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## A NEW SPECIES OF THE GENUS *PALAEOMYMAR* MEUNIER, 1901 (HYMENOPTERA: MYMAROMMATIDAE) FROM THE RUSSIAN FAR EAST, WITH NOTES ON OTHER PALAEARCTIC SPECIES

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Three Palearctic species of *Palaeomymar* Meunier, 1901 are keyed and reviewed, including *P. ypt* **sp. n.**, which is described and illustrated from Primorskii krai, with additional records from China and Republic of Korea, *P. chaoi* Lin, 1994 (Republic of Korea) and *P. anomalum* (Blood et Kryger, 1922) (new records from the European part of Russia and Sakhalin).

KEY WORDS: Hymenoptera, Mymarommatidae, *Palaeomymar*, taxonomy.

**С. В. Тряпицын, В. В. Березовский. Новый вид рода *Palaeomymar* Meunier, 1901 (Hymenoptera: Mymarommatidae) с Дальнего Востока России с замечаниями о палеарктических видах // Дальневосточный энтомолог. 2006. N 159. С. 1-8.**

Дан обзор и определительная таблица 3 палеарктических видов рода *Palaeomymar* Meunier, 1901, включая *P. ypt* **sp. n.** из Приморского края с дополнительным материалом из Китая и Республики Корея, *P. chaoi* Lin, 1994 (указывается впервые из Республики Корея) и *P. anomalum* (Blood et Kryger, 1922) (указывается впервые из европейской части России и Сахалина).

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## INTRODUCTION

*Palaeomymar* Meunier, 1901 is the only currently recognized genus of the poorly known family Mymarommatidae (Hymenoptera: Mymarommatoidea). Presently it contains both extinct and extant taxa (Kozlov, 1998; Triapitsyn & Berezovskiy, 2000; Noyes, 2002). Most of its species descriptions, and identifications of the fossil mymarommatids, are inadequate, resulting in incorrect association of the common extant European species, *P. anomalum* (Blood et Kryger, 1922), with an unrelated fossil taxon, *P. duisburgi* (Stein, 1877), by Bakkendorf (1948) and then Douth (1973). That concept was recently criticized by Triapitsyn & Berezovskiy (2000). Moreover, it seems that both the already described and undescribed extant species of *Palaeomymar* may belong to at least two different genera. Among the described species, *P. chaoi* Lin, 1994 and *P. cyclopterus* Fidalgo et De Santis, 1982 (Argentina) obviously belong to a separate species group so different morphologically from the group of species similar to *P. anomalum*, that their present inclusion in the same genus is not warranted. It is quite likely that *P. mirum* (Girault, 1931) (Australia) and also possibly *P. mirissimum* (Girault, 1935) (Australia) belong in the same group with *P. chaoi*. *P. insulare* (Valentine, 1971) and similar forms from New Zealand have a 2-segmented clava of the female antenna and thus their placement in the same genus with the two above-mentioned groups is also questionable. However, any generic changes in this family must be done in the context of a thorough global revision (including the fossil taxa). In this communication, we describe a new species of *Palaeomymar* from Primorskii krai of Russia, reported earlier by us as *P. ?anomalum* (Triapitsyn & Berezovskiy, 2000), and also provide a key as well as new data on the distribution of *P. anomalum* and *P. chaoi* in the Palaearctic region.

In the forested zones of the Palaearctic region, mymarommatids may be not as uncommon as it had been thought previously. They are best collected in yellow pan traps (hence the name of the new species described herein) and sometimes also get into Malaise and pitfall traps, but rarely can be collected by sweeping. In the conditions of Russia, mymarommatids have been mostly collected in the second half of summer. Their biology is unknown. Collecting and preservation methods of the material from Primorskii krai were described by Triapitsyn & Berezovskiy (2001). Terms for morphological features are mostly those of Gibson (1997). All measurements are given in micrometers ( $\mu\text{m}$ ), as length or, where necessary, as length/width. Abbreviations used are: F = funicle segment of the female antenna or flagellomere of the male antenna; MT = Malaise trap; YPT = yellow pan trap. New distribution records are marked by an asterisk (\*).

Acronyms for depositories of specimens are as follows: CAS, California Academy of Sciences, San Francisco, California, USA; CNCI, Canadian National Collection of Insects, Ottawa, Ontario, Canada; IBPV, Institute of Biology and Pedology, Vladivostok, Russia; ISNB, Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium; UCRC, Entomology Research Museum, University of California, Riverside, California, USA; USNM, National Museum of Natural History, Washington, D.C., USA; ZIN, Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia; ZMUM, Zoological Museum of Moscow State University, Moscow, Russia.

