

Orijinal araştırma (Original article)

Checklists of Turkish Eurytomidae Walker, 1832 and Torymidae Walker, 1833 (Hymenoptera, Chalcidoidea)¹

Türkiye Eurytomidae Walker, 1832 ve Torymidae Walker, 1833 (Hymenoptera, Chalcidoidea) familyalarının kontrol listeleri

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Summary

In the present paper, all available published data concerning Turkish Eurytomidae Walker, 1832 and Torymidae Walker, 1832 (Hymenoptera, Chalcidoidea) are summarized. The original material was collected between 2006 and 2008 in different regions of the country, mainly by sweeping. Some specimens were reared under laboratory conditions from galls on different plants and one species was collected by using Malaise trap. Checklists contain 82 species belonging to 9 genera of Eurytomidae Walker, 1832 and 62 species belonging to 18 genera of Torymidae Walker, 1832. Seven species of Eurytomidae Walker, 1832 and 9 species of Torymidae Walker, 1832 are new records for the Turkish fauna.

Key words: Eurytomidae, Torymidae, checklist, new record, Turkey

Özet

Bu eserde Türkiye Eurytomidae Walker, 1832 ve Torymidae Walker, 1833 (Hymenoptera, Chalcidoidea) türlerini içeren ulaşılabilen bütün eserler özetlenmiştir. Bu familyalara ait teşhisleri yapılan bireyler 2006 ve 2008 yılları arasında genellikle atrap kullanılarak toplanmıştır. Bazı türler laboratuvara kültüre alınan galler ve bitki kısımlarından elde edilmiş ve 1 tür de malaise tuzak kullanılarak toplanmıştır. Kontrol listesi Eurytomidae Walker, 1832 familyasının 9 cinsine bağlı 82 türden ve Torymidae Walker, 1833 familyasının 18 cinsine ait olan 62 türden oluşmaktadır. Eurytomidae Walker, 1832'nin 7 türü ve Torymidae Walker, 1833'nin 9 türü Türkiye faunası için yeni kayıttır.

Anahtar sözcükler: Eurytomidae, Torymidae, kontrol listesi, yeni kayıt, Türkiye

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Introduction

Eurytomidae Walker, 1832 is a cosmopolitan family with the highest species diversity in tropical regions. Currently, over than 1400 species and 78 genera are recognized as valid (Noyes, 2011). Most of eurytomids are primary parasitoids or hyperparasitoids on wide range of insect hosts, but the larvae of other species are phytophagous (gall-inducers, inquilines or seed-feeders).

Chalcid wasps of the family Torymidae Walker, 1833 number more than 960 species belonging to 73 genera and have worldwide distribution (Noyes, 2011). Torymids are predominantly parasitoids, but approximately 1/6 of the species are phytophagous (inquilines in galls or seed-feeders associated with coniferous trees and rosaceous plants) (Grissell, 1995).

The Turkish eurytomid and torymid fauna are not well known. Seventy five eurytomid and 53 torymid species were published before the present investigation.

Investigations on Eurytomidae in Turkey were started by Bouček (1952) with description of a new species (*Macrorileya femorata* (Boucek, 1952)), but more intensive taxonomic and faunistic studies were carried out in the last 10 years of the 20th century (Doğanlar, 1990; Zerova & Fursov, 1991; Narendran et al., 1995; Doğanlar & Çam, 1991; Bayram et al., 1998, 1999). A few eurytomids have been included in catalogues (OILB, 1971; Öncüer, 1991; Askew et al., 2006). Zerova et al. (2003), Doğanlar & Bolu (2004), Çobanoğlu & Doğanlar (2006), Sertkaya et al. (2006) also contributed to Eurytomidae fauna with description of new species and some regional studies.

The first record of Torymidae from Turkey is given by Novitzky (1954). Later, many authors recorded additional species to the Turkish fauna (Çanakçıoglu, 1959, 1969, 1990; Özkanç, 1982; Doğanlar, 1982, 1984, 1989a, 1989b; Öncüer, 1991; Bayram et al., 1998, 1999). The faunistic and taxonomic papers dealing with Torymidae family in Turkey have accumulated rapidly in recent years (Gençer, 2003; Roques & Skrzypczynska, 2003; Askew et al., 2004, 2006; Delvare, 2005; Doğanlar & Karadağ, 2008; Doğanlar & Doğanlar, 2008, 2009; Tarla et al., 2010; Doğanlar, 2011a, b).

