

## A Contribution to the Knowledge of the Subfamily Brachistinae (Hymenoptera: Braconidae) in Turkey

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### ABSTRACT

Present study was conducted in the Northeast Anatolian Region of Turkey during 1998-2006. Totally 34 Brachistinae (Hymenoptera: Braconidae) species were recorded in 5 genera. Of which, 31 species were new records for the Turkish fauna, among them three species, *Schizoprymnus glabberimus* Snoflák, 1952, *S. longiseta* (Schaeffer, 1838) and *S. luteipalpis* (Snoflák, 1952) were new to Eurasian continent as well. For known species new distribution areas were added. Furthermore, *Schizoprymnus arcuatus* Tobias, 1986, *S. brevicornis* Herrich-Schaeffer, 1838, *S. nigripes* (Nees von Esenbeck 1813), *S. telengai* Tobias, 1976 and *S. tentalus* were obtained from the larvae of *Curculio rubidus* Gyll., *Acentrus histrio* (Fald.), and *Titanomalia komaroffi* (Faust) (Coleoptera: Curculionidae) respectively. The hosts of *S. arcuatus*, *S. nigripes* and *S. tentalus* were obtained for the first time.

*Key words:* Brachistinae, Braconidae, Hymenoptera, new records, new hosts, Turkey.

### INTRODUCTION

The family Braconidae is one of the largest families in the Hymenoptera; it has been estimated that there are at least 40.000 species in the world, but only a quarter of this number has yet been described, and the biology and taxonomy of very few of these species have been adequately worked out (van Achterberg, 1984). The family is divided into 35 subfamilies (van Achterberg, 1984). The great majority of the species are primary parasitoids of other insect species in various orders and families (Gauld and Bolton, 1988).

The Brachistinae is a large subfamily of moderately small to large parasitoid wasps with more than 2000 described species worldwide (Shaw and Huddleston, 1991). Brachistinae includes the genera, *Eubazus* Nees von Esenbeck 1814, *Foersteria* Szépligeti 1896, *Chelostes* van Achterberg 1990, *Triaspis* Haliday 1835 and *Schizoprymnus* Förster 1862 (van Achterberg, 1990; Belokobylskij, 1998). Members of the subfamily live as parasitoids on the families Curculionidae and Apionidae (Coleoptera), which also include very important agricultural pests (Belokobylskij *et al.*, 2004).

Although Brachistinae is an important group of parasitoids systematic knowledge is very limited: the first record about this subfamily was given by Thomson (1874) who described 7 species in the genus *Eubazus* and 13 species in the genus *Schizoprymnus*.

Later Marshall (1888) described two species from genus *Aliolus*. Until this date the most important resource was the book, "Opuscula Braconologica" which, was published by Fahringer (1934). Snoflak (1952) described 38 species in the genera *Triaspis* and 20 species in *Schizoprymnus* in Europe. Moreno (1989) established the tribe, Triaspidini with 12 species in Spain. van Achterberg (1990) revised genera, *Foersteria*, *Polydegmon* and *Cheolostes*.

Some important contributions appeared on this subfamily in the recent years: Tobias *et al.* (1995) described 48, 26, and 41 species in the genera *Eubazus*, *Triaspis* and *Schizoprymnus* respectively in the former Soviet Union. In Bulgaria, France and Scotland, van Achterberg (2000) described five *Eubazus* species. Papp (2003) described additional five species in different genera of Brachistinae from Greece.

Studies on Brachistinae in Turkey are very limited: Shenefelt (1970) recorded several species from Turkey. Van Achterberg (1990) described *Foersteria longicauda* from Van (Başkale) and recorded one species from Turkey. Recently, *Schizoprymnus erzurumus* Belokobylskij, Guclu and Ozbek was described from Erzurum (Belokobylskij *et al.*, 2004). More recently, Yılmaz and Beyarslan (2009) described *Chelostes subrobustus* from Amasya (Merzifon) province.

