

A Contribution to the Knowledge of Tenthredinidae (Symphyta, Hymenoptera) Fauna of Turkey Part II: Subfamilies Blennocampinae, Dolerinae, Nematinae and Selandrinae*

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Abstract: In the second part of this contribution to the fauna of the typical sawfly, Tenthredinidae in Turkey, the subfamilies Blennocampinae, Dolerinae, Nematinae and Selandrinae are discussed. Twenty-seven species in 13 genera of Blennocampinae, 7 species in 2 genera of Dolerinae, 9 species in 6 genera of Nematinae, and 4 species in 4 genera of Selandrinae, a total of 47 species, are recorded. Of these, 7 species were new to the Turkish fauna. New data on geographical distribution and host plants are given for some species. For each species, a chorotype is reported.

Key Words: Hymenoptera, Tenthredinidae, Blennocampinae, Dolerinae, Nematinae, Selandrinae, fauna, Turkey

Türkiye'nin Tenthredinidae (Symphyta, Hymenoptera) Faunasına Katkılar Bölüm II: Blennocampinae, Dolerinae, Nematinae ve Selandrinae Altfamilyaları

Özet: Tenthredinidae familyasının tespiti ile ilgili çalışmaların bu bölümünde; Blennocampinae, Dolerinae, Nematinae ve Selandrinae altfamilyaları incelenmiş; Blennocampinae'den 13 cinse ait 27 tür, Dolerinae'den iki cins ve bunlara bağlı yedi tür, Nematinae'den altı cins ve bunlara bağlı dokuz tür, Selandrinae'den ise dört cinse ait dört tür olmak üzere toplam 47 tür tespit edilmiştir. Bunlardan yedi tür Türkiye faunası için yeni kayıt durumundadır. Saptanan türlerin hemen tamamı için yeni yayılma alanları ve bazılarının konukçuları saptanmış, her türün bulunduğu chorotype belirlenmiştir.

Anahtar Sözcükler: Hymenoptera, Tenthredinidae, Blennocampinae, Dolerinae, Nematinae, Selandrinae, fauna, Turkey

Introduction

In the first contribution to the knowledge of Turkish typical sawflies, the Tenthredinidae subfamily Tenthredininae was dealt with (Çalmaşur and Özbek, in press). Here, the subfamilies Blennocampinae, Dolerinae, Nematinae and Selandrinae are discussed. Approximately 1400 typical sawfly samples were examined. Information related to materials and methods and other particulars was given in Part I.

Results

Subfamily Blennocampinae

The species belonging to this subfamily are medium-sized or small, and include the smallest representatives of

all sawflies. The body is usually robust, and black is the dominant colour. There are also entirely yellow or other colored species. The larvae live on or in various plants, though the members of some genera or tribes are attached to a specific group of plant species. Mostly they feed freely on the surface of the leaves, but a few make mines in the leaves or twigs of different arborescent plants. The representatives of Blennocampinae are spread over 5 continents. The known number of genera is around 150, of which 36 are found in Europe (Zombori, 1982).

Allantus Panzer, 1801

Synonym: *Anemphytus* Dovnar-Zapolskij, 1930;
Synemphytus Malaise, 1945; *Emphytus*, auct.

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***Allantus balteatus* Klug, 1818**

Synonym: *Tenthredo balteata* Klug, 1818; *Emphytus bucculentus* Tischbein, 1846; *E. fulvocinctus* Rudow, 1872.

Material Examined: **Bayburt:** Kopdağı, 2100-2300 m, 21.VI.2001, 1♀, Maden, 1700 m, 16.VI.2000, 1♀, 21.VI.2001, 1♀. **Erzurum:** Ilica, Atlıkonak, 2400 m, 29.VI.2001, 3♀♀; Köprüköy, Örentaş, 2100 m, 12.VI.2001, 1♀; Oltu, Sütkans, 1500 m, 25.VI.1996, 1♀, Tutmaç, 2000 m, 1.VII.2000, 3♀♀; Pasinler, Çalıyazı, 2400 m, 10.VII.1997, 1♀; Şenkaya, Turnalı, 1700 m, 1.VII.1990, 1♀; Tortum, Kireçlıdağı, 2200 m, 2.VII.2000, 1♀. **Gümüşhane:** Vauk Geçidi, 1850 m, 21.VI.2001, 1♀, 24.VI.2001, 1♀.

Distribution in Turkey: Afyon (Chevin and Chenon, 1982).

General Distribution: Europe, Cyprus, Turkey, Caucasus, Siberia, Central Asia, Iran (Chevin and Chenon, 1982; Lacourt, 1999); Sibero-European.

Host Plant: The larvae were collected from *Rosa canina*. Lacourt (1999) gave various *Rosa* species as the host plant.

***Allantus basalis* (Klug, 1818)**

Synonym: *Emphytus togatus* Stephens, 1835, nec Panzer, 1801; *E. basalis caledonicus* Benson, 1945.

Material Examined: **Erzincan:** Bahçeli, 1350 m, 26.V.2001, 1♀. **Erzurum:** Dutçu, 2200 m, 18.VII.1999, 2♂♂; Köprüköy, Örentaş, 1900-2100 m, 12.VI.2001, 2♀♀.

Distribution in Turkey: Bursa and Samsun (Benson, 1968).

General Distribution: Europe, Turkey, Siberia, Mongolia, China, Japan, Korea, North America (Benson, 1968; Liston, 1995; Lacourt, 1999).

Host Plant: *Rosa majalis*, *Rosa cinnamomea*, *Betula* spp., *Dasiphora fruticosa* (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

***Allantus cinctus* (Linne, 1758)**

Synonym: *Tenthredo cordigera* Geoffroy, 1785; *T. togata* Zetterstedt, 1840, *Dolerus varipes* Audinet-Serville, 1823; *Emphytus neglectus* Zaddach, 1859.

Material Examined: **Artvin:** Borçka, Karagöl, 1650 m, 8.VII.1994, 1♂, 1♀. **Erzurum:** University field, 1850 m, 19.VI.1998, 1♂, 24.VI.1999, 1♂.

Distribution in Turkey: Amasya and Gümüşhane (Benson, 1968).

General Distribution: Turkey, Caucasus, Transcaucasia, Siberia, North America, Iran, Crimea, Kazakhstan, Mongolia, Europe, Central Asia (Benson, 1968; Cingovski, 1982; Medvedev, 1994; Liston, 1995; Lacourt, 1999; Magis, 2002); Holarctic.

Host Plant: Adults were collected from *Rosa* sp. *Rosa pimpinellifolia*, *Rubus* spp. and *Fragaria* spp. were listed as the host plant of larvae by Liston (1995), Taeger and Blank (1998) and Lacourt (1999).

***Allantus cingulatus* (Scopoli, 1763)**

Synonym: *Tenthredo togata* Fabricius, 1804, nec Panzer, 1801; *T. tenuis* Audinet-Serville, 1823; *Emphytus elagans* Costa, 1859.

Material Examined: **Erzincan:** Dumanlı, 1200 m, 25.V.2001, 1♂. **Erzurum:** Şenkaya, Ormanlı, 1800 m, 20.V.1994, 1♂. **Gümüşhane:** Vauk Geçidi, 1850 m, 21.VI.2001, 1♂.

Distribution in Turkey: Medvedev (1994) pointed out that this species occurred in Turkey, but supplied no location.

General Distribution: Europe, Caucasus, Turkey, Transcaucasia, Siberia (Benson, 1968; Medvedev, 1994; Lacourt, 1999; Magis, 2002); Sibero-European.

Host Plant: *Rosa* spp., *Corylus* spp., *Betula* spp., *Fragaria* spp. (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

***Allantus didymus* (Klug, 1818)**

Synonym: *Dolerus testaceipes* Audinet-Serville, 1823; *Emphytus nigratarsis* Brullé, 1832; *E. proximus* Costa, 1859; *E. ruficrus* Mocsary, 1880; *E. fumatus* André, 1880.

Material Examined: **Artvin:** Yusufeli, Altıparmak, 1100 m, 5.VII.1997, 1♂. **Bayburt:** Kopdağı, 2100-2300 m, 16.VI.2000, 3♂♂. **Erzincan:** Merkez, 1300 m, 18.VII.1997, 1♀; Bahçeli, 1200 m, 26.V.2001, 1♂, 1♀; Dumanlı, 1200 m, 25.V.2001, 2♀♀; Güllükaymak, 1200 m, 25.V.2001, 1♂, 1♀; Üzümlü, 1200 m, 25.V.2001, 1♀. **Erzurum:** Yeşildere, 2000 m, 18.VI.1982, 2♀♀; Hınıs, 1800 m, 14.VI.2002, 1♂; Ilica, Atlıkonak, 2000-2400 m, 11.VI.2000, 3♀♀, 13.VI.2002, 1♀, 29.VI.2001, 3♂♂, Eğerti, 1900 m, 16.VI.2002, 1♀; İspir, Madenköprübaşı, 1400 m, 18.VI.1994, 1♀; Oltu, Başaklı,

1850 m, 22.VIII.2001, 1♂, Çamlıbel, 1750 m, 2.VII.1997, 1♀, Tutmaç-Başaklı, 2000 m, 1.VII.2000, 2♂♂; Pasinler, Çalyazı, 2400 m, 10.VII.1997, 1♂; Şenkaya, Turnalı, 1750 m, 12.VI.1992, 1♀. Gümüşhane: Vauk Geçidi, 1850 m, 21.VI.2001, 1♂, 24.VI.2001, 3♀♀. Kars: Sarıkamış, Karaurgan, 2000 m, 24.VI.1999, 1♂.

Distribution in Turkey: Adana, Amasya, Ankara, Bolu, Erzurum, Gümüşhane, Mersin, Niğde and Tokat (Benson, 1968; Wolf, 1968; Chevin and Chenon, 1982).

General Distribution: Europe, Mediterranean Region, Turkey, Iran, Caucasus, Kazakhstan, Russia, Central Asia (Benson, 1968; Cingovski, 1982; Medvedev, 1994; Liston, 1995; Lacourt, 1999; Magis, 2002); Sibero-European.

Host Plant: *Sanguisorba minor*, *Rosa* spp., *Rubus* spp. (Lacourt, 1999).

Allantus togatus (Panzer, 1801)

Synonym: *Tenthredo succincta* Klug, 1817; *Emphytus succinctus* var. *steini* Schmiedeknecht, 1881; *E. togatus* var. *succinctus*, auct.

Material Examined: Erzurum: Çat, 2000 m, 11.VII.2002, 1♀.

Distribution in Turkey: Erzurum (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Siberia, Japan (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Palaearctic.

Host Plant: Adult was collected on *Salix* sp. Liston (1995), and Taeger and Blank (1998) gave the host plant of this species as *Salix* spp., *Betula* spp. and *Quercus* spp.

Allantus viennensis (Schrank, 1781)

Synonym: *A. viennensis* var. *uberior* Enslin, 1914; *Emphytus viennensis* var. *nigricoxis* De Stefani, 1883; *E. viennensis* var. *medinae* Konow, 1894.

