

## Additions to the Limoniidae of Israel (Diptera)

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### ABSTRACT

Altogether 18 species of the family Limoniidae are recorded from Israel. *Phyllolabis peniculifer* n. sp. is described, and its male and female terminalia are illustrated. *Dicranomyia (Glochina) sericata* (Meigen) is recorded for the first time for Israel.

KEY WORDS: Diptera, Limoniidae, Israel, new species, first record for Israel.

### INTRODUCTION

The fauna of the family Limoniidae in Israel was summarized and elaborated comparatively recently (Starý and Freidberg, 2007), yet the knowledge of the Israeli Limoniidae is still very insufficient. An additional collection of this family, predominantly collected by Dr. Amnon Freidberg (Tel Aviv University, Department of Zoology, Israel), has now become available to me by its collector. Altogether 18 species were indentified. One species, *Phyllolabis peniculifer* n. sp., is here described, based on an extensive series of specimens. Another one, *Dicranomyia (Glochina) sericata* (Meigen), is recorded for the first time for Israel. I also publish here records of the other species. Although these are already known from Israel, this may contribute, through additional records, to their better knowledge in Israel. At present, 54 species of Limoniidae are known from Israel.

The morphological terminology adopted in the description of *Phyllolabis peniculifer* n. sp. essentially follows McAlpine (1981). Terminology of wing veins is in accordance with Hennig (1954). Some special terms are referred to in the text and figures (Figs. 1-3). The specimens are deposited in the Tel Aviv University, Department of Zoology, except for a few paratypes of *P. peniculifer* n. sp., which are in the collection of the author. Distribution of the species is based on the Catalogue of the Craneflies of the World (Oosterbroek, 2013). Localities for a species are generally arranged from north to south.

**TAXONOMY****Family Limoniidae****SUBFAMILY CHIONEINAE*****Cheilotrichia (Empeda) cinerascens (Meigen, 1804)*****Material examined**

ISRAEL: Herzliyya, 27.xi.2005 (1♂), 4.xii.2005 (2♂), 31.xii.2005 (1♂), all A. Freidberg.

**Distribution**

Europe, Canary Islands, Transcaucasia, Turkey, Cyprus, Israel, Iran.

***Crypteria (Franckomyia) israelica Starý and Freidberg, 2007*****Material examined**

ISRAEL: Bar'am Forest [33°02.5'N 35°25.6'E, 670 m asl], 22.xi.2006, A. Freidberg (1♀).

**Distribution**

Israel.

***Gonomyia (Gonomyia) faria Starý and Freidberg, 2007*****Material examined**

ISRAEL: Tel Aviv University, Botanical Garden, 1.xii.2006, W. Kuslitzky (Malaise trap) (1♂).

**Distribution**

Israel.

***Idiocera (Idiocera) ampullifera (Starý, 1979)*****Material examined**

ISRAEL: Hof Rotem Shezaf, 3 km S 'En Gev [32°46'N 35°38.3'E, – 200 m], 21.iii.2010, A. Freidberg (5♂, 4♀).

**Distribution**

Egypt, Israel.

***Idiocera (Idiocera) pulchripennis (Loew, 1856)*****Material examined**

ISRAEL: Nahal Nimrod [33°14.864'N 35°45.344'E, 1080-1082 m asl], 18.x.2009, A. Freidberg (4♂, 3♀), 18.x.2010, A. Freidberg, E. Morgulis & L. Bodner (5♂, 2♀).

**Distribution**

Southern part of Europe, Canary Islands, North Africa, Transcaucasia, Turkey, Cyprus, Israel, Iran, Middle Asia.

*Molophilus (Molophilus) banias* Starý and Freidberg, 2007**Material examined**

ISRAEL: Panyas [33°14.850'N 35°41.674'E, 385 m asl], 19.x.2010, A. Freidberg, E. Morgulis & L. Bodner (1♂).

**Distribution**

Israel.

*Molophilus (Molophilus) obscurus* (Meigen, 1818)**Material examined**

ISRAEL: Nahal Nimrod [33°14.864'N 35°45.344'E, 1080-1082 m asl], 18.x.2009, A. Freidberg (6♂, 2♀), 18.x.2010, A. Freidberg, E. Morgulis & L. Bodner (8♂, 4♀).

**Distribution**

Europe, Morocco, Transcaucasia, Turkey, Cyprus, Lebanon, Israel.

*Phyllolabis peniculifer* n. sp.

(Figs. 1-3)

**Description**

Medium-sized species: Wing length: male: 6.8-8.3 mm; female: 5.6-6.8 mm. Body dark brown, mostly suffused with dense, gray microtrichia, especially on thorax. Wing without distinct pattern. Male terminalia with conspicuous, long, and compact tuft of golden setae projecting posterodorsally from each side of hypopygium. Female fully-winged, with abdomen darker than in male.