## MATERIAL AND METHODS

Specimens were collected by sweeping with insect net from various habitats in different localities of Ardahan, Artvin, Erzurum, Erzincan, Iğdır, and Kars provinces in the period from May to September during the years of 1998-2006. Collected specimens were pinned and labeled according to current taxonomic rules and regulations. Additionally, to obtain parasitoids larval stages of various insects in different families and orders were collected in the field and reared in laboratory conditions (at room temperature with natural light) in culture cups (35x18x15cm). All specimens were identified by (Prof. Dr.) V. I. Tobias and (Dr.) S. A. Belokobylskij (Zoological Institute, Russian Academy of Science, St. Petersburg, 199034, Russia). Distribution of the species was checked from Taxapad (Yu *et al.* 2005). The material was deposited in the collection of Entomology Museum, Erzurum, Turkey (EMET).

## RESULTS

In the subfamily Brachistinae totally 34 species in five genera were recorded

### List of the genera and species

#### *Schizoprymnus* Foerster, 1862

##### *Schizoprymnus angustatus* Herrich-Schaeffer, 1838

Material examined: Artvin, Genya Mountain, 1760, 10.VI.2005, 1♀, leg. C. Güçlü; Borçka, 450 m, 20.V.2000, 2♀♀, leg. C. Güçlü; Yusufeli, 1100 m, 26.X.2004, 1♂ leg. C. Güçlü. Erzincan, Sakaltutan, 1050 m, 26.VI.2003, 1♀, leg. C. Güçlü. Erzurum, Palandöken, 2150 m, 22.VII.2000, 1♀, leg. H. Özbek, Atatürk University Campus, 1850 m, 12.VI.2005, 1♀, leg. C. Güçlü; Horasan, Aras Valley, 1450 m, 04.VIII.2005, 1♀, leg. C. Güçlü; Ilıca, Atlıkonak, 2250m, 10.VI.2001, 1♀, 2250 m, 13.VI.2002, 1♂, leg. C. Güçlü; Köprüköy, Örentaş, 1750 m, 09.VIII.2004, 1♂, leg.

*A Contribution to the Knowledge of the Subfamily Brachistinae in Turkey*

C. Güçlü; Oltu, Başaklı, Karadağ Mountain, 1900 m, 02.VII.2000, 1♀, leg. C. Güçlü; Uzundere, 1100 m, 28.VI.2000, 1♀, leg. C. Güçlü. Kars, Digor, 1250 m, 06.V.2004, 1♀, leg. C. Güçlü.

Distribution: Azerbaijan, Czech Republic, Slovakia, Finland, Germany, Hungary, Italy, Kazakhstan, Lithuania, Moldova, Mongolia, Russia (Chita Oblast, Krasnodar Kray, Primor'ye Kray), Spain, Sweden, Switzerland, Ukraine. New record for Turkey.

***Schizoprymnus arcuatus* Tobias, 1986**

Material examined: Artvin, Borçka, 650 m, 20.V.2000, 2♀♀, leg. C. Güçlü. Erzurum, University, 1850 m, 09.VI.2005, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 2100 m, 21.VI.2001, 3♀♀, leg. C. Güçlü; Ilıca, Atlıkönak, 1950 m, 26.VI.2000, 1♂, leg. C. Güçlü; Oltu, Başaklı 2050 m, 24.VII.2005, 1♀, 1♂, leg. C. Güçlü. Kars, Sarıkamış, Karakurt, 1450 m, 02.V.2000, 2♀♀, leg. C. Güçlü.

Distribution: Armenia, Hungary, Russia (Voronezhskaya Oblast), Ukraine, Yugoslavia. **New record for Turkey.**

Remark: With present knowledge Erzurum Province (Turkey) is the westernmost record for *S. arcuatus*.

Hosts: *Schizoprymnus arcuatus* was reared from the larvae of *Curculio rubidus* Gyll. (Coleoptera: Curculionidae) for the first time.

