

**PROBLES MICROCEPHALUS (GRAVENHORST, 1829)  
A NEW RECORD FOR THE TURKISH FAUNA  
(HYMENOPTERA: ICHNEUMONIDAE: TERSILOCHINAE)**

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[Çoruh, S., Kolarov, J. & Çoruh, İ. 2014. *Probles microcephalus* (Gravenhorst, 1829) a new record for the Turkish fauna (Hymenoptera: Ichneumonidae: Tersilochinae). *Munis Entomology & Zoology*, 9 (1): 451-456]

ABSTRACT: *Probles (Microdiaparsis) microcephalus* (Gravenhorst, 1829), a new record for the Turkish fauna was found from Eastern Black Sea Region in Turkey. The species is redescribed and figured in detail and a key for the Turkish species of the subgenus *Microdiaparsis* Horstmann is proposed.

KEY WORDS: Hymenoptera, Ichneumonidae, Tersilochinae, new records, Turkey.

Ichneumonidae is the biggest hymenopteran family with 51 generally recognized subfamilies 1579 genera and 24.281 described species (Yu et al., 2012). Townes (1969) estimated that there could be about 60.000 Ichneumonidae species in the world, but because of the poor knowledge of the tropical faunas the present investigators estimate that the size of the family could be higher than 100.000 (Gauld, 1997). The number of species Ichneumonidae increases rapidly in the world.

Studies on Ichneumonidae of Turkey have gained acceleration, particularly, since the last one and a half decades. Çoruh et al. (2013) reported 975 species in 282 genera for Turkey Ichneumonidae fauna. With the below mentioned contributions (Çoruh et al., 2013; Çoruh & Kolarov, 2013), the numbers of Ichneumonidae fauna of Turkey reached to 981 species and 282 genera.

Tersilochinae is a medium-sized cosmopolitan ichneumonid subfamily with over 330 described species in the World fauna. The subfamily is best represented in the Holarctic region whereas tropical faunas are still poorly studied. About 160 species from 13 genera occur in Europe (Horstmann, 1971, 1981; Khalaim, 2002; 2004a,b; 2005, Khalaim et al., 2009; Khalaim & Blank, 2011).

The genus *Probles* Förster, 1869 is moderately large group with about 38 species in Europe and Caucasus and 3 species from Eastern Asia. They are divided into 5 subgenera. Key for the subgenera of the genus was proposed by Horstmann (1981), Khalaim & Yurtcan (2011) and Çoruh & Khalaim (2012).

*Microdiaparsis* Horstmann, 1971 is a small subgenus with 8 species distributed in different parts of Palaearctic region (Yu et al., 2012). It parasitize on the species *Crioceris duodecimpunctata* (Linnaeus, 1758) (Chrysomelidae, Coleoptera) and *Luffia lapidella* (Goeze, 1783) (Psychidae, Lepidoptera).

Until now 4 species of the subgenus was known from Turkey: *Probles (Microdiaparsis) anatolicus* Horstmann, 1981 (Horstmann, 1981); *P. (M.) caudiculatus* Khalaim, 2007, (Khalaim, 2007); *P. (M.) neoversutus* (Horstmann, 1967) (Khalaim & Yurtcan, 2001) and *P. (M.) versutus* (Holmgren, 1860) (Eroğlu, Kiraç & Birol, 2011). After studying the materials, collected from Eastern Black Sea Region in Turkey, a new record for Turkey fauna, *Probles (Microdiaparsis)*

*microcephalus* (Gravenhorst, 1829) was found. The species was briefly redescribed by Horstmann (1971).

In the present paper the species is redescribed and figured in detail and a key for the Turkish species of the subgenus *Microdiaparsis* Horstmann is proposed.

## MATERIAL AND METHODS

### Study area

İkizdere (Rize) which is situated in Eastern Black Sea Region of Turkey (40° 42' N 40° 36' E), covers an area from sea level to 570 m. a. s. l. The town of İkizdere is on the river bank, 56 km from the city of Rize on the road to Erzurum. The climate is typical of the Black Sea region it rains all the time. There is snow on the high peaks and lots of glacial formation. This is hilly countryside inland from the Black Sea, forest-covered steep mountainside separated by narrow valleys, with areas of high pasture. There is broad-leaf forest at lower elevations and pine higher up. İkizdere has Anzer pasture and Ovit moorland (Http).

