Israel Journal of Entomology
Vol. XXII (1988) pp. 13-25

PRELIMINARY LIST OF PSOCOPTERA FROM ISRAEL WITH DESCRIPTION OF TWO NEW SPECIES1

C. LIENHARD[1] and J. HALPERIN[2]

[1]*Museum d'Histoire naturelle, C.P. 434, CH-1211 Geneve 6, Switzerland,*
and [2]*department of Entomology, Agricultural Research Organization,*
P.O.B. 6, Bet Dagan 50250, Israel

ABSTRACT

The 40 species of Psocoptera recorded from Israel are listed. *Blaste (Euclismia) membranosa* n.sp. and *Hemineura trudiae* n.sp. are described and illustrated. *Cerobasis bundyi* Turner, 1977 is synonymized with *C. annulata* (Hagen, 1865); *Psocathropos microps* (Enderlein, 1903) is synonymized with *P. lachlani* Ribaga, 1899. *KEY WORDS:* Psocoptera, Israel, new species, new records, new synonyms.

INTRODUCTION

Until 1984 21 species of psocids had been recorded from Israel (Pearman, 1935; Galil, 1981; Galil and Halperin, 1983; Lienhard, 1984). After a study of about 1000 specimens recently collected by J. Halperin in Israel (mostly on forest and ornamental woody plants) and some additional specimens from the collections of the Museum d'Histoire naturelle of Geneva (MHNG), the British Museum (Natural History) (BMNH) and the American Museum of Natural History (AMNH) — the number of species has reached 40. *Liposeelis divinatorius* (Mueller, 1776), recorded by Galil and Halperin (1983) and generally considered a *"nomen dubium"* has to be omitted from the list. We assume that these 40 species constitute about 50% of those actually present in Israel (for comparison see the much better investigated fauna of Greece, Where 75 species are actually known; cf. Lienhard, 1987b). Most of the species are widely distributed in the western palaearctic or at least in the Mediterranean region. In the following, information on general distribution is given only for some particularly interesting species.

Unless otherwise specified the material examined was collected by J. Halperin and is deposited in the Museum d'Histoire naturelle of Geneva (MHNG), Switzerland and in the National Collections (NCI), the Department of Zoology, Tel Aviv University, Israel.

1 Contribution from the Agricultural Research Organization, The Volcani Center, Bet Dagan, Israel. No. 2116E, 1987 series.

Asterisks indicate species new to Israel. The following abbreviations were used for regions in Israel: CA, Carmel; CN, Central Negev; CP, Coastal Plain; DS, Dead Sea region; GO, Golan Heights; HV, Hula Valley; JM, Judean Mts.; JV, Jordan Valley; LG, Lower Galilee; NN, Northern Negev; SA, Samaria; SH, Shefela; UG, Upper Galilee.

The following abbreviations were used in the descriptions of the new species: f_1-f_{11} = length of flagellomeres; F = length of hind femur; T = length of hind tibia; t_1-t_2 = length of hind tarsomeres (from condyle to condyle); IO = distance between compound eyes (dorsal view); PO = transversal diameter of compound eye (dorsal view); D = antero-posterior diameter of compound eye (dorsal view).

Suborder: TROGIOMORPHA

TROGIIDAE

Cerobasis alfredi Lienhard, 1984*

MATERIAL EXAMINED: 2♀♀, Shivta (CN), 29.III.1988, *Lycium europaeum*; 4♀♀, Makhtesh Ramon (CN), 30.III.1988, *Atriplex halimus*; 4♀♀, Be'er Mash'abim (NN), 31.III.1988, *Hammada salicornica*.

Comments: The species was previously known only from the type locality in Tunisia.

Cerobasis annulata (Hagen, 1865)

Cerobasis bundyi Turner, 1977 n.syn.

Previous records: Lienhard, 1984.

Comments: Lienhard (1984) showed that *bundyi* is very closely related to *annulata*. A recent study of some more material of *Cerobasis* from different regions of the western palaearctic proved that the presumed diagnostic characters (the number of pores on spermathecal glands and the number of setae in hypandrial brush) are highly variable in this genus, and therefore cannot be used for separation of *C. bundyi* from *C. annulata*.

Cerobasis guestfalica (Kolbe, 1880)

Previous records: Galil, 1981; Galil and Halperin, 1983.

MATERIAL EXAMINED: 1♀, Miqwe Yisra'el (CP), 19.IV.1985, *Pistacia lentiscus*; 2♀♀, Hasollim (LG), 3.IV.1988, *Crataegus aronia*; 1♀ and 4 nymphs, Modi'in (SH), 6.IV.1988, *Ephedra* sp. and *Thymelaea hirsuta*; 1♀ and 1 nymph, Be'eri (NN), 17.IV.1988, *Lycium* sp.

Lepinotus reticulatus Enderlein, 1905*

MATERIAL EXAMINED: 1♀, Elon (UG), 20.IV.1982, obtained by sifting dead leaves under oak trees, leg. C. Besuchet and I. Loebl; 3♀♀, Mt. Meron (UG), 700 m, 26.IV.1982, sifting dead leaves under oak trees, leg. C. Besuchet and I. Loebl.

