

THE LAUXANIIDAE (DIPTERA) OF ISRAEL,
WITH AN EMPHASIS ON *MINETTIA*

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ABSTRACT

Eight genera and 28 species of Lauxaniidae are recorded from Israel, 16 of the species for the first time. The distribution of the species in Israel and elsewhere is summarized and discussed. Keys to the genera and to the nine species of *Minettia* Robineau-Desvoidy that occur in Israel are given. *Minettia galil* is described as new. *M. czernyi* is a new name for *M. quadrisetosa* Czerny, nec Becker. *M. graeca* Papp and *M. palaestinensis* Papp are new junior synonyms of *M. biseriata* (Loew).

KEY WORDS: Diptera, Lauxaniidae, *Minettia*, Israel.

INTRODUCTION

With about 1500 described species, the Lauxaniidae are a moderately large family of acalyptrate Diptera that are especially well represented in the tropics. The Holarctic fauna is the best studied, whereas the tropics still contain many undescribed species. None of the species is known to be of economic importance, which probably accounts for the relative scarcity of recent studies on the family. With increasing attention to the ecology of tropical rain forests, however, this family may receive renewed interest from the scientific community, because the ecological role of its tropical species is probably quite significant.

Little is known about the biology and immature stages of Lauxaniidae, and what knowledge exists was summarized by Ferrar (1987), who suggested that the commonest breeding medium of Lauxaniidae is decomposing leaves, with some species breeding in other types of decaying vegetation. Thus Lauxaniidae are probably among the most important dipterous agents responsible for the biological turnover of this enormous organic resource in the tropics.

The Lauxaniidae of Israel have received very little attention and until recently have only been noted in two publications. Bodenheimer (1937) recorded *Sapromyza plumicornis* Fallen, but according to our study this species, now placed in *Minettia* Robineau-Desvoidy, does not occur in Israel. Czerny (1937) described *Minettia quadrisetosa* from specimens collected in Israel, but this is a junior homonym of a name Becker proposed (see discussion under *M. czernyi* below). As a result of a recent survey (Yarom, 1986), the knowledge on the lauxaniid fauna of Israel increased dramatically. A total of 28 species in eight genera were discovered, of which at least 10 species were undescribed. Since then, two of these species were described in a revision of *Mycterella* Kertész (Yarom et al., 1986), and an additional five species in a review of Israeli *Sapromyza* Fallen (Yarom, 1990). One new species of *Minettia* is described in the present paper. One new

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species is described in a forthcoming revision of *Paroecus* Becker (Yarom, in preparation), and 1–3 species of *Homoneura* van der Wulp remain undescribed.

The lack of comparable knowledge on the lauxaniid fauna of countries neighboring Israel, resulting in what would appear to be a large endemic element in Israel (almost half of the fauna), renders any detailed zoogeographical analysis somewhat unreliable. Nevertheless, some general features have already been noted (Freidberg, 1988). Practically all Israeli species are Palearctic elements, without any penetrations from other regions such as the Afrotropical and Oriental ones. Most of the non-endemic species occur in other Mediterranean countries, and many species are also found further north in Europe, with few species extending as far north as Scandinavia. Some species were also recorded from western Asia, even as far east as Mongolia, and one or two species are strictly west Asian in distribution. *Minettia rivosa* (Meigen) was recorded from the Nearctic region (Shewell, 1961), but this record may represent a recent introduction, possibly by commerce. In view of these data, it is safe to conclude that the Israeli fauna of Lauxaniidae is typically western Palearctic.

Both adult and immature Lauxaniidae favor moist, shaded biotopes. Such biotopes are most abundant in the wooded parts of northern and central Israel, namely Mount Hermon, the Galilee, Carmel Ridge, Samaria and Judean Hills. It was therefore not surprising to find that the lauxaniid fauna of Israel is almost entirely restricted to the northern half of the country, north of 31° latitude, and that within this area more species were generally represented in the more northern regions (which seem to better satisfy the ecological needs of Lauxaniidae). Twenty-six of the 28 recorded species were found in one or more of the three northernmost regions (Mount Hermon, Golan Heights and Upper Galilee), although many extend as far south as the Judean Hills. Only one species, *Prosopomyia pallida* Loew, was found well inside the Negev desert, although this species was also found abundantly in much of the northern half of the country. This geographical pattern is similar to those reported for Israeli Sciomyzidae (Knutson and Freidberg, 1983) and Heleomyzidae (Freidberg, 1988).