The aim of this paper is to present checklists of Turkish Eurytomidae and Torymidae on the basis of published data and new records.

Material and Methods

The published data on Eurytomidae and Torymidae families in Turkey are summarized. The checklists comprise the following data: the valid taxon name, published records, and synonyms in records. Valid names are given according to Noyes (2011), Lotfalizadeh et al. (2007) and Grissell (1996).

The specimens were collected between 2006 and 2008 in different regions of the country, mainly by sweeping. Some specimens were reared at laboratory conditions from galls on different plants and one species was collected by using Malaise trap. The material is reserved in the authors' collections at the University of Plovdiv and Muğla University.

Results

In this study, 82 species belonging to nine genera of Eurytomidae and 62 species belonging to eighteen genera of Torymidae were presented. Sixteen of listed species, 7 species of Eurytomidae and 9 species of Torymidae, are new records for the Turkish fauna. New records are presented alphabetically with their distribution in Turkey.

Checklists of Turkish Eurytomidae Walker, 1832 and Torymidae Walker, 1833

Eurytomidae Walker, 1832

Subfamily Eurytominae

Aximopsis Ashmead, 1904

Aximopsis nodularis Boheman 1836: Kılınçer, 1983; Doğanlar, 1990 (as *Eurytoma nodularis* Boheman, 1836)

- Bruchophagus* Ashmead, 1888
- Bruchophagus astragali* Fedoseeva, 1954: Doğanlar, 1990
- Bruchophagus bajariae* (Erdös, 1957): Doğanlar, 1990
- Bruchophagus coluteae* Bouček, 1954: Doğanlar, 1990
- Bruchophagus coronillae* Szelenyi, 1975: Doğanlar, 1990
- Bruchophagus gibbus* (Boheman, 1836): Doğanlar, 1990
- Bruchophagus mutabilis* Nikolskaya, 1952: Doğanlar, 1990
- Bruchophagus platypterus* (Walker, 1834): New record for the Turkish fauna
- Bruchophagus robiniae* Zerova, 1970: Doğanlar, 1990
- Bruchophagus rodii* Gussakovsky, 1933: Doğanlar, 1990; Öncüler, 1991
- Eurytoma* Illiger, 1807
- Eurytoma aemula* Szelenyi, 1974: Doğanlar, 1990
- Eurytoma amygdali* Enderlein, 1907: Ekici & Günaydin, 1969; Bouček, 1977; Doğanlar, 1990; Zerova & Fursov, 1991; Doğanlar & Bolu 2004; Çobanoğlu & Doğanlar, 2006; Doğanlar et al., 2006; Bolu & Özgen, 2007
- Eurytoma appendigaster* (Swederus, 1795): Doğanlar, 1990
- Eurytoma aspila* (Walker, 1836): Askew et al., 2006
- Eurytoma augasmae* Zerova, 1977: New record for the Turkish fauna
- Eurytoma brevicoxa* Zerova et Cam, 2003: Zerova et al., 2003
- Eurytoma brunniventris* Ratzeburg, 1852: Doğanlar, 1990
- Eurytoma centaureae* Claridge, 1960: Doğanlar, 1990
- Eurytoma collaris* Walker, 1832: Doğanlar, 1990
- Eurytoma compressa* (Fabricius, 1794): Doğanlar, 1990 (as *Eurytoma tibialis* Boheman 1836)
- Eurytoma crambeae* Zerova, 1978: Doğanlar, 1990
- Eurytoma curculiorum* Mayr, 1878: Doğanlar, 1984, 1990; Öncüler, 1991
- Eurytoma curta* Walker, 1832: Öncüler, 1991, Doğanlar, 1984
- Eurytoma dentata* Mayr, 1878: Doğanlar, 1990; Sertkaya et al., 2006
- Eurytoma flavimana* Boheman, 1836: Doğanlar, 1990, Korkmaz et al., 2010
- Eurytoma goidanichi* Boucek, 1970: Doğanlar, 1990
- Eurytoma harmolitarum* Erdös, 1957: Doğanlar, 1990
- Eurytoma herbaria* Zerova, 1994: New record for the Turkish fauna
- Eurytoma infracta* Mayr, 1904: Doğanlar, 1990
- Eurytoma kemalpasensis* Narendran, Tezcan et Civelek, 1995: Narendran et al., 1995
- Eurytoma koeleriae* Erdös, 1969: New record for the Turkish fauna
- Eurytoma laserpitii* Mayr, 1878: Doğanlar, 1990
- Eurytoma lobopterae* Erdös, 1964: Bouček, 1977; Öncüler, 1991
- Eurytoma martellii* Domenichini, 1960: OILB 1971

