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THE ZOOGEOGRAPHY OF THE WESTERN PALAEARCTIC TIPULIDAE (DIPTERA). VIII. TIPULIDAE OF ISRAEL AND ADJACENT REGIONS

BR. THEOWALD and P. OOSTERBROEK

Institute of Taxonomic Zoology (Zoological Museum), Amsterdam, The Netherlands

ABSTRACT

A review is presented of the 26 species of Tipulidae known from the region covered by the Turkish province of Hatay in the north to Israel in the south. Three species, *Tipula (Lunatipula) freidbergi*, *T. (L.) kaplani*, and *T. (Savtshenkia) ornata* are described as new and a short discussion is presented on the recognized subspecies of *T. (L.) peliostigma*. The distribution patterns and affinities of the 14 non-endemic species, and 9 out of the 12 endemic species, show that the Tipulidae fauna of the region Hatay-Israel is largely an extension of the fauna of Anatolia. A distinct period of isolation from this northern fauna is indicated by the high percentage of endemic species (46%).

KEYWORDS: **Diptera, Tipulidae, Turkey, Hatay, Israel, new species, distribution, faunal origin.**

INTRODUCTION

This paper of our series on the zoogeography of the western palaearctic Tipulidae (Theowald and Oosterbroek, 1980-1986), deals with the Tipulidae of the area bordering the eastern Mediterranean sea, viz. the area from the Turkish province of Hatay in the north to Israel in the south. This strip of land is bordered by the sea in the west and by dry steppes and deserts in the south and east. To the north the area and its vegetation (Mediterranean with hardwood and coniferous forests in the higher parts) is connected with Anatolia. The Tipulidae fauna, due to its hygrophilous character, shows a strong affiliation with the north as well.

Only a few species of Tipulidae have been recorded until now from the region mentioned above. A first list was published in the Prodromus Faunae Palestinae (Bodenheimer, 1937). The five species mentioned herein are discussed in our list of species. In the last decade, small collections from a number of localities became available and, through the kind co-operation of Dr. Amnon Freidberg, the rather rich collection of the Tel-Aviv University. This collection consists of about 400 specimens from all parts of Israel, mainly collected by Dr. Amnon Freidberg and Mrs. Fini Kaplan. The collection includes 22 species. Three of them are new to science and of the eight species already known from Israel, seven are represented; the species *Tipula (Lunatipula) berytia* Mannheims, 1963, is still known from the two type-specimens only.

The Tipulidae species of the region are listed alphabetically together with their distribution and period of flight. For the species from Israel all localities from which material was examined, are mentioned. The list includes notes on some species, together with the descriptions of three species from Israel new to science.

Furthermore some zoogeographic remarks are made, taking into account all species known from the region (Hatay: 3 species; coastal Syria: 8 species; Lebanon: 16 species; Israel: 23 species).

The terminology in the descriptions is after Tangelder (1983). The abbreviations used are: BMNH: British Museum (Natural History), London, England; MAK: Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, West Germany; TAU: Tel-Aviv University Collection, Tel-Aviv, Israel; ZMA: Zoological Museum, Amsterdam, the Netherlands.

LIST OF SPECIES

Species already known from Israel are marked with an asterisk (*), species known from the region in literature but not confirmed by our present investigations, are listed unnumbered.

Ctenophora pectinicornis (Linnaeus, 1758)

This species was listed for Israel by Bodenheimer (1937), but the record has not been confirmed since. *C. pectinicornis* is a European species, not known from Anatolia or the adjacent Asiatic regions.

Nephrotoma appendiculata (Pierre, 1919)

This species was recorded from Israel (Bodenheimer, 1937, as *Pachyrrhina maculosa* Meigen) and Lebanon (Oosterbroek, 1978). The latter record refers to a female from Jebel el Knaissé (BMNH). However, a reliable discrimination between females of *N. appendiculata* and *N. minuscula* is not possible (Oosterbroek, 1979). Given the known distribution of the two taxa, it is most likely that both records refer to *N. minuscula*.

