CONTRIBUTIONS IN SCIENCE

REVIEW OF THE NEARCTIC SPECIES OF NEOMYMAR (HYMENOPTERA: MYMARIDAE)

SERGUEI V. TRIAPITSYN, VLADIMIR V. BEREZOVSKII, and JOHN T. HUBER
The scientific publications of the Natural History Museum of Los Angeles County have been issued at irregular intervals in three major series; the issues in each series are numbered individually, and numbers run consecutively, regardless of the subject matter.

- Contributions in Science, a miscellaneous series of technical papers describing original research in the life and earth sciences.
- Science Bulletin, a miscellaneous series of monographs describing original research in the life and earth sciences. This series was discontinued in 1978 with the issue of Numbers 29 and 30; monographs are now published by the Museum in Contributions in Science.
- Science Series, long articles and collections of papers on natural history topics.

Copies of this publication are available through the Scholarly Publications Office at 213/763-3330 or by visiting our website at (http://www.nhm.org) for a PDF file version.
ABSTRACT. The species of Neomymar are reviewed, including five new Nearctic species, N. islacaolestum, N. komar, N. korsar, N. pozhar, and N. zuþparkoi, all spp. nov., and one new Neotropical species, N. gusan 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 Polyarna Haliday and is not closely related to Neomymar. Fidalgo (1992) provided a detailed diagnosis of Bruchomymar and related it to Tetrapolyarna Ogloblin and Chaetomyrma Ogloblin based on possession of two pairs of setae on the propodeum. Based on other morphological features, Chaetomyrma, at least, is a close relative of Polyarna (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 Neartic 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. D passionate 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 (B.V. Brown)

1. Entomology Research Museum, Department of Entomology, University of California, Riverside, California 92521.
2. Entomology Section, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, California 90007.
3. Canadian Forest Service, % Canadian National Collection of Insects, Ottawa, Ontario K1A 0C6, Canada.
Neomynar Crawford, 1913

(Figs. 1–78)


SYSTEMATICS

Neomynar Crawford, 1913

(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, posterovertrnal 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 setae, 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).

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 \( \frac{1}{2} \) 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 \( \frac{1}{2} \) length of collar and separated from collar by carina, with subparallel sides and a mediodiagonal 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 \( \frac{1}{2} \). Propleura narrow and necklike anteriorly (Figs. 13, 36), carinate at and just behind their line of medial abutment, with the carinae extending around ventral \( \frac{1}{2} \) 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 \( \frac{1}{2} \) (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 \( \frac{1}{2} \) with seta at anteromedial angle long and strong, extending more than \( \frac{1}{2} \) 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 \( \frac{1}{2} \) 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 metasternum. Prepectus in lateral view triangular (Figs. 12, 35), in ventral view broad, at least \( \frac{1}{2} \) 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 \( \frac{1}{2} \) as elongate, almost symmetrical oval with posterior margin more flattened than anterior margin; the apical \( \frac{1}{2} \) 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 \( \frac{1}{2} \) 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 (whiter) 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 \( 2 \times \) 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 \( \frac{3}{4} \) length of aedeagus from their junction; volsellus digit 2 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 NEOUMAR, 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 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 1/2 to 1/3 of F2 and F3, 1/3 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 cella 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 cella 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 1/6 of 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 (Glennendale), Maryland, USA (holotype female [USNM], examined).

Syn. nov.


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. 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. virecki*, 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 (yellownish brown); clava, trubalate, and tip of ovipositor sheaths dark brown; F2–F4 basally, F6 distally, and apical tarsonomes brown.

Antenna (Fig. 52). Scape smooth, about 4X as long as wide; pedicel much shorter than F1; F2 slightly shorter than F3, which is the longest funicular 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 2.3X 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, particularly along the anterior margin. It is also re-

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 (yellownish brown); clava, trubalate, and tip of ovipositor sheaths dark brown; F2–F4 basally, F6 distally, and apical tarsonomes brown.

Antenna (Fig. 52). Scape smooth, about 4X as long as wide; pedicel much shorter than F1; F2 slightly shorter than F3, which is the longest funicular 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 2.3X 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

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

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

**Tables:**

<table>
<thead>
<tr>
<th>Region</th>
<th>Location Details</th>
<th>Collectors</th>
<th>Dates</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Canada</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Quebec</strong></td>
<td>Hull, 18.vi.1965 (1♂, CNCI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>British Columbia</strong></td>
<td>3°52’13”N, 83°29’50”W, 6–22.vi.2001, I.C. Stocks (1♂, CNCI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ontario</strong></td>
<td>Union Co., Mt. Emily, 21.viii–1.x.1987, Torgersen (2♂, AEI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Washington</strong></td>
<td>Westerly, 18.vii.1936, M. Chapman (1♂, AEI)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 even 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 \(\frac{3}{4}\) 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. An-
tenna (Fig. 53) with scape smooth and short, about 2× as long as wide, flagellomers 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 unclerared 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. Vi-
erecke 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)

22.viii.2000, TAMU Hymenoptera team, Malaise trap.

