NEW RECORDS OF EULOPHIDAE, MYMARIDAE, PTEROMALIDAE, AND TETRACAMPIDAE (HYMENOPTERA: CHALCIDOIDEA) FROM RUSSIA, WITH ANNOTATIONS AND DESCRIPTION OF A NEW SPECIES OF DICOPUS ENOCK

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Twelve species of Eulophidae, Mymaridae, Pteromalidae, and Tetracampidae are reviewed. New and other interesting records from Russia, including Far East, are provided. *Dicopus moscovit* sp. n. (Moscovskaya oblast’) from Mymaridae is described. The genus *Dicopus* Enoch, 1909 is newly recorded from Russia. The subfamily Ceranisinae Doganlar et Doganlar, 2013, syn. n. is synonymized under the subfamily Entedoninae Foerster, 1856 (Eulophidae). The genera *Epomphale* Girault, 1915, stat. rev. et syn. n., *Gaziantepus* Doganlar et Doganlar, 2013, syn. n., *Guelsenia* Doganlar et Doganlar, 2013 syn. n., *Sergueicus* Doganlar et Doganlar, 2013 syn. n., *Thripoctenus* Crawford, 1911 stat. rev. et syn. n., and *Urfacus* Doganlar, 2003 stat. rev. et syn. n. are considered to be synonyms of *Ceranisus* Walker, 1842. *Thripobius* Ferrière, 1938 stat. resurr. is reinstated as a valid genus (from the previous synonymy under *Thripoctenus* Crawford, 1911).

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INTRODUCTION

Reported here are new and other records of some rare and interesting representatives of the families Eulophidae, Mymaridae, Pteromalidae, and Tetracampidae (Hymenoptera: Chalcidoidea) from Russia, mainly from material recently collected by Malaise traps in Moskovskaya oblast’, Primorskii krai, and Stavropol’skii krai. Annotations are provided where necessary.

Collecting and preservation methods of the material from Primorskii krai were described by Triapitsyn & Berezovskiy (2001); they also apply to the other material from Russia that was examined, mounted, labeled, and identified at the Entomology Research Museum, University of California, Riverside, California, USA (UCRC). The holotype of the new species of Dicopus Enock, 1909 was dissected and slide-mounted in Canada balsam, examined under a Zeiss Axioskop 2 plus compound microscope using Nomarski differential interference contrast optics, and photographed using the Auto-Montage® system; the photographs were then retouched where necessary using Adobe Photoshop®. This cosmopolitan genus is for the first time recorded from Russia.

Terms used for morphological features are those of Gibson (1997). All measurements were taken from the slide-mounted specimen, unless stated otherwise, and are given in micrometers (µm), as length or, for the wings, as length:width. An abbreviation used is: F = antennal funicle segment; mps = multiporous plate sensillum or sensilla on the antennal flagellar segments (= longitudinal sensillum or sensilla or sensory ridge(s) of authors). New country distribution records are denoted with an asterisk (*).
The following acronyms are used to designate other depositories of the specimens examined: CAS – California Academy of Sciences, San Francisco, California, USA; MLPA – Museo de La Plata, La Plata, Buenos Aires, Argentina; NHMW – Naturhistorisches Museum Wien, Vienna, Austria; UCDC – R. M. Bohart Museum of Entomology, University of California, Davis, California, USA; ZIN – Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

ANNOTATED RECORDS AND TAXONOMY

Family Eulophidae
Subfamily Entedoninae

1. Ceranisus menes (Walker, 1839) stat. rev. (from Epomphale Girault, 1915)


NOTES. In Russia, this species was previously recorded from Mordovia by Timraleev (1973), from Krasnodarskii krai, Moscovskaya oblast’, and Primorskii krai by Triapitsyn (2005), and from Krasnodarskii krai and Stavropol’skii krai by Kostjukov et al. (2004).