1. *Nephrotoma beckeri* (Mannheims, 1951)

Distribution: Anatolia (Taurus Ciliacia, Hatay), Cyprus, Lebanon, Israel.
Period of flight: early March until early June.
ISRAEL: Banyas, Mt. Carmel, Wadi Faria, Galilee (En Te'o), Mt. Gilboa, Mt. Meron, Mishmar Ha'Emeq, Rosh Ha'Ayin, Tel-Aviv.

2. *Nephrotoma cornicina* (Linnaeus, 1758)

Distribution: Palaearctic region including Anatolia, Lebanon, Israel.
Period of flight: end of April until early September.
ISRAEL: Ha'Tanur.

3. *Nephrotoma minuscula* (Mannheims, 1951)*

Distribution: Anatolia (Hatay), Syria, Lebanon, Israel, Cyprus.
Period of flight: end of January until early May.
ISRAEL: Btecha, Mt. Carmel, Gat, Golan (Qusbiye, En Ziwan, Khushmiya, Merom Golan), Ga'ash, Haifa, Holon, Yagur, Jerusalem (Mount Scopus), Kare Deshe, Kefar Nahum, Majdal Shams, Nahal Rubin, Nahal Oren, El Quneitra, Qiryat Tiv'on, El Ro'i, Tel-Aviv.

4. Nephrotoma scalaris scalaris (Meigen, 1818)

Distribution: mainly the central and southeastern part of Europe, Anatolia, Iran, Syria, Lebanon, Israel, Cyprus.
Period of flight: end of March until end of October.
ISRAEL: Avihayil, Banyas, Btecha, Wadi Faria, Hazbani, Ha'Tanur, Holon, Herzliyya, Jericho, Wadi Kelt, Montfort, Ramat-Gan, Rehovot, Tel-Aviv.

Tipula gigantea Schrank, 1776

It is most unlikely that the record of *Tipula gigantea* (= *Tipula (Acutipula) maxima* Poda, 1761) from Israel by Bodenheimer (1937), does indeed refer to *T. (A.). maxima*, because this is a European species. Similar to *T. (A.) maxima* and occurring in the region are *T. (A.) transcaucasica latifurca* Vermoolen, 1983, and *T. (A.) libanica* Vermoolen, 1983.

Tipula oleracea Linnaeus, 1758

The known distribution of the two sister species *T. oleracea* and *T. orientalis*, as given in Theowald (1984), indicates that the record of *T. oleracea* for Israel by Bodenheimer (1937) refers to *T. orientalis*.

5. *Tipula (Acutipula) libanica* Vermoolen, 1983

Distribution: Lebanon, Israel.
Period of flight: end of June until early September.
ISRAEL: Tel Dan.

6. *Tipula (Acutipula) transcaucasica latifurca* Vermoolen, 1983

Distribution: Balkan Peninsula, Anatolia, Lebanon.
Period of flight: May until July.

7. *Tipula (Lunatipula) angela* Mannheims, 1963*

Distribution: Israel.
Period of flight: March, April.
ISRAEL: Mt. Carmel, Jerusalem, Nahal Oren, Nes Ziyyona.

8. *Tipula (Lunatipula) angelica* Theowald, 1957*

Distribution: Syria, Israel.
Period of flight: February until May.
ISRAEL: Allonim, Ein el Asad, Btecha, Mt. Carmel, Wadi Faria, Mt. Hermon, Herodion, Jerusalem, Wadi Kelt, Golan ('En Ziwan, Merom Golan), Mash'abbe Sade, Ha'Tanur, Nahal Oren, Qiryat Tiv'on, Qal'at Nimrud, Sede Boqer, Tel-Aviv, Tiberias.

9. *Tipula (Lunatipula) berytia* Mannheims, 1963*

Distribution: Lebanon, Israel.
Period of flight: probably Spring (known from February only).
ISRAEL: One male, probably from Tiv'on, is known, labelled: "Tiron, Israel, 15.II.1956" (MAK).