Material Examined: Erzincan: Avcılar, 1300 m, 26.V.2001, 1♀. Erzurum: Dutçu, 2200 m, 18.VII.1999, 1♂, 1♀; İspir, Çayırözü, 4.VII.1997, 1♀. Gümüşhane: Vauk Geçidi, 1850 m, 21.VI.2001, 1♀. Kars: Sarıkamış, Karakurt, 1500m, 23.VI.2000, 2♀♀.

Distribution in Turkey: New record for Turkish fauna.

General Distribution: Europe, Transcaucasia, Caucasus, Central Asia, Siberia, North America (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999; Magis, 2002); Holarctic.

Host Plant: Larvae were collected from *Rosa* sp. Liston (1995), Taeger and Blank (1998) and Lacourt (1999) listed various *Rosa* spp. as the host plant of *A. viennensis*.

Ametastegia Costa, 1882

Synonym: *Aomodyctium* Ashmead, 1898; *Protemphytus* Rohwer, 1909; *Emphytina* Rohwer, 1911; *Simpliphytus* MacGillivray, 1914; *Unitaxonus* MacGillivray, 1921; *Taxonus* auct; *Allantus* auct; *Emphytus*, auct.

Ametastegia glabrata (Fallen, 1808)

Synonym: *A. fulvipes* Costa, 1882; *Tenthredo agilis* Klug, 1817; *T. rufipes* Audinet-Serville, 1823, *Taxonus nigrisoma* Norton, 1862; *Strongylogaster abnormis* Provancher, 1885; *Strongylogastroidea potulenta* MacGillivray, 1923.

Material Examined: Erzurum: Pasinler, Rabat, 2400 m, 11.VII.1996, 1♂; Tortum, Esendurak, 1600m, 11.IX.2001, 1♂.

Distribution in Turkey: Mersin (Chevin and Chenon, 1982).

General Distribution: Europe, Mediterranean Region, Russia, Crimea, Caucasus, Kazakhstan, Central Asia, Pacific Coastal Region, North Africa, Mongolia, Siberia, North America (Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Rumex acetosella*, *R. crispus*, *R. longifolius*, *Chenopodium* spp., *Lythrum salicaria*, *Plantago* spp., *Rheum rhabarbarum*, *Solanum dulcamara*, *S. tuberosum*, *Epilobium* spp., *Fagopyrum* spp., *Vicia* spp., *Polygonum aviculare* (Liston, 1995).

Ametastegia pallipes (Spinola, 1808)

Synonym: *Tenthredo grossulariae* Klug, 1818; *T. lapponica* Zetterstedt, 1838; *T. pallipes* Provancher, 1878, nec Spinola, 1808; *Dolerus leucopodus* Audinet-Serville, 1823; *Emphytus canadense* Kirby, 1882; *E. pallidipes* Dalla Torre, 1894; *Empria cavata* MacGillivray, 1911; *E. cetaria* MacGillivray, 1921.

Material Examined: Artvin: Orcuk, 400 m, 21.V.1997, 1♀.

Distribution in Turkey: Lacourt (1999) indicated that this species was present in Turkey, but supplied no location.

General Distribution: Europe, Turkey, Caucasus, Iran, Siberia, North America (Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Viola* spp. (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Apethymus Benson, 1939

Synonym: *Kjellia* Malaise, 1947

Apethymus apicalis (Klug, 1818)

Synonym: *A. serotinus* Müller, 1776; *Emphytus filiformis* Klug, 1818.

Material Examined: **Kars:** Sarıkamış, 1900 m, 9.X.1998, 1♀. The adult was collected from under a stone.

Distribution in Turkey: New record for Turkish fauna.

General Distribution: Europe, Russia (Liston, 1995); West Palaearctic.

Host Plant: *Rosa multiflora*, *R. rubiginosa*, *R. rugosa* (Liston, 1995; Lacourt, 1999).

Athalia Leach, 1817

Synonym: *Dentathalia* Benson, 1931

Athalia bicolor Serville, 1823

Synonym: *Tenthredo annulata* Fabricius, 1787; *T. rosae* Linne, 1758.

Material Examined: **Artvin:** Şavşat, Bahçeli, 500 m, 22.V.1997, 1♂. **Bayburt:** 25 km S, 1750 m, 21.VI.2001, 1♂; Kopdağı, 2300 m, 16.VI.2000, 5♂♂; Maden, 1650 m, 16.VI.2000, 1♂. **Bingöl:** Çirişli Geçidi, 2000 m, 3.VI.2001, 2♂♂, 11.VI.2002, 1♀. **Erzincan:** Bahçeli, 1300 m, 26.V.2001, 2♂♂; Üzümlü, 1200 m, 25.V.2001, 1♂. **Erzurum:** University field, 1850 m, 21.VI.2000, 1♂, Karagöbek, 1900 m, 28.VI.2000, 4♂♂; Aşkale, 1800 m, 23.V.2000, 1♂, 2♀♀; Hınıs, 1800 m, 14.VI.2002, 1♀; Horasan, Aras Vadisi, 1700 m, 23.V.2001, 1♂; Ilica, Atlıkonak, 2000 m, 11.VI.2000, 9♂♂, 1♀, 13.VI.2002, 2♂♂, Sorkunlu, 1900 m, 28.V.2000, 2♀♀; Köprüköy, Örentaş, 2100 m, 12.VI.2001, 3♂♂, 2♀♀; Oltu, 1400 m, 19.V.1999, 8♂♂, 1♀, Sarı saz, 1400 m, 16.V.1997, 1♂, 17.V.2000, 8♂♂, 6♀♀, 14.VI.2000, 1♂, 1♀, 21.VI.2000, 1♂; Şenkaya, Soğanlıdağı, 2250 m, 24.VI.1999, 1♂, 1♀; Uzundere, Gölbaşı, 1100m, 13.V.2000, 1♀. **Gümüşhane:** Vauk Geçidi, 1850 m, 21.VI.2001, 1♂. **Kars:** Sarıkamış, Karakurt, 1550 m, 23.V.2001, 1♂, 2.VI.1999, 8♂♂, 4.VI.2000, 1♂.

Distribution in Turkey: Artvin, Bursa, Bilecik, Edirne, Erzurum, Samsun, Trabzon and Uşak (Benson, 1968; Chevin and Chenon, 1982).

General Distribution: Europe, Mediterranean Region, Crimea, Turkey, Transcaucasia, Caucasus, Russia, North Africa, Central Asia (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Palaearctic.

Host Plant: Adults were collected in pastures. *Ranunculus* spp. were given as the host plant of this species by Taeger and Blank (1998) and Lacourt (1999).

Athalia circularis (Klug, 1815)

Synonym: *A. lineolata* Audinet-Serville, 1823; *A. bolivari* Dusmet, 1896; *A. lineolata libertoides* Priesner, 1928; *A. longifoliae* Kontuniemi, 1951; *A. alpina* Chevin, 1969; *Tenthredo rosae*, auct., nec Linne, 1758.

Material Examined: **Artvin:** Ardanuç, Ferhatlı, 13.V.2000, 1♀; Şavşat, Bahçeli, 22.V.1997, 1♀, Karagöl, 1650 m, 8.VII.1998, 2♂♂, 12♀♀. **Bayburt:** Çalidere, 1850 m, 16.VI.2000, 1♂; Maden, 1650 m, 16.VI.2000, 2♂♂, 1♀, 1700 m, 21.VI.2001, 1♀, Yoncalık Yaylası, 2700 m, 5.VII.2000, 1♂, 1♀; Kopdağı, 2100 m, 16.VI.2000, 2♂♂. **Erzincan:** Avcılar, 1300 m, 26.V.2001, 1♀; Çağlayan, 1400 m, 22.V.1982, 1♂. **Erzurum:** It is common and abundant in Erzurum province. The materials were collected from the middle of May to the middle of August from Göngörmez, Karagöbek, Köşk, University field, Yeşilyayla, Aşkale (Kopdağı) Çat (Çimiş), Horasan, Ilica (Atlıkonak, Rizekent, Sorkunlu), İspir (Madenköprübaşı), Köprüköy (Örentaş), Olur (Süngübayır), Oltu (Başaklı, Çamlıbel, Sarı saz), Pasinler (Rabat), Pazaryolu (Karataş), Şenkaya (Ormanlı, Turnalı) and Tortum (Aşağısivri, Bağbaşı, Esendurak) at altitudes of 1300-2700 m, 37♂♂, 38♀♀. **Gümüşhane:** Vauk Geçidi, 1850 m, 21.VI.2001, 1♀. **Kars:** Sarıkamış, 1900 m, 27.V.2000, 1♂, Karaorgan, 2000 m, 24.VI.1999, 1♀, Karakurt, 1550 m, 2.VI.1999, 1♀, Şeytangeçmez, 1500 m, 2.VI.1999, 1♂, TCK Çeşmesi, 1500-1700 m, 23.V.2001, 1♀, 2.VI.1999, 1♂, 4.VI.2000, 2♀♀, 4.VII.2000, 2♀♀. **Rize:** Çamlıhemşin, Ayder, 1200-1550 m, 30.VII.2000, 2♂♂, 5♀♀; İkizdere, Çamlık, 1600 m, 29.VII.2000, 1♀, Ovit, 1600-2400 m, 29.VII.2000, 1♂, 1♀.

Distribution in Turkey: Amasya, Artvin, Bolu, Çorum, İstanbul, Mersin, Muğla, Rize, Samsun, Tokat, Trabzon, and Zonguldak (Benson, 1968).

General Distribution: Europe, Mediterranean Region, Turkey, Crimea, Caucasus, Transcaucasia, Central Asia, North America, Mongolia, Himalayas, China, Japan, Russia (Benson, 1968; Cingovski, 1982; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: The larvae were observed feeding on the leaves of *Arctium lappa*. The following plant species were given as host plants of *A. circularis*: *A. lappa*, *Ajuga reptans*, *Veronica beccabunga*, *Plantago* spp., *Alliaria petiolata*, *Melampyrum* spp., *Capsella* spp., *Lycopus* spp., *Veronica longifolia*, *Veronica officinalis*, *Glechoma hederacea* (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Athalia cordata Serville, 1823

Synonym: *A. suessionensis* Audinet-Serville, 1823; *A. blanchardi* Brullé in Lepelletier, 1846; *Tenthredo rosae*, auct., nec Linne, 1758.

Material Examined: **Artvin**: Şavşat, Bahçeli, 500 m, 22.V.1997, 1♀. **Bingöl**: Çirişligeçidi, 2000 m, 3.VI.2001, 1♀. **Erzurum**: Ilica, Atlıkonak, 2000 m, 11.VI.2000, 2♀♀; İspir, İspirgeçidi, 2100 m, 13.VII.2001, 1♀; Köprüköy, Örentaş, 1900-2100 m, 12.VI.2001, 1♀; Oltu, Kaleboğazi, 1450 m, 18.IV.2001, 1♀, 1350 m, 25.IV.2000, 2♀♀, Subatik, 1300 m, 20.V.2001, 1♀, Tavşantepe, 1400 m, 11.IV.2001, 2♀♀. **Kars**: Karakurt, Aras Vadisi, TCK Çeşmesi, 1500-1600 m, 23.V.2001, 4♀♀.

