

# The type material of Milichiidae and Carnidae (Insecta: Diptera: Schizophora) in the Naturhistorisches Museum Wien

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## Abstract

The type specimens of Milichiidae and Carnidae in the Natural History Museum Vienna are listed. Lectotypes are designated for *Phyllomyza epitacta* HENDEL, 1914, *Milichia integra* BECKER, 1922, and *Pholeomyia longifacies* HENDEL, 1933. Additionally, *Madiza palpalia* WAHLBERG is considered as an unavailable name for *Desmometopa discipalpis* PAPP, 1993.

**Key words:** Milichiidae, Carnidae, lectotype designation.

## Zusammenfassung

Das Typenmaterial der Fliegenfamilien Milichiidae und Carnidae im Naturhistorischen Museum Wien wird aufgelistet. Lectotypen werden für die Arten *Phyllomyza epitacta* HENDEL, 1914, *Milichia integra* BECKER, 1922 und *Pholeomyia longifacies* HENDEL, 1933 designiert. *Madiza palpalia* WAHLBERG wird als nicht verfügbarer Name für *Desmometopa discipalpis* PAPP, 1993 behandelt.

## Introduction

The Diptera collection in the Naturhistorisches Museum Wien in Austria contains about 3 drawers of Milichiidae and 2 drawers of Carnidae. A visit to the museum in September 2005 revealed several unmarked types, most of which were described by Hendel.

The purpose of this paper is to list all Milichiidae and Carnidae types in the NHMW and to designate three lectotypes. The label data for all types are cited. Additionally, the species *Desmometopa discipalpis* PAPP, 1993 (synonym: *Madiza palpalia* WAHLBERG) is discussed, because the hitherto unknown female is present in NHMW. Photos of several Carnidae types can be found at <http://www.diptera.myspecies.info> and photos of several Milichiidae types can be found at <http://www.milichiidae.info>.

Terminology and classification of Milichiidae follow BRAKE (2000), the classification of Carnidae follows BRAKE (in press).

Abbreviations: H – handwritten, HT – holotype, LT – lectotype, P – printed, PLT – paralectotype, ST – syntype.

Type depositories: DEI – Deutsches Entomologisches Institut, Müncheberg, Germany;

HNHM - Hungarian Natural History Museum, Budapest, Hungary; NHMW - Naturhistorisches Museum Wien, Vienna, Austria; USNM – National Museum of Natural History, Washington, D.C., United States; UZMH - Zoological Museum, University of Helsinki, Finland.

## Milichiidae

### Phyllomyzinae

#### *Aldrichiomyza agromyzina* (HENDEL, 1911)

*Aldrichiella agromyzina* HENDEL, 1911: 37.

ST 3♂3♀ on one pin and 2♂3♀ on second pin. "Brookings / S Dak", "Aldrichia / agromyzina H. det. F. Hendel" Further ST are in the USNM.

#### *Neophyllomyza leanderi* (HENDEL, 1924)

*Phyllomyza leanderi* HENDEL, 1924: 406.

ST 2♂2♀ and two further ST covered in fungus. All specimens bear the label: "Austria sub. / Kremsm. / Czerny / [back of label:] 31/7.06" One male bears the additional label: "Phyllomyza / leanderi H. / ♂ det. Hendel" and one female bears the additional label: "Phyllomyza / leanderi H. / ♀ det. Hendel"

The type depository of two further syntypes mentioned in the original description is unknown.

Descriptive note: The halter of males is darker (nearly black) than the halter of females (nearly yellow).

#### *Phyllomyza epitacta* HENDEL, 1914

*Phyllomyza epitacta* HENDEL, 1914: 97.

ST 1♂, "Paroe, nördl. Paiwan- / Distr. (Formosa) / H. Sauter VIII. 1912", "Phyllomyza epitacta H. / Det. Hendel" There is an additional ♂ with the same locality label and a ♀ from "Chipun (Formosa) / H. Sauter VII. 1912"

Of these three specimens only the ♀ agrees with the description (yellow palpus, basoflagellomere yellow ventrally), which seems to be based on females only, as the enlarged basoflagellomere of males is not mentioned. According to HENNIG (1941) and ROHLFIEN & EWALD (1970) there was a syntype from Chipun in DEI, but the specimen is lost and only the pin remains. In contrast to the four above mentioned specimens/pins, Hendel's description is based on only 3 specimens from Chipun and Paroe. Based on the external evidence from Hendel's determination label **I here designate the male from Paroe with Hendel's label as the lectotype**. The purpose of this designation is to fix a male specimen as primary type because identification within this genus relies heavily on male characters. I cannot determine whether the female with the yellow palpus belongs to the same species.

