

Notes on Chalcidoidea of Turkey, III. Encyrtidae, Tetracampidae, Aphelinidae, Eulophidae and Elasmidae

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Summary

From the chalcidoid fauna of Turkey, 75 species were obtained. The species are 6 Encyrtidae, 2 Tetracampidae, 2 Aphelinidae, 60 Eulophidae and 5 Elasmidae. In this work 50 species are recorded for the first time from the Turkish fauna and 20 species were reared from their hosts or from the material related with their host (s). The others were swept from alfalfa fields or from pastures.

Introduction

In this third part of the work, 75 species from 5 families were obtained, viz., 6 Encyrtidae, 2 Tetracampidae, 2 Aphelinidae, 60 Eulophidae and 5 Elasmidae, from chalcidoid fauna of Turkey. Some of the species were recorded by some of the authors before (Erdös, 1951; Çakıllar, 1959; İren, 1960; Boucek, 1970, 1977; Tuatay et al., 1972; Soydanbay - Tunçyürek, 1976; Doğanlar, 1982).

By this work 50 species are recorded for the first time from the Turkish fauna and 20 species were reared from their host (s) or from the material, with which the host (s) associated. The others were swept from alfalfa fields or from pastures.

Material and Methods

The specimens were collected or reared by the author in the ways which were explained in the first part of the series (Doğanlar, 1984). The name of

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the collectors is recorded in brackets after collection date of specimens if the name is not that of the author. The new records for the Turkish fauna are indicated by asterisk in the text. The families and their species are given in a systematic order by following Peck et al. (1964) and Boucek (1970).

Results and Discussions

Encyrtidae

Adelencyrtus aulacaspidis (Brethes)

Erzurum, 17.5.1980.

Reared from *Chilonaspis salicis* (Hom., Diaspididae). The species has been recorded as a parasite of various coccids of the family Diaspididae (Boucek, 1977) and of *Aulacaspis rosae* (Peck et al., 1964).

Ageniaspis fuscicollis (Dalman)

Erzurum, 19.7.1972; 15.7. - 27.8.1982; Kars, Iğdır, 9.7. - 5.8.1974.

Reared from the larvae of *Yponomeuta malinella*. It has been recorded as a parasite of *Yponomeuta* spp. by Tuatay et al. (1972), Boucek (1977) and Soydanbay - Tunçyürek (1976, 1978).

Apterencyrtus lambinus (Walker)

Erzurum, 16 - 24.5.1980 İspir, 23.5.1980.

Reared from *Quadraspidiotus* sp. and *Lepidosaphes* sp. ex *Populus alba*, and from *Chionaspis salicis* ex *Salix* spp. Boucek (1977) recorded this species as a secondary parasite of diaspidid coccids.

Euqahania fumipennis (Ratzeburg)*

Erzurum, 23.6.1980; Erzincan, 9.5.1982.

Swept from pastures.

Penthaclodacerus ararathicus Trjapitzin*

Erzurum, 3.6.1980.

Reared from the galls of *Eriosoma* sp. ex *Ulmus* sp. It may be a parasite of any other insects associated with the galls.

Tetralophidea dimorpha Mercet*

Erzincan, Yuvaköyü, Kemalîye, 18.6.1982 (Özışık).

Swept from pastures.

Tetracampidae

Plathynochaetus cuprifrons (Nees)

Erzincan, 9.5.1982.

Swept from pastures.

Epiclerus panyas (Walker)*

Erzurum, Tahtköyü, Şenkaya, 5.7.1982.

Swept from grasses in apple orchards. The species has been recorded as a parasite of *Mealnagromyza beckeri* Hend. (Dipt., Agromyzidae) (Graham, 1963; Boucek, 1970; 1977).

Aphelinidae

Aphytis abnormis Howard

Erzurum, 20.5.1980.

Reared from *C. salicis* ex *Salix* spp.

Physcus testaceus Masi

Erzurum, 23.5. - 19.6.1980.

Reared from *C. salicis* ex *Salix* spp. It has been recorded as a parasite of Diaspididae (Peck *et al.*, 1964; Boucek, 1977).

Eulophidae

Euplectrus ceresensis Ferriere*

Erzincan, Çadırtepe, 16.7.1981 (Aydemir).

Reared from larvae of *Plusia* sp.

Euplectrus phthorimaeae Ferriere

İzmir, Tire, 7.8.1977.

Swept from pastures. It has been recorded as a parasite of *Laphygma* sp. ex *Gossypium hirsutum* from İzmir - Turkey by Soydanbay (Tunçyürek) (1976).

