CONTRIBUTIONS IN SCIENCE

REVIEW OF THE NEEARCTIC 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 Dorichytus 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 Globlin and Chaetomymar Globlin 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 California, Riverside, California 92521.

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3. Canadian Forest Service, % Canadian National Collection of Insects, Ottawa, Ontario K1A 0C6, Canada.

**SYSTEMATICS**

*Neomymar* Crawford, 1913

(Figs. 1–78)


**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 vertex with 1 long, thick, and apically blunt supraorbital seta, then sometimes bending slightly inward as short second piece, before bending more sharply inward and fading out behind posterior ocellus (Figs. 2, 25). 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 ⅓ 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 *mirabilicornis* species group.

**Syst.**

Meso soma (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 1/2 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 1/2 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 propodea; 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 propodea; with 1 or 2 pairs of setae in anterior 1/2. Propodea narrow and necklike anteriorly (Figs. 13, 36), carinate at and just behind their line of medial abutment, with the carinae extending around ventral 1/2 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 1/2 (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 1/2 with seta at antero-medial angle long and strong, extending more than 1/2 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 1/2 to halfway between anterior and posterior margins; metanotum visible in dorsal view, as wide mediadly as sublaterally (Fig. 11) or wider mediadly (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 1/2 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 1/2 as elongate, almost symmetrical oval with posterior margin more flattened than anterior margin; the apical 1/2 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 1/2 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 suture. 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 exerted beyond apex of gaster (but often long and notably exerted 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 apomorphies as long as (Figs. 65, 72) or longer than (Figs. 54, 58, 76) phallobase; parameres a little shorter than 1/2 length of aedeagus from their junction; volsellae digit 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-
Neomymar komar sp. nov.

(Figs. 47–49)


PARATYPES. MEXICO. Nuevo LeÁn: 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, Rio 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 ½ to ¾ 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; axillary 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 ¼–½ of total length of ovipositor); ovipositor/metatibia length 1.2–1.3/1.0.


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 marilandi: Girault, 1929:13.


**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 also relates to *N. korser*, but differs by having only 1 distinct dark spot on the forewing (Figs. 50, 51) and the coxal yellow to light brown (white in *N. korser*). Some species 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, trabeacula, 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 F3, which is the longest funicle segment, about 2.3× as long as wide; pedicel much 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; axillary setae 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 exerted beyond its apex (by about 2⁄7 of total length of ovipositor); ovipositor/metatibia length 1.0–1.1.


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 uncleaned 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” Cwd 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)


**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. Most 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, trabeulae, apical tarsomers, 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 exerted beyond its apex (by about ½ of total length of ovipositor); ovipositor/metatibia length about 1.2±1.0.

-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 ⅓ of total length of ovipositor); ovipositor/metatibia length 1.1–1.2/1.0.


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 Erythrobracteatae (Triapitsyn, 1998), including those found at the type locality of N. zuparkoi (González et al., 1988), including those found at the type locality of N. zuparkoi (González et al., 1988).

Neomymar korsar sp. nov. (Figs. 62–65)


PARATYPES. CUBA. Santiago: Gran Piedra, 1100 m, 6–7.xii.1995, L. Masner (1♂ on point, CNCI); 16 km NE Cañey, 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 point, CNCI); xi.1986, L. Masner (1♂ on point, UCRC).

DESCRIPTION. Female. Body and appendages. Mostly yellowish to light brown except as follows: clava, trabeaeae, 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 flagellum 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
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DIAGNOSIS. This species is distinguished from N. pozbar 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, remaining leg segments yellowish brown; petiole pale yellow; distal ⅔ of F1–F4, F5, and most of F6 yellow; basal ⅔ of F1–F4, and apex of F6 brown; clava, trabeclulae, 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 ⅔ of its width), with 9–10 pairs of long setae (4 on each lateral margin); mesoscutum notably wider than long; axillary seta reaching frenal row of foreveae; 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 (except by venation). Hind wing blade slightly infumated; longest marginal cilia 10–11× as long as maximum width of blade.

Mesosoma. Petiole about 4× as long as wide, a little longer than metacoxa. Ovipositor occupying 0.7–0.9 length of gaster, slightly exerted beyond its apex (by about ⅔ of total length of ovipositor); ovipositor/metatibia length about 1.0/1.0.


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.

Neomyynar pozbar sp. nov. (Figs. 66–68)


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 ⅔ of F2–F4, F5, and base of F6 yellow; anterior part of vertex, F1, basal ⅔ of F2–F4, and most of F6 brown; clava, trabeclulae, 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 2⁄3 of its width), with 8 pairs of long setae (2 on each lateral margin); mesoscutum short, much wider than long; axillary 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 inturned 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 9⁄10 of total length of ovipositor); ratio of ovipositor/metatibia length about 1.0/1.0.


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.

**Neomyrmar mirabilicorne** (Ogloblin, 1939) comb. nov.

(Not included in the key)

(Figs. 69–72)

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

**Bruchomyrmar mirabilicornis** Fidalgo, 1992:263–264, 266.

Neomynar soror (Ogloblin, 1939)
comb. nov.
(Not included in the key) (Figs. 73–76)

Type locality: Loreto, Misiones, Argentina (holotype—female [MLPA], examined).

**Bruchomyhar soror** Fidalgo, 1992:264–266.


**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 *Bruchomyhar*). 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.

**DIc**. Argentina, Brazil, Colombia, and Ecuador.

**Neomynar 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.


**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 exerted 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); axillary seta almost...
reaching frenal row of foveae; propodeum with 1 anterior and 1 posterior pair of setae.

Wings (Fig. 77). Forewing about 6.7\(\times\) 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\(\times\) 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\(\times\) as long as maximum width of blade.

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


**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\(\times\) as long as wide. Forewing a little wider than in female (about 6.0\(\times\) 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.
Figures 1–6 Neomymar sp. (viercki 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 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 Neomyr mar 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 silacaecleistum*. 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. *Neomyrm zuparkoi*. 59, wings, holotype; 60, female antenna, holotype; 61, male antenna, paratype (Oak Glen, California, USA)
Figures 62–65 Neomymar korsa. 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 *Neomyrmor 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).
Figures 77, 78 *Neomymar gusar*. Same data as Figs. 24–29. 77, female wings; 78, female antenna.