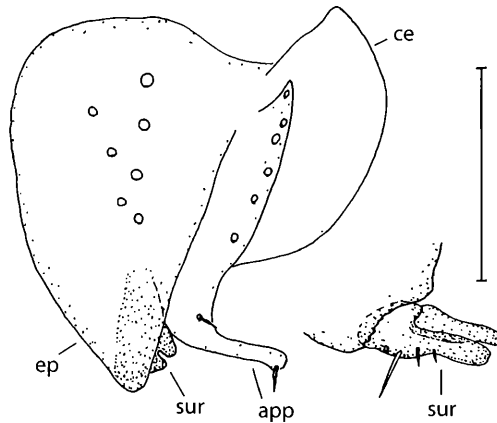


Fig. 1: *Phyllomyza epitacta*, male epandrium with cercus and surstylus in lateral view and separately surstylus in greatest extension (posteroventral view). Abbreviations: app – appendix, ce – cercus, ep – epandrium, sur – surstylus. Scale bar: 0.1 mm.

### Description of lectotype:

Coloration: Brown except for yellow distal tip of femora, fore- and midtibia, basal and distal tip of hindtibia, and all tarsi. Gena light brown, all setae reddish brown. Halter orangebrown, wing hyaline.

Head: Eye  $1.4\times$  as high as long, gena  $0.1\times$  as high as eye. Frons  $1.3\times$  as long as broad, frontal triangle extending to level of middle orbital seta. Chaetotaxy of frons as usual for *Phyllomyza*. Pedicel with one long seta, which is nearly as long as orbital setae, one seta which is less than half as long and several short setulae. Basoflagellomere  $0.7\times$  as long as eye, as long as high and nearly circular in lateral view except for slight apicoventral edge; covered with dense white pubescence about as long as base of arista thick. Arista inserted preapically on dorsal side, pubescence about  $2\times$  as long as base of arista thick. Palpus about as long as basoflagellomere,  $3.4\times$  as long as wide, flat, lanceolate, with short setulae at tip and ventral side, pubescence as long as on basoflagellomere, but brown and inconspicuous.

Thorax with brown microtomentum except for polished area on part of anepisternum and katepisternum; 1 postpronotal, 2 notopleural of which anterior seta is nearly  $2x$  as long as posterior seta, 1 presutural, 1 supra-alar, 1 postalar, 1 intra-alar, and 3 postsutural dorsocentral setae, anterior dorsocentral only slightly longer than acrostichal setulae, acrostichal setulae in irregular rows, no prescutellar acrostichal seta, 1 basal and 1 cruciate apical scutellar seta, anepisternum bare, 1 katepisternal seta and row of setulae anterior to katepisternal seta from dorsal to ventral margin of katepisternum, no anepimeral seta.

Wing: 1.5 mm long,  $2.3\times$  as long as wide. Distal section of M1 about  $5\times$  as long as penultimate section. Costal section between R2+3 and R4+5 nearly as long as section between R4+5 and M1.

Leg: Basitarsomere of hindleg with yellow comb of setulae.

Male terminalia (Fig. 1): Surstylus bilobate, distiphallus short, cercus with ventral appendix, which is directed posterad.

*Phyllomyza epictata* is most similar to *P. nigripalpis* DE MEIJERE, but in this species the basoflagellomere apparently has no white pubescence and the halter is yellow. *Phyllomyza dilatata* MALLOCH, which also occurs in Taiwan, differs in having the hindfemur thickened and the palpus leaflike. *Phyllomyza epictata* does not appear to have thickened hindfemora, but it is difficult to tell because the femora are flattened in both male specimens. The palpus is similar in both species, but according to the figure of Malloch it seems to be bigger in *P. dilatata*.

***Phyllomyza equitans* (HENDEL, 1919)**

*Neophyllomyza equitans* HENDEL, 1919: 198.

ST 1 ♀, together with *Dolycoris baccarum* L. on one pin, "equitans / n.sp. / det. Hendel / [back of label:] 6./6. Bisamberg / W. Ö.", "Phyllomyza / equitans Hend. ♀ / Det. J. Swann 1997" ST 1 ♀, double mounted, same labels as first specimen but back side of first label reads: "Freiheitsau / Juli"

***Phyllomyza longipalpis* (SCHMITZ, 1924)**

*Neophyllomyza longipalpis* SCHMITZ, 1924: 16.