10. *Tipula (Lunatipula) brunneinervis sinedente* Theischinger, 1980

Distribution: Anatolia, Israel.
Period of flight: end of March until June.
ISRAEL: Mt. Hermon, Jerusalem, Mt. Meron, Qal'at Nimrud.

11. *Tipula (Lunatipula) cedrophila* Mannheims, 1963
Fig. 1

Distribution: Rodhos, Anatolia, Lebanon, Israel.
Period of flight: end of May until end of June.
ISRAEL: Mt. Hermon.
Discussion: From Mt. Hermon in Israel 6 ♂♂ and 4 ♀♀ were collected which most likely belong to *cedrophila*. The types of this species are probably lost, therefore a

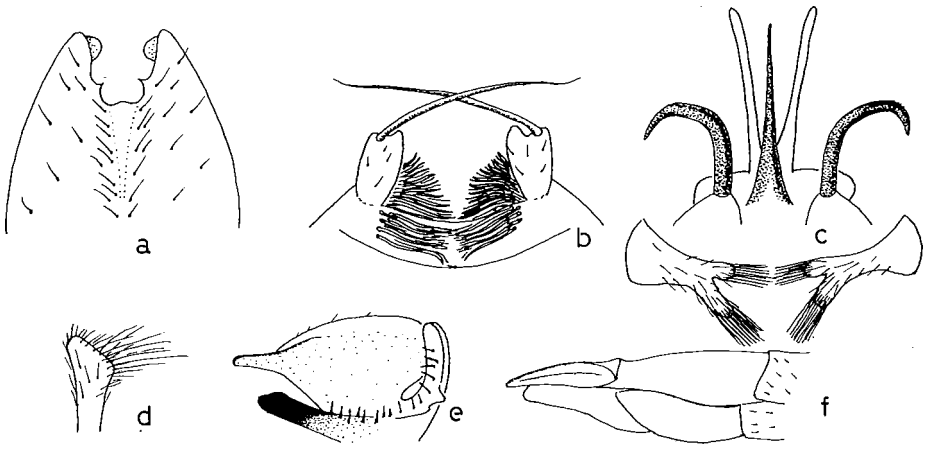

Fig. 1. *Tipula (Lunatipula) cedrophila* Mannheims (supposition), a: posterior part of tergite 9, dorsal view; b: posterior part of sternite 8, rear view; c: aedeagus and appendage of sternite 9, rear view; d: outer dististyle, outside view; e: inner dististyle, outside view; f: ovipositor, lateral view.

comparison could be made only with the original description. The species was described from Lebanon and is also known from Anatolia (Beysehir) and Rhodos (Mannheims, i.l.)

The specimens from Israel show some differences in the shape of the appendages of sternite 9, as compared with the original description of *cedrophila* by Mannheims (1963), stating that the appendages have a pointed end, provided with a small brush of hairs. In the specimens from Israel the end of the appendages is divided into two parts, each with a brush of hairs (Fig. 1c). It is possible that this character was overlooked by Mannheims because it is sometimes difficult to observe in dry specimens. The material from Israel is therefore provisionally named *cedrophila*, until the types are recovered.

The species is placed by Mannheims in the *lunata* group, but is probably best placed in the *macroselene* group on the bases of the appendages of sternite 9.

12. *Tipula (Lunatipula) freidbergi* n.sp.

Fig. 2

Distribution: Israel.

Period of flight: March until May.

ISRAEL: Ein el Asad, Herzliyya, Holon, Wadi Kelt.

Description: Length of thorax + abdomen: ♂: 10-12 mm, ♀: 14-16 mm, wing length: ♂: 11-13 mm, ♀: 11-14 mm.

Head: greyish brown with a dark stripe on vertex; rostrum brown with a rather long nasus; palpi brown with apical segment black; base of antennae and first flagellar segment yellow, other flagellar segments dark brown.

