

Preliminary list of Auchenorrhyncha with notes on distribution
and importance of species in Turkey. XIII. Family Cicadellidae :
Typhlocybinae : Typhlocybini (Part I)

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Summary

Turkish fauna of Typhlocybini, excluding *Eupteryx* species, is represented by 19 species of 9 genera as a result of this study. Seven newly recorded species are : *Edwardsiana avellanae* (Edw.), *E. flavescens* (F.), *E. salicicola* (Edw.), *Eupterycyba jucunda* (H.S.), *Ficocyba ficaria* (Horv.), *Typhlocyba quercus* (F.) and *Aguriahana germari* (Zett.). Distribution, abundance and the plants on which the specimens were collected of each species are given.

Introduction

Turkish Typhlocybini was not studied as a whole up to date. However, only 12 species of this group have been reported previously by several workers. The first record made by Fahringer (1922) was *Edwardsiana lethierryi* (Edw.). Metcalf (1968) also listed this species from Turkey according to Fahringer (l.c.). Dlabola (1957) reported *Ribautiana ognevi* (Zach.) from Turkey under the name of *Typhlocyba horvathiana* Dlab. Linnavuori (1965) also recorded such species as *Linnavuoriana sexmaculata* (Hardy), *Youngiada tarsalis* Linn. and *Zyginella pulchra* (Löw) from Turkey. Ural et al. (1973) recorded *Edwardsiana spinigera* (Edw.) during the faunistic study in hazel orchards in eastern Black Sea Coast. Dlabola (1971, 1981) reported *Edwardsiana rosae* (L.), *E. tshinari* Zach., *Ribautiana alces* (Rib.), *R. tenerrima* (H.S.) and *Youngiada pandellei* (Leth.) additionally in his publications.

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In this group of typhlocybrids, especially *E. rosae* is known to cause damage on cultivated plants. Vereshchagina (1962) reported that it causes much damage to fruit trees in orchards and nurseries in Soviet Moldavia, and overwintered exclusively on cultivated and wild roses. The females deposit their eggs in the bark along the shoots. Nymphs feed on new leaves in spring. Adults migrate to apple and quince in May. Baggiolini (1968) stated also that this species found on apple in Ticino and French Switzerland. Shumak and Petrov (1975) reported this species as one of the most injurious pest of oil-bearing rose in Crimea. Wilde (1962) reported it being found commonly on sweet cherry. It has been observed being destructive on apples in Niğde (Bor) in Turkey during 1981. *Ribautiana tenerrima* (H.S.) has been reported being a serious pest of various berries (Andison, 1950; Raine, 1960). *Edwardsiana avellanae* (Edw.) and *E. spinigera* (Edw.) on hazel and *Ficocya ficaria* (Horv.) on figs may cause damage when they build up large populations. The other species are not observed to be serious pest of cultivated plants.

Eupteryx species are not included in this paper, because the content will exceed the limits of this periodic. Therefore *Eupteryx* species will be given in the following issue.

Synonyms, distribution of species in Palaearctic region are taken from Nast (1972). Additional countries are given with literature citations at the end.

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Edwardsiana avellana (Edwards, 1888)

Synonymy: *Typhlocyba bidentata* Edw., 1914.

General Distribution: Austria, Bulgaria, Czechoslovakia, England, Finland, France, Germany, Hungary, Netherlands, Poland, Sweden, Switzerland, USSR, Italia (Ribaut, 1952), Denmark (Trolle, 1974), Czechoslovakia (Slovakia) (Dlabola, 1977 b).

Distribution in Turkey: This species constitutes a new record for Turkey.

Material examined: Giresun, Trabzon (Akçaabat)-Only 7 specimens.

Occurrence: Occasionally. It seems to be restricted in northeastern part of Turkey.

Biological note: Specimens were collected in late August, on *Corylus avellana*, as it is reported by the earlier authors. Markelova (1962) also reported it in apple orchards in Tambov region in USSR.

Edwardsiana flavescens (Fabricius, 1794)

Synonymy: *Typhlocyba fraterculus* Edw., 1908; *T. sororcula* Oss., 1936.

