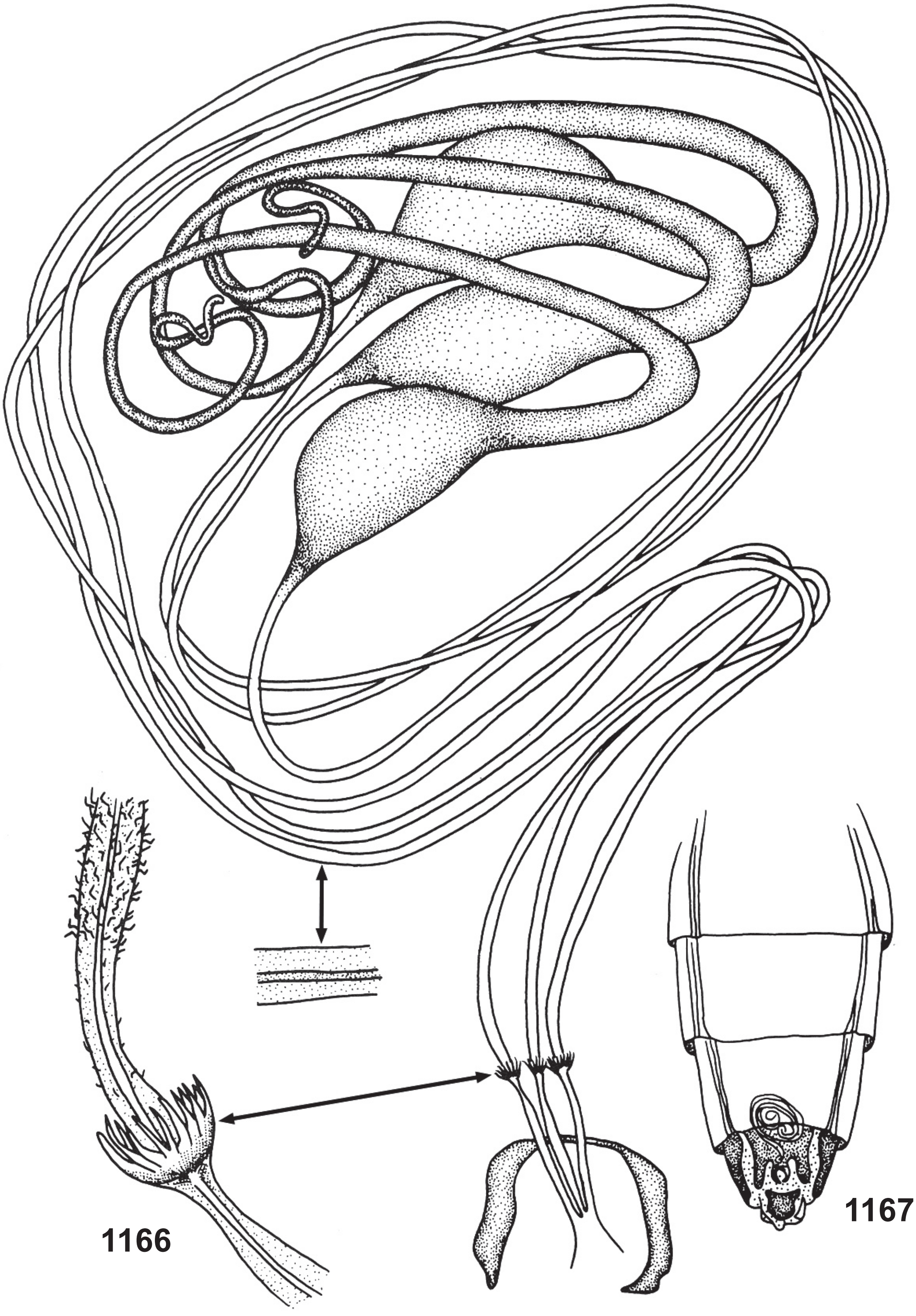
Figs. 1158-1159. *Backomyia hannai* Wilcox & Martin, 1957: 1158, situation of furca and spermathecae in the abdomen; 1159, furca and spermathecae. Figs. 1160-1161. *Cyrtopogon basingeri* Wilcox & Martin, 1936: 1160, situation of furca and spermathecae in the abdomen; 1161, furca and spermathecae.



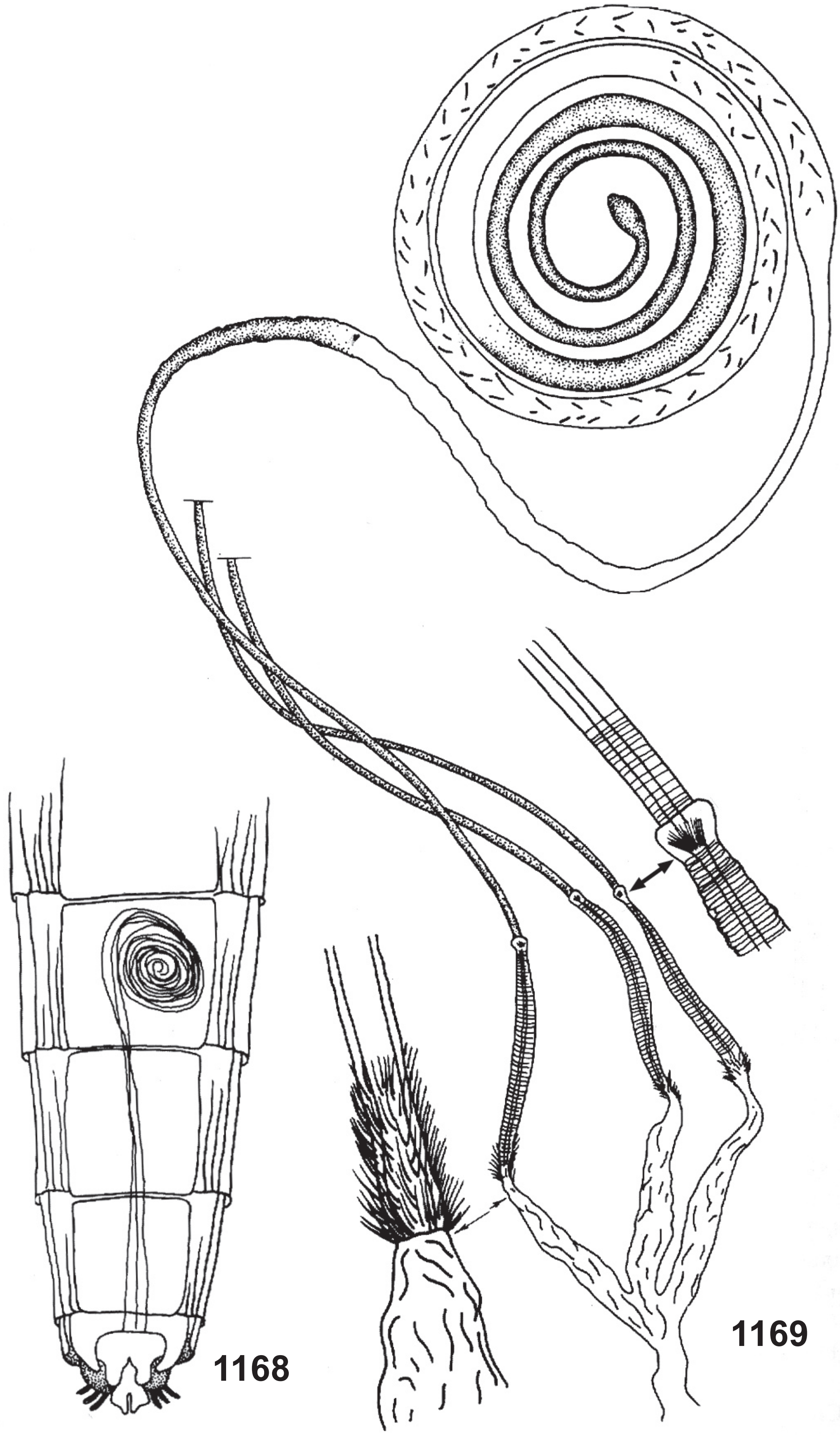
Figs. 1162-1163. *Metapogon gibber* (Williston, 1883): 1162, situation of furca and spermathecae in the abdomen; 1163, furca and spermathecae.



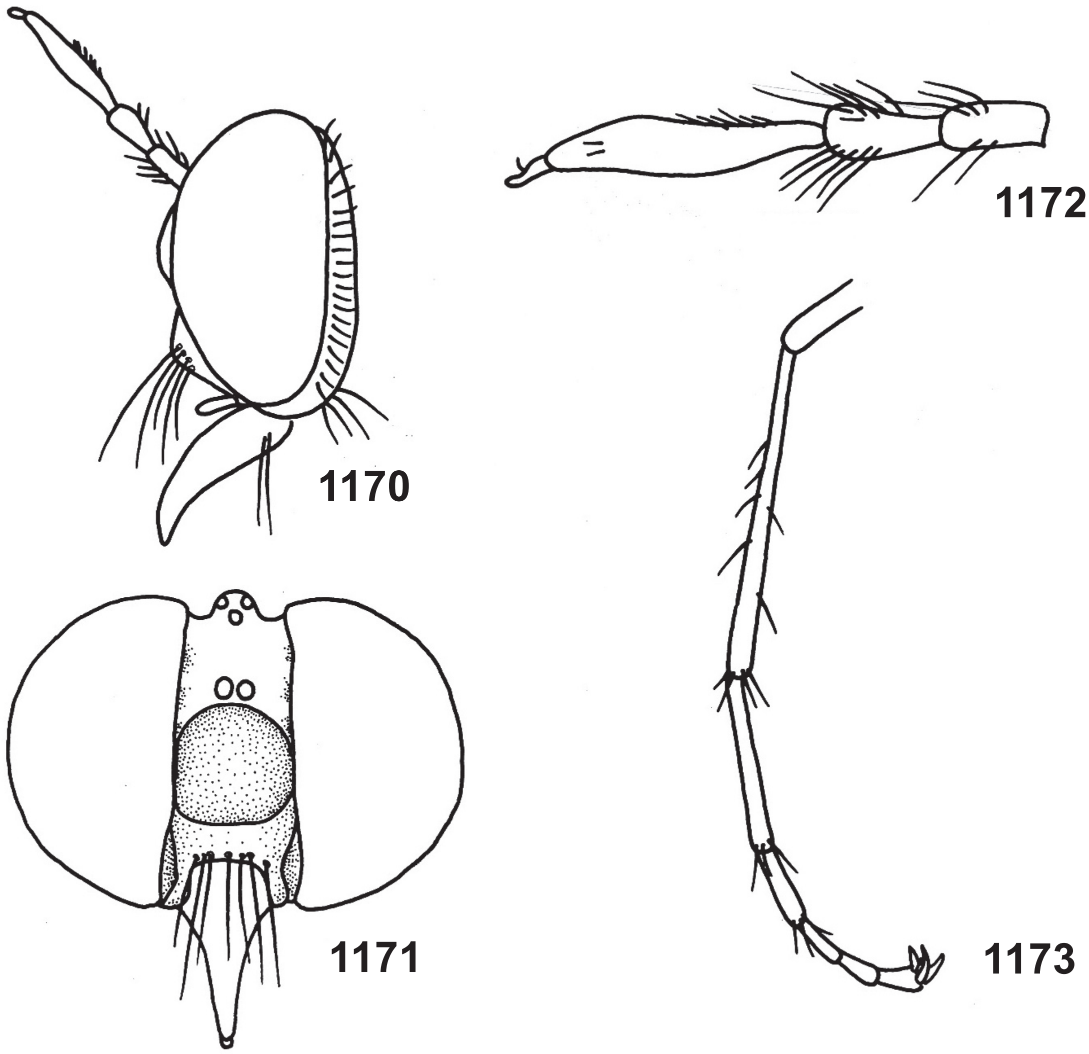
Figs. 1164-1165. *Eycyrtopogon maculosus* (Coquillett, 1904). 1164, situation of furca and spermathecae in the abdomen; 1165, furca and spermathecae.



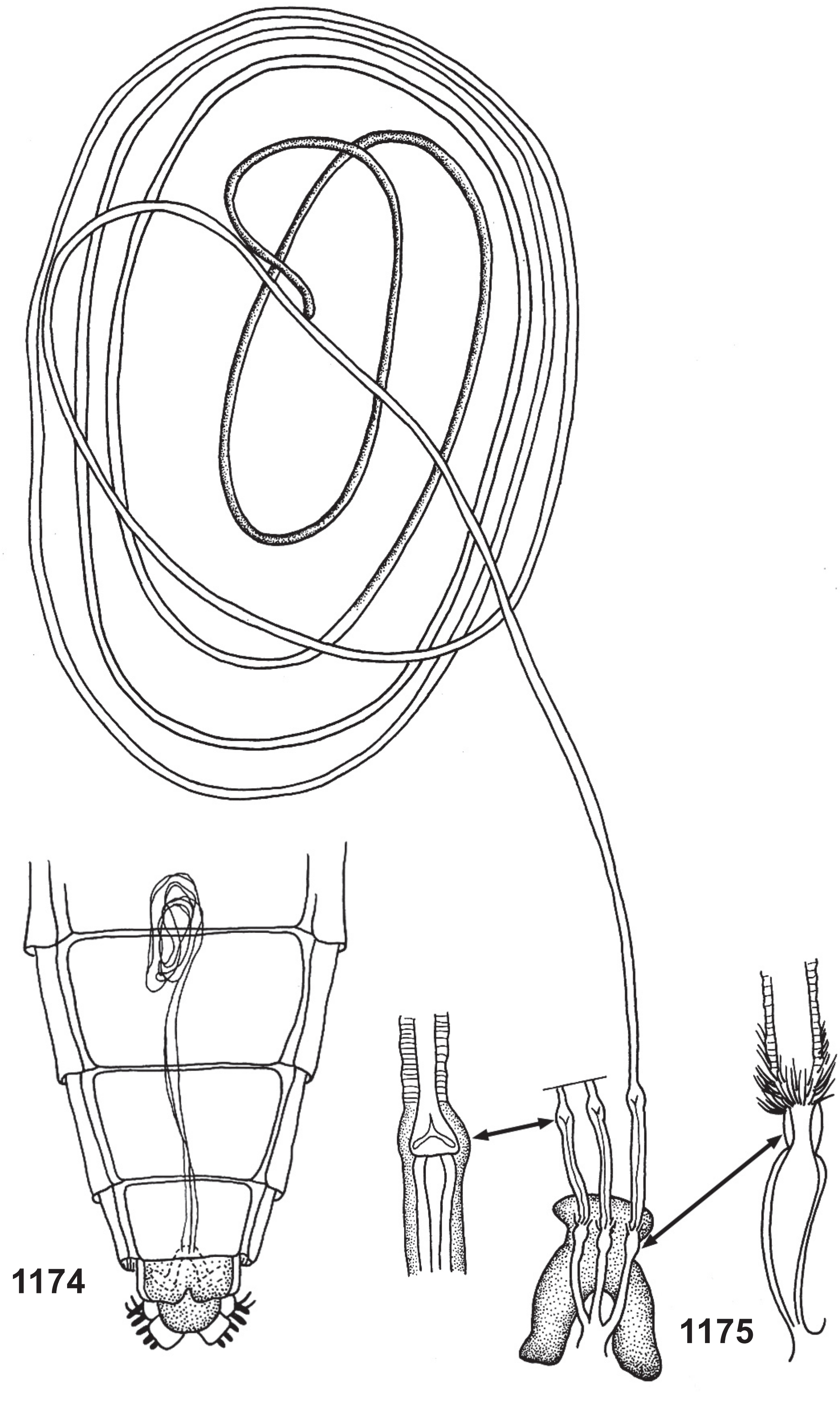
Figs. 1166-1167. *Acronyches fenestratulus* Hermann, 1921: 1166, situation of furca and spermathecae in the abdomen; 1167, furca and spermathecae.