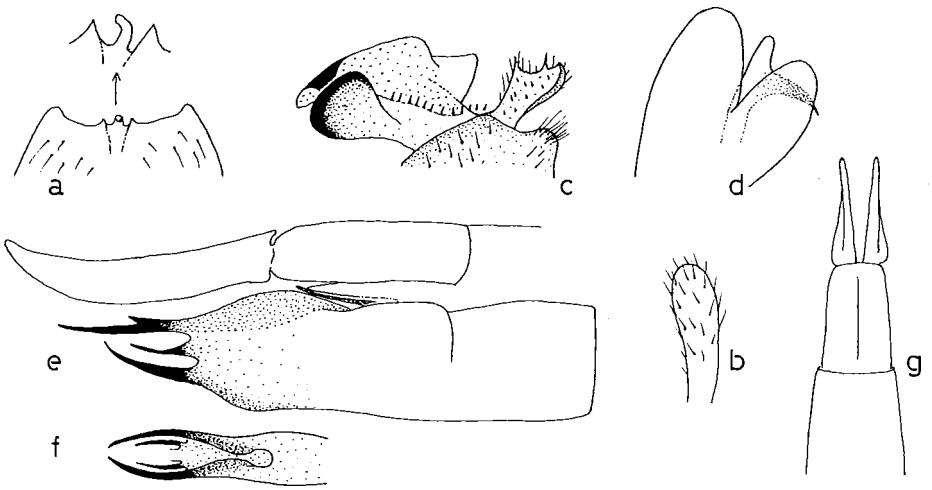

Fig. 2. *Tipula (Lunatipula) freidbergi* n. sp., a: posterior part of tergite 9, dorsal view; b: outer dististyle, outside view; c: inner dististyle, outside view; d: aedeagus, lateral view; e: ovipositor, lateral view; f: hypovalvae, ventral view; g: cerci, dorsal view.

Thorax: yellowish brown, prescutum and scutum 1 somewhat darker with the two medial stripes dark brown and the two lateral stripes faint; legs brown, tarsi somewhat darker, claws without tooth.

Abdomen: yellowish brown without, or with faint, dorsal and lateral stripes.

Hypopygium and ovipositor (Fig. 2) as in the *erato* and *bimacula* species groups of the *livida* group. The hypovalvae however with the three apices strongly elongated (Fig. 2e, 2f) and as long as the two apices as found in *livida* Van der Wulp and other higher differentiated species of the *livida* group.

Discussion: Within the *livida* group, the species has an isolated position, probably related with some species known from the Canary Island (*macquarti macquarti* Becker, 1908, *macquarti lesnei* Pierre, 1921a), North Africa (*bivittata* Pierre, 1921b), the Leitha Mountains in Austria (*pokornyi* Mannheims, 1968) and Afghanistan and Kashmir (*hypovalvata* Alexander, 1935).

MATERIAL EXAMINED: Holotype: ♂, Israel, Wadi Kelt, 25.III.1975, A. Freidberg (TAU). Paratypes: 4♂, 3♀, same data as holotype; 5♂, Holon, 19.III.1981, A. Freidberg; 1♂, Herzliyya, 11.V.1982, A. Freidberg; 7♂, 3♀, Ein el Asad, 30.III.1963, Kugler (TAU, ZMA).

13. *Tipula (Lunatipula) helvola* Loew, 1873

Distribution: Europe, western Anatolia, Israel.
Period of flight: May until September.
ISRAEL: Mt. Meron.

14. *Tipula (Lunatipula) kaplani* n.sp.

Fig. 3

Distribution: Israel.
Period of flight: end of April until early June.
ISRAEL: Hagosherim, Mt. Hermon, Mt. Meron, Peqi'in, Qal'at Nimrud.

Description: Length of thorax + abdomen ♂: 14-15 mm, wing length ♂: 18-19 mm.

Head: yellowish brown with a dark stripe on the vertex, rostrum brown with distinct but short nasus, palpi brown with apical segment dark brown; base of antennae yellowish brown, first two or three flagellar segments bicoloured, remaining segments dark brown.

Thorax: yellowish brown, prescutum and scutum 1 somewhat darker with four faint stripes; legs brown, tip of femora and of tibiae dark, tarsi somewhat darkened, claws with a small basal tooth.

