Review of the Nearctic Species of *Neomymar* (Hymenoptera: Mymaridae)

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ABSTRACT. The species of *Neomymar* are reviewed, including five new Nearctic species, *N. islacaelestum, N. komar, N. korsar, N. pozhar,* and *N. zuparkoi,* all spp. nov., and one new Neotropical species, *N. gusar* sp. nov. The type species, *N. vierecki,* is redescribed. An identification key to females of the Nearctic species is presented. The Neotropical genus *Bruchomymar,* syn. nov., is synonymized under *Neomymar.* Taxonomic notes and new distributional records are given for the two previously described Neotropical species, *N. mirabilicorne* (Ogloblin) and *N. soror* (Ogloblin), both comb. nov. from *Bruchomymar.*

INTRODUCTION

Crawford (1913) described *Neomymar* from one female specimen from Virginia, USA. Although *Neomymar* species are easily recognizable by their habitus and particularly by the peculiar forewing, the genus remained poorly known, with only the type species, *N. vierecki,* described before this study. *Neomymar* was included in the keys to New World and Nearctic Mymaridae by Yoshimoto (1990) and Huber (1997), respectively.

Ogloblin (1939) described *Bruchomymar* from Argentina. Although his generic description is adequate (except that he mistakenly considered F6 as the first claval segment), he did not give a diagnosis, but just mentioned "muchos rasgos peculiares" that distinguish his new genus from *Doriclytus* Foerster, which is currently treated as a junior synonym of *Polynema* Haliday and is not closely related to *Neomymar.* Fidalgo (1992) provided a detailed diagnosis of *Bruchomymar* and related it to *Tetrapolynema* Ogloblin and *Chaetomymar* Ogloblin based on possession of two pairs of setae on the propodeum. Based on other morphological features, *Chaetomymar,* at least, is a close relative of *Polynema* (Huber, 2003), not of *Bruchomymar.*

Most species of *Neomymar* are Neotropical, where the genus is fairly common and diverse, with many new species awaiting description. In the Nearctic region (north of Mexico), the genus is widespread in the southern USA but uncommon; only one species, *N. vierecki,* occurs as far north as Canada. Although we treat only the Nearctic species (including northern parts of Mexico) here, we studied hundreds of Neotropical specimens, representing many undescribed species, so as to establish more firmly the generic limits.

METHODS

Almost all specimens were collected by various trapping methods or by sweeping. Most were extracted from bulk samples in 70% ethanol and dried with a critical-point drier or hexamethyldisilazane, and then point- or card-mounted. Exemplars were then chosen and slide-mounted, by following Triapitsyn and Berezovskiy (2001).

Terms for morphological features are those of Gibson (1997). Measurements are given in micrometers (μm) or, where appropriate, as length/width ratios. One abbreviation is used in the text: F = an antennal segment of the female funicle or male flagellum.

Abbreviations for depositories of specimens are as follows:

AEI	American Entomological Institute, Gainesville, Florida, USA (D.B. Wahl)
BMNH	The Natural History Museum, London, England UK (J.S. Noyes)
CNCI	Canadian National Collection of Insects, Ottawa, Ontario, Canada (J.T. Huber)
EMEC	Essig Museum of Entomology, University of California, Berkeley, California, USA (R.L. Zuparko)
FSCA	Florida State Collection of Arthropods, Gainesville, Florida, USA (G. Evans)
IMLA	Fundación e Instituto Miguel Lillo, San Miguel de Tucumán, Tucumán, Argentina (P. Fidalgo)
LACM	Natural History Museum of Los Angeles County, Los Angeles, California, USA (B.V. Brown)
MLPA	Museo de La Plata, La Plata, Provincia de Buenos Aires, Argentina (N. Díaz % P. Fidalgo)
OSUC	Museum of Biological Diversity, Ohio State University, Columbus, Ohio, USA (N.F. Johnson)
TAMU	Entomology Department, Texas A&M University, College Station, Texas, USA (J.B. Woolley)
UCRC	Entomology Research Museum, University of

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California, Riverside, California, USA (S.V. Triapitsyn)

USNM National Museum of Natural History, Washington, District of Columbia, USA (M.E. Schauff, M. Gates)

SYSTEMATICS

Neomymar Crawford, 1913

(Figs. 1–78)

Neomymar Crawford, 1913:351; Girault, 1929: 12–13; Annecke and Doutt, 1961:29; Schauff, 1984:56; Yoshimoto, 1990:60–61; Huber, 1995: 349; Huber, 1997:506, 511. Type species: *N. vierecki* Crawford, 1913, by original designation.

Bruchomymar Ogloblin, 1939:218; Annecke and Doutt, 1961:26; Yoshimoto, 1990:59; Fidalgo, 1992:262–263; Huber, 1995:349. Type species: *B. mirabilicornis* Ogloblin, 1939, by original designation. **Syn. nov.**

DIAGNOSIS. Relatively large (body 0.8–1.8 mm long), slender, smooth and shiny, usually yellow-bodied (occasionally dark brown) species with long appendages. Head (Figs. 1–6, 24–29) with toruli almost touching transverse trabecula (Figs. 3, 26); vertex with 1 long, thick, and apically blunt supraorbital seta (Figs. 2, 25); forewing distinctive in shape, very narrow beyond apex of venation for about distance equal to venation length, with posterior margin slightly concave, then widening abruptly into elongate oval in about apical ½ (Figs. 47, 50, 51, 55, 59, 62, 66, 69, 73, 77).

Neomymar belongs to the *Polynema* group of genera, which corresponds very roughly to tribe Mymarini of Annecke and Doutt (1961). Within this, *Neomymar* belongs to the *Mymar* subgroup of genera, which is defined by having the toruli much less than one torular diameter from (often touching) the transverse trabecula that separates the vertex from the face. On this feature, *Neomymar* is related to *Tetrapolynema* Ogloblin, *Mymar* Curtis, and an undescribed genus from Australia and Papua New Guinea. It is distinguished from *Mymar* by the hind wings that are membranous (filiform, without any or with only a little of membrane in *Mymar*), and from *Tetrapolynema* and the new genus by the narrow forewing that abruptly widens at about its midpoint (gradually widening from the base in *Tetrapolynema* and the new genus).

Species of *Bruchomymar* have all the features of *Neomymar* except the peculiar female antennae (Figs. 70, 74, 78). Species intermediate in antennal form exist between the two genera, and males are practically indistinguishable. Therefore, we consider the synonymy of *Bruchomymar* with *Neomymar* to be justified. For convenience, the species with F6 of the female antenna not strongly dilated and flattened, and much narrower than clava are grouped together in the *vierecki* species group (all Nearctic species belong here), and the species formerly in *Bruchomymar,* with F6 of female antenna strongly dilated and flattened, about as wide as clava, are grouped together in the *mirabilicorne* species group. In addition to the three described species of the *mirabilicorne* group at least two undescribed species are known to us, as well as many undescribed species of the *vierecki* group, all from the Neotropical region.

REDESCRIPTION. Female. Body. Usually light to dark yellow (rarely very dark brown) with tips of mandibles reddish, and clava, trabeculae, apical tarsomere of each leg, and exserted part of ovipositor dark brown. Eyes and ocelli grayish or pinkish. Antenna: scape at most about 3× length of pedicel, with a short, narrow and distinct radicle, usually smooth (Figs. 7, 8, 30, 31), rarely with cross-reticulation on inner surface; funicle 6-segmented, F2–F4 the longest segments, F6 sometimes enlarged and flattened (Figs. 70, 74, 78), and F3–F6 sometimes with unusually long setae (Figs. 70, 78), none of the funicle segments with longitudinal sensilla; clava 1-segmented, with 7 longitudinal sensilla, 4 of them subapical.

Head (Figs. 1–6, 24–29). About as long as high and about 1.5× as wide as high, smooth. Face slightly wider than high (Figs. 3, 26), almost flat to slightly bulging in lateral view (Figs. 2, 25), with toruli at extreme dorsolateral angles, a fine, median longitudinal groove extending from trabecula to about halfway toward mouth, the anterior tentorial pits on mouth rim next to dorsal arms of mandibular base (Figs. 6, 29), and sometimes a pair of pits (the dorsal tentorial pits?) on lower face (Fig. 4); lateral ⅓ of face below each torulus with white setae. Eye (Figs. 2, 25) somewhat triangular, with dorsal margin almost flat or evenly and broadly rounded, ventral margin more sharply rounded, and anteroventral and, especially, posteroventral margins straight; eye facets small and numerous, with a few short, scattered setae among them. Vertex (Figs. 1, 24) flat, without grooves delimiting ocellar triangle, with scattered white setae and sometimes with pits outside each ocellus. The distance between posterior ocelli about 2× the distance between eye margin and the nearest posterior ocellus, and the latter distance about equal to the distance between anterior ocellus and a posterior ocellus (Figs. 1, 24). Supraorbital trabeculae straight from torulus to conspicuously long, blunt supraorbital seta, then sometimes bending slightly inward as short second piece, before bending more sharply inward and fading out behind posterior ocellus and continuing as suture to above dorsolateral corner of occipital foramen. Temple much narrower dorsally than ventrally. Gena large, with a few scattered white setae. Malar space (Figs. 2, 25) about ⅔ as long as eye height; malar sulcus absent. Mandible tridentate, with all teeth sharp (Fig. 6) (in *vierecki* species group) or upper tooth blunt (Fig. 29) (in *mirabilicorne* species group).

Mesosoma (Figs. 11–14, 34–37). About 1.8–1.9× as long as wide and about 2.3–2.4× as long as high, and smooth; thoracic dorsum slightly convex (Fig. 12) to rather flat (Fig. 35). Pronotum en-

tire, medially at least ½ as long as mesoscutum and slightly inclined or almost in same plane; collar in lateral view convex to almost flat dorsally (Figs. 12, 35); neck about ½ length of collar and separated from collar by carina, with subparallel sides and a mediolongitudinal carina, and in anterior view (Figs. 14, 37) its anterior apex convex/sinuate and broadly overlapping anterior apex of propleura; with several pairs of long, blunt setae along posterior and lateral margins and submedially, and 1 pair on neck (Figs. 11, 14, 34, 37). Prosternum triangular with lateral margins meeting (Figs. 13, 14) or not meeting (Figs. 36, 37) anteriorly, but in both cases separated by some distance from neck opening by propleura; with 1 or 2 pairs of seta in anterior ½. Propleura narrow and necklike anteriorly (Figs. 13, 36), carinate at and just behind their line of medial abutment, with the carinae extending around ventral ½ of neck opening (Figs. 14, 37). Mesothoracic spiracle stalked (Figs. 12, 35). Mesoscutum with notauli furrowlike, varying in width, with a pit at anterior apex of furrowlike section, then continuing anteriorly as narrow line for short distance to anterior margin (Figs, 11, 14, 34, 37); lateral lobe each with 1 strong seta (Figs. 12, 35); transscutal suture straight. Scutellum with curved line of frenal fovea in apical ⅕ (Figs. 11, 34); axillae not advanced, posteriorly with 2 pits inside (Fig. 11) or 1 inside and 1 outside (Fig. 34) longitudinal carina separating dorsal from lateral panels; dorsal panel widest at transscutal articulation and almost vertical in posterior ½, with seta at anteromedial angle long and strong, extending more than ½ length of scutellum, usually as far as frenal row of foveae; lateral panel with minute seta next to carina. Scutellar placoid sensilla (only visible on slide mounts) much closer to each other than to lateral margins and from ⅓ to halfway between anterior and posterior margins; metanotum visible in dorsal view, as wide medially as sublaterally (Fig. 11) or wider medially (Fig. 34); with 1 pair of inconspicuous setae on anterior margin sublaterally. Propodeum without carina, with a pit at lateral margin behind spiracle (Figs. 12, 35); with 1 or 2 pairs of setae, 1 pair almost at posterior margin (Fig. 11) and, if present, second pair usually close together at anterior margin (Fig. 34) or rarely near posterior margin; propodeal spiracle rounded, its rim touching metanotum. Prepectus in lateral view triangular (Figs. 12, 35), in ventral view broad, at least ½ as long medially as mesosternum (Figs. 13, 36) sometimes (Fig. 36) with longitudinal groove extending almost entire length from anterior margin.

Forewing (e.g., Figs. 47, 69). With a characteristic shape, very narrow basally and beyond venation with a slightly concave posterior margin, then widening abruptly in about apical ½ as elongate, almost symmetrical oval with posterior margin more flattened than anterior margin; the apical ½ often with dark apex and base but sometimes hyaline throughout, and variably covered with microtrichia, with posterior line of setae usually extending further toward base than anterior line. Venation extending ¼ length of wing, the marginal + stigmal veins together as long as submarginal vein; both proximal and distal macrochaetae present but short and inconspicuous; hypochaeta basal to proximal macrochaeta. Hind wing uniformly very narrow beyond venation and slightly to strongly curved (e.g., Figs. 47, 66)

Legs. Tarsi 4-segmented, with segment 1 about as long as or (sometimes on hind leg) longer that segments 2–4 together. Setae on tibia appressed and not longer than tibial diameter.

Metasoma. Petiole much longer than wide (Figs. 19–21, 42–44) with a longitudinal suture ventrally (Figs. 20, 43) and attached to gastral sternum. Gastral tergum 1 considerably shorter than sternum 1, with its base far removed from petiolar attachment and its lateral margin straight and strongly inclined to form acute angle at junction with posterior margin (Figs. 16, 39); tergum 2 longer than terga 3–5 and about equal to length of tergum 6. Ovipositor usually relatively short, rarely markedly exserted beyond apex of gaster (but often long and notably exserted in *mirabilicorne* species group).

Male. Similar to female but differs as follows. Gaster often lighter (whitish) than head and mesosoma, but its apex usually dark brown, contrasting with rest of gaster (in yellow species). Antenna (Figs. 49, 53) with scape shorter (Figs. 9, 10, 32, 33) and flagellum 11-segmented, often more than 2× as long as body; each flagellomere usually with 6 or 7 longitudinal sensilla extending length of segment (but sometimes more than 12 shorter longitudinal sensilla in *mirabilicorne* species group), the apical segments sometimes distinctly wider than basal segments (e.g., Fig. 49) and often shorter. Tergum 6 without spiracle. Genitalia (Figs. 22, 23, 45, 46) with aedeagal apodemes as long as (Figs. 65, 72) or longer than (Figs. 54, 58, 76) phallobase; parameres a little shorter than ½ length of aedeagus from their junction; volsellar digiti absent.

BIOLOGY. Host associations and other biological information are unknown.

DISTRIBUTION. New World, from Canada (Alberta, Ontario, and Québec) to Argentina (La Rioja and Misiones).

KEY TO NEARCTIC SPECIES OF *NEOMYMAR*, FEMALES

1 Forewing blade with at least 1 dark spot . . . 2
– Forewing blade without dark spots, completely hyaline (Fig. 47) . . . . . ***N. komar* sp. nov.**
2 Forewing blade with only 1 distinct, apical, dark spot (Figs. 50, 55), at most with a slight basal infumation of membrane (Fig. 51) 3
– Forewing blade with 2 distinct (basal and apical) dark spots (Figs. 59, 62, 66) 4
3 F2 a little shorter than F3 (Fig. 52); forewing blade more sparsely covered with unevenly ar-

ranged microtrichia (Figs. 50, 51) .... *N. vierecki* Crawford
– F2 a little longer than F3 (Fig. 56); forewing blade densely, more or less evenly covered with microtrichia (Fig. 55) .... ***N. islacaelestum* sp. nov.**
4 Funicle segments all yellow (Fig. 60); coxae yellow to light brown ..... ***N. zuparkoi* sp. nov.**
– Funicle segments yellow and brown (Figs. 63, 67); coxae white 5
5 Funicle segments long (Fig. 63); pronotum long (median length about ½ its width) .... ***N. korsar* sp. nov.**
– Funicle segments short (Fig. 67); pronotum short (median length about ⅙ its width) .... ***N. pozhar* sp. nov.**

Neomymar komar sp. nov.