Aulogymnus skianeuros (Ratzeburg)*

Bingöl, 15.3.1974 (reared in lab.).

Reared from the Cynipid galls on oak. Peck *et al.* (1964) recorded this species as a most common one of the species associated with oak.

Stenomeseius rufescens (Rossius)

Erzincan, Yuvaköyü, Kemaliye, 18.6.1982 (Özışık).

Swept from pastures. This species was recorded by Boucek (1977) as an ectoparasite of various caterpillars of the families, Glyphipterygidae, Tortricidae and Pyralidae.

Rhichnopele crassicornis (Nees)*

Erzurum, 12.6.1982.

Swept from leaves of *Prunus mahaleb*. It has been recorded as a gregarious parasite of caterpillars and reared from *Eugraphe sigma* D. Sch. and *Scotia* sp. (Lep., Noctuidae) (Boucek, 1977).

Elachertus argissa (Walker)*

Erzurum, 4.7.1978 (Özbek).

Swept from fields of *Medicago sativa* L.. Askew (1968) and Boucek (1977) recorded the species as a parasite of some species of Tortricidae, Gelechiidae, Coleophoridae.

Elachertus geniculatus (Hartig)*

Erzurum, 8.7.1980.

Swept from flowers of *Crambe orientalis* in *Pinus* plantations. The species has been recorded by Askew (1968) as a parasite of *Laspeyresia strobilella* L. (Lep., Tortricidae) and by Boucek (1977) as a gregarious ectoparasite of some lepidopterous larvae (e. g. *Rhyacionia*, *Petrova*, *Exoteleia*) associated with cones or shoots of conifers.

Elachertus nigrifulus (Zetterstedt)

Erzurum, 26.6.1979.

Swept from pastures. Askew (1968) and Boucek (1977) recorded it as an ectoparasite of various Tortricid larvae.

Colpoclypeus florus (Walker)

Erzurum, 20.7.1982.

Reared from the larvae of *Archips rosanus* L. ex *Rosa* sp.. Peck et al., (1964) and Askew (1963) recorded the species as a gregarious parasite of various Tortricidae.

Diglyphus anadolucus Doğanlar

Erzurum, 16.8. - 8.9.1979 (Özbek).

Swept from fields of *M. sativa*.

Diglyphus crassinervis Erdoes

Erzurum, 29.8. - 8.9.1979 (Özbek).

Swept from fields of *M. sativa*. It was reared from teastelheads by Askew (1968).

Diglyphus isaea (Walker)

Erzurum, 16.8. - 8.9.1970 (Özbek); 30.6.1980; Palandöken Mountain 9.7.1980; Horasan, 30.5.1980; Akdağ, 25.6.1980; Uzundere, Tortum, 2.7.1980; Erzincan, Yazıörenköyü, Tercan, 26.6.1980 (Özışık).

Reared from the Agromyzid larvae mining in leaves of a herbaceous plant, and swept from pastures and from fields of *M. sativa*. The species has been recorded as a parasite of Agromyzid leaf - miners on numerous herbaceous plants (Askew, 1968; Boucek, 1970; 1977).

Diglyphus pachyneurus Graham*

Erzurum, 25.7.1978 (Özbek); 26.6. - 12.9.1979 (Özbek); Horasan, 30.5.1980; Palandöken Mountain, 30.7.1980; 20.7.1981 (Özışık); Aktaş, 25.7.1982; Erzincan, 22.6.1980 (Özışık); Mersin, Kargılıköyü, Yenice, 19.8.1982.

Swept from fields of *M. sativa*. and of *Solanum tuberosum* and from flowers of *Lepidium draba* and from pastures. The species has been recorded as a parasite of Agromyzid leaf - miners, mainly on coastal sand - dunes (Boucek, 1970; 1977).

Eulophus larvarum (Linnaeus)

Erzurum 16.8.1973.

Reared from larvae of Lepidoptera on *Betula* sp. It has been recorded as a gregarious parasite of various caterpillars on leaves of deciduous trees (Askew, 1968; Boucek, 1977).

Pnigalio pectinicornis (Linnaeus)

Erzurum, 16.8. - 8.9.1979 (Özbek).

Swept from fields of *M. sativa*. Askew (1968) and Boucek (1977) recorded it as a common and variable parasite of various leaf - miners, mainly coleopterous and lepidoptereous, on deciduous trees. Kaya (1975) stated this species as a parasites of *Syringopais temparatella* (Lep., Scythridae) from Denizli, Turkey.