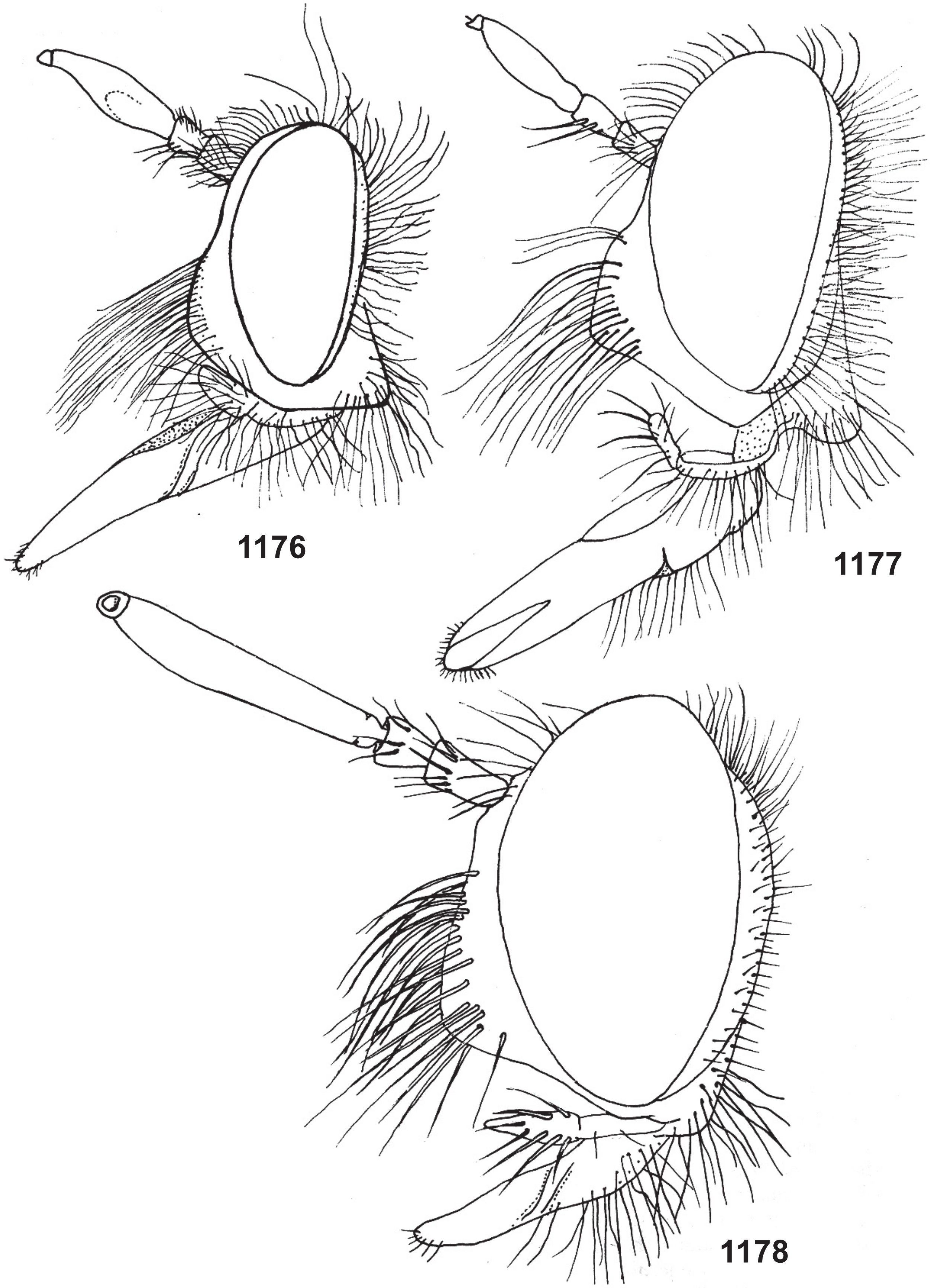
Figs. 1168-1169. *Willistonina bilineata nigrifemorata* Wilcox, 1935: 1168, situation of furca and spermathecae in the abdomen; 1169, furca and spermathecae.



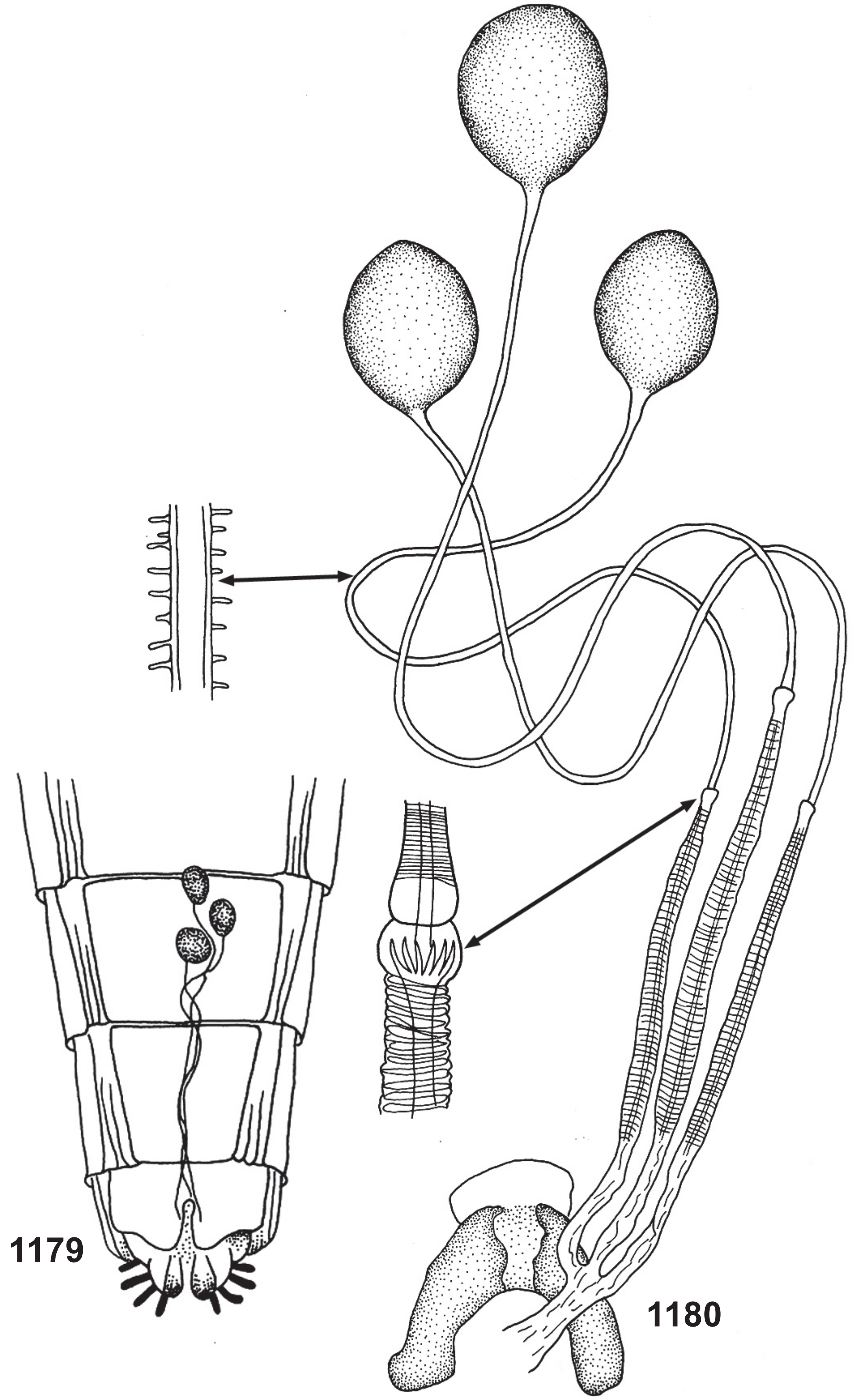
Figs. 1170-1173. *Grajahua lopesi* Artigas & Papavero, 1991: 1170-1171, head in lateral (1170) and frontal (1171) views; 1172, antenna; 1173, hind leg.



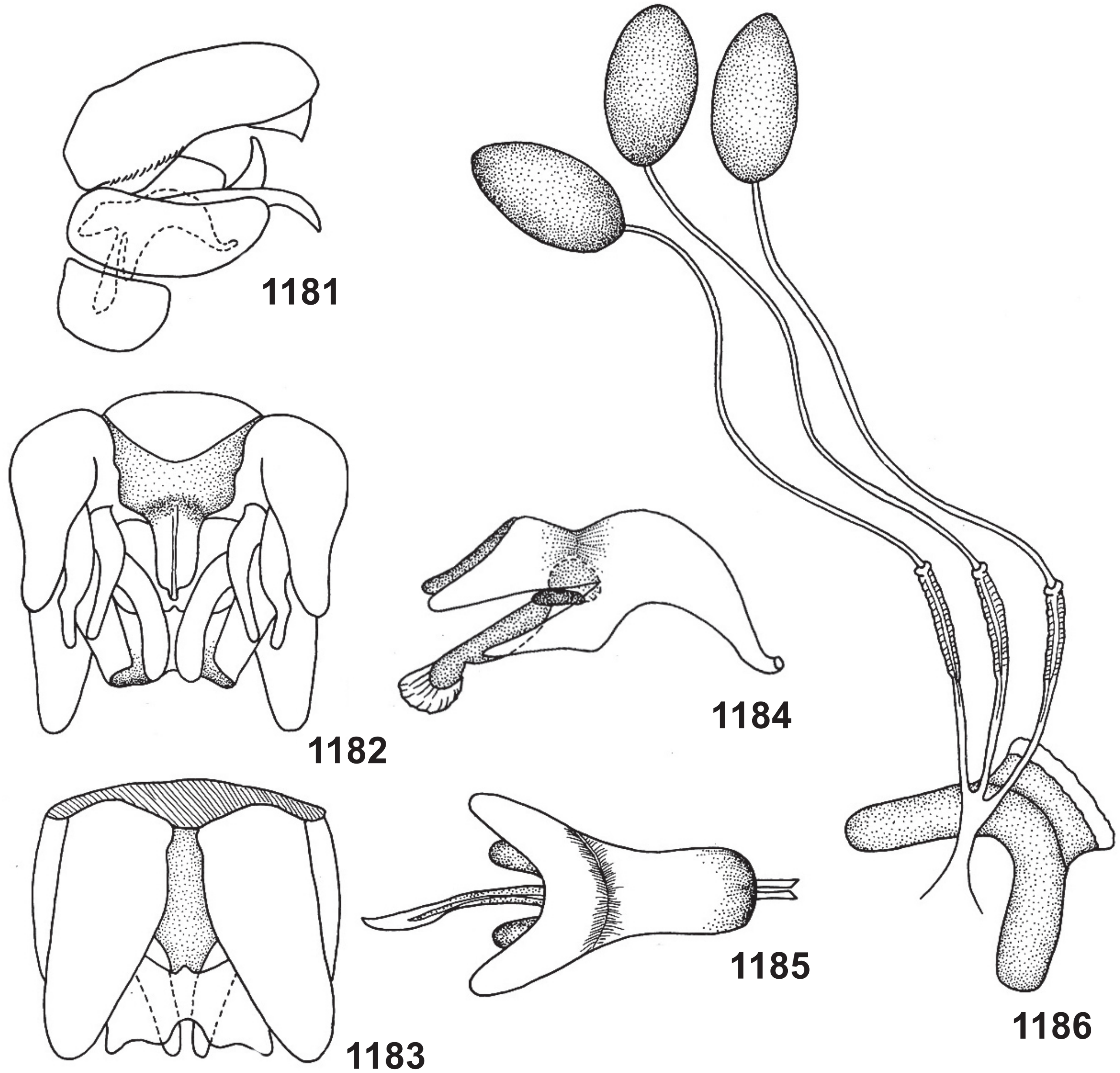
Figs. 1174-1175. *Coleomyia setigera* (Cole, 1919): 1174, situation of furca and spermathecae in the abdomen; 1175, furca and spermathecae.



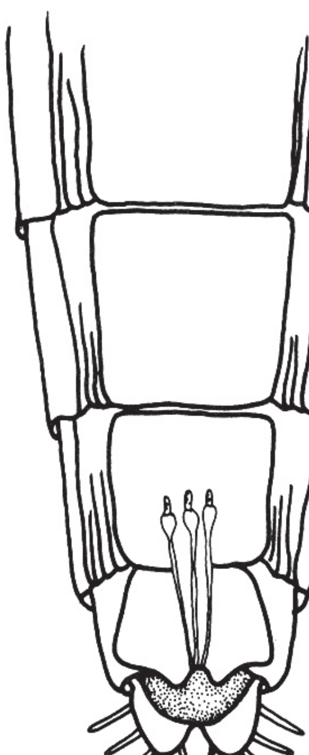
Figs. 1176-1178. Head in lateral aspect of: 1176, *Euthrixius sp.*; 1177. *Scylaticodes chilensis* (Macquart, 1850); 1178. *Scylaticina tucumana* Artigas & Papavero, 1991.



Figs. 1179-1180. *Zabrotica clarki* Hull, 1958. 1179, situation of furca and spermathecae in the abdomen; 1180, furca and spermathecae.



Figs. 1181-1186. *Scylaticina tucumana* Artigas & Papavero, 1991: 1181-1183, male terminalia in lateral (1181), ventral (1182) and dorsal (1183) views; 1184-1185, aedeagus in lateral (1184) and dorsal (1185) views; 1186, furca and spermathecae.