### Genus *Palaeomymar* Meunier, 1901

*Palaeomymar* Meunier, 1901: 288 [type species: *Palaeomymar succini* Meunier, 1901: 288 (fossil – Baltic amber), by monotypy]: Nikol'skaya, 1978: 647; Kozlov, 1998: 679; Triapitsyn & Berezovskiy, 2000: 579.

*Mymaromma* Girault, 1920: 38 [type species: *Mymaromma goethei* Girault, 1920: 38 (Gordonvale, Queensland, Australia), by monotypy]. Synonymized under *Palaeomymar* by Doutt, 1973: 225.

*Petiolaria* Blood & Kryger, 1922: 229 [type species: *Petiolaria anomala* Blood et Kryger, 1922: 229 (Brockenhurst, New Forest, Hampshire Co., England, UK), by monotypy]. Synonymized under *Palaeomymar* by Doutt, 1973: 225.

*Mymaromella* Girault, 1931: 4 [type species: *Mymaromella mira* Girault, 1931: 4 (Canterbury, Victoria, Australia), by monotypy]. Synonymized under *Palaeomymar* by Doutt, 1973: 225.

DIAGNOSIS. See Debauche (1948) (as *Mymaromma*), although his diagnosis applies only to the informal *anomalum* species group of *Palaeomymar* s. l., which among the described extant species includes at least *P. anomalum*, *P. buyckxi* (Mathot, 1966) (Democratic Republic of Congo), *P. goethei* (Girault, 1920) (Australia), and *P. ypt* sp. n. described below. A proper diagnosis of this genus can be provided only after all the nomenclatural problems in Mymarommatidae are resolved and a global generic revision of this family is available.

DISTRIBUTION. Mymaromatids (*Palaeomymar* s. l.) are cosmopolitan; in UCRC there are specimens from all the continents except for Antarctica. They are relatively common in Baltic amber.

COMMENTS. See Noyes (2002) for the lists of species and references and for the nomenclatural history of *Palaeomymar* s. l.

### Key to the Palearctic species of *Palaeomymar* s. l., females

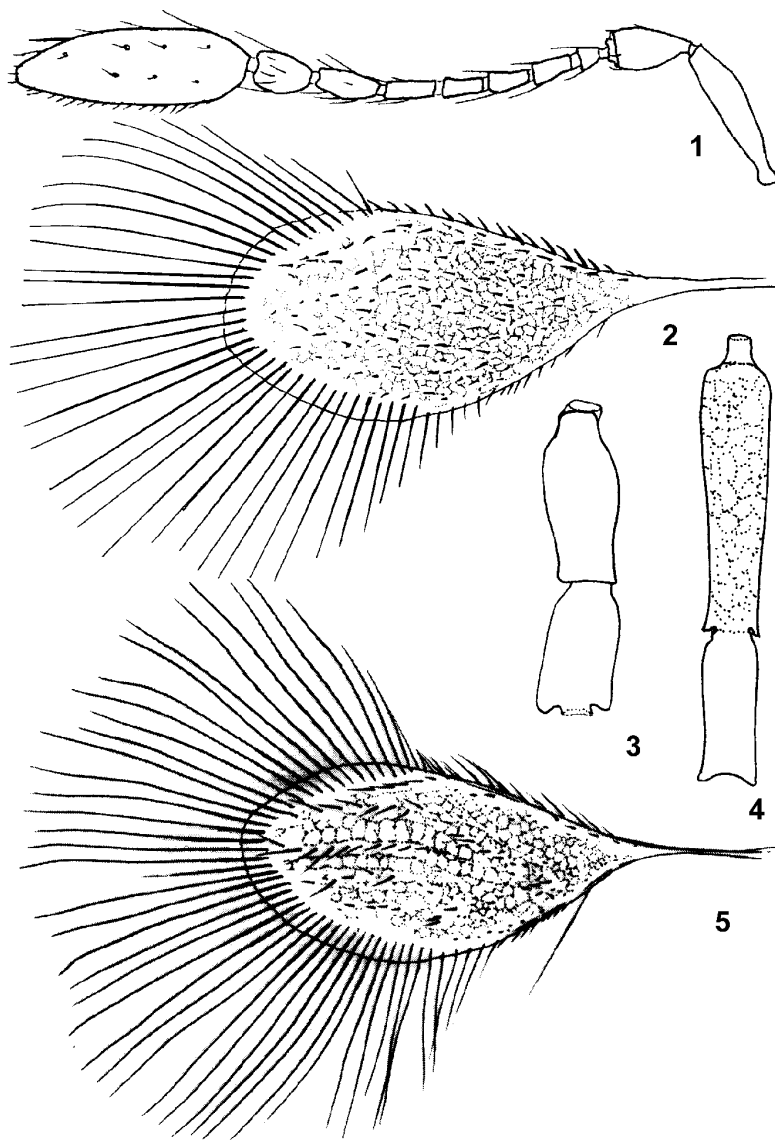
1. Setae on the forewing disc very short, more or less uniformly dispersed, not arranged in rows (Fig. 2); basal segment of petiole just a little longer than apical segment (Fig. 3); ocelli present and conspicuous . . . . . 1. ***P. chaoi***  
– Setae on the forewing disc relatively long, arranged more or less in rows (Figs 5, 7); basal segment of petiole much longer than apical segment (Fig. 4); ocelli absent . . . . . 2
2. Forewing 3.0-3.3 x as long as wide; longest marginal setae notably longer than forewing maximal width; discal setae on forewing relatively shorter (Fig. 5) . . . . . 2. ***P. anomalum***  
– Forewing 2.4-2.7 x as long as wide; longest marginal setae about as long as forewing maximal width; discal setae on forewing relatively longer (Fig. 7) . . . . . 3. ***P. ypt* sp. n.**