Sympiesis acalle (Walker)

Erzincan, 22.7.1980 (Özışık).

Swept from fields of *M. sativa*. Askew (1968) and Boucek (1970; 1977) recorded it as a primary and secondary parasite, mainly of leaf - mining caterpillars.

Sympiesis euspilapterygis (Erdoes)*

Erzurum, 16.8.1979.

Swept from leaves of *Convolvulus arvensis*. Boucek (1977) recorded this species as a parasite of leaf - miners belonging to Lithocolletidae (Lepidoptera).

Dahlbominus fuscipennis (Zetterstedt)*

Erzurum, Tortum, 26.6. - 13.7.1975.

Reared from larvae and cocoons of *Diprion pini* L.. It has been recorded as a gregarious ectoparasite of various Diprionidae, e. g. *D. pini*, *Neodiprion sertifer* Geoff. and *Gilpinia* spp..

Microlycus erdoesi Boucek*

Erzurum, 26.6.1979 (Özbek).

Swept from fields of *M. sativa*.

Necremnus artynes (Walker)

Erzurum, 26.6. - 13.9.1979 (Özbek); 25.7.1980.

Swept from fields of *M. sativa*. Boucek (1977) recorded it as a parasite of small Lepidoptera (e. g. *Vulkaniella pomposella* Zell. ex *Salvia aethiopsis* (Cosmopterygidae).

Necremnus croton (Walker)*

Erzurum, Palandöken Mountain, 9.7.1980.

Swept from leaves and flowers of *Salvia* spp. Only known host of this species is *Pseudobankesia macedoniella* Reb. (Lep., Psychidae) (Boucek, 1977).

Necremnus leucarthros (Nees)

Erzurum, 26.6. - 8.9.1979 (Özbek); Palandöken Mountain, 9.7.1980; Horasan, 30.5.1980; Erzincan, 22.6.1980 (Özşık).

Swept from fields of *M. sativa* and from leaves and flowers of *Salvia* spp. Askew (1968) reared it from cocoons of *Phytonomus* spp. (Col., Curculionidae) and Boucek (1970; 1977) recorded it as a gregarious ectoparasite of Chrysomelidae and Curculionidae. Tuatay et al. (1972) found this species on *Cicer arietinum* in Burdur, Turkey.

Necremnus tidius (Walker)

Erzurum, 29.8. - 25.9.1979 (Özbek); 26.6.1979; 25.7.1980.

Swept from fields of *M. sativa*. This species has been recorded as a parasite of Chrysomelidae and Curculionidae (Askew, 1968; Boucek, 1977).

Crataepus marbis (Walker)*

Erzurum, 23.6. - 13.9.1980.

Reared from trypetid larvae on flowerheads of *Carduus* sp. and *Cirsium* sp. Grawdvell (1953) recorded it as a parasite of trypetid larvae and pupae (e. g. *Terellia* spp. and occasionally *Urophora* sp.).

Pronotalia carlinarum (Szelenyi and Erdoes)*

Erzurum, 13.7. - 22.9.1980.

Reared from trypetid larvae on flowerheads of *Centaurea* spp. Domenichini (1966) recorded it as a gregarious endoparasite of the pupae of *Setulia*

convergens Pand. (Dipt., Calliphoridae), of *Chaetorellia jaceae* R. D. (Dipt., Trypetidae); *Phytomyza orabanchiae* Kaltenbach (Dipt., Agromyzidae); *Calamocisis minima* Strobl. (Dipt., Chloropidae).

Pronotalia hungarica Erdoes*

Erzurum, 7.8. - 16.9.1982.

Reared from trypetid larvae on flowerheads of *Cirsium* sp. and *Carduus* sp.

Entedon biori Erdoes*

Erzurum, 8.9.1979; Horasan, 30.5.1980.

Swept from fields of *M. sativa* and from pastures.

Entedon biori Erdoes*

Erzurum, 20.6. - 8.9.1979 (Özbek); 22.7.1980.

Swept from fields of *M. sativa* and also reared from the curculionid galls on *Lepidium draba*.

Entedon calcicola Graham*

Erzurum, 20.6. - 1.8.1978; 20.6.1979.

Swept from fields of *M. sativa*.

Entedon cionobius Thomson*

Erzurum, 20.6. - 8.9.1980.

Swept from fields of *M. sativa*. Graham (1971) recorded it as a parasite of *Cionus thapsi* (F.) and *C. tuberculatus* Scop..