(Figs. 47–49)

HOLOTYPE. ♀ (on slide, UCRC): MEXICO. Tamaulipas: nr. Santander Jiménez, 24°13′N, 98°30′W, 22.iv.1999, S.V. Triapitsyn, P. Phillips, sweeping trees, *Hibiscus* at Hotel Mariposa.

PARATYPES. MEXICO. **Nuevo León:** Municipio El Carmen, El Carmen, 10.vii.1983, A. González H. (1♀, 1♂ on slides and 1♀, 5♂ on points, UCRC; 2♂ on points, CNCI; 1♂ on point, EMEC; 2♂ on points, USNM), F. Reyes V. (3♂ on points, UCRC). San Juan, Río San Juan, 14.vii.1983, M.A. Rodríguez P. (1♂ on point, EMEC).

DIAGNOSIS. This species is distinguished from other described species in the Nearctic region by its completely hyaline forewing (Fig. 47). Several other, undescribed, species of *Neomymar* in the Neotropical region also have a hyaline forewing, but only *N. komar* enters the region, in the Nearctic part of Mexico.

DESCRIPTION. Female. Body and appendages. Mostly yellow to light brown except as follows: basal ⅓ to ½ of F2 and F3, ¾ to entire F4, clava, trabeculae, apical tarsomere of each leg, and tip of ovipositor sheaths brown to dark brown.

Antenna (Fig. 48). Scape smooth, about 3.3× as long as wide; pedicel a little shorter than F1; F2 shorter than F3, the longest funicle segment; F6 in distal part slightly wider than preceding funicle segments; clava about 2.3× as long as wide (in lateral view); flagellum densely setose.

Mesosoma. Pronotum with 7 pairs of long setae (3 on each lateral margin); mesoscutum wider than long; axillar seta extending past frenal line of pits; scutellum a little wider than long; propodeum with 1 anterior and 1 posterior pairs of setae.

Wings (Fig. 47). Forewing completely hyaline, 6.7–7.2× as long as wide; longest marginal cilia about 1.4× length of greatest width of blade; blade more or less evenly setose (hairs rather long) in the apical, widened part, with 1 row of shorter setae on the ventral surface in the narrow part beyond venation. Hind wing hyaline; longest marginal cilia about 9× as long as maximum width of blade.

Metasoma. Petiole about 5× as long as wide, a little longer than metacoxa. Ovipositor occupying 0.8–0.9 length of gaster, slightly exserted beyond apex (by about ⅙–$\frac{1}{10}$ of total length of ovipositor); ovipositor/metatibia length 1.2–1.3/1.0.

Measurements (holotype). Body length (without head): 1076. Head (width): 303; mesosoma: 470; mesoscutum: 142; scutellum: 121; gaster: 530; ovipositor: 545. Antenna: scape: 130; pedicel: 64; F1: 73; F2: 167; F3: 191; F4: 145; F5: 130; F6: 112; clava: 248. Forewing length/width 1285/193; longest marginal cilia: 278. Hind wing length/width: 935/20. Legs (coxa, femur, tibia, tarsus): fore: 100, 273, 285, 368; middle: 90, 288, 433, 388; hind: 136, 324, 439, 409.

Male. Similar to female except as follows. Color of body and appendages mostly light brown; flagellum and trabeculae dark brown; meso- and metatibiae and tarsi brown; petiole, and basal and middle gastral terga yellow. Antenna (Fig. 49) with scape smooth and very short, only about 1.4× as long as wide, flagellomeres rather short for genus. Genitalia typical for the genus.

ETYMOLOGY. The name is Russian for mosquito, referring to the peculiar habitus of *Neomymar* species.

Neomymar vierecki Crawford, 1913

(Figs. 50–54)

Neomymar vierecki Crawford, 1913:351–352, fig. 8. Type locality: Rosslyn, Virginia, USA (holotype female [USNM], examined).
Neomymar vierecki marilandi Girault, 1917:2. Type locality: Glenn Dale (Glenndale), Maryland, USA (holotype female [USNM], examined). **Syn. nov.**
Neomymar vierecki: Girault, 1929:12–13.
Neomymar vierecki marilandi: Girault, 1929:13.
Neomymar vierecki marylandi: Peck, 1963:50.
Neomymar vierecki vierecki: Peck, 1963:50.

NEW MATERIAL EXAMINED. CANADA. **Alberta:** 0.5 km E Writing-on-Stone Provincial Park, 30.viii–8.ix.1981, D. McCorquodale (1♀, CNCI). **Ontario:** Ancaster, 31.viii–6.ix.1991, B. DeJonge (1♀, CNCI), 19.viii–18.ix.1995 (1♀, CNCI); Aylmer West, 10.vii.1972 (1♂, CNCI); 7 km SW Carleton Place, 9–11.vii.1980, S. Miller (1♂, CNCI); Haliburton Forest and Wildlife Reserve, 45°15′N, 78°35′W, 13.vii.2001, C. Vance (1♀, CNCI); Hamilton, 28.vi.1980, (1♀, 1♂, CNCI), 13.viii.1980 (1♂, CNCI), 22–29.vi.1981, M. Sanborne (1♂, CNCI); 2 km SE Innisville, 45°03′N, 76°15′W, 12–19.vi.1991 (1♀, CNCI), 19–26.vi.1991, L. Masner and J. Denis (1♀, 1♂, CNCI); Lake Mississippi, 2–23.x.1991, CNC Hymenoptera team (1♂, CNCI); Marlborough Forest, 45°05′42″N, 75°50′42″W, 4.ix.2002, H. Goulet and C. Boudreault (1♀, CNCI); Mer Bleue, 14–23.vi.1982, (1♀, CNCI); Ottawa, McCarty Woods, 18.ix.1986, L. Masner (1♀, CNCI); Rondeau Park, vii.1972, W.R.M. Mason (1♂, CNCI); Toronto,

Étienne Brullé Park, 16.viii.1998, S. Libenson (1♀, CNCI). **Quebec:** Hull, 18.vi.1965 (1♂, CNCI); 10 km E Low, 20.ix.2002, L. Masner (1♂, CNCI); Parc de la Gatineau, Chutes de Luskville, 8–14.vii.1992, CNC Hymenoptera team (1♀, CNCI); Ste Cecile de Masham, 19.ix.1984, J. Denis (1♀, CNCI). MEXICO. **Nuevo León:** Monterrey, Chipinque, 2.xi.1982, G. Gordh (1♀, UCRC). USA. **California:** Alameda Co., Berkeley, 37°52.410′N, 122°13.608′W, 1400′, 18.x.2002, R.L. Zuparko (6♀, 6♂, EMEC, UCRC). Los Angeles Co., Angeles National Forest, San Gabriel Mts., 1 mi. W Cloudburst Summit, 34°20.84′N, 117°57.02′W, 6500′, 18.x.2002, J.D. Pinto (1♂, UCRC). Mono Co., Inyo National Forest, Mammoth Lakes, 22.vii.1958, R.C. Hall (1♀, USNM). Siskiyou Co., 41°04′N, 122°56′W, xi.2003, D. Eckel (1♂, UCRC). **Florida:** Alachua Co., Gainesville, 10–17.iv.1986, G.A.P. Gibson (1♀, 1♂, CNCI), 24–30.iv.1986, J. LaSalle (4♂, CNCI), 1–28.ii.1987, W.R.M. Mason (1♀, ♂, CNCI), 15–22.iii.1987, W.R.M. Mason (1♀, 2♂, CNCI), 6–11.v.1987, D.B. Wahl (2♂, CNCI), 27.v–18.vi.1987, D.B. Wahl (1♂, CNCI), 17–21.vii.1987 (1♀, CNCI), 23.ii–2.vi.1988, D.B. Wahl (1♀, 1♂, CNCI). Jackson Co., 16 km S Chattahoochie, 8.x.1980, L. Masner and B. Bowen (1♀, CNCI). Jefferson Co., Monticello, 30.iii.2002, R.F. Mizell, III (1♀, UCRC). Liberty Co., Torreya State Park, 7–8.x.1980, L. Masner and B. Bowen (9♂, CNCI). **Georgia:** Liberty Co., St. Catherines I., 31°40.9′N, 81°08.8′W, 30.ix–4.x.1995, A. Sharkov (1♂, UCRC). **Iowa:** Story Co., Ames, 22.x.1943, A.A. Ogloblin (1♀, MLPA). **Louisiana:** East Baton Rouge Parish, Baton Rouge, D.V. Chouljenko: 9–21.vi.2002 (1♂, UCRC); 21.vi–1.vii.2002 (1♀, UCRC); 11.viii–13.x.2002 (1♂, UCRC). **Maryland:** Prince Georges Co., Laurel, Patuxent Wildlife Research Center: 6–22.viii.1979, E.E. Grissell and M.E. Schauff (2♂, CNCI); 24–31.viii.1980, M.E. Schauff (1♀, USNM); 1.ix.1982, M.E. Schauff (1♀, USNM); 29.vi–5.vii.1986, D.B. Wahl (1♀, CNCI). **Massachusetts:** Barnstable Co., Eastham, 13.ix.1987, J.R. Vockeroth (1♀, 1♂, CNCI). Middlesex Co., Lincoln Mt., 29.ix–4.x.1982, Armstrong (1♂, CNCI). **Michigan:** Macomb Co., Warren Dunes State Park beach, 13.vi.1981, R.S. Anderson (1♂, CNCI). **Mississippi:** Oktibbeha Co., Dorman Lake, 23.ix.1990, G.T. Baker (1♀, CNCI). **Missouri:** Wayne Co., Williamsville, x.1987, J.T. Becker (1♀, 1♂, CNCI). **New Hampshire:** Coos Co., White Mountain National Forest, 8 km S Gorham, 30.viii.1984, M. Kaulbars (1♂, CNCI). **North Carolina:** Pamlico Co., Hwy 55, 15.x.1980, L. Masner and B. Bowen (1♂, CNCI). Swain Co., Great Smoky Mountains, Andrews Bald, 35°32′13″N, 83°29′39″W, 6–22.vi.2001, I.C. Stocks (1♀, CNCI). **Oregon:** Union Co., Mt. Emily, 21.viii–1.xi.1987, Torgersen (2♂, AEI). **Rhode Island:** Washington Co., Westerly, 18.vii.1936, M. Chapman (1♀, AEI). **Tennessee:** Blount Co., Great Smoky Mountains Nat. Park, Cades Cove, 35°35′25″N, 83°50′17″W, 12.v–3.vi.2002, I.C. Stocks (1♀, CNCI) and Top of the World, 35°38′N, 83°55′W, 670 m, 2–16.vii.1998, H. Alley (1♀, CNCI). **Texas:** Bosque Co., Laguna Park, 13.iv.1984, J.B. Woolley and R. Wharton (1♂, TAMU). Brazos Co., College Station, 14.iii–2.iv.1998, R. Anderson (1♀, CNCI). Cameron Co., Southpoint Nursery, 1 mi. S Southmost Ranch, 5–6.vii.1982, G.A.P. Gibson (2♀, CNCI). Hidalgo Co., Bentsen Rio Grande Valley State Park: 15.xii.1983, J.B. Woolley and H. Browning (2♀, CNCI), 20.iv.1985 (1♀, TAMU). Polk Co., Ace, Menard Creek, 22.v.1984, J.B. Woolley (1♂, CNCI). Tyler Co., Kirby State Forest, 3 mi. S Warren, 23.v.1984, J.B. Woolley (1♀, 1♂, TAMU). **Virginia:** Essex Co., 1 mi. SE Dunnsville, 12–29.iv.1991, D.R. Smith (3♀, 1♂, USNM). Fairfax Co., near Annandale, D.R. Smith: 1–7.x.1984 (1♂, USNM); 28.vi–4.vii.1987 (1♀, USNM); 14–20.viii.1988 (1♀, USNM). Louisa Co., 4 mi. S Cuckoo, J. Kloke and D.R. Smith: 15.viii.1986 (3♀, 1♂, USNM); 1–18.viii.1987 (1♀, 1♂, USNM); 19.viii–2.ix.1987 (2♂, USNM); 3–24.ix.1987 (1♀, USNM); 25.ix–20.x.1987 (1♀, USNM); 25.iv–13.v.1988 (1♀, 1♂, USNM); 8–18.vi.1988 (1♂, USNM); 12–23.viii.1988 (1♂, USNM); 7.x–4.xi.1988 (1♀, 1♂, USNM); 26.iv–12.v.1989 (1♀, USNM). **Wisconsin:** Fond du Lac Co., 18–24.vi.1975 (2♂, AEI).

DIAGNOSIS. This species is most closely related to *N. islacaelestum,* but has the forewing blade less densely covered with microtrichia (Figs. 50, 51), particularly along the anterior margin. It is also related to *N. korsar,* but differs by having only 1 distinct dark spot on the forewing (Figs. 50, 51) and the coxae yellow to light brown (white in *N. korsar*). Some specimens of *N. vierecki,* more often from the western USA (California and Oregon) may have a slight basal infumation of the membrane (Fig. 51).

REDESCRIPTION. Female. Body and appendages. Mostly light brown except as follows: scape, pedicel, F1, F2–F4 distally, F5, F6 basally, petiole, and most of leg segments lighter (yellowish brown); clava, trabeculae, and tip of ovipositor sheaths dark brown; F2–F4 basally, F6 distally, and apical tarsomeres brown.

Antenna (Fig. 52). Scape smooth, about 4× as long as wide; pedicel much shorter than F1; F2 slightly shorter than F3, which is the longest funicle segment, a little longer than F4; F5 much shorter than F4 and longer than F6, the latter slightly wider in distal part than preceding funicle segments; clava about 2.3× as long as wide; flagellum densely setose, clava more so.

Mesosoma. Pronotum with 9 pairs of long, strong setae (3 on each lateral margin); mesoscutum much wider than long; axillar seta very long, extending past frenal row of foveae; scutellum about as long as wide; propodeum with 1 posterior pair of setae.

Wings (Figs. 50, 51). Forewing hyaline except for

a small dark spot at apex, 8.6× as long as wide; longest marginal cilia about 2.0× length of greatest width of blade; blade more or less evenly setose (hairs rather short) in the apical, widened part except near anterior margin, with a few scattered setae on the ventral surface in the narrow part beyond venation. Hind wing blade hyaline, with a small dark apical spot; longest marginal cilia about 7× as long as maximum width of blade.

Metasoma. Petiole about 4.5× as long as wide, notably longer than metacoxa. Ovipositor occupying about 0.8–0.9 length of gaster, slightly exserted beyond its apex (by about $\frac{1}{7}$–$\frac{1}{10}$ of total length of ovipositor); ovipositor/metatibia length 1.0–1.1/1.0.