Distribution in Turkey: Aydın, Bolu, Bursa, Giresun, Kars, Kütahya, Muğla, Rize, Samsun and Trabzon (Benson, 1968); Mersin (Chevin and Chenon, 1982).

General Distribution: Europe, Mediterranean Region, Turkey, Crimea, Caucasus, Russia, Crete, Cyprus, Russia, Belarus, Ukraine, Moldova, Georgia, Armenia, Azerbaijan, North Africa, Canary Islands, Israel (Benson, 1968; Cingovski, 1982; Liston, 1995; Zhelochovtsev and Zinovjev, 1996; Lacourt, 1999); Palaearctic.

Host Plant: *Misopates orontinum*, *Antirrhinum majus*, *Ajuga reptans*, *Teucrium scorodonia*, *Plantago* spp. (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Athalia liberta (Klug, 1815)

Synonym: *A. rosae* var. *immaculata* Konow, 1884; *Tenthredo rosae*, auct., nec Linne, 1778, *T. rosae* var. *liberta* Klug, 1815.

Material Examined: **Artvin**: Hopa, 2.IX.1994, 1♂; Oruçlu, 21.V.1997, 1♀; Şavşat, Bahçeli, 500 m,

22.V.1997, 2♂♂, 1♀, Karagöl, 1650 m, 8.VII.1998, 2♂♂, 3♀♀. **Erzincan**: Bahçeli, 1200 m, 26.V.2001, 1♀; Cevizli, 1300 m, 4.VI.1990, 1♀; Dumanlı, 1200 m, 25.V.2001, 1♂; Üzümlü, 1200 m, 25.V.2001, 1♂. **Erzurum**: It is common and abundant in Erzurum province. The materials were collected from the end of May to the end of August from Dutçu, Gökçeyamaç, University field, Yeşildere, Aşkale (Aşağıkop), Ilica (Atlıkonak), Oltu (Başaklı, Çamlıbel, Sarısaz, Tutmaç), Pasinler, Şenkaya (Turnalı), Tortum (Aşağısivri, Katıklı, Söğütpetrol, Yukarımeydanlar) at altitudes of 1300-2200 m, 30♂♂, 28♀♀. **Iğdır**: 850 m, 17.V.1991, 1♀, 25.V.1971, 1♂, 2♀♀, 17.VII.1997, 1♀; Çalpala, 15.VI.2001, 5♂♂, 1♀. **Kars**: Sarıkamış, Karakurt, Aras Vadisi, 1450 m, 23.VI.2000, 1♂, 9.VII.2000, 1♂, 3.VIII.2001, 2♂♂, Kars-Erzurum border, 1650 m, 2.VI.1999, 1♂, TCK Çeşmesi, 1600-1700 m, 23.V.2001, 4♂♂, 7♀♀, 4.VI.2000, 4♂♂, 1♀, Şeytangeçmez, 1500 m, 2.VI.1999, 1♂; Karaorgan, 2000 m, 24.VI.1999, 1♂. **Rize**: Çamlıhemşin, Ayder, 1200-1550 m, 30.VII.2000, 1♂, 1♀; İkizdere, Ovit, 2300 m, 29.VII.2000, 1♀.

Distribution in Turkey: Amasya, Aydın, Burdur, Erzurum, Gümüşhane, İstanbul, Samsun and Trabzon (Benson, 1968; Chevin and Chenon, 1982).

General Distribution: Europe, Mediterranean Region, Turkey, Russia, Iran, Asia, Uzbekistan, Kyrgyzstan, Caucasus, Transcaucasia, Siberia, Pacific Coastal Region, Himalayas, China, Japan (Benson, 1968; Cingovski, 1982; Medvedev, 1994; Liston, 1995; Zhelochovtsev and Zinovjev, 1996; Lacourt, 1999); Palaearctic.

Host Plant: *Alliaria petiolata*, *Arabidopsis thaliana*, *Cardamine hirsuta*, *Sisymbrium officinale* (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Athalia maculata Mocsary, 1879

Material Examined: **Bayburt**: Kopdağı, 2100 m, 16.VI.2000, 2♂♂, 4♀♀, 2100-2300 m, 21.VI.2001, 1♂, 1♀. **Erzurum**: Palandöken, 2100 m, 8.VII.2001, 1♂; Aşkale, 1800 m, 23.V.2000, 1♀; Hınıs, 1800 m, 14.VI.2002, 1♂, 3♀♀; Ilica, Ağzıaçık Bakımevi, 2300 m, 16.VI.2002, 1♂, Atlıkonak, 2000 m, 23.VI.2002, 2♂♂; Köprüköy, Örentaş, 1900-2100 m, 12.VI.2001, 1♂; Oltu, Sarısaz, 1400 m, 14.VI.2000, 1♀, Tutmaç-Başaklı, 1700-2000 m, 1.VII.2000, 2♀♀; Şenkaya, Ormanlı, 1800 m, 20.V.1994, 2♂♂; Tortum, Kireçlidağı, 2200 m, 2.VII.2000, 1♂, 2♀♀. **Gümüşhane**: Vauk Geçidi, 1850 m, 21.VI.2001, 1♂. **Kars**: Sarıkamış, Karakurt, Aras Vadisi, 1500 m, 23.VI.2000, 1♀.

Distribution in Turkey: Amasya, Bolu and Samsun (Benson, 1968).

General Distribution: Europe, Turkey, Transcaucasia, Caucasus, Hungary (Benson, 1968; Cingovski, 1980; Medvedev, 1994); West Palaearctic.

Host Plant: Unknown.

Athalia rosae (Linne, 1758)

Synonym: *Tenthredo spinarum* F., 1775; *T. salicis* Schrank, 1781, nec Linne, 1758; *T. colibri* Christ, 1791; *T. centifoliae* Panzer, 1798.

Material Examined: **Ağrı:** 16.VI.2001, 1♀; Doğubayazıt, 16.VI.2001, 2♂♂, 3♀♀. **Ankara:** Ş.Koçhisar, 9.VII.1998, 1♂. **Artvin:** Arhavi, 5.IX.1994, 1♂; Borçka, Karagöl, 1050 m, 8.VII.1994, 1♀; Hopa, 15.VIII.1994, 1♂; Şavşat, Karagöl, 1650 m, 8.VII.1998, 5♀♀; Yusufeli, Işhan, 1000 m, 21.IX.2000, 1♀. **Balıkesir:** Ayvalık, 8.VIII.1998, 2♂♂, 1♀. **Bayburt:** 1700 m, Maden, 21.VI.2001, 1♂, 1♀; 25 km south road side, 1750 m, 21.VI.2001, 1♂. **Bingöl:** Çirişli Geçidi, 2000 m, 3.VI.2001, 1♀. **Çankırı:** Eskipazar, 11.IX.1984, 1♂, 2♀♀. **Erzurum:** It is common and abundant in Erzurum province. The materials were collected from the end of May to the middle of September from Dutçu, Güngörmez, University field, Aşkale, Horasan, Ilıca (Rizekent, Sorkunlu), İspir (Madenköprübaşı), Narman, Köprüküy (Örentaş), Oltu (Başaklı, Çamlıbel, Sütkans, Tutmaç), Pasinler, Şenkaya, Tortum (Aşağısivri) and Uzundere (Çamlıyamaç) at altitudes of 1100-2000 m, 54♂♂, 126♀♀. **Iğdır:** 850 m, 25.VI.1971, 3♂♂, 16.VII.1997, 1♂, 17.VII.1997, 17♂♂, 5♀♀; Çalpala, 15.VI.2001, 1♂; Melekli, 900 m, 30.VII.2002, 1♂. **İstanbul:** Beykoz, 30.VII.1984, 1♂. **Kars:** Sarıkamış, Karakurt, 1500 m, 11.VI.1998, 5♂♂, Erzurum-Kars provincial border, 1550 m, 2.VI.1999, 1♂, 4♀♀, Aras Vadisi, 1600 m, 9.VIII.2000, 4♂♂, TCK Çeşmesi, 1600 m, 23.V.2001, 1♂, 1♀. **Konya:** Çumra, 1000 m, 13.VIII.2000, 3♂♂, 15♀♀, Kuzucu, 27.VII.2000, 2♀♀; Güneysınır, Gurağaç, 1000 m, 3.VII.1997, 5♀♀, 7.VII.2000, 4♀♀, 16.VII.2000, 3♀♀, 28.VII.2000, 6♀♀, Habiler, 1100 m, 4.VIII.2002, 1♀, Örenboyalı, 1000 m, 25.VII.2000, 1♀. **Muğla:** 14.VIII.1983, 1♂, 3♀♀. **Rize:** Çamlıhemşin, Ayder, 1200-1550 m, 30.VII.2000, 1♀; Pazar, 200 m, 25.VII.1998, 1♂. **Trabzon:** 26.VII.1996, 1♂.

Distribution in Turkey: Adana, Antakya, Gümüşhane, Isparta, İstanbul, Kars, Kütahya, Mersin, Rize, Samsun,

Trabzon and Uşak (Benson, 1968; Chevin and Chenon, 1982).

General Distribution: Europe, Mediterranean Region, Turkey, Israel, Iran, Russia, Siberia, China (Benson, 1968; Cingovski, 1982; Lacourt, 1999); Palaearctic.

Host Plant: Larvae collected on radish, *Raphanus sativus*, turnip, *Brassica rapa*, *Sinapis arvensis* and *Sisymbrium officinale*. *A. rosae* is known to be an important pest of radish and turnip in Turkey (Özbek, 1989). Özbek observed that during 1974-1976, a mass outbreak of this species occurred in the research field of Atatürk University and some villages on the Erzurum plateau. Liston (1995), Taeger and Blank (1998) and Lacourt (1999) gave *Armoracia rusticana*, *Barbarea*, *Brassica napus*, *B. juncea*, *B. rapa*, *B. oleracea*, *Sisymbrium officinale*, *Tropaeolum majus*, *Raphanus raphanistrum*, *Sinapis arvensis*, *Alliaria petiolata* and *Cardamine* spp. as the host plants of *A. rosae*

Athalia rufoscutellata Mocsary, 1879

Synonym: *Athalia martima* Kirby, 1884; *A. rufoscutellata* var. *nigroscurtellata* Konow, 1891; *A. r.* var. *mocsaryi* Konow, 1891; *A. r.* var. *pleuralis* Konow, 1898; *A. r.* var. *obscurata* Konow, 1904.