Abdomen: yellowish brown with faint dorsal and lateral stripes.

Hypopygium (Fig. 3): as in *angela* Mannheims, but distinctly differing in the shape of tergite 8, sternite 9, and the outer and inner dististyles. The hind margin of tergite 8 (Fig. 3a) is in a way intermediate between *angela* Mannheims (Fig. 3b) and *angelica* Theowald (Fig. 3c). With respect to the appendage of sternite 9 and the shape of the outer and inner dististyles (Figs. 3d-i), *kaplani* is more similar to *angela* than to *angelica*.

Female: unknown; a series of females, which either belong to *leeuweni, angela,* or *kaplani*, is preserved at TAU).

Discussion: The species *kaplani* forms a distinct species group with *angela* and

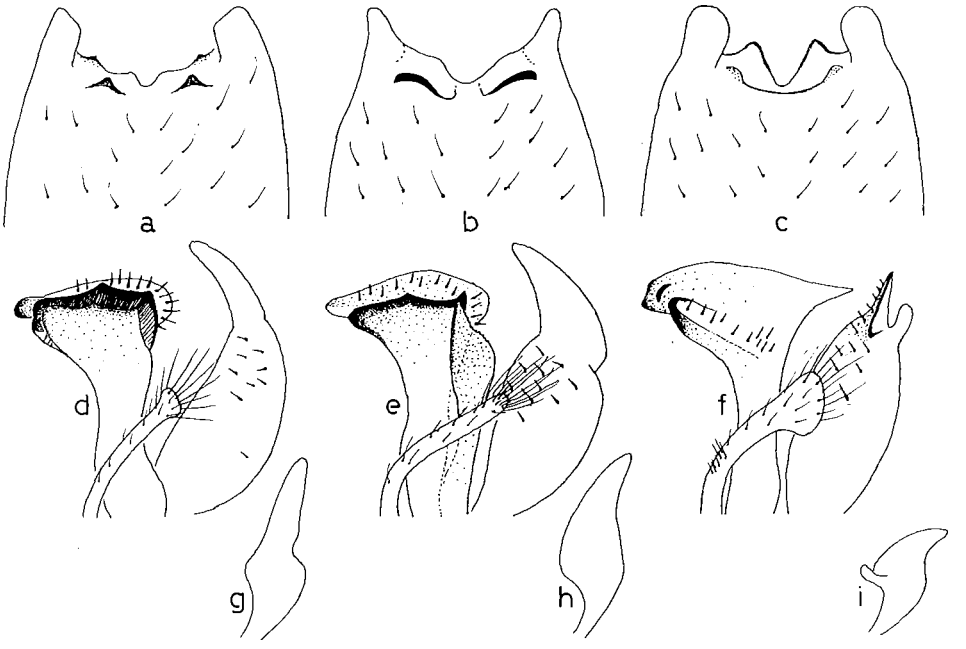

Fig. 3. *Tipula (Lunatipula) kaplani* n. sp., a, d, g; *Tipula (Lunatipula) angela* Mannheims, b, e, h; *Tipula (Lunatipula) angelica* Theowald, c, f, i; a-c: posterior part of tergite 9, dorsal view; d-f: inner and outer dististyle with appendage of sternite 9, lateral view; g-i: appendage of sternite 9, rear view.

angelica. This species group, distributed in Syria, Lebanon and Israel, belongs to the mainly Anatolian *acuminata* group sensu Mannheims (1963), but the relationships within this latter group are not yet worked out.

MATERIAL EXAMINED: Holotype: ♂, Israel, Hagosherim, 27.V.1980 (TAU). Paratypes: 1♂, Mt. Meron, 23.IV.73, F. Kaplan; 1♂, Peqi'in, 14.V.1974, A. Freidberg; 1 ♂, Qal'at Nimrud, 24.IV.1982, I. Yarom; 1 ♀, Mt. Hermon, 1500 m, 25.V.1977, A. Freidberg; 1♂, Mt. Hermon, 1650 m, 6.V.1975, Kugler; 1 ♂, Mt. Hermon, 1650 m, 9.VI.1975, A. Freidberg (TAU, ZMA).