Measurements (holotype). Body length: 1261. Head: 218; mesosoma: 500; mesoscutum: 197; scutellum: 166; petiole: 227; gaster: 509; ovipositor: 505. Antenna: scape: 152; pedicel: 75; F1: 112; F2: 256; F3: 263; F4: 218; F5: 155; F6: 136; clava: 246. Forewing length/width 1636/221; longest marginal cilia: 400. Hind wing length/width 1082/18. Legs (coxa, femur, tibia, tarsus): fore: 109, 333, 370, 545; middle: 100, 355, 563, 494; hind: 182, 455, 590, 545.

Male. Similar to female except as follows. Vertex brown, flagellum and distal gastral terga dark brown, basal and middle gastral terga yellow. Antenna (Fig. 53) with scape smooth and short, about 2× as long as wide, flagellomeres much longer than wide. Forewing about 7× as long as wide. Genitalia as in Fig. 54.

DISTRIBUTION. Canada, Mexico, USA.

COMMENTS. The holotype female of *N. vierecki* is uncleared but otherwise in good condition and complete, mounted dorsolaterally on a slide in Canada balsam, with 1 forewing and both hind wings detached from the body. The original labels are as follows: 1. "Rosslyn Va 1.X.1912 H. L. Viereck coll"; 2. "*Neomymar vierecki* ♀ Cwfd Type No. 16045 U.S.N.M." There are no significant structural differences between the type specimen of *N. vierecki marilandi* and the nominotypical form, also known as *N. vierecki vierecki,* and the range of both overlaps, hence the above synonymy.

Neomymar islacaelestum sp. nov.

(Figs. 55–58)

HOLOTYPE. ♀ (on slide, TAMU): USA. Arizona: Cochise Co., Coronado National Forest, Chiricahua Mts., 1 mi. SW Onion Saddle, 31°55′39″N, 109°16′05″W, 7300′, 19–22.viii.2000, TAMU Hymenoptera team, Malaise trap.

PARATYPES. USA. **Arizona:** Cochise Co., Coronado National Forest, Chiricahua Mts., Greenhouse Trail, 31.88°N, 109.27°W, 10.viii–11.ix.1999, E. LeBrun (1♀ on point, CNCI), Herb Martyr Falls, 31°52′47″N, 109°13′16″W, 1729 m, 16–22.viii.2000, B. Rodríguez Velez, T. Ohmann, J.B. Woolley (1♀ on card, TAMU), Rustler Park, 31°54′38″N, 109°16′15″W, 8250′, 16–22.viii.2000, B. Rodríguez Velez, R. Kula, and J.B. Woolley (3♂ on points, TAMU); same data, B. Rodríguez Velez, T. Ohmann, and J.B. Woolley (4♂ on points, TAMU, UCRC); Huachuca Mts., Miller Canyon, 1600 m, 11.viii.1982, G.A.P. Gibson (1♂ on point, CNCI); Peloncillo Mts., Guadelupe Canyon, 1300 m, 12.viii.1982, G.A.P. Gibson (1♂ on point, CNCI); Portal, 29.viii.1987, H. and M. Townes (1♂ on pin, AEI). Pima Co., Coronado National Forest, Spencer Camp, 10.ix.1978, G. Gordh (1♂ on slide, UCRC); Madera Canyon, 6000′, 1.viii.1990, L. Masner (1♀ on card, CNCI). **New Mexico:** Eddy Co., Lincoln National Forest, 4.5 mi. E Queen, 32°12′01″N, 104°40′10″W, 1675 m, 15–25.viii.2001, J.B. Woolley (1♂ on point, TAMU).

DIAGNOSIS. This species is distinguished by its large body size and relatively longer mesosoma, as well the forewing blade uniformly covered with microtrichia, including along the anterior margin (Fig. 55), and metatarsus slightly longer than metatibia. It is most closely related to *N. vierecki,* both of which have only 1 distinct (apical) dark spot on the forewing blade, but the pronotum of *N. islacaelestum* has no lateral setae.

DESCRIPTION. Female. Body and appendages. Mostly yellow to light brown except as follows: dorsal edge of scape and pedicel, approximately basal ½ of F2, F3, and F4, apex of F6, clava, trabeculae, apical tarsomeres, and tip of ovipositor sheaths brown to dark brown.

Antenna (Fig. 56). Scape smooth, about 3.2× as long as wide; pedicel a little shorter than F1; F2 longest funicle segment, a little longer than F3; F6 in distal part slightly wider than preceding funicle segments; clava about 2.5× as long as wide; funicle segments sparsely setose, clava more densely covered with short setae.

Mesosoma. Pronotum with 8 pairs of long setae (none on the lateral margins); mesoscutum almost as long as wide; axillar seta reaching posterior margin of scutellum; scutellum about as long as wide; propodeum with 1 (distal) pair of setae.

Wings (Fig. 55). Forewing 8.0–8.1× as long as wide; blade with a dark apical spot and a basal infumation, otherwise hyaline; longest marginal cilia about 2× length of greatest width of blade; blade more or less evenly setose (hairs rather short) in the apical, widened part including along anterior margin, with 1 row of setae on ventral surface in the narrow part beyond venation. Hind wing blade mostly hyaline except a slight infumation at apex; longest marginal cilia about 8× as long as maximum width of blade.

Metasoma. Petiole about 4× as long as wide, a little longer than metacoxa. Ovipositor occupying 0.8–0.9 length of gaster, slightly exserted beyond its apex (by about $\frac{1}{12}$ of total length of ovipositor); ovipositor/metatibia length about 1.2/1.0.

Measurements (holotype). Body length (without head): 1476. Head (width): 277; mesosoma: 615; mesoscutum: 200; scutellum: 152; petiole: 188; gaster:

677; ovipositor: 664. Antenna: scape: 137; pedicel: 73; F1: 94; F2: 267; F3: 258; F4: 209; F5: 158; F6: 136; clava: 260. Forewing length/width 1690/209; longest marginal cilia: 430. Hind wing length/width 1205/24. Legs (coxa, femur, tibia, tarsus): fore: 133, 351, 348, 445; middle: 100, 321, 497, – (parts of mesotarsi missing); hind: 152, 388, 537, 582.

Male. Similar to female except as follows. Body and appendages mostly light brown; anterior part of vertex, flagellum, and distal gastral terga brown to dark brown; petiole, and basal and middle gastral terga yellow. Antenna (Fig. 57) with scape smooth, about 2.5× as long as wide, flagellomeres relatively long compared to males of other species. Basal infumation of forewing blade more prominent. Genitalia as in Fig. 58.

ETYMOLOGY. The name is a combination of the Spanish *isla* (island) and the Latin *caelestum* (celestial), referring to the high-elevation "sky islands" in southern Arizona and New Mexico, where elements of the Neotropical fauna occur.

Neomymar zuparkoi sp. nov.

(Figs. 59–61)

HOLOTYPE. ♀ (on slide, UCRC): USA. Colorado: Mesa Co., Palisade (nr. Grand Junction), 21.vii.1989, A. González (emerged 7.viii.1989 at UCR Quarantine from grape leaves infested with eggs of *Erythroneura* sp., S & R #89-32).

PARATYPES. USA. **Arizona:** Santa Cruz Co., Patagonia, 31°32′52″N, 110°46′03″W, 10–15.v.1984, B.V. Brown, E. Wilk (1♂ on card, CNCI). **California:** San Bernardino Co., Oak Glen, 34°02′N, 116°57′W, 1500 m, 14–21.vi.1984, R.E. Wagner (1♂ on slide and 1♂ on point, UCRC). **Colorado:** Mesa Co., Palisade (nr. Grand Junction), 21.vii.1989, A. González (emerged 7.viii.1989 at UCR Quarantine from grape leaves infested with eggs of *Erythroneura* sp., S & R #89-32) (1♀ on card and 1♀, 1♂ on points, UCRC).

DIAGNOSIS. *Neomymar zuparkoi* is distinguished from the other Nearctic species by the uniform yellow color of the funicle segments (Fig. 60). It is closely related both to *N. vierecki,* from which it differs in having 2 (Fig. 59), rather than 1, distinct dark spots on the forewing, and to *N. korsar,* whose female has fewer microtrichia on the forewing blade (Fig. 62) and white coxae.

DESCRIPTION. Female. Body and appendages. Mostly yellowish to light brown except as follows: clava, trabeculae, and tip of ovipositor sheaths dark brown.

Antenna (Fig. 60). Scape smooth, about 3.9× as long as wide; pedicel shorter than F1; F2 almost as long as F3, which is the longest segment; F6 in distal part wider than preceding funicle segments; clava about 2.5× as long as wide; flagellum sparsely setose, clava more densely so.

Mesosoma. Pronotum with 8 pairs of long, strong setae (3 on each lateral margin); mesoscutum wider than long; axillar seta reaching frenal line; scutellum about as wide as long; propodeum with 1 anterior pair of setae.

Wings (Fig. 59). Forewing with 2 (basal and apical) dark spots; about 7.8× as long as wide; longest marginal cilia about 2.0× greatest width of blade; blade more or less evenly setose (hairs rather short) in the middle of apical, widened part and bare or unevenly setose along margins, completely bare in the narrowest part, beyond venation. Hind wing blade slightly infumated, more so apically; longest marginal cilia 9–10× as long as maximum width of blade.

Metasoma. Petiole wider basally than apically, about 3.3× as long as wide, longer than metacoxa. Ovipositor occupying about 0.8 length of gaster, slightly exserted beyond its apex (by about ⅛ of total length of ovipositor); ovipositor/metatibia length 1.1–1.2/1.0.

Measurements (holotype). Body length (without head): 1230. Head (width): 294; mesosoma: 491; mesoscutum: 158; scutellum: 151; petiole: 158; gaster: 606; ovipositor: 588. Antenna: scape: 133; pedicel: 67; F1: 97; F2: 221; F3: 227; F4: 191; F5: 130; F6: 112; clava: 227. Forewing length/width: 1439/185; longest marginal cilia: 369. Hind wing length/width: 996/21. Legs (coxa, femur, tibia, tarsus): fore: 109, 303, 330, 485; middle: 88, 327, 494, 455; hind: 121, 358, 515, 499.

Male. Similar to female except as follows. Body and appendages mostly light brown; flagellum, and penultimate gastral tergum dark brown. Antenna (Fig. 61) with scape smooth and very short, only about 2.6–2.7× as long as wide, flagellomeres much longer than wide. Genitalia typical for the genus.

ETYMOLOGY. The new species is named in honor of Dr. Robert L. Zuparko (EMEC), who for many years has provided interesting fairyflies for our studies, including *Neomymar.*

COMMENTS. The possible host affiliation needs to be confirmed because eggs of *Erythroneura* spp. (Hemiptera: Cicadellidae) are probably too small for such a large mymarid as *N. zuparkoi*; *Erythroneura* spp. are normally parasitized by the much smaller *Anagrus* spp. (Triapitsyn, 1998), including those found at the type locality of *N. zuparkoi* (González et al., 1988).

Neomymar korsar sp. nov.

(Figs. 62–65)

HOLOTYPE. ♀ (on slide, UCRC): USA. Louisiana: East Baton Rouge Parish, Baton Rouge, D. V. Chouljenko, 9–21.vi.2002, Malaise trap in the backyard of a private (collector's) residence.

PARATYPES. CUBA. **Santiago:** Gran Piedra, 1100 m, 6–7.xii.1995, L. Masner (1♂ on point, CNCI); 16 km NE Caney, 200 m, 13.xii.1995, L. Masner (2♂ on points, CNCI). USA. **Florida:** Alachua Co., Gainesville, AEI: 20–27.xi.1986, D.B. Wahl (1♂ on card, CNCI), xi.1986, D.B. Wahl (1♀, 1♂ on points, CNCI), 30.iv.1987, L. Masner (2♀ on points, CNCI), 4–11.vi.1987, D.B. Wahl (1♀ on point and 1♂ on slide, CNCI), 23.ii–

2.vi.1988, D.B. Wahl (3♀ on points, CNCI). Jefferson Co., Monticello, 21.xii.2000, R.F. Mizell, III (1♀ on card, UCRC), 16.xi.2001 (1♀ on point, UCRC), 18.i.2002 (1♀ on point, UCRC). Liberty Co., Torreya State Park, 7.x.1980, L. Masner and B. Bowen (1♂ on point, CNCI), 8.x.1980 (1♂ on point, CNCI). Manatee Co., Bradenton, 19–26.x.1985, C.M. Yoshimoto (1♂ on point, CNCI). Orange Co., Orlando, 17.iii.1999, P. Russell and S. Fullerton (1♂ on point, UCRC). Pasco Co., Elfers, 16.iv.1952, O. Peck (1♂ on point, CNCI). **Louisiana:** East Baton Rouge Parish, Baton Rouge, D.V. Chouljenko: 21.vi–1.vii.2002 (1♂ on slide, UCRC); 11.viii–13.x.2002 (2♂ on points, UCRC). **Texas:** Brazos Co., College Station, Lick Creek Park, 31.v.1988, R. Wharton (1♂ on slide, TAMU). Cameron Co., Rancho Viejo (Olmito), 11 mi. N Brownsville, 18–27.iv.1996, D.F. Gumz (1♀ on point, CNCI). Culberson Co., Guadalupe National Park, McKithrick Canyon, 21.vii.1982, G.A.P. Gibson (1♂ on point, CNCI). Polk Co., Ace, Menard Creek, 22.v.1984, J.B. Woolley (1♀ on point, TAMU). Travis Co., Austin, Zilker Park, 8.x.1983, J.B. Woolley (2♀, 1♂ on cards, CNCI, and 1♀ on slide, TAMU). **Virginia:** Louisa Co., 4 mi. S Cuckoo, 19.viii–2.ix.1987, J. Kloke and D.R. Smith (1♀, USNM).

DIAGNOSIS. This species is distinguished from *N. pozhar* by the shorter pronotum and shorter funicle segments. It is distinguished from *N. vierecki*, by having 2 distinct dark spots and sparser arrangement of the microtrichia on the forewing blade (Fig. 62). The male scape in *N. korsar* is relatively much longer than in *N. vierecki*.

DESCRIPTION. Female. Body. Mostly light brown; coxae and trochanters white, remainder of leg segments yellowish brown; petiole pale yellow; distal ½ of F1–F4, F5, and most of F6 yellow; basal ½ of F1–F4, and apex of F6 brown; clava, trabeculae, and tip of ovipositor sheaths dark brown.

Antenna (Fig. 63). Scape smooth, about 4.3× as long as wide; pedicel notably shorter than F1; F2 a little shorter than F3, the longest funicle segment; F6 in distal part slightly wider than preceding funicle segments; clava about 2.4× as long as wide; flagellum sparsely setose, clava more densely so.

Mesosoma. Pronotum long (median length about ½ of its width), with 9–10 pairs of long setae (4 on each lateral margin); mesoscutum notably wider than long; axillar seta reaching frenal row of foveae; scutellum a little wider than long; propodeum with 1 posterior pair of setae.

Wings (Fig. 62). Forewing with 2 (basal and apical) dark spots on blade, otherwise hyaline; 9.1–9.7× as long as wide; longest marginal cilia 2.0–2.4× length of greatest width of blade; blade unevenly setose (hairs rather short) and almost bare along anterior margin and in middle of widened part, almost bare in narrow part (beyond venation). Hind wing blade slightly infumated; longest marginal cilia 10–11× as long as maximum width of blade.

Metasoma. Petiole about 4× as long as wide, a little longer than metacoxa. Ovipositor occupying 0.7–0.9 length of gaster, slightly exserted beyond its apex (by about ⅛ of total length of ovipositor); ovipositor/metatibia length about 1.0/1.0.

