

## Three new milichiid species (Diptera, Milichiidae) from Hungary

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PAPP, L.: Three new milichiid species (Diptera, Milichiidae) from Hungary. - *Annls hist.-nat. Mus. nat. hung.* 1993, 85: 133-139.Abstract - *Desmometopa discipalpis* sp. n., *Madiza eximia* sp. n. and *Paramyia hungarica* sp. n. are described from Hungary. A key for the World species of *Madiza* Fallén, 1810 is given. The genus *Paramyia* is reported from the West Palaearctic for the first time. The differentiating features of *Paramyia* Williston, 1897 are discussed. With 10 figures.

In 1992 a revision of the collection of the species of Milichiidae was made in the Department of Zoology of the Hungarian Natural History Museum identifying unnamed material and re-ordering the named ones. This new collection contains 66 named species (nearly one-third of the known species) of some 3,500 specimens. No surprise that quite numerous new species were also found. However, it seems remarkable that 3 new species were also found from Hungary, all of them are unique in their genera in some respects. These three species are described below with comments.

The type-specimens are deposited in the collection of the Department of Zoology of the Hungarian Natural History Museum, Budapest (below HNHM).

***Desmometopa discipalpis* sp. n.**  
(Figs 1-6)→ Chandler 1988:  
? syn. to *palpalis* (Wiedemann)  
Zeller 1843

**H o l o t y p e** male (HNHM): Hungary, Tihany, Csúcshegy - 1969.V.29., leg. MÓCZÁR L. (wings twice broken). - **P a r a t y p e** male (HNHM): same as for holotype (abdomen and genitalia in a plastic microvial with glycerin).

**M e a s u r e m e n t s** in mm: body length 2.18 (holotype), 2.92 (paratype), wing length 2.10 (holotype), 2.63 (paratype), wing width 0.76 (holotype), 0.95 (paratype).

Body dull dark grey, mesonotum and abdomen with thick, lighter grey microtomentum.

Frons dark, velvety black, interfrontal plates rather thin, silvery grey, like fronto-orbital plates and ocellar triangle. Cheeks rather thin, epistomal margin and lateroventral corner of facial plate comparatively weakly warped forward. Postocellars long and thick like ocellars, 2 pairs of strong exclinate *ors*. Palpi in deep foveae, subdiscoidal (Fig. 1), with short, erected and pointed setae marginally. Subocular black bare area narrow. Vibrissal angle cca. 80°. Labellae long, with long, erect bristles. Arista rather long, 0.55 mm (paratype).

Thoracic chaetotaxy as in other species of *Desmometopa*. Pleurae dull, except for a large shining black spot posterally to fore coxae, this spot is very similar to that of *D. m-nigrum* (see SABROSKY 1983: Fig. 23). Katepisternum with 3 medium-long bristles anteriorly to the strong katepisternal.

Fore coxa and fore femur very long and dull black, fore coxa 0.76 mm, fore femur 0.97 mm (paratype). Ventoapical bristle of mid tibia very long, 0.12 mm (holotype) to 0.17 mm (paratype). Male hind tibia (Fig. 2) broad and flat, though not as much as in *leptomtopoides* SABROSKY, 1983; subapical swelling with 3 short bristles.

Wings light greyish, veins brown. Section of costa between costal breaks with 10 erect, coarse, black setae (apart from the strong bristle at radial costal break).  $t_a-t_p$  0.245 mm,  $t_p$  0.148 mm, terminal section of vein M 0.93 mm (holotype).



Preabdomen normal, male genitalia as a whole similar to the ground-plan of the genus. Cercus (Figs 3-4) large, with a high, bare submedial ridge in its whole length; base of this ridge with a row of long bristles (Fig. 4). Surstylus inclinate (Fig. 3), short digitiform and widely rounded in lateral view (Fig. 4), connected to epandrium by a narrow bridge and its apex rather anteral in its widest (sublateral) view (Fig. 5); surstylus with several moderately long bristles. Basiphallus strongly sclerotized, basal part of distiphallus rodlike, apex is able to swell in water (i.e. also when alive). Hypandrial complex (Fig. 6) form a double-bodied ship, subanal plate (an interepandrial sclerite connecting hypandrium, cerci and bases of surtyli) distinct. Aedeagal apodeme comparatively short, ejaculatory apodeme rather small (Figs 4, 6).