### 1. *Palaeomymar chaoi* Lin, 1994

Figs 1-3

*Palaeomymar chaoi* Lin, 1994: 123 (holotype – ♀, Fuzhou, Fujian, China [Biological Control Institute, Fujian Agricultural University, Fuzhou, Fujian, China], not examined).

MATERIAL. **Republic of Korea:** Suwon-si, Gyeonggi-do, Seoul National University, 17.IX 2001, J.-W. Kim, 1 ♀ [UCRC].



Figs 1-5. *Palaeomymar* spp.: 1, 2, 3) *P. chaoi*, ♀ (Suwon-si, Republic of Korea); 4) *P. ypt* sp. n., paratype ♀; 5) *P. anomalum*, ♀ (Wanze, Belgium). 1) antenna, 2) forewing, 3) petiole, 4) petiole, 5) forewing.

DIAGNOSIS. See Lin (1994).

DISTRIBUTION. China (Fujian) (Lin, 1994), \*Republic of Korea.

COMMENTS. This is the first record of this species from the Palearctic region.

## 2. *Palaeomymar anomalum* (Blood et Kryger, 1922)

Fig. 5

*Petiolaria anomala* Blood & Kryger, 1922: 229 (holotype – ♂, Brockenhurst, New Forest, Hampshire Co., England, UK [The Natural History Museum, London, England, UK], not examined).

*Mymaromma anomala* (Blood et Kryger): Debauche, 1948: 44.

*Palaeomymar duisburgi* (Stein): Douff, 1973: 225; Nikol'skaya, 1978: 647; Kozlov, 1998: 679.

*Palaeomymar anomalum* (Blood et Kryger): Noyes, 2002 (nomenclatural history, list of references, distribution, etc.).

**MATERIAL.** **Russia:** Moscow region: Noginsk district, Fryazevo, 15-25.VIII 2000, M. Tretiakov, 2 ♀ [ZMUM, UCRC]. Pushkino district, Mamontovka, E. Shou-vakhina: 1-10.VIII 2000, 2 ♀ [ZIN, UCRC]; 20-31.VIII 2000, 1 ♂ [UCRC]. Sakhalin, 6 km E of Sokol, near Belaya River, 16.VIII 2001, D. Bennett, T. Anderson, 1 ♀ [CAS]. **Belgium:** Liège Province, Wanze, Antheit, Corphalie, 14.VII-25.VIII 1989, R. Detry, 4 ♀ [ISNB, UCRC].

**DIAGNOSIS.** See Debauche (1948) (under *Mymaromma anomala*).

**DISTRIBUTION.** Russia (Kaluga region, \*Moscow region, \*Sakhalin, Vladimir region); Europe (Triapitsyn & Berezovskiy, 2000). Records of this species from the Oriental region (see Noyes, 2002) are incorrect due to misidentifications.