Measurements (holotype). Body length: 1322. Head (width): 294; mesosoma: 500; mesoscutum: 158; scutellum: 127; petiole: 182; gaster: 500; ovipositor: 545. Antenna: scape: 145; pedicel: 70; F1: 109; F2: 242; F3: 251; F4: 218; F5: 155; F6: 130; clava: 249. Forewing length/width: 1555/161; longest marginal cilia: 394. Hind wing length/width: 1076/18. Legs (coxa, femur, tibia, tarsus): fore: 109, 333, 348, 524; middle: 94, 321, 530, 503; hind: 152, 364, 566, 558.

Male. Similar to female except as follows. Body mostly light brown to brown, vertex dusky; flagellum, and distal gastral terga dark brown; petiole, and basal and middle gastral terga yellow; scape, pedicel, and legs light brown. Antenna (Fig. 64) with scape smooth and relatively long, about 3.5× as long as wide, flagellomeres rather long for genus. Forewing about 7.7× as long as wide. Genitalia as in Fig. 65.

ETYMOLOGY. The name is Russian for buccaneer or corsair, referring to occurrence of this new species in the states along the Gulf of Mexico coast, once frequented by buccaneers.

Neomymar pozhar sp. nov.

(Figs. 66–68)

HOLOTYPE. ♀ (on slide, CNCI): USA. Florida: Alachua Co., Gainesville, 15–22.iii.1987, W.R.M. Mason, Malaise trap in hardwood forest.

PARATYPES. USA. **Florida:** Alachua Co., Gainesville, AEI: 10–17.iv.1986, G.A.P. Gibson (1♀ on point and 1♂ on slide, CNCI), 30.iv.1987, L. Masner (2♀ on points, CNCI), 23.ii–2.vi.1988, D.B. Wahl (2♀ on points, CNCI). Citrus Co., 30 km N Homosassa, Ozello Trail, 14.iv.1992, L. Masner (1♀ on point, CNCI). Jefferson Co., Monticello, 24.ii.2001, R.F. Mizell, III (1♀ on card, UCRC). Orange Co., Orlando, 8.iii.1999, P. Russell and S. Fullerton (1♂ on point, UCRC). **Virginia:** Louisa Co., 4 mi. S Cuckoo, 13–27.v.1987, J. Kloke and D.R. Smith (1♂, USNM).

DIAGNOSIS. This species is related to *N. korsar*, from which it differs by its much smaller size, and shorter antenna (Fig. 67) and pronotum.

DESCRIPTION. Female. Body. Mostly orange yellow to light brown; coxae and trochanters white, remaining leg segments yellowish brown; petiole pale yellow; distal ½ of F2–F4, F5, and base of F6 yellow; anterior part of vertex, F1, basal ½ of F2–F4, and most of F6 brown; clava, trabeculae, and tip of ovipositor sheaths dark brown.

Antenna (Fig. 67). Scape smooth, 3.2× as long as wide; pedicel almost as long as F1; F2 slightly shorter than F3, the longest funicle segment, and as long as F4; F4–F6 distally notably wider than basally; clava about 2.0× as long as wide; flagellum sparsely setose except for clava.

Mesosoma. Pronotum short (median length about 1/6 of its width), with 8 pairs of long setae (2 on each lateral margin); mesoscutum short, much wider than long; axillar seta extending past frenal line; scutellum a little wider than long and slightly longer than mesoscutum; propodeum with 2 posterior pairs of setae.

Wings (Fig. 67). Forewing with 2 distinct dark spots (basal and apical), otherwise hyaline; about 6.8× as long as wide; longest marginal cilia about 2.0× length of greatest width of blade; blade unevenly setose (hairs rather short) in the widened (apical) part, leaving bare areas along anterior margin and in the middle, with 1 row of shorter setae on ventral surface in narrow part (beyond venation). Hind wing blade mostly hyaline, slightly infumated at apex; longest marginal cilia 8–9× as long as maximum width of blade.

Metasoma. Petiole about 3× as long as wide, a little longer than metacoxa. Ovipositor occupying about 0.8 length of gaster, slightly exserted beyond its apex (by about 1/10 of total length of ovipositor); ratio of ovipositor/metatibia length about 1.0/1.0.

Measurements (holotype). Body length (without head): 904. Head (width): 284; mesosoma: 346; mesoscutum: 106; scutellum: 121; petiole: 120; gaster: 438; ovipositor: 406. Antenna: scape: 106; pedicel: 58; F1: 61; F2: 128; F3: 131; F4: 128; F5: 100; F6: 76; clava: 173. Forewing length/width: 1125/166; longest marginal cilia: 336. Hind wing length/width: 707/18. Legs (coxa, femur, tibia, tarsus): fore: 82, 251, 252, 342; middle: 67, 258, 364, 309; hind: 109, 309, 397, 348.

Male. Similar to female except as follows. Body mostly brown; flagellum, and distal gastral terga dark brown; petiole, and basal and middle gastral terga yellow; scape, pedicel, and legs light brown. Antenna with scape smooth, about 2.8× as long as wide, flagellomeres moderately long. Forewing 5.6× as long as wide.

ETYMOLOGY. The name is Russian for fire, referring to the orange yellow body color of females.

Neomymar mirabilicorne (Ogloblin, 1939) comb. nov.

(Not included in the key)

(Figs. 69–72)

Bruchomymar mirabilicornis Ogloblin, 1939:218–223. Type locality: Loreto, Misiones, Argentina (holotype—female [MLPA], examined).

Bruchomymar mirabilicornis: Fidalgo, 1992:263–264, 266.

NEW MATERIAL EXAMINED. ARGENTINA. **Formosa:** Estancia Guaycolec (25 km N Formosa), 25°59′S, 58°12′W, 185 m, 17–20.xii.1998, S.L. Heydon (1♀, UCRC); 26.ii–10.iii.1999, S.L. Heydon and J. Ledford (1♀, UCDC). **Misiones:** Loreto, Jesuit Ruins, 26.i–20.ii.2001, S.O. Martinez and P. Fidalgo (2♂, IMLA, UCRC). BRAZIL. **Goiás:** Campinaçu, Serra de Mesa Survey, 13°51.5′S, 48°23.5′W, 20–21.ii.1996 (3♀); 13°52.0′S, 48°23.3′W, 21–22.ii.1996 (1♀); 13°52.0′S, 48°23.1′W, 300 m, 22–23.ii.1996, A. Sharkov and F. Ejchel (1♀) (OSUC) (UCRC); Uruaçu, Serra de Mesa Survey, 14°17.0′S, 48°54.8′W, 22–28.v.1996 (11♀); 14°17.2′S, 48°55.4′W, 23.v.1996 (1♀); 14°16.9′S, 48°55.7′W, 26.v.1996 (1♀); 14°17.2′S, 48°55.5′W, 27.v.1996 (1♀); 14°17.0′S, 48°55.0′W, 31.v.1996 (1♀, OSUC, UCRC). **Rondonia:** Fazenda Rancho Grande (12 km S Ariguemes), 12–22.xi.1991, E.M. Fisher (1♀, UCDC). COLOMBIA. **Amazonas:** Parque Nacional Amacayacu: 3.82°S, 70.26°W, 35 m, 8–12.iii.2000, B.V. Brown, G. Kung and M. Sharkey (1♀); 3°23′S, 70°06′W, 150 m, 4.viii-11.ix.2000, A. Parente (3♀, LACM, UCRC). **Chocó:** Parque Nacional Natural Utría, Centro de Visitantes, 6°01′N, 77°20′W, 2 m, 5–19.vii.2000, J. Pérez (1♀, UCRC). **Magdalena:** Parque Nacional Natural Tayrona, 11°20′N, 74°02′W, 30–225 m, 28.vi–17.vii.2000, R. Henriquez (3♀, LACM, UCRC). **Vichada:** Parque Nacional Natural Tuparro, Cerro Tomás, 5°21′N, 67°51′W, 140 m, 29.vi-15.vii.2000, W. Villalba (3♀, LACM, UCRC). COSTA RICA. **Heredia:** La Selva Biol. Station, 10°43′N, 84°02′W: 21.i–3.ii.1991, J.S. Noyes (1♀, CNCI); 16.viii.1995, ALAS (1♀, UCRC). **Puntarenas:** Las Alturas, 11–13.vi.1998, V.V. Berezovskiy (1♀, UCRC). ECUADOR. **Napo:** Reserva Etnica Waorani, 1 km S Oncone Gare Camp, 0°39′10″S, 76°26′00″W, 220 m, T.L. Erwin et al. (by fogging terra firme forest), 26.x.1998 (2♀); 7.ii.1999 (2♀); 9.ii.1999 (2♀); 1.vii.1999 (1♂) (UCRC, USNM); Yasuni Nat. Park, Research Station, 0°40′S, 78°24′W, 220 m, 21–22.v.1996, P. Hibbs (1♀, CNCI). **Sucumbios:** Napo River, Sacha Lodge, 0.30°S, 76.30°W, 220–270 m, 12–23.vi.1994, P. Hibbs (2♀); 16–27.viii.1994 (1♀, CNCI). PANAMA. **Colón:** 2 km S Sabanitas, 9°19′19″N, 79°47′54″W, 120 m, 10–16.i.2001, L. Masner and J.B. Woolley (1♀, TAMU). PERU. **Loreto:** 40 km NE Iquitos on Amazon River, Explorama Inn, 8.vii.1990, A. Menke and Avertschenko (1♀, CNCI).

DIAGNOSIS. This species was well described and illustrated by Ogloblin (1939) and Fidalgo (1992). Females are distinguished from *N. gusar* by having F5 and F6 white (Fig. 70) (black in *N. gusar*), and from *N. soror* by the extremely long setae on F3–F6 (short in *N. soror*). Males are difficult to associate with conspecific females because the number of setae on the prosternum varies within *N. soror* (1 or 2 pairs may be present). We found that in both *N. mirabilicorne* and *N. soror* the female scape is smooth on the outer side but has cross-ridges on the inner side (only on the basal 1/2, the distal 1/2 is smooth). The male antenna of *N. mirabilicorne* (Fig. 71) has shorter flagellomeres and the scape is completely smooth whereas male antenna of *N. soror* (Fig. 75) has longer flagellomeres and the scape has distinct cross-ridges on the inner side, except apically. The forewing blade of *N. soror* (in both sexes; Fig. 73) is relatively wider and more densely covered with microtrichia than in *N.*

mirabilicorne. The male genitalia of *N. mirabilicorne* (Fig. 72) are relatively shorter than those of *N. soror* (Fig. 76).

DISTRIBUTION. Argentina (Ogloblin, 1939), Bolivia (Fidalgo, 1992), Brazil, Colombia, Costa Rica, Ecuador, Panama, and Peru. The species likely occurs throughout Central and South America from Costa Rica to northern Argentina. It seems to be restricted to low altitudes.

Neomymar soror (Ogloblin, 1939) comb. nov.

(Not included in the key)

(Figs. 73–76)

Bruchomymar soror Ogloblin, 1939:223–225. Type locality: Loreto, Misiones, Argentina (holotype—female [MLPA], examined).
Bruchomymar soror: Fidalgo, 1992:264–266.

NEW MATERIAL EXAMINED. BRAZIL. **Goiás:** Campinaçu, Serra de Mesa Survey, 13°51.5′S, 48°23.5′W, 20–21.ii.1996 (1♂); Uruaçu, Serra de Mesa Survey, 14°17.2′S, 48°55.4′W, 23.v.1996 (2♀); 14°17.0′S, 48°54.8′W, 25–27.v.1996, (2♀); 14°17.2′S, 48°55.5′W, 27.v.1996 (1♀); 14°17.0′S, 48°55.0′W, 30.v.1996 (1♀) (OSUC, UCRC). **Minas Gerais:** Belo Horizonte, UFMG campus, D. Yanega: x.1996 (1♀, 1♂); xi.1996 (1♀); i.1997 (1♂); iv.1997 (4♀, 1♂) (UCRC). COLOMBIA. **Amazonas:** Parque Nacional Amacayacu, 3°23′S, 70°06′W, 150 m, 8–15.v.2000, A. Parente (1♀, UCRC). **Bolivar:** SFF Los Colorados, Venado, 9°54′N, 75°07′W, 320 m, 15–30.ix.2000, E. Deulofeut (1♂, UCRC). **Vichada:** Parque Nacional Natural Tuparro, 5°21′N, 67°51′W, 100 m, W. Villalba, 29.vi–15.vii.2000 (1♀); 8–28.viii.2000 (3♀, 1♂, LACM, UCRC). ECUADOR. **Madre de Dios:** Río Tambopata Reserve, 12°50′S, 69°17′W, 290 m, 14.ix.1984, T.L. Erwin et al., canopy fogging (1♀, UCRC). **Napo:** Reserva Etnica Waorani, 1 km S Oncone Gare Camp, 0°39′10″S, 76°26′00″W, 220 m, T.L. Erwin et al. (fogging terra firme forest), 27.x.1998 (1♀, 1♂); 7.ii.1999 (1♀) (UCRC, USNM).

DIAGNOSIS. This species was well described and illustrated by Ogloblin (1939) and distinguished from the only other species, *N. mirabilicorne,* known to him, by the distinctive female antenna (Fig. 74). Ogloblin (1939) and Fidalgo (1992) gave keys to both species (as *Bruchomymar*). F3–F6 of the female antenna lack the very long hairs characteristic of *N. mirabilicorne* and the new species described below. Fidalgo (1992) described the male of *N. soror.* We provide digital photographs of the wings (Fig. 73), male antenna (Fig. 75), and genitalia (Fig. 76) to complement the previous descriptions.

DISTRIBUTION. Argentina, Brazil, Colombia, and Ecuador.

Neomymar gusar sp. nov.

(Not included in the key)

(Figs. 24–46, 77–78)

HOLOTYPE. ♀ (on slide, BMNH): COSTA RICA. Guanacaste: Guanacaste National Park Headquarters, 300 m, 1–10.iii.1990, J.S. Noyes, pan trap.

PARATYPES. BELIZE. **Cajo:** Las Cuevas, iii.1995, T. King and H. Howe (1♀, CNCI). COSTA RICA. **Guanacaste:** same data as the holotype (7♀ on points, CNCI; 1♀ on slide, UCRC; 1♂ on slide, CNCI). Santa Rosa (= Guanacaste) Nat. Park, 17–27.iv, 27.iv–11.v, 11.v–1.vi, 24.viii–14.ix, 7–28.xii.1985, 18.i–8.ii.1986, 300 m, D. Janzen and I.D. Gauld (6♀, 4♂, CNCI); 14.ii.1992, C. Cano (1♀, CNCI); 30 m, 12–13.ii.1995, L. Masner (1♂, CNCI); 5 km SW Canas, Hotel La Pacifica, 9.xi.1980, J.B. Woolley (1♀, CNCI); 6 mi. S and 6 mi. W Canas, Taboga, 10°19′N, 85°19′W, ii.1967, H.A. Hespenheide (1♀, CNCI). **Limón:** R.B. Hitoy Cerera, 100 m, 13–19.i.1991, J.S. Noyes (1♀ on point, CNCI). **Puntarenas:** Monte Verde Reserve, 1500 m, ii.1980, W. Mason (1♀, CNCI). **San José:** Ciudad Colón, 800 m, iii–iv.1990, L. Fournier and P. Hanson (1♀ on point, CNCI). El Rodeo, Universidad de la Paz, 1–8.iii.2001, V. V. Berezovskiy (1♀ on point, UCRC). EL SALVADOR. **Usulután:** Los Pirineos, 13°28′N, 88°31′W, 1500 m, viii.1999, A. Monro (3♀ on points, CNCI). MEXICO. **Quintana Roo:** 20 km NW Tulum, hwy. to Cobal, 8.xii.1993, L. Masner (1♀, CNCI). **Tamaulipas:** Gómez Farías, Estación Los Cedros, 23°03′00″N, 99°09′03″W, 340 m, 14.iv.2002, A. Córdova-Torres (1♀ on point, UCRC). PANAMA. **Chiriquí:** La Fortuna, 1150 m, 23.v–9.vi.1995, J. Ashe and R. Brooks (1♀, CNCI).