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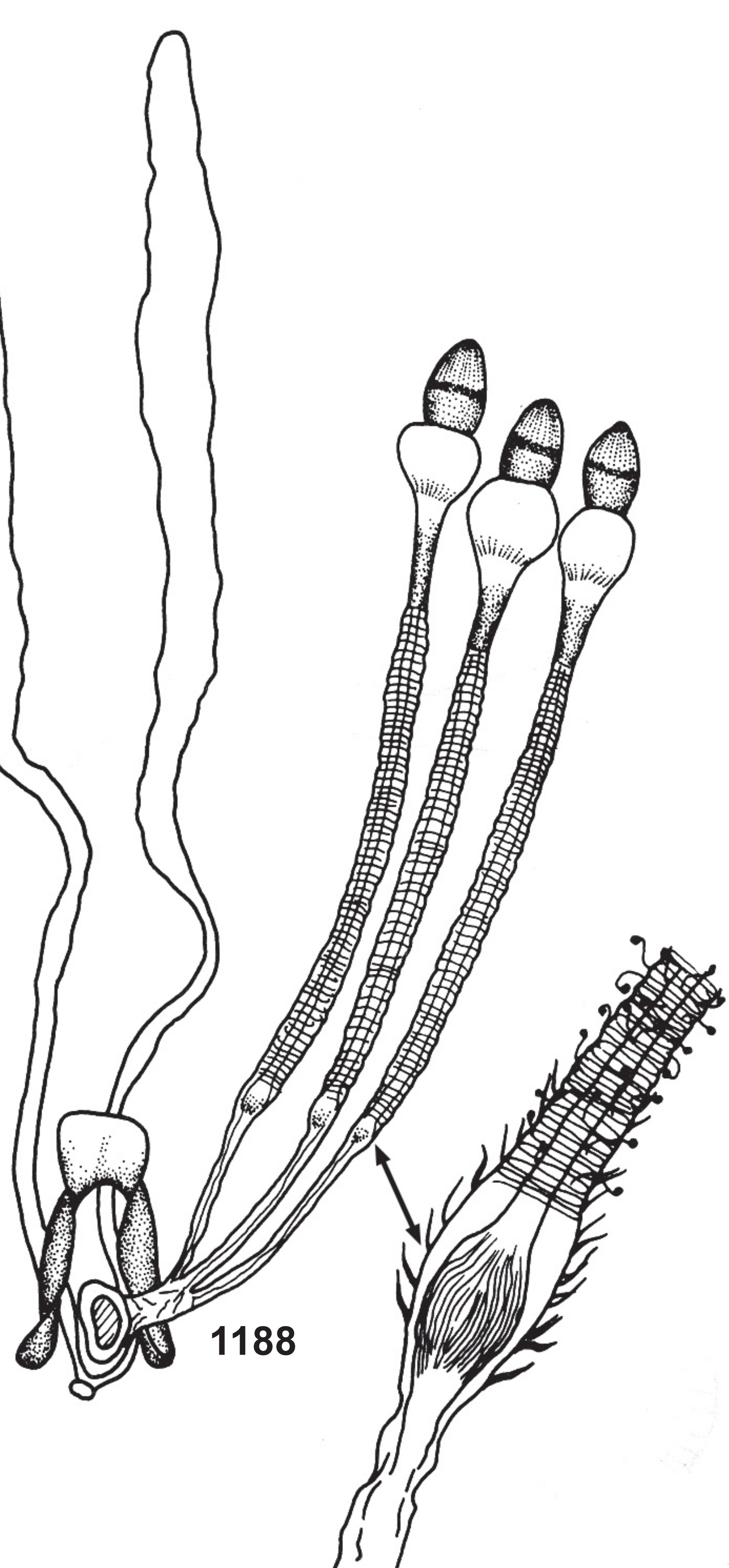

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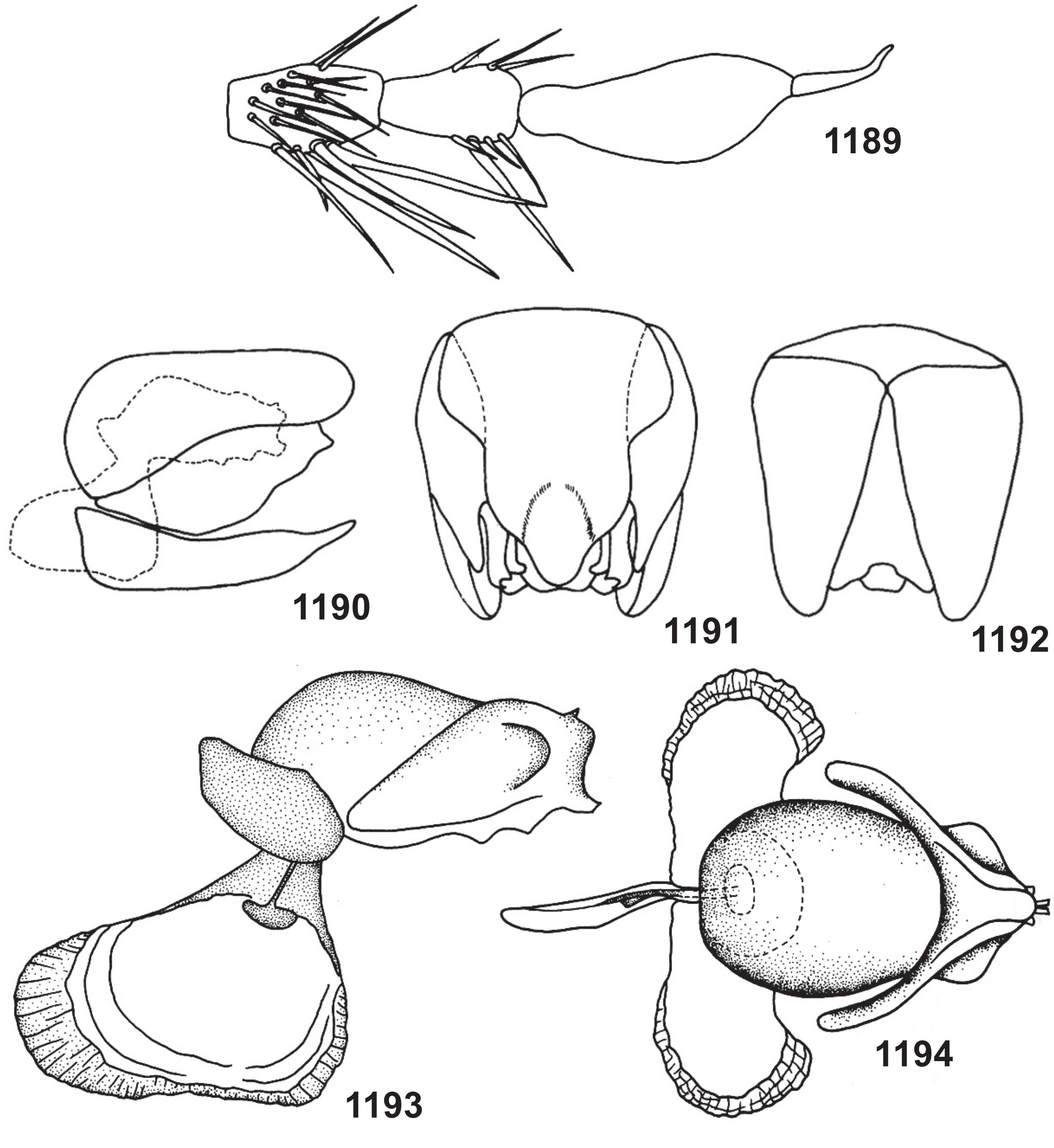
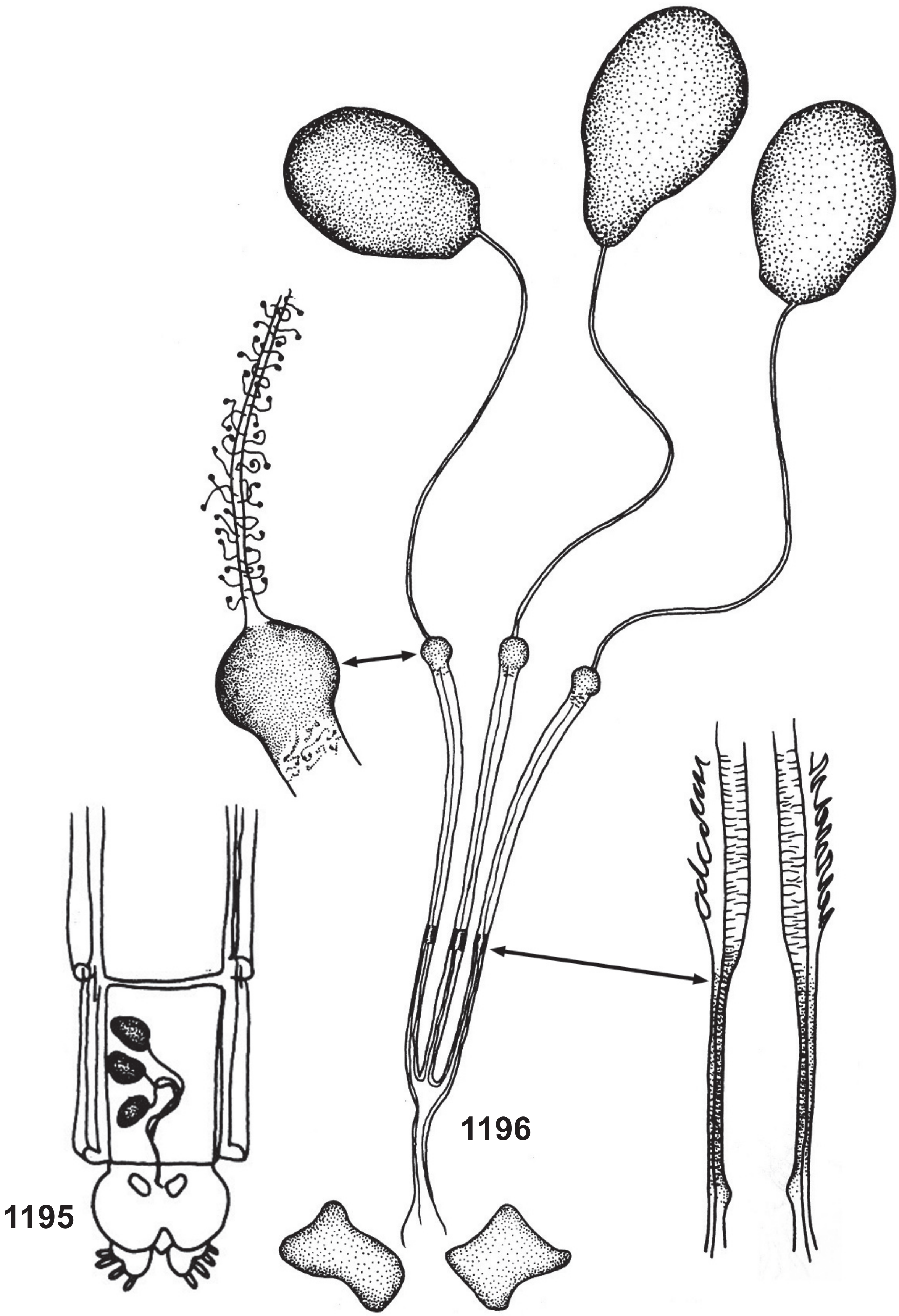
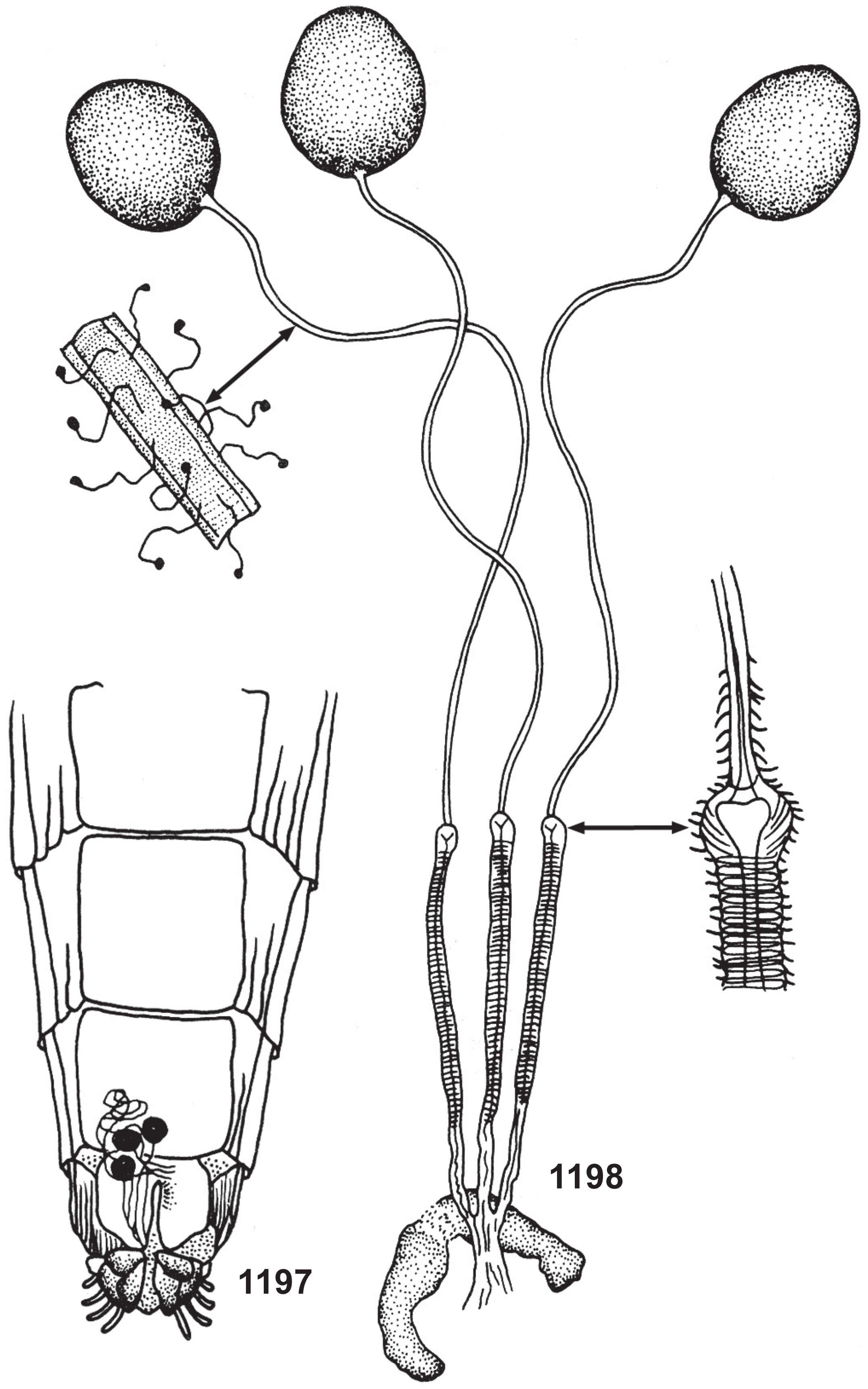
Figs. 1187-1188. *Enigmomorphus paradoxus* Hermann, 1912: 1187, situation of furca and spermathecae in the abdomen; 1188, furca and spermathecae.