***Schizoprymnus ambiguus* (Nees von Esenbeck, 1813)**

Material examined: Erzincan, Gökaynak, 1300 m, 25.V.2001, 1♀, leg. C. Güçlü; Kemah, 1250 m, 25.V.2004, 3♀♀, leg. C. Güçlü. Erzurum, Konaklı, 2200m, 02.VII.2004, 2♂♂, leg. C. Güçlü; Horasan, Aras Valley, 1450 m, 04.VIII.2005, 4♀♀, leg. C. Güçlü; Ilıca, Atlıkönak, 2250 m, 10.VI.2001, 3♀♀, leg. C. Güçlü; Oltu, Ayvalı, 1100m, 20.IX.2000, 1♀, leg. C. Güçlü; Uzundere, 1100 m, 28.VI.2006, 1♀ leg C. Güçlü. Gümüşhane, Vauk Pass, 1450 m, 21.VI.2001, 1♀, leg C.Güçlü. Iğdır, Gaziler, 1020 m, 16.V.2005, 1♂, leg. C. Güçlü. Kars, Kağızman, 1500 m, 24.VI.2005, 1♂, leg. C. Güçlü; Sarıkamış, Karakurt, Aras Valley, 1600 m, 14.VII.2000, 2♂♂, leg. C. Güçlü; 14.VII.2004, 13♀♀, leg. C. Güçlü; 23.VII.2004, 3♂♂, leg. C. Güçlü.

Distribution: Azerbaijan, Belgium, Czech Republic, Slovakia Finland, France, Germany, Greece, Hungary, Ireland, Italy, Kazakhstan, Latvia, Lithuania, Macedonia, Moldova, Netherlands, Poland, Russia, Russia-Chita Oblast, Russia-Karel'skaya Respublika, Russia-Primor'ye Kray, Russia-Yaroslavl Oblast, Slovakia, Sweden, Tajikistan, Ukraine, United Kingdom, Yugoslavia, Yugoslavia-Serbia. **New record for Turkey.**

Hosts: *Ceutorhynchus maculaalba*, and *Myelosis circumvoluta* (Coleoptera: Curculionidae).

***Schizoprymnus angustissimus* (Snoflák, 1952)**

Material examined: Ardahan, Göle, 1500 m, 18.VII.2004, 1♀, leg. C. Güçlü. Erzincan, Kemah, 1250 m, 25.V.2004, 1♀, leg. C Güçlü. Erzurum, Umudum Yaylası, 1900 m, 26.VI.2003, 1♀, leg. C. Güçlü; Atatürk University Campus, 1850 m, 12.VI.2005, 1♂, leg. C Güçlü; Ilıca, Atlıkönak, 1760 m, 14.VII.2005, 1♀, leg. C. Güçlü; Köprüköy, Yağan, 1200 m, 20.VI.2003, 2♀♀, leg. C. Güçlü; Uzundere, Yaylageçidi, 2070 m, 13.VII.2004, 1♀, leg. C. Güçlü. Iğdır, Tuzluca, Pirlı, 1100 m, 04.VI.2004, 1♀, leg. C.Güçlü.

Distribution: Afghanistan, Armenia, Azerbaijan, Czech Republic, Slovakia, Georgia, Kazakhstan, Lithuania, Moldova. **New record for Turkey.**

Remak: With present knowledge Erzincan and Erzurum (Turkey) are the southwesternmost records of this species.

***Schizoprymnus azerbaijdzhanicus* (Abdinbekova, 1967)**

Material examined: Ardahan, Posof, Ilgar Mountain, 2200 m, 18.VIII.2004, 1♀, leg. C. Güçlü. Erzurum, Aşkale, Kop Mountain, 1900 m, 29.V. 2001, 1♀, leg. C. Güçlü; Ilıca, Atlıkonak, 2250 m, 10.VI.2001, 1♀; 14.VI.2000, 1♀; 14. VII. 2005, 1♀, 1♂, leg. C. Güçlü; İspir, 1750 m, 16.VI.2000, 1♀, 1♂, leg. C. Güçlü; Köprüköy, Yağan, 1200 m, 20.VI. 2003, 2♀♀, leg. C. Güçlü; Tortum, Esendurak, 1450 m, 11.VI.2001, 1♀, leg. C. Güçlü, Uzundere, Yaylageçidi, 2100 m, 13.VII.2004, 1♀, leg. C. Güçlü. İğdir: Gaziler, 1100 m, 17.V.2005, 1♂, leg. C. Güçlü. Kars, Kağızman, 1150 m, 15.V.2005, 3♀♀, 2♂♂, 24.VI.2005, 1♀, leg. C. Güçlü; Sarıkamış, Karakurt, Aras Valley, 1550 m, 04.VI.2000, 1♀, 04.VI.2004, 1♂, 14.VII.2004, 1♀, leg. C. Güçlü.

