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THE AMERICAN GENERA OF ASILIDAE (DIPTERA): KEYS FOR IDENTIFICATION WITH AN ATLAS OF FEMALE SPERMATHECAE AND OTHER MORPHOLOGICAL DETAILS. IX.6. SUBFAMILY ASILINAE LEACH - *MALLOPHORA* -GROUP, WITH A CATALOGUE OF THE NEOTROPICAL SPECIES

JORGE N. ARTIGAS¹

NELSON PAPAVERO²

ABSTRACT

A key is given for the identification of the 6 American genera of the Mallophora-group of Asilinae (Asilidae), with illustrations of female spermathecae and other morphological details. A catalogue of the neotropical species is included.

Keywords: Asilidae, Taxonomy, *Mallophora*-group, Key, Catalogue.

INTRODUCTION

This is the part IX.6 of a series of papers intended as a preliminary effort to define the American genera of Asilidae, describing the new genera, preparatory to the elaboration of a catalogue of Neotropical species for inclusion in the forthcoming World Catalogue of Flies, now being prepared by the U.S. Department of Agriculture and U.S. National Museum of Natural History, Washington D.C.

Previous parts in this series (published and in press) are:

Part I (Key to subfamilies, subfamily Leptogastrinae):
Gayana, Zool. 52(1-2): 95-114, 1988;

Part II (Dasypogoninae): Gayana, Zool. 52(3-4):
199-260, 1988;

Part III (Trigonimiminae): Bol. Soc. Biol.
Concepción, 60: 35-41, 1989;

Part IV (Laphriinae, except Atomosiini): Bolm.
Mus. paraense E. Goeldi, Zool. 4(2): 211-
255, 1988;

Part V (Stichopogoninae): Bol. Soc. Biol.
Concepción, 61: 39-47, 1990;

Part VI (Laphriinae, Atomosiini): Gayana, Zool.
55(1): 53-87, 1991;

Part VII.1 (Stenopogoninae, key to tribes): Gayana,
Zool. 55(2): 139-144, 1991;

Part VII.2 (Stenopogoninae, Tribes Acronychini,
Bathypogonini and Ceraturgini): Gayana,
Zool. 55(3): 247-255, 1991;

Part VII.3 (Stenopogoninae, Tribes Dioctriini and
Echthodopini): Gayana, Zool. 55(4): 261-
266, 1992;

1. Universidad de Concepción, Facultad de Ciencias Naturales y Oceanográficas, Departamento de Zoología.

2. Museu de Zoologia, Universidade de São Paulo, Caixa Postal 42694; 04299-970 São Paulo, SP, Brasil.

- Part VII.4 (Stenopogoninae, Tribe Enigmomorphini): Bol. Soc. Biol. Concepción 62: 27-53, 1992;
 Part VII.5 (Stenopogoninae, Tribe Tillobromini): Rev. chilena. Ent. 19: 17-27, 1992;
 Part VII.6 (Stenopogoninae, Tribes Phellini, Plesiommatini, Stenopogonini and Willistoninini): Gayana, Zool. 57(2): 309-321, 1994;
 Part VII.7 (Stenopogoninae, Tribe Cyrtopogonini): Bol. Soc. Biol. Concepción 62: 55-81, 1992;
 Part VIII. (Laphystiinae): Arquivos de Zoologia, São Paulo 34(1): 1-55, 1997.
 Part IX.1. (Asilinae, key to generic-group): Arquivos de Zoologia, São Paulo 34(2): 57-63, 1997.
 Part IX.2. (Asilinae, *Efferia*-group): Arquivos de Zoologia, São Paulo 34(3): 65-95, 1997.
 Part IX.3. (Asilinae, *Eichoichemus*-group): Gayana, Zool. 59(1): 97-102, 1995
 Part IX.4. (Asilinae, *Glaphropyga*-group): Bol. Soc. Biol. Concepción, 66: 13-35, 1995
 Part IX.5. (Asilinae, *Lochmorhynchus*-group): Gayana, Zool. 59(2): 131-144, 1995
- DEI : Deutsche Entomologische Institut, Berlin-Dahlem
 HT: Holotype
 KANS : University of Kansas, Lawrence
 MACN : Museo Argentino de Ciencias Naturales
 MNHNP : Muséum National d'Histoire Naturelle, Paris
 MUN : Zoologische Sammlungen des Bayerischen Staates, Munich
 MZUSP : Museu de Zoologia, Universidade de São Paulo
 NAPLES : Naples Museum, Italy
 NT : Neotype
 OFX : Hope Department of Entomology, Oxford University, Oxford
 OHIO : Ohio State University Museum
 TP : Type
 ST : Syntype
 TORO : Istituto e Museo di Zoologia Sistemática, Università di Torino
 UCCC : Colecciones Científicas, Universidad de Concepción (Departamento Zoología), Chile
 UCV : Universidad Central de Venezuela, Caracas
 USNM : United States National Museum, Washington, D.C.
 WIEN : Naturhistorisches Museum, Wien

MATERIAL AND METHODS

The material used in this series belongs mainly to the Museu de Zoologia da Universidade de São Paulo, Brazil (MZUSP) and to the Departamento de Zoología, Universidad de Concepción, Chile (UCCC).

The methodology employed in the dissection and preservation of the male terminalia, female spermathecae and other morphological parts is the same employed by Artigas (1971).

List of abbreviations

- AMNH : American Museum of Natural History, New York
 BMNH : British Museum (Natural History), London
 BZM : Berliner Zoologische Museum, Humboldt-University Berlin
 CAS : California Academy of Sciences, San Francisco
 CMNH : Field Museum of Natural History, Chicago
 COPN : Universitetets Zoologiske Museum, Copenhagen

RESULTS

MALLOPHORA-GROUP

Key to the American genera:

1. 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. 3-5) short, slender, frequently with dense white hairs above. Female ovipositor (Figs. 7-8) beginning with segment 6, 7 or 8. Three falciform spermathecae (Fig. 9), with long and thick common basal duct. Length, 15-40 mm. (Nearctic, extending into Mexico and Central America).....*Promachus* Loew, 1848
- Claws obtuse. Other combinations of characters2

2(1). Face 1/6 width of face. Frons between antennae and ocelli as long as wide. Male epandria (Figs. 12-14, 21-23) 8 times as long as wide; aedeagus with 3 divergent tubes (Figs. 15, 24-25), more or less long. Female ovipositor (Figs. 16-17, 26-27) beginning with segment 8. Spermathecae as in Figs. 18 and 28. Hind femora slightly swollen, hind tibia 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..... 3

3(2). 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. 31-33 (see also Artigas & Angulo, 1980). Female ovipositor and spermathecae as in Figs. 34-36. Length, 15-40 mm. (Neotropical, but not in Chile, extending into Nearctic) *Mallophora* Macquart, 1834

Face slightly and evenly convex. Other combinations of characters 4

4(3). Hind femur slender and much longer than the swollen fore and middle tibiae. Mystax thin. Scutellum with sparse, erect hairs. Male terminalia (Figs. 39-41) short, with dense white hairs above. Aedeagus (Fig. 42) with three relatively short tubes. Female ovipositor short and conical (Figs. 43-45). Spermathecae as in Fig. 46. 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..... 5

5(4). The dense, erect scutellar hairs parted at 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. 49-51) about three times as long as wide. Aedeagus as in Figs. 52-53. Female ovipositor (Figs. 54-55) short. Spermathecae as in Fig. 56. Length, 12-16 mm. (USA: 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 1/4 to nearly 1/3 width of head. Male epandria (Figs. 59-61) about twice as long as wide. Aedeagus as in Figs. 62-64 - with only one tube. Female ovipositor short (Figs. 65-66). Spermathecae with long and robust falciform capsules and very thick common basal duct (Fig. 67). Length, 9-16 mm. (USA, Mexico)..... *Megaphorus* Bigot, 1857

Genus *Amblyonychus*, stat. nov.

Promachus, subg. *Amblyonychus* Hermann, 1921: 118. Type-species, *wiedemanni* Schiner (orig. des.).

Promachina Bromley, 1934a (March): 96. Type-species, *Promachus trapezoidalis* Bellardi (orig. des.). (Based on specimens from USA, Texas, Brownsville).

Promachina Bromley, 1934b (July): 352. Type-species, *Promachus trapezoidalis* Bellardi (orig. des.; erroneous identification, based on specimens from Guyana). Ref.- Martin, 1967.

annularis (Fabricius), 1805: 171 (*Dasyzogon*). Type-locality: America meridionalis. ST: COPN, Kiel. *comb. n.*

flavifasciatus (Macquart), 1838: 102 (1839: 218), pl. 9, fig. 1 (*Trupanea*). Type-locality: Brazil, Pará, env. of Belém. ST: MNHNP. *comb. n.*

gracilis (Macquart), 1838: 102 (1839: 218) (*Trupanea*). Type-locality: Brazil. TP lost. *comb. n.*

horni (Bromley), 1935: 109, fig. 2 (*Promachus*). Type-locality: Peru, Huallaga, Jumbatis.