DIAGNOSIS. Member of the *mirabilicorne* species group. This species is close to *N. mirabilicorne* from which it is distinguished by F4–F6 of the female antenna completely dark (Fig. 78) and scape completely smooth on the inner side. It differs from *N. soror* by the much longer funicular setae.

DESCRIPTION. Female. Body and appendages. Mostly light brown to brown except as follows: trabeculae, F3, and apical tarsomeres a little darker (brown to dark brown); F4–F6, clava, and exserted part of ovipositor sheaths dark brown to black.

Antenna (Fig. 78). With scape, pedicel, F1, and F2 sparsely covered with short, inconspicuous setae, F3 sparsely covered with mixture of short and very long setae, F4–F6 densely covered with short and very long setae, clava densely covered with short setae. Scape smooth on both sides (Figs. 30, 31), about 2.4× as long as wide; pedicel shortest antennal segment; F1 shorter than F2; F3 and F4 subequal in length and the longest funicle segments, F4 much broader than F3; F5 and F6 subequal in length, F6 flattened and distinctly dilated distally; clava flattened, 2.3–2.4× as long as wide.

Mesosoma. Pronotum with 9 pairs of long setae (5 on each lateral margin); axillar seta almost

reaching frenal row of foveae; propodeum with 1 anterior and 1 posterior pair of setae.

Wings (Fig. 77). Forewing about 6.7× as long as wide, with blade slightly darkened, more so just beyond venation; posterior margin slightly sinuate in the broadest part of blade; longest marginal cilia 1.0–1.1× length of greatest width of wing; blade more or less evenly setose (microtrichia rather short) except for a narrow bare area along anterior margin and a narrow, oblique bare band at base of widened part extending from anterior to posterior margin. Hind wing blade slightly darkened, with a few scattered microtrichia; longest marginal cilia about 7× as long as maximum width of blade.

Metasoma. Petiole a little wider basally and medially than distally, about 3× as long as wide, almost as long as metacoxa. Ovipositor occupying about 0.9 length of gaster, distinctly exserted beyond its apex (by about 1/5–1/4 of total length of ovipositor); ovipositor/metatibia length 1.3–1.4/1.0.

Measurements (holotype). Body length (taken before slide-mounting): 1750. Head length/width (length taken before slide-mounting): 283/381; mesosoma: 713; mesoscutum: 221; scutellum: 182; gaster: 855; ovipositor: 1039. Antenna: scape: 182; pedicel: 85; F1: 166; F2: 200; F3: 382; F4: 382; F5: 312; F6: 312; clava: 336. Forewing length/width: 2210/330; longest marginal cilia: 339. Hind wing length/width: 1550/26. Legs (coxa, femur, tibia, tarsus): fore: 167, 469, 464, 597; middle: 130, 433, 683, 646; hind: 221, 545, 769, 781.

Male. Similar to female except for normal sexually dimorphic characters and the following. Color of body and appendages mostly light brown to brown; head trabeculae, scape, pedicel, and apical tarsomeres brown to dark brown; flagellum black. Antenna very long, with scape (Figs. 32, 33) smooth on both sides, about 1.8× as long as wide. Forewing a little wider than in female (about 6.0× as long as wide), blade more uniformly setose (narrow, oblique bare band absent). Genitalia typical for the genus (Figs. 45, 46).

ETYMOLOGY. The name is Russian for a member of the elite cavalry troops in the czarist army in Russia; gusars were also famous for having large moustaches, thus referring to the peculiar long, massive, and hairy antennae in this new species.

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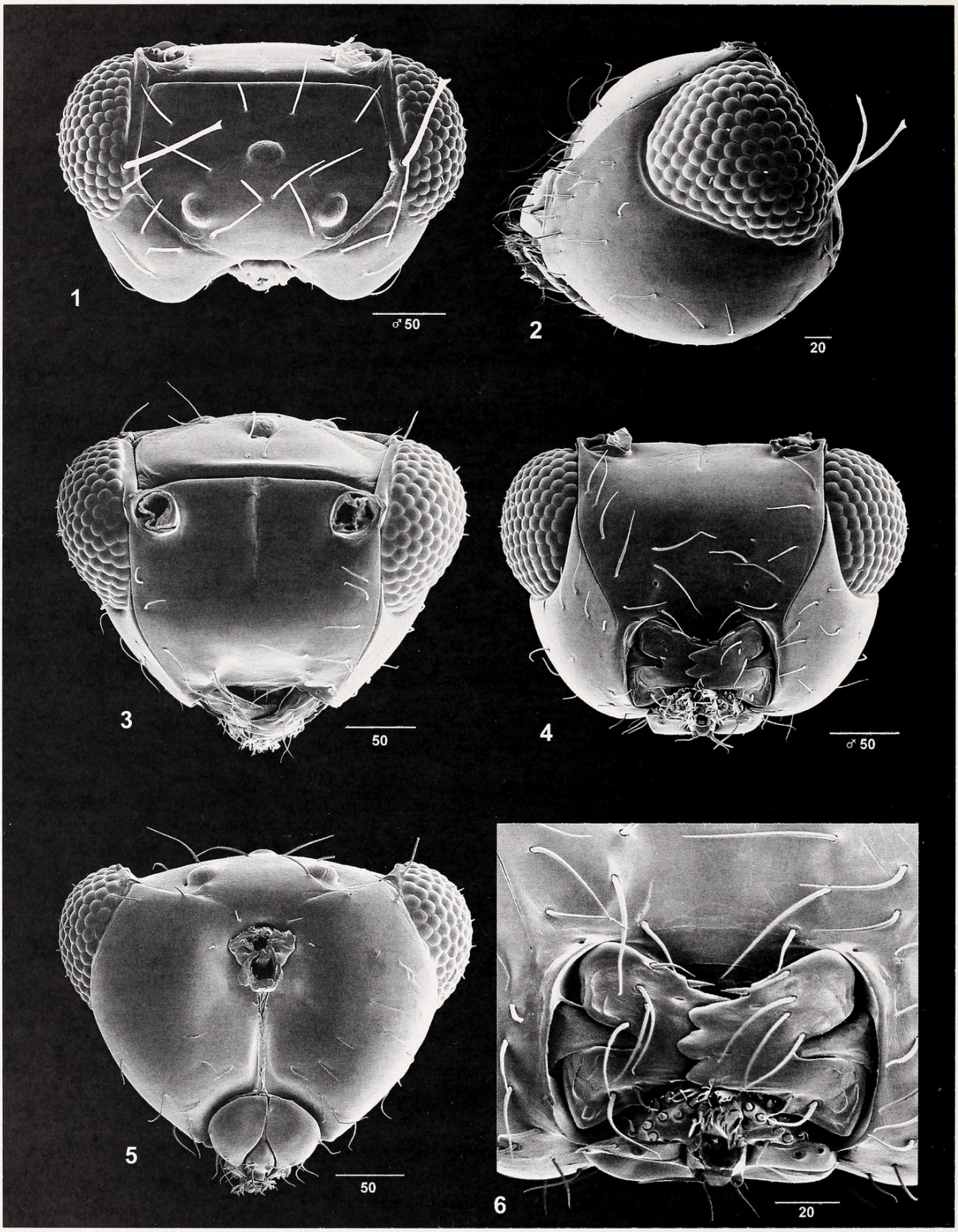
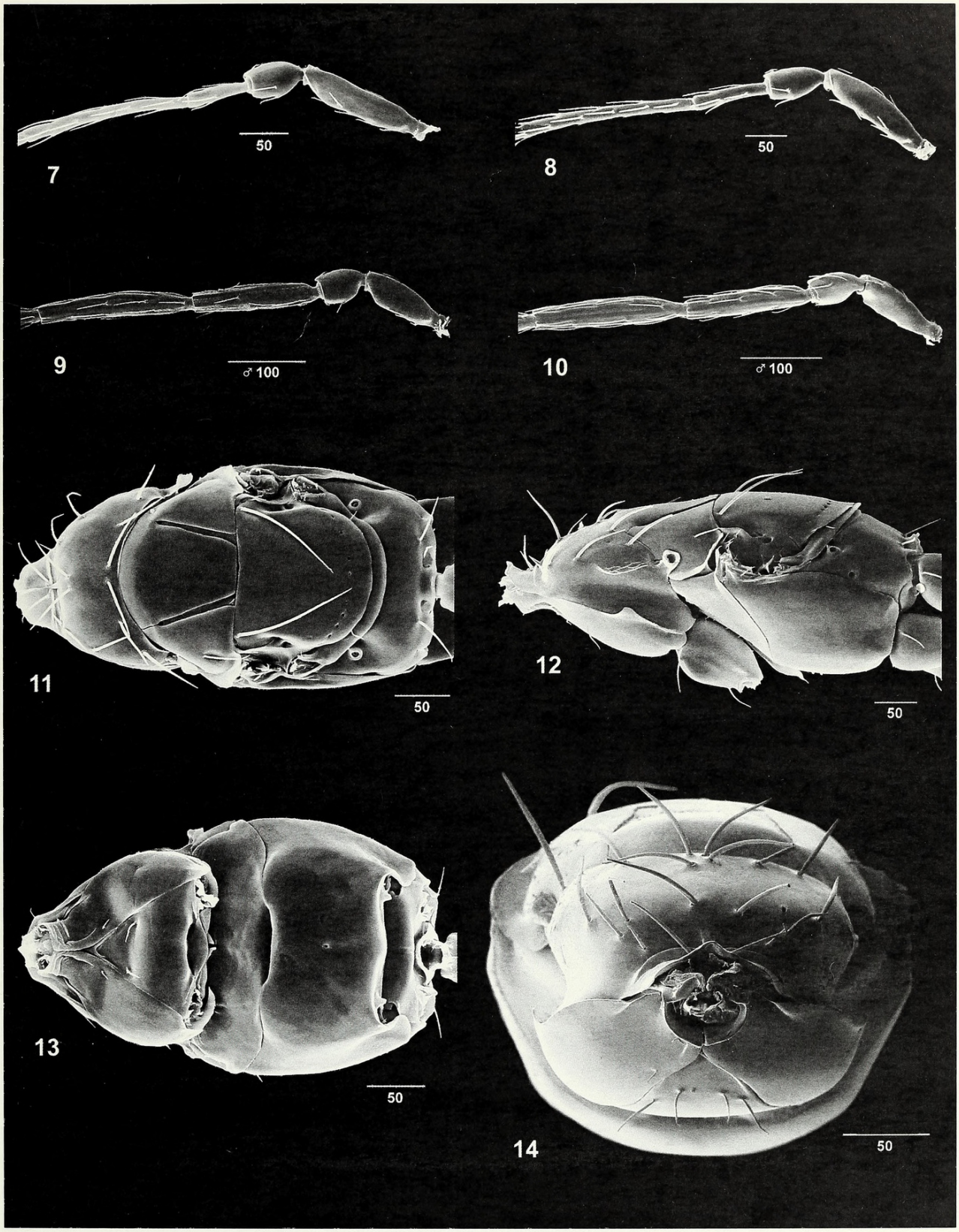
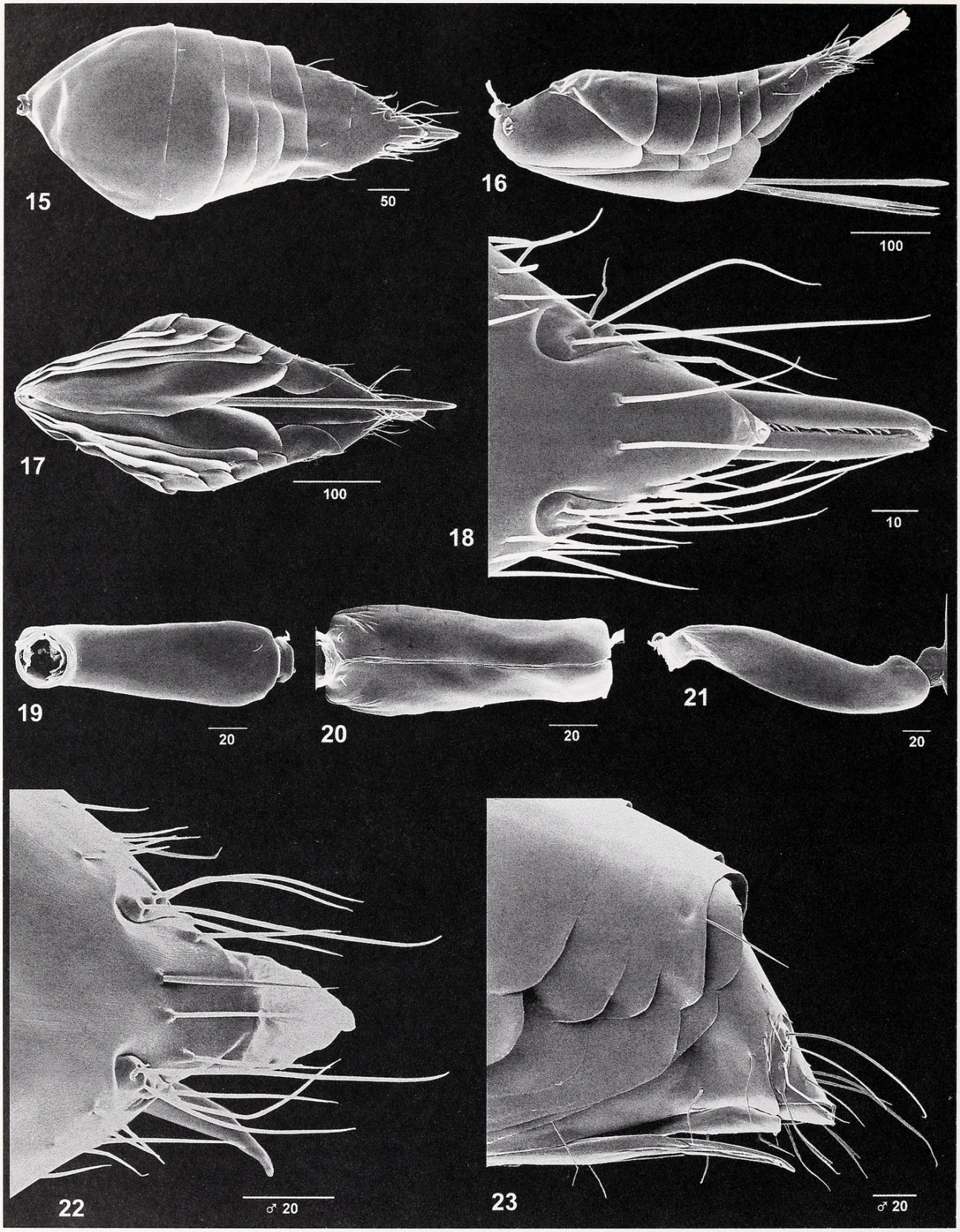