Distribution: Azerbaijan, Bulgaria, Hungary, Korea, Russia (Chita Oblast, Khabarovsk Krai, Primor'ye Krai), Spain. **New record for Turkey.**

***Schizoprymnus bidentulus* (Szépligeti, 1901)**

Material examined: Ardahan, Göle, 1500 m 18.VII.2004, 1♀, leg. C. Güçlü. Artvin, Borçka, 20.V.2000, 1♀, leg. C. Güçlü. Erzincan, Kemah, 1250 m, 25.V.2004, 1♀, leg. C. Güçlü. Erzurum, Konaklı, 2200 m, 02.VII.2004, 1♀, leg. C. Güçlü; Horasan, 1550 m, 13.VI.2003, 1♀, leg. C. Güçlü; Aras Valley, 1450 m, 04.VIII.2005, 1♀, leg. C. Güçlü; Köprüköy, Örentaş, 1750 m, 09.VIII.2004, 1♀, leg. C. Güçlü.

Distribution: Armenia, Bulgaria, Czech Republic, Slovakia, Hungary, Kazakhstan, Serbia, Spain. **New record for Turkey.**

***Schizoprymnus brevicornis* Herrich-Schaeffer, 1838**

Material examined: Ardahan, Posof, Ilgar Mountain, 2250 m, 18.VIII.2004, 1♂, leg. C. Güçlü. Artvin, Yusufeli, İshan, 1100 m, 26.X.2004, 1♂, leg. C. Güçlü. Erzincan, Kemah, 1250 m, 25.V.2004, 1♀, leg. C. Güçlü. Erzurum, Karagöbek 1950 m, 13.VII.2003, 1♀, leg. C. Güçlü; Konaklı, 2200 m, 02.VII.2004, 1♀, leg. C. Güçlü, Atatürk University Campus, 1850 m, 09.VII.2005, 1♀, leg. C. Güçlü; Ilıca, Atlıkonak, 1760 m, 14.VII.2005, 1♀, leg. C. Güçlü, Oltu, Başaklı, Karadağ Mountain, 1950 m, 02.VII.2000; 1♀, 1♂, leg. C. Güçlü; Tortum, 1400 m 18.V.2001, 1♀, leg. C. Güçlü; İğdir, Gaziler, 1100 m, 16.V.2005, 1♀, 17.V.2005, 1♀, leg. C. Güçlü. Kars, Kağızman, 1150 m, 15.V.2005, 1♀, 2♂♂, 16.V.2005, 1♀, 17.V.2006, 4♀♀, 2♂♂, leg. C. Güçlü; Sarıkamış, Karakurt, Aras Valley, 1550 m, 11.VI.2005, 1♀, 04.VII.2004, 1♀, leg. C. Güçlü.

Distribution: Czechoslovakia, Germany, Hungary, Italy, Kazakhstan, Moldova, Poland, Spain, Ukraine. **New record for Turkey.**

Hosts: *S. brevicornis* was obtained from larvae of *Gymnaetron* sp. (Coleoptera: Curculionidae). This record is the first host for *S. brevicornis*.

***Schizoprymnus crassiceps* (Thomson, 1891)**

Material examined: Ardahan, Göle, 1600 m, 18.VII.2004, 1♀, leg. C. Güçlü. Erzurum, Umudum Plateau, 1900 m, 26.VI.2003, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 1950 m, 12.VI.2002, 1♀, leg. C. Güçlü; Ilıca, Atlıkonak, 1950 m, 10.VI.2001, 2♂♂, 26.VI.2000, 1♂, 14.V.II.2005, 1♀, leg. C. Güçlü; Olur, 1300 m, 21.VI.2001, 1♂, leg. C. Güçlü. Kars, Sarıkamış, Karakurt, Aras Valley, 1550 m, 04.VI.2000, 1♀, leg. C. Güçlü.