- 350 m. HT: DEI. *comb. n.*
- incisuralis* (Macquart), 1838: 107 (1839: 223) (*Trupanea*). Type-locality: unknown. TP: MNHNP. (= ?*nigripes*). *comb. n.*
- lateralis* (Walker), 1860: 283 (*Trupanea*). Type-locality: Mexico. TP: BMNH. *comb. n.*
- nigripes* (Fabricius), 1787: 360 (*Asilus*). Type-locality: Brazil. TP: KIEL (only thorax and wings). *comb. n.*
- ?*heydenii* Wiedemann, 1828: 490 (*Asilus*). Type-locality: Brazil. TP: FRAN (tip of abdomen missing; the specimens seems smashed).
- ?*perfectus* Walker, 1851: 120 (*Trupanea*). Type-locality: South America. TP: BMNH (without abdomen; the color of the hairs indicates a male).
- ?*breviusculus* Walker, 1855: 591 (*Trupanea*). Type-locality: Brazil, Pará, Rio Tapajós. ST: BMNH.
- ?*nigripes* Macquart, 1838: 101 (1839: 217) (*Trupanea*; preocc. Fabricius, 1787). Type-locality: Brazil, Pará, Belém. TP lost.
- ?*macquartii* Rondani, 1848: 95 (*Mallophora*; nom. nov. for *Trupanea nigripes* Macquart). Type-locality: Brazil, Pará, Belém.
- ovatus* (Martin), 1967: 158 (*Promachus*). Type-locality: Mexico, Colima, 6 mi. s. of Colima. HT: KANS. *comb. n.*
- pulchellus* (Bellardi), 1861: 129 (*Promachus*). Type-locality: Mexico. TP: TORO. *comb. n.*
- quatuorlineatus* (Macquart), 1838: 102 (1839: 218) (*Trupanea*). Type-locality: Brazil, Rio de Janeiro. TP lost. *comb. n.*
- substitulus* (Walker), 1851: 119 (*Trupanea*). Type-locality: South America. TP: BMNH. *comb. n.*
- mitescens* Walker, 1851: 118 (*Trupanea*). Type-locality: South America. TP: BMNH. *syn. n.* (This is the female of the species; the type of *substitulus* is the male).
- barbiellini* Curran, 1935: 11 (*Promachina*). Type-locality: Brazil, São Paulo. TP: AMNHN. *syn. n.*
- titan* (Carrera), 1959: 4 (*Promachina*). Type-locality: Bolivia, Chapare, Río Chipiriri, 400 m. HT: MUN. *comb. n.*
- trapezoidalis* (Bellardi), 1861: 128, pl. 2, fig. 4 (*Promachus*). Type-locality: Mexico. Ref.- Cole & Pritchard, 1967: 64 (descr.). TP ? *comb. n.*

- trichonotus* (Wiedemann), 1828: 490 (*Asilus*). Type-locality: Brazil, Bahia, Salvador. TP: WIEN. *comb. n.*
- yepzei* (Carrera & Machado-Allison), 1963: 250, fig. 2b (*Promachina*). Type-locality: Venezuela, Bolívar, Guyaraca, Auyantepui, 1100 m. HT: UCV.

Genus *Carreraomyia* Cole

- Carreraia* Cole & Pritchard, 1964: 60 (preocc. Correa, 1947). Type-species, *acapulquensis* Cole & Pritchard (orig. des.).
- Carreraomyia* Cole, 1969: 543 (nom. nov. for *Carreraia* Cole & Pritchard). Type-species, *Carreraia acapulquensis* Cole & Pritchard (aut.).
- acapulquensis* (Cole & Pritchard), 1964: 62, fig. 7 (*Carreraia*). Type-locality: Mexico, Acapulco. Distr.- Mexico (Oaxaca, Guerrero). HT: CAS.
- alpuyecana* (Cole & Pritchard), 1964: 63 (*Carreraia*). Type-locality: Mexico, Morelos, Alpuyecana. Distr.- Mexico (Morelos). HT: CAS.

Genus *Mallophora* Macquart

- Mallophora* Macquart, 1834: 300. Type-species, *Asilus bomboides* Wiedemann (Coquillett, 1910: 565). Ref.- Artigas & Angulo, 1980 (rev.).
- aeaca* Williston, 1901: 319. Type-locality: Mexico, Veracruz, Atoyac. Distr.- Mexico, El Salvador, French Guiana, Brazil, Paraguay, Uruguay, n. Argentina. Ref.- Artigas & Angulo, 1980: 27, fig. 125. HT: BMNH.
- doellojuradoi* Gemignani, 1930: 136. Type-locality: Argentina, Jujuy. HT: MACN.
- annuliventris* Artigas & Angulo, 1980: 29, fig. 126. Type-locality: Guatemala, Capetillo. HT: AMNH.
- ardens* Macquart, 1834: 302. Type-locality: Amérique septentrionale. Type lost. Ref.- Artigas & Angulo, 1980: 29, figs. 122, 127 (Designate as neotype, deposited in UCCC, a specimen from Brazil, Rio de Janeiro, Rio de Janeiro (Copacabana); either Macquart was mistaken about the precedence of the

- specimen, or Artigas & Angulo misidentified the species; as the type is lost, it is impossible to decide the question).
- argentipes* Macquart, 1838: 88 (1839: 204). Type-locality: Guiana. Distr.- Panama, Colombia, Venezuela, Guyana, Surinam, French Guiana, Trinidad-Tobago, Brazil, Paraguay, Argentina. Ref.- Artigas & Angulo, 1980: 31, figs. 20, 25, 75, 76, 122, 128. TP: MNHNP.
- armata* Artigas & Angulo, 1980: 33, figs. 17, 122, 129. Type-locality: Paraguay, Caá-Guazú. HT: UCCC.
- atra* Macquart, 1834: 302. Type-locality: Brazil. Distr.- USA (Minnesota, Florida) to Argentina and northernmost Chile (Tarapacá). Ref.- Artigas & Angulo, 1980: 34, figs. 92, 93, 122, 130. TP lost. NT: UCCC (Brazil, Santa Catarina, Nova Teutônia).
- freycineti* Macquart, 1838: 85 (1839: 201). Type-locality: Brazil (probably the city of Rio de Janeiro, the only place where Freycinet landed in Brazil). TP: MNHNP.
- ventralis* Macquart, 1838: 91 (1839: 207). Type-locality: unknown. TP: MNHNP.
- albifrons* Walker, 1850: xcvi. Type-locality: South America. TP lost.
- testaceipes* Macquart, 1850: 380 (1850: 76). Type-locality: South America. TP: OXF.
- xylocopiides* Walker, 1851: 111. Type-locality: Brazil, Pará. TP: ?BMNH.
- testaceitarsis* Macquart, 1855: 74 (1855: 54). Type-locality: South America. TP lost.
- coeruleiventris* Thomson, 1869: 467. Type-locality: Peru, Callao. TP: Stockholm.
- nigra* Williston, 1885: 58. Type-locality: USA, Minnesota. TP ?
- lynchii* Gemignani, 1930: 141. Type-locality: Argentina, Jujuy. TP: MACN.
- flavicollis* Curran, 1941: 272, *nomen nudum*.
- nitidula* Curran, 1941: 272, *nomen nudum*.
- vorax* Curran, 1941: 278. Type-locality: Peru, Lima. TP: AMNH.
- lucida* Curran, 1941: 278. Type-locality: Argentina, Posadas. TP: AMNH.
- curiosa* Curran, 1941: 279. Type-locality: Brazil, Santa Catarina, Nova Teutônia. TP: AMNH.
- jemina* Curran, 1941: 279. Type-locality: Brazil, São Paulo. TP: AMNH.
- barbipes* (Wiedemann), 1819: 48 (*Laphria*). Type-locality: Brazil. Distr.- French Guiana, Ecuador, Peru, Brazil, Bolivia, Paraguay, Argentina. Ref.- Artigas & Angulo, 1980: 40, figs. 114, 115, 121, 122, 130. TP lost. NT: UCCC (Bolivia, Beni, Rurrenabaque).
- semiviolacea* Rondani, 1848: 92. Type-locality: Brazil, Pará, Belém. TP: NAPLES.
- cilicrura* Rondani, 1850: 367. Type-locality: Equatorial America. TP: NAPLES.
- subviolacea* Rondani, 1850: 369, *lapsus*.
- purpurea* Walker, 1850: xcvi. (*Trupanea*). Type-locality: Brazil, Pará. TP: BMNH.
- auromystacea* Macquart, 1855: 75 (1855: 55). Type-locality: South America. TP lost.
- campestris* Curran, 1941: 274. Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães. TP: AMNH.
- dana* Curran, 1941: 274. Type-locality: Peru, Río Marañón. TP: AMNH.
- cora* Curran, 1941: 280. Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães. TP: AMNH.
- bassleri* Curran, 1941: 273. Type-locality: Brazil, Amazonas, Tefé. Distr.- Peru, Brazil (Amazonas, Santa Catarina). Ref.- Artigas & Angulo, 1980: 43, figs. 122, 131. TP: AMNH.
- bellengeri* Farr, 1965: 26. Type-locality: Jamaica, St. Andrew, Long Mountain. Distr.- Jamaica. Ref.- Artigas & Angulo, 1980: 44, figs. 122, 132. HT: USNM.
- bellengeri* Martin & Papavero, 1970: 73, *lapsus*.
- bigoti* Lynch Arribálzaga, 1883: 146. Type-locality: Argentina, Buenos Aires. Distr.- Brazil (Santa Catarina), Uruguay, Argentina. Ref.- Artigas & Angulo, 1980: 46, figs. 81, 82, 122, 123. TP lost. NT: UCCC (Argentina, Buenos Aires, Tigre).
- bomboides* (Wiedemann), 1821: 203 (*Asilus*). Type-locality: USA, Georgia. Distr.- USA, Mexico. Ref.- Artigas & Angulo, 1980: 48, figs. 94, 95, 122, 124. TP: BZM.
- trichostica* Williston, 1901: 320. Type-locality: Mexico, Veracruz, Atoyac. TP: BMNH.
- rex* Bromley, 1925: 192. Type-locality: USA, Mississippi: Newton Co., Iuka and Leaksville; North Carolina: Southern Pines; Florida. ST ?
- chrysomela* Bromley, 1925: 193. Type-locality: USA. Mississippi, Gulfport and Ship Island; Georgia, Atlanta. ST ?