General Distribution: Austria, Bulgaria, Czechoslovakia, England, France, Germany, Hungary, Netherlands, Poland, Romania, Sweden, USSR., Denmark (Trolle, 1.c.), Switzerland (Günthart, 1974).

Distribution in Turkey: Although Oshanin (1912), Bodenheimer (1958) and İren and Ahmet (1973) reported *Empoasca flavescens* F. from Turkey, these records were not taken into consideration as *Edwardsiana flavescens* F., because of the confusion it with *Empoasca vitis* Göthe. The species *E. vitis* in some earlier literature was given under the name of *Empoasca flavescens* F. Therefore the true *Edwardsiana flavescens* F. species is accepted to be recorded newly from Turkey.

Material examined: Ankara (Çubuk, Elmadağ), Van (Başkale-Güzelsu, Beyüzümü, Edremit)-Totally 65 specimens.

Occurrence: Not very common, but sometimes found somewhat in large numbers.

Biological note: Specimens were collected from mid-June through the beginning of September, on *Ulmus* and *Pyrus malus*. Previously it was recorded on various trees such as *Fagus*, *Carpinus*, *Juglans*, *Populus* and *Castanea* (Ribaut, 1936; China, 1943; Emelyanov, 1964; Günthart, 1974; Trolle, 1974).

Edwardsiana lethierryi (Edwards, 1881)

Synonymy: *Typhlocyba lethierryi chromata* Rey, 1894; *T. lethierryi plurispinosa* Wagner, 1935.

General Distribution: Algeria, Austria, Bulgaria, Czechoslovakia, Denmark, England, France, Germany, Hungary, Ireland, Italy, Morocco, Netherlands, Poland, Romania, Sweden, Switzerland, Turkey, USSR., Yugoslavia.

Distribution in Turkey: Fahringer (1922) recorded this species from Istanbul (Polenezköy), on *Rosa obtusifolia*.

Authors have no representative of this species.

Edwardsiana rosae (Linnaeus, 1758)

Synonymy: *Typhlocyba rosae lactifera* Rey, 1894; *T. rosae subcarnea* Rey, 1894; *T. rosae manca* Ribaut, 1936.

General Distribution: Austria, Belgium, Bulgaria, Cyprus, Czechoslovakia, Denmark, England, Finland, France, Germany, Hungary, Ireland, Italy (also Sicily), Japan (Hakkaido, Honshu), Netherlands, Norway, Poland, Romania, Spain, Sweden, Switzerland, USSR., Yugoslavia; [Nearctic and Oriental regions]. Iran, Turkey (Dlabola, 1971).

Distribution in Turkey: Dlabola (1971, 1981) recorded it from Hakkari (Esendere-Yüksekova) and Kayseri (Pınarbaşı).

Material examined: Adana (Hasanbeyli, Pozantı), Ankara (Çubuk, Kayaş, Lalahan), Konya (Karaman, Central Province), Maraş (Tekir), Nevşehir (Ürgüp), Niğde (Bor)-Totally 202 specimens.

Occurrence: Common, sometimes is found in large numbers.

Biological note: Specimens were mostly collected in September through mid-October, on *Pyrus malus* and *Rubus fruticosus*. This species has been recorded on *Rosa*, *Pyrus*, *Rubus*, *Alnus*, *Fragaria* and *Aspidium oculateum* by earlier authors (Ribaut, 1936; China, 1943; Dlabola, 1971, 1974, 1981). Markelova (1962) stated that it infests apple, currant, straw-berry and mostly on wild roses in Soviet Union. Vereshchagina (1962) reported that it causes damage on fruit trees especially apple and quince in orchards and nurseries. He has also studied the biology of this species. Baggiolini (1968) found it on apple in Switzerland. Chumak and Petrov (1975) reported it being the most injurious pest of oil-bearing roses in Crimea. It was also found causing injury to apple in Niğde (Bor) in 1981.

Edwardsiana salicicola (Edward, 1885)

General Distribution: Austria, Czechoslovakia, Denmark, England, Finland, France, Germany, Hungary, Iran, Mongolia, Netherlands, Poland, Romania, Sweden, Switzerland, USSR., Czechoslovakia (Slovakia) (Dlabola, 1977 b).