Material Examined: **Bingöl:** Solhan, 2100 m, 25.VI.2000, 1♀. **Erzurum:** 1850 m, 31.V.1985, 1♀, 01.VI.1983, 2♀♀, University field, 1850 m, 30.V.2002, 1♀; Aşkale, 1800 m, 23.V.2000, 1♀; Hınıs, 1800 m, 14.VI.2002, 1♂, 3♀♀; Horasan, Aktaş, 1700 m, 11.VI.2002, 1♀; Ilıca, Atlıkonak, 2000 m, 11.VI.2000, 4♀♀; Köprüküy, Örentaş, 1900-2100 m, 12.VI.2001, 3♀♀; Narman, Savaşçılar, 2300 m, 13.VI.1999, 1♀; Oltu, Sarıtaş, 1450 m, 16.V.1997, 2♀♀; Pasinler, Pelitli, 2000 m, 14.VII.1998, 1♀; Uzundere, Gölbaşı, 1100 m, 13.V.2000, 1♀. **Kars:** Sarıkamış, Karakurt, 1650 m, 2.VI.1999, 1♀, TCK Çeşmesi, 1600 m, 23.V.2001, 2♀♀; Akkurt, Aras Vadisi, 1600m, 23.VI.2000, 1♀.

Distribution in Turkey: Ankara, Artvin, Bolu, Bursa, Çorum, Gümüşhane and Samsun (Benson, 1968; Wolf, 1968).

General Distribution: Europe, Turkey, Transcaucasia, Crimea, Caucasus, Russia (Benson, 1968; Cingovski, 1982; Medvedev, 1994; Lacourt, 1999); Asiatic-European.

Host Plant: *Teucrium* spp. (Lacourt 1999).

Caliroa O. Costa, 1859

Synonym: *Eriocampoides* Konow, 1890; *Periclistoptera* Ashmead, 1898

Caliroa cerasi (Linne, 1758)

Synonym: *C. laudata* MacGillivray, 1909; *C. lacinata* MacGillivray, 1909; *Tenthredo limacina* Retzius, 1783; *T. adumbrata* Klug, 1816; *Monostegia antipoda* Kirby, 1881; *Tenthredo aethiops* auct., nec Fabricius, 1781.

Material Examined: Erzurum: Oltu, Başaklı, 1850 m, 15.VIII.1991, 6♀♀, Çamlıbel, 1750 m, 2.VII.1999, 1♀.

Distribution in Turkey: Marmara Region and Samsun (Benson, 1968; Birkardeşler, 1971).

General Distribution: Europe, Turkey, Caucasus, Russia, Africa, North America, Australia, New Zealand (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: The larva of *C. cerasi* is a destructive pest on the leaves of the sour cherry, *Prunus cerasus* and the sweet cherry, *P. avium*, and occurs sporadically in the country (Özbek et al., 1995). In this study, larvae were collected from Oltu, Tortum, Uzundere and on the campus of Atatürk University from the sour cherry and the sweet cherry. It was very abundant on the campus in 2002. Other host plants indicated in the literature are: *Cotoneaster* sp., *Malus* spp., *Betula* spp., *Mespilus germanica*, *Quercus* spp., *Rosa* spp., *Rubus* spp., *Salix* spp., *Amelanchier lamarckii*, *Crataegus monogyna*, *Cydonia oblonga*, *Prunus domestica*, *P. padus*, *P. spinosa*, *Pyrus communis*, *Sorbus aucuparia*, *Padus* spp., *Persica vulgaris* (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Eriocampa Hartig, 1837

Synonym: *Brachycampa* Zirngiebl, 1956

Eriocampa ovata (Linne, 1761)

Synonym: *Tenthredo gossypina* Retzius, 1783; *T. vernalis* Geoffroy, 1785; *T. leucogona* Schrank, 1802; *Eriocampa ovata nitens* Benson, 1968.

Material Examined: Artvin: Şavşat, Karagöl, 1650 m, 8.VII.1998, 1♀. Rize: Çamlıhemşin, Ayder, 1200-1550 m, 30.VII.2000, 2♀♀. Trabzon: Sümelamanastırı, 25 km N, 2.VII.2002, 1♀.

Distribution in Turkey: Edirne, İstanbul, Kırklareli, Rize, Tokat and Trabzon (Benson, 1968; Çanakçıoğlu and Mol, 1998).

General Distribution: Europe, Turkey, Caucasus, Transcaucasia, Russia, North America (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Alnus glutinosa*, *A. incana*, *Rhamnus* spp., *Frangula alnus*, *Salix caprea* (Liston, 1995; Taeger and Blank, 1998; Çanakçıoğlu and Mol, 1998).

Eriocampa umbratica (Klug, 1816)

Synonym: *Phyllotoma nigrita* Fallen, 1829

Material Examined: Artvin: Borçka, Karagöl, 1650 m, 8.VII.1994, 1♀; Şavşat, Karagöl, 1650 m, 8.VII.1998, 12♂♂, 5♀♀.

Distribution in Turkey: Artvin, Rize and Trabzon (Benson, 1968).

General Distribution: Europe, Turkey, Caucasus, Russia (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); West Palaearctic.

Host Plant: *Alnus glutinosa*, *A. incana* (Liston, 1995; Lacourt, 1999).

Eutomostethus Enslin, 1913

Synonym: *Atomostethus* Ens., 1913; *Tomostethopsis* Sato, 1928; *Forsia* Malaise, 1932.

Eutomostethus ephippium (Panzer, 1798)

Synonym: *Tenthredo dubia* Gmelin, 1790, nec Ström, 1768; *T. ovata* Schrank, 1781, nec Linne, 1761; *T. inhabilis* Harris, 1835.

Material Examined: Trabzon: Sumelamanastırı, 1100 m, 2.VII.1996, 1♀.

Distribution in Turkey: New record for Turkish fauna.

General Distribution: Europe, Russia, Caucasus, Pacific Coastal Region, Central Asia, Himalayas, North America (Medvedev, 1994; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Graminae* (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Fenusa Leach, 1817

Synonym: *Kaliosysphinga* Tishbein, 1846; *Aphadnurus* Costa, 1859; *Phaenusa* Cameron, 1875; *Phoenusa* André, 1880; *Caliosysphinga* Konow, 1905; *Lithoryssus* Brues, 1906.

***Fenusa pusilla* Lepeletier, 1823**

Synonym: *F. ulmi* Sundevall, 1847; *F. intermedia* Thomson, 1871; *Messa alsia* MacGillivray, 1923; *Kaliofenusa pusilla laevinota* Benson, 1968; *K. carpinifoliae* Liston, 1993; *K. altenhoferi* Liston, 1993.

Material Examined: Erzurum: University field, 1850 m, 31.V.1985, 1♂, 1♀, 2.VII.2002, 3♂♂, 7♀♀, 4.VIII.1981, 13♂♂, 39♀♀.

Distribution in Turkey: Erzurum (Özbek, 1986).

General Distribution: Europe, Turkey, Carpathia, Russia, North Caucasus, Mongolia, North America (Özbek, 1986; Medvedev, 1994; Liston, 1995); Holarctic.

Host Plant: Damage caused by the larva as a leaf miner was observed on several birch trees on the campus of Atatürk University, Erzurum. The population was very low. However, Özbek (1986) pointed out that there had been an outbreak of *F. pusilla* during 1982-1986 on the university campus and that 60% of the leaves of birch trees had dried up due to the damage caused by the larvae. *Betula* spp., *Alnus viridis*, *Ulmus glabra*, *U. minor*, *U. procera*, *U. laevis*, *U. Americana*, *U. elliptica* and *U. rubra* were listed as host plants by Lacourt (1999).

***Messa* Leach, 1817**

Synonym: *Fenusella* Enslin, 1914; *Melanobates* MacGillivray, 1916.

***Messa hortulana* (Klug, 1818)**

Synonym: *Phaenusa doederleini* De Stefani, 1883; *Fenusa ticinensis* Magretti, 1886.

Material Examined: Erzurum: University field, 1850 m, 1.V.1998, 1♀, 12-27.V.1996, 49♀♀, 22.V.1997, 23♀♀, 30.V.2002, 2♀♀, 7.VI.1996, 1♀; Oltu, Kaleboğazi, 1350 m, 25.IV.2000, 1♀, Uzundere, 1100 m, 10.V.2002, 11♀♀.

Distribution in Turkey: Erzurum (Güçlü and Özbek, 1999).

General Distribution: Europe, Russia, Central Asia, Transcaucasia, Romania, North Africa, North America (Benson, 1968; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: The larva is a leaf miner in poplar and trembling aspen (*Populus* spp.) leaves. There has been an outbreak since 2000 in Uzundere, Tortum, Narman, Oltu and İspir (Erzurum) along the narrow valleys. Almost all

of the poplar trees have been infested. Up to 12 larvae were counted in one leaf. Güçlü and Özbek (1999) reported that a similar outbreak occurred on the campus of Atatürk University and that infestation levels were 90% in some trees. Depending on the number of larvae feeding, 20-100% of leaves were destroyed. It is remarkable that as of 1999 this pest has completely disappeared from the University campus. *M. hortulana* is known as a pest of the maple and poplar in Europe (Buhr, 1941; Taeger and Blank, 1998; Lacourt 1999).

***Monophadnus* Hartig, 1837**

Synonym: *Doderia* Malaise, 1935

***Monophadnus pallescens* (Gmelin, 1790)**

Synonym: *M. rosarum* Konow, 1886, nec Brischke, 1883; *M. bipunctatus* MacGillivray, 1908, nec Klug, 1817; *M. furvus* Benson, 1930, nec Konow, 1898; *Tenthredo albipes* Gmelin, 1790, nec Geoffroy, 1785; *T. morio* Rossi, 1790, nec Fabricius, 1781; *Selandria tilliae* Norton, 1861; *Blennocampa emarginata* Thomson, 1871;.

Material Examined: Erzurum: Pasinler, 1700 m, 11.VI.1981, 1♀.

Distribution in Turkey: Rize and Trabzon (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Caucasus, Kazakhstan, Pacific Coastal Region, North America (Benson, 1968; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Ranunculus acris*, *R. repens*, *R. lanuginosus*, *Anemone nemorosa* (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

***Monophadnoides* Ashmead, 1898**

Synonym: *Pseudomonophadnus* Malaise, 1935

***Monophadnoides puncticeps* (Konow, 1886)**

Material Examined: Erzurum: Oltu, Kaleboğazi, 1350 m, 25.IV.2000, 1♀.

Distribution in Turkey: New record for Turkish fauna.

General Distribution: Europe, Central Asia, Siberia (Shaw, 1978; Lacourt, 1999); Asiatic-European.

Host Plant: *Filipendula ulmaria* (Lacourt, 1999).

***Stethomostus* Benson, 1939**

***Stethomostus fuliginosus* (Schrank, 1781)**

Synonym: *Tenthredo (Selandria) fusca* Audinet-Serville, 1823; *Selandria geniculata* Stephens, 1835; *Blennocampa croceipes* Costa, 1864; *B. athiops* Brischke, 1883; *Monophadnus fukaii* Rohwer, 1910.

Material Examined: **Niğde:** Ulukışla, Çiftehan, 1050 m, 08.VIII.1999, 1♂.

Distribution in Turkey: Ankara, Bolu and Rize (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Caucasus, Western Siberia, Mongolia, Japan, North America (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Ranunculus acris*, *R. repens*, *R. sceleratus* (Liston, 1995; Lacourt, 1999).