Distribution: Azerbaijan, Bulgaria, Czech Republic, Slovakia, Germany, Hungary, Kazakhstan, Mongolia, Norway(main), Russia, Russia (Chita Oblast, Primor'ye Krai). **New record for Turkey.**

***Schizoprymnus elongatus* (Szépligeti, 1898)**

Material examined: Artvin, Borçka, 650 m, 20.V.2000, 1♀, leg. C. Güçlü. Erzincan, Üzümlü, 1250 m, 13.VI. 2001, 1♂, leg. C. Güçlü. Erzurum, University, 1850 m, 17.VI.2000, 1♂, leg. C. Güçlü; Ilıca, Atlıkonak,

### *A Contribution to the Knowledge of the Subfamily Brachistinae in Turkey*

2000 m, 26.VI.2000, 1♀; 1760 m, 14.VII.2005, 1♀, leg. C. Güçlü; Horasan, 1550 m, 13.VI.2003, 1♀, leg. C. Güçlü; Köprüköy, Yağan, 1200 m, 20.VI.2003, 1♀, leg. C. Güçlü. Kars, Digor, 1250 m, 06.V.2004, 1♂, leg. C. Güçlü; Sarıkamış, Karakurt, Aras Valley, 1550 m, 04.VI.2000, 1♀, 04. VI.2004, 1♀, 11.VI.2005, 1♀, leg. C. Güçlü.

Distribution: Afghanistan, Armenia, Azerbaijan, Belarus, Czech Republic, Slovakia, Georgia, Hungary, Kazakhstan, Lithuania, **Moldova. New record for Turkey.**

### ***Schizoprymnus erzurumus* Belokobylskij, Güçlü and Özbek, 2004**

Material examined: Erzurum: Palandöken, 2150 m, 22.VII.2006, 5♀♀, 3♂♂, leg. C.Güçlü. All the samples were collected from the vicinities of the type locality.

Distribution: So far known from only Turkey (Belokobylskij *et al.* 2004). With present knowledge it could be accepted endemic to Turkey for the time being.

### ***Schizoprymnus glabberimus* Snoflák, 1952**

Material examined: Artvin, Genya Mountain, 1760, 10.VI.2005, 1♀, leg. C. Güçlü; Borçka, 450 m, 20.V.2000, 2♀♀, leg. C. Güçlü; Yusufeli, 1100 m, 26.X.2004, 1♂, leg. C. Güçlü. Erzincan, Sakaltutan, 1050 m, 26.VI.2003, 1♀, leg. C. Güçlü. Erzurum, Palandöken, 2150 m, 22.VII.2000, 1♀, leg. H. Özbek; Atatürk University Campus, 1850 m, 12.VI.2005, 1♀, leg. C. Güçlü; Horasan, Aras Valley, 1450 m, 04.VIII.2005, 1♀, leg. C. Güçlü; Ilıca, Atlıkonak, 2250 m, 10.VI.2001, 1♀, 2250 m, 13.VI.2002, 1♂, leg. C. Güçlü; Köprüköy, Örentaş, 1750 m, 09.VIII.2004, 1♂, leg. C. Güçlü; Oltu, Başaklı Mountain, 1900 m, 02.VII.2000, 1♀, leg. C. Güçlü; Uzundere, 1100 m, 28.VI.2000, 1♀, leg. C. Güçlü. Kars: Digor, 1250 m, 06.V.2004, 1♀, leg. C. Güçlü.

Distribution: Czech Republic, Slovakia, Hungary, Poland, Serbia. **New records for Turkey as well Asia Continent.**

### ***Schizoprymnus longiseta* (Schaeffer, 1838)**

Material examined: Ardahan, Göle, 1500 m, 18.VII.2004, 1♀, leg. C. Güçlü. Erzurum, Aşkale, 23.V.2000, 1♀, Kop Mountain, 2650 m, 13.VII.2005, 2♀♀, leg. C.Güçlü; Oltu, Taşlıköy, 900 m, 21.V.2002, 1♀, leg. C.Güçlü; Şenkaya, Soğanlı Mountain, 2450 m, 23.VII.2005, 2♀♀, leg. C. Güçlü; Tortum, Esendurak, 1450 m, 11.VI.2001, 2♀♀, leg. C. Güçlü.