Adult Lauxaniidae can be collected in Israel between February and November, although the largest number of species per month (20 or more) was collected between May and August (inclusive). The preferred habitat is the maquis forest, which in Israel is predominated by the common oak, *Quercus calliprinos* Webb (Fagaceae). Collecting on other trees, and sometimes on herbaceous vegetation or rocks and walls, occasionally resulted in the finding of some species. Despite intensive searches for immatures, none were found, and during several years of intensive efforts, adults of only three species emerged from leaf litter collected in the field.

In this paper both subfamilies, all eight genera and 28 species of Israeli Lauxaniidae are recorded, and keys for the identification of these genera and the nine species of *Minettia* are given. References for the separation of the other species, except in *Homoneura*, are provided. Some nomenclatural changes are made in *Minettia*, and *M. galil* is described as new. General distribution and distribution in Israel are given for each species, the latter conforming with the "Fauna Palaestina" map (e.g. Freidberg and Kugler, 1989). For more complete references to the taxa, see the Catalogue of Palaearctic Diptera (Papp, 1984).

The descriptive terminology essentially follows that of McAlpine (1981) and Shewell (1987). The frontofacial angle, the angle between the frons and face in lateral view, is illustrated in Fig. 1. Almost all the specimens on which this paper is based are deposited in the entomological collection of the Zoological Museum, Tel Aviv University.

KEY TO SUBFAMILIES AND GENERA OF LAUXANIIDAE IN ISRAEL

1. Costal spines extend to R_{4+5} (Fig. 2):subfamily Homoneurinae . . . 2
- Costal spines end between R_{2+3} and R_{4+5} (Fig. 3): . . .subfamily Lauxaniinae . . . 3

2. Lower part of face strongly convex; thorax gray *Prosopomyia*
— Face flat or slightly convex; thorax yellow *Homoneura*
3. Frontofacial angle acute, about 60°; 1st flagellomere pointed apically; ocellar setae absent
. *Trigonometopus*
— Frontofacial angle rounded, more than 60° and usually more than 90°; 1st flagellomere
rounded apically; ocellar setae present 4
4. Intra-alar seta present; arista plumose *Minettia*
— Intra-alar seta absent; arista with short, dense or sparse rays, sometimes incrassate or
appearing incrassate 5
5. Arista with dense rays, partly incrassate or appearing incrassate 6
— Arista with sparse rays, appearing slender 7
6. Scutum brownish; 1st flagellomere at most 2.5 times as long as wide; arista black, with
black dense rays, incrassate on basal ½; frontofacial angle 110°–120° *Paroecus*
— Scutum partly or entirely black; 1st flagellomere at least 4 times as long as wide; arista
yellow, with dense white rays, appearing incrassate; frontofacial angle 70°–100°
. *Mycterella*
7. Wing hyaline, without pattern; scutum yellow or brownish yellow, without distinct stripes;
abdomen yellow, terga with or without black spots *Sapromyza*
— Wing with brown and hyaline pattern; scutum dark brown with 5 yellow longitudinal
stripes; abdomen brown, without black spots *Peplomyza*

SUBFAMILY HOMONEURINAE

Homoneura van der Wulp, 1891

With about 375 species, *Homoneura* is the largest genus of Lauxaniidae. It is almost world-wide, lacking only from South America and New Zealand. The four species occurring in Israel can easily be distinguished from each other. However, additional research is needed, in particular comparisons with primary types, to establish unambiguously the names of these species.

Homoneura ?consobrina Zetterstedt, 1847

DISTRIBUTION: Sweden, England, Czechoslovakia, Hungary, Yugoslavia, Israel.

ISRAEL: Mount Hermon, Golan Heights, Upper Galilee.

Homoneura ?limnea Becker, 1895

DISTRIBUTION: Most of Europe (but not in Scandinavia), Israel; questionably recorded from Iraq.

ISRAEL: Golan Heights, Upper Galilee, Jordan Valley. It is actually restricted to the Rift Valley north of Lake Kinneret.