HT ♂, "fenstr / Sittard / 20.8.19", "Neophyllomyza / longipalpis ♂ / Holotype Det. Schmitz", "longipalpis Schmitz"

***Phyllomyza lucens* HENDEL, 1924**

*Phyllomyza lucens* HENDEL, 1924: 405.

HT ♀, "Rapallo. / 20/4. 4/302", "Phyll. / lucens H. / det. Hendel"

***Phyllomyza melania* (HENDEL, 1919)**

*Neophyllomyza melania* HENDEL, 1919: 198.

HT ♀, "melania / n.sp. / det. Hendel / [back of label:] Unterberg / N. O. 16./6." Additional 1 ♂ 3 ♀ from Austria, 1 ♂ 1 ♀ of these reared from "Eichenmulm" (rotting oak).

***Phyllomyza tetragona* HENDEL, 1924**

*Phyllomyza tetragona* HENDEL, 1924: 407.

HT ♀, "Liegnitz / 4. 34045.", "Phyllomyza / tetragona / ♀ det. Hendel", "Phyllomyza tetragona Hendel ♀ / det. J. Swann 1997"

## Madizinae

***Desmometopa ciliata* HENDEL, 1919**

*Desmometopa ciliata* HENDEL, 1919: 200.

PLT 1 ♀, head missing, "Australia / Biró 1900", "N.S. Wales / Sydney", "Desmometopa ciliata H. / det. Hendel", "Paratype [yellow label]"

The lectotype [HNHM] was designated by SABROSKY (1983).

***Desmometopa singaporensis* KERTÉSZ, 1899**

*Desmometopa singaporensis* KERTÉSZ, 1899: 194.

PLT 3 ♀, "Singapore, Biró 1898" One ♀ with additional label: "Desmometopa / singaporensis / Kert. [H] / det. Kertész" is a true *D. singaporensis*, but the ♀ with the additional label: "Desmometopa / singaporensis / Kert. det. Hendel" and the ♀ with the label: "singaporensis [H]" are in fact *D. varipalpis*.

These three specimens are probably the specimens mentioned by SABROSKY (1983: 45), even though they do not bear Sabrosky's label and even though one of them is a *D. singaporensis*, contrary to Sabrosky's statement that all three are *D. varipalpis*.

***Desmometopa sordida* (FALLÉN, 1820)**

= *Agromyza m-atrum* MEIGEN, 1830: 170.

Possible ST 1 ♀, "atrum / Coll. Winth."

***Desmometopa discipalpis* PAPP, 1993**

*Desmometopa discipalpis* PAPP, 1993: 133.

1 ♂ 1 ♀ from Germany, Stuttgart, reared from "*Populus* Mulm" (rotting poplar tree) with *Cossus*, determined by Hendel as *D. sordida*.

This is the first record of a ♀ and it differs from the male in having a normal shaped hindtibia. It does have enlarged palpus, forecoxa and -femur, but these are not as large as in the male. Contrary to PAPP's (1993: 134) statement, *D. discipalpis* keys to *D. sp. H* in SABROSKY's key (1983: 15), not *D. atypica* SABROSKY. The description of *Desmometopa sp. H* agrees with the description of *D. discipalpis* and Sabrosky's specimens were also reared "des galerie du *Cossus* de Moskat" in Algeria. Therefore I think that *Desmometopa sp. H* is *D. discipalpis*.

There is some confusion about the name *Madiza palpalia* WAHLBERG (in ZETTERSTEDT 1848: 2785). This name was introduced in a letter quoted by Zetterstedt in a footnote under *Agromyza sordida* FALLÉN. CHANDLER (1998: 143, CHANDLER et al. 2001: 201) used this name as a valid species-group name and as the possible senior synonym for *discipalpis* PAPP. Previously VERRALL in SCUDDER (1882: 215) recognized this name as a genus-group name, because it was written with a capital initial, as did SCHULZE & KÜENTHAL (1935: 2468) and NEAVE (1939: 540). The name was not cited in the old Palaearctic catalog by BECKER (1905), the new catalog by PAPP (1984), nor SABROSKY's (1983) revision of *Desmometopa*. However, BECKER (1907: 511) and HENNIG (1937: 43) used the name as a synonym to *Desmometopa sordida*. I consider this name to be unavailable according to ICZN Art. 11.6 (Publication as a synonym) because it was cited by Zetterstedt under *D. sordida* and because Wahlberg himself stated that *palpalia* is "perhaps" the male of *D. sordida*. As outlined above, the name has not been treated as an available name before 1961. Since the characters given by Wahlberg agree with the description of *Desmometopa discipalpis*, the valid name for this species is therefore *D. discipalpis*.