*Desmometopa discipalpis* sp. n. keys to *D. atypica* SABROSKY, 1983 (Panama to Peru) in SABROSKY's key; it has no closer relative among the West Palaearctic species. Actually it is very surprising to find such a unique species in Europe after SABROSKY's thorough revision. The characteristics of the male genitalia seem enough to define it versus any other species of *Desmometopa*.

**E t y m o l o g y:** This species is named after its disciform palpus.

### *Madiza eximia* sp. n.

(Fig. 7)

**H o l o t y p e** female (HNHM): [Hungary], Bükk N.[ational] P[ark], Szentlélek hg., 1979. VI. 11., leg. BAJZA [ZSUZSA]-PAPP L.[ÁSZLÓ].

**M e a s u r e m e n t s** in mm: body length 2.71, wing length 2.50, wing width 0.95.

Body shining black.

Frons longer than broad, all shining, though less brightly than in *glabra*. Head bristles comparatively very long (Fig. 7, cf. e.g. PAPP 1978: Fig. 18/B). Postocular part of head broader than in congeners. Two pairs of *ors* as usual in this genus, anterior *ors* pro- and excline, posterior *ors* excline and slightly reclinate (Fig. 7); an additional *ors* between bases of posterior *ors* and *vti*, which is not much shorter than anterior *ors*. Postocellars very long and parallel to each other. First peristomal as long as vibrissa (!); gena much narrower than breadth of flagellomere, below eyes (peristomally) with 3 long and straight bristles. Lunule short, triangular. Antennae short, flagellomere semiglobular, arista comparatively long, with medium-long cilia. Labellae and all the proboscis short (Fig. 7, cf. Figs 45-46 of HENNIG 1937). Palpi short and broad, with comparatively long, straight bristles.

Anterior *dc* about half as long as posterior *dc*. Prescutellars (acrostichals) very long. Proepisternum, anepisternum and anepimeron all bare. Katepisternum with 1 very strong bristle.

Legs black, but all tarsi, knees and basal part of tibiae ochreous. Fore coxae and femora normal.

Wings greyish, veins ochreous. Basicosta with 1, costa anteriorly to first break with 3 long bristles.  $t_a$ - $t_p$  0.285 mm,  $t_p$  0.138 mm, terminal section of vein M 1.12 mm. Halteres black.

Abdominal terga all shining. Female cerci very long and thin, with 5 pairs of medium-long and several short bristles.

*Madiza eximia* sp. n. is a unique species of this genus. Its differentiating features are summarized in the key below.

**E t y m o l o g y:** from the Latin word "*eximius*" := exceptional, uncommon, extraordinary.

#### KEY TO THE WORLD SPECIES OF *MADIZA* FALLÉN, 1810

- 1 (2) Orbits with an additional *ors* between bases of posterior *ors* and *vti*, which is not much shorter than anterior *ors* (Fig. 7). Proboscis shorter than height of head. Genae much narrower than flagellomere. Fore coxae and femora normal. Frons and all abdominal sclerites shining (Hungary)

*eximia* sp. n.



- 2 (1) Orbits with a short or indistinct *ors* between bases of posterior *ors* and *vti*. Proboscis longer than height of head.
- 3 (4) Frons dull. Fore coxae and femora very long and much swollen (Fig. 18/D of PAPP 1978). Genae not broad, narrower than flagellomere. Dorsal part (i.e. majority) of abdominal terga 1-4 with grey microtomentum. Anterior *dc* longer than half length of posterior one (Hungary, Yugoslavia)
- pachymera* BECKER, 1908
- 4 (3) All parts of frons or at least orbits shining. Fore coxae and femora normal (Fig. 18/E of PAPP 1978). Gena broader than flagellomere. All parts of abdomen shining black.
- 5 (6) Longest axis of head between occiput and vibrissal angle (Fig. 18/B of PAPP 1978). All parts of frons shining. Head bristles very short and comparatively thin. Anterior *dc* pair shorter than half length of posterior *dc* (widespread, Holarctic)
- glabra* FALLÉN, 1820
- 6 (5) Longest axis of head between vertex and base of palpi, i.e. perpendicular to longitudinal axis of body (Fig. 45 of HENNIG 1937). Interfrontal plate dull except for a pair of thin impression bordering ocellar triangle. Anterior *dc* longer than half length of posterior *dc* (Great Britain, Switzerland)
- britannica* HENNIG, 1937

The unique features of this new species facilitated a study of the known species of *Madiza*. SABROSKY listed only *glabra* from the Nearctic region (with *confusa* CURRAN, 1934 as a junior synonym). There are not any species known from the Neotropical, Afrotropical or Australasian and Oceanian regions (see e.g. SABROSKY 1973, 1989) (and no species corresponding to the description by the key of SABROSKY (1987) or to the description of the genus in PAPP (1978) was found in the unnamed material of the HNHM).

