

TABANIDAE FAUNA IN THE AREA OF THE TISZA II RIVER BARRAGE

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Abstract

The author dealt from 1966 to 1973 with investigating the Tabanidae fauna in the area of the Tisza II river barrage. In addition to the flood area, he extended his activity over the outlined control areas (meadow at Tiszanána, Cserőköz), as well. The half of the about Fifty Tabanidae species, demonstrated from Hungary, could be collected from the area. From among them, the following are worth of being mentioned separately: *Heptatoma pelluceus* Fabr., *Chrysops rufipes* MEIG., *Tabanus apricus* MEIG., *Tabanus exclusus* PAND., *Haematopota hispanica* Szil.

Introduction

In the area of the Tisza II river barrage, but overwhelmingly between Kisköre and Tiszafüred, I carried out collections of changing intensity from 1966 to 1973. The bulk of that activity was concentrated on the flood area but it was extended over the meadow at Tiszanánás and Cserőköz, as well. (A sketch map of the area is shown in Fig. 1, with the most important sampling points). The latter ones are good Tabanidae sampling sites because the blood-sucking horse-flies are attracted by the grazing and resting animals. We have often managed, therefore, apart from singling with nets, of collecting them from grazing or resting cattle, on rare occasions from horses. Of late, we have achieved good results by collecting with Malaise-traps. The horse-flies have a great propensity for attacking men, too, in order to try blood-sucking. Thus, of course, I netted also the Tabanids attacking me during my collecting. It is due to this collecting method that the rare *Heptatoma pellucens* Febr. was found in Tiszafüred.

The research after the Tabanidae fauna in Hungary has comparatively been well-organized. In earlier years mainly SZILÁDY (quotation) dealt with them rather intensively. The elaboration of the Tabanidae collection in the zoological department of the Museum of Natural Sciences had been carried out before its combustion in 1956. It is a great luck that the publication of the faunistic data of the material could take place, as well (ARADI 1956). In the publication there are, unfortunately, hardly any data concerning the Tisza basin. Apart from the publication mentioned, there are published only communications concerning smaller areas that contain Tabanidae, too (TÓTH 1964, 1966, 1967, 1968, ZILÁHI-S 1961). These are partly referring, in fact, to the Tisza basin (ZILÁHI-S, 1961, TÓTH 1966, 1967), nevertheless, they mention not even a single Tabanidae species from the area of the Tisza II river

barrage. The material collected there furnishes, however, in its entirety new data on the Tabanidae fauna of the area. That is so much the more important as the inundation of the area already began and so in the future a research of the land fauna will not be possible there.

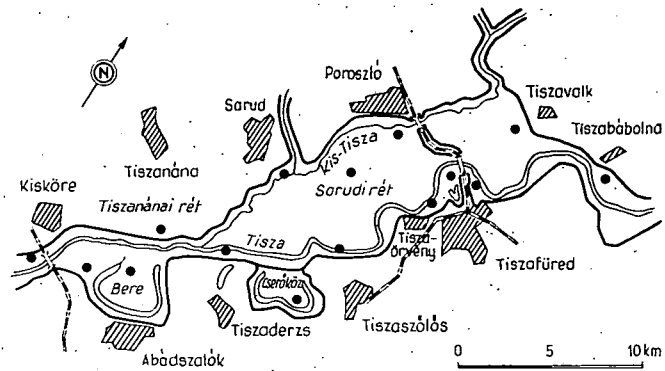


Fig. 1. Sketch map of the area of the Tisza II river barrage with the major Tabanidae sampling points.

In the future, the investigation of the Tabanidae fauna in the area of the Tisza II river barrage will comprise exclusively the outlined control areas of the meadow at Tiszaszána and Cserőköz, with comparative character. In the course of the researches, the presence of 25 Tabanidae species could be demonstrated in the area of the Tisza II river barrage. The Tabanidae fauna of the area cannot be called rich in species count. About the half of the Fifty species demonstrated from Hungary are present in the area of the river barrage. It is, however, to be noticed that the fauna of the hilly and mountainous districts is richer in Tabanids, as well. The great masses of the so-called rare species that are present in this country live in our mountainous districts:

The paper contains the results of the elaboration of 520 Tabanidae individuals belonging to 25 species. The comparatively high number of specimens enable the ma-

