

PHORIDAE (DIPTERA) FROM ISRAEL

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ABSTRACT

An annotated check list of Phoridae recorded from Israel is provided. *Megaselia euryprocta* Schmitz is synonymized with *M. xanthozona* (Strobl.).

KEY WORDS: Diptera, Phoridae, Israel, faunal list.

INTRODUCTION

Freidberg (1988) commented that the Israeli phorid fauna "is essentially unstudied." One of us (Y.N.) has collected a number of Phoridae in Israel over a period of years. These have been identified by R.H.L.D. Most of the species are newly recorded for Israel. An annotated check list of the Phoridae recorded from Israel is provided.

The identifications have been based on slide-mounts of specimens, which were initially preserved in alcohol. Most species also occur in Britain, and so are covered by the recent keys to British species (Disney, 1983, 1989). Otherwise the literature cited below has been employed. The Catalogue of Palearctic Phoridae (Disney, 1990b) provides detailed citations of the taxonomic literature and is the basis for the summaries of distribution.

Voucher specimens are deposited in the University Museum of Zoology, Cambridge and in the private collection of Y. Nussbaum.

AN ANNOTATED CHECK LIST OF PHORIDAE RECORDED FROM ISRAEL

Species marked with an asterisk are recorded from Israel for the first time. Our localities and dates are listed along with previous published records.

1. *Conicera tibialis* Schmitz, 1925

MATERIAL EXAMINED. Jerusalem, Lifta, 6.vii.1983 (1♂); Khispin, 13.ii.1984 (1♂); Bet-Zayda, 5.viii.1986 (1♂); Mt. Meron, 900 m, 7.iv.1987 (1♂, 1♀); Sasa, 8.iv.1987 (2♂♂).

Schmitz (1953) reported this species from Mt. Scopus, Jerusalem, in June. It is widely distributed in Europe and also recorded from the Canary Islands and the Nearctic region.

2. **Diplonevra freyi* Schmitz, 1927

MATERIAL EXAMINED. Bet-Zayda, 5.viii.1986 (2♂♂, 2♀♀); Mt. Meron, Neriyya, 200 m, 7.iv.1987 (2♀♀).

This species is keyed by Schmitz (1949). It is known from Finland, Sweden, Germany, Austria and Greece.

3. **Diplonevra funebris* (Meigen, 1830)

MATERIAL EXAMINED. Baniyas, 21.vii.1983 (200 m); Qazrin, 8.iv.1987 (1♂).

The species is Holarctic, being widespread in Europe, and extending to Algeria, the Canary Islands and the Azores.

4. *Dohniphora cornuta* (Bigot, 1857)

MATERIAL EXAMINED. Baniyas, 8.v.1986 (1♂).

Schmitz (1951) reported this species from Jerusalem. It is cosmopolitan, through the agency of man.

5. **Megaselia aequalis* (Wood, 1909)

MATERIAL EXAMINED. Sasa, 8.iv.1987 (1♂); Mt. Hermon, 1600 m, 7.vii.1987 (1♀).

The species is widespread in Europe and also Nearctic.

6. **Megaselia albicaudata* (Wood, 1910)

MATERIAL EXAMINED. Baniyas, 8.iii.1984 (1♂); Mt. Hermon, 1600 m, 7.vii.1987 (2♂♂).

This species is widespread in Europe and also known from the Canary Islands and the Nearctic region.

7. **Megaselia bovista* (Gimmerthal, 1848)

MATERIAL EXAMINED. Mt. Hermon, 1600 m, 7.vii.1987 (1♂).

The species is widespread in Europe.

8. **Megaselia brevicostalis* (Wood, 1910)

MATERIAL EXAMINED. V. Pazel, 7.v.1984 (1♂, 1♀); Mt. Meron, 900 m, 7.iv.1987 (1♂); Qazrin, 7-8.iv.1987 (1♀); Latroun, 30.v.1987 (2♂♂, 2♀♀).

The species is widespread in Europe and also occurs in the Nearctic and Neotropical regions.