Trogium pulsatorium (Linnaeus, 1758)

Previous records: Galil, 1981.

PSYLLIPSOCIDAE

Psocathropos lachlani Ribaga, 1899*

Psocathropos microps (Enderlein, 1903) n.syn.

MATERIAL EXAMINED: 1♀, Ne'ot Mordekhay (HV), 5.IV.1986; many ♂♂ and ♀♀, Bar'am (UG), 1-25.VIII.1985; 1♀, Mt. Hazon (LG), 23.XII.1984; 6♂♂ 5♀♀, Tel Aviv (CP), 15.IV.1975, 25.VII.1977, IX.1977; 6♂♂ 1♀, Holon (CP), 1.VIII.1982.

Comments: The specimens from Tel Aviv and Holon were found in houses, for example on old books. All other individuals were found on woody parts of plants originating from the localities mentioned above, and kept in the Entomological Laboratory at Ilanot for several weeks or months to observe the emergence of various insects. *P. lachlani* is a domestic species, probably living in this laboratory and occasionally colonizing plant samples stocked for research purposes.

Only very recently we were able to compare some syntypes of *Psocathropos lachlani* Ribaga (2♀♀, 1♂, 3 nymphs from Portici, mounted on slides, deposited in the Istituto Sperimentale per la Zoologia Agraria, Firenze) with the holotype of *Axinopsocus microps* Enderlein (specimen from the Cameroons, Ngoko-Station, mounted on a slide, deposited in the Zoologisches Museum der Humboldt-Universität, Berlin). There could not be detected any significant morphological difference which would justify the separation of *microps* from *lachlani* as a different species.

Psyllipsocus ramburii Selys-Longchamps, 1872*

MATERIAL EXAMINED: 1♀ (micropterous) and 17 nymphs, Rishon le Ziyyon (CP), 20.VI.1983 and 15.IV.88, house furniture.

Suborder: TROCTOMORPHA

AMPHIENTOMIDAE

Nephax sofadanus Pearman, 1935

Previous records: Pearman, 1935.

MATERIAL EXAMINED: (type series): 4♂♂ 1♀ (BMNH), Zefat (UG), 13.XI.1926, G.F. Hucklesby.

Comments: This species is also known from Greece (Lienhard, 1987b). A redescription, with designation of the lectotype, is in preparation.

LIPOSCELIDAE

Remark: It was originally intended to revise the whole material mentioned by Galil (1981) and Galil & Halperin (1983) as *Liposcelis* sp. or *Liposcelis divinatorius*. Unfortunately, the only material placed at our disposals was one sample collected by A. Nadler (Jerusalem, 12.IX.1961) and deposited in the AMNH, it contains 17 females of three species.

Liposcelis bostrychophilus Badonnel, 1931a*

MATERIAL EXAMINED: 62♀♀, Gesher (JV), 15.VII.1987; many ♀♀, Netanya (CP), house furniture 17.XII.1985; 1♀ (AMNH), Jerusalem, 12.IX.1961, leg. A. Nadler; 30♀♀, Omer (NN), 1.XI.1985.

Comments: The specimens recorded from Omer and Gesher are probably domestic; they were found on plant material in the Entomological Laboratory at Ilanot, under the same conditions as *Psocathropos lachlani* and *Liposcelis entomophilus* (see comments on the former species).

Liposcelis decolor (Pearman, 1925)*

Liposcelis terricolis Badonnel, 1945 (cf. Badonnel, 1986, p. 72)

MATERIAL EXAMINED: 15♀♀ (12♀♀ AMNH, 3♂♂ MHNG), Jerusalem, 12.IX.1961, leg. A. Nadler.

Liposcelis entomophilus (Enderlein, 1907a)*

MATERIAL EXAMINED: 3♀♀, Bar'am (UG), 10 and 25.VIII.1985; 5♀♀, Gadot (HV), 25.VIII.1985; 1♀, Omer (NN), 1.XI.1985.

Comments: same as for *Psocathropos lachlani*.

Liposcelis pictus Ball, 1940*

MATERIAL EXAMINED: 1♀ (BMNH), Nahal Arugot (DS), 14.XI.1971, leg. D. Gerling.

Comments: this interesting free-living species is actually known from Cyprus and Lebanon (Ball, 1940) and from Greece (Lienhard, 1987b).

Liposcelis rufus Broadhead, 1950*

MATERIAL EXAMINED: 1♀ (AMNH), Jerusalem, 12.IX.1961, leg. A. Nadler.

PACHYTROCTIDAE

Nymphotroctes denisi Badonnel, 1931b*

MATERIAL EXAMINED: 1♀, Mt. Meron (UG), 900 m, 21.IV.1982, sifting dead leaves, leg. C. Besuchet and I. Loebl; 1♀, Qazrin (GO), 400 m, 15.IV.1982, sifting under vegetation near small current, leg. C. Besuchet and I. Loebl.

Suborder: PSOCOMORPHA

CAECILIIDAE

Caecilius arundinis Lienhard, 1981*

MATERIAL EXAMINED: 6♂♂, Wadi Mashash (CN), 16.II.1976, on *Artemisia* sp., leg. A. Freidberg.