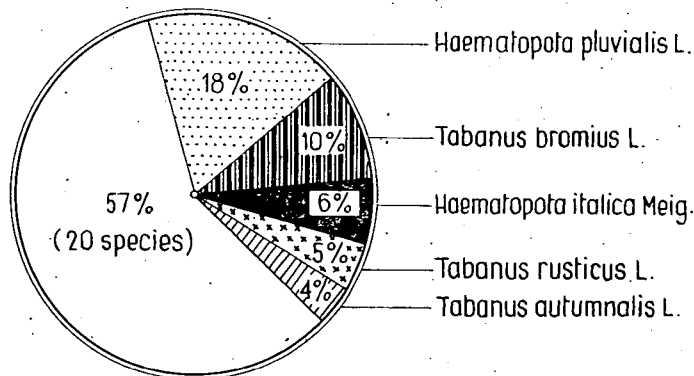


Fig. 2. The Tabanidae species participating in a higher percentage in the material collected in the area of the Tisza II river barrage.

terial to be evaluated, too. From the investigation of quantitative conditions it emerges that in the area *Haematopota pluvialis* L. is predominating, a species highly emerging with its 18 per cent participation in the whole material. This value may have risen above the national average. There is, unfortunately, hardly any opportunity to compare the data because concerning the Tabanidae species no investigations of this character have been performed in Hungary. I can, therefore, lean only on my own experiences. The species present in a higher percentage are shown in Fig. 2. The five species shown are 43 per cent of the whole material. The remaining 57 per cent are, therefore, divided into 20 species, in a rather varied ratio. We could collect but a single individual each from the following species: *Chrysops caecutiens* L., *Tabanus fulvus* Meig., *Tabanus acuminatus* Loew., *Tabanus apricus* Meig., *Tabanus quatuornotatus* Meig., *Tabanus exclusus* Pand., *Heptatoma pellucens* Fabr.

Discussion of the species collected

Chrysops rufipes Meig.

A Euro-Siberian species found in Hungary only sporadically. It seemed to be a flatland species by reason of its earlier habitats. In 1973, however, it was found in the Bakony (a wooded hilly district in Western Hungary), as well (fish-pond at Gyulafirátót). It is unfortunate that the exact conditions of its collection, in case of the specimens found by others earlier, are not known. Its habitats recognized by me are exclusively at the banks of the Tisza backwaters and at the shores of larger lakes. The species is an interesting variegated element of the Diptera fauna of the Tisza basin. It was found in the area of the Tisza II river barrage, near the Tisza backwater: on July 25, 1969; July 30, 1971.

Chrysops caecutiens L.

A Euro-Siberian species, frequent in this country, as well. In the Tisza basin, however, so far for unexplainable reasons, it hardly occurs. In the Hungarian part of the Tisza basin we succeeded but in the area at Abádszalók (Bere) to collect a female individual of it, on August 18, 1973.

Chrysops pictus Meig.

It is present in Central and Eastern Europe. In Hungary it is sporadically frequent but that cannot be said of the Tisza region. In the area of the Tisza II river barrage it is rather rare. Its habitats were: Kisköre, September 17, 1972; Tiszafüred, July 25, 1969.

Chrysops relictus MEIG.

It is present in Europe, Siberia, and Northern Mongolia. In Hungary it is frequent in the flat regions—thus, in the area of the Tisza II river barrage, as well.

Its habitats were: Abádszalók, July 9, 1968, Abádszalók: Bere, August 27, 1972, Cseróköz, July 27, 1970 (from resting cattle), Kisköre, August 25, 1969, meadow at Sarud, August 1, 1968, July 26, 1971, Tiszaderzs, July 23, 1969, Tiszafüred, July 2, 1968, July 15, July 25, 1969, July 26, 1971., Tiszavalk, May 28, 1969 (from grazing cattle).

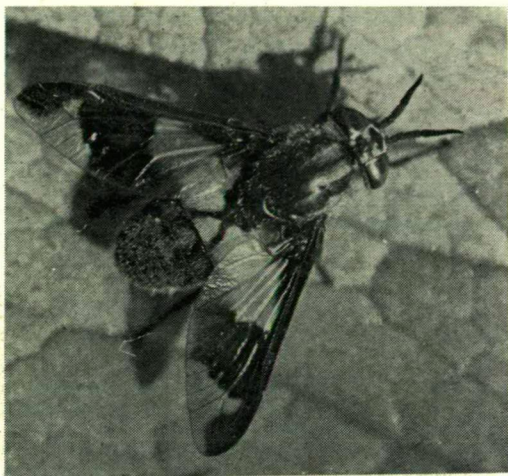


Fig. 3. *Chrysops caecutiens* L.



Fig. 4. Habitat of the larvae of several Tabenidae species at Sarud, along the Small-Tisza.

Chrysops flavipes MEIG.