9. **Megaselia brevifemorata* Schmitz, 1926

MATERIAL EXAMINED. Baniyas, 8.iii.1984 (4♂♂); Bar'am, 24.x.1984 (2♂♂, 1♀); Khispin, 29.i.1985 (1♂).

This species is keyed by Schmitz and Beyer (1965). It is known from Denmark.

10. **Megaselia capronata* Schmitz, 1940

MATERIAL EXAMINED. Mt. Meron, Neriyya, 200 m, 7.iv.1987 (2♂♂).

The species is known from Austria, Great Britain and Portugal.

11. **Megaselia clemonsi* Disney, 1984

MATERIAL EXAMINED. Mt. Meron, Neriyya, 200 m, 7.iv.1987 (1♂).

The species is known from Great Britain.

12. **Megaselia collini* (Wood, 1909)

MATERIAL EXAMINED. Bet-Zayda, 5.viii.1986 (1♂).

The species is widespread in Europe.

13. *Megaselia curtineura* (Brues, 1909)

MATERIAL EXAMINED. Petach-Tiqwa, reared from dead *Pimelia* sp. (Coleoptera : Tenebrionidae), vii.1987 (2♂♂, 4♀♀); same locality, 5.viii.1989 (1♀).

This species closely resembles several other species. Its recognition has recently been clarified (Disney, 1988). Schmitz (1935) reported it from Rehovot in October. It is tropicopolitan through the agency of man.

14. **Megaselia curvicapilla* Schmitz, 1947

MATERIAL EXAMINED. Mt. Meron, 900 m, 7.iv.1987 (1♂); Qazrin, 8.iv.1987 (2♂♂).

The species is known from Great Britain, the Netherlands, Germany and Austria.

15. **Megaselia deltomera* (Schmitz, 1924)

MATERIAL EXAMINED. Mt. Meron, Ein-el-Asad, 18.iv.1984 (1♂); Qazrin, 7.iv.1987 (2♂♂).

This species is keyed by Schmitz (1958). It is known from Austria, Hungary and Yugoslavia.

16. **Megaselia diversa* (Wood, 1909)

MATERIAL EXAMINED. Mt. Hermon, 1600 m, 7.vii.1987 (1♂).

The species is widespread in Europe.

17. **Megaselia elongata* (Wood, 1914)

MATERIAL EXAMINED. Netu'a, 4.iv.1987 (1♀).

The species is widespread in Europe.

18. **Megaselia flava* (Fallén, 1823)

MATERIAL EXAMINED. Banias, 8.iii.1984 (1♀).

The species is widespread in Europe and also occurs in Japan, the Oriental and Nearctic regions.

19. **Megaselia giraudii* (Egger, 1862)

MATERIAL EXAMINED. Mt. Meron, 900 m, 7.iv.1987 (2♂).

The species is widespread in Europe and also recorded from the Canary Islands, Nepal and the Nearctic region.

20. **Megaselia halterata* (Wood, 1910)

MATERIAL EXAMINED. Khispin, 13.ii.1984 (1♂); Baniyas, 8.iii.1984 (1♂).

The species is Holarctic, being widespread in Europe, North Africa, the Canary Islands and the Azores.

21. *Megaselia intersecta* Schmitz, 1935

Recently the recognition of this species has been partly clarified (Disney, 1988), but fresh material mounted on slides is required to complete a revised understanding. The female holotype was reported from Mt. Scopus, Jerusalem (Schmitz, 1935) and is the only specimen known. A male from Baniyas, initially considered to be a possible candidate for the unknown male of this species, is now known from a reared series from Yugoslavia. The females are not *M. intersecta*. The species is being described elsewhere.

22. **Megaselia latifrons* (Wood, 1910)

MATERIAL EXAMINED. Bet-Zayda, 5.viii.1986 (1♂).

The species is widespread in Europe.

23. **Megaselia latior* Schmitz, 1936

MATERIAL EXAMINED. Baniyas, 8.iii.1984 (1♂).

The species is known from Great Britain, Belgium, Germany and the Canary Islands.