Comments: This species has previously been recorded from Portugal and Greece (Lienhard, 1981) and from Tunisia (Lienhard, 1987a).

Caecilius rhenanus Tetens, 1891

Previous records: Galil, 1981; Galil and Halperin, 1983.

MATERIAL EXAMINED: 2♀♀, Caesarea (CP), 1.IV.1986; 6♀♀, Ilanot (CP), 1.VII.1984, 20.IX.1984 and 1.XII.1984; 2♀♀, Herzliya, 5.V.1982, leg. A. Freidberg; 1♀, Miqwe Yisra'el (CP), 19.IV.1985; 1♀, Kefar Ezyon (JM), 25.X.1984.

Host plants recorded: *Calycotome villosa, Cedrus deodara, Cistus incanus, Pistacia lentiscus.*

STENOPSOCIDAE

Graphopsocus cruciatus (Linnaeus, 1768)

Previous records: Galil and Halperin, 1983.

MATERIAL EXAMINED: 1♂, Gilbon (GO), 15.IV.1982, leg. C. Besuchet and I. Loebl; 3♀♀, Lavi (LG), 9.VII.1984, 10.IV.1985; 1♀, Alone Aba (LG), 20.V.1985; 2♂♂ 2♀♀, Caesarea (CP), 1.IV.1986; 15♂♂ 25♀♀, Ilanot (CP), 21.II.1985, 9 and 14.IV, 16 and 19.V.1985; 2♀♀, Hadassim (CP), 9.IV.1985; 4♂♂ 1♀, Miqwe Yisra'el (CP), 19.IV.1985, 19.V.1985; 4♂♂ 8♀♀, Gan Shelomo (CP), 8.IV.1985; 1♂ 4♀♀, Tel Zafit (SH), 17.IV.1985.

Host plants recorded: *Acacia arabica, A. saligna, Celtis laevigata, Cercis siliquastrum, Dodonaea viscosa, Laurus nobilis, Ligustrum japonicum, Maclura pomifera, Melaleuca megacephala, Olea europaea, Phillyrea latifolia, Pistacia atlantica, P. lentiscus, Pittosporum tobira, P. undulatum, Pyrus communis, P. syriaca, Quercus ithaburensis, Rhamnus alaternus, Schinus terebinthifolius.*

LACHESILLIDAE

Lachesilla bernardi Badonnel, 1938

Previous records: Galil, 1981; Galil and Halperin, 1983.

MATERIAL EXAMINED: 1♀, Tel Dan (UG), 19.VII.1987; 2♂♂, Kefar Szold (HV), 20.XI.1985; 2♂♂ 6♀♀, Gonen (HV), 9.IX.1984; 1♀, Bet Qeshet (LG), 4.X.1984; 2♂♂ 2♀♀, Ilanot (CP), 1.XII.1984; 2♂♂ 3♀♀, Sede Boqer (CN), 16.VII, and 11.IX.1984; 1♂ 1♀, Avedat (CN), 14.X.1984.

Host plants recorded: *Calycotome villosa, Pistacia vera, Populus alba, P. euramericana.*

Lachesilla pedicularia (Linnaeus, 1758)

Previous records: Galil, 1981; Galil and Halperin, 1983.

MATERIAL EXAMINED: 1♂, Wadi Nahla'ot (SA), 9.VII.1984, on *Ficus carica*; 1♀, Havat Noy (CP), 20.XI.1984, on *Malus sylvestris*; 1♀, Tel Zafit (SH), 17.IV.1985, on *Pyrus syriaca*.

Lachesilla quercus (Kolbe, 1880)

Previous records: Galil, 1981; Galil and Halperin, 1983.

MATERIAL EXAMINED: 15♂♂ 14♀♀, Afiq (GO), 10.VI.1968, on *Pistacia atlantica*; 1♂, Alone Aba (LG), 20.V.1985, on *Quercus ithaburensis*; 1♀, Ilanot (CP), 18.IV.1985, on *Callitris calcaratum*. 1♂, Miqwe Yisra'el (CP), 19.IV.1985, on *Pistacia lentiscus*; 1♀, Ben Shemen (SH), 6.IV.88, on *Lycium* sp.

ECTOPSOCIDAE

Ectopsocopsis cryptomeriae (Enderlein, 1907b)*

MATERIAL EXAMINED: 18♂♂ 5♀♀, Kefar Szold (HV), 20.XI.1985, on *Pistacia vera*; 1♂, Ramat Gan, 5.XII.1985, on *Acacia ligulata*.

Ectopsocus briggsi McLachlan, 1899

Previous records: Galil and Halperin, 1983.

MATERIAL EXAMINED: 2♂♂ 3♀♀, Regba (CP), 24.VI.1987, leg. E. Swirski; 2♂♂ 4♀♀, Alone Aba (LG), 20.V.1985; 147♂♂ 209♀♀, Ilanot (CP), 8.V.1981, 12.VI.1981, 26.V.1984, 24.I.1985, 21.II.1985, 9, 14 and 18.IV.1985; 1♀, Hadassim (CP), 9.IV.1985; 2♀♀, Herzliya, 5.V.1982, leg. A. Freidberg; 8♂♂ 15♀♀, Horshim (CP), 20.II.1984, leg. E. Swirski; 3♂♂ 2♀♀, Miqwe Yisra'el (CP), 19.IV.1985, 19.V.1985; 1♂, Gan Shelomo (CP), 8.IV.1985; 1♂, Sede Boqer (CN), 16.VII.1984.