I do not accept the nomenclatural changes made by Doganlar & Doganlar (2013), including resurrection of the genus *Epomphale* Girault, 1915 from the previous synonymy under *Ceranisus* Walker, 1842 by Bouček (1988), which was followed by Triapitsyn (2005). These generic reassignments and new genera descriptions (Doganlar & Doganlar, 2013) were all made based on at most species-group, rather than generic-level characters, particularly such as palpal segmentation and shape (often size-dependent), length of the ovipositor, shape of the occipital suture, presence of an expanded marginal vein in males, etc., which tend to vary within the same genus, thus resulting in unnecessary and confusing oversplitting within the *Ceranisus* group of genera. At most (although that still would be arguable), these nominal genera could warrant a subgeneric status within *Ceranisus*, but preferably their members would be much better if assigned to informal species groups. Therefore, the genera *Epomphale* Girault, 1915 stat. rev. et syn. n., *Gaziantepus* Doganlar et Doganlar, 2013 syn. n., *Guelsenia* Doganlar et Doganlar, 2013 syn. n., *Sergueicus* Doganlar et Doganlar, 2013 syn. n., *Thripoctenus* Crawford, 1911 stat. rev. et syn. n., and *Urfacus* Doganlar, 2003 stat. rev. et syn. n. are considered to be synonyms of *Ceranisus*. *Thripobius* Ferrière, 1938 stat. resurr. is reinstated as a valid genus from the previous synonymy under *Thripoctenus* by Doganlar & Doganlar (2013).

The subfamily Ceranisinae Doganlar et Doganlar, 2013 syn. n. is hereby synonymized under the subfamily Entedoninae Foerster, 1856 (Eulophidae). Ceranisinae was based mainly on just one reduction (of the mandibles), a feature that occurs also in other entedonine genera such as, for instance, *Pediobomyia* Girault, 1913 and *Rhynchentedon* Girault, 1919, and also in other eulophids such as *Dermatopelte* Erdős et Novicky, 1951, *Eulophus* Geoffroy, 1762, *Euplectrophelinus* Girault, 1913, *Ogmoelachertus* Schauff, 2000, *Rhicnopelte* Förster, 1878, and the whole *Euplectrus* Westwood, 1832 group of genera (Eulophinae) (Roger A. Burks, personal communication). While the mandibular reduction may not be necessarily homologous in all the times that it occurs in Eulophidae, this clearly indicates that it is not the most reliable character for defining higher taxa within the family. Moreover, a *Ceranisus*-like occipital suture (sulcus) is present in at least two undescribed species of Entedoninae from the New World belonging to a genus (or genera) which is (are) very closely related to *Closterocerus* Westwood, 1833, a clear entedonine. Also, Burks et al. (2011) analysis shows *C. menes* as a close relative of *Emersonella* Girault, 1916 and *Astichomyiia* Girault, 1917; although it doesn’t necessarily prove that *Ceranisus* is that close to those genera, it does prove that it is not very different from typical entedonines in the combined (molecular + morphological) tree (Roger
A. Burks, personal communication). Thus the Ceranisus group of genera, as defined and reviewed by Triapitsyn (2005), may at most warrant a tribal or subtribal status within the Entedoninae, but even that has to be demonstrated based on a rigorous study with a worldwide sampling of taxa.

2. *Ceranisus pacuvius* (Walker, 1838)


EXTRALIMITAL RECORD. *Italy*: Campania, Avellino Prov., Montemarano, 40°54’14’’N 15°00’26’’E, 760 m, 6.VI 2003 (J. D. Pinto) [3 ♀, 3 ♂, UCRC].


MATERIAL EXAMINED. *Russia*: Stavropol’skii krai, Prietokskiy, 8.IX 2002 (V. V. Kostjiakov) [3 ♂, UCRC].

NOTES. This is the first record of *E. bulgarica* outside of Bulgaria (Boyadzhiev & Triapitsyn, 2007).


Family *Mymaridae*

5. *Anagroidea marina* Triapitsyn et Berezovskiy, 2002


NOTES. This species was described from Primorskiy krai (Triapitsyn & Berezovskiy, 2002) and is newly recorded from Sakhalin.

Figs 1–4

**TYPE MATERIAL.** Holotype female [UCRC] on slide (Fig. 1): **Russia:** Moskovskaya oblast’, Noginskiy rayon, Fryazevo, 14.vii.2002, M. E. Tretiakov, Malaise trap (UCRC ENT 254538).