Distribution in Turkey: This species constitutes a new record for Turkey.

Material examined: Ankara (Karagöl), Bursa (Uludağ)-Totally 7 specimens.

Occurrence: Occasionally.

Biological note: Specimens were collected in late July and August on *Salix* and *Abies*. The host plant of this species is *Salix* as it is stated by the other authors.

Edwardsiana spinigera (Edwards, 1924)

General Distribution: Austria, Bulgaria, Czechoslovakia, England, France, Germany, Netherlands, Poland, USSR, Yugoslavia. Turkey (Tuatay et al., 1967), Switzerland (Günthart, 1974).

Distribution in Turkey: Tuatay et al. (1967, 1972) listed it from Giresun and also Ural et al. (1973) from Eastern Black Sea Coast Region.

Material examined: Giresun-Totally 17 specimens.

Occurrence: Occasionally.

Biological note: Specimens were collected in late August on hazelnut trees as it was stated also by Ribaut (1936), China (1943) and Günthart (1974). Injuriousness on hazelnut trees is not known exactly in Turkey.

Edwardsiana tersa (Edwards, 1914)

General Distribution: Czechoslovakia, Denmark, England, France, Germany, Netherlands, Poland, Sweden, Turkey, USSR.

Distribution in Turkey: Although Nast (1972) listed Turkey as its distribution area, the authors could not trace its presence in Turkey.

We have no representative of this species in our collection.

Edwardsiana tshinari Zachvatkin, 1947

General Distribution: Israel, USSR (Georgia, Moldavia, Uzbekistan). Turkey (Dlabola, 1971), Cyprus (Dlabola, 1977 c).

Distribution in Turkey: Dlabola (1971), reported it from Izmit-Düzce and Istanbul Üsküdar) on *Platanus*.

The authors have no representative of this species.

***Eupterycyba jucunda* (Herrich-Schaffer, 1837)**

Synonymy: *Typhlocyba zetterstedti* Boh., 1845.

General Distribution: Austria, Belgium, Bulgaria, Czechoslovakia, Denmark, England, France, Germany, Hungary, Italy (also Sardinia), Netherlands, Poland, Romania, Spain, Sweden, USSR, Yugoslavia, Switzerland (Günthart, 1974).

Distribution in Turkey: This species constitutes as new record for Turkey.

Material examined: Izmir (Ödemiş-Bozdağ), Muğla (Köyceğiz)-Only 6 specimens.

Occurrence: Very occasional.

Biological note: Specimens were collected at the end of July, on *Urtica* sp., *Alnus* has been given as the main host plant and also found on *Salix*, *Ulmus* and *Quercus* in lesser numbers by earlier authors (Ribaut, 1936; China, 1943; Günthart, 1974; Trolle, 1974).

***Linnavuoriana sexmaculata* (Hardy, 1850)**

Synonymy: *Cicada sexpunctata* Fall., 1828 (Primary homonym); *Typhlocyba agathina* Snellen van Vollenhoven, 1862; *T. sexpunctata bipunctata* Cerutti, 1939; *Linnavuoriana quadripunctata* Mitjaev, 1963.

General Distribution: Austria, Belgium, Bulgaria, Czechoslovakia, Denmark, England, France, Germany, Hungary, Ireland, Italy (also Sardinia), Japan (Hokkaido, Honshu), Netherlands, Norway, Poland, Romania, Spain, Sweden, Switzerland, Turkey, USSR., Yugoslavia, Czechoslovakia (Slovakia) (Dlabola, 1977 b). [Nearctic region].

Distribution in Turkey: Linnavuori (1965) has taken one specimen near Ankara (Kızılcahamam).

Material examined: Ankara (Karagöl), Erzincan (Kemaliye), Konya (Seydişehir)-Only 4 specimens.

Occurrence: Very occasional.