15. *Tipula (Lunatipula) kinzelbachi* Theischinger, 1982

Distribution: Syria.
Period of flight: probably Spring (known from April only).

16. *Tipula (Lunatipula) kybele kybele* Mannheims, 1968*

Distribution: Anatolia, Lebanon, Israel.
Period of flight: end of March until July.
ISRAEL: Galilee (En Te'o), El Hamma, Jerusalem, Kare Desche, Mt. Meron, Mishmar Ha'Emeq, Tiberias, Yakir.

17. *Tipula (Lunatipula) leeuweni* Theischinger, 1982

Distribution: Syria, Israel.
Period of flight: end of February until early May.
ISRAEL: Mt. Carmel, Kefar Hasidim, Mt. Meron, Petah Tiqwa, Kiryat Tiv'on.

18. *Tipula (Lunatipula) peliostigma* Schummel, 1933*

Distribution: Europe, Anatolia, Israel.
Period of flight: end of March until April.
ISRAEL: Galilee (En Te'o), Haifa, Wadi Kelt.

Discussion: Mannheims (1965) distinguished between four subspecies of *peliostigma*, namely the typical *peliostigma* (Western Palaearctic, also Naxos and 2 localities in Greece), *dorica* (two localities in Crete, each 1 ♂), *pelopea* (two localities in Greece, 8 ♂, 9 ♀), and *phoenissa* (Israel, Haifa, 1 ♂). On the basis of the material from the southeastern part of the Western Palaearctic which has been collected subsequently, it must be concluded that in these regions *peliostigma* appears to be fairly variable in certain characters and it seems most appropriate not to maintain the subspecies *pelopea* and *phoenissa*. Additional specimens from Crete (22 ♂, 4 localities) show the very characteristics of *dorica*, which is considered a valid species.

19. *Tipula (Lunatipula) pseudopeliostigma* Mannheims, 1965*

Distribution: Lebanon, Israel.
Period of flight: March until June.
ISRAEL: Dura (En Dilbe spring), Haifa, Herzliyya, Jaffa, Jerusalem, Tel-Aviv.

20. *Tipula (Lunatipula) sternalis* Theischinger, 1977

Distribution: eastern Anatolia, Israel.
Period of flight: end of May until June.
ISRAEL: Mt. Carmel, Jerusalem, Mt. Meron, Nahal Ammud.

21. *Tipula (Savtshenkia) ornata* n. sp.

Fig. 4

Distribution: Israel.
Period of flight: probably late autumn until early spring.
ISRAEL: Bar'am.

Description: Length of thorax + abdomen ♂: 10 mm, wing length ♂: 12 mm.

Head: grey, rostrum brown, palpi brown; antennae of normal length, basal segments yellow, flagellar segments brown; eyes separated below the head by at most twice the diameter of the first antennal segment.

Thorax: brownish grey, prescutum and scutum 1 with four dark brown stripes; legs brown, femora and tibiae with dark brown tips, claws with basal tooth; wings clouded; halteres yellowish with dark brown knob.

Abdomen: yellow with dark brown markings at the lateral parts of the tergites.

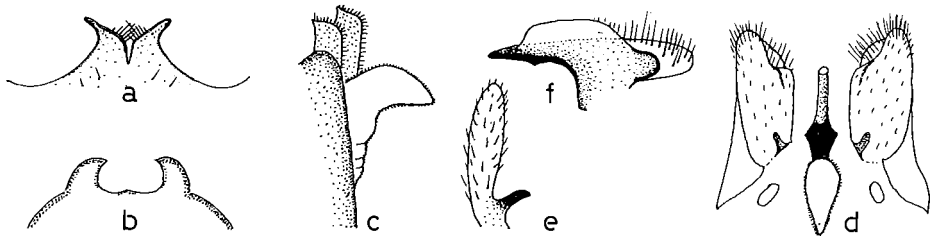

Fig. 4. *Tipula (Savtshenkia) ornata* n. sp., a: posterior part of tergite 9, dorsal view; b: posterior part of sternite 8, ventral view; c: posterior part of hypopygium, lateral view; d: posterior part of hypopygium, rear view; e: outer dististyle, outside view; f: inner dististyle, outside view.