**DESCRIPTION.** FEMALE. Body brown but gaster slightly lighter; appendages light brown except scape and pedicel pale.

Mandible bidentate. Antenna (Fig. 2) with scape (including radicle) 4.4× as long as wide and smooth; pedicel slightly longer than F1; funicle 7-segmented, F1 as long
as F7, the other funicle segments slightly longer (F4 the longest), all funicle segments apparently without mps; clava 3.2× as long as wide, with 2 visible mps, shorter than combined length of F5–F7.

Mesosoma (Fig. 3) 1.24× as long as wide. Midlobe of mesoscutum longitudinally striate; anterior scutellum smooth, frenum of scutellum transversely striate; metasternum with faint sculpture of large cells; propodeum smooth, with a pair of setae near posterior margin. Fore wing (Fig. 4) 8.6× as long as wide, narrowing greatly beyond venation and then gradually broadening and slightly curving towards wing’s apex, as typical of the genus; marginal vein with 2 short setae; disc slightly infumate and with 3 short, incomplete rows of setae besides admarginal rows, leaving two bare areas: one in the beginning of the widest part of disc and the other near wing’s apex; longest marginal seta 4.5× maximum wing width. Hind wing (Fig. 4) 22.7× as long as wide; disc slightly infumate, with 1 incomplete row of 3 or 7 setae besides an incomplete admarginal row of setae; longest marginal seta 8.4× maximum wing width.

Metasoma a little shorter than mesosoma. Ovipositor short, not exserted beyond apex of gaster, occupying about 0.5 of its length, and 0.5× length of metatibia.

Measurements (µm) of the holotype. Body 340 (length of the dry-mounted specimen prior to slide-mounting); mesosoma 151; metasoma 133; ovipositor 72. Antenna: scape including radicle 66; pedicel 33; F1 30; F2 31; F3 35; F4 36; F5 34; F6 31; F7 30; clava 87. Fore wing 412:48; longest marginal seta 218. Hind wing 409:18; longest marginal seta 152.

MALE. Unknown.

DIAGNOSIS. This new species is most similar to the Nearctic D. enocki Doutt, 1974 from which it differs in having the median row of setae on the widest part of the fore wing disc originating relatively closer to the apex of the wing, thus leaving a distinct bare area (Fig. 4), whereas in the latter it originates relatively farther from wing’s apex (Fig. 5). Dicopus moscovit differs from the European species D. minutissimus Enock, 1909 in having the clava a little shorter than the combined length of F5–F7 of the female antenna (according to Pricop & Andriescu (2011), who recently redescribed and illustrated D. minutissimus, clava of the latter is as long as the combined length of F4–F7). Dicopus moscovit differs from the only other described European species, D. citri García Mercet, 1912, in having a narrower fore wing which is 8.6× as long as wide, and its longest marginal seta is 4.5× the maximum wing width whereas according to García Mercet (1912), the fore wing of D. citri is 6.4× as long as wide and its longest marginal seta is 2.8–2.9× the maximum wing width.

ETYMOLOGY. The species name is a noun in apposition referring to the Moscovites, the inhabitants of Moscovia (or Muscovy), a historical European term for the former Grand Principality of Moscow.

HOSTS. Unknown.

REMARKS. In the Palaearctic region, species of Dicopus can be recognized using the generic key by Triapitsyn & Huber (2000).
I also have examined, for comparison, specimens of some other, relevant species of *Dicopus*, as follows:

**Dicopus citri**: **Argentina** [all identified as such by A. A. Ogloblin and reported from the country by De Santis (1979)]; Buenos Aires: Bella Vista (A. A. Ogloblin): 10.IX 1963, on *Quercus ilex* [1 ♀, MLPA]; 12.IX 1963 [2 ♀, MLPA]. Castelar, 18.IX 1964 (A. A. Ogloblin), on *Q. ilex* [1 ♀, MLPA]. No locality indicated, 20.X 1964 (A. A. Ogloblin) [1 ♀, MLPA]. **France**: Gironde, Sainte Colombé, Pitray site, 44°54'N 00°02'W, 17.VIII 2000 (M. van Helden) [1 ♀, UCRC].