Tomostethus Konow, 1886

Tomostethus nigritus (Fabricius, 1804)

Synonym: *Tenthredo (Selandria) fraxini* Audinet-Serville, 1823; *T. (Allantus) brevicornis* Klug, 1816; *T. (A.) nigerrima* Klug, 1816.

Material Examined: **Kars:** Sarıkamış, Karakurt, 1650 m, 2.V.2000, 3♂♂, 2♀♀, 9.V.2002, 4♂♂, 5♀♀.

Distribution in Turkey: Medvedev (1994) indicated that *T. nigritus* occurred in Turkey, but supplied no location.

General Distribution: Europe, Turkey, Russia, Caucasus, Transcaucasia, North Africa (Medvedev, 1994; Liston, 1995; Lacourt, 1999); Sibero-European.

Host Plant: It was observed that the females deposited their eggs in young leaves of *Fraxinus excelsior* in the first week of May 2000. The emerging larvae feed on the leaves. Taeger and Blank (1998) and Lacourt (1999) gave *Fraxinus excelsior* as the host plant.

Subfamily Dolerinae

The members of Dolerinae closely resemble many genera of the Selandrinae. These species are small or medium-sized with a robust or oval body attaining a length of 6 to 11 mm. They are black with reddish yellow, a occasionally white, parts. The larvae are to be found in marshy, soggy meadows feeding on the leaves of sedge and rush and also on various grasses, sometimes including corn. The members of Dolerinae are found mostly in the Holarctic Region (Zombori, 1981).

Dolerus Panzer, 1801

Dolerus germanicus (Fabricius, 1775)

Synonym: *D. bajulus* Audinet-Serville, 1823; *D. fennicus* André, 1880; *Dosytheus xanthopus* Stephens, 1835; *Tenthredo abietis* Linne, 1761, nec Linne, 1758; *T. melanocephala* Geoffroy, 1785; *T. analis* Fabricius, 1793; *T. pedestris* Panzer, 1801; *T. eglanteriae* Klug, 1818; *T. quadricincta* Zetterstedt, 1838.

Material Examined: **Artvin:** Ardanuç, Cehennemderesi, 450 m, 13.V.2000, 1♀, Ferhatlı, 650 m, 7.VII.1994, 1♀; Ormanlı, 300 m, 12.V.2000, 1♀; Kalburulu, 300 m, 13.V.2000, 1♂, 1♀. **Bayburt:** Yolkenarı, 1750 m, 25 km Güney, 21.VI.2001, 5♀♀; Çalidere, 1850 m, 16.VI.2000, 1♂, 1♀; Kopdağı, 2100-2300 m, 16.VI.2000, 4♂♂, 1♀; Maden, 1650 m, 16.VI.2000, 1♂. **Bingöl:** Çirişligeçidi, 2000 m, 3.VI.2001, 3♀♀. **Erzincan:** Tercan, Yaylacık, 10.VI.1999, 1♀. **Erzurum:** It is common and abundant in Erzurum province. The materials were collected from the middle of May to the end of July from Dumlu, Karagöbek, Konaklı, Köşk, University field, Yeşildere, Aşkale, Hınıs, Horasan, İlica (Atlıkonak, Gülyurtbakımevi, Sorkunlu), İspir, Köprüköy (Örentaş), Oltu (Başaklı, Tutmaç), Pasinler and Uzundere (Gölbaşı) at altitudes of 1100-2400 m, 19♂♂, 36♀♀. **Kars:** Kağızman, Kuloğlu, 1600 m, 01.VII.2002, 1♀; Sarıkamış, Karakurt, TCK Çeşmesi, 1500-1600 m, 23.V.2001, 3♀♀, 1700 m, 4.VI.2000, 7♀♀.

Distribution in Turkey: Amasya, Erzurum, Gümüşhane, Isparta, Rize and Trabzon (Benson, 1968; Chevin and Chenon, 1982).

General Distribution: Europe, Turkey, Russia, Ukraine, Caucasus, Central Asia, Siberia (Benson, 1968; Cingovski, 1982; Liston, 1995; Lacourt, 1999); Asiatic-European.

Host Plant: *Equisetum palustre*, *E. arvense* (Liston, 1995; Taeger and Blank, 1998).

Dolerus haematodes Schrank, 1781

Synonym: *D. coeruleus* Hartig, 1837; *D. planatus*, auct., nec Hartig, 1837; *D. micans* Zaddach, 1859; *D. haematodes* var. *muliebris* Enslin, 1909; *D. haematodes* var. *rufatus* Enslin, 1913; *D. rufotorquatus* Costa, 1864; *Tenthredo opaca* Panzer, 1792, nec Fabricius, 1775; *T. collaris* Donovan, 1808.

Material Examined: **Erzurum:** Köşk, 1900 m, 26.V.2002, 6♂♂, 1♀, 1.VI.1995, 2♂♂, 1♀, 20.VI.1996, 1♂, 1♀; Pasinler, Büyükdere, 1800 m, 11.VII.1996, 1♀. **Gümüşhane:** Kale, 1300 m, 7.V.2002, 1♀.

Distribution in Turkey: Gümüşhane, Samsun and Trabzon (Benson, 1968).

General Distribution: Europe, Russia, Ukraine, Turkey, Transcaucasia, (Benson, 1968; Liston, 1995; Lacourt, 1999); Sibero-European.

Host Plant: Adults were collected from pastures. *Poa pratensis*, *P. palustris*, *Phleum pratense*, *Alopecurus pratense*, *Avena* spp., *Carex* spp., *Juncus* spp., *Scirpus* spp., *Triticum* spp. and *Cyperaceae* were listed as host plants (Benson, 1968; Taeger and Blank, 1998; Lacourt, 1999).

Dolerus puncticollis C.G. Thomson, 1871

Synonym: *D. croaticus* Konow, 1890.

Material Examined: Ardahan: 20.V.1972, 1♀. Bingöl: Çirişligeçidi, 2000 m, 3.VI.2001, 1♀. Erzurum: 1850 m, 4.V.1980, 1♀, 1.VI.1983, 1♀, University field, 1850 m, 18.IV.2000, 1♀, 30.IV.2001, 4♀♀, 23.V.2002, 4♂♂; Aşkale, 1700 m, 23.V.2000, 1♂, 1♀, Pirnakapan, 1750 m, 18.V.2000, 1♀; Dumlu, Köşk, 1850 m, 26.V.2002, 1♂; Ilica, Sorkunlu, 1900 m, 28.V.2000, 1♀; İspir, Madenköprübaşı, 1400 m, 17.VII.1992, 3♀♀; Oltu, 1400 m, 19.V.1999, 1♀, Ballica, 1400 m, 14.V.1997, 6♀♀, Kaleboğazı, 1350 m, 25.IV.2000, 5♂♂, 9♀♀, Sarısaz, 1450 m, 17.V.2000, 1♀, Tavşantepe, 1400 m, 11.IV.2001, 1♂; Pasinler, 1700 m, 10.VI.1983, 1♀; Şenkaya, Turnalı, 1750 m, 25.V.1994, 2♂♂. Gümüşhane: 20 km SE, 7.V.2002, 1♀. Kars: Sarıkamış, Karakurt, 1400 m, 2.V.2000, 1♀.

Distribution in Turkey: Erzurum, Gümüşhane, Rize and Samsun (Benson, 1968).

General Distribution: Europe, Russia, Ukraine, Caucasus, Turkey, Iran, Asia, Israel, Algeria (Benson, 1968; Cingovski, 1982; Lacourt, 1999); Asiatic-European.

Host Plant: Larvae feed on *Dactylis glomerata* and *Poa* spp. in pastures, particularly in the vicinities of wetlands. Taeger and Blank (1998) and Lacourt (1999) gave Graminae as host plants.

Dolerus triplicatus (Klug, 1818)

Synonym: *D. trimaculatus* Audinet-Serville, 1823; *D. dimidiatus* Audinet-Serville, 1823; *D. lugubris* Gimmerthal, 1834; *Tenthredo tremula* Klug, 1818.

Material Examined: Artvin: Kalburlu, 300 m, 13.V.2000, 3♂♂. Bayburt: Kopdağı, 2300 m,

16.VI.2000, 1♂. Erzincan: Tercan, Yaylacık, 1600 m, 10.VI.1999, 3♂♂. Erzurum: University field, 1850 m, 3.VI.2000, 14♂♂, 10.VI.2000, 1♂, Köşk, 1850 m, 20.VI.1996, 1♂; Aras Vadisi, 1700 m, 23.V.2001, 2♂♂; Aşkale, 1700 m, 9.VI.1989, 1♂; Ilica, Atlıkonak, 2000m, 11.VI.2000, 2♀♀, Eğerti, 1900 m, 16.VI.2002, 4♂♂; Narman, Kireçlidağı, 2200 m, 2.VII.2000, 1♂; Oltu, Tutmaç-Başaklı, 2000 m, 1.VII.2000, 1♂; Pasinler, 1700 m, 3.VII.1983, 1♂; Tortum, Kireçlidağı, 2100 m, 25.VI.1999, 1♂. Kars: Karakurt, 1600 m, 23.V.2001, 1♂, 4.VI.2000, 5♂♂.

Distribution in Turkey: Ankara, Edirne, Erzurum and Gümüşhane (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Ukraine, Caucasus (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Sibero-European.

Host Plant: Adults were mostly collected from pastures. Liston (1995), and Tager and Blank (1998) gave *Juncus filiformis* and *J. effusus* as host plants of this species.

Loderus Konow, 1890

Synonym: *Dicrodolerus* Goulet, 1986

Loderus eversmanni Kirby, 1882

Synonym: *Tenthredo palmatus* auct., nec Klug, 1818; *Dolerus fumosus* Eversmann, 1847, nec Stephens, 1835; *D. trigeminus* Konow, 1884.

Material Examined: Bayburt: Kopdağı, 2300 m, 15.VI.2002, 1♀. Erzurum: Dumlu, 1850 m, 25.VI.2002, 1♂, Köşk, 1850 m, 20.VI.1996, 1♀; Aras Vadisi, 1700 m, 23.V.2001, 2♂♂, 2♀♀; Aşkale, Aşağıkop, 1900 m, 29.V.2001, 1♂; Horasan, 1700 m, 4.VI.2000, 2♀♀; Uzundere, Gölbaşı, 1000 m, 13.V.2000, 1♀. Kars: Sarıkamış, Karakurt, TCK Çeşmesi, 1600 m 4.VI.2000, 1♀.

Distribution in Turkey: Erzurum, Gümüşhane, Samsun and Trabzon, (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Ukraine, Caucasus, Transcaucasia, Siberia, Japan, Mongolia, China, North America (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Equisetum arvense*, *E. palustre* (Liston, 1995; Lacourt, 1999).

Loderus pratensis (Linne, 1758)

Material Examined: **Bayburt:** Maden, 1650 m, 16.VI.2000, 1♀. **Erzurum:** Ilica, Sorkunlu, 1900 m, 28.V.2000, 2♂♂, 2♀♀.