Hypopygium: Base of the adminiculum with a very characteristic birdhead-like projection centrally, extending beyond the dorsal margin of sternite 9 (Fig. 4c, 4d).

Discussion: *T. (S.) ornata* does not clearly belong to one of the species groups in *Savtshenkia* distinguished by Savchenko (1961) or Theowald (1973). Apart from the unique projection at the base of the adminiculum, the hypopygium shows structures found in several species groups. The glabrous crest on the inner dististyle (Fig. 4f), is found in several species of the *obsoleta* group; the lateral parts of sternite 9 (Fig. 4d), are similar to what is found in the *pagana* and *alpium* groups; the shape of the posterior margin of sternite 8 (Fig. 4a), and of the fingerlike projection at the base of the outer dististyle (Fig. 4e) is found in other groups as well. Of all available species groups, *ornata* can probably at best be considered an isolated species of the *pagana* group.

MATERIAL EXAMINED: Holotype: ♂, Israel, Bar'am, 18-20.XI.1977, A. Freidberg (TAU).

22. *Tipula (Savtshenkia) rufina rufina* Meigen, 1818

Distribution: Europe, Iran, Lebanon, Israel, Cyprus.
Period of flight: April until November.
ISRAEL: north of river Ammud, Banyas.

23. *Tipula (Tipula) orientalis* Lackschewitz, 1930

Distribution: Italy, Balkan Peninsula, Anatolia, Iran, Syria, Lebanon, Israel, Egypt, Sudan.
Period of flight: all months of the year.
ISRAEL: Banyas, Golan (Nafech), Hartuv, Hulda, Kare-Deshe, Kefar Vitkin, Latrun, Mahanayim, Majdal Shams, Netanya, Newe Ativ, Palmahim, Qusbiye, Ram On, Rosh Ha'Ayin, Tel Dan.

24. *Tipula (Vestiplex) relicta* Dia and Theowald, 1982

Distribution: Lebanon, Israel.
Period of flight: probably autumn (known from September only).
ISRAEL: Mt. Meron.

25. *Tipula (Yamatotipula) iranensis* Theowald, 1978

Distribution: Iran, Anatolia, Syria.
Period of flight: April until July.

26. *Tipula (Yamatotipula) lateralis lateralis* Meigen, 1818*

Distribution: Europe, Anatolia, Syria, Lebanon, Israel.
Period of flight: February until October.
ISRAEL: north of river Ammud, Banyas, Dafna, El Quneitra, Wadi Faria, Kefar Hasidim, Hagosherim, Ha'Tanur, Majdal Shams, N. Moran, She'ar Yashuv, Ma'agan Mikhael, Qusbiye, Shammay, Shekhem, Zefat. Mentioned in Bodenheimer (1937).

ZOOGEOGRAPHY

The distribution of the 26 species known from the Hatay-Israel region is given in Table 1 whereby a division is made into four groups:

1. Species that occur also in Anatolia and in at least the southeastern part of Europe (8 species).
2. Species which occur only in Anatolia and in the region Hatay-Israel (6 species).
3. Species endemic to (part of) the region Hatay-Israel, but with a sister species in Anatolia (5 species).
4. Species endemic to (part of) the region, without a distinct sister species in Anatolia or elsewhere (7 species).

The distributions and affinities of the species of group 1, 2, and 3 indicate that the Tipulidae fauna of the region Hatay-Israel is largely an extension of the fauna of Anatolia. The same holds for the endemic species of group 4, where four out of the seven species belong to Anatolian species groups.