Homoneura ?patella Shewell, 1971

DISTRIBUTION: Mongolia, Israel.

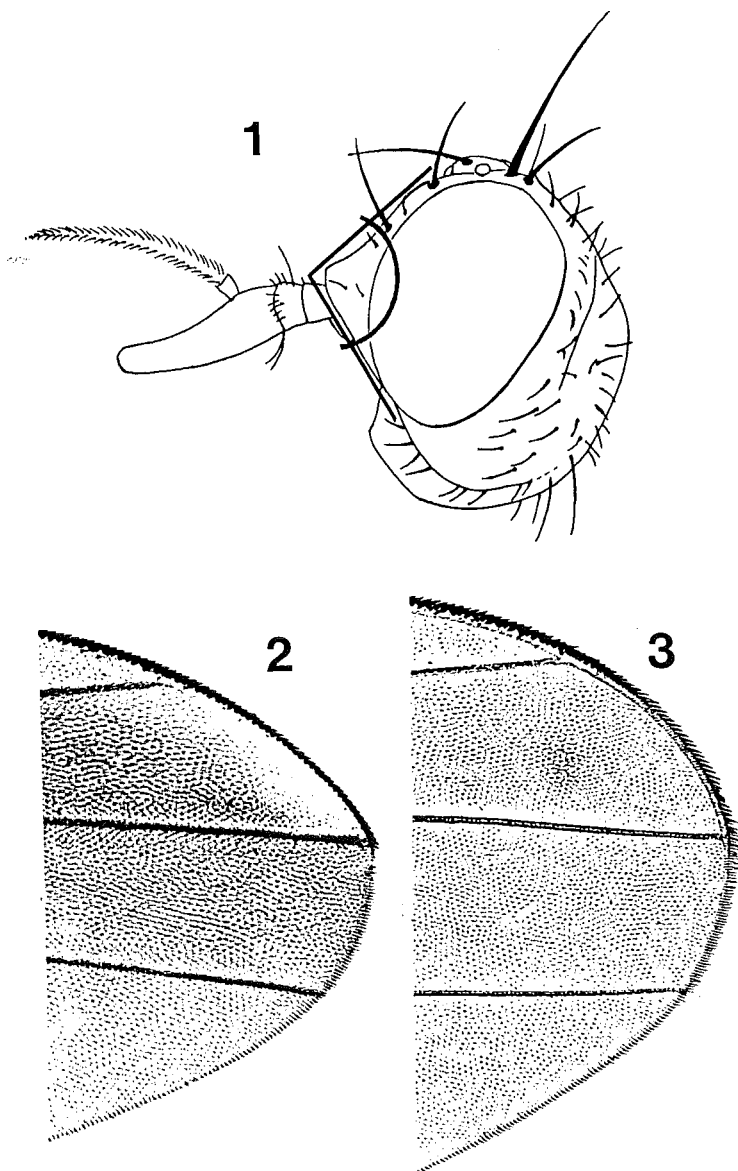
ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Carmel Ridge, Central Coastal Plain, Judean Hills.

COMMENTS: According to Dr. L. Papp (personal communication), the Israeli population represents an undescribed species.

Homoneura patelliformis Becker, 1895

DISTRIBUTION: A mainly central European species, also found in the South European territory of the USSR and questionably in Transcaucasus; Israel.

ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Carmel Ridge, Judean Hills.



Figs. 1-3. Characters of Lauxaniidae. 1. Head, lateral view, indicating frontofacial angle; 2. Homoneurinae, wing apex; 3. Lauxaniinae, wing apex.

Prosopomyia Loew, 1856

A monobasic genus.

Prosopomyia pallida Loew, 1856

DISTRIBUTION: Southern Europe, North Africa, Canary Islands, Israel.

ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Carmel Ridge, Northern and Central Coastal Plain, Samaria, Foothills of Judea, Judean Hills, Central and Southern Negev, Sinai Mountains.