***Leptometopa coquilletti* (HENDEL, 1907)**

*Hypaspistomyia coquilletti* HENDEL, 1907: 241.

ST 1 ♀, "Aden, XII.98 / leg. O. Simony", "Hypaspistomyia / Coquilletti / Hendel" Also ST 1 ♀, "Aden, XII.98 / leg. O. Simony", "H. coquilletti / Hend. / det. Becker", "Hypaspistomyia H."

***Leptometopa lacteipennis* (HENDEL, 1913)**

*Madiza lacteipennis* HENDEL, 1913: 108.

ST 1 ♀, "Anping / Formosa / H. Sauter, V.1912", "Madiza ♀ / lacteipennis / H. det. Hendel" There is also a ♀ with the label: "V.12 Tainan / Formosa / H. Sauter", which could be a syntype.

In DEI there are two ST ♀ from Anping (ROHLFIEN & EWALD 1970). This would together make ST 3 ♀ from Anping. Hendel, however, cites 3 ♀ from Anping and Tainan, so the specimen from Tainan has to be a syntype and one specimen from Anping can't be a syntype.

***Leptometopa latipes* (MEIGEN, 1830)**

*Agromyza latipes* MEIGEN, 1830: 177.

Possible ST 1 ♂, "Agromyza latipes M." Also 1 ♀, "130", "[small green quadrangle]", "Coll. Winthem"; 1 ♂ "Hamb. / in fenestr", "Coll. Winthem"; 1 ♀, "Coll. Winthem"; 1 ♀, "[small green quadrangle]", "131", "Coll. Winthem"

***Leptometopa rufifrons* BECKER, 1903**

= *Hypaspistomyia latigenis* HENDEL, 1933: 54.

HT ♂, "Hypaspist. / latigenis / ♂ Hend. / F. Hendel det. / [back of label:] Arbe / VII. 1928"

## Milichiinae

***Milichia decora* (LOEW, 1870)**

*Lobioptera decora* LOEW, 1870: 9.

6 ♂ 3 ♀ from Corsica in 1855 could be syntypes. Of these 4 ♂ 3 ♀ bear the labels: "Mann / Corsica / 1855 [P]", "decora Lw / det. F. Hendel", "speciosa Mg. / det. Schiner" 1 ♂ bears the label: "Mann / Cors. / 855 [H]" and 1 ♂ with abdomen missing the label: "decora Lw. / Corsica [H]"

***Milichia integra* BECKER, 1922**

*Milichia integra* BECKER, 1922: 71.

ST 1 ♂, "Tonga / 10.-13.IV", "Aegypt. Sudan / Ebner, 1914", "M. integra / Beck. / det. Becker" ?ST 2 ♂ 1 ♀, "El Obeid / 13-14 III", "Aegypt. Sudan / Ebner, 1914"

The latter 3 specimens belong to another species, maybe *M. apicalis* SABROSKY. BECKER (1922) cites a type series of 1 ♂ 3 ♀ with the above data, so it is questionable, whether Becker made an error in citing the gender and the latter 3 specimens belong to the type series, or whether they do not belong. **I here designate the specimen from Tonga as the lectotype** in order to fix a specimen as primary type which corresponds to Becker's description.

***Milichia speciosa* MEIGEN, 1830**

*Milichia speciosa* MEIGEN, 1830: 132.

ST1 ♂ 1 ♀, on one pin, "Marseille", "Coll. Winthem", "*Milichia speciosa*" ?ST1 ♀, "*speciosa*", "Coll. Winthem"

= *Lobioptera marginata* MIK, 1864: 796.

ST 1 ♀, "Illyria / Rubbia / 2.5.64 / Mik", "Lob. mar- / garitata mihi" Mik used both spellings, *marginata* and *margaritata* in his paper and BECKER (1905: 237) first revised the name and used *L. marginata* as the valid name.