- calida* (Fabricius), 1787: 358 (*Asilus*). Type-locality: French Guiana. Distr.-Mexico, South America (except Chile). Ref.- Artigas & Angulo, 1980: 49, figs. 28, 38, 58, 59, 122, 135. TP lost. NT: UCCC (Bolivia, San Antonio, Cordillera).
- albicincta* Bromley, 1929b: 47. Type-locality: Mexico, Veracruz, Coatepec. TP: USNM.
- abana* Curran, 1934a: 7. Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães. TP: AMNH.
- clavitaris* Curran, 1941: 282. Type-locality: Peru, Achinamiza. TP: AMNH.
- cingulata* Artigas & Angulo, 1980: 53, figs. 2, 122, 136, 176. Type-locality: Peru, Pucallpa, Río Ucayali, 200 m. Distr.- Panama, Colombia, Peru. HT: UCCC.
- circumflava* Artigas & Angulo, 1980: 54, figs. 86-89, 122, 137. Type-locality: Brazil, Rio de Janeiro, Itatiaia. Distr.- Brazil (Minas Gerais, Rio de Janeiro, São Paulo, Paraná, Santa Catarina). HT: UCCC.
- clavipes* Curran, 1941: 281. Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães. Distr.- Panama to s. Brazil. Ref.- Artigas & Angulo, 1980: 55, figs. 18, 30, 112, 113, 116, 117, 122, 139. TP: AMNH.
- cortesi* Artigas & Angulo, 1980: 57, figs. 23, 24, 52, 53, 122, 140. Type-locality: Paraguay, Villarrica. Distr.- Brazil, Paraguay, Argentina. HT: UCCC.
- cubana*, sp. n.
macquarti Rondani of Artigas & Angulo, 1980: 77, figs. 22, 31, 32, 54, 55, 122, 154, *misident.* HT male, Cuba, Soledad, 21.v.1925 (G. Salt), UCCC (erroneously and unnecessarily designated as the neotype of *Mallophora macquarti* Rondani, an unrecognized species).
- dureti* Artigas & Angulo, 1980: 60, figs. 37, 83-85, 122, 141. Type-locality: Argentina, Salta, Orán. Distr.- Bolivia, Paraguay, Argentina. HT: UCCC.
- emiliae* Carrera, 1960: 48. Type-locality: Brazil, Paraná, Curitiba. Distr.- Brazil (Paraná, Santa Catarina), Uruguay. Ref.- Artigas & Angulo, 1980: 63, figs. 60, 61, 122, 142. HT: MZUSP.
- fautrix* Osten Sacken, 1887: 191, pl. 3, fig. 14. Type-locality: Mexico, Sinaloa, Presidio near Mazatlán. Distr.- USA, Mexico, to French Guiana. Ref.- Artigas & Angulo, 1980: 64, figs. 62, 63, 122, 143. TP: BMNH.
- fautricoides* Curran, 1930: 13. Type-locality: USA, California, San Diego. HT: AMNH.
- bromleyi* Curran, 1930: 15. Type-locality: USA, Texas, Marathon. HT: AMNH.
- fritzi* Artigas & Angulo, 1980: 66, figs. 122, 144. Type-locality: Uruguay, Montevideo. Distr.- Brazil (Rio Grande do Sul), Uruguay. HT: UCCC.
- gracipes* Artigas & Angulo, 1980: 66, figs. 33, 122, 145, 176. Type-locality: Brazil, Santa Catarina, Caúna. Distr.- Brazil (Santa Catarina, Rio Grande do Sul). HT: UCCC.
- hemivitre*a Artigas & Angulo, 1980: 68, figs. 122, 146. Type-locality: Brazil, Espírito Santo, Viana. HT: UCCC.
- inca* Curran, 1941: 273. Type-locality: Peru, Río Santiago. Distr.- Colombia, Peru, Brazil (Mato Grosso, Paraná), Paraguay. Ref.- Artigas & Angulo, 1980: 68, figs. 122, 147. HT: AMNH.
- incanipes* Artigas & Angulo, 1980: 69, figs. 122, 148. Type-locality: Brazil, Amazonas, Tabatinga. HT: UCCC.
- infernalis* (Wiedemann), 1821: 202 (*Asilus*). Type-locality: Brazil. Distr.- Brazil, Argentina (Misiones). Ref.- Artigas & Angulo, 1980: 70, figs. 41-44, 122, 149. TP lost. NT: UCCC (Brazil, Rio de Janeiro, Nova Friburgo).
- leschenaulti* Macquart, 1838: 86 (1839: 202). Type-locality: French Guiana, La Mana River. Distr.- Mexico to Argentina. Ref.- Artigas & Angulo, 1980: 72, figs. 36, 50, 51, 122, 153. TP: MNHNP.
- breviventris* Macquart, 1850: 381 (1850: 77), pl. 7, figs. 7-7a. Type-locality: Brazil. TP: MNHNP.
- belzebul* Schiner, 1867: 385. Type-locality: Brazil. TP: WIEN.
- zottai* Gemignani, 1930: 141. Type-locality: Argentina, Jujuy. TP: MACN.
- speciosa* Curran, 1934b: 349. Type-locality: Guyana, Bartica, Kartabo. HT: AMNH.
- leucopyga* Artigas & Angulo, 1980: 74, figs. 122, 150. Type-locality: Mexico, Guerrero, Acapulco. HT: UCCC.
- leucotricha* Carrera & d'Andretta, 1953: 66. Type-locality: Peru, Lima. Distr.- Panama, Peru.

- Ref.- Artigas & Angulo, 1980: 74, figs. 19, 26, 40, 122, 151. HT: UCCC.
- lugubris* Lynch Arribálzaga, 1880: 252. Type-locality: Argentina, Misiones. Distr.- Brazil, Bolivia, Paraguay, Argentina. Ref.- Artigas & Angulo, 1980: 75, figs. 71-74, 122, 152. HT: MACN.
- media* Clements & Bennett, 1969: 455, figs. 1-11. Type-locality: Trinidad, Curepe. Distr.- Trinidad, Venezuela. Ref.- Artigas & Angulo, 1980: 79, figs. 122, 155. HT: BMNH.
- minos* (Wiedemann), 1824: 478 (*Asilus*). Type-locality: Uruguay, Montevideo. Distr.- Mexico to s. Brazil. Ref.- Artigas & Angulo, 1980: 80, figs. 29, 90, 91, 122, 156. NT: UCCC.
- craverii* Bellardi, 1861: 122 (22). Type-locality: Mexico, surroundings of Mexico City, and Oaxaca. ST: TORO.
- pulchella* Curran, 1925: 260. Type-locality: Colombia, Cauca. HT: AMNH.
- schwarzi* Curran, 1934a: 5. Type-locality: Panama, Canal Zone, Barro Colorado I. HT: AMNH.
- tolteca* Curran, 1941: 277. Type-locality: British Honduras. HT: AMNH.
- pipiens* Curran, 1941: 277. Type-locality: Surinam. HT: AMNH.
- nigrifemorata* Macquart, 1838: 90 (1839: 206). Type-locality: Brazil. Distr.- Panama to Argentina (Buenos Aires). Ref.- Artigas & Angulo, 1980: 83, figs. 64-66, 122, 157. TP: MNHNP.
- tibialis* Macquart, 1846: 77, pl. 8, fig. 3 (preocc. Macquart, 1838). Type-locality: Guiana. TP: MNHNP.
- cruralis* Rondani, 1863: 46 (nom. nov. for *tibialis* Macquart, 1846). Type-locality: Guiana.
- ada* Curran, 1941: 284. Type-locality: Brazil, Rio de Janeiro. HT: AMNH.
- geijskesi* Curran, 1942: 58. Type-locality: Surinam, Brownsberg. HT: AMNH.
- fairchildi* Curran, 1942: 58. Type-locality: Panamá, Coclé, El Valle. HT: AMNH.
- nigritarsis* (Fabricius), 1805: 168 (*Dasyopogon*). Type-locality: South America. Distr.- Panama to Argentina. Ref.- Artigas & Angulo, 1980: 85, figs. 69, 70, 122, 158. TP lost. NT: UCCC (Bolivia, Chapare).
- cinerascens* Walker, 1855: 581. Type-locality: Brazil, Pará. TP: BMNH.
- socculata* Rondani, 1848: 93. Type-locality: Brazil. TP: NAPLES.
- bruneri* Bromley, 1929a: 287. Type-locality: Cuba, Sierra Rangel, Pinar del Río. TP: USNM.
- fusca* Bromley, 1934b: 350. Type-locality: Guyana, Bartica, Kartabo. HT: AMNH.
- orcina* (Wiedemann), 1828: 477 (*Asilus*). Type-locality: USA, Georgia, Savannah. Distr.- USA, Mexico (Sonora, Puebla, Hidalgo). Ref.- Artigas & Angulo, 1980: 88, figs. 104, 105, 122, 159. TP ?
- ciliata* Walker, 1851: 114. Type-locality: unknown. TP: BMNH.
- fulva* Banks, 1911: 130. Type-locality: USA, Arizona, Palmette. TP ?
- papaveroi* Artigas & Angulo, 1980: 90, figs. 3, 96-99, 122, 160. Type-locality: Brazil, Amazonas, Rio Urupadi. Distr.- Brazil (Amazonas, Pará, Rondonia, Mato Grosso, Goiás, Minas Gerais). HT: UCCC.
- parasylveirii* Artigas & Angulo, 1980: 91, figs. 77, 78, 122, 161. Type-locality: Brazil, Santa Catarina, Nova Teutônia. Distr.- Brazil (Rio de Janeiro, São Paulo, Santa Catarina). HT: UCCC.
- pica* Macquart, 1850: 382 (1850: 78). Type-locality: Mexico or Bolivia (actually Bolivia, as the specimen was collected by d'Orbigny). Distr.- Bolivia, Argentina, Uruguay. Ref.- Artigas & Angulo, 1980: 93, figs. 106, 107, 122, 162. HT: MNHNP.
- bergii* Lynch Arribálzaga, 1880: 257. Type-locality: Uruguay. TP lost.
- pluto* (Wiedemann), 1828: 477 (*Asilus*). Type-locality: Brazil. Distr.- Colombia, s. to Brazil, Argentina, Uruguay. Ref.- Artigas & Angulo, 1980: 94, figs. 27, 39, 45, 46, 49, 122, 163. TP lost. NT: UCCC (Argentina, Sierra Córdoba).
- vegeta* Lynch Arribálzaga, 1882: 140. Type-locality: Argentina, Santa Fe. TP lost.
- copelloi* Gemignani, 1930: 138. Type-locality: Argentina, La Rioja. TP: MACN.
- robusta* (Wiedemann), 1828: 478 (*Asilus*). Type-locality: unknown. Distr.- Mexico to Argentina. Ref.- Artigas & Angulo, 1980: 96, figs. 47, 48, 122, 164, 175. TP lost. NT: UCCC (Brazil, São Paulo: Boa Espe-