SUBFAMILY LAUXANIINAE

Minettia Robineau-Desvoidy, 1830

Minettia is a large genus, with about 65 species in the Palearctic, Nearctic, Oriental, Australasian and possibly Afrotropical regions (Stuckenberg, 1971). Three subgenera are currently recognized: *Minettia* s.str., *Minettiella* Malloch (1929) and *Frendelia* Collin (1948). In addition, Czerny (1932) described the genus *Prorhaphochaeta*, which is an unavailable name because no type species was designated and which is considered a junior synonym of *Minettia* (Papp, 1984). Of the nine species found in Israel, six unquestionably belong to *Minettia* s.str. Two species have a presutural dorsocentral seta, the diagnostic character of *Prorhaphochaeta*, and a study is needed to clarify whether these, as well as other species included by Czerny (1932) in *Prorhaphochaeta*, form a monophyletic group deserving generic or subgeneric rank. The ninth species, here described as new, differs from all other species of *Minettia* in habitus and in having 2–3 postpronotal setae (as opposed to one), and may also deserve a separate, higher rank.

KEY TO SPECIES OF *MINETTIA* IN ISRAEL

1. Dorsocentral setae 3 (0 + 3) 2
— Dorsocentral setae 4 (1 + 3) 8
2. Postpronotal seta 1; frontofacial angle rounded, about 135° 3
— Postpronotal setae 2; frontofacial angle angular, about 90° *M. galil* n.sp.
3. Scutellum yellow, with dark brown lateroventral spot 4
— Scutellum yellow, without such spot 7
4. Scutum mostly gray 5
— Scutum mostly or entirely yellow, sometimes with grayish median longitudinal stripe . . 6
5. Palpus mostly black; scutum almost entirely gray, with 2 brownish median stripes that do not reach scutoscuteellar suture; tergum 5 with brown, lateral stripe; ♀: abdominal setae uniformly long *M. fasciata*
— Palpus mostly yellow; scutum a mixture of yellow and gray; scutal median stripes reach scutoscuteellar suture; tergum 5 with 2 dark, lateral, round spots; ♀: marginal setae on tergum 3 longer than others on abdomen and with distinct gap in middle of row *M. rivosia*
6. Scutum yellow, with grayish median stripe; lateroventral spot on scutellum large, covering at least ½ of lateroventral area; palpus brownish; ♀: tergum 4 with 4–6 unusually long, median setae; tergum 3 without unusual setae. *M. czernyi* n. nom.

- Scutum entirely yellow; scutellar spot smaller than $\frac{1}{3}$ of lateroventral area; palpus yellow;
 ♀: tergum 3 with somewhat elongate marginal setae; tergum 4 without such setae
 *M. cypriota*
- 7. Palpus entirely yellow; ♀: tergum 3 with lateral marginal setae longer than median ones
 *M. biseriata*
- Palpus with black tip; ♀: tergum 3 with marginal row of setae uniformly long
 *M. bulgarica*
- 8. Scutum gray; palpus black *M. ?tubifer*
- Scutum yellow; palpus yellow *M. quadrisetosa*

***Minnetia biseriata* (Loew, 1847)**

Minettia graeca Papp, 1981, new synonym.

Minettia palaestinensis Papp, 1981, new synonym.

DISTRIBUTION: France, Greece, Turkey, Jordan, Iraq, Israel.

ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Central Coastal Plain, Jordan Valley, Judean Hills, Judean Desert.

COMMENTS: The species concepts of *Minettia graeca* and *M. palaestinensis* were based on minor differences in the male terminalia from *M. biseriata* (Papp, 1981). In one location near Montfort, Western Galilee, we found specimens representing these three "species" as well as intermediates, and we now consider these differences to be intraspecific variation, hence the above synonymy. A few adults emerged in 1987 from leaf litter of the trees *Platanus orientalis* L. (Platanaceae) and *Styrax officinalis* L. (Styracaceae) collected in Nahal (= River) Bezet, Western Galilee. No immatures, however, were found.

***Minettia bulgarica* Papp, 1981**

DISTRIBUTION: Bulgaria, Israel.

ISRAEL: Golan Heights, Upper Galilee, Jordan Valley, Central and Southern Coastal Plain, Judean Hills.

***Minettia cypriota* Papp, 1981**

DISTRIBUTION: Cyprus, Israel.

ISRAEL: Upper Galilee, Jordan Valley, Central Coastal Plain, Foothills of Judea, Judean Hills, Judean Desert, Dead Sea Area.

***Minettia czernyi* n. nom.**

Minettia quadrisetosa Czerny, 1937

DISTRIBUTION: Israel.