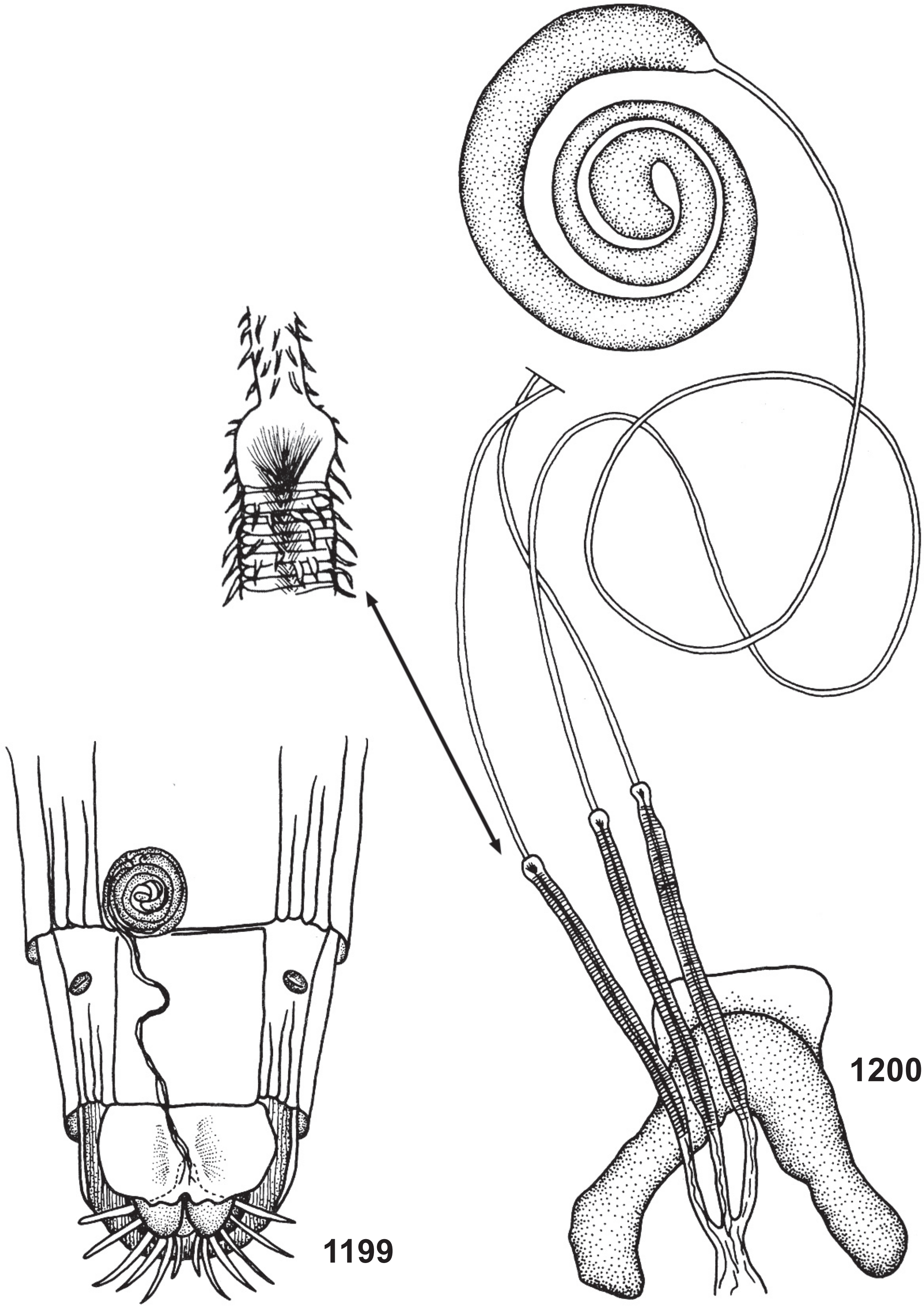
Figs. 1189-1194. *Araujoa pernambucana* Artigas & Papavero, 1991: 1189, antenna; 1190-1191, male terminalia in lateral (1190), ventral (1191) and dorsal (1192) views; 1193-1194, aedeagus in lateral (1193) and dorsal (1194) views.



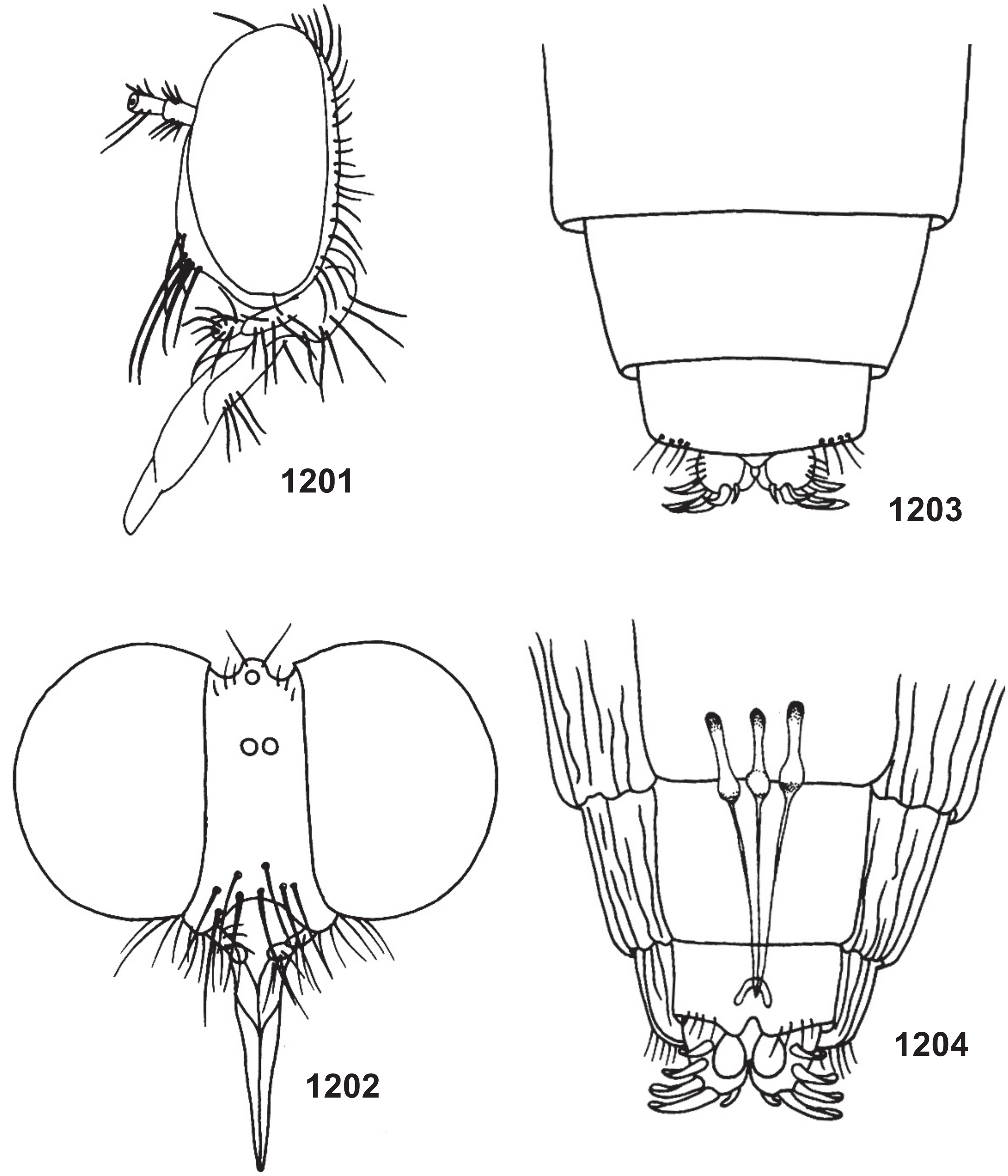
Figs. 1195-1196. *Araujoa pernambucana* Artigas & Papavero, 1991: 1195, situation of furca and spermathecae in the abdomen; 1196, spermathecae.



Figs. 1197-1198. *Leptochelina sp.* (probably *jaujensis* Artigas, 1970): 1197, situation of furca and spermathecae in the abdomen; 1198, spermathecae.



Figs. 1199-1200. *Microstylum insigne* Bromley, 1927: 1199, situation of furca and spermathecae in the abdomen; 1200, spermathecae.



Figs. 1201-1204. *Taperigna diogmitiformis* Artigas & Papavero, 1991: 1201-1202, head, in lateral (1201) and frontal (1202) views; 1203, apex of abdome, dorsal view; 1204, situation of furca and spermathecae in the abdomen.

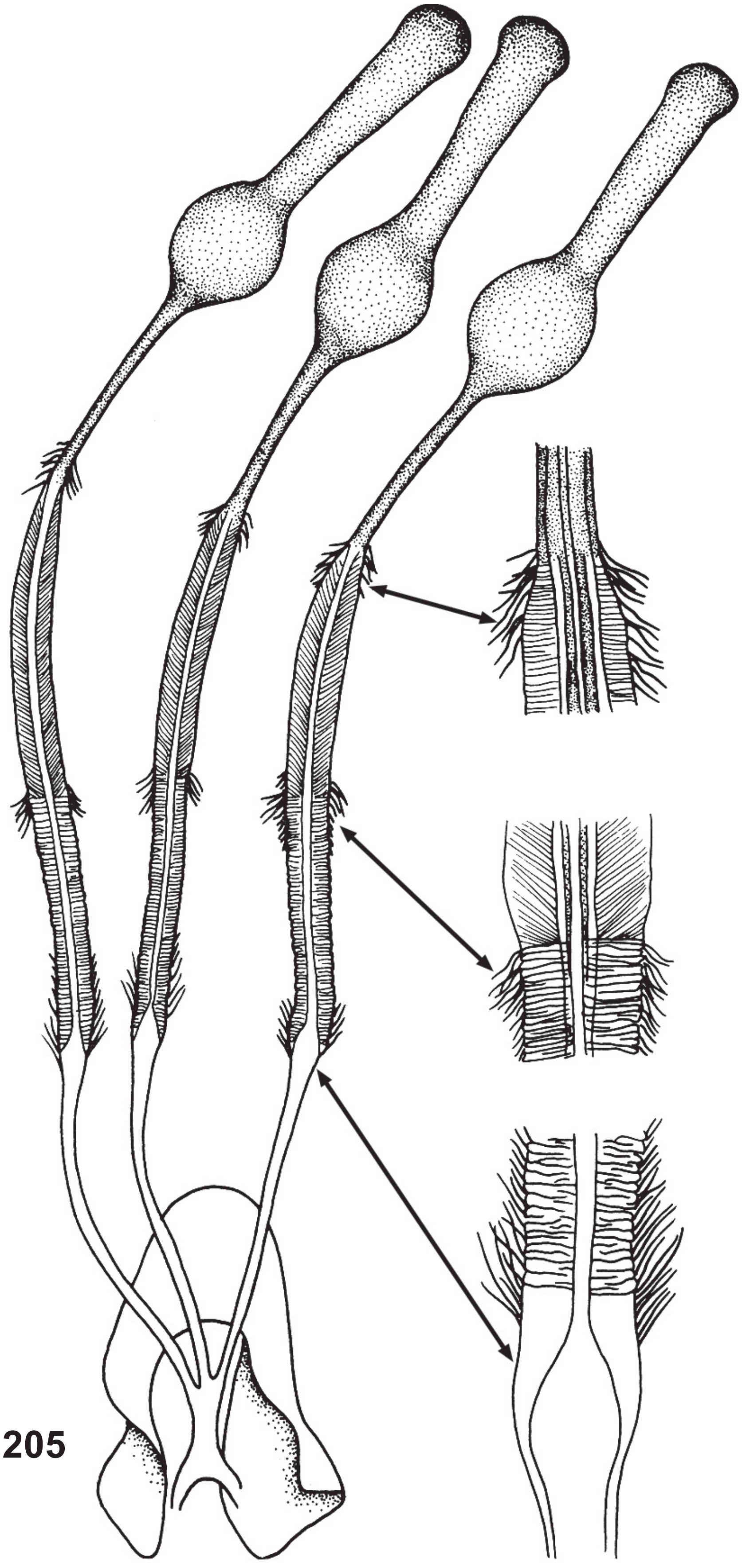


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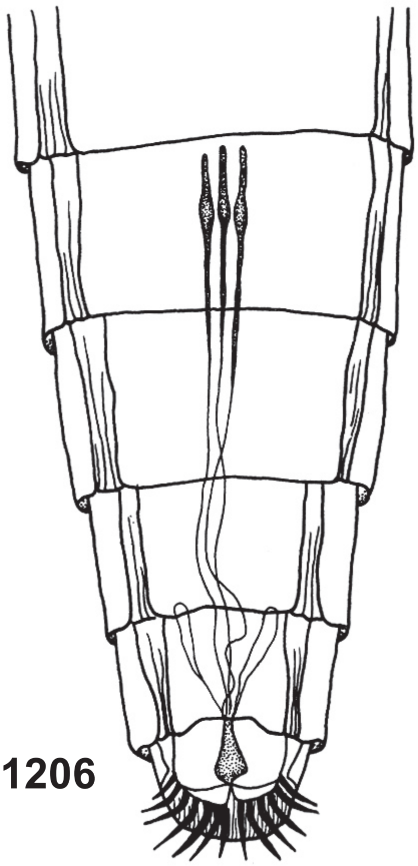
Fig. 1205. *Taperigna diogmitiformis* Artigas & Papavero, 1991, spermathecae.