- rança do Sul (Fazenda Itaquerê)).
tisiphones Rondani, 1848: 94. Type-locality: Brazil. TP: NAPLES.
- alecto* Rondani, 1848: 94. Type-locality: Brazil. TP: NAPLES.
- lampon* Walker, 1849: 388 (*Asilus*). Type-locality: unknown. TP: BMNH.
- hirtiventris* Macquart, 1850: 383 (1850: 79) (*Trupanea*). Type-locality: Bolivia. TP: MNHNP.
- rufipes* Macquart, 1850: 380 (1850: 76). Type-locality: Brazil. TP lost.
- dallasi* Gemignani, 1931: 265. Type-locality: Argentina, Chaco, Formosa. TP: MACN.
- aria* Curran, 1941: 276. Type-locality: Peru, Río Santiago. HT: AMNH.
- ruficauda* (Wiedemann), 1828: 476 (*Asilus*). Type-locality: Uruguay, Montevideo. Distr.- s. Brazil, Paraguay, Uruguay, Argentina. Ref.- Artigas & Angulo, 1980: 100, figs. 56, 57, 165. TP lost. NT: UCCC (Argentina, Buenos Aires, Devoto).
- pyrura* Rondani, 1863: 47. Type-locality: unknown. TP: NAPLES.
- soccata* Thomson, 1869: 467. Type-locality: Argentina, Buenos Aires. TP: Stockholm.
- rufiventris* Macquart, 1838: 91 (1839: 207). Type-locality: unknown. Distr.- Colombia and French Guiana to Argentina. Ref.- Artigas & Angulo, 1980: 104, figs. 100-103, 166. TP: MNHNP.
- nigriventris* Jaenicke, 1867: 361. Type-locality: Paraguay. TP ?
- scopifera* (Wiedemann), 1828: 478 (*Asilus*). Type-locality: Brazil. Distr.- Brazil (Minas Gerais, Paraná, Santa Catarina). Ref.- Artigas & Angulo, 1980: 106, figs. 34, 108, 109, 122, 167. TP: BZM.
- sylveirii* Macquart, 1838: 86 (1839: 202). Type-locality: Brazil. Distr.- Brazil, Uruguay, Argentina, Paraguay. Ref.- Artigas & Angulo, 1980: 107, figs. 67, 68, 122, 168. TP: MNHNP.
- geniculata* Macquart, 1838: 87 (1839: 203). Type-locality: Brazil, Rio Grande do Sul, São Leopoldo. TP: MNHNP.
- opposita* Walker, 1851: 112. Type-locality: Brazil. TP ?
- contraria* Walker, 1851: 113. Type-locality: South America. TP ?
- affinis* Schiner, 1868: 176. Type-locality: Brazil, Rio de Janeiro. TP: WIEN.
- scutellaris* Lynch Arribálzaga, 1880: 254. Type-locality: Argentina, Misiones. TP lost.
- antica* Curran, 1934a: 6. Type-locality: Brazil, São Paulo. HT: AMNH.
- sexualis* Curran, 1936: 331. Type-locality: Brazil, São Paulo, Campos do Jordão. HT: AMNH.
- ajax* Curran, 1941: 275. Type-locality: Brazil. HT: AMNH.
- tertiavitrea* Artigas & Angulo, 1980: 117, figs. 122, 169. Type-locality: Brazil, Mato Grosso, Cuiabá. Distr.- Brazil (Mato Grosso, Minas Gerais). HT: UCCC.
- thompsoni* Artigas & Angulo, 1980: 118, figs. 1, 122, 170. Type-locality: Paraguay, P.G. Lageado. Distr.- Paraguay (Artigas & Angulo's record of this species for the USA, Florida is highly doubtful). HT: UCCC.
- tibialis* Macquart, 1838: 85 (1839: 201). Type-locality: Brazil, Pará, env. of Belém; French Guiana, 'dans les grands bois aux bords de l'Oyapock' and Cayenne. Distr.- Colombia and French Guiana to Argentina. Ref.- Artigas & Angulo, 1980: 118, figs. 21, 35, 110, 111, 118-120, 122, 171, 175. ST: OXF.
- fascipennis* Macquart, 1850: 379 (1850: 75). Type-locality: Brazil. TP: Lille.
- fasciata* Walker, 1851: 112. Type-locality: Brazil, Pará. TP ?
- tsacasi* Artigas & Angulo, 1980: 121, figs. 122, 172. Type-locality: Mexico, Purpus. Distr.- Mexico (record from Bolivia in Artigas & Angulo in error?). HT: UCCC.
- wilhelmi* Artigas & Angulo, 1980: 121, figs. 122, 173. Type-locality: Mexico, Veracruz, Cotaxtla, Cotaxtla Expt. Sta. HT: UCCC.
- zita* Curran, 1941: 282. Type-locality: Peru, Achinamiza. Distr.- Mexico to Argentina. Ref.- Artigas & Angulo, 1980: 122, figs. 79, 80, 122, 174. HT: AMNH.
- mexicana* Carrera & d'Andretta, 1950: 167. Type-locality: Mexico, Nuevo León, Villa Santiago. HT: CMNH.
- neta* Curran, 1941: 283. Type-locality: Peru, Río Santiago. HT: AMNH.

Unrecognized species of *Mallophora*

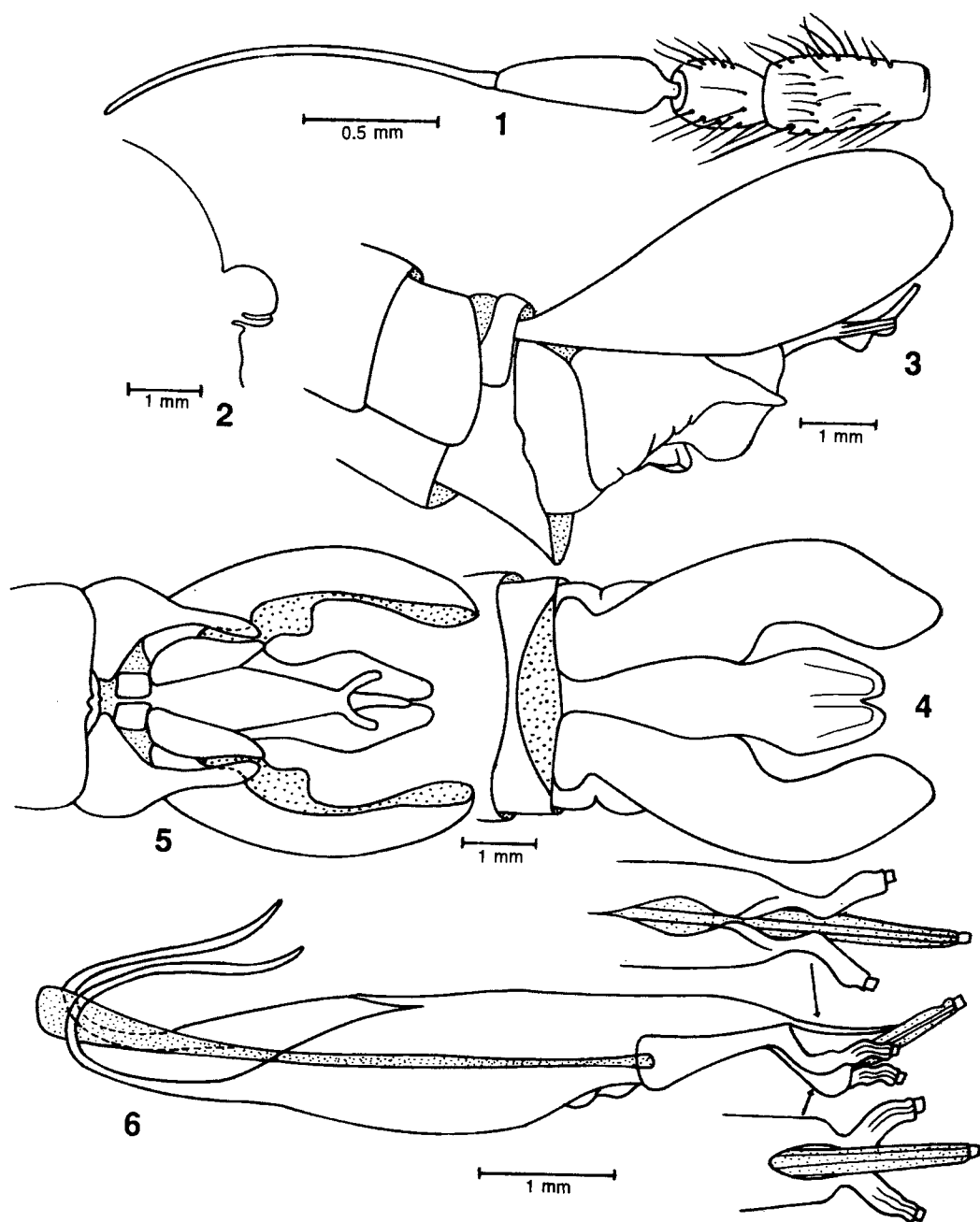
- antiqua* Walker, 1855: 581. Type-locality: Mexico, Veracruz. TP ?
- candens* (Walker), 1851: 117 (*Trupanea*). Type-locality: South America. TP ?
- fulviventris* Macquart, 1850: 381 (1850: 75). Type-locality: Mexico. TP: MNHNP.
- ?*fulvianalis* Macquart, 1850: 382 (1850: 75). Type-locality: Mexico. TP: MNHNP.
- macquarti* Rondani, 1850: 367. Type-locality: Equatorial America. TP: NAPLES.
- pusilla* Macquart, 1838: 88 (1839: 204). Type-locality: Brazil, Rio Grande do Sul, eastern part. TP: MNHNP.
- scopipeda* Rondani, 1863: 46. Type-locality: Brazil, Pará, Belém. TP: NAPLES.
- scopitarsis* Rondani, 1863: 46. Type-locality: Brazil, Pará, Belém. TP: NAPLES.
- singularis* Macquart, 1838: 87 (1839: 203), pl. 8, fig. 4. Type-locality: Brazil, Paraná, Guaratuba. TP lost.