Vegetation: *Daucus carota* L., *Heracleum platytaenium* Boiss., *Conyza canadensis* (L.) Cronquist., *Erigeron acer* L., *Erigeron annuus* (L.) Pers., *Equisetum palustre* L., *Geranium asphodeloides* Burm. fil., *Geranium ibericum* Cav., *Geranium sylvaticum* L., *Pteridium aquilinum* (L.) Kuhn, *Prunella vulgaris* L., *Salvia forskahlei* L., *Salvia verticillata* L., *Linum hypericifolium* Salisb., *Epilobium parviflorum* Schreber, *Plantago media* L., *Alopecurus myosuroides* Hudson, *Cynodon dactylon* (L.) Pers., *Lolium temulentum* L., *Lolium perenne* L., *Sorghum halepense* (L.) Pers., *Digitaria sanguinalis* (L.) Scop., *Paspalum dilatatum* Poir., *Paspalum paspalodes* (Michx.) Scribner, *Setaria glauca* (L.) P. Beauv., *Poa annua* L., *Poa trivialis* L., *Festuca pratensis* Hudson, *Phleum phyleoides* (L.) Karsten, *Polygonum persicaria* L., *Anagallis arvensis* L., *Delphinium formosum* Boiss. & Huet, *Fragaria vesca* L., *Rubus discolor* Weihe & Nees, *Rubus hirtus* Waldst. et Kit., *Galium verum* L., *Rhinanthus angustifolius* C.C. Gmelin, *Pedicularis comosa* L., *Veronica gentianoides* Vahl. and *Urtica dioica* L.

### Sampling method and collection

Material was collected by sweeping on flowering plants in the Eastern Black Sea Turkish provinces (Rize-İkizdere) in 2003. Collected sample was transferred into a handmade aspirator and were killed with ethyl acetate. Conventional standard method (Çoruh and Özbek, 2008) was used for preparation of the samples. Material is preserved in Collection of University Plovdiv (Bulgaria). Plant specimens were collected by hand and were pressed and they were deposited at the Herbarium of Plant Protection Department (Erzurum). Plant specimens were identified according to Davis (1965-1988) and Herbarium of Atatürk University, Faculty of Agriculture, Department of Plant Protection by İrfan Çoruh.

## RESULTS

### **Subfamily Tersilochinae**

#### **Genus *Probes* Förster, 1869**

#### **Subgenus *Microdiaparsis* Horstmann, 1971**

*Microdiaparsis* Horstmann, 1971. Veröffentlichungen der Zoologischen Staatssammlung (München). 15: 78.

The subgenus is easy recognizable from other *Probles* subgenera by the follow: Malar space length no more than basal width of mandible; upper tooth of mandible longer than lower tooth; thyridia more 2.0 as long as wide; ovipositor tip distinctly sinuate, without distinct dorsal apical notch (Fig. 1).

### Key for the Turkish species of subgenus *Microdiaparsis* Horstmann

1. Head moderately narrowed behind eyes (Figs. 2, 3). Temple as long as transversal diameter of eye. .... **2**
- Head weakly or roundly narrowed behind eyes (Figs. 4, 5). Temple longer than transversal diameter of eye. .... **3**
  
2. Flagellum with about 30 segments, first segment 1.6 as long as wide (Fig. 6). Second recurrent vein almost interstitial (Fig. 7). Legs entirely red colored. .... ***P. (M.) microcephalus* (Grav.)**
- Flagellum with 34-40 segments, first segment shorter (Fig. 8). Second recurrent vein distinctly postfurcal (Fig. 9). At least hind coxa black..... ***P. (M.) anatolicus* Horstmann**
  
3. Ovipositor sheath 1.5-2.0 as long as first metasomal segment. .... ***P. (M.) caudiculus* Kalaim**
- Ovipositor sheath at least 3.0 as long as first metasomal segment.....**4**
  
4. Mesopleuron smooth, distinctly punctured. First metasomal segment smooth laterally. Glymma small, situated on hind part of petiolus. Ovipositor strongly sinuated apically (Fig. 10). .... ***P. (M.) neoversutus* Horstmann**
- Mesopleuron granulated (sometimes partly smooth in central part), not punctured, seldom with very fine and rare punctures on mat surface. Ovipositor moderately sinuated apically (Fig. 11). .... ***P. (M.) versutus* (Holmgr.)**

### ***Probles (Microdiaparsis) microcephalus* (Gravenhorst, 1829)**

*Porizon microcephalus* Gravenhorst, 1829. Ichneumonologia Europaea. Pars III. Vratislaviae, 3: 1097.

*Microdiaparsis microcephalus*: Horstmann, 1971: 78.

**Material examined:** TR, Rize, İkizdere, 24.06.2013, 1 female.

**Distribution:** Europe.

**Redescription:** Front wing 4.7 mm, body 5.6 mm, ovipositor sheath 4.2 mm long. Head weakly narrowed behind eyes (Fig. 3). Flagellum with 31 segments. First segment 1.6 as long as wide (Fig. 6), the last but one square. Frons convex in the middle and posteriorly, strongly concave behind base of each antenna. Ocelli small, its diameter 0.6 as long as distance between lateral ocellus and eye. Face convex in central part, 0.36 as high as wide. Clypeus large, 0.4 as high as wide. Clypeal fovea well visible. Upper mandible tooth longer than lower tooth. Malar space 0.66 as long as basal width of mandible. Lower part of occipital carina wide, lamelliform, connected with hypostomal carina far from base of mandibula. Head moderately coarse and dense punctured on fine mat surface, clypeus with rare and coarse punctures, the distance between points longer than their diameter.