**Dicopus enocki**: **USA**: California, Napa Co.: Near Oakville, 38°25'40''N 122°24'03''W, 48 m (H. Wilson): 9–20.II 2013, on *Heteromeles arbutifolia* [1 ♀, UCRC]; 2–14.III 2013, on *Prunus ilicifolia* [1 ♀, UCRC]. Near St. Helena: 38°30'11''N 122°26'17''W, 58 m, 1–11.III 2012 (H. Wilson), on *Rubus* sp. [1 ♀, UCRC]; 38°30'44''N 122°26'13''W, 96 m, 2–14.III 2013 (H. Wilson), on *Quercus agrifolia* [1 ♀, UCRC]. Yountville, Grich Hills, 38°24'42''N 122°22'54''W, 58 m, 9–20.II 2013 (H. Wilson), on *Q. agrifolia* [1 ♀, UCRC].

**Dicopus longipes** (Subba Rao, 1984): **Cambodia**: Siem Reap, Angkor, Preah Khan Temple, 28.II–7.III 2006 (O. Yothin) [1 ♀, UCRC].
Dicopus minutissimus: *Austria:* Tyrol, Krössbach, 19.VII 1952 (W. Soyka), on window [1 ♀, NHMW]. *Poland:* labeled by W. Soyka as “Riesengebirge, Schlesien Moortümpel am Wege Wiesenbaude – Schlesierhaus” [in pre-war Germany]; now most likely at ca. 1400 m in Karkonosze Mountains, Karkonosze National Park, Lower Silesian Voivodeship, Poland (but also possibly in Krkonoše Mountains, Krkonoše National Park, Czech Republic), 28.IX 1933 (H.-J. Stammer) [1 ♀, 1 ♂, NHMW]. *Switzerland:* Glarus, Schwanden, 1300 m, 17.IV 1996 (B. Wermelinger), “Ex. Picea abies logs cut in spring, from middle of ca. 120 year old forest. Insects emerged in glasshouse” [5 ♀, 2 ♂, UCRC]. In some females of this species from Switzerland, the wings are somewhat reduced, with short marginal setae (Fig. 6).

Dicopus pygmaeus Doutt, 1974: USA: California [locality and collecting date are unknown] (M. S. Moratorio) [2 ♀, 1 ♂, UCRC].

Figs 5, 6. Dicopus spp., females. 5 – fore wing of D. enocki (near Oakville, 38°25′40″N 122°24′03″W, Napa Co., California, USA), 6 – a pair of wings of D. minutissimus (Schwanden, Glarus, Switzerland).
7. *Mymar pulchellum* Curtis, 1832


NOTES. This species was previously recorded from Moskovskaya oblast’ by Trjapitzin (1978) and from Primorskii krai by Triapitsyn & Berezovskiy (2001) and is newly recorded from Kamchatka and Sakhalin.

8. *Mymar taprobanicum* Ward, 1875


NOTES. This species was previously recorded from Primorskii krai by Triapitsyn & Berezovskiy (2001) and is newly recorded from Karachayevo-Cherkessiya, Krasnodarskii krai and Stavropol’skii krai.


10. *Platynocheilus cuprifrons* (Nees, 1834)

MATERIAL EXAMINED. *Russia*: Stavropol’skii krai: Achikulak, 20.VI 2002 (V. V. Kostjukov) [1 ♂, UCRC]. Prietokskiy, 29.VIII 2002 (V. V. Kostjukov) [1 ♀, UCRC].

NOTES. This species was previously recorded from Leningradskaya oblast’ by Nikol’skaya & Trjapitzin (1978) and from Primorskii krai by Kostjukov (2000) and is newly recorded from Stavropol’skii krai.
Subfamily Tetracampinae

11. Epiclerus temenus (Walker, 1839)

MATERIAL EXAMINED. **Russia:** Moskovskaya oblast’, Noginskiy rayon, Fryazevo, 13.VII 2002 (S. V. Triapitsyn) [1 ♀, UCRC].

NOTES. This species was previously recorded from Primorskii krai by Kostjukov (2000).

12. Foersterella reptans (Nees, 1834)

MATERIAL EXAMINED. **Russia:** Moskovskaya oblast’, Noginskiy rayon, Fryazevo, 13.VII 2002 (S. V. Triapitsyn) [1 ♂, UCRC].

NOTES. This species [as *F. flavipes* ( Förster, 1841)] was previously recorded from Primorskii krai by Kostjukov (2000).

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