It lives in Central and South Europe, Asia Minor, and North Africa. In Hungary, it is mainly characteristic of the hilly and mountainous regions. In the Great Hungarian Plain it cannot be called frequent. ARADI (1956) is mentioning it only from Kalocsa. But in the course of the Tisza research it was found at seven points

of the Tisza basin till 1964 (Tóth 1967). It is frequent in the area of the Tisza II river barrage, too. It is such a Tabanida species that can be collected till the latest in Autumn. It has a great propensity for attacking man. Its habitats were: Abádszalók, July 9, 1968, August 26, 1972 (from the flower of *Daucus carota* L.), Cserőköz, July 27, 1970, August 19, 1973 (from resting cattle), Kisköre, October 16, 1966, Tiszafüred, July 2, 1968, July 31, 1968, October 8, 1973, Tiszavalk, May 28, 1969.

Tabanus fulvus MEIG.

A Euro-Siberian species. In Hungary it is present but sporadically, but in some parts of the Great Hungarian Plain it appears to be more frequent. In the area of the Tisza II river barrage there was only found a single individual of it from the flower of *Angelica silvestris* L.: Tiszafüred, dead Tisza channel, July 26, 1971.

Tabanus rusticus L.

A Euro-Siberian horse-fly. In Hungary it is ubiquitous, too. In some places (e. g., Hejőbába) it can be collected in large numbers from various flowers. It is frequently found in the area of the Tisza II river barrage, as well. Its habitats were: Abádszalók, July 9, 1968, Cserőköz, August 19, 1973 (from the flower of *Butomus umbellatus* L.) Kisköre, August 28, 1972. Poroszló, August 1, 1968 (from the flower of *Eryngium planum* L.), Tiszabábolna, June 7, 1968; Tiszafüred, July 31, 1968, July 15, 1969, July 26, 1971 (from the flower of *Butomus umbellatus* L.), Tiszánána, August 21, 1969 (from the flower of *Daucus carota* L.).



Fig. 5. *Tabanus rusticus* L.

Tabanus distinguendus VERR.

It can be found in Europe, Siberia, and Japan. In Hungary it is not rare, either. In the area of the Tisza II river barrage it is present only sporadically. Its habitats were: Tiszafüred, July 2, 1968, Tiszavalk, May 28, 1969.

Tabanus solstitialis SCHIN.

A European species, it is of frequent occurrence in Hungary, too. It can be found in every part of the Tisza basin, as well. It prefers first of all the bushy, grove-like areas. On the animals of the grazing herd there could be found but a few animals. But at the same time, in the gallery forest lining the pasture, large numbers of them could be netted. This could be observed in the area of the Tisza II river barrage, as well. Its habitats were: Cseróköz, July 27, 1970, Tiszafüred, July 25, 1969, July 30, 1971 (four individuals collected from grazing cattle), meadow at Tiszanána, August 25, 1969, Tiszaörvény, August 24, 1970, Tiszavalk, May 28, 1969.

Tabanus acuminatus LOEW.

It lives in Central and South Europe, Siberia, and Asia Minor. In Hungary it may be called rare. From the Great Hungarian Plain it is only mentioned from Ágas-egyháza by the literature (ARADI 1956). Its being found in the area of the Tisza II river barrage is, therefore, a remarkable datum concerning the distribution of the species. Its habitat was: Tiszaszőlős, July 26, 1970.

Tabanus apricus MEIG.

It lives in Central and South Europe, Caucasus, as well as Hither Asia. In Hungary it was found but sporadically, first of all in hilly and mountainous regions. It was only known from the border of the Great Plain, in the zoogeographical sense of the word (Órszentmiklós = the present-day Órbattyán). Its being found in the area of the Tisza II river barrage is, therefore, a valuable datum on the Tabanidae fauna of the Hungarian Great Plain. Its habitat was: Tiszafüred, July 2, 1968.

Tabanus quatuornotatus MEIG.

It can be found in Central and South Europe and South-Eastern Asia. In Hungary it is characteristic rather of the hilly and mountainous regions. In the area of the river barrage there was only found a single individual of it, from Tiszaörvény (August 23, 1969).

Tabanus bifarius LOEW.

It is a denizen of Central and South Europe, North Africa, and Asia Minor. It is not rare in Hungary, either. In the area of the Tisza II river barrage there were found only two individuals of it. Its habitats were: Abádszalók: Bere, July 9, 1968, Tiszafüred, July 31, 1968.

Tabanus exclusus PAND.