Distribution: Austria, Germany, Italy, Spain. **New record for Turkey as well as Asia Continent.**

Hosts: *Curculio elephas* (Gyllenhal 1836) (Coleoptera: Curculionidae) (Fernandez *et al.*, 2004).

### ***Schizoprymnus luteipalpis* (Snoflák, 1952)**

Material examined: Erzurum, Ilıca, Atlıkonak, 1950 m, 26.VI.2000, 1♀, leg. C. Güçlü.

Distribution: Czech Republic, Slovakia, Hungary. **New record for Turkey as well as Asia Continent.**

### ***Schizoprymnus nigripes* (Thomson, 1891)**

Material examined: Erzurum, Atatürk University Campus, 1850 m, 12.VI.2005, 1♂, leg. C. Güçlü; Aşkale, Kop Mountain, 2650 m, 13.VII.2005, 2♀♀, leg. C. Güçlü; Ilıca, Atlıkonak, 1950 m, 14.VI.2000, 1♀, leg. C. Güçlü; Horasan, Aras Valley, 1550 m, 25.VI.2002, 1♀, leg. C. Güçlü; Köprüköy, Yağan, 1650 m, 12.VI.2005, 1♀, 20.VI.2003, 1♀, leg. C. Güçlü. Kars, Kağızman, 1150 m, 15.V.2005, 1♀, leg. C. Güçlü; Sarıkamış, Karakurt, Aras Valley, 1600 m, 14.VII.2000, 2♀♀, 14.VII.2004, 1♀, leg. C. Güçlü.

Distribution: Czech Republic, Slovakia, Hungary, Kazakhstan, Korea, Moldova, Russia (Dagestan, Primor'ye Kray), Sweden, Switzerland. **New record for Turkey.**

Hosts: *Schizoprymnus nigripes* was obtained from *Acentrus histrio* (Fald). (Coleoptera: Curculionidae) larvae. This record is first host for *S. nigripes*.

### ***Schizoprymnus obscurus* (Nees von Esenbeck, 1813)**

Material examined: Erzurum, Atatürk University Campus, 1850 m, 12.VI.2005, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 1900 m, 29.V.2001, 2♀♀, leg. Ş. Güçlü; Horasan, 1600 m, 18.IV.2005, 1♀, leg. C. Güçlü; Ilıca, Atlıkonak, 1850 m, 13.VI.2002, 1♀, 14.VII.2005 1♀, leg. C. Güçlü; Narman, Kireçli Mountain, 1500 m, 23.VI.2000, 1♂, leg. C. Güçlü; Oltu, Sarısaz, 1300 m, 14.VI.2000, 1♀, 1♂, leg. C. Güçlü; Uzundere, 1100 m, 16.V.2002, 1♀, leg. C. Güçlü. Iğdır, Gaziler, 1020 m, 16.V.2005, 1♀, leg. C. Güçlü; Kars, Kağızman, 1150 m, 15.V.2005, 1♀, 11.VI.2005, 1♂, 24.VI.2005, 1♀, leg. C. Güçlü; Sarıkamış, Karakurt, Aras Valley, 1550 m, 04.VI.2000, 1♀, 14.VII.2000, 1♀, 23.VII.2004, 2♀♀, leg. C. Güçlü.

Distribution: Austria, Belgium, Bulgaria, Czech Republic, Slovakia, Denmark, Finland, France, Georgia, Germany, Greece, Hungary, Iran, Italy, Kazakhstan, Lithuania, Moldova, Mongolia, Morocco, Netherlands, Norway, Poland, Russia (Buryatskaya Respublika, Chita oblast, Khabarovsk Kray, Omsk Oblast, Primor'ye Kray, Ryazan Oblast, Saratov Oblast, Russia-Tomsk Oblast, Yaroslavl Oblast), Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkmenistan, Ukraine, United Kingdom, and Serbia. **New record for Turkey.**

Hosts: *Apion* (*Ceratapion*) *carduorum* Kby; *A. craceae* L.; *A. semivittatum* Gyll.; *Ceuthorrhynchus picitarsis* Gyll. *C. sulcicollis* Gyll.; *C. pleurostigma* Marsh.; *C. echii* (L); *C. assimilis* Payk.; *C. contractus* Marsh.; *Gymnetron noctis* Hbst.; *G. collinus*; *G. antirrhini* Payk.; *Orchestes* sp. (Coleoptera: Curculionidae).