Host plants recorded: *Acacia arabica, A. saligna, Callitris calcaratum, C. propinqua, C. verrucosa, Celtis laevigata, Cercis siliquastrum, Cupressis sempervirens, Dodonaea viscosa, Eucalyptus* sp., *Laurus nobilis, Ligustrum japonicum, Maclura pomifera, Melaleuca megacephala, Myrtus communis, Persea americana, Phillyrea latifolia, Pistacia lentiscus, P. vera, Pittosporum tobira, P. undulatum, Platanus orientalis, Pyrus communis, P. syriaca, Quercus ithaburensis, Rhamnus alaternus, Schinus terebinthifolius, Styrax officinalis, Tetraclinis articulata, Ulmus canescens.*

Ectopsocus meridionalis Ribaga, 1904

Previous records: Galil, 1981; Galil and Halperin, 1983.

MATERIAL EXAMINED: 1♀, Ramat haShofet (SA), 26.VII.1984; 5♀♀, Ilanot (CP), 26.V.1984, 18.IV.1985, 16 and 18.V.1985, 1♀, Miqwe Yisra'el (CP), 19.IV.1985.

Host plants recorded: *Callitris propinqua, Celtis laevigata, Maclura pomifea, Pistacia lentiscus, Ulmus canescens.*

Ectopsocus vachoni Badonnel, 1945*

MATERIAL EXAMINED: 1♀ (macropterous), near Zefat (UG), 500 m, 26.IV.1982, leg. C. Besuchet and I. Loebl, under stones; 1♀ (micropterous), 3 km W of Ginnosar (LG), 24.V.1973, leg. I. Loebl, by sifting under *Eucalyptus* sp.; 1♀ (micropterous), Mt. Carmel (CA), 28.V.1973, leg. I. Loebl, by sifting under *Nerium oleander.*

PERIPSOCIDAE

Peripsocus parvulus Kolbe, 1880

Previous records: Galil and Halperin, 1983.

Peripsocus yuleki Galil, 1983

Previous records: Galil and Halperin, 1983.
Comments: This interesting species is known only from Israel.

PSEUDOCAECILIIDAE

Trimerocaecilius becheti Meinander, 1978*

MATERIAL EXAMINED: 1♀ 1♂, Ramat haShofet (SA), 11.VII.1984; 16♂♂ 18♀♀, Ilanot (CP), 12.V.1984, 1 and 11.VII.1984, 20.IX.1984.
Host plants recorded: *Fraxinus syriaca, Ligustrum ovalifolium, Ulmus canescens.*
Comments: The species was known before only from Rumania (Meinander, 1978), Greece (Lienhard, 1981) and Italy (Schneider and Dessart, 1983).

TRICHOPSOCIDAE

Trichopsocus dalii (McLachlan, 1867)

Previous records: Galil, 1981; Galil and Halperin, 1983.
MATERIAL EXAMINED: 1♂, Tel Dan (UG), 19.VII.1987; 2♂♂ 7♀♀, Ilanot (CP), 30.XI.1984, 9 and 14.IV.1985, 19.V.1985, 30.X.1985; 1♀, Miqwe Yisra'el (CP), 19.IV1985.
Host plants recorded: *Celtis laevigata, Cercis siliquastrum, Laurus nobilis, Melaleuca megacephala, Myrtus communis, Pyrus syriaca, Rhamnus alaternus.*

ELIPSOCIDAE

Elipsocus abdominalis Reuter, 1904*

MATERIAL EXAMINED: 1♀, Lavi (LG), 10.IV.1985, on *Olea europaea*; 2♂♂ 1♀, Yodefat (LG), 20.XII.1984, 10.I.1985, on *Pistacia vera.*

Elipsocus hyalinus (Stephens, 1836)

Previous records: Galil and Halperin, 1983.

MATERIAL EXAMINED: 1♀, Mt. Hazon (LG), 1.IV.1985, on *Pistacia vera*; 3♀♀, Ilanot (CP), 1.III.1985, on *Calycotome villosa.*

Hemineura trudiae n.sp.

Male – not observed.

Female – Coloration: Head (Fig. 5) whitish, with brown spots and light brown longitudinal striae on postclypeus, median frontal spot subdivided. Eyes grey (freshly killed specimen). Antenna brown; maxillary palpus light brown, apex of last segment darker. Legs light brown, tarsi darker, some dark brown spots on femur. Abdomen whitish, tergites finely mottled with small brown spots, laterally somewhat more pigmented, especially on tergite 6.