Genus *Megaphorus* Bigot

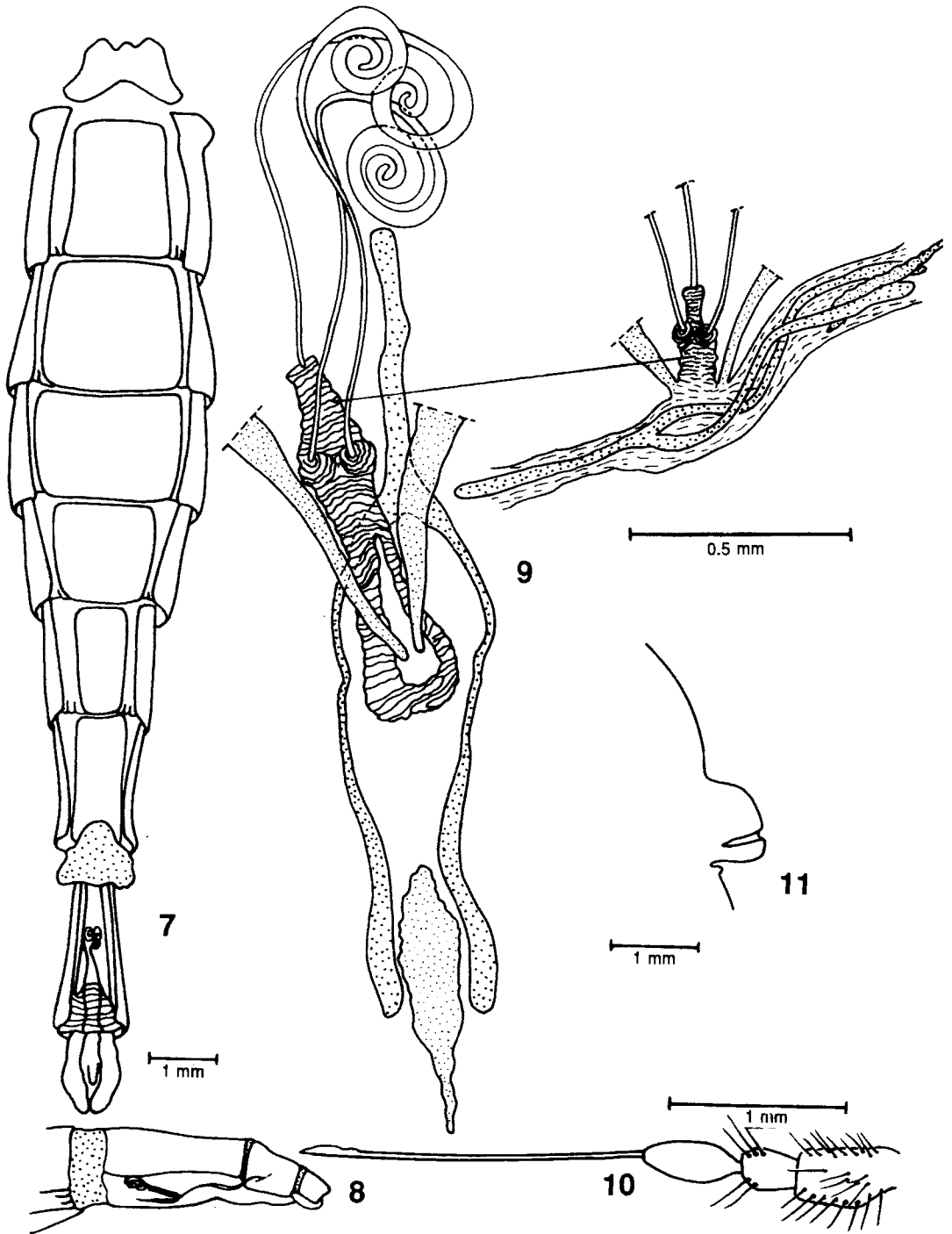
- Megaphorus* Bigot, 1857: 542. Type-species, *Mallophora heteroptera* Macquart (orig. des.).
- Mallophorina* Curran, 1934c: 183. Type-species, *Mallophora guildiana* Williston (orig. des.).
- durangoensis* (Cole), in Cole & Pritchard, 1964: 82 (*Mallophorina*). Type-locality: Mexico, Durango, 23 mi. ne. of Durango, 6300 feet. Distr.- Mexico (Durango). HT: CAS.
- frustrus flavidus* (Cole), in Cole & Pritchard, 1964: 87 (*Mallophorina*). Type-locality: USA, California, San Diego Co., Scissors Spring. Distr.- USA (California), Mexico (Baja California). HT: CAS.
- guildianus* (Williston), 1885: 60 (*Mallophora*). Type-locality: USA, Kansas. Distr.- USA (Kansas), Mexico (Coahuila).
- megachile* (Coquillett), 1893: 118 (*Mallophora*). Type-locality: USA, California, Los Angeles Co. Distr.- USA (California), Mexico (Baja California). TP: USNM.

Genus *Promachus* Loew

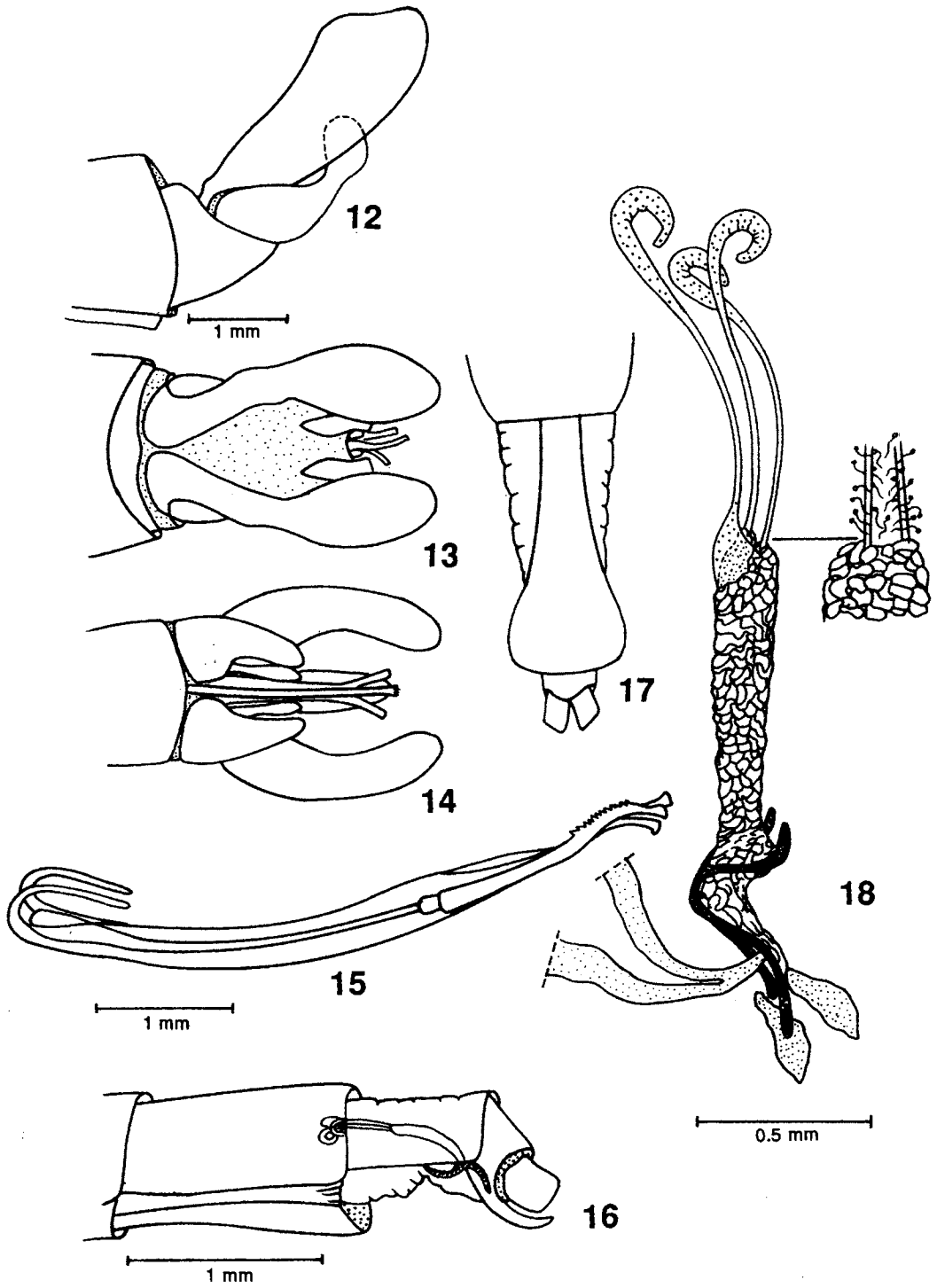
- Trupanea* Macquart, 1838: 91 (1839: 209) (preocc. Guettard, 1762). Type-species, *Asilus maculatus* Fabricius (orig. des.).
- Promachus* Loew, 1848: 390. Type-species, *Asilus maculatus* Fabricius (Coquillett, 1910: 595).
- anceps* Osten Sacken, 1887: 194. Type-locality: Mexico and Panama, Bugaba, 800-1500 feet. TP: BMNH.
- bellardii* Martin, 1965b: 132 (nom. nov. for *quadratus* Bellardi). Type-locality: Mexico.
- quadratus* Bellardi, 1861: 127 (27), pl. 2, fig. 3 (preocc. Wiedemann, 1828). Type-locality: Mexico. TP: TORO.
- cinctus* Bellardi, 1861: 125 (25), pl. 2, fig. 2. Type-locality: Mexico. Distr.- Mexico (Veracruz, Nuevo León), Costa Rica, Guatemala, Honduras, Nicaragua. TP: TORO.
- forfex* Osten Sacken, 1887: 194. Type-locality: Costa Rica, Irazu, 6000-7000 feet. Distr.- Costa Rica, Guatemala, Guyana. TP: BMNH.
- fuscipennis* (Macquart), 1846: 209 (1846: 81), pl. 8, fig. 4 (*Trupanea*). Type-locality: Colombia, warm region. Distr.- Colombia, Venezuela (Aragua). ST: MNHNP, OXF.
- magnus* Bellardi, 1861: 126 (26). Type-locality: Mexico. TP: TORO.
- nigrialbus* Martin, in Martin & Papavero, 1970: 80 (nom. nov. for *nigripes* Hine). Type-locality: USA, New Mexico, Albuquerque. Distr.- USA (New Mexico), Mexico (Nuevo León).
- nigripes* Hine, 1911: 170 (preocc. Macquart, 1838). Type-locality: USA, New Mexico, Albuquerque.
- nobilis* Osten Sacken, 1887: 196. Type-locality: Costa Rica, Caché. Distr.- Costa Rica, Venezuela (D.F., Mérida). TP: BMNH.
- sackeni* Hine, 1911: 166. Type-locality: USA, Arizona. Distr.- USA (Arizona), Mexico (n. Sonora). TP: OHIO.
- truquii* Bellardi, 1861: 129 (29), pl. 2, fig. 6. Type-locality: Mexico. Distr.- Mexico (Veracruz, Hidalgo, ?Nuevo León). TP: TORO.
- venustus* Carrera & d'Andretta, 1950: 169, fig. 10. Type-locality: Mexico, San Luis Potosí, Valles El Bonito. TP: CMNH.