A species found sporadically in the hilly and mountainous regions of Central and South Europe. In Hungary it is rare; earlier it was only known from Bag and

Pápa. From the Tisza basin one female individual was found (Abádszalók, July 9, 1968). The distinguishing characters of the species can be recognized well, it can therefore be identified undisputably. It is imaginable, anyway, that the individual may have emigrated from the not too far away hilly region under the pressure of circumstances (e. g., a strong wind). At any rate, it adds a new datum to the Tabanidae fauna of the Great Hungarian Plain.

Tabanus glaucopis MEIG.

A Euro-Siberian species. In Hungary it is present sporadically, first of all in the mountainous regions, in larger numbers. From the Great Plain there are known but a few habitats of it (Kalocsa, Kecskemét). Our knowledge concerning the distribution of the species in the Hungarian Plain is therefore considerably completed by its being found in the area of the Tisza II river barrage. Its habitats were: Abádszalók; August 27, 1972, meadow at Tiszanána, September 18, 1972.

Tabanus tergestinus EGG.

As a denizen of Central and South Europe, it is ubiquitous in Hungary, as well. In the area of the Tisza II river barrage, however, it was only found sporadically. Its habitats were: Meadow at Sarud, July 26, 1971, Tiszafüred, July 15, 1969, Tiszavalk, May 28, 1969.

Tabanus maculicornis ZETT.

It is a denizen of Europe and Western Siberia. In Hungary, the species is characteristic rather of the hilly and mountainous regions. In the Great Hungarian Plain it is known but from a few habitats. Its presence in the area of the Tisza II river barrage is, therefore, a remarkable datum. Its habitats were: Cseróköz, July 25, 1970, meadow at Sarud, July 26, 1971, Tiszafüred, July 2, 1968.

Tabanus bromius L.

It has been a horse-fly of frequent occurrence in the whole Palaearctic Region, therefore in Hungary, as well. It may be found in the area of the Tisza II river barrage, too, in many places. Its habitats were: Abádszalók: Bere, August 26, 1972, Cseróköz, July 23, 1969 (16 individuals, collected on resting cattle), meadow at Sarud, August 1, 1968 (six individuals, observed on grazing horses), Tiszaderzs, July 23, 1969, Tiszafüred, July 15, 1969, July 25, 1969, July 30, 1971 (12 individuals observed on grazing cattle), meadow at Tiszanána, August 21, 1969, August 25, 1969.

Tabanus autumnalis L.

It is a horse-fly of frequent occurrence in Europe, Western Siberia, Asia Minor, and North Africa. It is ubiquitous everywhere in Hungary, too, but it can rather be

collected individually, one by one. It is frequent in the area of the Tisza II river barrage. On grazing or resting animals it can usually be found. Its habitats were: Abádszalók: Bere, August 23, 1969, August 18, 1973, Cserőköz, August 19, 1973 (three individuals collected from resting cattle), Kisköre, August 28, 1972, meadow at Sarud, August 27, 1970 (two individuals collected from grazing cattle), Tiszafüred July 30, 1971 (five individuals observed on resting cattle), Tiszafüred, near the dead Tisza channel, July 22, 1969, August 25, 1972, Tiszaörvény, August 24, 1970.

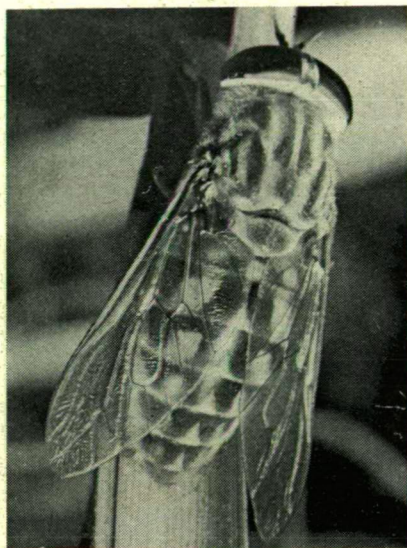


Fig. 6. *Tabanus autumnalis* L.

Tabanus bovinus LOEW.

It is a denizen of Europe, Western Siberia, and North Africa. In Hungary it is not rare, being characteristic mainly of the mountainous region but it is present sporadically in the Great Hungarian Plain, too. In the area of the Tisza II river barrage only two individuals could be collected. Its habitats were: Cserőköz, July 21, 1970. meadow at Sarud August 20, 1973.

Heptatoma pellucens FABR.

It is a denizen of Central and Northern Europe. The turning up of this species, that may be called rare in Hungary, in the area of the Tisza II river barrage is remarkable because earlier it was only known in the Great Plain from Kecskemét, on the basis of an old literary datum. As it could not be collected from the Great Plain since then, it could be considered doubtful if the datum from Kecskemét was not an erroneous one. At Tiszafüred, a female individual was found in a flood-plain grove, from a bushy, marshy area on July 30, 1971.