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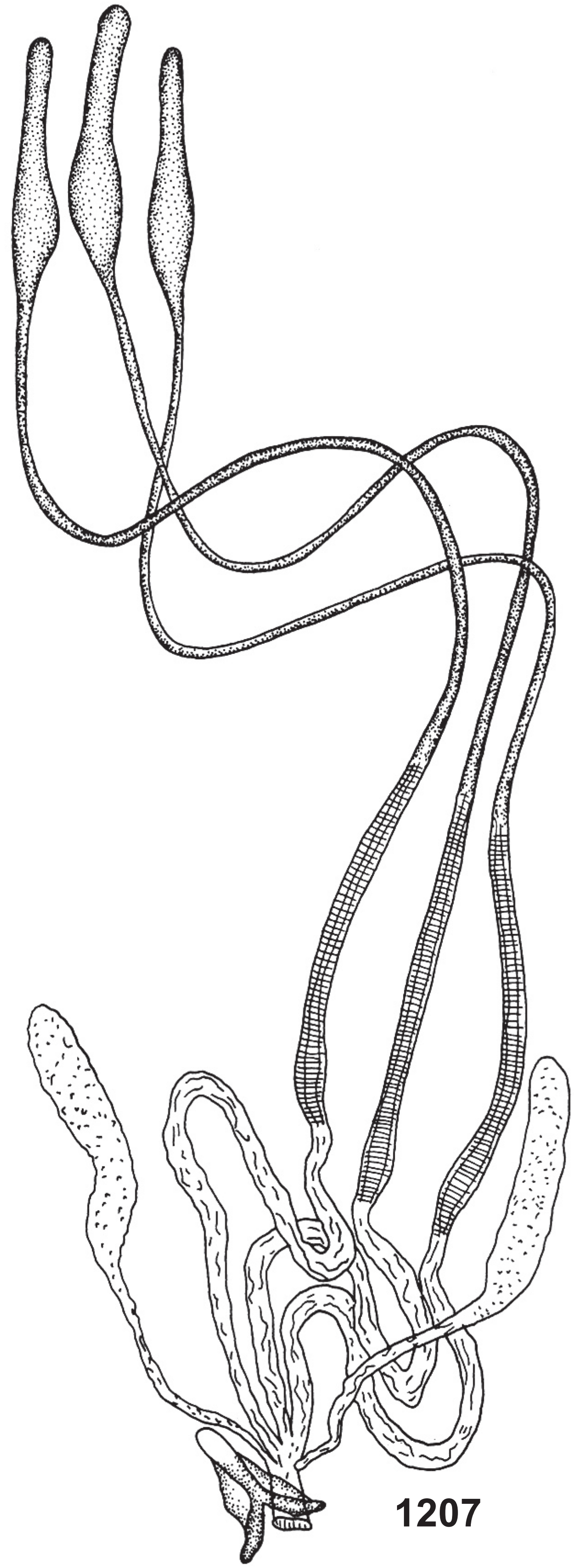

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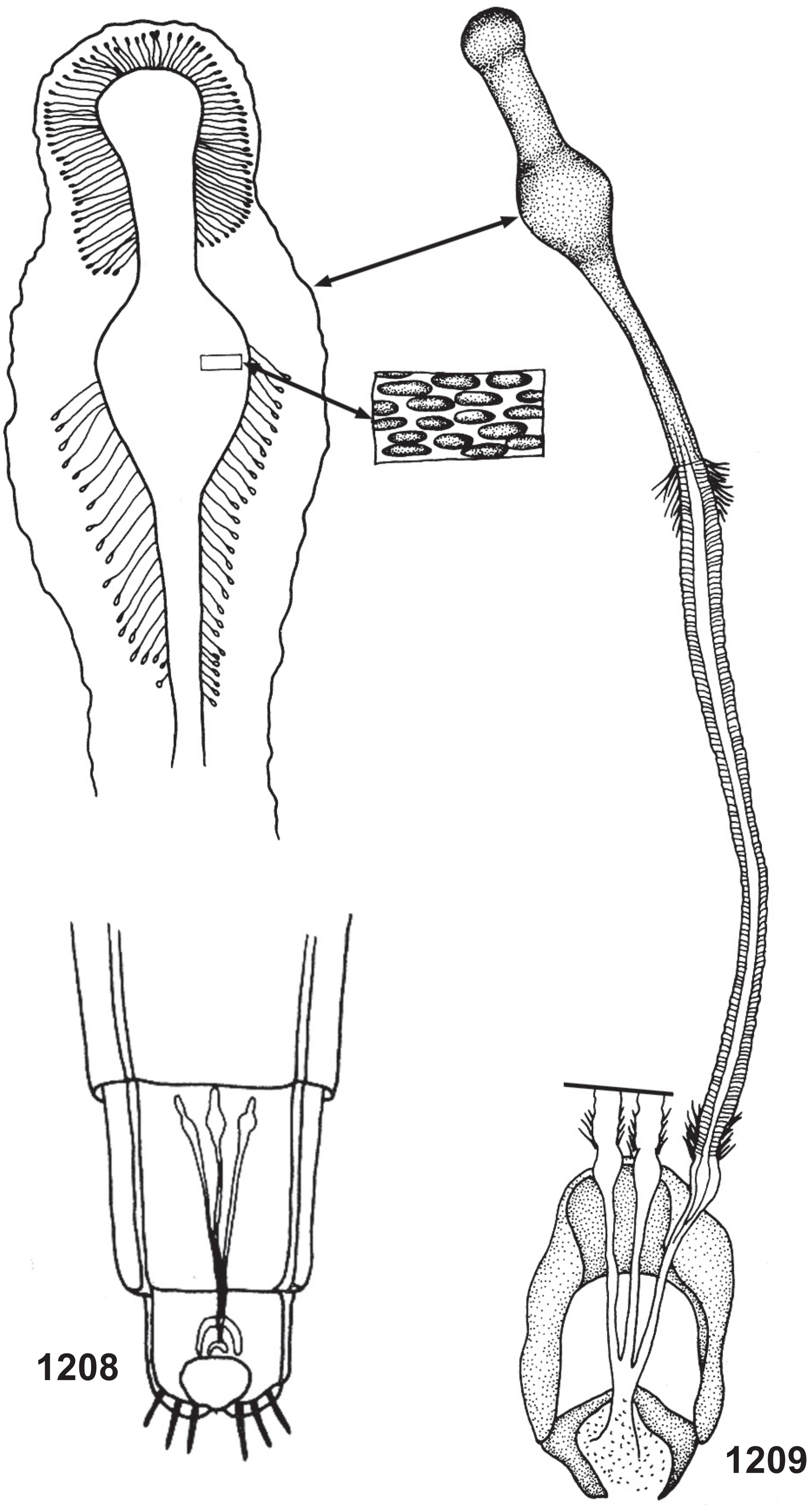
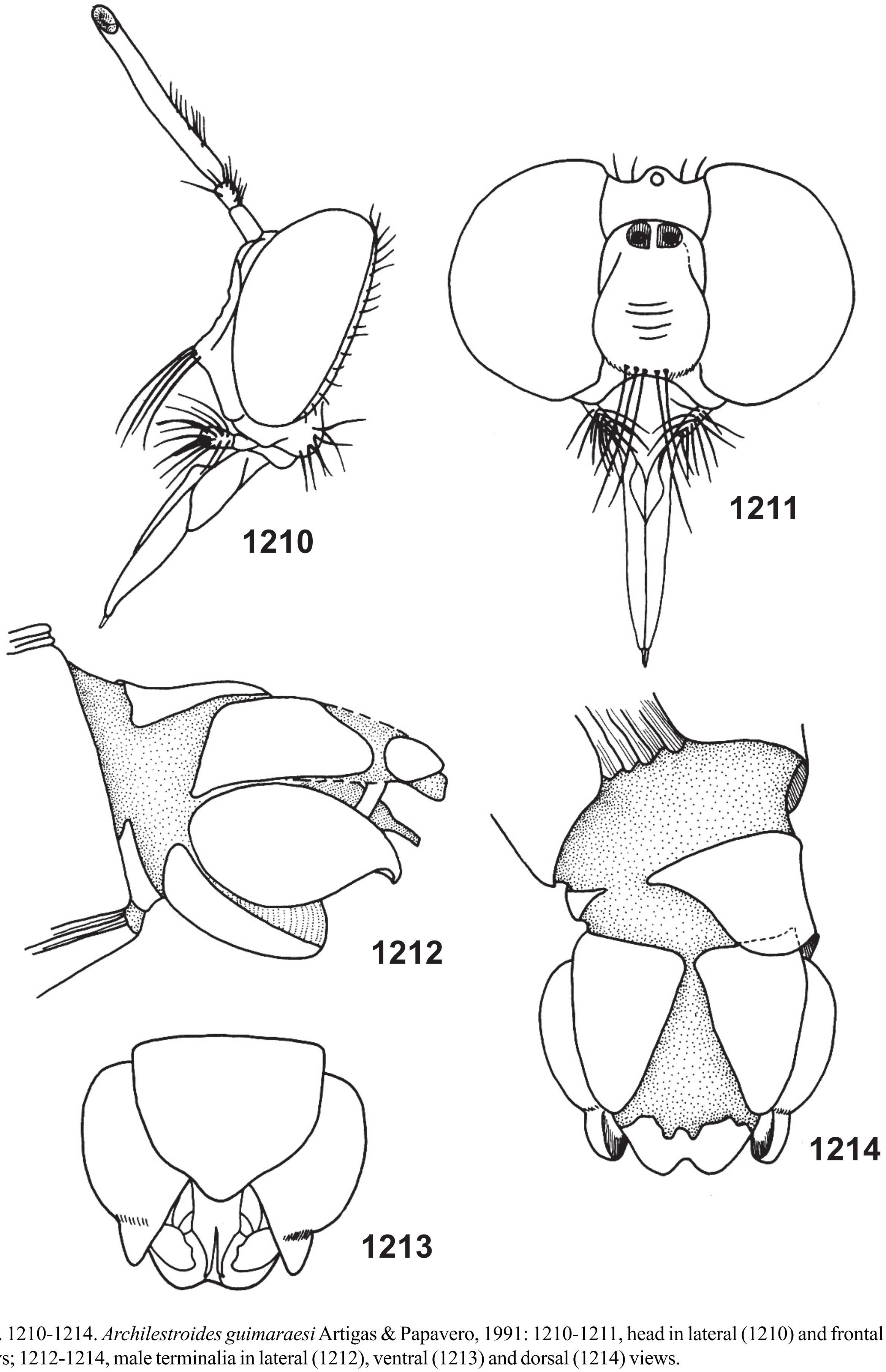
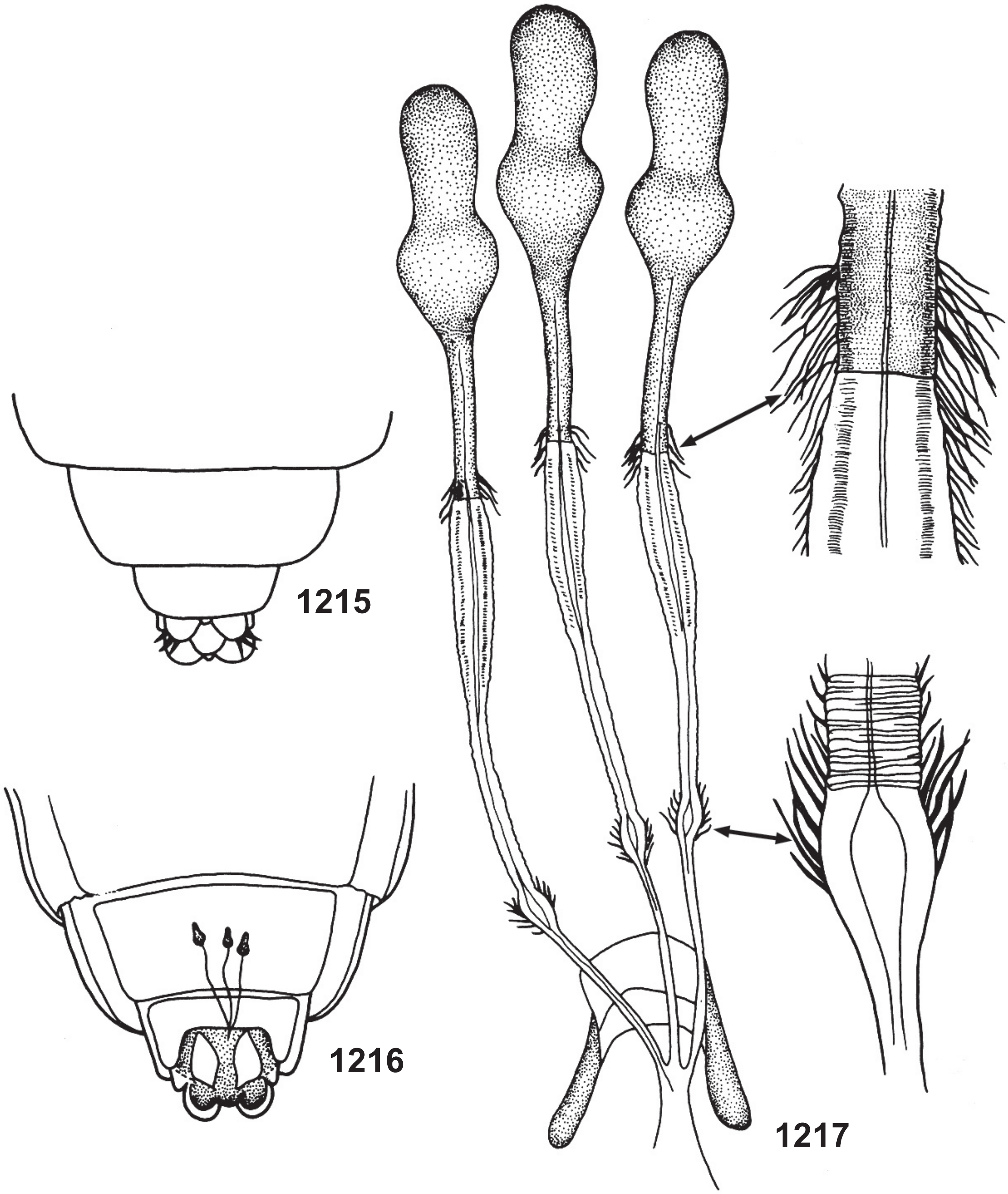
Figs. 1206-1207. *Dicranus rutilus* (Wiedemann, 1821): 1206, situation of furca and spermathecae in the abdomen; 1207, spermathecae.



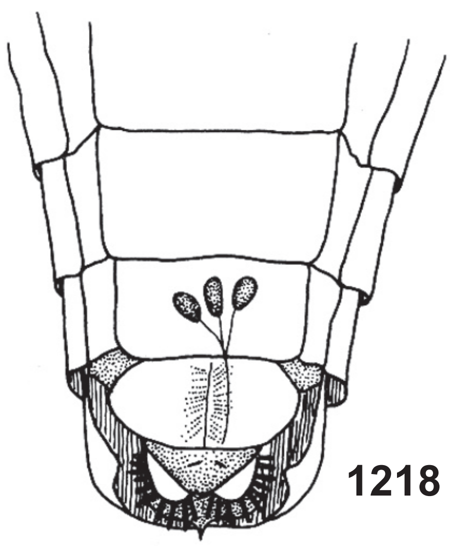
Figs. 1208-1209. *Archilestris capnoptera* (Wiedemann, 1828): 1208, situation of furca and spermathecae in the abdomen; 1209, spermathecae.