ISRAEL: Golan Heights, Upper Galilee, Carmel Ridge, Valley of Yizre'el, Samaria, Jordan Valley, Central Coastal Plain, Judean Hills.

COMMENTS: Czerny (1937) described *M. quadrisetosa* based on 4♂, 2♀ collected in "Rehoboth bei Jaffa." This name is unavailable because it is a secondary junior homonym of *Minettia quadrisetosa* Becker, 1907 (Papp, 1984). Consequently we are renaming Czerny's species here. We studied 1♂, 1♀ from the Naturhistorisches Museum Wien, labeled "*Minettia quadrisetosa* det Czerny," which apparently belong to the type series.

Minettia fasciata (Fallén, 1826)

DISTRIBUTION: Most of Europe, including England and Sweden, all parts of European USSR, ?Turkey, Israel.

ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Carmel Ridge, Yizre'el Valley, Judean Hills.

Minettia galil n.sp.

(Figs. 4–8)

Diagnosis: *Minettia galil* differs from all other species of *Minettia* by having 2–3 postpronotal setae, frontofacial angle less than 90°, eye rhomboidal, with the outline not smoothly curved, scutum nearly flat and by details of the terminalia.

Length: body, 4.5–6 mm; wing, 4–5.25 mm.

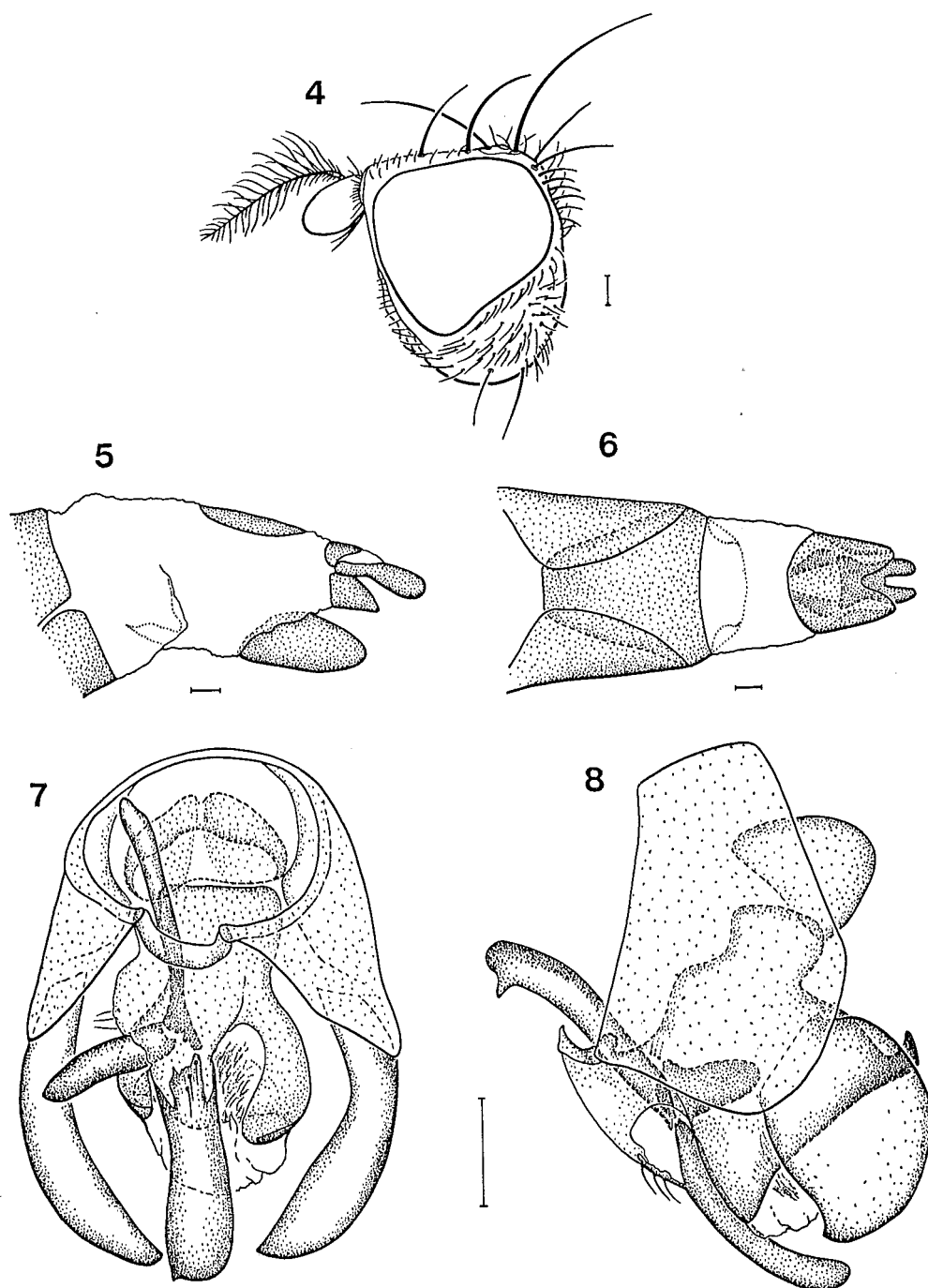
Color: Head mostly brownish yellow; occiput, vertex, orbit and ocellar triangle densely microtomentose, gray; face and parafacial brownish yellow, with dense yellow microtomentum; palpus and mouth parts yellow; eye bicolored: dorsal ½ dark purple, ventral ½ bronze green (usually not visible in dry specimens); antenna brownish yellow; arista blackish, with yellow base. Thorax: greater mesal part of scutum, and scutellum dark brown, with dense grayish microtomentum, but lighter dorsocentrally, appearing bluish; pleura, notopleural area and postpronotum yellow, lightly microtomentose; pleura with 2 brown, parallel, somewhat slanted stripes: dorsal stripe extended from anterodorsal corner of proepisternum, diagonally across anepisternum to posterior spiracle; ventral stripe shorter and narrower, extended from ventral part of proepisternum, across dorsal part of katepisternum, to katepisternal setae; legs predominantly yellow; forefemur brown or brownish, darker than yellow midfemur and hindfemur; hindfemur with small, apical, anterior and posterior brown spots; wing yellow, hyaline; calypteres yellow; halter yellow to brownish yellow. Abdomen predominantly yellow, with irregular dark brown spots, lightly microtomentose; terga ventrally with dark brown stripe along narrow yellow lateral edge. All setae and setulae black.