Biological note: Specimens were collected in late April, early July and late August, on *Salix*, *Quercus* and *Pyrus elaeagrifolia*. *Salix* has been given as the main host plant of this species by the earlier authors

(Ribaut, 1936; China, 1943; Linnavuori, 1965; Günthart, 1974; Trolle, 1974).

***Ficocyba ficaria* (Horvath, 1897)**

General Distribution: Bulgaria, France, Israel, Italy (also Sardinia) Morocco, Spain, Yugoslavia.

Distribution in Turkey: This is the first record of the species in Turkey.

Material examined: Rize (Central province), Sinop (Kanlıçay), Trabzon (Central province)-Totally 25 specimens.

Occurrence: Occasionally, but seems to be restricted in the Black Sea Coast in Turkey.

Biological note: Specimens were collected in late August on *Ficus carica*.

***Youngiada pandellei* (Lethierry, 1878)**

Synonymy: *Typhlocyba pandellei spoliata* Horvath, 1907.

General Distribution: Bulgaria, England, France, Italy (also Sardinia), Spain, Yugoslavia, Turkey (Dlabola, 1981).

Distribution in Turkey: Dlabola (l.c.) reported one female specimen from İzmit (Sapanca gölü).

Biological note: *Quercus*, *Alnus*, *Rubus* and *Acer* were given as host of this species by Ribaut (1936), China (1943) and Dlabola (l.c.).

The authors have no representative of the species.

***Youngiada tarsalis* Linnavuori, 1962**

General Distribution: Israel, Turkey (Linnavuori, 1965).

Distribution in Turkey: Linnavuori (l.c.) collected one specimen from Hatay (Yayladağ) on *Quercus calliprinos*.

The authors have no representative of this species.

***Ribautiana alces* (Ribaut, 1931)**

Synonymy: ?*Anomia dubia* Fieber (Nomen oblitum).

General Distribution: Austria, Bulgaria, Czechoslovakia, France, Germany, Italy (also Sardinia), Switzerland, USSR., Turkey (Dlabola, 1981).

Distribution in Turkey: Dlabola (l.c.) reported two specimens from 30 km southeast of Kütahya.

Biological note: Dlabola stated that the specimens found in Turkey were collected on **Juniperus-Quercus** forest and it lives on trees, especially **Carpinus**. Ribaut (1936) has given **Quercus** as a host of this species.

The authors have no representative of this species.

Ribautiana ognevi (Zachvatkin, 1948)

Synonymy: **Typhlocyba horvathiana** Dlabola, 1954.

General Distribution: Austria, Bulgaria, Czechoslovakia, Hungary, Romania, Turkey, USSR.

Distribution in Turkey: Dlabola (1957) reported one male specimen collected in Ankara by Bodenheimer in 1940.

Biological note: Emelyanov (1964) has given **Ulmus laevis** as a host plant of this species.

The authors have no representative of this species.

Ribautiana tenerrima (Herrich-Schäffer, 1834)

Synonymy: **Typhlocyba rubi** Hardy, 1850; **T. misella** Bon., 1952; **Ribautiana tenerrima disjuncta** Zach., 1947.

General Distribution: Austria, Belgium, Czechoslovakia, Denmark, England, France, Germany, Hungary, Iran, Ireland, Israel, Italy (also Sardinia and Sicily), Netherlands, Norway, Poland, Portugal, Sweden, Switzerland, USSR., Yugoslavia; [Australian and Nearctic regions]. Turkey (Dlabola, 1971).

Distribution in Turkey: Dlabola (l.c.) made the first record of this species from Istanbul (Üsküdar), İzmit, Bolu (Düzce), Samsun (Terme), Ordu and Trabzon (Maçka).

Biological note: Dlabola (l.c.) reported **Quercus**, **Rubus** and **Prunus** as host plants of this species. Ribaut (1936) has given **Quercus**, **Alnus**, **Corylus avellana**, **Acer**, **Prunus**, **Betula**, **Salix**, **Carpinus**, **Buxus** and Emelyanov (1964) **Rubus idaeus** and **R. caesius** as host plants of this species. It has been reported being serious pest of raspberry, blackberry and related cane fruits (Andison, 1950; Raine, 1960).

The authors have no representative of this species.