### ***Schizoprymnus opacus* (Thomson, 1891)**

Material examined: Ardahan, Posof, Ilgar Mountain, 2200 m, 18.VIII.2004, 1♂, leg. C. Güçlü; Göle, 1500 m, 18.VII.2004, 1♀, leg. C. Güçlü. Erzurum, Atatürk University Campus, 1850 m, 21.VI.2001, 1♀, 1♂, leg. C. Güçlü; Aşkale, Kop Mountain, 1900 m, 21.VI.2001, 1♀, leg. C. Güçlü; Serçeme Deresi, 1650 m, 06.VII. 2005, 1♂, leg. C. Güçlü; Köprüköy, Yağan, 1600 m, 20.VI.2003, 1♀, leg. C. Güçlü; Narman, Kireçli Dağı, 1750 m, 23.VII.2000, 1♀, leg. C. Güçlü; Olur, 1300 m, 10.VII.2001, 1♀, leg. C. Güçlü; Şenkaya, 1900 m, 11.VI.2002, 1♀, leg. C. Güçlü; Tortum, Kaleboğazı, 1600 m, 18.VIII.2000, 1♀, leg. C. Güçlü; Uzundere, Yayla Geçidi, 2100 m, 14.VII.2004, 1♀, leg. C. Güçlü. Iğdır: Melekli, 950 m, 03.VI.2002, 1♀, leg. C. Güçlü. Kars, Kağızman, 1500 m, 24.VI.2005, 1♀, leg. C. Güçlü; Sarıkamış, Karakurt, Aras Valley, 1550 m, 25.VII.2003, 1♂, leg. C. Güçlü.

Distribution: Armenia, Azerbaijan, Bulgaria, Czech Republic, Slovakia, Finland, Georgia, Germany, Greece, Hungary, Kazakhstan, Korea, Moldova, Mongolia, Russia (Chita Oblast, Krasnodar Kray, Primor'ye Kray, Ryazan Oblast, Tomsk Oblast, Yaroslavl Oblast), Spain, Sweden, Switzerland, Ukraine, United Kingdom, Yugoslavia-Serbia. **New record for Turkey.**

Remark: *S. obscurus* and *S. opacus* have very large distribution in the world, but both are new for the Turkish fauna and they are quite abundant in the collecting localities.

### ***Schizoprymnus pallidipennis* (Nees von Esenbeck, 1838)**

Material examined: Artvin, Borçka, 450 m, 20. VI. 2000, 1♀, leg. C. Güçlü. Erzurum, Karagöbek, 1900 m, 27.VI.2001, 1♀, leg. C. Güçlü; Konaklı Köyü, 220 m, 02.VII.2004, 1♀, leg. C. Güçlü; Ilıca,

*A Contribution to the Knowledge of the Subfamily Brachistinae in Turkey*

Atlıkonak, 2100 m, 14.VI.2000, 1♂, 26.VI.2000, 2♀♀, leg. C. Güçlü; Şenkaya, Soğanlı Mountain, 2450 m, 11.VI.2002, 1♀, leg. C. Güçlü. Kars, Kağızman, 1150 m, 15.V. 2005, 1♀, leg. C. Güçlü.

Distribution: Armenia, China(Sichuan), Czech Republic, Slovakia, Germany, Hungary, Kazakhstan, Russia, Spain, Spain-main, Switzerland, Tajikistan. **New record for Turkey.**

Hosts: *Mordelista parvula* (Coleoptera: Mordellidae)

Remark: Artvin, Erzurum and Kars provinces (Turkey) are the southernmost records of *S. pallidipennis*.