24. **Megaselia longicostalis* (Wood, 1912)

MATERIAL EXAMINED. Mt. Meron, Ein-el-Asad, 18.iv.1984 (♂).

The species is widespread in Europe.

25. **Megaselia malhamensis* Disney, 1986

MATERIAL EXAMINED. Qazrin, 8.iv.1987 (1♂).

The species is known from Great Britain.

26. **Megaselia meconicera* (Speiser, 1925)

MATERIAL EXAMINED. Khispin, 13.ii.1984 (1♂).

The species is widespread in Europe, and also known from Japan, the Azores and the Nearctic region.

27. **Megaselia melanocephala* (von Roser, 1840)

MATERIAL EXAMINED. Mt. Hermon, 1600 m, 7.vii.1987 (2♂).

The species is widespread in Europe and also known from Tunisia.

28. **Megaselia nigra* (Meigen, 1830)

MATERIAL EXAMINED. Migdal-Zedek, Rosh-Ha'ayin, 23.iii.1984 (1♂).

The species is Holarctic, being widespread in Europe and recorded from the Canary Islands and the Azores.

29. **Megaselia oxybelorum* Schmitz, 1928

MATERIAL EXAMINED. Mt. Hermon, 1600 m, 7.vii.1987 (1♂).

Recognition of this species has been clarified recently (Disney, 1988). It is known from the South European parts of the USSR, France and the Canary Islands.

30. *Megaselia palaestinensis* (Enderlein, 1933)

The best description of this species is that under its synonym *M. mediterranea* Schmitz (1935). Enderlein's holotype came from Tel Aviv. Schmitz's material was from Rehovot in October. It is only known from Israel.

31. **Megaselia pleuralis* (Wood, 1909)

MATERIAL EXAMINED. Khispin, 13.ii.1984 (1♂); Meron Ein-el-Asad, 18.iv.1984 (1♂); Mt. Hermon, 1600 m, 7.vii.1987 (1♂); Lebanon: Barukh Mt., 1900 m, 10.ix.1984 (1♂).

The species is Holarctic, being widespread in Europe and found in the Azores, the Canary Islands and Japan.

32. **Megaselia pulicaria* (Fallén, 1823)

MATERIAL EXAMINED. Khispin, 13.ii.1984 (1♂); Baniyas, 8.iii.1984 (1♂); Mt. Meron, En-Shammay, 10.iv.1984 (1♂); Mt. Meron, 200 m, 7.iv.1984 (1♂); Mt. Meron, 900 m, 7.iv.1987 (2♂, 2♀); Baniyas, 8.v.1986 (1♂); Bet-Zayda, 5.viii.1986 (1♂); Netu'a, 4.iv.1987 (2♂, 2♀); Hurfeish, 7.iv.1987 (2♂, 2♀); Sasa, 8.iv.1987 (1♂); Mt. Hermon, 1600 m, 7.vii.1987 (2♂).

The species is Holarctic, being widely distributed in Europe and the Canary Islands.

33. **Megaselia pumila* (Meigen, 1830)

MATERIAL EXAMINED. Baniyas, 8.iii.1984 (1♂); Mt. Meron, 200 m and 900 m, 7.iv.1987 (2♂).

The species is widely distributed in Europe and also reported from Tunisia.

34. *Megaselia rufipes* (Meigen, 1804)

MATERIAL EXAMINED. Baniyas, 8.iii.1984 (1♂); Bar'am, 24.x.1984 (1♀); Mt. Hermon, 1600 m, 7.vii.1987 (2♂); Lebanon: Barukh Mt., 1900 m, 10.ix.1984 (1♂, 1♀).

Freidberg (1988) reported this species from Israel. It is cosmopolitan outside the tropics, probably through the agency of man.

35. **Megaselia stichata* (Lundbeck, 1920)

MATERIAL EXAMINED. Baniyas, 8.iii.1984 (1♂).

The species is widespread in Europe and also recorded from the Canary Islands.

36. **Megaselia subpleuralis* (Wood, 1909)

MATERIAL EXAMINED. Baniyas, 8.iii.1984 (1♂).