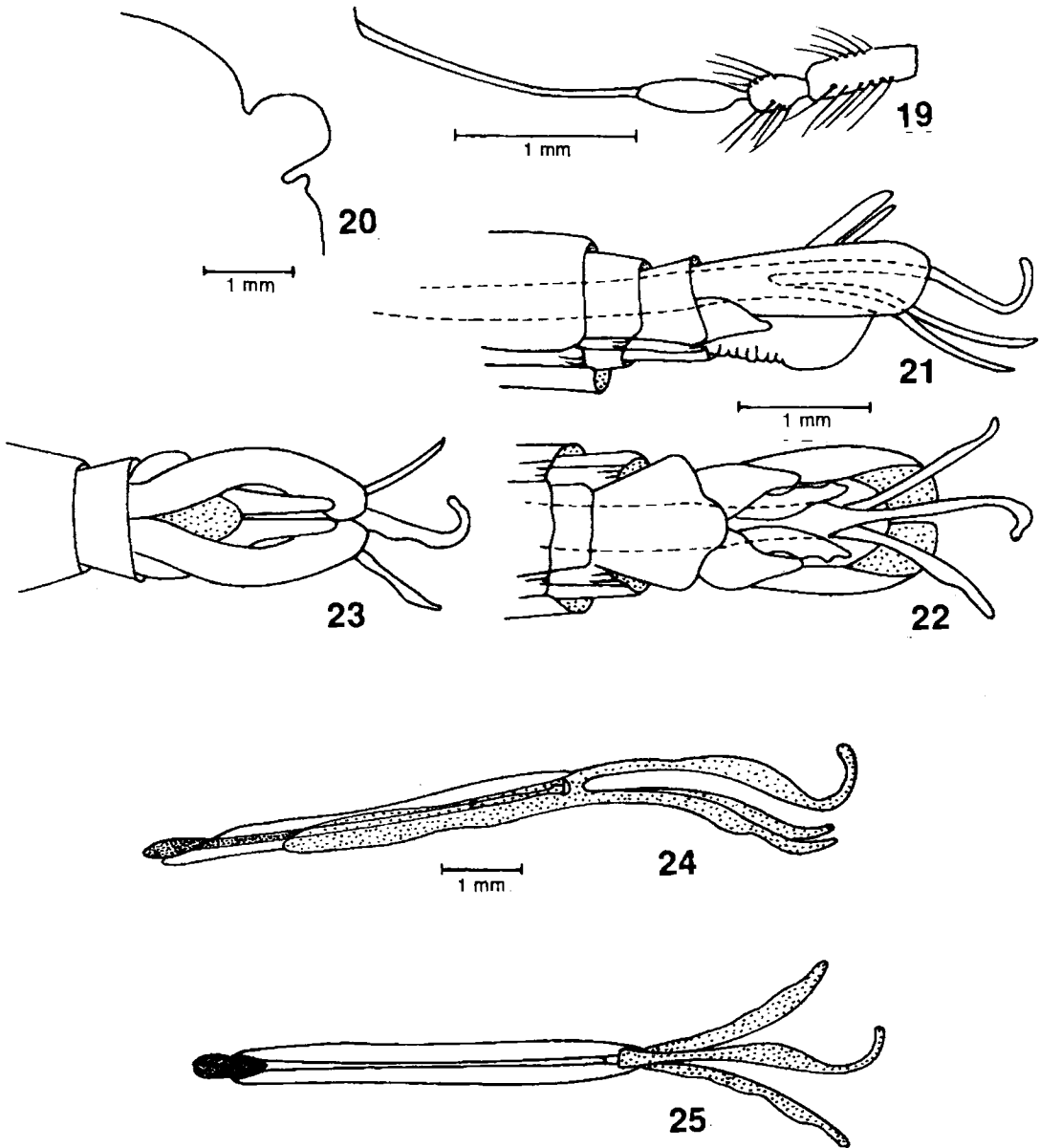
Figs. 1-6. *Promachus bellardii* Martin. 1: antenna; 2. Profile of scutellum; 3-5: male terminalia in lateral, dorsal and ventral views; 6: aedeagus.



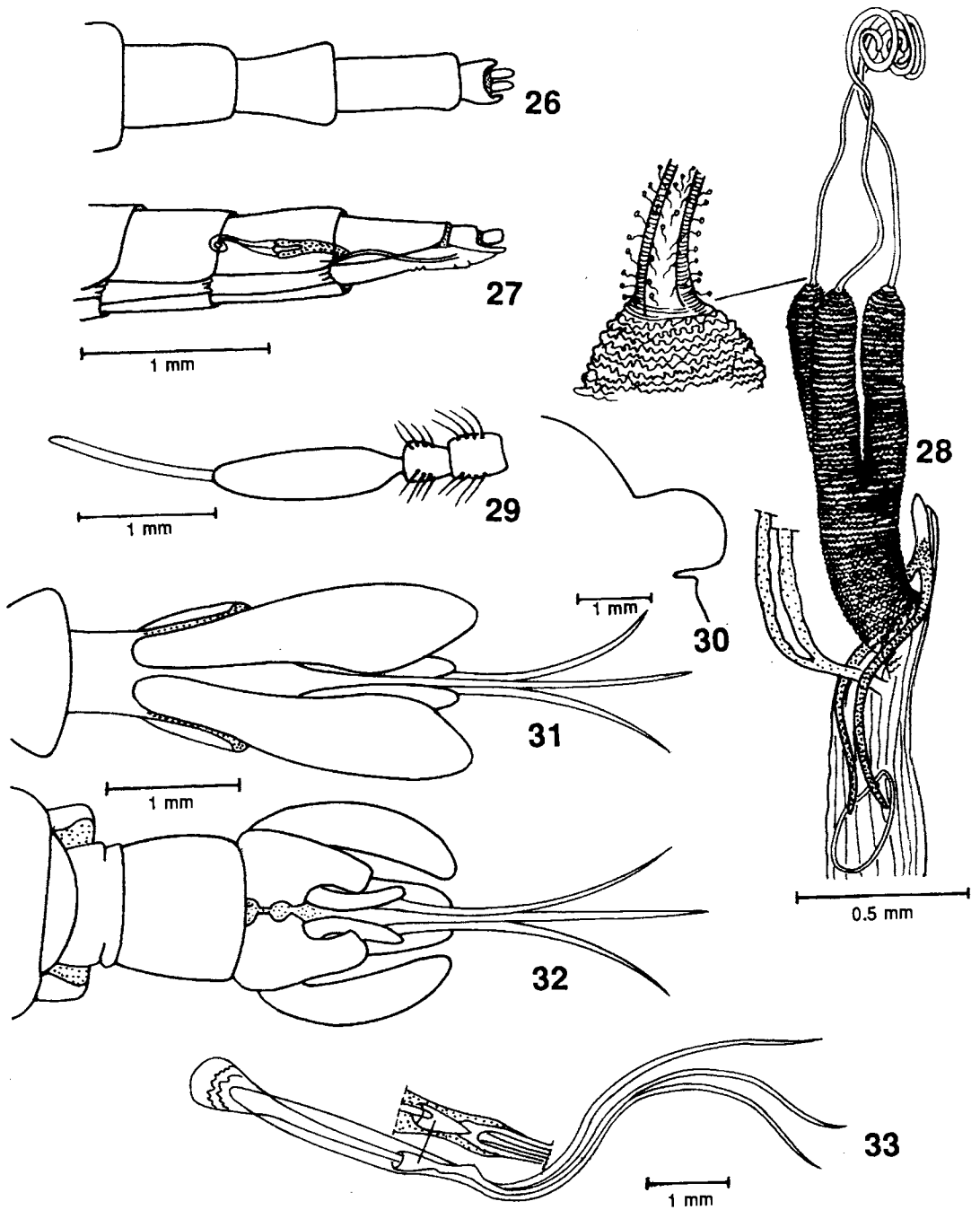
Figs. 7-1. *Promachus bellardii*. 7: female terminalia, dorsal view; 8: do., lateral view, showing situation of spermathecae; 9: spermathecae; 10: *Amblyonychus horni* (Bromley): antenna; 11: profile of scutellum.