SABROSKY (1977) listed only *Madiza lacteipennis* HENDEL, 1913 for the genus *Madiza* from the Oriental Region. Two female specimens of this species were found in the collection of the HNHM from Formosa (Taiwan), which is the type-locality of the species (its 3 female syntypes are actually from Anping and Tainan). Our specimens are from Anping and Takao, i.e. one of them is a topotypic specimen (the smaller half of the SAUTER's collection was purchased by K. KERTÉSZ for the HNHM). Our study revealed that *lacteipennis* HENDEL is a species of *Leptometopa* BECKER, 1903, and so it is proposed in a new combination of *Leptometopa lacteipennis* (HENDEL, 1913). Since there are specimens of all the known species of *Madiza* in our collection (incl. that of *Leptometopa halteralis* (COQUILLET), formerly placed in *Madiza*), the above key was put together for the World species.

### *Paramyia hungarica* sp. n.

(Figs 8-10)

**H o l o t y p e** male (HNHM): Hungary: A.[ggteleki] N. P., Aggtelek, Medvéskert – cefre családok [fermenting fruit bait], 1988. VII. 19., leg. PAPP L.

**M e a s u r e m e n t s** in mm: body length 1.26, wing length 1.26, wing width 0.578.

Body black shining (abdomen dark grey dusted).

Head (Fig. 9) higher than long. Ocellar triangle extended to a shining interfrontal triangle reaching nearly to lunule. Lunule very short, facial keel low and not sharp, mouth edge slightly protruding in profile (Fig. 9). Gena half as broad as flagellomere. Both *ors* pairs exclinate, both *ori* pairs inclinate; a short (0.052 mm) additional *ors* between posterior *ors* and *vi*; *vi* extremely long, *poc* pair long, strong and inclinate. Flagellomere comparatively longer than in *Xenophyllumyza deserticola* (Fig. 8, cf. Fig. 1 of OZEROV 1992): length/width 0.147mm/0.112mm, with long cilia. Arista short, 0.259 mm, its cilia as long as on flagellomere. Whole length of proboscis 0.86 mm. Apex of palpi with 5 straight bristles.

Thoracic chaetotaxy: 1 h, 2 np, 1 prsut, 1 sa, 2 pa, 2 dc, 1 prsc, 2 sc. Anterior dorsocentral caudal to supraalar and less than half as long as posterior one. Apical scutellars widely divergent. Proepisternum with a minute bristle, anepisternum and anepimeron bare. Katepisternum with 1 very strong bristle.

Legs brown, short but robust, tarsi light brown. Tarsomeres slightly dorso-ventrally flattened. Mid tibia with a strong ventroapical, otherwise legs without characteristic bristles.

Membrane of wings with some light brownish hue, costal and radial veins greyish ochreous, other veins indistinct yellowish. No hind crossvein (dm-cu) nor even a vestige of a vein there (Fig. 10). Veins R2+3 and R4+5 nearly parallel and close to each other.  $t_1$  crossvein proximal to R1 break of costa (Fig. 10). Anal vein distinct on a section of c. 0.2 mm as a faint line. Halteres black.

Abdominal terga with dark grey microtomentum. Male genitalia not studied.

*Paramyia hungarica* sp. n. is the first known species of the genus *Paramyia* WILLISTON, 1897 from the Palaearctic. *Xenophyllumyza* OZEROV, 1992 (type-species: *X. deserticola*) described most recently from Turkmenistan seems related (or even congeneric), but this question must be cleared in a subsequent revision of the species of *Paramyia*. In the collection of the HNHM there are specimens of 2 undescribed species from the Neotropical region and another species (*inconspicua* MALLOCH or a new species) from Viet Nam (*inconspicua* hitherto known from Java only). SABROSKY (1989) listed "Unidentified spp." from Australia. That revision seems even more interesting since it has been found that *Paramyia* and *Aldrichiomyza* HENDEL are related. Their shared synapomorphies are: costa extending to R4+5, proboscis very long, no vibrissae, veins R2+3 and R4+5 parallel and close to each other, veins R4+5 and M divergent. *Aldrichiomyza* and *Xenophyllumyza* share also the features that anterior *ors* are proclinate and both possess 2 pairs of katepisternals. The differentiating characters of *Paramyia* are its normal pubescent arista, and the loss of dm-cu crossvein (and 1 or 2 dc pairs). The only synapomorphies for the species of *Aldrichiomyza* are: their thick arista with dense thick short setae, more dorsocentral pairs (incl. a presutural pair) and the retention of dm-cu crossvein. It seems indispensable to study the details of male genitalia in order to clear up relations among those three genera.