***Typhlocyba quercus* (Fabricius, 1777)**

Synonymy: *T. fasciata* Tollin, 1851.

General Distribution: Austria, Azores, Belgium, Bulgaria, Czechoslovakia, Denmark, England, France, Germany, Hungary, Ireland, Italy, Netherlands, Mongolia, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, USSR., Yugoslavia; [Nearctic region].

Distribution in Turkey: This species constitutes a new record for Turkey.

Material examined: Zonguldak (Ereğli). Only 2 specimens.

Occurrence: Very occasional.

Biological note: The specimens were collected by light trap. Ribaut (1936) has given *Quercus* and *Prunus* as main host plants and rarely found on *Prunus avium*, *Betula*, *Salix caprea*. China (1943) stated *Quercus* and *Prunus domestica* as main host plants and he rarely found it on *Prunus cerasus*, *Betula* and *Salix*. Dlabola (1967) found it on *Crataegus* in Mongolia. Trolle (1974) added *Alnus* as host plant besides of *Quercus*.

***Aguriahana germari* (Zetterstedt, 1840)**

General Distribution: Algeria, Austria, Belgium, Bulgaria, Czechoslovakia, Denmark, England, Finland, France, Germany, Italy, Mongolia, Netherlands, Norway, Poland, Sweden, Switzerland, USSR.

Distribution in Turkey: This species constitutes a new record for Turkey.

Material examined: Amasya (Borabay), Artvin (Murgul), Kars (Sarıkamış), Çorum (Iskilip) and Çankırı.-Totally 9 specimens.

Occurrence: Very occasionally.

Biological note: Specimens were collected at the first half of July and late August on *Quercus* and *Pinus*. Some specimens were collected also by light trap. Ribaut (1936), Emelyanov (1964), Günthart (1974), Trolle (1974) have given *Pinus silvestris* as a host plant of this species.

***Zyginella pulchra* Löw, 1885**

Synonymy: *Z. graetfiei* Melichar, 1901; *Z. quercus* Kusnezov, 1930.

General Distribution: Austria, Bulgaria, Cyprus, Czechoslovakia,

France, Greece, Israel, Italy (also Sardinia), Poland, Turkey, USSR (Crimea), Yugoslavia, Switzerland (Günthart, 1974), Crete (Diabola, 1977 a).

Distribution in Turkey: Linnavuori (1965) collected some specimens from Hatay (Yayladağ-Belen) and Adana (Gülek).

Material examined: Diyarbakır (Central province), İzmir (Karaburun, Kemalpaşa, Tire), Konya (Tuz gölü), Niğde (Aksaray), Samsun (Central province)-Totally 13 specimens.

Occurrence: Somewhat common but found in small numbers.

Biological note: Specimens were collected starting from late April through August on *Castanea*, *Vitis vinifera* and mostly also from light traps. Linnavuori (l.c.) collected it on *Platanus orientalis* in Turkey. This species has been collected from *Acer campestre*, *A. pseudoplatanus*, *Quercus*, cultivated *Prunus*, *Cyprus*, *Buxus*, *Pistacia terebinthus* and *Platanus orientalis*, *Picea* by previous authors (Ribaut, 1936; Linnavuori, 1965; Günthart, 1974).

Ö z e t

Türkiye Auchenorrhyncha türlerinin yayılışı ve önemlerine ait ön listesi.
XIII. Familya Cicadellidae: Typhlocybinae:
Typhlocybini (I. Kısım)

Bu çalışma sonunda Türkiye Typhlocybini faunası, *Eupteryx* türleri hariç, 9 cinse ait 19 türle temsil edilmektedir. Yeni olarak kaydedilen yedi tür: *Edwardsiana avellanae* (Edw.), *E. flavescens* (F.), *E. salicicola* (Edw.), *Eupterycyba jucunda* (H.S.), *Ficocyba ficaria* (Horv.), *Typhlocyba quercus* (F.) ve *Aguriahana germari* (Zett.)'dir. Herbir türün yayılışı, ekonomik önemi ve üzerinde toplandığı bitkiler verilmeye çalışılmıştır.

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