Distribution in Turkey: New record for Turkish fauna.

General Distribution: Europe, Russia, Ukraine, Central Asia, Siberia, Mongolia, Kenya (Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Equisetum* spp., *E. heliocharis* (Liston, 1995; Lacourt, 1999).

Loderus vestigialis (Klug, 1818)

Synonym: *L. vestigialis* var. *ruficollis* Enslin, 1913; *Tenthredo vestigialis* var. *plaga* Klug, 1818; *Dolerus rufipes* Audinet-Serville, 1823;.

Material Examined: **Artvin:** Borçka, Karagöl, 1050 m, 8.VII.1994, 1♀. **Erzurum:** Ilica, Sorkunlu, 1900 m, 28.V.2000, 1♀; Oltu, 1400 m, 19.V.1999, 1♂; Şenkaya, Turnalı, 1750 m, 15.V.1994, 1♂.

Distribution in Turkey: Gümüşhane, Rize and Trabzon (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Ukraine, Caucasus, Siberia, Japan, Iran, Pakistan, North America (Benson, 1968; Medvedev, 1994; Lacourt, 1999); Holarctic.

Host Plant: *Equisetum palustre*, *E. sylvaticum*, *E. arvense*, *E. pratense* (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Subfamily Nematinae

The species belonging to this family are mostly small or at most medium-sized, 3-11 mm long, with highly varied shapes, from very plump to cigar-shaped. In addition, they may be from light yellow or green to black. The representatives of this group are highly variable and are perhaps coming to the acme of their phylogenetic evolution having many external morphological characteristics. The larvae mostly feed freely on the leaves of their host plants. Some develop within galls, and others roll back the edges of leaves and feed within this tube. A number of species cause serious damage to forests. The members of Nematinae are almost exclusively confined to the northern hemisphere with nearly 40 valid genera, of which 17, in 2 tribes, are found in Europe (Zombori, 1984)

Cladius Illiger, 1807

Synonym: *Eudryas* Gistel, 1848

Cladius ordubadensis Konow, 1892

Material Examined: **Artvin:** Ormanlı, 300 m, 12.V.2000, 1♀. **Erzurum:** Ilica, Atlıkonak, 2000 m, 29.VI.1999, 1♀; Oltu, İnanmış, 1700 m, 26.VII.2000, 1♂; Şenkaya, Turnalı, 1750 m, 25.VII.1996, 1♀.

Distribution in Turkey: New record for Turkish fauna.

General Distribution: Holarctic Region (Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Rosa* spp., *Fragaria* spp., *Potentilla palustris*, *Filipendula ulmaria*, *Sanguisorba minor*, *S. officinalis*, *Alchemilla vulgaris* (Lacourt, 1999).

Cladius pectinicornis (Geoffroy, 1785)

Synonym: *C. geoffroyi* Audinet-Serville, 1823; *C. morio* Audinet-Serville, 1823; *C. rufipes* Blanchard, 1840; *C. isomerus* Norton, 1861; *C. ramicornis* André, 1880; *C. gracilicornis* Konow, 1884; *C. comari* Stein, 1886; *C. hyalinopterus* Konow, 1886; *C. ordubadensis* Konow, 1892; *C. palmicornis* Konow, 1892; *C. major* Cobelli, 1892; *C. orientalis* Cameron, 1902; *C. tibialatus* Konow, 1906; *Tenthredo alces* Thünberg, 1789; *T. difformis* Panzer, 1799; *Nematus crassicornis* Stephans, 1835.

Material Examined: **Ankara:** Bağlum, 21.VII.1995, 1♀. **Artvin:** Yusufeli, İshan, 16.VI.2001, 1♂, 21.IX.2000, 1♂. **Bayburt:** Yoncalıkyaylası, 2700 m, 5.VII.2000, 1♂. **Erzincan:** Kemaliye, Başpınar, 950 m, 29.IX.1999, 1♀. **Erzurum:** University field, 1850 m, 14.VIII.1997, 1♀, Konaklı, 2000-2400 m, 22.VII.2000, 1♂; Ilica, Atlıkonak, 2000 m, 13.VI.2002, 1♂, Rizekent, 2000 m, 10.VIII.1999, 1♀, Sorkunlu, 1900 m, 10.VIII.1999, 1♂, 1♀; Köprüköy, Örentaş, 1900-2100 m, 12.VI.2000, 1♂; Oltu, Ayvalı, 1100 m, 20.IX.2000, 1♂, Sütkans, 1500 m, 25.VI.1996, 1♂; Olur, Yeşilbağlar, 1100 m, 16.VI.2001, 1♂; Şenkaya, Turnalı, 1750 m, 25.VII.1996, 1♀; Tortum, 1500 m, 27.VII.1998, 1♀, Aşağısivri, 1700 m, 19.VIII.1998, 5♀♀; Uzundere, Ulubağ, 1000 m, 20.IX.2000, 1♂. **Kars:** Sarıkamış, 1900 m, 9.VIII.2000, 1♂. **Konya:** Güneysınır, Güragaç, 1000 m, 8.VIII.2002, 1♂, 1♀, Sille, 1050 m, 10.VIII.1999, 1♀.

Distribution in Turkey: Amasya, Bolu, Samsun and Tokat (Benson, 1968; Wolf, 1968).

General Distribution: Europe, Turkey, Transcaucasia, North Iran, Himalayas, North Asia, Siberia, Japan, North Africa, North America, (Benson, 1968; Cingovski, 1982; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: Larvae were collected on *Rosa* spp. Other host plants listed in the literature are: *Poterium sanguisorba*, *Lamiastrum galeobdolon* *Rosa hybrida*, *R. luciae*, *R. mutiflora*, *R. wichuraiana*, *R. canina*, *R. acicularis*, *Filipendula ulmaria*, *Galeobdolon luteum*, *Sanguisorba minor*, *S. officinalis*, *Alchemilla vulgaris*, *Fragaria* spp. and *Potentilla palustris* (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Craesus Leach, 1817

Synonym: *Croesus* Curtis, 1824

Craesus septentrionalis (Linne, 1758)

Synonym: *Tenthredo alni* Linne, 1758; *T. largipes* Retzius, 1783; *Nematus laticrus* Villaret, 1832; *N. stephensii* Newman, 1837.

Material Examined: Erzurum: University field, 1850 m, 23.V.1976, 12♂♂, 2♀♀, 5.VI.1976, 2♀♀, 6.VI.1983, 2♂♂, 1♀, 9.VI.1976, 8♂♂, 6♀♀, 15.VI.1976, 1♀, 16.VI.1976, 27♂♂, 2♀♀, 19.VI.2000, 1♂, 1♀, 9.VII.1973, 1♂, 20.VII.1999, 1♀.

Distribution in Turkey: Ankara, Edirne, İstanbul and Trabzon (Benson, 1968; Çanakçıoğlu and Mol, 1998).

General Distribution: Europe, Turkey, Russia, Central Asia, Caucasus (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Asiatic-European.

Host Plant: Some larvae were observed feeding on the leaves of birch trees, *Betula verrucosa* on the campus of Atatürk University in June 2002. The population was very low, however. Özbek indicated that there was an outbreak of this species in the 1980s on the campus. Other hosts were listed as *Carpinus betulus*, *Alnus glutinosa*, *A. incana*, *Betula alba*, *B. pendula*, *Corylus avellana*, *Fraxinus excelsior*, *Populus* spp. and *Salix pentandra* by various authors (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

Hoplocampa Hartig, 1837

Synonym: *Macgillivraya* Ashmead, 1898; *Macgillivrayella* Ashmead, 1898.

Hoplocampa brevis (Klug, 1816)

Synonym: *Tenthredo (Selandria) fallax* Audinet-Serville, 1823.

Material Examined: Erzincan: 1300 m, 10.V.1980, 7♀♀.

Distribution in Turkey: It has a country-wide distribution in Turkey (Özbek et al., 1995).

General Distribution: Europe, Crete, Cyprus, Turkey, Russia, Transcarpathia, Moldova, Crimea, Transcaucasia, Caucasus, North America (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Sibero-European.

Host Plant: It is an important pear pest in the country (Erden, 1988; Özbek et al., 1995). Liston (1995) and Taeger and Blank (1998) gave *Malus* sp. and *Pyrus* spp. as host plants.

Hoplocampa flava (Linne, 1746)

Synonym: *H. apicaris* Kirby, 1882; *H. minuta* auct. Angl., nec Christ, 1791; *Tenthredo pruni* L., 1758; *T. ruficapilla* Gmelin, 1790; *T. glaucopsis* Rossi, 1790; *T. brunnea* Klug, 1816; *T. (Selandria) verticata* Audinet-Serville, 1823; *Hylotoma ferruginea* Fabricius, 1804; *H. simplex* Fallén, 1807.

Material Examined: Erzurum: Oltu, Kaleboğazı, 1350 m, 18.V.2001, 3♂♂, 4♀♀, Orcuk, 1400 m, 21.V.2001, 5♂♂, 3♀♀; Tortum, Aksu, 1500 m, 23.V.2002, 3♂♂, 5♀♀; Uzundere, Şelale, 1100 m, 16.V.2000, 7♂♂, 5♀♀.

Distribution in Turkey: Antalya (Benson, 1968).

General Distribution: Europe, Turkey, Israel, Russia, Transcaucasia, Caucasus, Baltic Region (Benson, 1968; Medvedev, 1994; Lacourt, 1999); Asiatic-European.

Host Plant: We observed that the larvae are important pest on young fruits of the wild plum, *Prunus* sp., along the narrow valleys of Oltu, Tortum and Uzundere districts. Özbek et al. (1995) also indicated that it is a destructive pest of wild plum in some locations in the north-east agricultural region of Turkey. Liston (1995), Taeger and Blank (1998) and Lacourt (1999) listed the hosts of this species as *Prunus avium*, *P. cerasus*, *P. domestica*, *P. mahaleb* and *P. spinosa*.

Nematus Panzer, 1801

Nematus myosotidis Fabricius, 1804

Synonym: *N. ephippiger* Hartig, 1840; *N. flavicomus* Tischbein, 1846; *N. nigricans* Eversmann, 1847; *N. brevisculus* Eversmann, 1847; *N. caudalus* Eversmann, 1847; *N. gemellus* Förster, 1854; *N. marshalli* Cameron, 1875; *N. cirrhostomus* Zaddach in Brischke, 1883; *Pristiphora myosotidis* Stephens, 1835.

Material Examined: Artvin: Şavşat, Karagöl, 1650 m, 8.VII.1998, 1♀. Erzincan: Kemaliye, Sandıklı, 1800 m, 2.VI.1982, 1♀.

Distribution in Turkey: Amasya, Giresun, Gümüşhane, Samsun and Trabzon (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Siberia, Armenia (Benson, 1968; Cingovski, 1982; Medvedev, 1994; Liston, 1995; Lacourt, 1999); West Palaearctic.