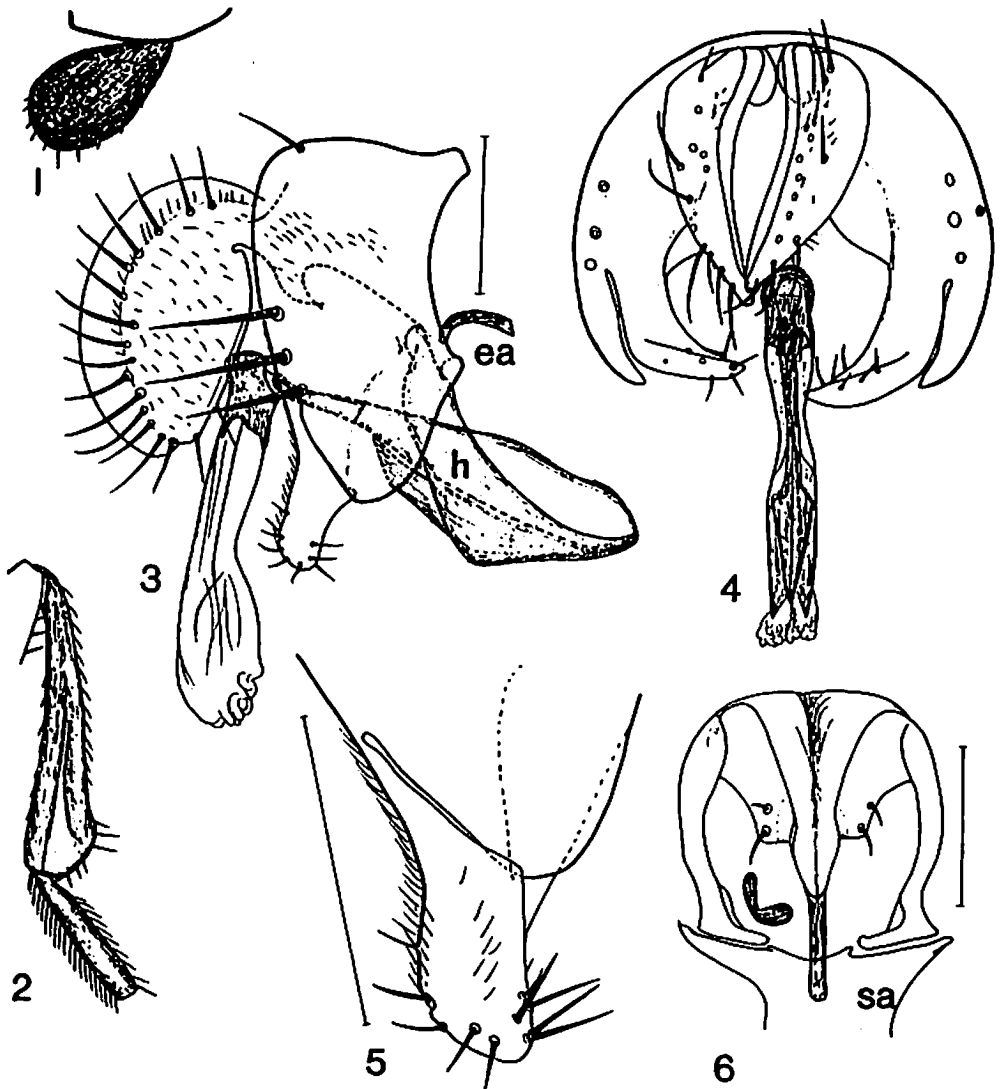
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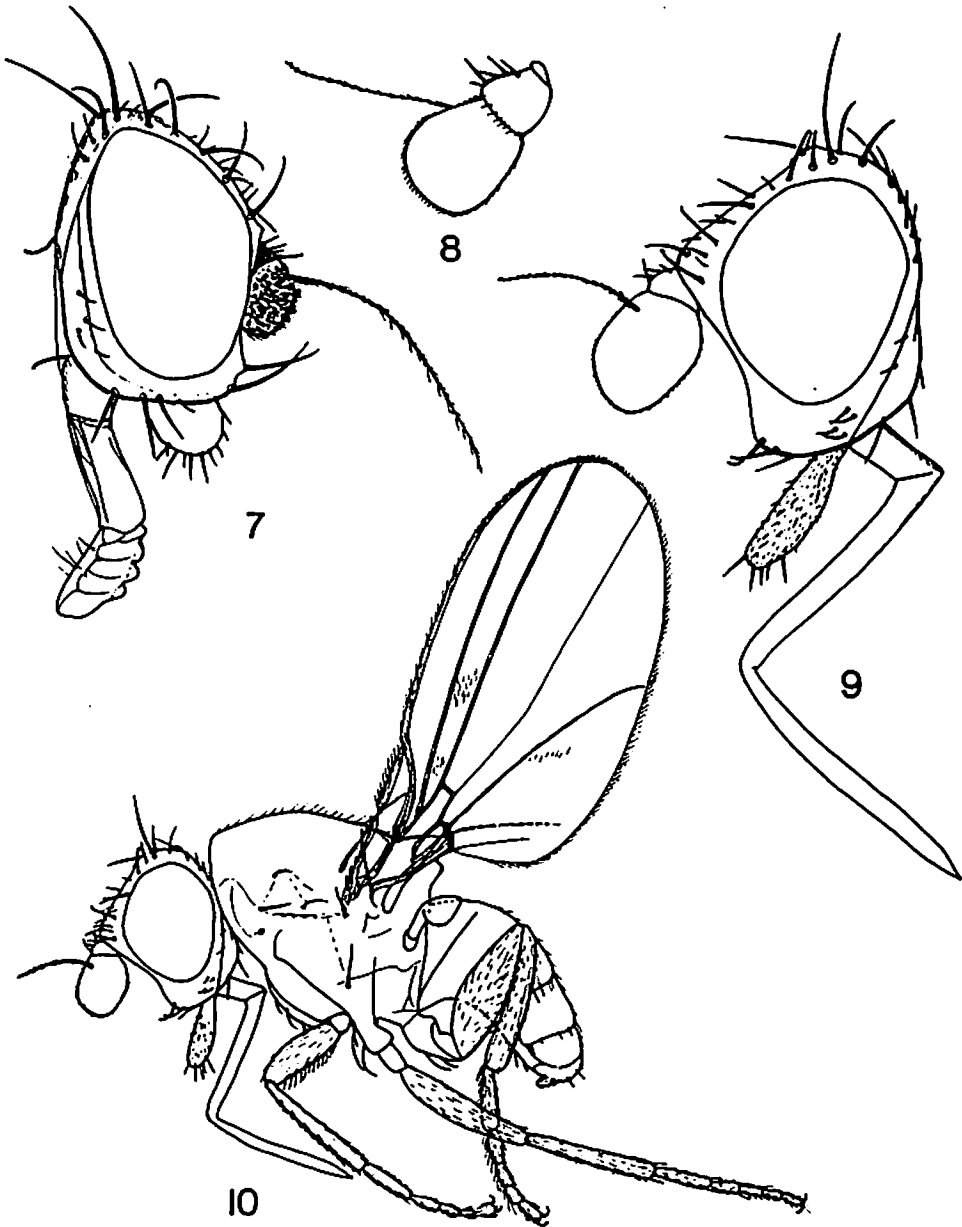
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Figs 1-6. *Desmometopa discipalpis* sp. n., male: 1 = palpus in lateral view, 2 = hind tibia laterally, 3 = genitalia in caudal view, 4 = genitalia in lateral view, 5 = surstylus in its widest extension (sublateral view), 6 = hypandrial complex. - Scales: 0.1 mm for Figs 3-4, 6 and Fig. 5, respectively. Abbreviations: ea = ejaculatory apodeme, h = hypandrium, sa = subanal plate



Figs 7-10. 7 = *Madiza eximia* sp. n., holotype female: head laterally. 8-10 = *Paramyia hungarica* sp. n., holotype male: 8 = antenna in interior (lateral) view, 9 = head laterally, 10 = habitus.