Morphology: Almost apterous (wing rudiments consist only of extremely small membraneous lateral borders of thoracic terga). Compound eyes small; ocelli absent, only very small dark spots at their place (Fig. 5). Antenna with 2-3 placoid sensilla in basal half of f_1, one such sensillum subapically on f_4 and f_6 and two of them on f_{10}. Pretarsal claw with slender basal process, distinct preapical tooth and straight, pointed pulvillus. Pearman's organ on hind coxa well developed. Hairs on abdominal tergites 1-2 times as long as the distance between them. Terminalia. Epiproct simple, paraproct with 8-9 trichobothria. Subgenital plate (Fig. 7) without setae-bearing lobes on posterior margin, pigmentation of apical half interrupted by two colourless areas on both sides of the middle. Ovipositor valvulae as in Fig.6; dorsal valvula in apical half with a small membraneous process near dorsal margin; external valvula short, not hatchet-shaped, its dorsal border regularly curved, hairs present on entire external surface.

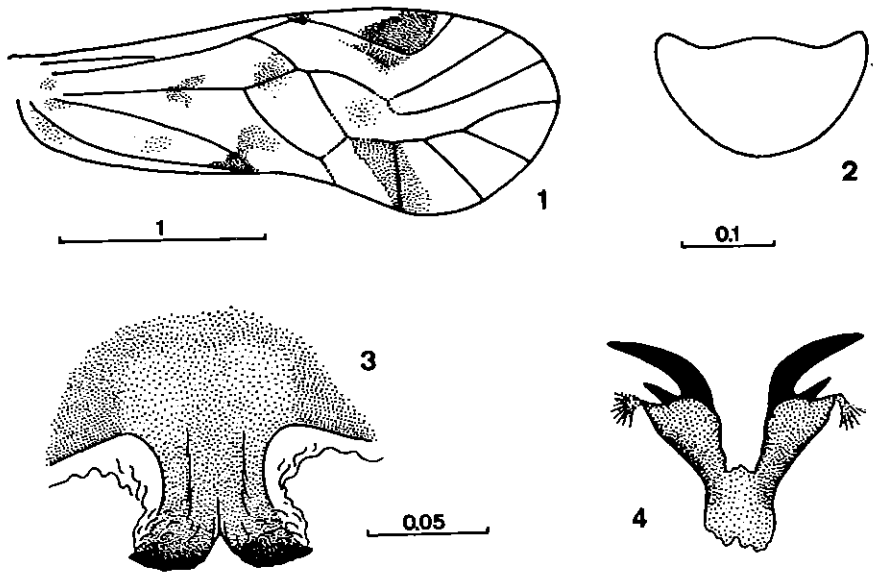
Dimensions (holotype): Body length (in alcohol): 2.5 mm. Antenna: 2.07 mm. Articles of flagellum (μ): f_1=386; f_2=309; f_3=270; f_4=202; f_5=124; f_6=110; f_7=105; f_8=94; f_9=84; f_{10}=83; f_{11}=105. Hindleg (μ): F=606; T=1015; t_1=270; t_2=71; t_3=118; Index t_1/t_2+t_3=1.43.

MATERIAL EXAMINED: ♀ holoytpe (MHNG), 1♀ paratype (NCI) and 2 nymphs (♂) (MHNG), Shifta (CN), 29.III.1988, on *Hammada salicornica*.

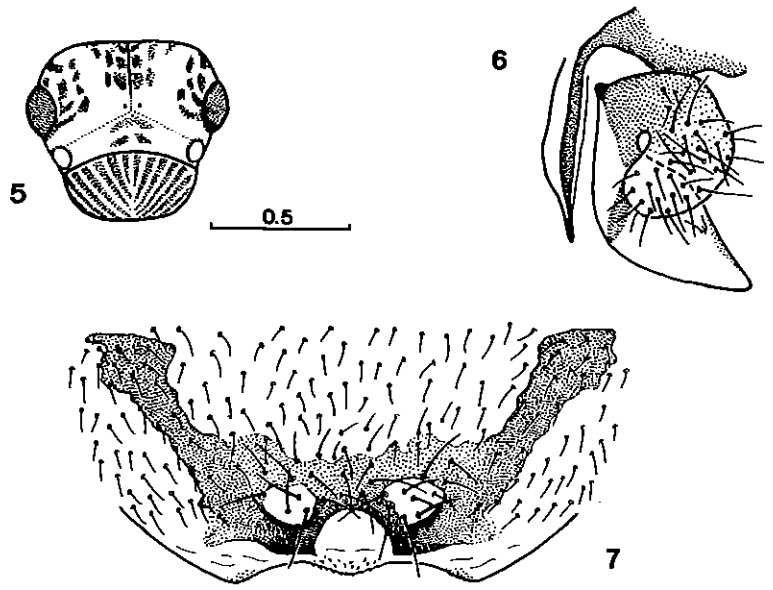
Comments: Even if the adult male is not known, the presence of the two male nymphs in the sample proves the bisexuality of the species. It stands close to the parthenogenetic species *H. bigoti* Badonnel, 1970, known from southern France and Greece (cf. Lienhard, 1986b). These two species are the only ones in the genus *Hemineura* lacking the two setae-bearing lobes on posterior margin of the subgenital plate. They are easily distinguishable by the characters of the external valvula, which is long, straight and bearing hairs only on its ventral half in *H. bigoti*, but much shorter, with curved dorsal border and bearing hairs on the entire external surface in *H. trudiae*. There exist also some differences in coloration (the two colourless areas of the subgenital plate, near distal margin, are lacking in *H. bigoti*) and biometry (index t_1/t_2+t_3 only 1.0-1.1 in *H. bigoti*; cf. Badonnel, 1970).