Host Plant: *Onobrychis* sp., *Trifolium* spp., *Vicia cracca*, *Lathyrus pratensis* *Rubus* spp., *Potentilla* spp., *Geum* spp., *Filipendula ulmaria*, *Spiraea* spp. (Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

***Nematus viridescens* Cameron, 1885**

Synonym: *N. virescens* auct., nec Hartig, 1837; *Pteronidea poecilnotus* Zaddach, 1876.

Material Examined: Rize: Çamlıhemşin, Ayder, 1200-1550 m, 30.VII.2000, 3 ♀♀.

Distribution in Turkey: New record for Turkish fauna.

General Distribution: Europe, Russia, Central Asia (Liston, 1995; Lacourt, 1999).

Host Plant: *Betula alba*, *B. pendula* (Lacourt, 1999); Asiatic-European.

***Pristiphora* Latreille, 1810**

Synonym: *Diphadnus* Hartig, 1837; *Neotomostethus* MacGillivray, 1908; *Sala* Ross, 1937.

***Pristiphora fulvipes* Fallen, 1808**

Synonym: *P. vicina*, auct., nec Audinet-Serville, 1823; *Tenthredo fulvipes* Fallen, 1808, nec Scopoli, 1763.

Material Examined: Erzurum: Oltu, Çamlıbel, 1700 m, 14.VII.1996, 1♀, Sütkans, 1700 m, 25.VI.1996, 1♀; Pasinler, Pelitli, 2000 m, 14.VII.1998, 1♀.

Distribution in Turkey: Samsun and Trabzon (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Transcaucasia, Caucasus, Central Asia, Siberia, Korea (Benson, 1968; Medvedev, 1994; Lacourt, 1999); Asiatic-European.

Host Plant: Larvae feed on the leaves of *Salix* spp. Lacort (1999) gave *C. aurita* as the host plant of *P. fulvipes*.

***Trichiocampus* Hartig, 1837**

***Trichiocampus viminalis* Fallen, 1808**

Synonym: *Tenthredo viminalis* Fallen, 1808, nec Schrank, 1796; *Cladius eucera* Bouche, 1834; *C. luteicornis* Stephens, 1835; *C. luteiventris* Dahlbom, 1836; *Aulacomerus lutescens* Lintnet, 1888; *Platycampus victoria* MacGillivray, 1920.

Material Examined: Erzurum: 1850 m, 3.VI.1985, 1♂, University field, 1850 m, 20.II.2001, 2♂♂, 7.V.2001, 5♂♂, 6♀♀, 25.VII.2000, 2♀♀, 7.VIII.1999, 2♀♀, 8.VIII.1999, 1♀, 20.VIII.1998, 1♀.

Distribution in Turkey: Antalya, Bursa, Edirne, Eskişehir, İstanbul, İzmit, Karabük and Konya (Baş, 1973; Chevin and Chenon, 1982; Çanakçıoğlu and Mol, 1998).

General Distribution: Europe, Russia, (Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: Based on our observations, the larvae are a pest on *Populus nigra* and *P. tremula* on the campus of Atatürk University. Adults appear at the end of June, and the females deposit their shining eggs in 2 rows on the petioles of the leaves. In a week or 10 days the eggs hatch, and during July larvae are found feeding together mostly on the tips of the leaves, skeletonizing them. Later they scatter and continue feeding along the margins of the leaves, leaving only mid-ribs. Newly hatched larvae are nearly uniformly green and have conspicuous hairs. As they grow, the colour of the body changes to yellowish green and later in the full-grown stage to yellow. When fully grown, the larvae drop to the ground and enter the soil, where they later metamorphose within their cocoons to the pupal stage. It is an important defoliator of *Populus* species in some years, with outbreaks occurring at 2- to 4-year intervals on the campus. *Populus*, *Salix*; *Populus balsamifera*, *Salix caprea*, *Populus nigra*, *Populus tremula*, *P.t. x euAmericana*, *Populus nigra*, *P. balsamifera*, *P. x-canadensis*, *P. tremul* and *Salix caprea* were listed as the hosts of this species (Liston, 1995; Çanakçıoğlu and Mol, 1998; Taeger and Blank, 1998; Lacourt, 1999).

Subfamily Selandrinae

The species belonging to this subfamily are mostly small or medium-sized, 3-15 mm long, frequently gracile and dark. The great majority of the larvae feed freely on the leaves of the host plant; some have mining habits, while one causes a gall and develops in that. The host

plants vary from ferns to arborescent plants. Selandrinae are distributed all over the world, being dominant in South-East Asia and in the tropical forests of South America. A total of some 170 genera are known, of which 35 are represented in Europe (Zombori, 1981).

***Aneugmenus* Hartig, 1837**

Synonym: *Colposelandria* Enslin, 1912; *Atoposelandria* Enslin, 1913; *Polyselndria* MacGillivray, 1914; *Selandropha* Zirngiebl, 1956.

***Aneugmenus padi* Linne, 1761**

Synonym: *Allantus laticinctus* Brullé, 1832; *Tenthredo stramineipes* Klug, 1818; *T. (Selandria) albipes* Audinet-Serville, 1823, nec Geoffroy, 1785; *Selandria rufitarsis* Brullé, 1832; *S. vollenhoveni* Gribodo, 1880; *S. urbis* Ross, 1930.

Material Examined: Artvin: Borçka, Karagöl, 1050 m, 8.VIII.1994, 1♀; Ormanlı, 300 m, 12.V.2000, 1♀.

Distribution in Turkey: İstanbul, Mersin, Rize, Samsun and Tokat (Benson, 1968).

General Distribution: Europe, Russia, Ukraine, Turkey, Caucasus, Siberia, North Africa, North America, Canada (Benson, 1968; Cingovski, 1982; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Pteridium aquilinum*, *Asplenium* sp. (Liston, 1995, Lacourt, 1999).

***Nesoselandria* Rohwer, 1910**

Synonym: *Neobusarbia* Takeuchi, 1928; *Dulophanella* Forsius, 1934; *Melisandra* Benson, 1939; *Anapeptamena*, auct., nec Konow, 1898; *Corrugia* Malezya, 1944; *Phanodules* Pasteels, 1949.

***Nesoselandria morio* Fabricius, 1781**

Synonym: *Tenthredo ulmi* Schrank, 1802, nec Linne, 1758; *T. tristis* Audinet-Serville, 1823, nec Fabricius, 1804; *Emphytus infuscatus* Eversmann, 1847; *Selandria fabricii* Konow, 1885; *Melisandra morio* Fabricius, 1781.

Material Examined: Erzurum: Dumlu, 1850 m, 28.VII.1994, 1♀.

Distribution in Turkey: Ankara, Rize, Sinop and Trabzon (Benson, 1968).

General Distribution: Europe, Turkey, Russia, Ukraine, Transcaucasia, Caucasus, Siberia, Pacific Coastal Region, China, Korea, Japan, North America, (Benson,

1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Holarctic.

Host Plant: *Brachytecium reflexum*, *Ceratodon purpureus*, *Chenopodium album*, *Dicranum scoparium*, *Fragaria vesca*, *Hedwigia ciliata*, *Myosotis arvensis*, *Plagiomnium cuspidatum*, *Plagiothecium denticulatum*, *Polygonum aviculare*, *Polytrichum commune*, *Pseudobryum cinclidoides*, *Sanionia uncinata*, *Stellaria media*, *Veronica chamaedrys*, *V. officinalis* (Taeger and Blank, 1998; Lacourt, 1999).

***Selandria* Leach, 1817**

***Selandria serva* Fabricius, 1793**

Synonym: *S. dorsalis* Stephens, 1835; *S. exica* Konow, 1885; *S. serva* var. *interstitialis* Konow, 1885, nec Thomson, 1871; *S. serva fuscitarsis* Benson, 1954; *Tenthredo serva* var. *mascula* Fallen, 1807; *T. socia* Klug, 1816; *T. (Allantus) lepida* Audinet-Serville, 1823; *T. serva* var. *mediocris* Le Peletier, 1823.

Material Examined: Erzurum: Yeşildere, 2000 m, 18.VI.1982, 2♂♂, 1♀, Oltu, Çamlıbel, 1750 m, 2.VII.1999, 1♀; Pasinler, 1700 m, 1.VIII.1983, 1♂.

Distribution in Turkey: Ankara, Erzurum, Giresun, İstanbul, Samsun, Tokat, Trabzon and Zonguldak (Benson, 1968; Chevin and Chenon, 1982).

General Distribution: Europe, Russia, Ukraine, Turkey, Iran, Transcaucasia, Caucasus, Siberia, Crimea, Pacific Coastal Region, Mongolia, China, Korea, Manchuria (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Asiatic-European.

Host Plant: Adults were collected on pastures and meadows. *Poa pratensis*, *Carex* spp., *Juncus* spp., *Triticum* spp., *Alopecurus pratensis*, *Festuca pratensis*, *Lolium* spp., *Phalaris arundinacea*, *Phleum pratense*, *Alopecurus pratensis* were listed as host plants of this species (Benson, 1968; Liston, 1995; Taeger and Blank, 1998; Lacourt, 1999).

***Strongylogaster* Dahlbom, 1835**

Synonym: *Thrinax* Konow, 1885; *Pseudotaxonus* Costa, 1894; *Polystichophagus* Ashmead, 1898; *Prototaxonus* Rohwer, 1910.

***Strongylogaster lineata* Christ, 1791**

Synonym: *S. iridipennis* Smith, 1874; *S. creyensis* Konow, 1887; *S. desbrochersi* Konow, 1891; *S. annularis* Matsumura, 1912; *Tenthredo lineata* Christ,

1791; *T. cingulata* Fabricius, 1793, nec Scopoli, 1763; *T. linearis* Klug, 1817, nec Schrank, 1781; *T. (Allantus) alternans* Audinet-Serville, 1823.

Material Examined: Artvin: Genye Dağı, 1800 m, 11.VII.2002, 1♀; Hopa, 200 m, 15.VIII.1994, 1♀.

Distribution in Turkey: İstanbul, Rize, Samsun and Sinop (Benson, 1968).

General Distribution: Europe, Crete, Turkey, Russia, Ukraine, Transcaucasia, Iran, Siberia, Japan, Taiwan, North Africa (Benson, 1968; Medvedev, 1994; Liston, 1995; Lacourt, 1999); Asiatic-European.

Host Plant: *Dryopteris* spp., *Matteucia struthiopteris*, *Pteridium aquilinum* (Liston, 1995; Lacourt, 1999).