**COMMENTS.** Although Triapitsyn & Berezovskiy (2000) indicated that this species is known to occur in Kaluga and Vladimir regions of Russia, the new material reported herein represent the first mounted and identified specimens of *P. anomalum* from Russia. The discovery of *P. anomalum* in Sakhalin is the first confirmed record of this species from outside of Europe.

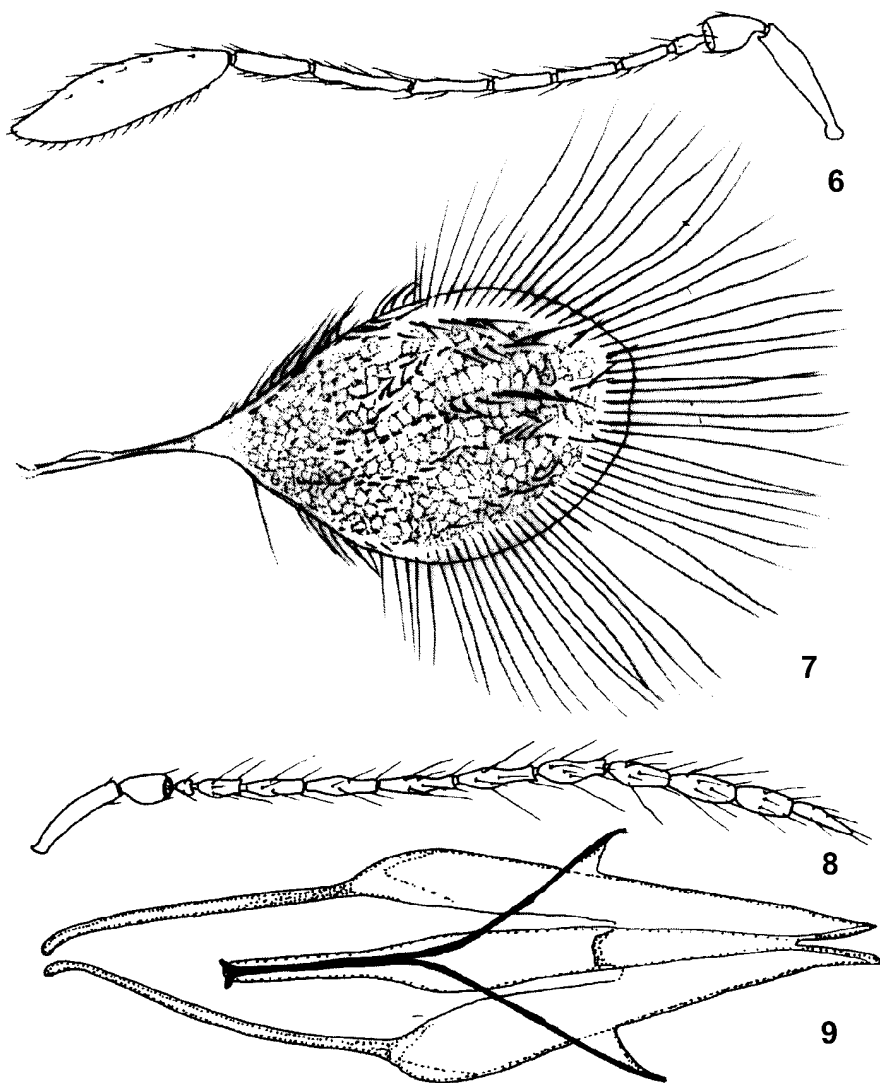
## 3. *Palaeomymar ypt* S. Triapitsyn et Berezovskiy, sp. n.

Figs 4, 6-9

*Palaeomymar anomalum* (Blood et Kryger): Lin, 1994: 121 (misidentification).

*Palaeomymar ?anomalum* (Blood et Kryger): Triapitsyn & Berezovskiy, 2000: 579 (nomenclatural comments, etc.).