Notaulus shallow, sternaulus well developed. Scutellum carinated only in the base. Pronotum laterally and sternauli striated transversally. Speculum very small. Front wing with large pterostigma. Radius originated from its middle. Metacarp as long as first radial vein. Second recurrent vein (2m-cu) almost interstitial, with one large bulla. Nervulus distinctly postfurcal. Parallel

vein reaching postnervulus below its middle (Fig. 7). Nervellus in hind wing distinctly reclivous, not intercepted. Hind wing with 3 distal hamuli. Legs slender, hind femur 4.4 as long as wide. Tibial spurs short, almost straight. Corelation between hind tarsal segments as 40:16:10:8:11. Propodeum areolated. Middle longitudinal carinae limiting basal area and areola partly obsolescent. Combined basal area and areola twice as short as petiolar area length. Propodeal spiracle touching pleural carina. Mesosoma and petiolar area of propodeum with fine mat surface, mesonotum with fine punctures. Msopleuron and mesosternum shine and distinctly punctured.

Metasoma luscious, not punctured, IV-VII terga concave apically in the middle. Glymma small, situated on the apical part of petiolus. Thyridia more 2.0 as long as wide. Ovipositor tip sinuate.

Black; mandible except teeth, palpi, tegulae legs entirely and metasoma except first segment red coloured, ovipositor sheath dark.

### ACKNOWLEDGEMENTS

This research including collecting of material was supported by grant Nr: BAP 234 University of Erzurum.

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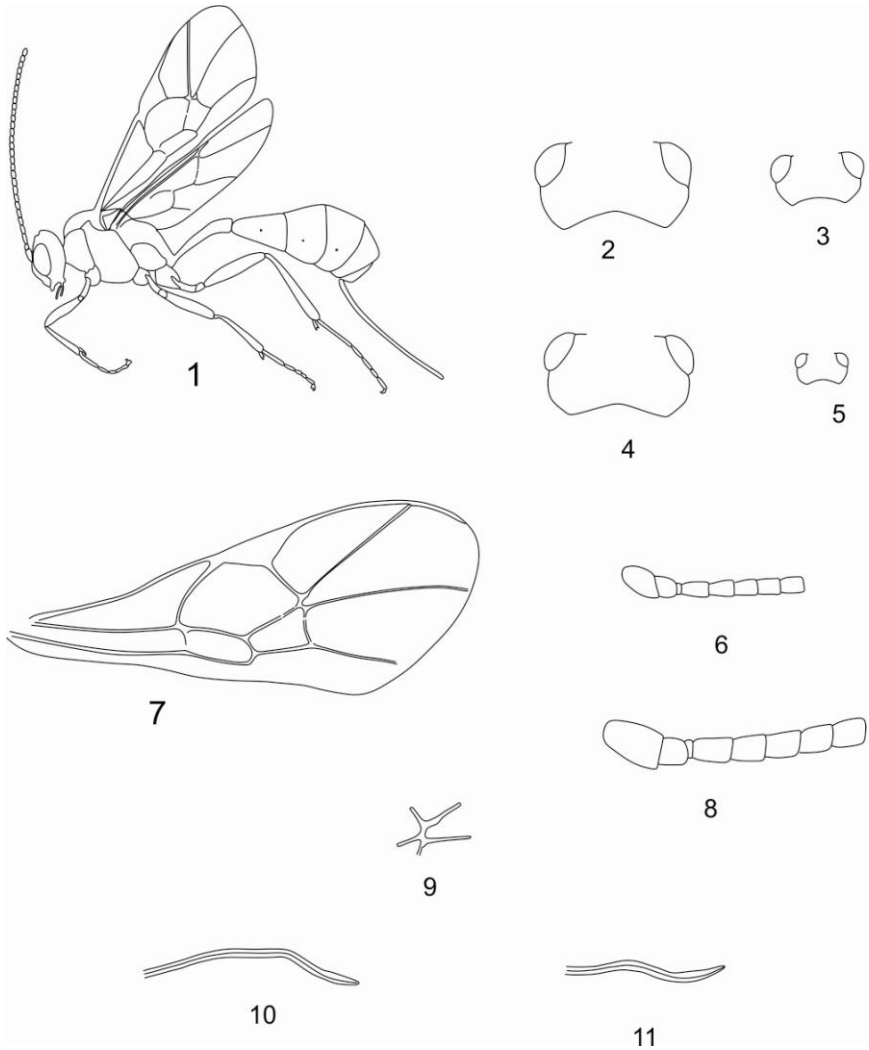
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Figure 1. Map of collected areas.



Figures 1-11. 1, 10 - *Probles (Microdiaparsis) neoversutus* Horstmann; 1 – total view; 10 – ovipositor tip; 2, 8, 9 - *P. (M) anatolicus* Horstmann; 2 – head from above; 8 – base of antenna; 9 – second recurrent vein; 3, 6, 7 - *P. (M) microcephalus* (Grav.); 3 - head from above; 6 - base of antenna; 7 – front wing; 4 - *P. (M) caudiculus* Kalaim, head from above; 5, 11 - *P. (M) versutus* (Holmgr.); 5 - head from above; 11 - ovipositor tip.