Discussion

Contributions to the knowledge of Turkish typical sawflies, Tenthredinidae, are treated in 2 parts. In the first part the subfamily Tenthredininae, and in the second part the subfamilies Blennocampinae, Dolerinae, Nematinae and Selandrinae are discussed. A total of 104 species in 33 genera are recorded. Of these *Cuneala koehleri* Klug, *Elinora baetica* Spinola, *Elinora ornata* André, *Macrophya militaris* Klug, *Macrophya teutonia* Panzer, *Tenthredo maculata* Geoffroy, *Tenthredo notha* Klug, *Tenthredo vespiformis* Schrank, *Tenthredopsis*

albonotata (Brullé), *Tenthredopsis festiva* Konow, *Tenthredopsis sordida* Klug (Tenthredininae), *Allantus vienensis* (Schrank), *Apethymus apicalis* (Klug), *Eutomostethus ephippium* (Panzer), *Monophadnoides puncticeps* (Konow) (Blennocampinae), *Loderus pratensis* (Linne) (Dolerinae), *Cladius ordubadensis* Konow and *Nematus viridescens* Cameron (Nematinae) were new records for Turkish fauna. In addition, *Elinora baetica*, *Tentredo maculata* and *Tenthredopsis sordida* were new records for Asian fauna.

Lacourt (1999) listed 198 species in 60 genera occurring in Turkey in his catalogue. With the present contributions the numbers of recorded species of Tenthredinidae in Turkey has increased to 215. It is obvious that this figure is rather low if compared to the tenthredinid species occurring in some European countries, such as Germany (696), Switzerland (537), Romania (496), Italy (399), former Yugoslavia (285), Albania (131), Bulgaria (326) and Greece (114) (Liston, 1995), although Turkey has a larger surface area than all of these countries. This must be related to a lack of knowledge. Unfortunately, from a faunistic point of view, our knowledge with regard to Turkey is far from complete. As indicated previously, only 4 papers have been devoted to the sawfly fauna of the country (Guichard and Harvey, 1967; Benson, 1968; Wolf, 1968 Chevin and Chenon, 1982). On the other hand, the percentage of

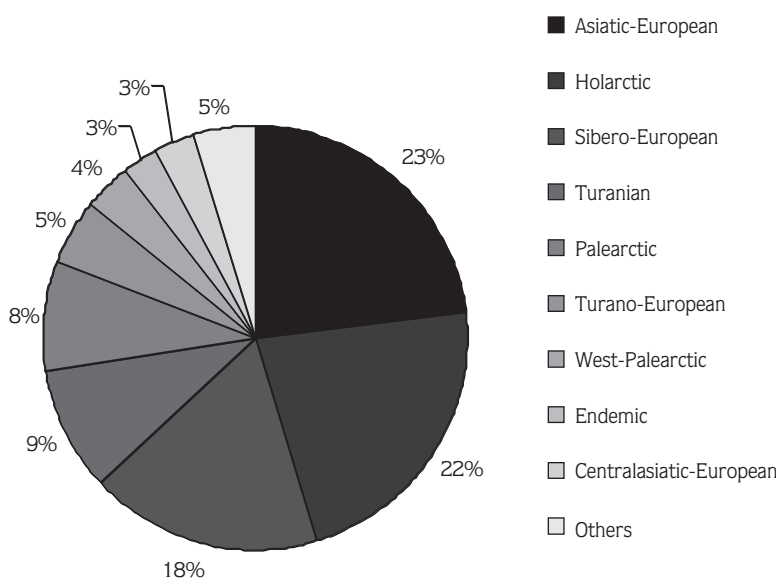


Figure. Percentage of chorotypes found in the typical sawflies (Tenthredinidae) of Anatolia. A total of 104 species were considered.

endemic species was also very low, with only 3 species, *Cuneala amasiensis* (Kriechbaumer), *Elinora asiatica* (Enslin), and *Tenthredopsis harveyi* (Benson) being endemics. The first 2 species have Anatolia-wide distributions. *Tenthredopsis harveyi* was described from only one female from Bolu (Benson, 1968). Since the time of that description a second female has been found in Erzurum. The distributions of these 3 species are not restricted to any particular part of Anatolia. Therefore, they can be regarded as Anatolian endemics, instead of West Anatolian or East Anatolian endemics.

It is possible that the real number of Tenthredinidae must be higher than recorded so far in Turkey because of its geographical position, climatic conditions and topographical structure. Anatolia is an important center of endemic speciation, as well as species richness, for many groups of insects. Based on this study it is evident that the Tenthredinidae fauna of Turkey is very poorly known, and must be carefully investigated. We suspect that many undescribed taxa remain to be discovered.

Based on their distributions, the typical sawflies recorded in the present study can be arranged in 14 chorotypes (Figure). The Asiatic-European elements are the most abundant, representing 23% of the whole fauna, followed by the Holarctic and Sibero-European elements with 22% and 18% respectively. Chorotypes representing large areas, such as the Holarctic,

Palaeartic, West Palaeartic, Asiatic-European, Central Asiatic-European and Sibero-European comprised 77% of all the species. Mediterranean, Turano-Mediterranean, Central Asiatic-Mediterranean, Turano-Anatolian, and Irano-Anatolian chorotypes were represented by 1 species each. Turanian and Turano-European chorotypes had 10 and 5 species respectively, and constituted about 14% of all the species. Interestingly, the species representing new records have similar distributions to previously known species. They can be grouped in 8 chorotypes: the Sibero European has 5 species, and the Holarctic and Asiatic-European have 4 and 3 species, respectively. The Mediterranean, Turano-Anatolian, Turanian and Palaeartic chorotypes are represented by 1 species, and the Turano-European by 2 species.

Since the typical sawfly species recorded in Anatolia were mostly in chorotypes occupying large areas, such as the Holarctic, Palaeartic, Asiatic-European and Sibero-European etc., we assume that most of the species could have reached the Anatolian Peninsula from Europe and the Mediterranean Region. Although a Turanian influence is present, the European and Mediterranean influence predominates. However, we must admit that because of inadequate information on the typical sawfly fauna of Turkey we are unable to postulate a center for origin of the tenthredinids, of their Anatolian colonization routes.

References

- Baş, R. 1973. Türkiye'de orman ağaçlarında zarar yapan zar kanatlılar (Hymenoptera) üzerinde araştırmalar. Orm. Bak. Orm. Gn. Md. Yay. No: 570, Seri No: 23.
- Benson, R.B. 1968. Hymenoptera from Turkey, Symphyta. Bulletin of the British Museum (N.H.) Entomology 22(4): 4-207.
- Birkardeşler, H. 1971. Marmara Bölgesinde Kiraz sülüşü (*Caliroa limacina* Retz.)'nin yayılışı, biyolojisi ve mücadelesi üzerinde araştırmalar. Bitki Koruma Bülteni 11(3): 181-201.
- Buhr, H. 1941. Beobachtungen über Nahrungspflanzen, Verbreitung und Auftreten von minierenden Blattwespen. Muench. Ent. Ges. Mitt. 31: 903-926.
- Chevin, H. and Chenon, R.D. 1982. Contribution a la faune des Hymenopteres Symphytes de Turquie. Bull. Ent. France 87: 44-47.
- Cingovski, J. 1980. Contribution to the knowledge of the fauna of sawflies on the mountain Galicica (Hymenoptera, Symphyta). Fragmenta Balcanica 10 (20): 175-189.
- Cingovski, J. 1982. Symphyta aus der sammlung des Instituts für pflanzenschutz in Belgrad (Hym., Symphyta). Fragmenta Balcanica 9(11): 97-110.
- Çalmaşur, Ö. and Özbek, H. A Contribution to the Knowledge of the Fauna of Tenthredinidae (Symphyta, Hymenoptera) of Turkey Part I: The Subfamily Tenthredininae. Turk J Zool (In press).
- Çanakçioğlu, H. and Mol, T. 1998. Orman Entomolojisi, Zararlı ve Yararlı Böcekler. İst. Üniv. Orman Fak. Yay. İstanbul.
- Erden, F. 1988. Erzincan Bölgesi yumuşak çekirdekli meyve ağaçlarının böcek kökenli zararlıları, tanınmaları ve önemlilerinin zararlılık durumları üzerinde araştırmalar. T.C. Tar. Or. ve Köyşleri Bak. Kor. ve Kont. Gen. Müd. Yayın Dairesi Bşk., Yayın No: 4, Ankara.
- Guichard, K.M. and Harvey, O.H. 1967. Collecting in Turkey 1959, 1960 and 1962. Bull. Br. Mus. Nat. Hirst. (Ent.) 19(4): 223-250.
- Güçlü, Ş. and Özbek, H. 1999. *Messa hortulana* (Klug) (Hymenoptera, Tenthredinidae), A new record and a new poplar pest for Turkey. Acta Ent. Bulg. 2-4: 72-75.

- Lacourt, P.J. 1999. Repertoire des Tenthredinidae Ouest-Palearctiques (Hymenoptera, Symphyta). Memories de la SEF, NO: 3, Societe Entomologique de France, Paris.
- Liston, A.D. 1995. Compendium of European Sawflies. Chalastos Forestry, Daibersdorf 6, Gottfrieding, Germany.
- Magis, N. 2002. Tenthredinidae recoltés en Bulgarie al'aide du "piege Malaise", sous les auspices du Musee d'Histoire Naturelle de Leiden. Notes fauniques de Gembloux 46: 13-22.
- Medvedev, G.S. 1994. Keys to the Insects of the European Part of the USSR. E. J. Brill, Vol. III. New York.
- Özbek, H. 1986. Erzurum'da Türkiye için yeni bir Huş (*Betula verrucosa* Ehrh.) zararlısı, *Fenusa pusilla* Lep. (Tenthredinidae, Hymenoptera). Türk. Bitki Kor. Derg. 10(2): 115-123.
- Özbek, H. 1989. Tahıl, Sebze, Yem ve Endüstri Bitki Zararlıları. Fen-Edebiyat Fak. Ofset Tesisleri. Erzurum.
- Özbek, H., Güçlü, Ş., Hayat, R. and Yıldırım, E. 1995. Meyve Bağ ve Bazı Süs Bitkileri Zararlıları. Atatürk Üniv., Ziraat Fak., Yayınları, No: 323. Erzurum.
- Shaw, M.R. 1978. Some sawfly (Hym., Symphyta) records from Greater Manchester county. Lancashire & Cheshire Fauna Committee. No: 73, 13-14.
- Taeger, A. and Blank, S.M. 1998. Pflanzenwespen Deutschlands (Hymenoptera, Symphyta). Goecke und Evers. Keltern.
- Wolf, F. 1968. Hymenopteres Symphytes de Turquie. Bull. Rech. Agron. Gembloux. (N.S.) 3(3): 562-565.
- Zhelochovtsev, A.N. and Zinovjev, A.G. 1996. A list of the sawflies and horn-tails (Hymenoptera, Symphyta) of the fauna of Russia and adjacent territories. II. Entomologicheskoe Obozrenie 75(2): 357-378.
- Zombori, L. 1981. The European genera of Selandriinae and Dolerinae (Hymenoptera: Symphyta, Tenthredinidae). Acta Zool. Acad. Sci. Hungaricae 27(3-4): 443-450.
- Zombori, L. 1982. The European genera of Blennocampinae (Hymenoptera: Symphyta, Tenthredinidae). Acta Zoologica Acad. Sci. Hungaricae 28(1-2): 183-192.
- Zombori, L. 1984. The European genera of Nematinae (Hymenoptera: Symphyta, Tenthredinidae). Acta Zoologica Acad. Sci. Hungaricae 30(3-4): 545-550.