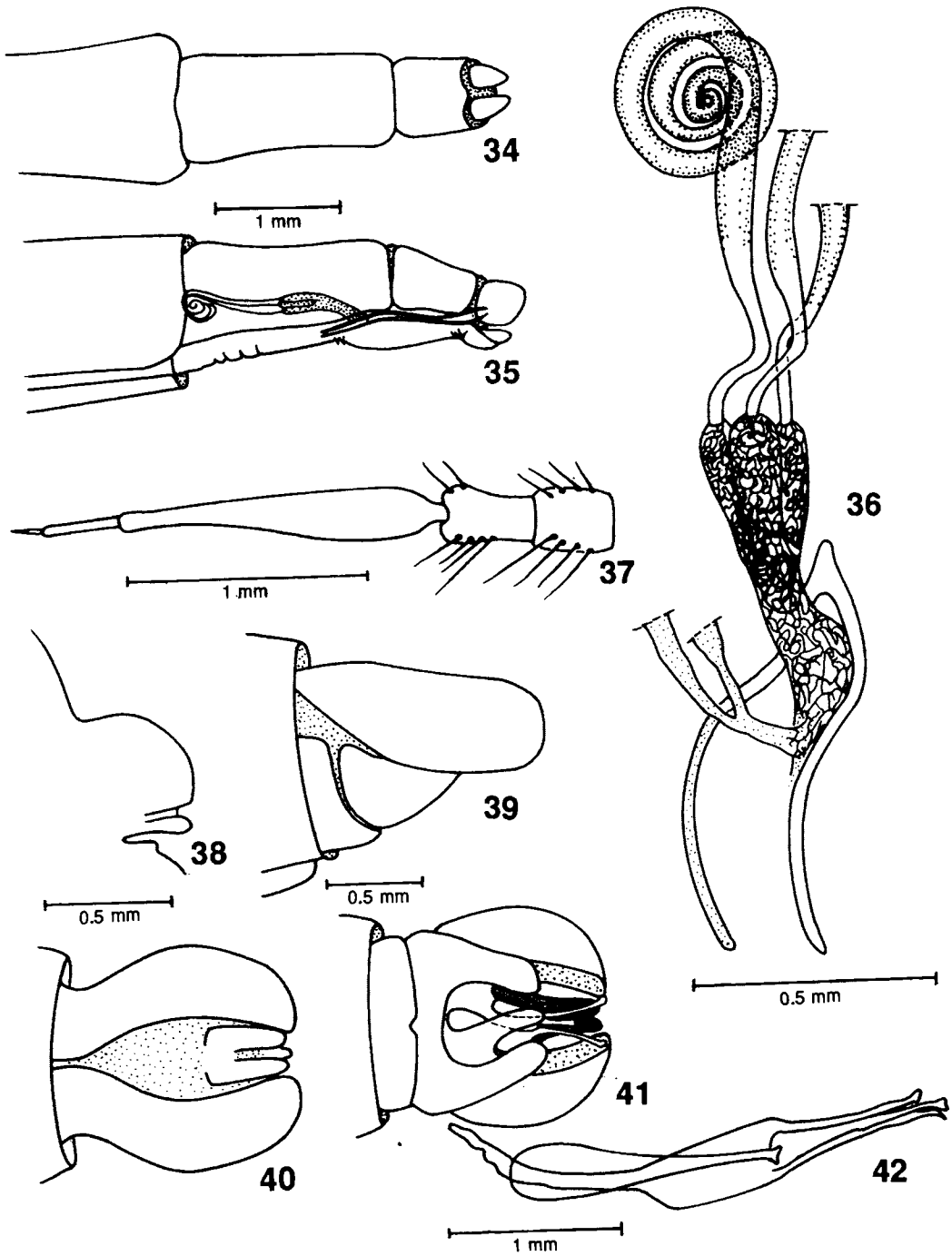
Figs.12-18. *Amblyonchus horni* (Bromley). 12-14: male terminalia in lateral, dorsal and ventral views; 15: aedeagus; 16: female terminalia, dorsal view; 17: do., lateral view, showing situation of spermathecae; 18: spermathecae.



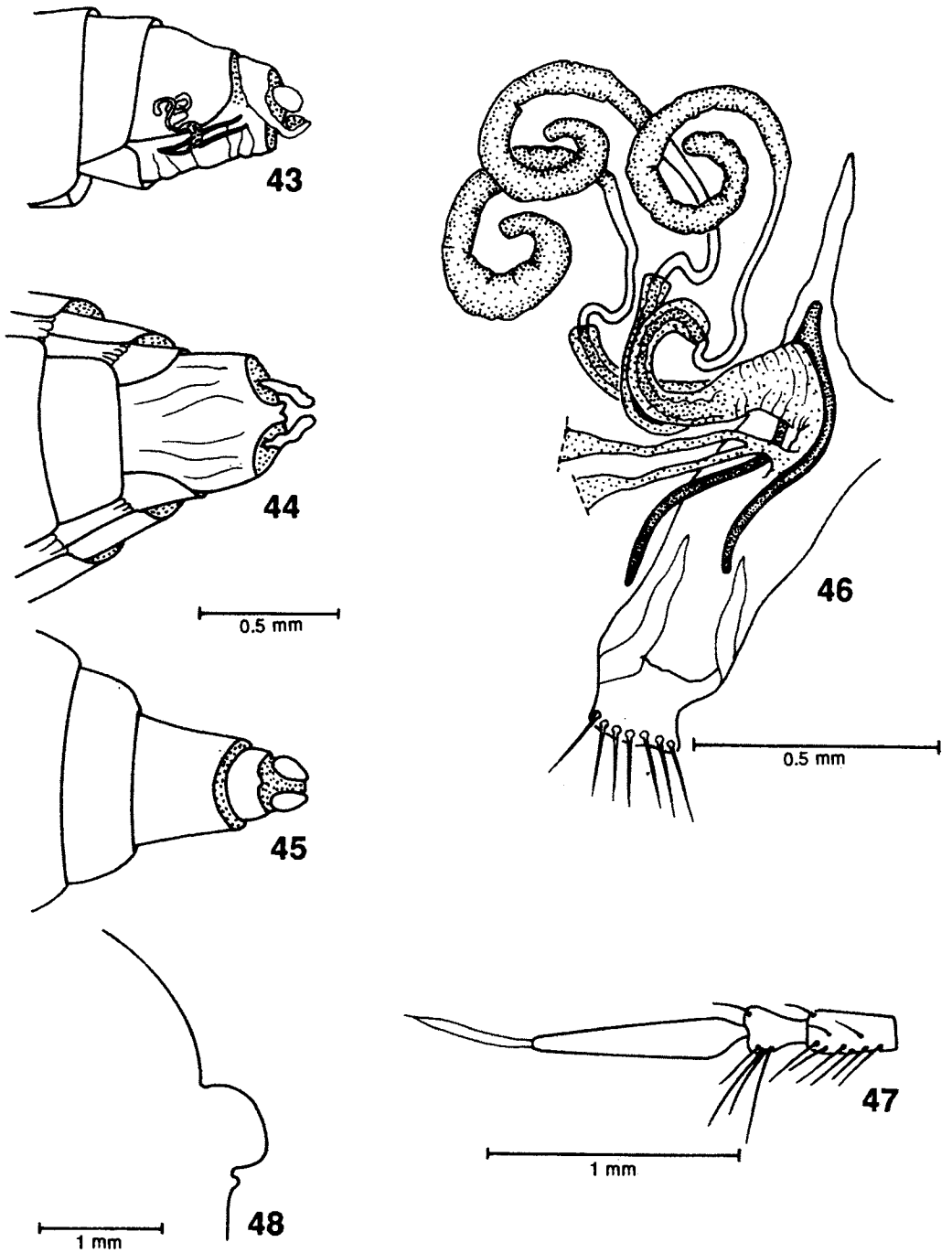
Figs. 19-25. *Amblyonychus trichonotus* (Wiedemann). 19: antenna; 20: profile of scutellum; 21-23: male terminalia in lateral, ventral and dorsal views; 24-25: aedeagus in lateral and dorsal views.



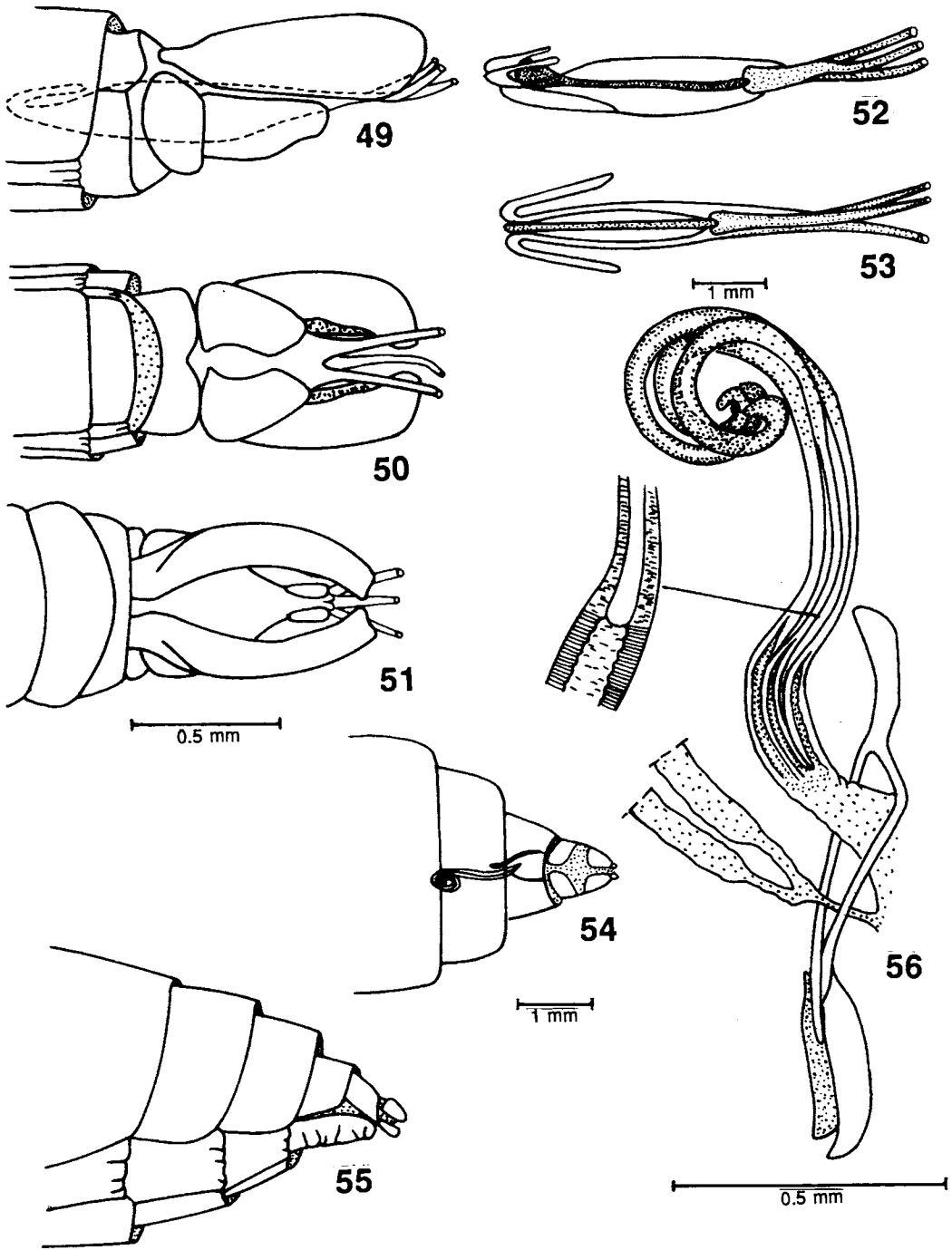
Figs. 26-33. *Amblyonchus trichonotus* (Wiedemann). 26: female terminalia, dorsal view; 27: do., lateral view, showing situation of spermathecae; 28: spermathecae; 29: *Mallophora aeaca* Williston (29-30) and *Mallophora clavipes* Curran (31-33). 29: antenna; 30: profile of scutellum; 31-31: male terminalia in dorsal and ventral views: aedeagus.