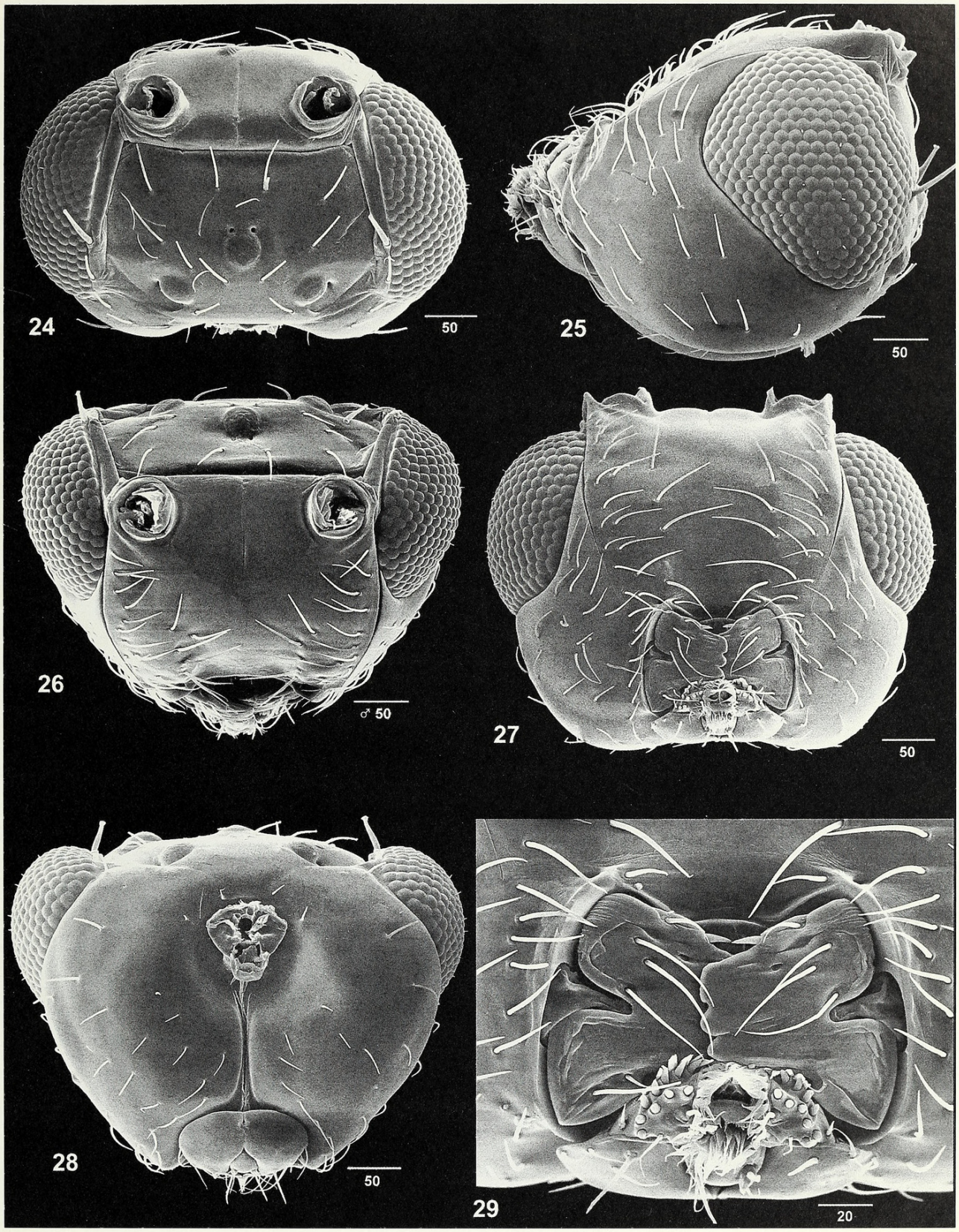
Figures 1–6 *Neomymar* sp. (*vierecki* group), Costa Rica, Guanacaste Nat. Park, 2–23.iii.1986, D. Jansen and I. Gauld. Head. **1**, dorsal; **2**, lateral; **3**, anterior; **4**, ventral; **5**, posterior; **6**, mandibles



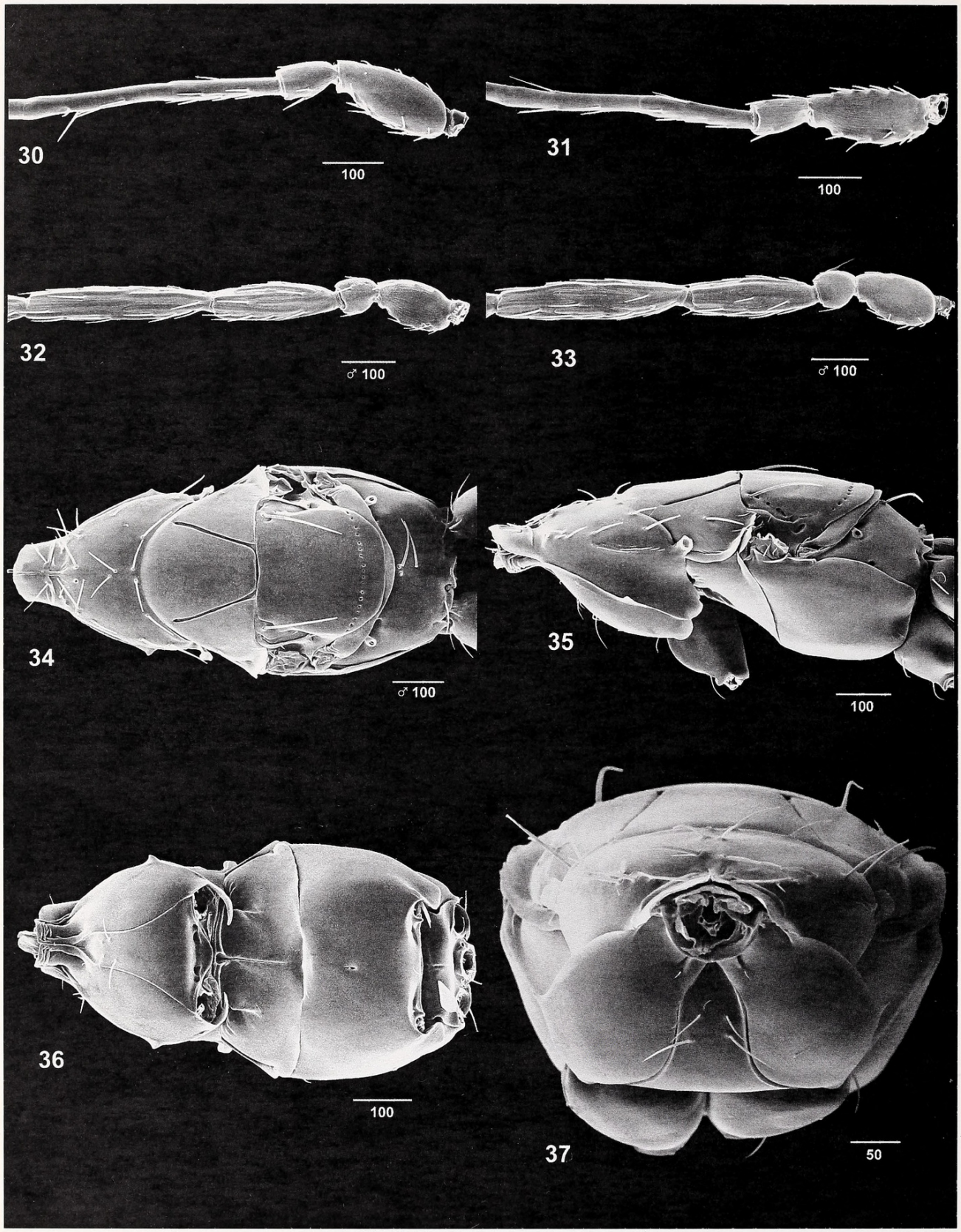
Figures 7–14 Same data as Figs. 1–6. **Figs. 7–10** Antennal scape—F2. **7**, female, outer view; **8**, female, inner view; **9**, male, outer view; **10**, male, inner view. **Figs. 11–14** Mesosoma. **11**, dorsal; **12**, lateral; **13**, ventral; **14**, anterior



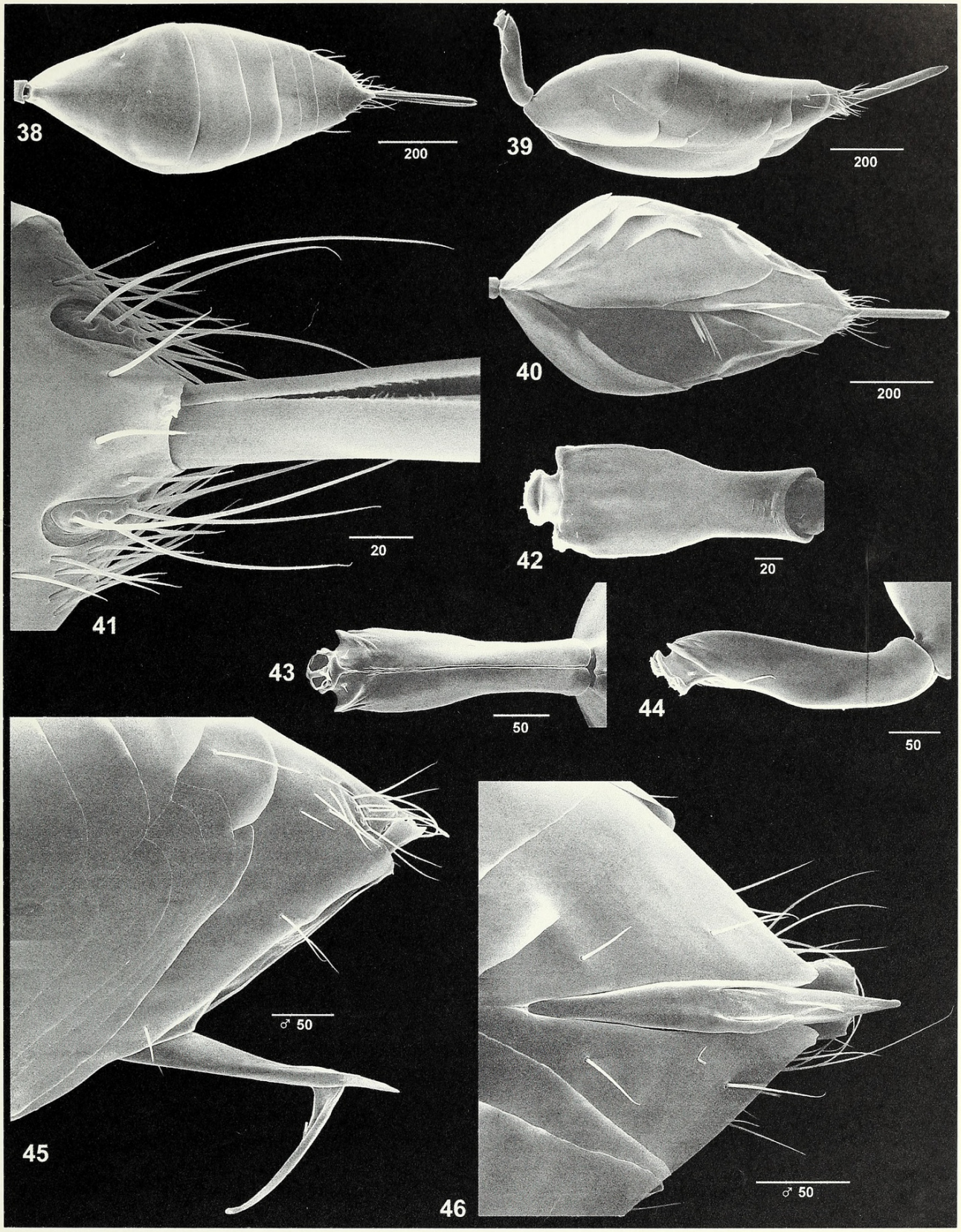
Figures 15–23 Same data as Figs. 1–6. Metasoma. **Figs. 15–21** Female. **15**, gaster, dorsal; **16**, gaster, lateral; **17**, gaster, ventral; **18**, gastral apex, dorsal; **19**, petiole, dorsal; **20**, petiole, ventral; **21**, petiole, lateral. **Figs. 22 and 23** Male. **22**, gastral apex, dorsal; **23**, gastral apex, lateral



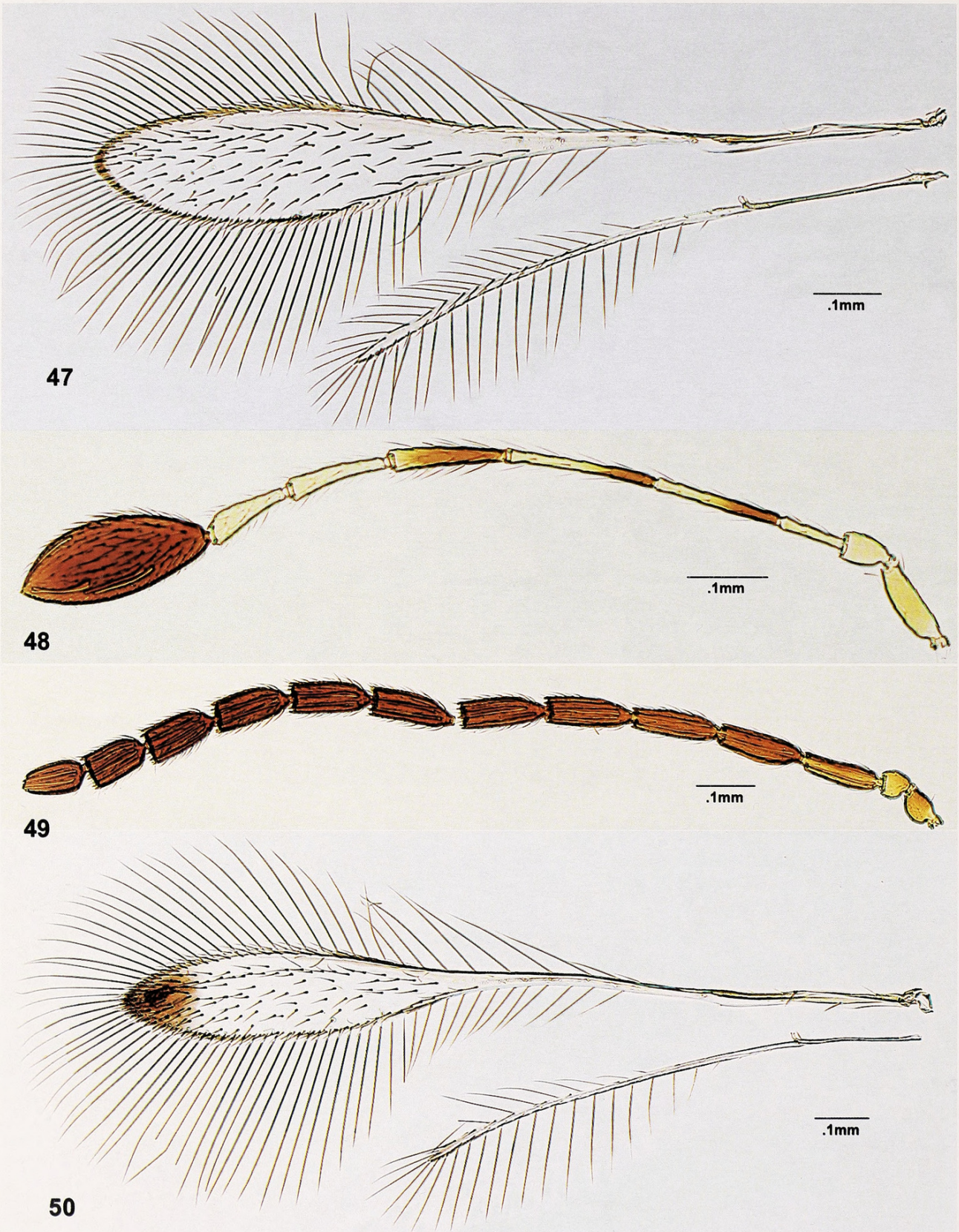
Figures 24–29 *Neomymar gusar* (*mirabilicorne* group), Guanacaste Nat. Park, 16.xi–7.xiii.1985, 300 m, D. Jansen and I. Gauld. Head. **24**, dorsal; **25**, lateral; **26**, anterior; **27**, ventral; **28**, posterior; **29**, mandibles