Figs. 1210-1214. *Archilestroides guimaraesi* Artigas & Papavero, 1991: 1210-1211, head in lateral (1210) and frontal (1211) views; 1212-1214, male terminalia in lateral (1212), ventral (1213) and dorsal (1214) views.



Figs. 1215-1217. *Archilestroides guimaraesi* Artigas & Papavero, 1991: 1215, apex of abdomen, dorsal view; 1216, situation of furca and spermathecae in the abdomen; 1217, spermathecae.



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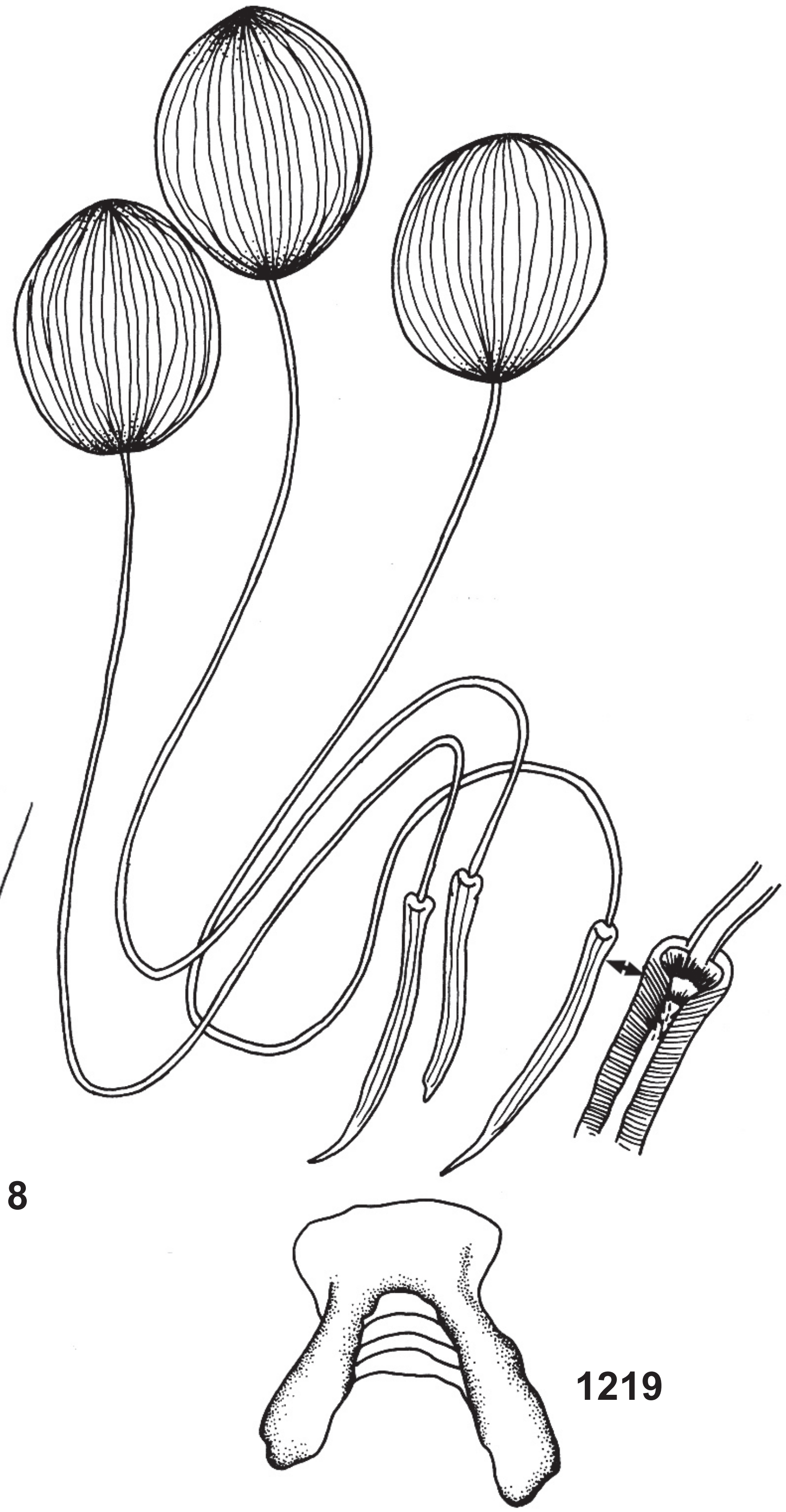

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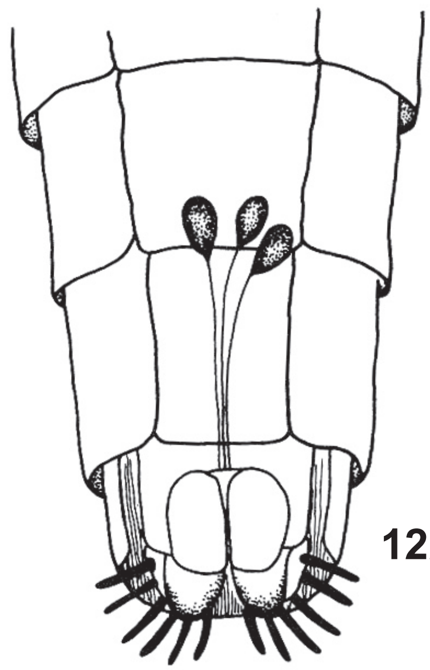
Figs. 1218-1219. *Cylicomera dissona* Lamas, 1973: 1218, situation of furca and spermathecae in the abdomen; 1219, spermathecae.



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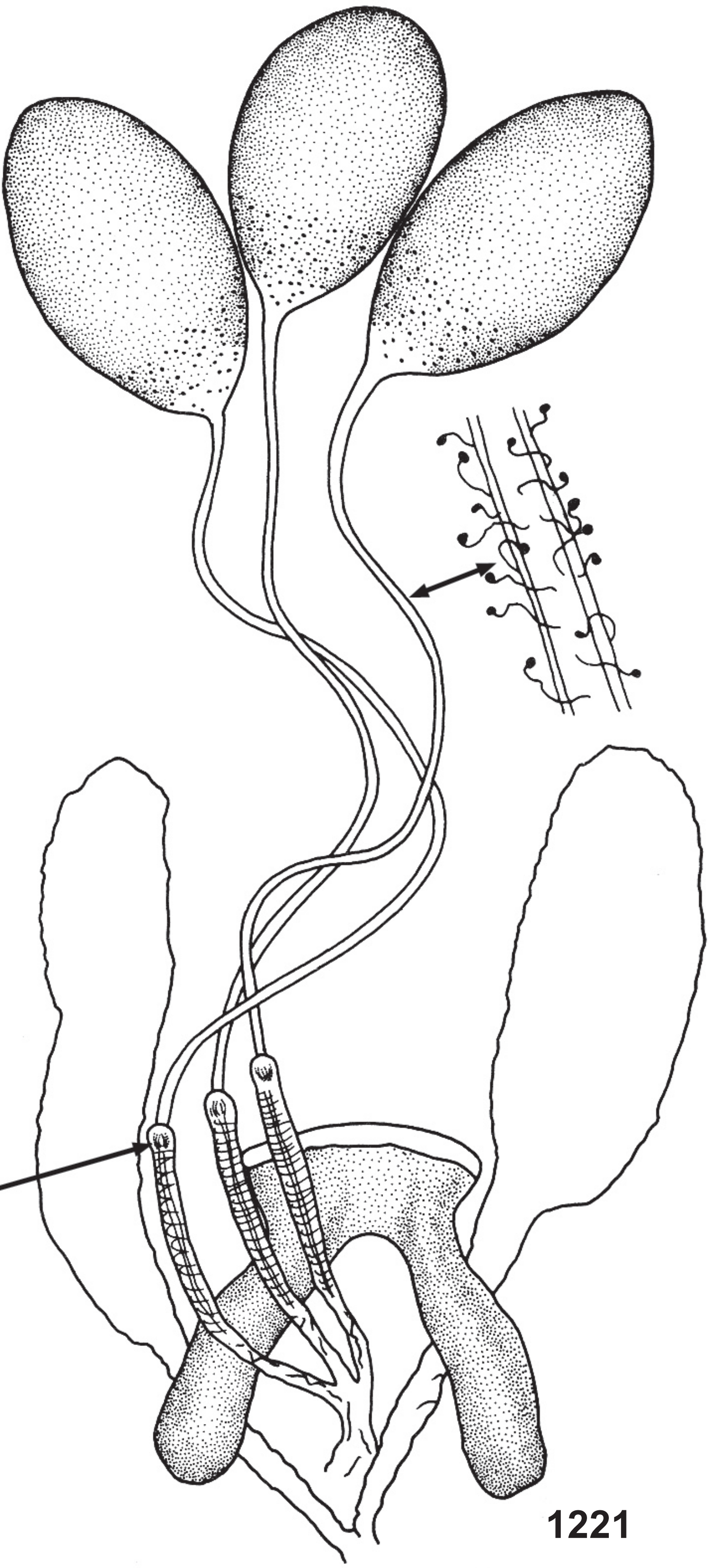

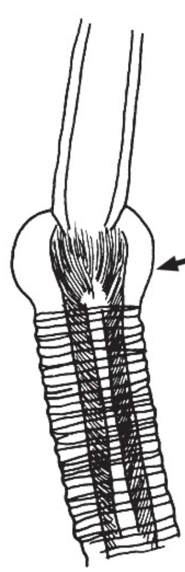

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Figs. 1220-1221. *Prolepsis lucifer* (Wiedemann, 1828): 1220, situation of furca and spermathecae in the abdomen; 1221, spermathecae.

8. Subfamily Stichopogoninae [Figs. 1232-1249]

Key to the genera

1. Face strongly inflated on its lower ¾. Hairs of mystax occupying lower half of face or more. Postmetacoxal bridge absent. Epandrial halves separated, triangular and curved. Spermathecae extending only up to base of abdominal segment 7 (Figs. 1232-1233) (Holarctic, Oriental) .... *Lasiopogon* Loew, 1847

Face flat or slightly convex, as seen in profile. Hairs of mystax confined to lower margin of face, more or less tectiform. Postmetacoxal bridge present or absent. Epandrium a single plate, characteristically trapezoidal ... 2

2(1). Vein M3 present from discoidal cell to wing margin (i. e., five posterior cells present). Spermathecae extending only up to andominal segments 7 or 6 3

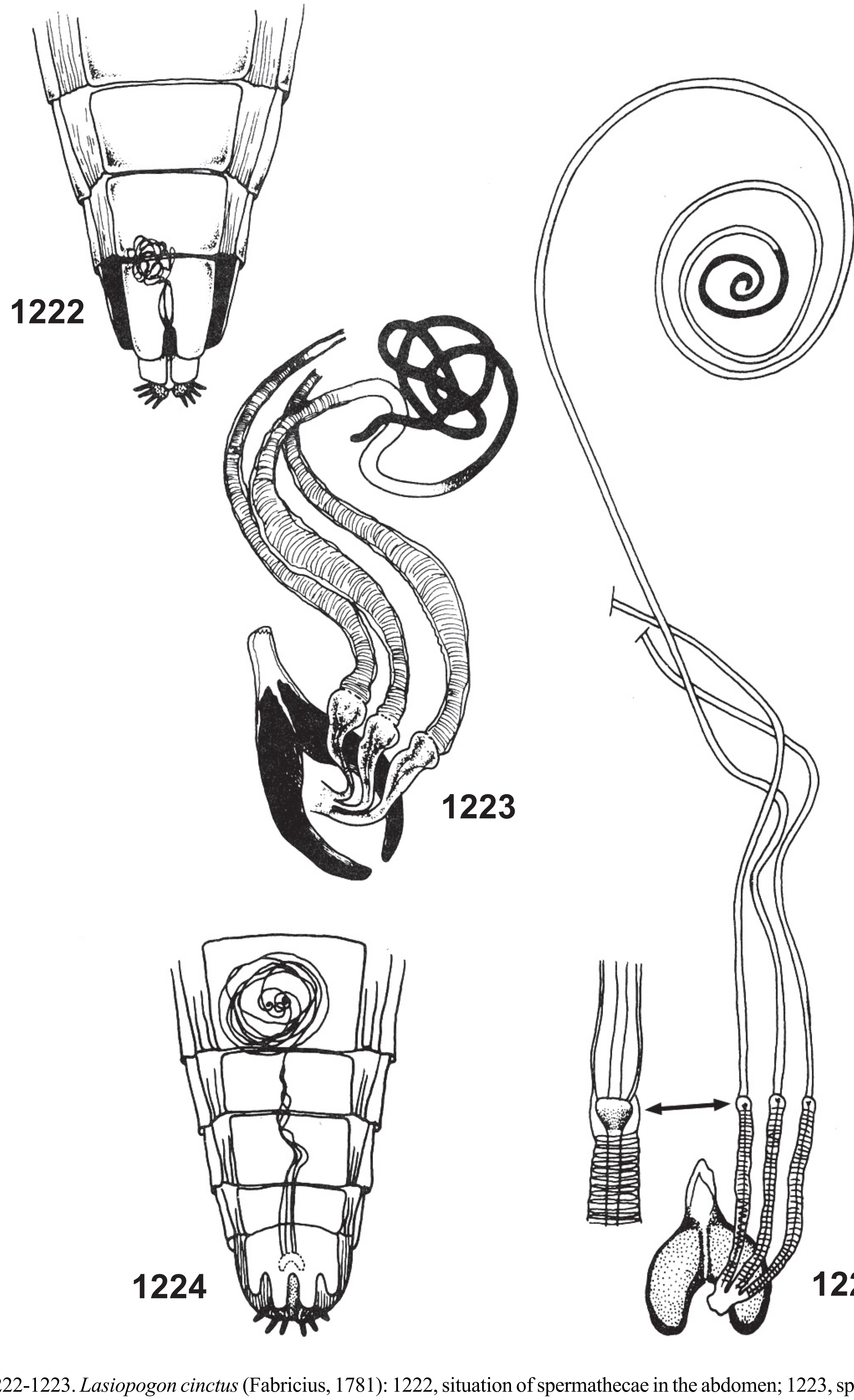
Vein M3 absent beyond discoidal cell (i.e., only four posterior cells present). Spermathecae very long and slender, extending up to base of abdominal segment 4 (Figs. 1234-1235). Exceptionally minute flies. Head subglobular in lateral view. Mystax sparse, consisting of five to six pairs of widely spaced, slender bristles in a transverse row. Proboscis short. Postmetacoxal bridge present.(Neotropical) .... *Townsendia* Williston, 1895