**PARATYPES.** USA. Arizona: Cochise Co., Coro-

**DISTRIBUTION.** There are no signiﬁcant paso National Forest, Chiricahua Mts., Green-

**DESCRIPTION.** Female. Body and appendages. Mostly yellow to light brown except as follows: dorsal edge of scape and pedicel, approximately basal \(\frac{1}{2}\) of F2, F3, and F4, apex of F6, clava, tra-
beculae, 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 cov-
ered 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 \(\frac{3}{4}\) of total length of ovipositor); ovipositor/metatibia length about 1.2/1.0.

utional 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 metabia. 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.
Neomymar zuparkoi sp. nov.


**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 to both *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, trabeaculae, 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; axillary 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 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 *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.

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


DIAGNOSIS. This species is related to Neomymar 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 F1–F4, F5, and most of F6 yellow; basal ½ of F1–F4, and apex of F6 brown; clava, trabeclae, 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; axillary seta reaching frenal row of fo-veae; 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 unequally setose (hairs rather short) and almost bare along anterior margin and in middle of widened part, almost bare in narrow part (by uneven 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 exerted beyond its apex (by about ½ 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.

Neomymar pozhar sp. nov.

(Figs. 66–68)

**Neomymar pozhar** sp. nov.

**Triapitsyn et al.: Nearctic Neomymar**
Mesosoma. Pronotum short (median length about $\frac{1}{2}$ 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 x as long as wide; longest marginal cilia about 2.0 x 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 in- fused at apex; longest marginal cilia 8-9 x as long as maximum width of blade.

Metasoma. Petiole about 3 x as long as wide, a little longer than metacoxa. Ovipositor occupying about 0.8 length of gaster, slightly exerted beyond its apex (by about $\frac{1}{4}$ of total length of ovipositor); ratio of ovipositor/metabasitarsus 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 x as long as wide, flagellomeres moderately long. Forewing 5.6 x as long as wide.

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

*Neomyrmar mirabilis*corne (Ogloblin, 1939) comb. nov.

(Not included in the key)

(Figs. 69-72)

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

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


**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. soror*), 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 sternum varies within *N. soror* (1 or 2 pairs may be present). We found that in both *N. mirabilicornis* and *N. soror* the female scape is smooth on the outer side but has cross-ridges on the inner side (only on the basal $\frac{1}{2}$, the distal $\frac{1}{2}$ is smooth). The male antenna of *N. mirabilicornis* (Fig. 71) has shorter flagellomeres and the scape is completely smooth whereas male antenñas of *N. soror* (Fig. 73) 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.
Neomyvar soror (Ogloblin, 1939) comb. nov.
(Not included in the key) (Figs. 73–76)

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

Bruchomyvar 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 (Bruchomyvar; 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.

Neomyvar 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.i.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 brown to black. Some of the subequal antennal segments, F3 and F4 shorter than F5 and F6 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 setae 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 exerted beyond its apex (by about 1/4 of total length of ovipositor); ovipositor/metatibia length 1.3–1.4/1.0.


ACKNOWLEDGMENTS

We thank the curators, listed under “Methods,” for arranging loans of specimens or granting access to the collections under their care, and especially Klaus Bolte (CNCI) for preparing the excellent digital photographs and scanning electron micrographs. We are also grateful to Russell F. Mizell III (University of Florida North Florida Research and Education Center, Quincy, Florida) for collecting interesting fairyflies (including Neomyzynus spp.) with a Malaise trap in Monticello, Florida. Colombian collections were facilitated by National Science Foundation grant DEB9972024 to Michael J. Shat- key (University of Kentucky, Lexington, Kentucky) and Brian V. Brown (LACM).

LITERATURE CITED


Received 20 February 2004; accepted 27 January 2005.
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 Neomyrm 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 silacaelestum*. 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. *Neomyrm 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).
Figures 77, 78 Neomymar gusar. Same data as Figs. 24–29. 77, female wings; 78, female antenna.