MESOPSOCIDAE

Cyrtopsocus cf. *dromedarius* (Ball, 1937)*



Figs. 1-4. *Blaste (Euclismia) membranosa* n. sp. ♂. – 1. Forewing; 2. Epiproct; 3. Apical process of hypandrium (posterior view); 4. Phallosome.



Figs. 5-7. *Hemineura trudiae* n.sp. ♀. – 5. Coloration of head; 6. Ovipositor valvulae; 7. Subgenital plate. Scales in mm, same scale for Figs. 2, 4, 6, 7.

MATERIAL EXAMINED: 1♀, Wadi Mashah (CN), 16.II.1976, on *Artemisia* sp., leg. A. Freidberg; 1♂, Nahal Nekarot (CN), 10.XII.1982, leg. N. Erlich.

Comments: Both specimens are damaged, in particular the female is completely lacking the abdomen. Therefore, the specific identification is not absolutely sure. Contrary to the following species the male has only one small median hump on abdominal tergite 5. *C. dromedarius* has previously been recorded only from Morocco (Ball, 1937; Meinander, 1966) and Tunisia (Smithers, 1979).

Cyrtopsocus gibbosus Lienhard, 1988*

MATERIAL EXAMINED: 2 nymphs (♂), Be'er Mash'abim (NN), 31.III.1988, on *Artemisia monosperma* and *Hammada salicornica*.

Comments: The species is characterized, in both sexes, by the pair of humps on abdominal tergite 5, also visible in nymphs. It has previously been recorded only from Greece and Cyprus (Lienhard, 1988).

Mesopsocus sp.*

MATERIAL EXAMINED: Two last instar nymphs (male and female), Tal Grove (HV), 28.IV.1984, on *Pistacia atlantica.*

PSOCIDAE

Amphigerontia contaminata (Stephens, 1836)

Previous records: Galil and Halperin, 1983.

MATERIAL EXAMINED: 10♂♂ 10♀♀, Mt. Hazon (LG), 1.XI.1984-1.V.1985; 9♂♂ 6♀♀, Yodefat (LG), 20.XII.1984-2.VI.1985; 1♂, Ilanot (CP), 14.IV.1985; 2♂♂ 1♀, Miqwe Yisra'el (CP), 19.IV.1985; 1♂ 1♀, Kefar Ezyon (JM), 3.IV.1985; 1♂ 1♀, Avi'ezer (SH), 3 and 17.IV.1985; 1♀, Netiv haLamedHe (SH), 7.V.1985.

Host plants recorded: *Cedrus deodara, Cercis siliquastrum, Pistacia vera, Pyrus syriaca, Rhamnus palaestina, Ulmus* sp.

Blaste (Euclismia) conspurcata (Rambur, 1842)

Previous records: Galil and Halperin, 1983.

Blaste (Euclismia) membranosa n. sp.

Female – not observed.

Male – Coloration: Head creamy white, dorsaly with dark brown spots on occiput, along vertical suture and near compound eyes; postclypeus with numerous fine dark brown longitudinal striae. Antenna dark brown, maxillary palp light brown. Thorax dark brown. yellowish along borders of mesonotal sclerites, legs brown. Wings hyaline, forewings with colour pattern as in Fig. 1; the brown spot at the areola postica highly visible. Abdomen

yellowish, laterally and dorsally with some brown hypodermal pigment, terminalia dark brown.

Morphology: Compund eyes relatively small (holotype: IO/D=2,0; PO/D=0,66). Ocelli well developed. Wing venation as typical for the genus (Fig. 1). Pearman's organ of hindcoxa well developed. Terminalia: Paraproct as typical for the genus, anterior border of epiproct with very weakly developed median lobe (Fig. 2). Apical process of hypandrium characteristic (Fig. 3), consisting of a dorsally directed medially incised protrusion, which is laterally connected with the more basal parts of the hypandrium by hyaline membranes, its apical half with some imbricate sculpture. Phallosome also characteristic (Fig. 4), each half with a long curved inner tooth and a much smaller, almost straight outer tooth.

Dimensions (holotype, mm): Body length (in alcohol): 2.6. Antenna (incomplete, not measured). Forewing length: 2.65. Hindleg: F=0.55; T=1.08; t_1=0.337; t_2=0.133.

MATERIAL EXAMINED: ♂ holotype (MHNG), Ilanot (CP), 16.V.1985, on *Cercis siliquastrum*; 2♂♂ (paratypes) (MHNG), Ilanot, 8.V.1981, on *Cupressus sempervirens*; 1♂ (paratype) (NCI), Mt Hazon (LG), 17.V.1985, on *Pistacia vera*.

Comments: By the characteristic shape of the apical process of the hypandrium and of the phallosome the new species is easily distinguishable from all other species of the genus where males are known.

Loensia variegata (Latreille, 1799)

Previous records: Galil and Halperin, 1983.