**Male. Head.** Dark grayish brown on frons and vertex. Antenna 16-segmented, brown, moderately long, reaching to about base of wing. Scape with dense, gray microtrichia. Flagellomeres long-ovoid, decreasing in size towards apex of antenna. Verticils on flagellomeres placed rather in middle of their segments, not arranged in whorls at their bases as in some other species. Longest verticils hardly as long as their respective segments. Pubescence pale, sparse.

**Thorax.** Mostly dark brown, with dense, gray microtrichia, slightly paler on paratergite, posterolateral part of scutum, and entire scutellum. Prescutum and scutum with poorly discernible, darker and somewhat shiny median stripe and much shorter lateral stripes passing onto scutal lobes. Pleuron dark grayish brown. Wing without macrotrichia on membrane, except for a few at apex of wing, and without any pattern except for slight darkening at r-m (sometimes also on m-m). Wing venation: Rs only sometimes angulated near its base, with short spur or trace of it.  $R_{3+4}$  about one third length of  $R_3$ . Discal cell comparatively long, irregularly pentagonal, with  $M_{3+4}$  (posterior/lower margin of discal cell) about two thirds length of proximal section of  $M_{1+2}$  (anterior/upper

margin of discal cell). Proximal section of  $M_3$  arcuated, so discal cell excised posterodistally. Cross-vein m-cu at fork of  $M_{3+4}$ . Halter pale, dirty yellow, knob infuscated. Legs slender, yellow, fore coxa darkened, tips of tibiae and entire tarsi infuscated.

**Abdomen.** Paler than thorax, brown to yellowish brown, with posterior margins of segments paler. Male terminalia (Figs. 1-2) large and complex, as usual for *Phyllolabis*. Segment 9 (basal ring) inflated, dark brown, somewhat shiny. Tergite 9 with distinct longitudinal median suture. Posterior margin of tergite 9 widely and shallowly emarginate, without any projection in middle. Posterior margin of sternite 9 with broadly rounded median protuberance. Small median structure attached to bottom of tergal emargination, probably proctiger in the sense of Edwards (1938), somewhat membranous, rounded at corners and excised posteriorly. Gonocoxite with its appendages forming extremely complex structure, with various lobes, projections and blades, provided with groups of setae of various kinds. Two distinct apical lobes on gonocoxite. Outer gonostylus, as interpreted here with some probability, represented by elongate blade, slightly subterminal in position on gonocoxite, with fine hairs in distal part, and pointed at tip (Figs. 1-2, og). Remaining structures, inserted medially on gonocoxite, indiscernible as to their origin. Conspicuous long and compact tuft of golden setae projecting posterodorsally from each side of hypopygium, situated at inner recurved lobe of gonocoxite. Setae of this tuft of peculiar form: each seta with drop-like extension at tip; further extensions arranged in bead-like manner in distal half of setae, giving them moniliform appearance (Figs. 1-2, tf). Greatly developed membranous blade ventral of gonocoxite, rolled up, variously twisted, and undulated at margins, part of phallosome as interpreted by Alexander (1961), on each side of aedeagus (Fig. 1, ph).

**Female.** Fully-winged, resembling male in general appearance. Size smaller. Antenna slightly shorter than in male. Abdomen darker than in male, concolorous with thorax. Female terminalia (Fig. 3) with cercus straight, gradually narrowed distally, abruptly tapered to point before apex. Cercus distinctly shorter than hypogynial valve. Spermathecae two, short-ovoid, considerably large.

### Material examined

Holotype ♂, ISRAEL: Nahal Perat, north-facing slope, Kefar Adummim, 27.ii.2007, A. Freidberg. Paratypes: ISRAEL: Nahal Perat, north-facing slope, Kefar Adummim, 27.ii.2007, A. Freidberg (29♂, 7♀); Nofe Perat, Kefar Adummim, north-facing slope of Nahal Perat, 27.ii.2007, L. Friedman (51♂, 3♀); Kefar Adummim, southern slope, 28.ii.2007, L. Friedman (1♂); South-facing slope of Nahal Perat, 28.ii.2007, L. Friedman (50♂, 6♀); Kefar Adummim, 28.ii.2007, W. Kuslitzky (light trap) (1♂); Ma'agar Yeroḥam, 7.iii.2007, A. Freidberg (5♂, 1♀).

### Distribution

Israel.