Head (Fig. 4). Length:height:width ratio 6.6:7.0:10; frontofacial angle about 85°, protrudent; inner vertical seta about twice as long as posterior orbital seta; ocellar setae proclinate, parallel, about as long as postorbital seta; face with weak dorsal carina, ventral part slightly convex; eye rhomboid, with slightly concave posteroventral edge; 1st flagellomere about twice as long as wide, ovate; arista long plumose.

Thorax: Scutum nearly flat. Chaetotaxy: acrostichal setulae in 3–5, sometimes irregular, rows; 1 prescutellar acrostichal seta; 3 (0 + 3) dorsocentrals; 1 postsutural intra-alar; 1 presutural supra-alar; 2 postsutural supra-alars; 1 postalar; 2–3 postpronotals, mesal shorter; 2 notopleurals; 1 basal and 1 apical scutellars; 1 proepisternal; 1 anepisternal; 2 katepisternals. Legs: all tibiae with preapical dorsal or anterodorsal seta; foretibia with 2 short apicoventral setae; midtibia and hindtibia each with 1 apicoventral seta; seta on midtibia longer than preapical seta.

Abdomen: Tergum 2 with short marginal setae; terga 3–6 with longer marginal setae, easily distinguishable from setulae. Male terminalia (Figs. 7, 8): epandrium 1.3 times as wide as high; surstyli spatulate, as high as epandrium; parameres separate; left paramere twice as wide and about 1.5 times as long as right paramere, slightly curved mesally; aedeagus 1.3 times as wide as high, with lateral margin curved in and united with left paramere and ring sclerite, dorsally with a median hook-like projection; aedeagal apodeme slightly higher than left paramere and about ½ as wide, slightly enlarged basally; cercus semi-oval, about ½ as high as epandrium.