**MATERIAL.** Holotype – ♀ (on slide) [ZMUM]: Russia, Primorskii krai, Ussuriysk district, Gornotayozhnoye, 21-22.VII 1999, M. Michailovskaya, YPT. Paratypes – **Russia:** same locality and collector as the holotype: 1 ♂, 11-14.VII 1999, MT [UCRC, molecular voucher D#851.1, JM#201]; 1 ♀, 19-20.VII 1999, YPT [IBPV]; 1 ♀, 3 ♂, 21-22.VII 1999, YPT [UCRC]; 1 ♀, 25-26.VII 1999, YPT [UCRC]; 1 ♂, 27-28.VII 1999, YPT [UCRC, molecular voucher D#851, JM#201]; 1 ♂, VII 1999, MT [ZIN]; 1 ♂, 9-10.VIII 1999, YPT [UCRC]; 3 ♂, 15-17.VIII 1999, YPT [IBPV, UCRC]; 9 ♂, 17-18.VIII 1999, YPT [CNCI, UCRC, ZMUM]; 1 ♂, VIII 1999, MT [UCRC]; 2 ♂, VIII 1999, YPT [IBPV, UCRC]; 1 ♀, 15-17.VII 2000, MT [UCRC]; 1 ♂, 19-20.VII 2000, YPT [UCRC]; 1 ♀, 7-9.VIII 2000, YPT [CNCI]; 4 ♀, 4 ♂, VIII 2000, YPT [IBPV, UCRC, USNM]; 1 ♀, 2-4.X 2000, YPT [ZIN].



Figs 6-9. *Palaeomymar ypt* sp. n. 6) holotype ♀; 7) paratype ♀; 8, 9) paratype ♂. 6) antenna, 7) forewing, 8) antenna, 9) genitalia.

**ADDITIONAL MATERIAL. Republic of Korea:** Gangwon-do, Pyengchang, J.-Y. Choi: 1♂, Jinbu, Dui, 23.IX 1998, YPT; 1♀, 1♂, Jinbu, Cheokchun, 23.IX 1998, YPT; 1♀, 3♂, Donam, Byungnae, 24.IX 1998, YPT [UCRC].

**DESCRIPTION. FEMALE** (holotype and paratypes). Length 550-700. Color: Head, body, and antenna light brown to brown, legs slightly lighter. Head semicircular

in dorsal view, wider than mesosoma. Frontal and occipital sclerites with fine but conspicuous sculpturing. Mandible with 2 teeth, not meeting. Antenna (Fig. 6) 10-segmented; scape about 3.8x as long as wide, longer than any funicle segment and much longer than pedicel; funicle 7-segmented; F1 the shortest and F6 the longest of funicle segments; clava longer than combined length of two preceding segments, densely setose.

Mesosoma strongly reticulate. Mesoscutum and scutellum shorter than propodeum. Forewing (Fig. 7) 2.4-2.7x as long as wide; disc coriaceous, with 3 rows of strong setae on each surface; posterior margin with a lone long seta basally; longest marginal cilia not exceeding greatest width of wing. Hind wing reduced, without membrane, with 1 or 2 setae.

Metasoma much longer than mesosoma. Basal segment of petiole reticulate, 1.7-2.0x as long as apical segment (Fig. 4). Ovipositor occupying about 1/2 length of gaster, barely exerted beyond apex of gaster posteriorly. Ovipositor length/metatibia length ratio about 0.5:1.

MEASUREMENTS (holotype): Body (taken from dry specimen before slide-mounting): 660; head: 117; mesosoma: 212; petiole: 152; gaster: 249; ovipositor: 124. Antenna: scape: 78; pedicel: 33; F1: 15; F2: 30; F3: 35; F4: 33; F5: 46; F6: 58; clava: 136. Forewing: 627/252; longest marginal cilia: 245. Hind wing: 55.

MALE (paratypes). Similar to female except for the following. Head, body and antenna brown; petiole and legs notably lighter. Antenna (Fig. 8) 13-segmented; F1 the shortest and with short setae, other flagellar segments with longer setae. Forewing 2.8-3.2x as long as wide, usually somewhat narrower than in female; marginal cilia notably longer than maximal width of forewing. Basal segment of petiole 1.6-1.7x as long as apical segment. Genitalia as in Fig. 9 (length 78).

DIAGNOSIS. Habitually, *P. ypt* sp. n. is most similar to *P. anomalum*, from which it can be easily separated using the forewing characters indicated in the key above. Head and body structure as well as proportions of female and male antennal segments of these two species are very similar. However, according to the unpublished molecular data of D. Hawks and J. Heraty (D. Hawks, personal communication), they are significantly different genetically. F3-F7 of the female antenna are relatively longer in *P. ypt* (Fig. 6) than in *P. chaoi* (Fig. 1).

DISTRIBUTION. Russia (Primorskii krai), Republic of Korea, China (Fujian).

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