3(2). Antennal flagellum elongate, longer than scape and pedicel together. Face flat, either swollen or flat on oral margin, mystax confined to lower half of face or to subcranial margin 4

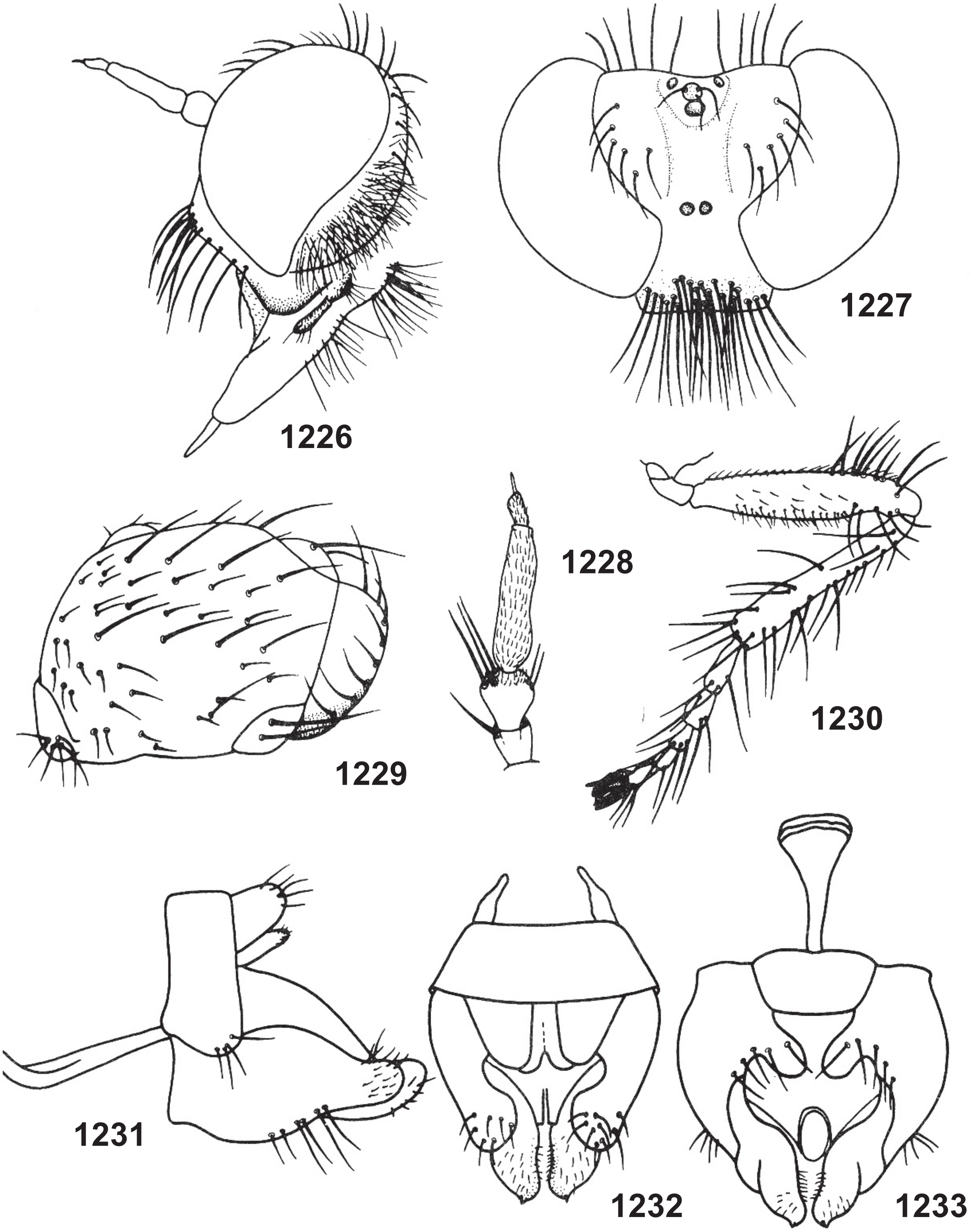
Antennal flagellum globular, shorter than pedicel and scape together, with a bristle-like style at its apex, as long as flagellum. Face either covered with hairs or lower face hairy and a patch of hairs below antennae. Postmetacoxal bridge absent. Spermathecae as in Figs. 1248-1249 (Mexico south to Peru) .... *Lissoteles* Bezzi, 1910

4(3). Very small flies (4-5 mm long). Mystax with several rows, limited to lower half of face (Figs. 1236-1237). Both frons and ocellar tubercle with bristles (Figs. 1236-1237). Mesonotum with well developed acrostichal, dorsocentral and supraalar bristles (Fig. 1239). Margin of scutellum with several upturned bristles and hairs (Fig. 1239). Anepisternum with at least two strong bristles. Apical superior surface of femora and all tibiae with long, stiff bristles (Fig. 1240). Postmetacoxal bridge absent. Male terminalia as in Figs. 1241-1242. Female abdomen and spermathecae as in Figs. 1244-1245 (Argentina: Santa Cruz) .... *Argyropogon* Artrigas & Papavero, 1990

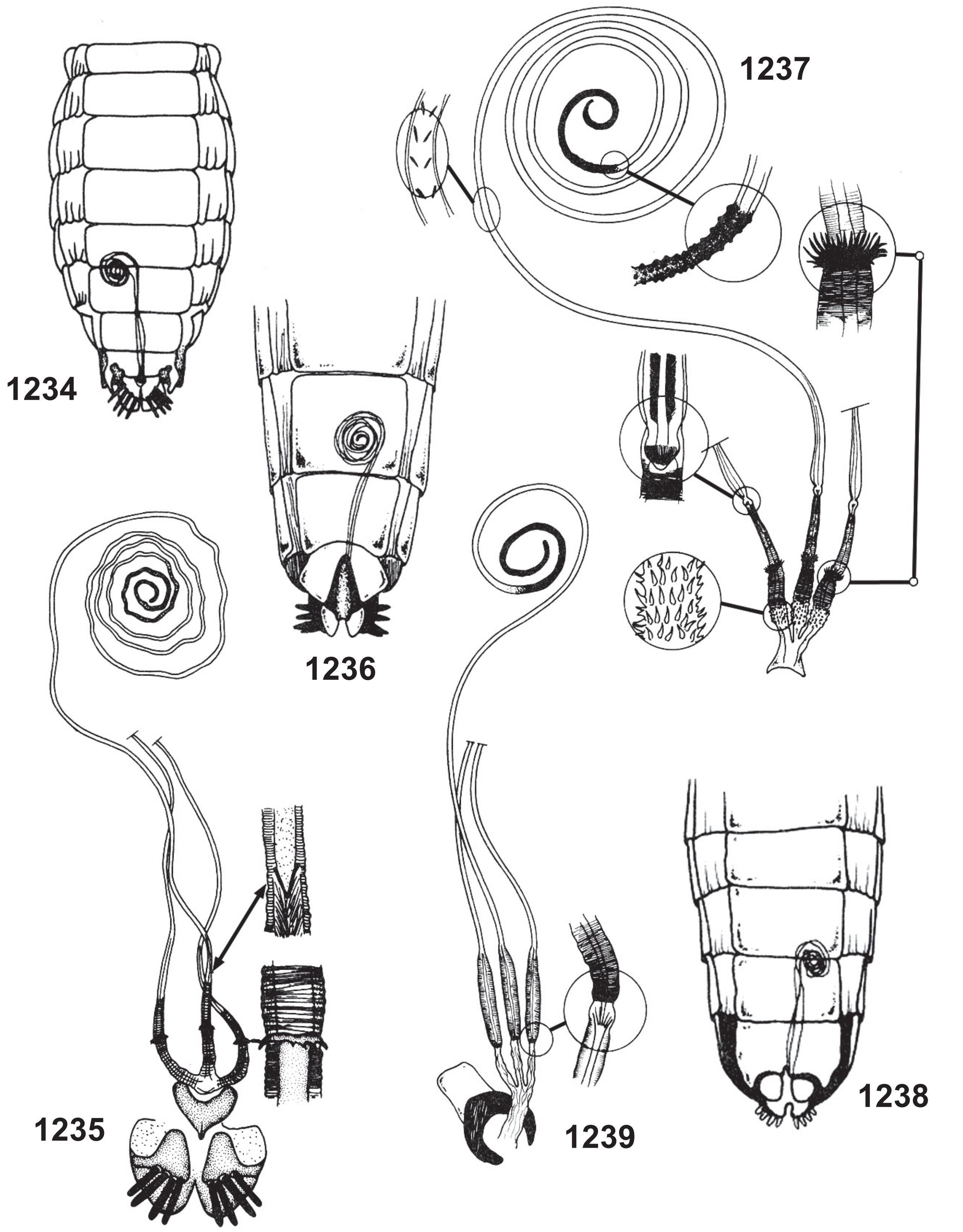
Larger (more than 6 mm long) flies, with bare body. Mystax a dense row of tectiform bristles, confined to subcranial margin. No bristles on front, ocellar tubercle and mesonotum (except for bristles on humeri and postalar calli). Scutellar margin bare. Anepisternal bristles absent. No bristles on apical superior surface of femora and tibial bristles scanty, short. Postmetacoxal bridge present. Spermathecae as in Figs. 1246-1247 (Cosmopolitan) .... *Stichopogon* Loew, 1847



Figs. 1222-1223. *Lasiopogon cinctus* (Fabricius, 1781): 1222, situation of spermathecae in the abdomen; 1223, spermathecae. Figs. 1224-1225, *Townsendia sp.*: 1224, situation of spermathecae in the abdomen; 1225, spermathecae.



Figs. 1226-1233. *Argyropogon argentinus* Artigas & Papavero, 1990: 1226-1227, head in lateral (1226) and frontal (1227) views; 1228, antenna; 1229, thorax from above; 1230, hind leg; 1231-1233, male terminalia in lateral (1231), ventral (1232) and dorsal (1233) views.



Figs. 1234-1235. *Argyropogon argentinus* Artigas & Papavero, 1990: 1234, situation of spermathecae in the abdomen; 1235, spermathecae. Figs. 1236-1237. *Stichopogon sp.*: 1236, situation of spermathecae in the abdomen; 1237, spermathecae. Figs. 1238-1239. *Lissoteles aquilonius* Martin, 1961: 1238, situation of spermathecae in the abdomen; 1239, spermathecae.

9. Subfamily Trigonomiminae [Figs. 1250-1260]

Key to the genera

1. Antenna with three flagellomeres 2
Antenna with one or two flagellomeres 4

2(1). Minute (4-6 mm long) flies. Mesonotum and scutellum almost bare, without bristles, at most some scanty short hairs. Ocellar tubercle with enlarged ocelli and both prominently protruded forward from the eye margin. Cell cup closed. Female terminalia without spines (Fig. 1257). Spermathecae as in Figs. 1257-1258 (Nearctic, Palearctic) ... . *Haplopogon* Engel, 1930
Larger (9-10 mm long) flies. Mesonotum and scutellum either with numerous long bristles or abundant long hairs, especially on posterior slope of mesonotum. Other combinations of characters (Neotropical) 3

3(2). Robust, meliponine-like flies. Scutellum without marginal bristles, only with sparse hairs both on disc and margin. Mesonotum not semicircular in lateral view, densely and long pilose; dorsocentral bristles, if present, undistinguishable from long pilosity. Abdomen broad, more or less flattened, at level of tergite 3 broader than thorax. Tibiae with dense pilosity, hind tibiae and tarsi inflated, usually slightly thicker than femur (Fig. 1254). Female terminalia with spines. Wing venation as in Fig. 1251 (Brazil: Rio de Janeiro) .... *Meliponomima* Artigas & Papavero, 1989
Slender flies, not resembling meliponine bees. Scutellum with at least two marginal bristles and no hairs on disc. Thorax strongly arched, semicircular in lateral view and almost bare; dorsocentral bristles well developed on mesonotal declivity. Abdomen slender, narrower than thorax. Tibiae without conspicuous dense pile. Female terminalia with hairs. Venation as in Fig. 1250. Spermathecae as in Figs. 1255-1256 (Brazil: southern states) .... *Seabramyia* Carrera, 1958

4(1). Antenna with elongate, spindle-shaped first flagellomere, two or more times combined length of scape and pedicel; second flagellomere thick, elongate, variable in length, but never more than half length of first. Male aedeagus with three prongs. Spermathecae as in Figs. 1259-1260 (Neotropical) .... *Holcocephala* Jaennicke, 1867
Antena with first flagellomere extremely short, small, dilated, bulb-like, drawn out apically into an extremely long, bristlelike style, longer than head (Nearctic) 5

5(4). First flagellomere of antenna twice as long as combined length of scape and pedicel and pollinose. Frons without longitudinal sunken area. Face divergent below. Head, in lateral view, rounded below antennae and obliquely flattened above, the facial crease specially deep. Abdomen short and oval. The distally dilated hind femur with a dense brush of fine hairs. Upper section of M2 very short or fused to M3 (U. S. A.: Arizona, Mexico) ....*Orrhodops* Hull, 1954
First flagellomere of antena short, nearly orbicular, considerably larger and wider than pedicel. Frons with a longidutinal sunken area and upper face with a longitudinal furrow. Mesonotum very densely pilose, the pile virtually concealing the ground color. Upper section of vein M2 long (U. S. A.: Arizona) ...... *Bromleyus* D. E. Hardy, 1944