- Eurytoma mayri* Ashmead, 1887: Doğanlar, 1990
- Eurytoma morio* Boheman, 1836: Doğanlar, 1990
- Eurytoma ochraceipes* Kalina, 1970: Doğanlar & Çam, 1991
- Eurytoma onobrychidis* Nikolskaja, 1933: Doğanlar, 1990
- Eurytoma pistaciae* Rondani, 1877: Bouček, 1952; Doğanlar, 1990; Doğanlar & Çam, 1991; Öncüler, 1991; Özbeğ et al., 1999; Gençer, 2003; Askew et al., 2006; Doğanlar & Karadağ, 2008
- Eurytoma plotnikovi* Nikolskaya, 1934: Doğanlar & Karadağ, 2008, Doğanlar & Doğanlar, 2010; Doğanlar et al., 2010
- Eurytoma robusta* Mayr, 1878: Bouček, 1952; Doğanlar, 1984, 1990; Öncüler, 1991
- Eurytoma rosae* Nees, 1834: Doğanlar, 1984; 1990; Bayram et al., 1998; Öncüler, 1991; Özbeğ et al., 1999; Gençer, 2003
- Eurytoma rufipes* Walker, 1832: Doğanlar, 1990
- Eurytoma schreineri* Schreiner, 1908: Özbeğ et al., 1996
- Eurytoma serratulae* (Fabricius, 1798): Doğanlar, 1984; Öncüler, 1991
- Eurytoma strigifrons* Thomson, 1875: New record for the Turkish fauna
- Eurytoma tokatensis* Doganlar et Cam, 1991: Doğanlar & Çam, 1991
- Eurytoma turkezia* Zerova et Cam, 2003: Zerova et al., 2003; Zerova & Seryogina, 2006
- Eurytoma verticillata* (Fabricius, 1798): Doğanlar, 1990
- Exeurytoma* Burks, 1971
- Exeurytoma anatolica* Cam, 1998: Doğanlar & Çam, 2005
- Exeurytoma kebanensis* Doganlar, 2005: Doğanlar & Çam, 2005
- Rileya* Ashmead, 1888
- Rileya asiatica* Zerova, 1976: New record for the Turkish fauna
- Rileya doganlari* Çam, 2003: Çam, 2003
- Sycophila* Walker, 1871
- Sycophila biguttata* (Swederus, 1795): Doğanlar, 1984, 1990; Öncüler, 1991; Bayram et al., 1999; Gençer, 2003
- Sycophila flavicollis* (Walker, 1834): Doğanlar, 1990
- Sycophila mayri* (Erdős, 1959): Doğanlar, 1990
- Sycophila submutica* (Thomson, 1876): Doğanlar, 1990; Askew et al., 2006
- Sycophila variegata* (Curtis, 1831): Doğanlar, 1984, 1990; Öncüler, 1991
- Systole* Walker, 1832
- Systole albipennis* Walker, 1832: Doğanlar, 1990
- Systole bipunctata* Erdős, 1952: Doğanlar, 1990
- Systole brunnicornis* Zerova et Cam, 2003: Zerova et al., 2003, 2004
- Systole conspicua* Erdős, 1951: New record for the Turkish fauna
- Systole coriandri* Gussakovsky, 1933: Doğanlar, 1990
- Systole minima* Zerova et Cam, 2003: Zerova et al., 2003