***Milichiella argyrogaster* (PERRIS, 1876)**

= *Lobioptera tiefii* MIK, 1887: 178.

ST 3 ♂, "Carinthia / Ob. Federaun, Mik, 13.6.884", "*Lobioptera tiefii* Mik / det. Hendel" The male terminalia of one of the syntypes agree with the figures in IWASA (1999, fig. 7-9).

***Milichiella bimaculata* BECKER, 1907**

= *Eccoptomma freyi* HENDEL, 1936: 6.

ST 1 ♀, "Tenerife / Icod. d. l. Vinos / R. Frey", "2251", "*Eccoptomma / Freyi* Hend.", "Typus?" This is one of three female syntypes described by HENDEL. FREY (1958: 62) incorrectly cited a holo- and allotype from UZMH, but these two specimens must be syntypes, too.

***Milichiella hendeli* BRAKE, 2000**

= *Milichiella nitida* HENDEL, 1911: 39.

HT ♂, one wing missing, "*Milichiella nitida* n.sp. / det. F. Hendel", "Pacific Grove, Cal. / May 06", "wet meadow"

***Pholeomyia anomala* HENDEL, 1933**

*Pholeomyia anomala* HENDEL, 1933: 82.

HT ♂, in good condition, "13.3", "Soledade", "Bras. Exped. / Penther '03", "*Pholeomyia anomala* H. ♂ / F.Hendel det"

***Pholeomyia argyrophenga* (SCHINER, 1868)**

*Lobioptera argyrophenga* SCHINER, 1868: 291.

HT ♂, in bad condition, only thorax and wings left, "Lindig / 1864 / Venezuela", "*Lobioptera / argyrophenga* Schin."

This specimen was redescribed by HENDEL (1932: 135).

***Pholeomyia leucozona* BILIMEK, 1867**

*Pholeomyia leucozona* BILIMEK, 1867: 903.

LT ♂, dusted, wing tips damaged, "14. Jaenner", "Bilimek / Cacahua / milpa", "*Pholeomyia leucozona*", "LectoHOLOTYPE / *Pholeomyia leucozona* ♂ / 1958 C.W. Sabrosky [red label]"

***Phleomyia longifacies* HENDEL, 1933**

*Phleomyia longifacies* HENDEL, 1933: 81.

ST 1 ♂ 1 ♀, male in good condition, female slightly dusted. **The male is here designated as the lectotype** and has the following label data: "Brasilien", "Phleomyia longifacies H. / F. Hendel det"

The purpose of this designation is to fix a male specimen as primary type because identification within this genus relies heavily on male characters. The female paralectotype has the following label data: "Fiebrig / Paraguay / S. Bernardino", "Phleomyia longifacies H. / F. Hendel det"

***Phleomyia schineri* (HENDEL, 1932)**

*Rhynchomilichia schineri* HENDEL, 1932: 136.

ST 2 ♂, in good condition, "Brazil.", "argyrophenga / Schin. / det. Hendel", Rhynchomilichia / schineri H. / F. Hendel det."

## Carnidae

***Carnus hemapterus* NITZSCH, 1818**

= *Cenchrudobia eggeri* SCHINER, 1862: 436.

ST 1 ♂, "Austria / Coll. Egger. [P]", Eggeri [H] / det. Schiner [P]"

= *Carnus setosus* STOBBE, 1913: 193.

ST 2 ♂, "Zelevator / Picus / major / 1865 [H]"

***Meoneura algerica* HENNIG, 1937**

*Meoneura algerica* HENNIG, 1937: 61.

HT ♂ "Algeria centr., Hassi Babah"

***Meoneura furcata* HENNIG, 1937**

*Meoneura furcata* HENNIG, 1937: 64.

HT ♂, "Algeria centr., Hassi Babah"

***Meoneura obscurella* (FALLÉN, 1823)**

= *Agromyza pectinata* MEIGEN, 1830: 179.

ST 3 ♀, two in good condition, one worse, "pectinata [H] / Coll. Winthem"; ST 1?, abdomen and one wing missing, additional label "pectinata" in Meigen's handwriting. The type locality was not given by Meigen, it is possibly Austria.

= *Agromyza infuscata* MEIGEN, 1830: 184.

ST 1?, only head, thorax and rests of legs left, "infuscata [H] / Coll. Winthem", "infuscata [in Meigen's handwriting]" The type locality was not given by Meigen, it is possibly Austria.



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