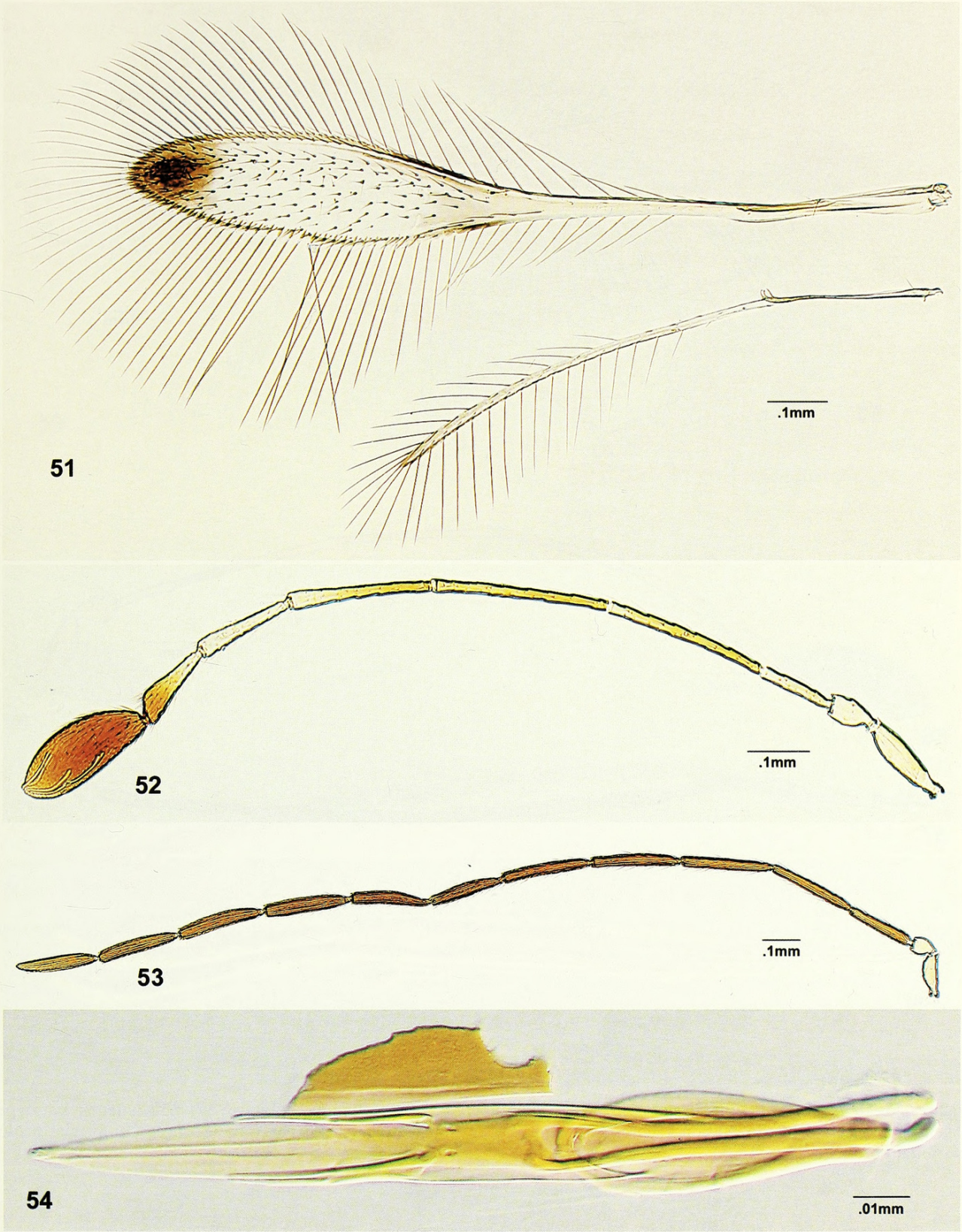
Figures 30–37 Same data as Figs. 24–29. **Figs. 30–33** Antennal scape—F2. **30,** female, outer view; **31,** female, inner view; **32,** male, outer view; **33,** male, inner view. **Figs. 34–37** Mesosoma. **34,** dorsal; **35,** lateral; **36,** ventral; **37,** anterior



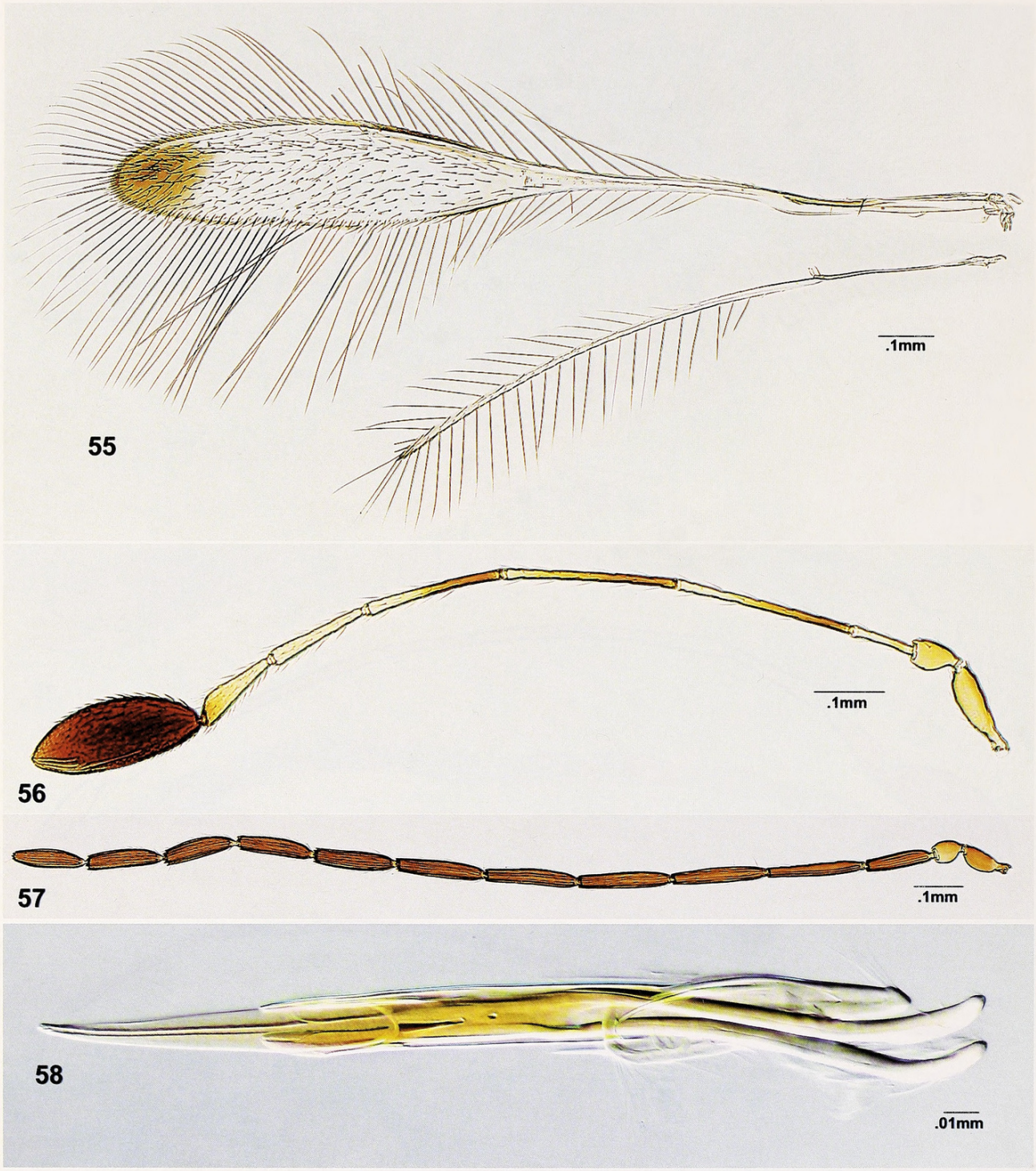
Figures 38–46 Same data as Figs. 24–29. Metasoma. **Figs. 38–44** Female. **38**, gaster, dorsal; **39**, gaster, lateral; **40**, gaster, ventral; **41**, gastral apex, dorsal; **42**, petiole, dorsal; **43**, petiole, ventral; **44**, petiole, lateral. **Figs. 45 and 46** Male. **45**, gastral apex, lateral; **46**, gastral apex, ventral



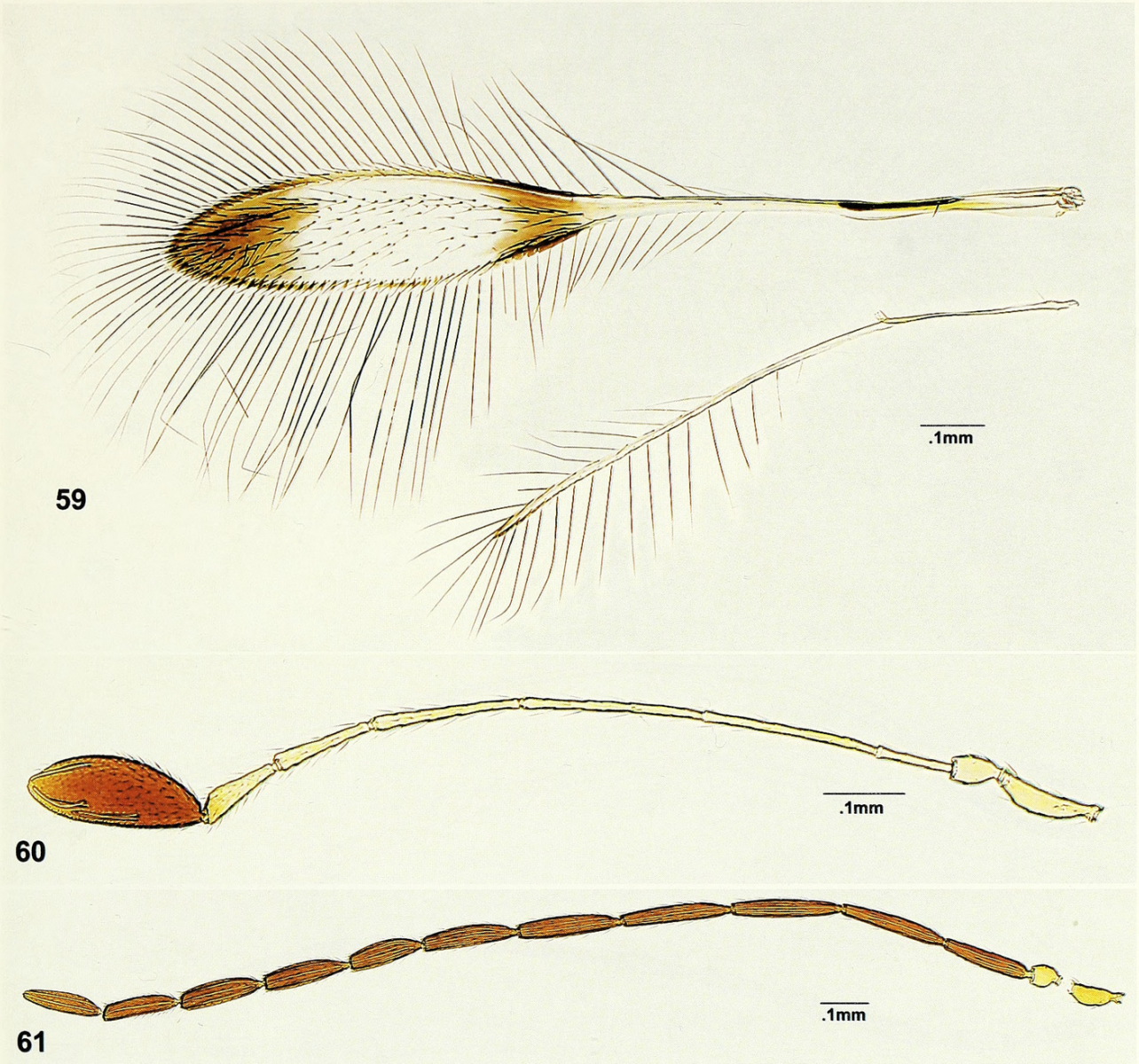
Figures 47–50 Figs. 47–49 *Neomymar komar.* **47,** wings, holotype; **48,** female antenna, holotype; **49,** male antenna, paratype (El Carmen, Nuevo León, Mexico). **Fig. 50** *Neomymar vierecki.* **50,** wings, female (Patuxent Research Station, Laurel, Maryland, USA)