The fauna of Anatolia and adjacent regions (Hatay-Israel, Soviet Republics south of the Caucasus, Iran) is very different from the European fauna. Each has its own species and species groups. Only a few species occur in both the Anatolian and the European regions, such as the 8 species of group 1. The distributions and affinities of these species indicate that some of them are Anatolian species that have reached Europe apparently in recent times (*T. (L.) peliostigma, T. (A.) transcaucasica latifurca*, and probably also *T. (T.) orientalis*). A European species that has reached Anatolia is *T. (L.) helvola*. For the other species it is not clear from which region they achieved their present distribution.

Only the species *T. (S.) ornata, T. (V.) relicta,* and *T. (L.) freidbergi* do not show a clear link to species or species groups of Anatolia. *T. (S.) ornata* can be considered an isolated species probably of the *pagana* group. The species of this group are distributed in Western Europe, the USSR (Taymyr), the Caucasus, the Himalaya and in East Africa. The species *T. (V.) relicta* belongs to the *virgatula* group, which apparently is an old species group with 5 endemic species throughout the Mediterranean and 6 Eastern Palaearctic species (Dia & Theowald, 1982). *T. (L.) freidbergi* is an isolated species in the *T. (L.) livida* group, related to species of the Canary Islands, North Africa, Austria, Afghanistan and Kashmir.

TABLE 1. DISTRIBUTION OF THE SPECIES AND ARRANGEMENT INTO SPECIES-GROUPS ACCORDING TO DISTRIBUTION;
+: CONFIRMED RECORD FROM THE INDICATED REGION
S: SISTERSPECIES IN THAT REGION

	Palaearctic	Westpalaearctic	Balkan peninsula	Anatolia	Hatay-Israel region				Egypt	Sudan	Iran
					Hatay	Syria	Lebanon	Israel			
group 1											
Nephrotoma cornicina	+	+	+	+			+	+			
N. scalaris scalaris		+	+	+		+	+	+			+
Tipula (Lunatipula) helvola		+	+	+				+			
T. (Lunatipula) peliostigma		+	+	+				+			
T. (Savtshenkia) rufina rufina		+	+	+			+	+			+
T. (Yamatotipula) lateralis lateralis		+	+	+		+	+	+			
T. (Acutipula) transcaucasica latifurca			+	+			+				s
T. (Tipula) orientalis			+	+		+	+	+	+	+	+
group 2											
N. beckeri				+	+		+	+			
T. (Lunatipula) brunneinervis sinedente				+	+			+			
T. (Lunatipula) cedrophila				+			+	+			
T. (Lunatipula) kybele kybele				+			+	+			
T. (Lunatipula) sternalis				+				+			
T. (Yamatotipula) iranensis				+		+					+
group 3											
N. minuscula				s	+	+	+	+			
T. (Acutipula) libanica				s			+	+			
T. (Lunatipula) berytia				s			+	+			
T. (Lunatipula) leeuweni				s		+		+			
T. (Lunatipula) pseudopeliostigma				s			+	+			
group 4											
T. (Lunatipula) angela								+			
T. (Lunatipula) angelica						+		+			
T. (Lunatipula) freidbergi								+			
T. (Lunatipula) kaplani								+			
T. (Lunatipula) kinzelbachi						+					
T. (Savtshenkia) ornata								+			
T. (Vestiplex) relicta							+	+			

The high percentage of endemic species in the region Hatay-Israel (46%), and the presence of an endemic species group (*T. (L.) angela, T. (L.) angelica* and *T. (L.) kaplani*), indicate that the region, although strongly influenced by the fauna of Anatolia, must have known a distinct period of isolation from the north.

Of the Western Palaearctic Region the southernmost parts from which Tipulidae are known are the High Atlas in Morocco and Israel. The present day Tipulidae fauna of these two countries is entirely Western Palaearctic, without Afrotropical elements. From the region inbetween the Western Palaearctic and the Afrotropics only one species of Tipulidae is known, namely the western palaearctic species *T. (T.) orientalis*, known from Egypt (Dakhla Oasis, El Rashda) and Sudan (Dafur, Mts. Marra).

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