Entedon fufius Walker*

Erzurum, 25.6. - 8.9.1978 (Özbek); 24.7. - 1.8.1979 (Özışık); Kars, Kağızman, 20.6.1980; Erzincan, 9.5.1982.

Swept from fields of *M. sativa* and *O. sativa*. Graham (1963) recorded it as a larval parasite of *Meligethes bidentatus* (Col., Nitidulidae).

Entedon hercyna Walker*

Erzurum, 25.6.1979.

Swept from fields of *M. sativa*.

Entedon insignis Erdoes*

Erzurum, 8.9.1978 (Özbek).

Swept from fields of *M. sativa*. Boucek (1977) recorded it as a parasite of Curculionidae in stems of *Cirsium* and *Carduus*.

Entedon lixi Endoes*

İzmir, Urla, 11.4.1973 ex *Papaver* sp.; Erzurum, 8.9.1978 (Özbek); Akdağ, 25.6.1980.

Swept from fields of *M. sativa* and from pastures. Erdős (1951) recorded it as a parasite of *Lixus elongatus* (Goeze) on stems of *Carduus acanthoides* L..

Entedon longulus Erdoes*

Erzurum, 24.7.1979 (Özbek).

Swept from fields of *M. sativa*.

Entedon longus Boucek*

Erzurum, 26.6.1979 (Özbek).

Swept from fields of *M. sativa*.

Entedon molybdaenus Erdoes*

Erzurum, 27.6.1978; 1.8. - 8.9.1979 (Özbek).

Swept from fields of *M. sativa*.

Entedon nigratarsus Erdoes*

Erzurum, 26.6.1979.

Swept from fields of *O. sativa*.

Entedon pallicrus Erdoes*

Erzurum, 24.7. - 1.8.1979 (Özbek, Özişik); 22.6.1980

Swept from fields of *M. sativa*.

Entedon parvicalcar Thomson*

Erzurum, Karacuha, Horasan, 30.5.1980.

Swept from leaves and flowers of *Salix* spp.

Entedon subpunctatus Erdoes*

Erzurum, 25.7. - 8.9.1979 (Özbek).

Swept from fields of *M. sativa*.

Entedon thomscianus Erdoes*

Erzurum, 20.6.1973; 18.6.1982.

Swept from pastures. It has been recorded as a parasite of *Lixus cardui* (Col., Curculionidae) in stems of *Carduus* (Graham, 1963).

Pediobius acantha (Walker)

Erzurum, 16.8. - 13.9.1979 (Özbek); Erzincan, Yazıören, Tercan, 26.6.1980 (Özişik).

Swept from fields of *M. sativa* and from pastures. Graham (1963) and Boucek (1970; 1977) recorded it as a parasite of larvae of lepidopterous and dipterous leaf - miners.

Pediobius bruchicida (Rondani)

Erzurum, 27.8.1981 (Yüksel).

Reared from the pupae of *Leucoma salicis* L. (Lep., Lymantriidae). The species has been recorded as a primary or secondary parasite in cocoons and pupae of various Lepidoptera and their primary parasites such as Braconidae and Ichneumonidae (Boucek, 1977). Öncüler *et al* (1977) reared the species from the larvae of *Euproctis chrysorrhoea* in Uşak, Turkey, and Doğanlar (1982) from the pupae of *L. salicis* and of *Trijapitzinia leucomae* Dzhankokmen (Hym., Pteromalidae).

Pediobius cassidae Erdoes

Erzincan, 22.6.1980 (Özışık).

Reared from the larvae of *Cassida* sp. ex *Carduus* sp.. Boueck (1977) recorded it as a primary or secondary endoparasite of eggs, larvae or pupae of *Cassida* spp. (Col., Chrysomelidae) and of various Lepidoptera and their hymenopterous parasites.

Pediobius epigonus (Walker)*

Erzurum, 16.8.1979 (Özbek).

Swept from fields of *M. sativa*. Boucek (1970; 1977) recorded this species as a parasite of small Diptera, including *Mayetiola* spp. and *Oscinella frit* L. in stems of grasses.

Pediobius nigratarsis Thomson*

Erzurum, 16.8.1979 (Özbek); Palandöken Mountain, 12.6.1980.

Swept from fields of *M. sativa* and from pastures.

Pediobius saulius (Walker)*

Erzurum, Uzundere, Tortum, 15.7.1980.