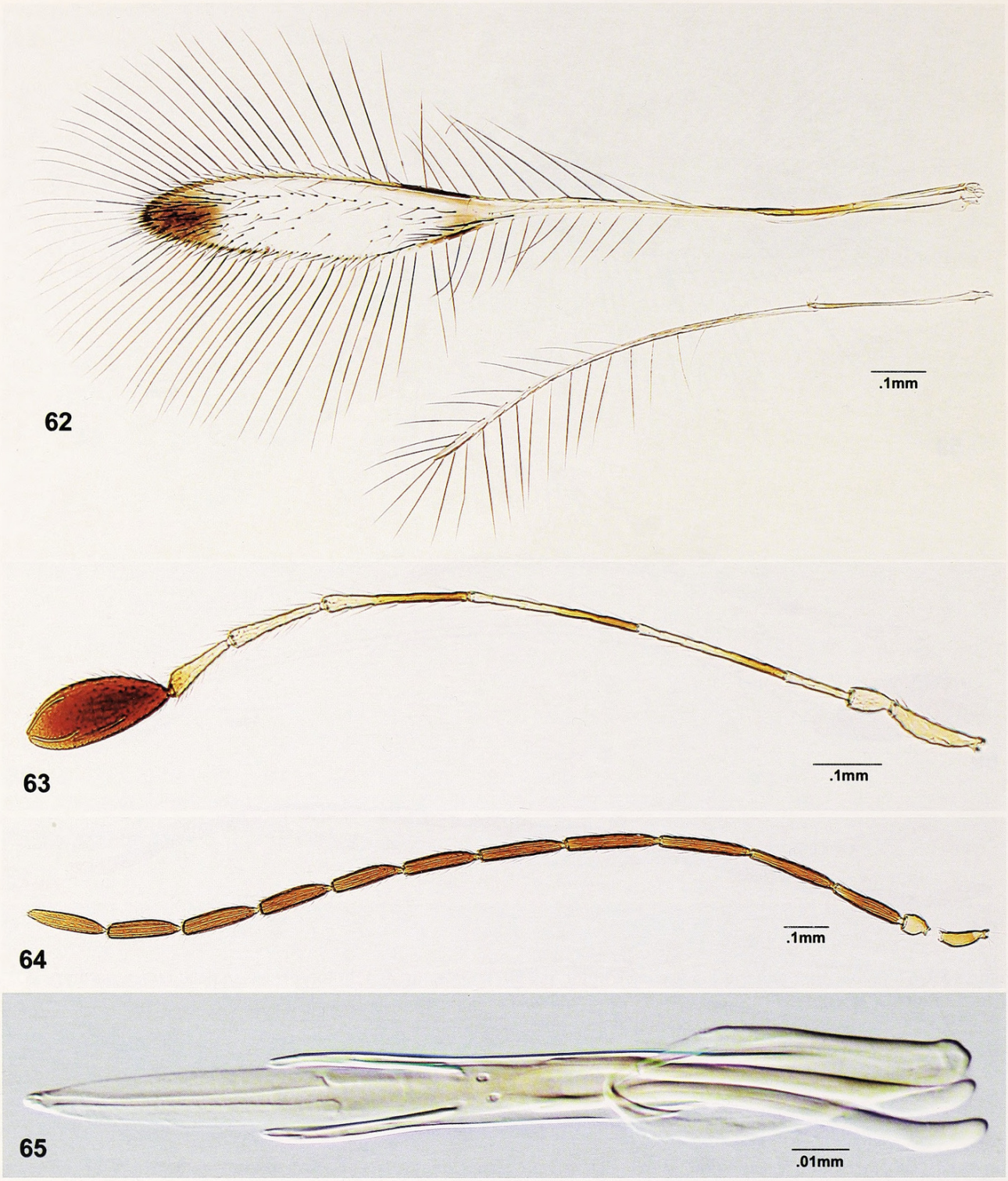
Figures 51–54 *Neomymar vierecki.* **51,** wings (Berkeley, California, USA); **52,** female antenna (Mer Bleue, Ontario, Canada); **53,** male antenna (Williamsville, Missouri, USA); **54,** male genitalia (Williamsville, Missouri, USA)



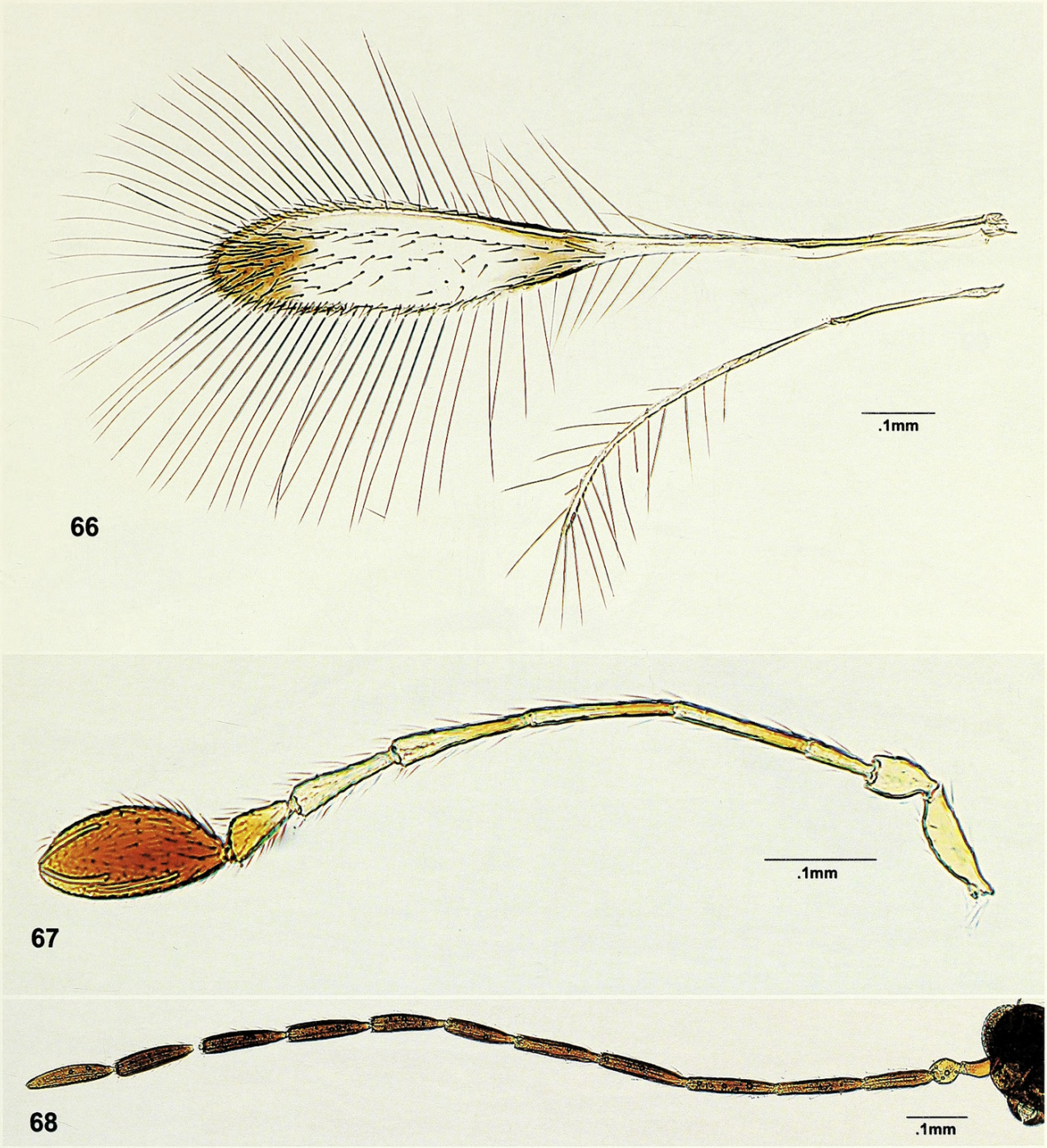
Figures 55–58 *Neomymar islacaelestum*. 55, wings, holotype; 56, female antenna, holotype; 57, male antenna, paratype (Spencer Camp, Coronado National Forest, Arizona, USA); 58, genitalia, male paratype (Spencer Camp, Coronado National Forest, Arizona, USA)



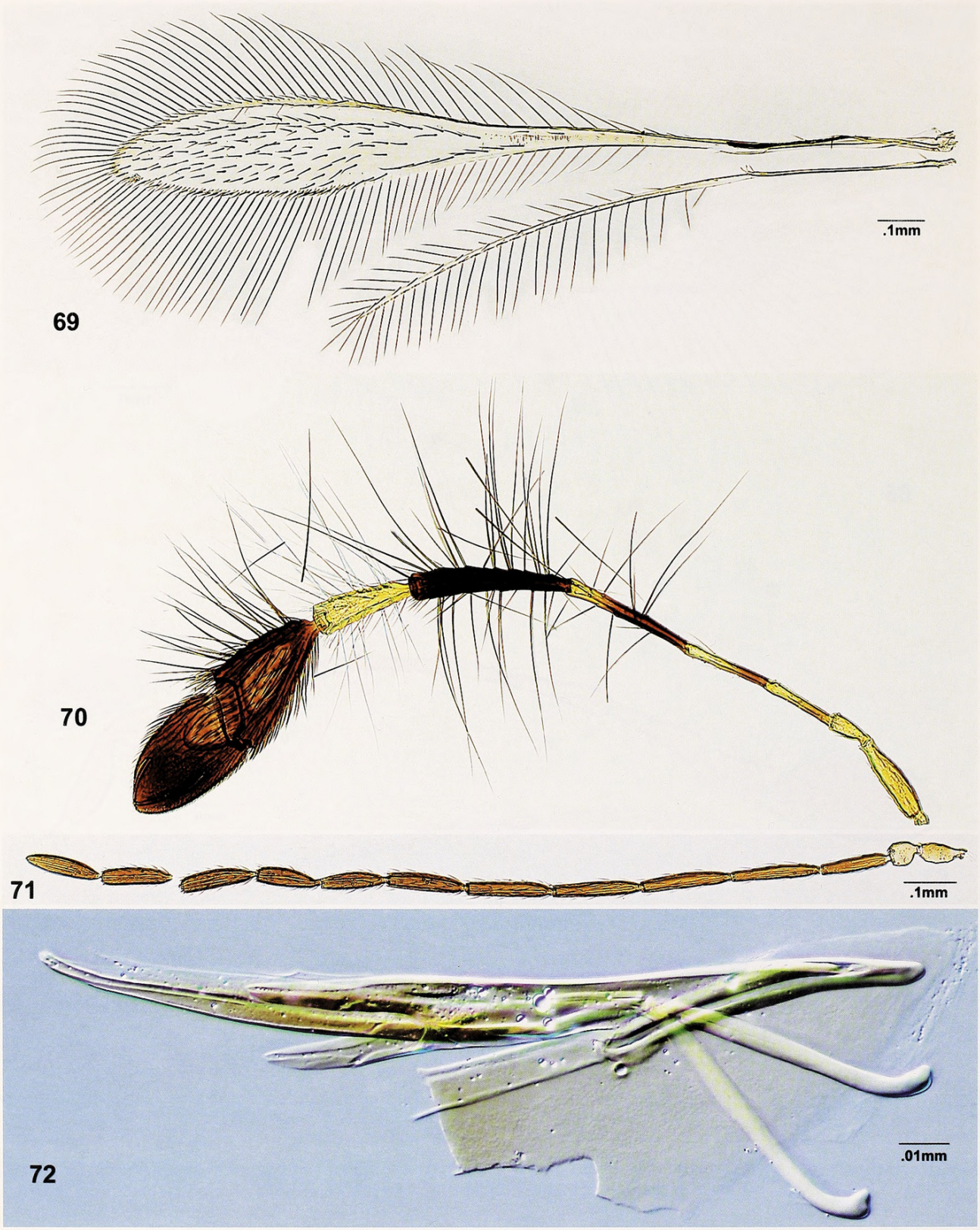
Figures 59–61 *Neomymar zuparkoi.* **59,** wings, holotype; **60,** female antenna, holotype; **61,** male antenna, paratype (Oak Glen, California, USA)



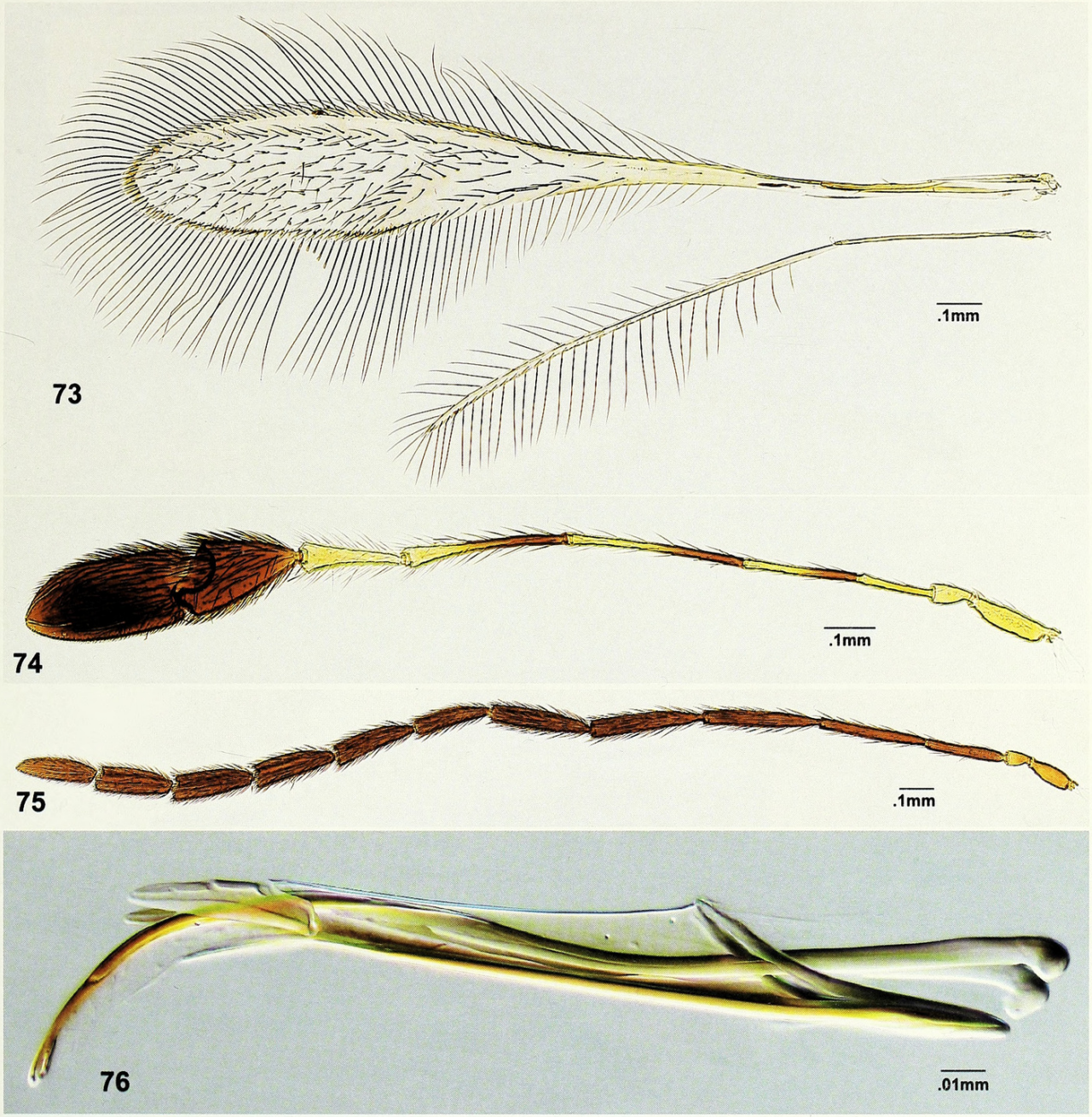
Figures 62–65 *Neomymar korsar.* **62,** wings, holotype; **63,** female antenna, paratype (Austin, Texas, USA); **64,** male antenna, paratype (Gainesville, Florida, USA); **65,** male genitalia, paratype (Gainesville, Florida, USA)



Figures 66–68 *Neomymar pozhar.* **66**, wings, holotype; **67**, female antenna, holotype; **68**, male antenna, paratype (Gainesville, Florida, USA)



Figures 69–72 *Neomymar mirabilicorne*. **69,** wings (Uruaçu, Goiás, Brazil); **70,** female antenna (Uruaçu, Goiás, Brazil); **71,** male antenna (Loreto, Misiones, Argentina); **72,** male genitalia, lateral view (Loreto, Misiones, Argentina)



Figures 73–76 *Neomymar soror.* **73,** female wings (Belo Horizonte, Minas Gerais, Brazil); **74,** female antenna (Belo Horizonte, Minas Gerais, Brazil); **75,** male antenna (Belo Horizonte, Minas Gerais, Brazil); **76,** male genitalia, lateral view (Campinaçu, Goiás, Brazil)

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Figures 77, 78 *Neomymar gusar.* Same data as Figs. 24–29. 77, female wings; 78, female antenna

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