Female terminalia (Figs. 5, 6): sternum 8 in ventral view with anterior margin about 1.3 times



Figs. 4–8. *Minettia galil* n.sp. 4. Head, lateral view; 5. Female terminalia, lateral view; 6. Female terminalia, ventral view; 7. Male terminalia, ventral view; 8. Male terminalia, lateral view. Scale bar equals 0.1 mm.

as wide as posterior margin, the latter with deep median cleft, in profile suboval, about twice as long as high; tergum 8 in profile about as long and about $\frac{1}{3}$ as high as sternum 8; hypandrium in profile triangular, dorsally convex, about $\frac{1}{2}$ as long as sternum 8; cercus about 0.7 as long as sternum 8, in lateral view clavate; epiproct about $\frac{1}{2}$ as long as hypandrium, concave ventrally.

MATERIAL EXAMINED. Holotype, ♂, ISRAEL: Mezudat [=Kalat or Qala'at] Nimrod (variant spelling: Nemrod), 8.VI.1975, A. Freidberg. Allotype ♀ and 2♂, 7♀ paratypes, same collecting data as holotype. Additional paratypes (all from Israel): Mezudat Nimrod, 9.VI.1975, F. Kaplan (2♂, 2♀), 10.VII.1975 (2♂, 2♀), 9.VI.1976 (1♂, 1♀), all A. Freidberg; N[ahal] Nimrod (variously recorded as W[adi] Nemrod), 10.VI.1976, A. Freidberg and D. Simon (4♀); Har Dov, 15.VIII.1976 (1♂, 2♀); Mt. Hermon, 1600 m, 6.VII.1987 (1♂); Nahal Bezet, 20.VII.1982 (2♂, 1♀), 30.VIII.1984 (2♂), 23.IX.1986 (1♂), all A. Freidberg; N[ahal] Keziv, 1.VI.1983, Y. Zvik, (2♂); Montfort, 2.VI.1981, W. Mathis (1♂). The holotype, which is double-mounted on minuten pin and polyporus cube and is in excellent condition, and most paratypes are deposited in the entomological collection, Tel Aviv University. Paratypes were distributed to the museums of natural history, Budapest, London and Washington.

ETYMOLOGY: The specific epithet 'galil' is a transliteration of the Hebrew name of the area known as 'Galilee' and is a noun in apposition. The species is named after this northern, mountainous area of Israel because many species of lauxaniids, including this one, were collected there.

COMMENTS: All collecting localities of this species (see 'MATERIAL EXAMINED') are in northern Israel, north of 32° latitude: the first four on the slopes of Mount Hermon and the latter three in western Galilee.

Minettia quadrisetosa (Becker, 1907)

DISTRIBUTION: Algeria, Israel.

ISRAEL: Golan Heights, Upper Galilee, Carmel Ridge, Samaria, Jordan Valley, Central Coastal Plain, Foothills of Judea, Judean Hills.

COMMENTS: This species and *M. ?tubifer* Meigen (1826) have a presutural dorsocentral seta and thus fit the diagnosis of *Prorhaphochaeta*. The two species, in addition, have characteristic male and female terminalia, and thus may be part of a monophyletic group separate from *Minettia*. A more comprehensive study is needed, however, to establish whether other species, such as the ones originally included by Czerny (1932) in *Prorhaphochaeta*, belong to this unnamed group.

*Minettia rivos*a (Meigen, 1826)

DISTRIBUTION: Most of Europe, south of the timber line, European USSR south of 60° latitude, Algeria, Tunisia, Turkey, Israel, Nearctic region.

ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Carmel Ridge, Jordan Valley, Central Coastal Plain, Foothills of Judea, Judean Hills.

COMMENTS: A few adults emerged in May 1983 from leaf litter of *Platanus orientalis* and *Styrax officinalis* collected in Nahal (= River) Bezet, Western Galilee, in April of the same year. No immatures were found.

Minettia ?tubifer (Meigen, 1826)

DISTRIBUTION: Norway, Holland, France, Spain, Yugoslavia, Greece, Israel.

ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Carmel Ridge, Samaria, Judean Hills.

COMMENTS: The correct identity of the Israeli specimens will possibly be determined only after

comparing them with the primary types of *M. tubifer* and *M. uncinata* (Meijere, 1907). The species is related to *M. quadrisetosa* (see above).