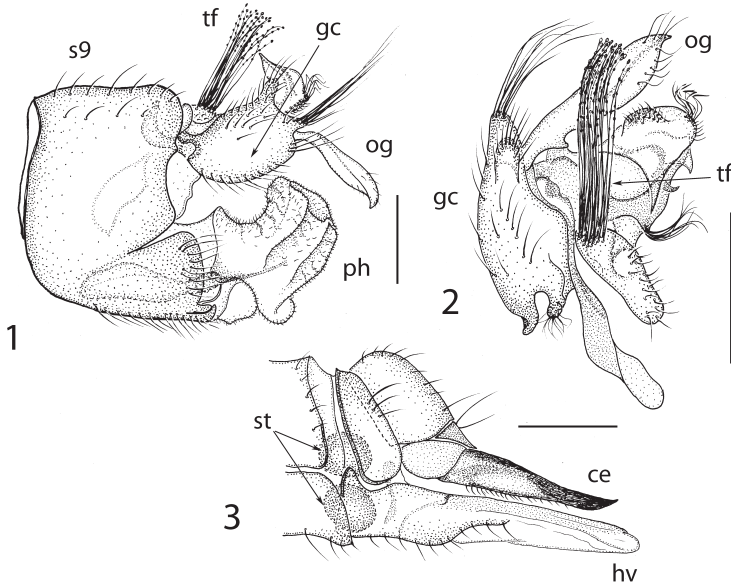
### Etymology

The compound name of this new species, *peniculifer* (peniculus = the painter's brush, ferre = to bear; "brush-bearer") refers to a conspicuous tuft of setae projecting

from each side of the hypopygium. A noun in nominative singular, standing in apposition to the generic name.

### Remarks

In the wing venation, *Phyllolabis peniculifer* n. sp. resembles e.g. the European *P. macroura* (Siebke) and a number of other *Phyllolabis* species, including extra-European ones, in having the discal cell comparatively large, pentagonal, with m-cu joining the fork of  $M_{3+4}$  (posterodistal/outer lower corner of discal cell). The wing venation of the new species is nearly identical with that of the Himalayan *P. edwardsi* Alexander (cf. Alexander, 1961, Fig. 16). In the structure of the male terminalia, *P. peniculifer* n. sp. considerably differs from two regional species, viz. *P. golanensis* Starý and Freidberg, 2007 and *P. parvihalterata* Starý, Wizen and Freidberg, 2012 (cf. Figs. 1-2; Starý and Freidberg, 2007, Figs. 12-13; Starý et al., 2012, Figs. 4-14). There are two highly significant characters in the male terminalia of the new species: a subterminal elongate blade on the gonocoxite that may well be considered the outer gonostylus and a long, compact tuft of setae arising from a recurved lobe of the gonocoxite and projecting posterodorsally from the hypopygium (Fig. 2, og, tf). The peculiar form of the setae of this tuft was not known to the author before. Since the female terminalia have not been described for most of *Phyllolabis* species, no comparison is here given.



Figs. 1-3. *Phyllolabis peniculifer* n. sp. (paratypes, Kefar Adummim). 1. Male terminalia, general, lateral view. 2. Male terminalia, gonocoxite with appendages, dorsal view. 3. Female terminalia, general, lateral view. Abbreviations: ce – cercus, gc – gonocoxite, hv – hypogynial valve, og – outer gonostylus, ph – phallosome, st – spermathecae, s9 – segment 9, tf – tuft of moniliform setae. Scale bars – 0.5 mm.

*Symplecta (Symplecta) hybrida* (Meigen, 1804)

**Material examined**

ISRAEL: Park HaYarden [32°54.6'N 35°37.5'E, – 200 m], 21.iii.2010, A. Freidberg (1♂); Herzliyya, swamp [32°10.9'N 34°49.4'E], 27.iii.2008, A. Freidberg (1♂); 'En Aqrabbim [31°53.691'N 35°09.889'E, – 36 m], 7.iii.2010, A. Freidberg (1♂); Sedé Boqér, 18.iii.2007, L. Friedman (1♂).

**Distribution**

Canada, U.S.A. (Alaska), Greenland; Europe, Azores, North Africa, Transcaucasia, Turkey, Lebanon, Israel, Iran, Middle Asia, Siberia, Russian Far East, Mongolia, North Korea, Japan, China; Pakistan, Nepal, India.

*Symplecta (Trimicra) pilipes* (Fabricius, 1787)

**Material examined**

ISRAEL: Naḥal Nimrod [33°14.864'N 35°45.344'E, 1080 m asl], 18.x.2010, A. Freidberg, E. Morgulis & L. Bodner (1♂); Hof Rotem Shezaf, 3 km S 'En Gev [32°46'N 35°38.3'E; – 200m], 21.iii.2010, A. Freidberg (1♀); Zemah [32°42.295'N 35°35.852'E], 21.iii.2010, A. Freidberg (7♂, 2♀); Herzliyya, 10.v.2007, A. Freidberg (1♀); Herzliyya, swamp [32°10.9'N 34°49.4'E], 27.iii.2008, A. Freidberg (2♀); Nizzanim, 13.iv.2008, A. Freidberg (1♀); Zor Deir Shaman, Yarden bank [32°02'30"N 35°30'E], 15.iii.2005, L. Friedman (1♀); Besor Nature Reserve, 'En Besor, 11.v.2005, L. Friedman (1♀); Besor Nature Reserve, Hanging Bridge [31°13'N 34°31'E, 140 m asl], 11.v.2005, A. Freidberg (1♀).