- Systole plana* Zerova et Cam, 2004: Zerova et al., 2004
Systole salviae Zerova, 1968: Doğanlar, 1990
Systole tokata Zerova et Cam, 2004: Zerova et al., 2004
Tetramesa Walker, 1832
Tetramesa agrostidis (Howard, 1896): Doğanlar, 1990
Tetramesa anatolica Zerova et Cam, 2003: Zerova et al., 2003
Tetramesa angustipenne (Walker, 1832): Doğanlar, 1990
Tetramesa brevicornis (Walker, 1832): Doğanlar, 1990
Tetramesa cornuta (Walker, 1832): Doğanlar, 1990
Tetramesa elongia Zerova, 2007: Doğanlar, 1990
Tetramesa fulvicollis (Walker, 1832): Doğanlar, 1990
Tetramesa fumipennis (Walker, 1832): Doğanlar, 1990
Tetramesa giraudi (Schlechtendal, 1891): Doğanlar, 1990
Tetramesa longula (Dalman, 1820): Doğanlar, 1990
Tetramesa maderae (Walker, 1849): Öncüler, 1991, Korkmaz et al., 2010
Tetramesa romana (Walker, 1873): Doğanlar & Doğanlar, 2010
Tetramesa tritici (Fitch, 1859): Doğanlar, 1990, Korkmaz et al., 2010
Subfamily Buresiinae
Macrorileya Ashmead, 1900
Macrorileya femorata (Boucek, 1952): Bouček, 1952 (as *Archirileya femorata* (Boucek, 1952)); Öncüler, 1991 (as *Archirileya femorata* (Boucek, 1952))
Macrorileya inopinata (Silvestri, 1920): Lodos & Öncüler, 1986 (as *Archirileya inopinata* (Silvestri, 1920)); Öncüler, 1991 (as *Archirileya inopinata* (Silvestri, 1920))
Torymidae Walker, 1832
Subfamily Megastigminae
Bootanomyia Girault, 1915
Bootanomyia almusiensis (Doganlar, 1989): Doğanlar, 1989b (as *Megastigmus almusiensis* Doganlar, 1989); Doğanlar, 2011b
Bootanomyia balikesirensis Doganlar, 2011: Doğanlar, 2011b
Bootanomyia dorsalis (Fabricius, 1798): Doğanlar, 1984 (as *Megastigmus dorsalis* (Fabricius, 1798)); Öncüler, 1991 (as *Megastigmus dorsalis* (Fabricius, 1798)); Bayram et al., 1999 (as *Megastigmus dorsalis* (Fabricius, 1798)); Doğanlar, 2011b
Bootanomyia emrezaferi Doganlar, 2011: Doğanlar, 2011b
Bootanomyia hepdurgunae Doganlar, 2011: Doğanlar, 2011b
Bootanomyia mehmeti Doganlar, 2011: Doğanlar, 2011b
Bootanomyia onuri Doganlar, 2011: Doğanlar, 2011b
Bootanomyia shebnemae Doganlar, 2011: Doğanlar, 2011b
Bootanomyia stigmatizans (Fabricius, 1798): Doğanlar, 2011b