MATERIAL EXAMINED: 1♂ 1♀, Yodefat (LG), 10.IV.1985, 1.V.1985, on *Pistacia vera*; 1♂ 1♀, Ramat haShofet (SA), 25.IV.1985, 10.V.1985, on *Ulmus canescens*; 1♂ 2♀♀, Ha'ela Valley (SH), 25 and 30.V.1985, *Acacia albida*.

Ptycta nadleri Galil, 1981

Previous records: Galil, 1981; Galil and Halperin, 1983.

Comments: This very interesting species is known only from Rumania and Israel; supplements to the original description and illustrations of both sexes are given by Lienhard (1986a).

MYOPSOCIDAE

Myopsocus eatoni McLachlan, 1880

Phlotodes eatoni (McMachlan) (cf. Mockford, 1982)

Previous records: Galil and Halperin, 1983.

MATERIAL EXAMINED: 1♀, Kefar Hananya (LG), 6.VI.1985; 27♂♂ 52♀♀, Lavi (LG), 5 and 15.VII.1984, 1.VI.1985; 1♂ 3♀, Ramat haShofet (SA), 11 and 26.VII.1984; 6♂♂ 5♀♀, Ar'ara (SA), 21.VII.1984, 25.V.1985; 1♂, Ilanot (CP), 1.VII.1984.

Host plants recorded: *Crataegus aronia, Ligustrum ovalifolium, Pistacia vera, Rhamnus alaternus, Ulmus canescens, Vitex agnus-castus.*

ACKNOWLEDGEMENTS

We thank Dr. K.K. Günther (Zool. Museum der Humboldt-Universität, Berlin), Dr. D. Hollis (British Museum, Natural History), Dr. R.T. Schuh (American Museum of Natural History, New York) and Prof. Dr. R. Zocchi (Istituto Sperimentale per la Zoologia Agraria, Firenze) for the loan of types or other material.

REFERENCES

Badonnel, A. 1931a. Contribution à l'étude de la faune du Mozambique. Voyage de M.P. Lesne (1928-1929). 4e note. Copéognathes. *Annales des Sciences Naturelles, Zoologie,* sér. 10, 14:229-260.

Badonnel, A. 1931b. Copéognathes de France (IIIe note). Liste de quelques espèces trouvées dans les Pyrénées-Orientales, et description d'un nouveau genre des environs de Banyuls-sur-mer: *Nymphotroctes* Denisi sp.n. *Bulletin de la Société Zoologique de France* 56:341-347.

Badonnel, A. 1938. Psocoptères de France (9e note). Diagnoses préliminaires et nouvelles captures. *Bulletin de la Société Entomologique de France* 43:17-22.

Badonnel, A. 1945. Contribution à l'étude des Psocoptères du Maroc. Voyage de L. Berland et M. Vachon. *Revue Française d'Entomologie* 12:31-50.

Badonnel, A. 1970. Sur les espèces françaises du genre *Hemineura* Tetens (Psocoptera, Elipsocidae). *Bulletin de la Société entomologique de France* 75:134-140.

Badonnel, A. 1986. Psocoptères du Sénégal. III. Liposcelidae (Psocoptera). *Nouvelle Revue d'Entomologie (N.S.)* 3(1):69-76.

Ball, A. 1937. Contribution à l'étude des Psocoptères. I. – Description de trois espèces nouvelles de *Mesopsocus* du Maroc. *Bulletin du Musée Royal d'Histoire naturelle de Belgique* 13(42):1-11, 5 planches.

Ball, A. 1940. Contribution à l'étude des Psocoptères. II. – Description d'une espèce nouvelle de *Liposcelis* de l'île de Chypre et du Liban. *Bulletin du Musée Royal d'Histoire naturelle de Belgique* 16(20):1-3.

Broadhead, E. 1950. A revision of the genus *Liposcelis* Motschulsky with notes on the position of this genus in the order Corrodentia and on the variability of ten *Liposcelis* species. *Transactions of the Royal Entomological Society of London* 101:335-388.

Enderlein, G. 1903. Neue Copeognathen aus Kamerun. *Zoologische Jahrbücher. Abteilung für Systematik, Geographie und Biologie der Tiere* 19:1-8.

Enderlein, G. 1905. Results of the Swedish Zoological Expedition to Egypt and the White Nile, 1901. No. 18. Morphologie, Systematik und Biologie der Atropiden und Troctiden sowie Zusammenstellung aller bisher bekannten recenten und fossilen Formen. 58 pp.

Enderlein, G. 1907a. *Troctes entomophilus*, ein neuer Insekten-Liebhaber aus Columbien. *Stettiner Entomologische Zeitung* 68:34-36.

Enderlein, G. 1907b. Neue Beiträge zur Kenntnis der Copeognathen Japans. *Ibid.* 68:90-106.

Galil, B. 1981. On some Psocoptera from Israel and description of a new species. *Israel Journal of Entomology* 15:53-58.

Galil, B. and J. Halperin. 1983. Psocoptera of Israel II. *Israel Journal of Entomology* 17:59-66.

Hagen, H. 1865. Synopsis of the Psocina without ocelli. *Entomologist's Monthly Magazine* 2:121-124.