The species is widely distributed in Europe and also known from the Nearctic region.

37. *Megaselia subscaura* Schmitz, 1932

Schmitz and Beyer (1965) key this species and report it from Mt. Scopus, Jerusalem in January, and from Stelle in November. It is only known from Israel.

38. **Megaselia superciliata* (Wood, 1910)

MATERIAL EXAMINED. Mt. Meron, 1200 m, 9.iv.1987 (1♂).

The specimen is a little dark with dark halteres. It will not key out correctly in the keys of Schmitz and Beyer (1965), who do not allow for specimens with dark halteres. In the keys to British species (Disney, 1989), it will readily run to couplet 134, but will only key out correctly if the second lead is taken rather than the first (treating the fore tibia as being mainly yellowish rather than dark grey to black; the specimen is intermediate). The species is widely distributed in Europe.

39. *Megaselia verralli* (Wood, 1910)

Schmitz (1958) lists this species for Israel. It is widely distributed in Europe.

40. **Megaselia xanthozona* (Strobl, 1892)

Megaselia euryprocta Schmitz, 1957. Syn. nov.

MATERIAL EXAMINED. Hurfeish, 7.iv.1987 (1♂); Sasa, 8.iv.1987 (2♂).

Schmitz (1958) distinguished *M. euryprocta* and *M. xanthozona* on the basis of the colour of the male epandrium. In the former it is uniformly dark. In the latter it has the anterior half, or more, yellowish. He illustrated (loc. cit. figs. 267 and 268) the anal tube and posterior lobe of the hypandrium of *M. euryprocta*. I have examined the slide mounts on which these figures are based. They cannot be distinguished from those of *M. xanthozona*. Indeed, in a series of the latter from Algeria, Israel and Spain, it is evident that the colour of the epandrium varies from uniformly dark brown to almost uniformly yellowish. There is a complete continuum between undoubted *M. xanthozona* specimens and undoubted *M. euryprocta* specimens. I conclude, therefore, that the latter is a synonym of the former.

The species is widely distributed in Europe and North Africa.

41. **Phora atra* (Meigen, 1804)

MATERIAL EXAMINED. Baniyas, 8.viii.1983 (1♂).

The species is widely distributed in Europe and also recorded from the Canary Islands, Algeria and the Nearctic region.

42. **Phora holosericea* Schmitz, 1920

MATERIAL EXAMINED. Baniyas, 8.iii.1984 (1♂).

The species is widely distributed in Europe and also known from Japan and the Nearctic region.

43. **Razorfemora nussbaumi* Disney, 1990

MATERIAL EXAMINED. Petach Tiqwa, 1.x.1986 (1♂).

This genus and species has been described elsewhere (Disney, 1990a).

44. **Spiniphora bergenstammi* (Mik, 1864)

MATERIAL EXAMINED. Lebanon: Sidon, 23.vii.1984 (1♂, 1♀).

The species is widely distributed in Europe, and has also been recorded from Egypt and the Nearctic, Neotropical and Australasian regions.

45. *Spiniphora signata* (Schmitz, 1935)

Schmitz (1941) reported this species being reared from the snail *Helix kisornis* Kob. in Haifa. It is known from Italy and Israel.

46. *Triphleba circumflexa* Schmitz, 1932

Schmitz (1932, 1943) reported this species from Mt. Scopus, Jerusalem, in December. It is only known from Israel.

47. *Triphleba extrema* Schmitz, 1932

Schmitz (1932) reported this species from Mt. Scopus, Jerusalem, in March. It is only known from Israel.

DISCUSSION

This list represents only a small percentage of the total list of Phoridae for Israel. It is evident that, while there is a significant European component, there is also an element not known from Europe. Until the Phorid fauna of Israel and adjacent territories is better known, it would be premature to draw any biogeographic conclusions. However, it seems that the primarily European element is better represented at the higher altitudes in Israel. Future collecting of Phoridae may be able to establish the altitudinal limits for the different species. We postulate that the Asian-North African element of the fauna will prove more abundant in the lowlands, and the European element more abundant in the uplands.

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