- Bootanomyia synophri* (Mayr, 1874): New record for the Turkish fauna
- Megastigmus* Dalman, 1920
- Megastigmus juniperi* Nikolskaya, 1952: Özkanç, 1982; Roques & Skrzypczynska, 2003
- Megastigmus pistaciae* Walker, 1871: Schimitschek, 1944; Özkanç, 1982; Bolu, 2002; Roques & Skrzypczynska, 2003; Doğanlar & Karadağ, 2008, Doğanlar & Doğanlar, 2010; Doğanlar et al., 2010
- Megastigmus rosae* Boucek, 1971: Doğanlar, 1984; Öncüler, 1991; Bayram et al., 1998; Gençer, 2003
- Megastigmus schimitscheki* Novitzky, 1954: Novitzky, 1954; Lessmann, 1962; Çanakçıoğlu, 1959, 1969, 1990; Fabre et al., 1994; Roques & Skrzypczynska, 2003
- Megastigmus suspectus* Borries, 1895: Hussey, 1957; Çanakçıoğlu, 1959; 1969; Roques & Skrzypczynska, 2003; Ayberk & Cebeci, 2010
- Megastigmus wachtli* Seitner, 1916: Çanakçıoğlu, 1959; 1969; Roques et al. 1999; Roques & Szypczynska, 2003
- Westralianus* Boucek, 1988
- Westralianus altinoezus* Doğanlar, 2011; Doğanlar, 2011a
- Subfamily Toryminae
- Adontomerus* Nikolskaya, 1955
- Adontomerus amygdali* (Boucek, 1958): Doğanlar et al. 2006; Bolu & Özgen, 2007
- Adontomerus impolitus* (Askew et Nieves Aldrey, 1988): Askew et al. 2004, 2006
- Eridontomerus* Crawford, 1907
- Eridontomerus fulviventris* Erdös, 1954: New record for the Turkish fauna
- Exopristoides* Boucek, 1982
- Exopristoides dentatus* Boucek, 1982: Bouček, 1982
- Exopristus* Ruschka, 1923
- Exopristus trigonomerus* (Masi, 1916): Öncüler, 1991; Bolu, 2006
- Glyphomerus* Förster, 1856
- Glyphomerus stigma* (Fabricius, 1793): Doğanlar, 1984; Öncüler, 1991; Bayram et al. 1998; Gençer, 2003
- Glyphomerus tibialis* Förster, 1856: Askew et al. 2006
- Idarnotrymus* Masi, 1916
- Idarnotrymus burdurensis* Doganlar et Doganlar, 2008: Doğanlar & Doğanlar, 2008
- Idarnotrymus pulcher* Masi, 1916: Doğanlar & Doğanlar, 2008
- Idiomacromerus* Crawford, 1914
- Idiomacromerus pannonicus* (Ruschka, 1923): Doğanlar, 1984; Öncüler, 1991; Grissell, 1995
- Idiomacromerus papaveris* (Förster, 1856): Doğanlar, 1989a (as *Ameromicrus akdenizeus* Doganlar, 1989)
- Microdontomerus* Crawford, 1907
- Microdontomerus annulatus* (Spinola, 1808): Bouček, 1952 (as *Plastotrymus cothurnatus* (Masi, 1921)); Doğanlar, 1984 (as *Microdontomerus cothurnata* (Masi, 1921)); Öncüler, 1991; Grissell, 1995; Gençer, 2003