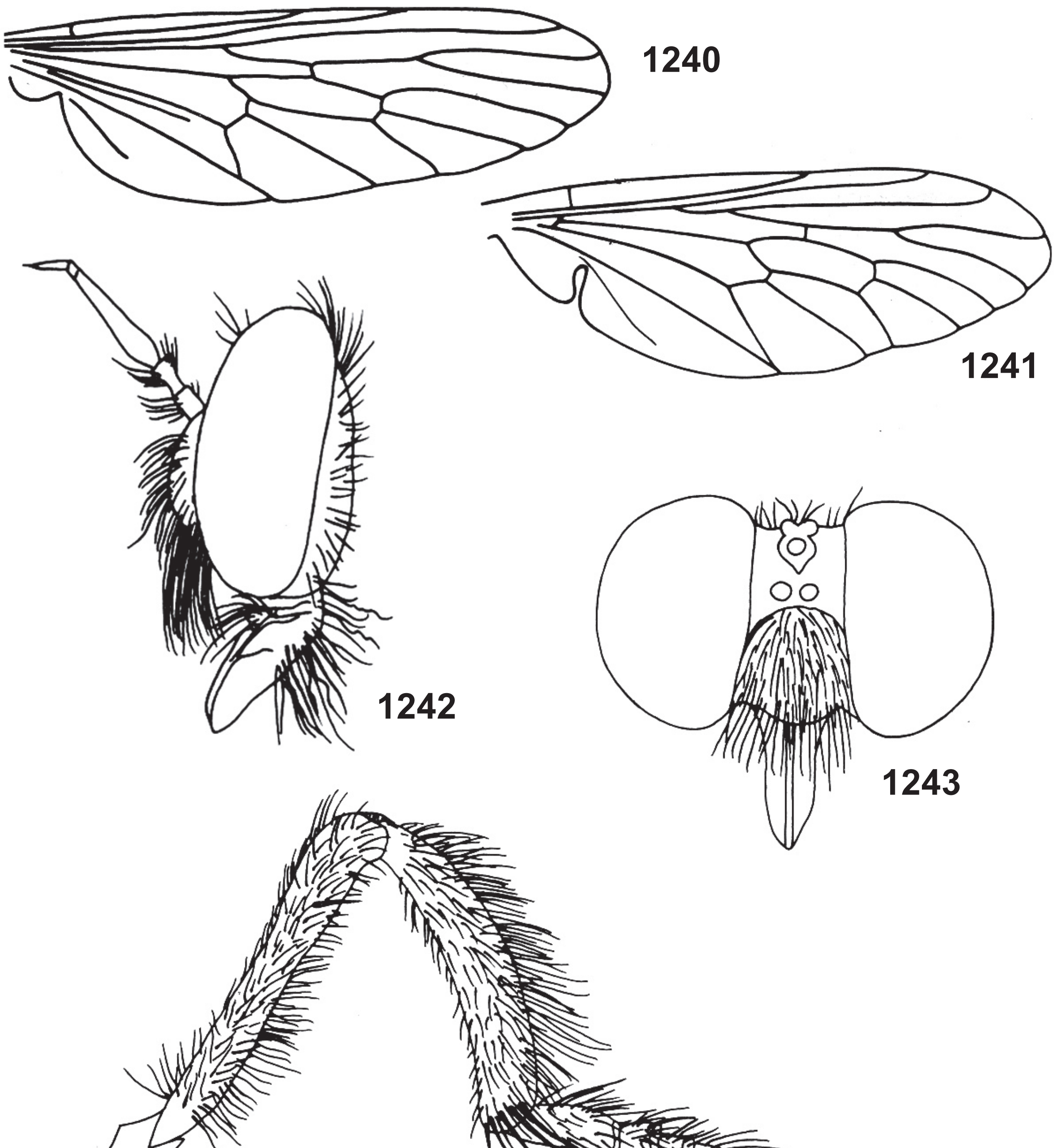
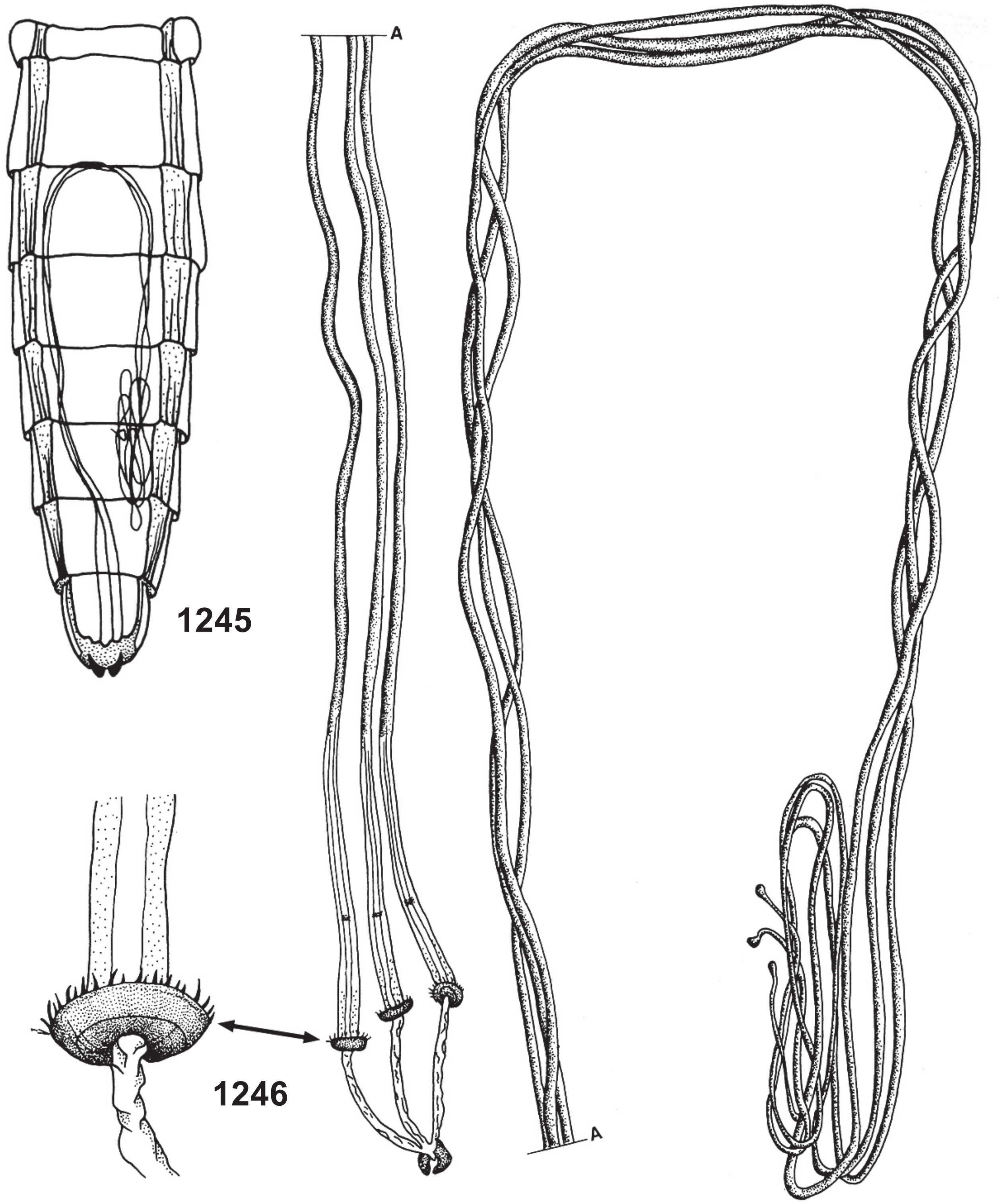
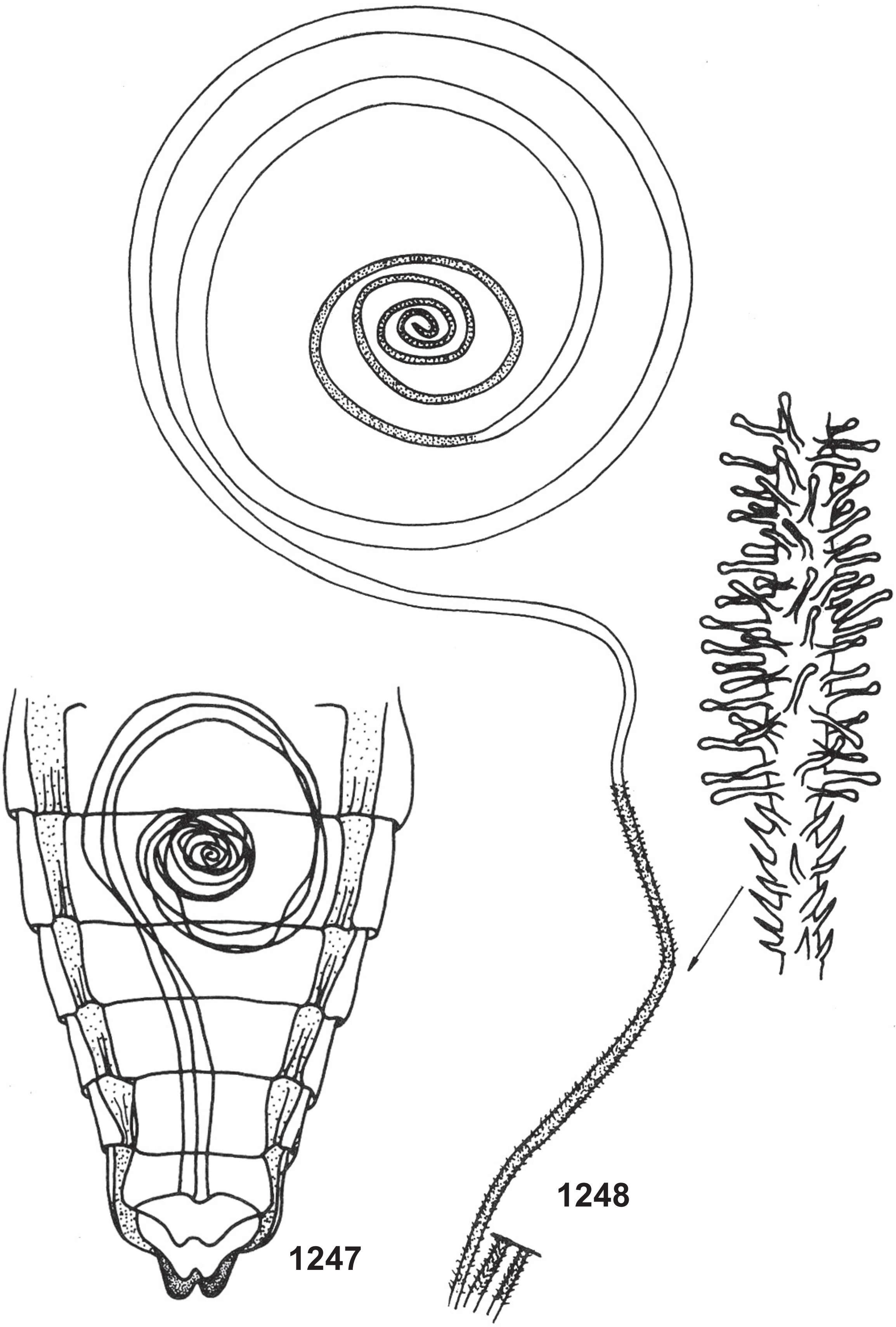


Fig. 1240. *Seabramyia tijucana* (Carrera, 1958), wing. Figs. 1241-1244, *Meliponomima martensis* Artigas & Papavero, 1989: 1241, wing; 1242-1243, head in lateral (1242) and frontal (1243) views; 1244, hind leg.



Figs. 1245-1246. *Seabramyia tijucana* (Carrera, 1958): 1245, situation of spermathecae in the abdomen; 1246, spermathecae.



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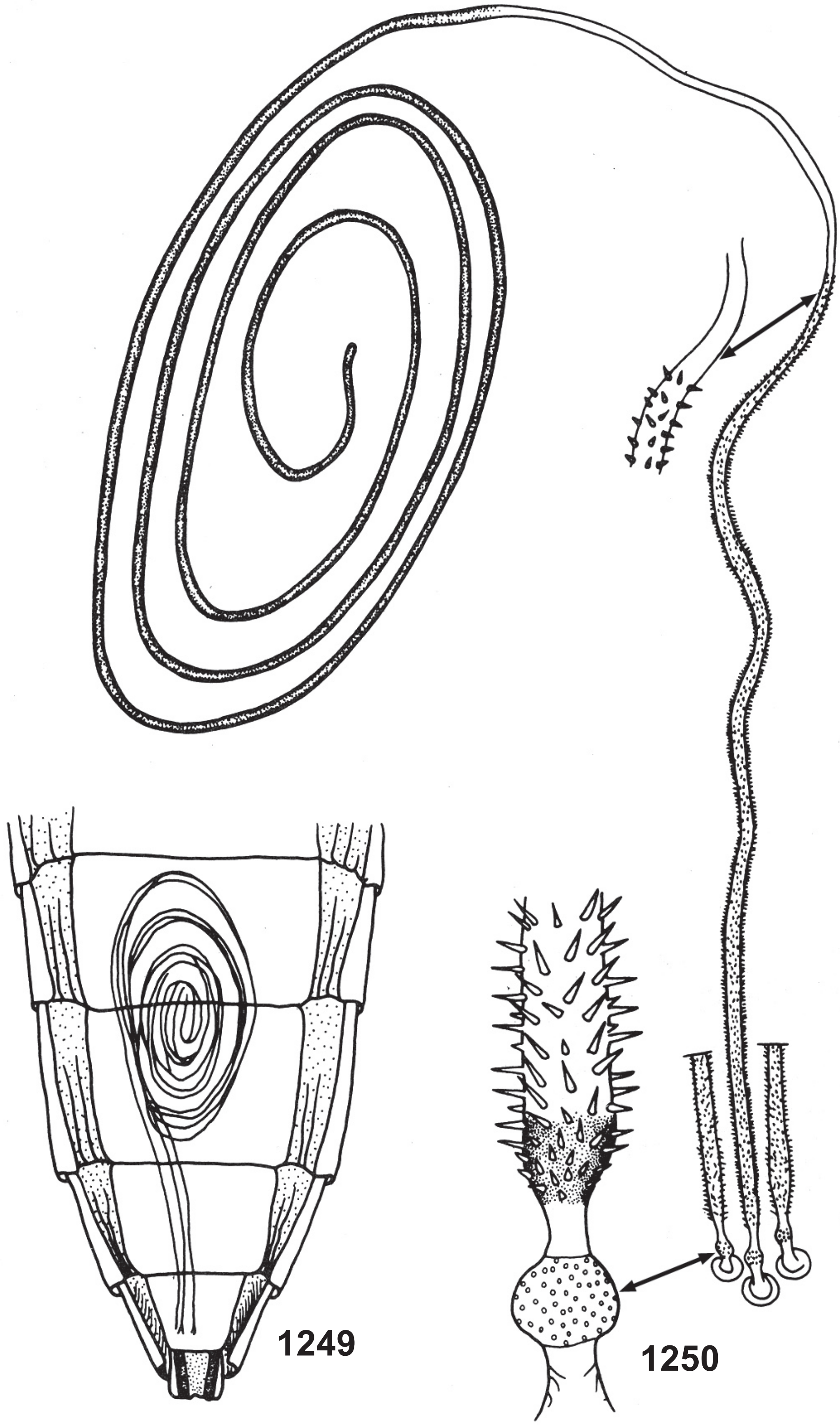
Figs. 1247-1248. *Haplopogon erinus* Pritchard, 1941: 1247, situation of spermathecae in the abdomen; 1248, spermathecae.



Figs. 1249-1250. *Holcocephala abdominalis* (Say, 1823): 1249, situation of spermathecae in the abdomen; 1250, spermathecae.

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