Mycterella Kertész, 1912

This genus was recently revised (Yarom et al., 1986) to include three species, of which the following two species were described as new. The third species, *M. jovis* Kertész, 1912, is known only from Crete.

Mycterella luteifasciata Yarom, Freidberg and Papp, 1986

DISTRIBUTION: Israel.

ISRAEL: Mount Hermon.

Mycterella nigra Yarom, Freidberg and Papp, 1986

DISTRIBUTION: Israel.

ISRAEL: Mount Hermon.

Paroecus Becker, 1895

This genus is monobasic, containing only the European *P. signatipes* (Loew, 1856). In a forthcoming revision of the genus (Yarom, in preparation), two additional species will be described: one from Hungary, the other from Mount Hermon, Israel.

Peplomyza Haliday, 1836

This genus contains three essentially European species, one of which extends as far south as northern Israel.

Peplomyza intermedia Remm, 1979

DISTRIBUTION: Austria, Czechoslovakia, Hungary, Bulgaria, USSR: South European territory, Transcaucasus; Israel.

ISRAEL: Mount Hermon, Golan Heights.

Sapromyza Fallén, 1810

A review of the genus *Sapromyza* in Israel was recently published (Yarom, 1990) treating nine species, five of which are described there as new.

Sapromyza bisigillata Rondani, 1868

DISTRIBUTION: Italy, Yugoslavia, Israel.

ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Carmel Ridge, Samaria, Jordan Valley, Central Coastal Plain.

Sapromyza freidbergi Yarom, 1990

DISTRIBUTION: Israel.
ISRAEL: Mount Hermon.

Sapromyza gozmanyi Papp, 1981

DISTRIBUTION: Tunisia, Israel, Jordan.
ISRAEL: Mount Hermon, Golan Heights, Upper and Lower Galilee, Carmel Ridge, Valley of Yizre'el, Samaria, Jordan Valley, Central Coastal Plain, Foothills of Judea, Judean Hills.

Sapromyza hermonensis Yarom, 1990

DISTRIBUTION: Israel.
ISRAEL: Mount Hermon.

Sapromyza intonsa Loew, 1847

DISTRIBUTION: Poland, Czechoslovakia, Austria, Hungary, Spain, France, Italy, Yugoslavia, Bulgaria, Greece, USSR: South European territory, Turkey, Israel.
ISRAEL: Carmel Ridge.

Sapromyza intonsina Yarom, 1990

DISTRIBUTION: Israel, Jordan.
ISRAEL: Mount Hermon, Golan Heights, Upper and Lower Galilee, Carmel Ridge, Central Coastal Plain, Judean Hills.

Sapromyza israelis Yarom, 1990

DISTRIBUTION: Israel.
ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Jordan Valley.

Sapromyza multimaculata Yarom, 1990

DISTRIBUTION: Israel.
ISRAEL: Mount Hermon, Golan Heights, Upper and Lower Galilee, Carmel Ridge.

Sapromyza quadricincta Becker, 1895

DISTRIBUTION: Most of Europe from southern Scandinavia to the Mediterranean, USSR: North, Central and South European territories, ?Siberia, ?Far East; Israel.
ISRAEL: Mount Hermon, Golan Heights, Upper Galilee, Jordan Valley.

Trigonometopus Macquart, 1835

This small genus contains the following Palearctic species.

Trigonometopus frontalis (Meigen, 1830)

DISTRIBUTION: England, France, Germany, Poland, Czechoslovakia, Hungary, Romania, USSR: North and Central European territories, Transcaucasus; Mongolia, Israel.

ISRAEL: A single specimen of this species was collected in the Central Coastal Plain (Nir Eliyyahu, 19.II.1975, F. Kaplan, 1♂).

ACKNOWLEDGMENTS

We are grateful to László Papp (Hungarian Natural History Museum) and Ruth Contreras-Lichtenberg (Naturhistorisches Museum Wien) for loans of specimens essential for this study; to Walter Ferguson (Tel Aviv University) and Elaine S.R. Hodges (Smithsonian Institution) for the illustrations; and to Wayne N. Mathis, Jon K. Gelhaus (Smithsonian Institution), Jehoshua Kugler, Fini Kaplan (Tel Aviv University) and László Papp, for reviewing earlier drafts of the manuscript.

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