- Monodontomerus* Westwood, 1833
- Monodontomerus aereus* Walker, 1834: Doğanlar, 1982, 1984; OILB 1971; Öncüler et al., 1978; Öncüler, 1991; Grissell, 1995; Kılıç & Alaoglu, 1996; Sarıkaya & Avcı, 2005, Polat & Tozlu, 2010
- Monodontomerus minor* (Ratzeburg, 1848): Polat & Tozlu, 2010
- Monodontomerus obscurus* Westwood, 1833: Öncüler, 1991
- Oopristus* Steffan, 1968
- Oopristus erganicus* Tarla et Doganlar, 2010: Tarla et al., 2010
- Oopristus tayfursokmeni* Tarla et Doganlar, 2010: Tarla et al., 2010
- Oopristus turkestanicus* (Skriptshinsky, 1929): Tarla et al., 2010
- Podagrion* Spinola, 1811
- Podagrion splendens* Spinola, 1811: Delvare, 2005
- Podagrionna Girault, 1914*
- Podagrionna eremiphilae* Doganlar, 2009: Doğanlar & Doğanlar, 2009
- Podagrionna konyaensis* Doganlar, 2009: Doğanlar & Doğanlar, 2009
- Pseudotorymus* Masi, 1921
- Pseudotorymus arvernicus* (Walker, 1833): New record for the Turkish fauna
- Pseudotorymus militaris* (Boheman, 1834): Doğanlar, 1984; Öncüler, 1991; Grissell, 1995
- Pseudotorymus pannonicus* (Mayr, 1874): Doğanlar, 1984; Öncüler, 1991; Grissell, 1995
- Pseudotorymus papaveris* (Thomson, 1875): New record for the Turkish fauna
- Pseudotorymus rosarum* (Zerova et Seregina, 1992): New record for the Turkish fauna
- Pseudotorymus sapphirinus* (Fonscolombe, 1832): Gençer, 2003
- Torymoides* Walker, 1871
- Torymoides dispar* (Masi, 1916): Bouček, 1952 (as *Didactyliocerus dispar* Masi 1916); Doğanlar, 1984; Öncüler, 1991
- Torymoides kiesenwetteri* (Mayr, 1874): Doğanlar, 1984; Öncüler, 1991; Grissell, 1995
- Torymoides yumurtalikiensis* (Doganlar, 1989): Doğanlar, 1989b
- Torymus* Dalman, 1820
- Torymus apiomyiae* Boucek et Mihajlovic, 1986: Doğanlar & Yigit, 2005
- Torymus arcella* Graham et Gijswijt, 1998: Graham & Gijswijt, 1998; Zerova & Seryogina, 2003
- Torymus auratus* (Müller, 1764): Bayram et al., 1999
- Torymus bedeguaris* (Linnaeus, 1758): Kilinçer, 1983 (as *Torymus rosarum* (Hoffmeyer, 1929)); Bayram et al., 1998; Özbek et al., 1999 (as *Torymus rosarum* (Hoffmeyer, 1929)); Gençer, 2003
- Torymus cultratus* Graham et Gijswijt, 1998: Graham & Gijswijt, 1998; Zerova & Seryogina, 2003
- Torymus cultriventris* Ratzeburg, 1844: Ural & Kurt, 1973, Öncüler, 1991
- Torymus cyaneus* Walker, 1847: New record for the Turkish fauna
- Torymus erucarum* (Schrank, 1781): Bayram et al., 1999
- Torymus flavipes* (Walker, 1833): New record to the Turkish fauna
- Torymus igniceps* Mayr, 1874: Kilinçer, 1983

Torymus longicalcar (Graham, 1994): New record for the Turkish fauna

Torymus nitidulus (Walker, 1833): Doğanlar, 1984 (as *Lioterphus pallidicornis* (Boheman, 1834)); Öncüler, 1991

Torymus pygmaeus (Mayr, 1874): New record for the Turkish fauna

Torymus rubi (Schrank, 1781): Kılınçer, 1983; Gençer, 2003

Torymus triangularis Thomson, 1876: Bayram et al., 1999

Faunistical results

Eurytomidae Walker, 1832

Bruchophagus platypterus (Walker, 1834)

Material: Muğla prov., Yılanlı Mt., Eşençay vill., 27.05.2008, 1 ♀; Bartın prov., Ulus, Şirinler vill., 24.07.2008, 1 ♀.

General distribution: Wide spread Holarctic species, recorded also from South America (Noyes, 2011; Popescu, 2006b).

Biology: Five species of *Lotus* and one of *Trifolium* (Fabaceae) are given as hosts of the seedeater (Noyes, 2011).

Eurytoma augasmae Zerova, 1977

Material: Rize prov., Çamlıhemşin county, Ayder plateau, Fırtına river, 11.09.2006, 1 ♀; İğdır prov., Turab vill., 08.07.2008, 2 ♀♀; Kastamonu prov., Azdavay county, Bereketli vill., 25.07.2008, 1 ♀.

General distribution: Palaearctic species, recorded from Southeastern Europe and Central Asia (Noyes, 2011).

Biology: The species is recorded as a parasitoid of *Augasma atraphaxidellum* Kuznetsov 1957 larvae (Lepidoptera: Coleophoridae) (Zerova, 1995).

Eurytoma herbariae Zerova, 1994

Material: Hatay prov., Hatay, 13.04.2007, 1 ♀.

General distribution: Russia (Far East), Ukraine (Noyes, 2011), Turkey.