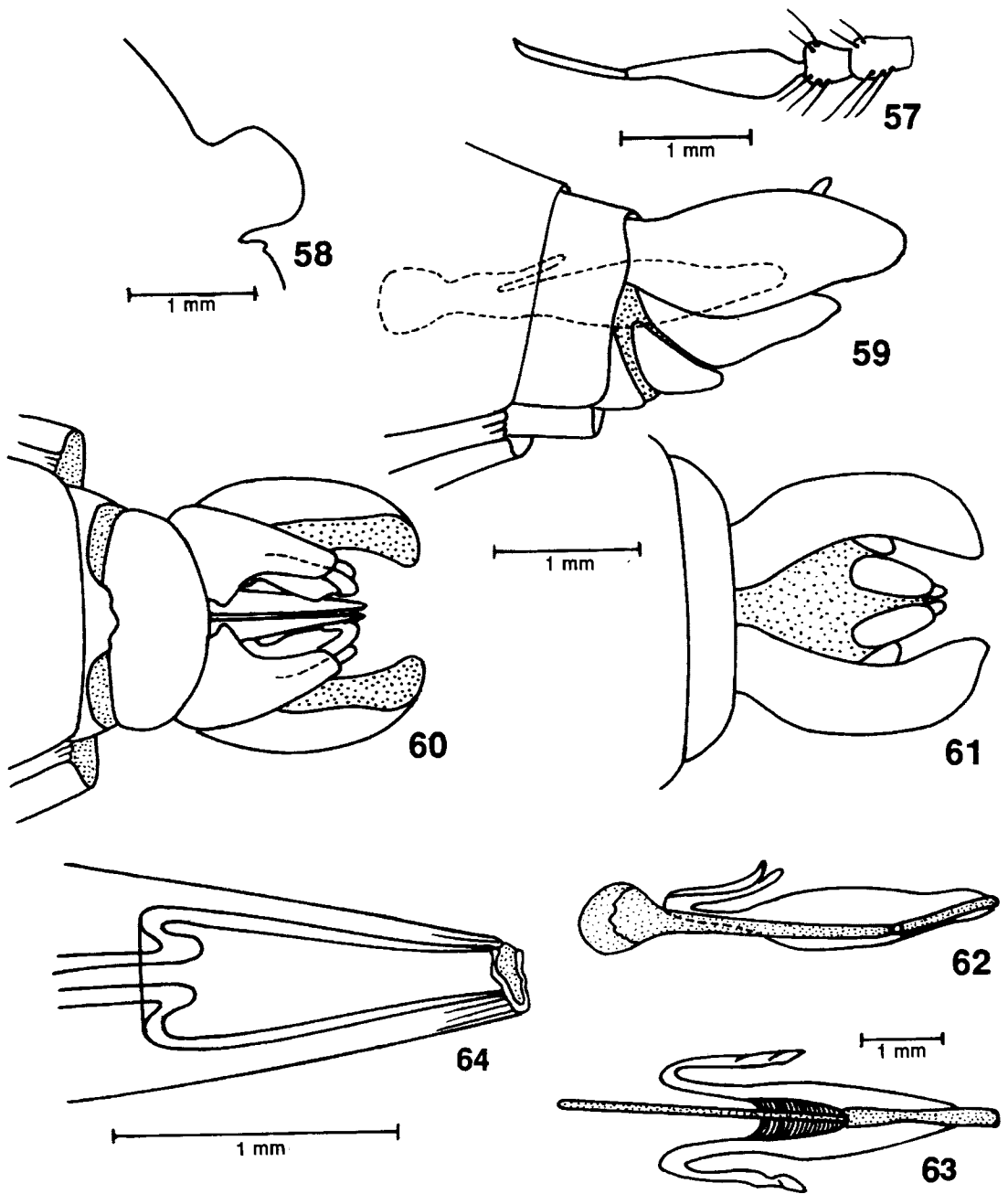
Figs. 34-42. *Mallophora bigoti* Lynch Anibálzaga. 34: female terminalia, dorsal view, 35: do., lateral view, showing situation of spermathecae; 36: spermathecae; 37: *Carreraomyia alpuyeca* (Cole & Pritchard). 37: antenna; 38: profile of scutellum; 39-41: male terminalia in lateral, dorsal and ventral views; 42: aedeagus.



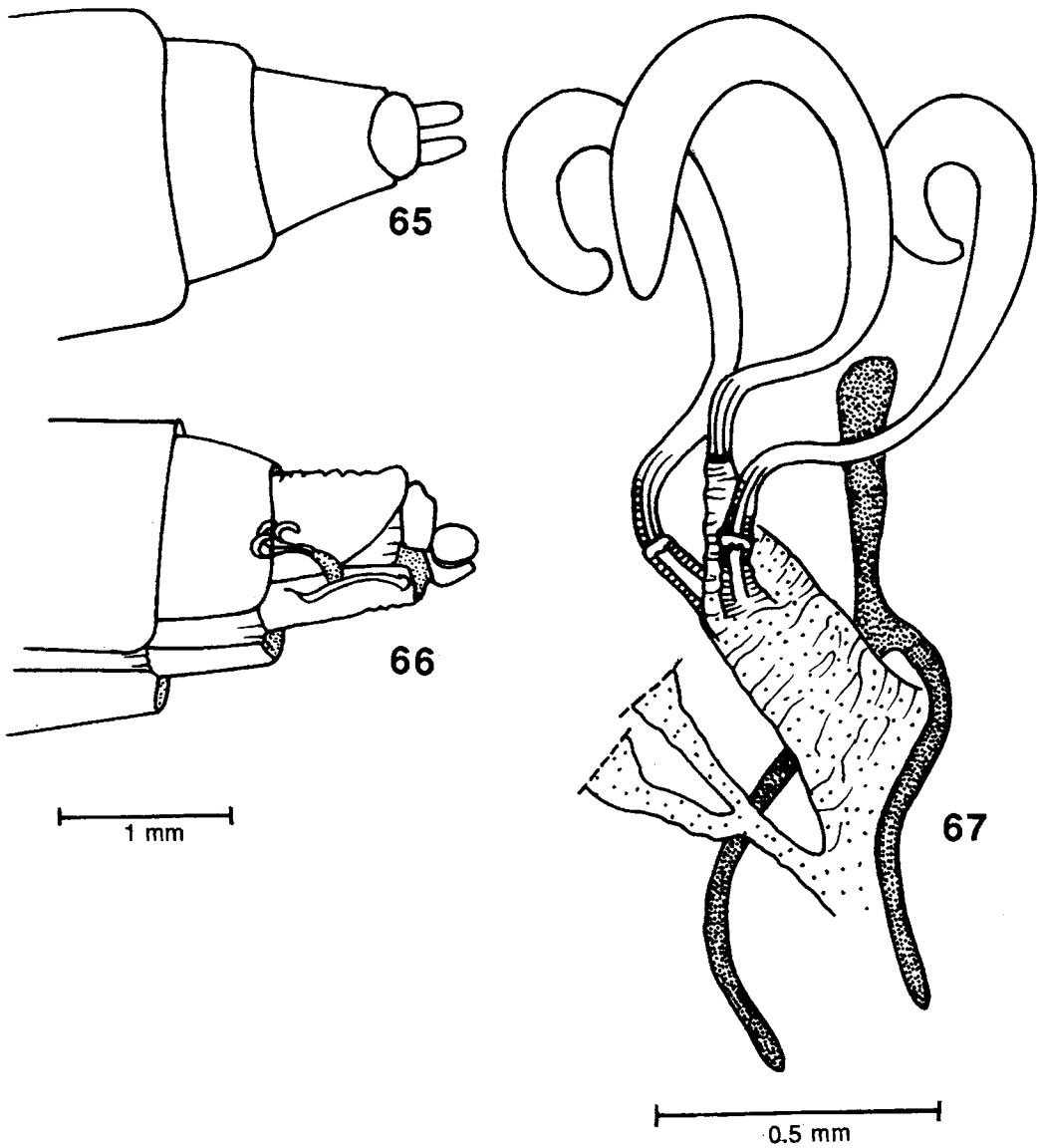
Figs. 43-48. *Carreraomyia alpuyeca* (Cole & Pritchard). 43: female terminalia, lateral view, showing situation of spermathecae; 44: do., ventral view; 45: do., dorsal view; 46: spermathecae; 47: *Promachella pilosa* (Wilcox); 47: antenna; 48: profile of scutellum.



Figs. 49-56. *Promachella pilosa* (Wilcox). 49-51: male terminalia in lateral, ventral and dorsal views; 52-53: aedeagus in lateral and dorsal view; 54: female terminalia, dorsal view, showing situation of spermathecae; 55: do., lateral view; 56: spermathecae.



Figs.57-64. *Megaphorus megachile* (Coquillett). 57: antenna; 58: profile of scutellum; 59-61: male terminalia in lateral, ventral and dorsal views; 62-63: aedeagus in lateral and dorsal views; 64: detail of apex of aedeagus.



Figs. 65-67. *Megaphorus megachile* (Coquillett). 65: female terminalia, dorsal view; 66: do., lateral view, showing situation of spermathecae; 67: spermathecae.

Genus *Promachella* Cole & Pritchard

Promachella Cole & Pritchard, 1964: 65. Type-species, *Promachina pilosa* Wilcox (orig. des.).

pilosa (Wilcox), 1937: 43 (*Promachina*). Type-locality: USA, Arizona, Sabino Canyon, Catalina Mts. Distr.- USA (Arizona), Mexico (Sonora).

ACKNOWLEDGEMENTS

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Pesquisador do Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq, n° 30.0994/79).

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