Kolbe, H.J. 1880. Monographie der deutschen Psociden mit besonderer Berücksichtigung der Fauna Westfalens. *Jahresbericht Westfalischen Provinzial-Vereins für Wissenschaft und Kunst* 8:73-142, 4 pls.

Latreille, P.A. 1799. Le genre *Psocus*. In: Illustrata Iconographica Insectorum, A.J. Coquebert, 1:8-14.

Lienhard, C. 1981. Neue und interessante Psocopteren aus Griechenland, Spanien und Portugal. *Deutsche entomologische Zeitschrift,* N.F. 28:147-163.

Lienhard, C. 1984. Etudes préliminaires pour une faune des Psocoptères de la région ouest-paléarctique. I. Le genre *Cerobasis* Kolbe, 1882 (Psocoptera: Trogiidae). *Revue suisse de Zoologie* 91:747-764.

Lienhard, C. 1986a. Etudes préliminaires pour une faune des Psocoptères de la région ouest-paléarctique. III. Contribution à la connaissance de la famille des Psocidae (Insecta: Psocoptera). *Ibid.* 93:297-328.

Lienhard, C. 1986b. Eine neue *Hemineura*-Art aus Spanien (Psocoptera, Elipsocidae). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 59:417-422.

Lienhard, C. 1987a. Vier interessante Psocopteren-Arten aus Nordafrika (Psocoptera). *Mitteilungen der Entomologischen Gesellschaft Basel* 37:47-49.

Lienhard, C. 1987b. Inventaire préliminaire des psoques de Grèce (Insecta: Psocoptera). *Biologia gallo-hellenica* 13:103-106.

Lienhard, C. 1988. Quelques espèces inédites de Mesopsocidae (Insecta: Psocoptera) avec redescription de *Hexacyrtoma capensis* Enderlein. *Revue suisse de Zoologie* 95:353-376.

Linnaeus, C. 1758. Systema Naturae per regna tria naturae secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Ed. X reformata, Holmiae, 2 vol.

Linnaeus, C. 1768. Systema Naturae – etc. Ed. XII, Holmiae, 3 vol.

McLachlan, R. 1867. A monograph of the British Psocidae. *Entomologist's monthly Magazine* 3:177-181, 194-197, 226-231, 241-245, 270-276, pl. 11.

McLachlan, R. 1880. Notes on the Entomology of Portugal. *ibid.* 17:103-108.

McLachlan, R. 1899. *Ectopsocus briggsi*, a new genus and species of Psocidae found in England. *Ibid.* 35:277-278.

Meinander, M. 1966. Psocoptera from the Mid-Atlantic Islands and Morocco. *Notulae Entomologicae* 46:107-121.

Meinander, M. 1978. Two new species of Pseudocaeciliidae (Psocoptera) from SE Europe. *Entomologica scandinavica* 9:1-6.

Mockford, E.L. 1982. Redescription of the type species of *Myopsocus, M. unduosus* (Hagen), and resulting nomenclatural changes in genera and species of Myopsocidae (Psocoptera). *Psyche.* 89:211-220.

Mueller, O.F. 1776. Zoologiae Danicae prodromus seu animalium Daniae et Norbegiae indigenarum characteres, nomina et synonyma imprimis popularium. Hafniae. 8 vo. 32+282 pp.

Pearman, J.V. 1925. Additions to the British Psocid Fauna. *Entomologist's Monthly Magazine* 61:124-129.

Pearman, J.V. 1935. Two remarkable Amphientomids (Psocoptera). *Stylops* 4(6):134-137.

Rambur, J.P. 1842. Histoire Naturelle des insectes. Nouvelles suites à Buffon. Paris, 534 pp.

Reuter, O.M. 1904. Neue Beiträge zur Kenntnis der Copeognathen Finnlands. *Acta Societatis pro Fauna et Flora Fennica* 26:1-28.

Ribaga, C. 1899. Descrizione di nuovo genere e di una nuova specie di Psocidi trovato in Italia. *Rivista di Patologia Vegetale, Padova* 8:156-159.

Ribaga, C. 1904. Sul genere *Ectopsocus* McLachlan e descrizione di un nuova varietà dell'*Ectopsocus briggsi* McLachlan. *Redia* 1:294-298.

Schneider, N. and P. Dessart. 1983. Minime contribution à la connaissance des Psocoptères de la Sardaigne. *Bulletin et Annales de la Société Royale Entomologique de Belgique* 119:85-89.

Sélys-Longchamps, E. de. 1872. Notes on two new genera of Psocids. *Entomologist's Monthly Magazine* 9:145-146.

Smithers, C.N. 1979. A new species of *Blaste* and *Mesopsocus dromedarius* Ball (Psocoptera) from Tunisia. *Entomologist's Monthly Magazine* 114:83-86.

Stephens, F. 1836. Illustrations of British Entomology, or synopsis of indigenous insects. London 6:115-129.

Tetens, H. 1891. Zur Kenntnis der Deutschen Psociden. *Entomologische Nachrichten* 17:369-384.

Turner, B.D. 1977. Moroccan Psocoptera – a new *Cerobasis* species and a redescription of *Ectopsocus strauchi* Enderlein. *Journal of Natural History* 11:281-287.