Biology: Parasitoid of tephritid flies (Diptera) developing in flower heads of *Tragopogon* and *Picris* (Asteraceae) (Zerova, 1995).

Eurytoma koeleriae Erdős, 1969

Material: Edirne prov., Pınarhisar, 18.05.2007, 2 ♀♀.

General distribution: Hungary, Bulgaria (Noyes, 2011) and Turkey.

Biology: Develops parasitically in galls of *Tetramesa schlechtendali* (Hedicke, 1921) (Eurytomidae Walker, 1832) on *Koeleria glauca* (Schrad.) and *K. dactyloides* (Rochel) (Poaceae) (Erdős, 1969; Zerova, 1995).

Eurytoma strigifrons Thomson, 1875

Material: Muğla prov., Karabağlar valley, 11.09.2008, 3 ♀♀.

General distribution: West Palaearctic species, recorded throughout Europe (north to Finland), Israel (Noyes, 2011, Popescu, 2006b) and Turkey.

Biology: Parasitoid of a few *Isocolus* (Cynipidae, Hymenoptera) species – gall-inducers in flower heads of *Centaurea* sp. (Asteraceae) (Noyes, 2011).

Systole conspicua Erdős, 1951

Material: Karabük prov., Yenice County, Doksan locality, 23.07.2008, 1 ♀.

General distribution: Hungary, Bulgaria, Tunisia, Ukraine (Noyes, 2011), Turkey.

Biology: Seed-eater of *Anthriscus scandicina* (Weber) and *A. longirostris* Bertol (Apiaceae) (Zerova, 1995).

Rileya asiatica Zerova, 1976

Material: Muğla prov., Dalyan town, Tepearası vill., 18.10.2008, 9 ♀♀, 5 ♂♂ (reared from galls on *Phlomis* sp. (Lamiaceae)).

General distribution: Georgia, Turkmenistan (Noyes, 2011) and Turkey.

Biology: Zerova (1976) reared the species from *Asphondylia* sp. (Cecidomyiidae, Diptera) galls on *Astragalus* sp. (Fabaceae).

Torymidae Walker, 1833

Eridontomerus fulviventris Erdös, 1954

Material: Isparta prov., Kasnak Meşesi protected area, 20.08.2007, 1 ♀; Muğla prov., Yılanlı Mountain, 27.05.2008, 1 ♀.

General distribution: Hungary, Romania, Ukraine (Noyes, 2011; Popescu, 2006a) and Turkey.

Biology: Zerova & Seryogina (1999) recorded association of the species with *Centaurea* sp. (Asteraceae).

Bootanomyia synophri (Mayr, 1874)

Material: Muğla prov., Datça county, 27.12.2008, 2 ♂♂ (reared from *Synophrus politus* Hartig, 1843 (Cynipidae) galls on *Quercus* sp.).

General distribution: Rare species recorded for Austria, Hungary, Bulgaria (Noyes, 2011), Turkey.

Biology: Parasitoid of *Synophrus politus* Hartig, 1843 (Cynipidae) – gall-inducer on *Quercus cerris* L. (Noyes, 2011).

Pseudotorymus arvernicus (Walker, 1833)

Material: Muğla prov., Köyceğiz county, Toparlar Waterfall, 26.04.2008, 1 ♀; Kayseri prov., Yahyalı county, Tema Garden, 05.07.2008, 1 ♀; Van prov., Tatvan county, Ahlat vill., 07.07.2008, 1 ♀; Van prov., Doğubeyazıt county, 07.07.2008, 1 ♀.

General distribution: Palaearctic species known from whole Europe (north to Sweden), Mongolia (Noyes, 2011; Popescu, 2006a) and Turkey.

Biology: Recorded as parasitoid of *Apion* spp. (Apionidae) and *Bruchidius* spp. (Chrysomelidae) – seed-beetles of Fabaceae plants (Grissell, 1995).

Pseudotorymus papaveris (Thomson, 1875)

Material: Diyarbakır prov., Çermik county, 07.09.2006, 1 ♀; Aksaray prov., İhlara county, Selimiye town, 05.07.2008, 1 ♀; Muğla prov., Dalaman county, Taşbaşı vill., 20.08.2008, 1 ♀.