Reared from the larvae of *Phyllonorycter* sp. ex *Prunus* sp.. Boucek (1970) recorded it as a parasite of various leaf-miners and of their hymenopterous parasites.

Neochrysocharis cuprifrons Erdoes*

Erzurum, 26.6.1979; Erzincan, Çağlayan, 22.6.1980 (Özışık).

Swept from pastures. Boucek (1977) stated that it was reared from stems of *Agropyrum intermedium* and it is probably parasitic on Diptera.

Chrysocharis amanus (Walker)*

Erzurum, 8.9.1978 (Özbek); 26.6.1979.

Swept, from fields of *M. sativa*. Boucek (1977) recorded it as a parasite of *Stigmella* spp. (Lep., Nepticullidae), leaf-miners.

Chrysocharis idyia (Walker)*

Erzurum, Palandöken Mountain, 12.6.1980.

Swept from pastures.

Chrysocharis laomedon (Walker)*

Erzurum, 16.8.1979 (Özbek).

Swept from fields of *M. sativa*. Boucek (1977) recorded it as a primary or rarely secondary parasite of various lepidopterous leaf - miners, mainly of *Phyllonorycter* spp., less often of some *Stigmella*.

Chrysocharis liriomyzae Delucchi*

Erzurum, 4.7. - 8.9.1978 (Özbek); 26.6.1979.

Swept from fields of *M. sativa*. The species has been recorded as a parasite of leaf - mining Agromyzidae (Dipt.) of the genera *Liriomyza* and *Phytomyza*.

Chrysocharis nephereus (Walker)*

Hakkari, Şemdinli, 20.1.1975; Muş, Kızılağaç, 12.2.1975 (reared in lab.).

Reared from cynipid galls on oak. Boucek (1977) recorded it as a parasite of many leaf - miners, mainly of Lepidoptera.

Chrysocharis phryne (Walker)*

Erzurum, 5.7.1980.

Reared from larvae of Agromyzidae, mining on leaves of a herbaceous plant. Boucek (1977) recorded it as a parasite of various lepidopterous leaf - miners of the genera *Stigmella* and *Phyllonorycter* on trees.

Chrysocharis polyzo (Walker)

Erzurum, 26.6.1979; Akdağ, 25.6.1980.

Swept from pastures. Boucek (1977) recorded it as a parasite of various agromyzid leaf - miners on herbaceous plants.

Chrysocharis subpolita Erdoes*

Erzurum, 8.9.1980; Horasan, 30.5.1980.

Swept from pastures.

Euderus agrili Boucek*

Adana, Yumurtalık, 22.8.1982.

Swept from the plants on seashore.

Euderus brevicornis Boucek

Erzurum, 5.6.1979.

Swept from pastures.

Euderus palustris Erdoes*

Adana, Yumurtalık, 22.8.1982.

Swept from the plants on seashore.

Elasmidae

Elasmus albipennis Thomson*

Erzurum, Tahtköyü, Şenkaya, 5.7. - 3.8.1982.

Reared from larvae of *Y. malinella*. The species has been recorded as a mostly secondary (though e.g. *Apanteles* spp.) rarely primary parasite of the genera *Yponomeuta*, *Semasia*, *Simaethis* (Lep.) (Askew, 1968; Boucek, 1970; 1977).

Elasmus cyprianus Ferrière*

Adana, Kurttepe, 22.8.1982.

Swept from pastures.

Elasmus elongatus Ferrière*

Erzincan, 9.5.1982.

Swept from pastures.

Elasmus phthorimae Ferrière*

Adana, 22.8.1982.

Swept from leaves of *Vitis vinifera*.

Elasmus unicolor (Rondani)*

Mersin, Kargılıköyü, Yenice, 15.8.1982.

Swept from fields of cotton.

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Özet

Türkiye Chalcidoidea'sıyla ilgili notlar, III. Encyrtidae, Tetracampidae, Aphelinidae, Eulophidae, Elasmidae

Türkiye Chalcidoidea faunasından 75 tür saptanmış olup bu türlerden 6'sı Encyrtidae, 2'ser tanesi Tetracampidae ve Aphelinidae, 60'ı Eulophidae ve 5'i Elasmidae familyalarındandır. Bunlardan 50 tür Türkiye faunası için yeni kayıttır. Bu çalışma sırasında 20 tür konukçularından veya konukçularıyla ilgili materyallerden elde edilmiştir. Diğer türler ise genellikle yonca tarlalarından veya çayır mer'alarından atrapla toplanmışlardır.

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