Haematopota italica MEIG.

It lives in Central and South Europe, as well as in North Africa. In Hungary it seemed to be of frequent occurrence, first of all in the hilly and mountainous regions. From the Great Hungarian Plain only two habitats of it are published by ARADI (1956). I myself collected about 20 individuals of it (Eszlár, Tiszabercel, 1961). It is interesting that in the post-1961 years it could not be found. In 1969, on the other hand, more than 30 individuals were collected at Tiszafüred. In the area of the Tisza II river barrage it is frequent and at times even common. Apart from *H. pluvialis* L. it is the main torturer of horses and cattle. Its habitats were: Abádszalók, August 18, 1973, Cserőköz, July 26, 1970 (18 individuals collected from resting cattle), Kisköre, August 21, 1969, meadow at Sarud, July 26, 1971, Tiszababolna, June 3, 1969, Tiszafüred, August 2, 1968, July 15, 1969 (15 individuals collected from a grazing horse), July 25, 1969, July 30, 1971, Tiszaörvény, August 25, 1970.

Haematopota grandis MACQ.

It is a Central European species, being not rare in Hungary, either. In the Tisza basin it is present only sporadically. Its habitats were: Poroszló, August 1, 1968, meadow at Sarud, July 23, 1969.

Haematopota hispanica SZIL.

It lives in Central and South Europe, as well as in Western Siberia. In Hungary it was only found of late. It was found in the Tisza flood-plain at Tiszafüred in the area of the Tisza II river barrage (July 15, July 25, 1969). Although there are some individuals of the species from several points of the country in the Tabanidae collection of the zoological department of the Museum of Natural Sciences, these have not been published, as yet. The occurrence at Tiszafüred is, therefore, the first datum published concerning the presence of the species in Hungary.

Haematopota pluvialis L.

It can be found in Europe, in the middle regions of Siberia, and in North Africa. It is an ubiquitous, frequent and sporadically very common horse-fly in Hungary, the most frequent Tabanida species in the area of the Tisza II river barrage. It lives close to waters, in bushy, wooded places, infesting the cattle and horses grazing there (particularly if the animals are alone) often in enormous numbers, and tormenting them with blood-sucking. It occurred in cloudy, stifling, warm seasons before rains that at hay-loading about fifty individuals of them were simultaneously observed on a single horse harnessed to a cart. It may be imagined, of course, that a lesser percentage of the individuals belonged to other *Haematopota* species (though the individuals collected proved to be all *H. pluvialis* L.) Its habitats were: Abádszalók, August 23, 1969, August 26, 1972, August 27, 1972, Cserőköz, July 27, 1970 (23 individuals collected on grazing cattle), August 19, 1973, Kisköre, August 21, 1969, Poroszló, August 1, 1968, Sarud, August 24, 1969, meadow at Sarud, July

23, 1969, August 27, 1970, August 20, 1973, Tiszabábolna, June 3, 1969, Tiszaderzs, July 20, 1969, Tiszafüred, July 15, 1969, July 25, 1969, July 30, 1971 (17 individuals collected on horses), August 25, 1972, Tiszanána, August 21, 1969, Tiszaörvény, August 19, 1973, Tiszaszőlős, July 26, 1970.

References

- ARADI, M. P. (1956): Tabanids from the Carpathian-Basin in the collections of the Hungarian Natural Museum — *Folia Ent. Hung.* 9, 451—458.
- TÓTH, S. (1964): Adatok a Tardi-patak völgye dipteráinak ismeretéhez (Data on the knowledge of Diptera of the basin of Tardi-brook). — *Fol. Ent. Hung.*, 17, 67—73.
- TÓTH, S. (1966): Neue Angaben zur Dipterafauna des Theiß-Tales — *Tiscia (Szeged)* 2, 107—112.
- TÓTH, S. (1967): Adatok a Tisza-völgy Diptera-faunájához (Data on the Diptera fauna of the Tisza basin). (Tabanidae, Stratiomyiidae, Phagionidae) — *Folia Ent. Hung.* 20, 37—45.
- TÓTH, S. (1968): Adatok a Bakony-hegység bögöly-faunájának ismeretéhez (Data on the knowledge of the Tabanidae fauna of the Bakony Mountains). (Diptera, Tabanidae) — *Mus. Bullet. of County Veszprém* 7, 385—393.
- ZILÁHI-S., G. (1961): Die Insekten des Tiszatales (Das Leben der Tisza, XVII). — *Acta Univ. Szegediensis* 7, 155—173.