General distribution: Recorded for whole Europe (north to Sweden), Mongolia (Noyes, 2011, Popescu, 2006a) and Turkey.

Biology: *Dasyneura papaveris* Winn. and *Lestodiplosis callida* Winnertz, 1853 (Cecidomyiidae, Diptera) and *Aylax papaveris* (Perris, 1840) (Cynipidae, Hymenoptera) develop on *Papaver* spp. are recorded as hosts (Grissell, 1995; Zerova & Seryogina 1999).

Pseudotorymus rosarum (Zerova et Seregina, 1992)

Material: Muğla prov., Yeşilyurt town, 23.08.2008, 1 ♀; Muğla prov., Kötekli vill., 26.08.2008, 4 ♀; Muğla prov., Akyaka town, Azmak River, 28.08.2008, 3 ♀, 1 ♂.

General distribution: Tadzhikistan (Noyes, 2011), Turkey.

Biology: Zerova & Seregina (1992) reared the species from *Diplolepis fructuum* (Rübsaamen,

1882) (Cynipidae) galls on *Rosa* sp.

Torymus cyaneus Walker, 1847

Material: Muğla prov., Datça county, Yazı vill., 27.12.2008, 2 ♀♀.

General distribution: Distributed throughout Europe (north to Sweden), Azerbaijan, (Noyes, 2011; Popescu, 2006a) and Turkey.

Biology: Parasitoid of *Cynips* spp., *Biorhiza pallida* (Olivier 1791), *Neuroterus tricolor* (Hartig 1841) (Cynipidae) – gall-inducers on *Quercus* spp. (Noyes, 2011).

Torymus flavipes (Walker, 1833)

Material: Isparta prov., Kasnak meşesi protected area, 26.05.2007, 2 ♀♀ (Malaise trap).

General distribution: Palaearctic species distributed in whole Europe (north to Sweden), Azerbaijan (Noyes, 2011; Popescu, 2006a) and Turkey.

Biology: According to Noyes (2003), more than 30 species of Cecidomyiidae and Tephritidae (Diptera) and Cynipidae (Hymenoptera) are hosts of the species.

Torymus longicalcar (Graham, 1994)

Material: Muğla prov., Yılaklı Mountain, Yemişendere vill., 12.09.2006, 1 ♀.

General distribution: Central, North and South Europe (Noyes, 2011) and Turkey.

Biology: Reared from galls of *Dryomyia concinna* Mayr (Cecidomyiidae) and *Pediaspis aceris* (Gmelin, 1790) (Cynipidae) on *Acer* sp. and from *Dryomyia circinans* (Giraud, 1861) on *Quercus* (Graham & Gijswijt, 1998).

Torymus pygmaeus (Mayr, 1874)

Material: Çanakkale prov., Atıkhisar vill., 28.04.2007, 1 ♀.

General distribution: Austria, Sweden, Ukraine (Noyes, 2011) and Turkey.

Biology: *Contarinia subulifex* Kieffer, 1897 (Cecidomyiidae) – gall-inducer on *Quercus cerris* L. is recorded as a host (Graham & Gijswijt, 1998).

Conclusions

The study presents checklists of Turkish Eurytomidae and Torymidae: There are 82 eurytomid species, belonging to 9 genera and 62 torymid species, belonging to 18 genera. Seven species of Eurytomidae and 9 species of Torymidae are new records to the Turkish fauna. There is a great variety of habitats in Turkey because of its geographic position on the main way of distribution of Irano-Turanian species to Mediterranean region and Europe. Future investigations of Turkish eurytomids and torymids could enrich the information of species diversity and their ranges.

The present research gives new data for plant associations of *Rileya asiatica* Zerova, 1976 with *Phlomis* sp. (Lamiaceae). We reared the species from galls of an unknown host. Zerova (1976) recorded *Asphondylia* sp. (Cecidomyiidae, Diptera) – gall-inducer on *Astragalus* sp. (Fabaceae) as a host of *R. asiatica*.

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