**Distribution**

Cosmopolitan.

SUBFAMILY LIMONIINAE

*Dicranomyia (Dicranomyia) chorea* (Meigen, 1818)

**Material examined**

ISRAEL: Panyas [33°14.850'N 35°41.674'E], 19.iv.2010 (1♂), [365 m asl], 25.v.2010 (1♂) all A. Freidberg, [385 m asl], 19.x.2010, A. Freidberg, E. Morgulis & L. Bodner (1♂); Har Meron Reserve, 'En haZaqen [32°58'N 35°25'E], 24.iv.2002, A. Freidberg (1♀); Naḥal 'Ammud, 15.viii.2007, L. Friedman (1♂).

**Distribution**

Canada; Europe, Canary Islands, Morocco, Transcaucasia, Turkey, Cyprus, Israel, Iran.

*Dicranomyia (Dicranomyia) flavigenu* Starý and Freidberg, 2007**Material examined**

ISRAEL: Nahal Keziv, Montfort [33°02.6'N 35°13.3'E], 4.iii.2010, L. Friedman (1♂); Har Meron Reserve, 'En Zeved [32°59'N 35°26'E], 24.iv.2002, A. Freidberg (1♀); Nahal Oren, 14.iv.2006, A. Freidberg (1♀); 'Emeq haEla [31°41'N 34°58'E], 4.iv.2007, A. Freidberg (9♂, 1♀).

**Distribution**

Greece, Cyprus, Israel.

*Dicranomyia (Dicranomyia) signatella* Starý and Freidberg, 2007**Material examined**

ISRAEL: Adam [31°50'N 35°16'E, 500 m asl], 27.ii.2007, A. Freidberg (1♂).

**Distribution**

South Europe, Turkey, Israel.

*Dicranomyia (Glochina) sericata* (Meigen, 1830)**Material examined**

ISRAEL: Nahal Hazav, Bitronot Ruhama [31°32'N 34°42'E], 5.iv.2005, A. Freidberg (1♂, 1♀).

**Distribution**

Southern part of Europe, Morocco, Azerbaijan, Turkey. First record for Israel.

*Dicranoptycha freidbergi* Starý, 1994**Material examined**

ISRAEL: Hay-Bar Karmel [450 m asl], 21.v.2010, A. Freidberg (2♂); Nahal Oren [32°43'N 34°58'E, 40 m asl], 13.v.2007 (1♀), 25.v.2009 (2♀), all A. Freidberg.

**Distribution**

Israel.

*Dicranoptycha fuscescens* (Schummel, 1829)**Material examined**

ISRAEL: Tel Aviv, Gelilot [32°9'33"N 34°48'46"E], 19.iii.2005, A. Freidberg (3♂, 1♀); Nahal Oren, 14.iv.2006, A. Freidberg (1♀); Har Meron, Field School [32°0'N 35°24'E, 900 m asl], 26.v.2009, A. Freidberg (1♀, 1 specimen); Herzliyya [32°9'N 34°51'E ("31°..." on label)], 8.iv.2005, A. Freidberg (4♂, 4♀); Herzliyya, hill, 8.iv.2006 (1♂), 3.iv.2007 (2♂), all A. Freidberg.

**Distribution**

Europe, North Africa, Transcaucasia, Turkey, Cyprus, Lebanon, Israel, Iran, ?Kazakhstan, Mongolia.

***Helius (Helius) pallirostris* Edwards, 1921****Material examined**

ISRAEL: Herzliyya, swamp [32°10.3'N 34°49.4'E], 27.vi.2008, A. Freidberg (1♂).

**Distribution**

Europe, Tunisia, Azerbaijan, Israel, Iran, Middle Asia.

***Limonia nussbaumi* Starý and Freidberg, 2007****Material examined**

ISRAEL: 'Emeq haEla [31°41'N 34°58'E], 4.iv.2007, A. Freidberg (3♂, 5♀), L. Younger & E. Kaufmann (1♀); Nahal Hazav, Bitronot Ruhama [31°32'N 34°42'E], 5.iv.2005, A. Freidberg (1♂, 1♀).

**Distribution**

Greece, Turkey, Cyprus, Lebanon, Israel.

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