***Schizoprymnus parvus* (Thomson, 1891)**

Material examined: Ardahan, Göle, 1500 m, 18.VII.2004, 1♀, leg. C. Güçlü. Artvin: Genya Mountain, 1760 m, 10.VI.2005, 1♀, leg. C. Güçlü. Erzincan, 1250 m, 20.VI.2003, 1050 m, 1♀, leg. C. Güçlü. Erzurum, Konaklı, 2200 m, 02.VII.2004, 3♀♀, leg. C. Güçlü; Atatürk University Campus, 1850 m, 09.VI.2005, 1♀, leg. C. Güçlü; Horasan, 1550 m, 13.VI.2003, 2♀♀, leg. C. Güçlü; Oltu, Başaklı Mountain, 02.VII.2000, 1♀, leg. C. Güçlü; Tortum, Esendurak, 1450 m, 11.VI.2001, 1♀, leg. C. Güçlü; Uzundere, Yaylageçidi, 2070 m, 13.VII.2004, 1♂, leg. C. Güçlü.

Distribution: Czech Republic, Slovakia, Finland, Germany, Greece, Hungary, Kazakhstan, Mongolia, Netherlands, Sweden. **New record for Turkey.**

***Schizoprymnus rufipes* (Herrich-Schaeffer, 1838)**

Material examined: Erzurum, Karagöbek, 1900 m, 27.VI.2001, 1♀, leg. C. Güçlü; University , 1850 m, 12.VI.2005, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 2100 m, 21.VI.2001, 1♂; 2650 m, 13.VII.2005, 1♀, 1♂, leg. C. Güçlü; Oltu, Başaklı, Karadağ Mountain, 02.VII.2000, 2♀♀, leg. C. Güçlü. Kars, Kağızman, 1150 m, 15.V.2005, 2♀♀, leg. C. Güçlü.

Distribution: Czechoslovakia, Germany, Hungary, Kazakhstan, Moldova, Russia, Russia-Chita Oblast. **New record for Turkey.**

***Schizoprymnus telengai* Tobias, 1976**

Material examined: Erzurum, İlica, Atlıkonak, 2250 m, 10.VI.2001, 1♀, leg. C. Güçlü.

Distribution: Czech Republic, Slovakia, Kazakhstan, Russia (Chita Oblast, Primor'ye Kray). **New record for Turkey.**

Hosts: *Schizoprymnus telengai* was obtained from the larvae of *Titanomalia komaroffi* (Coleoptera: Curculionidae) living into the roots of *Mentha* sp. (Lamiaceae) in Atlıkonak, İlica. *Titanomalia komaroffi* is the first recorded host of *S. telengai*.

***Schizoprymnus tentalus* Papp, 1991**

Material examined: Erzurum, Karagöbek, 1900 m, 27.VI.2001, 1♀, leg. C. Güçlü; University , 1850 m, 12.VI.2005, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 2100 m, 21.VI.2001, 1♂, 13.VII.2005, 1♀, 1♂, leg. C. Güçlü; Oltu, Başaklı Mountain, 02.VII.2000, 2♀♀, leg. C. Güçlü. Kars, Kağızman, 1150 m, 15.V.2005, 2♀♀, leg. C. Güçlü.

Distribution: Greece, Hungary, Moldova, Spain, Turkey, Yugoslavia-Serbia.

Host: *Schizoprymnus tentalus* was obtained from the larvae of *Glocianus herbesti* Fst. (Curculionidae: Coleoptera) for the first time.

**Schizoprymnus terebralis Snoflák, 1952**

Material examined: Erzurum, Horosan, 1650 m, 15.V.2005, 1♀, leg. C. Güçlü; Ilıca, Atlokönak, 1760 m, 14.VII.2005, 1♀, leg. C. Güçlü; Köprüköy, Yağan, 1650 m, 13.VI.2004, 1♂, leg. C. Güçlü. Iğdır, Tuzluca, 850 m, 12.VI.2002, 1♂, leg. C. Güçlü. Kars, Digor, 1250 m, 06.V.2004, 1♀, leg. C. Güçlü; Kağızman, 1150 m, 15.V.2005, 1♀, leg. C. Güçlü; Sarıkamış, Karakurt, Aras Valley, 1550 m, 16.VII.2002, 1♀, 14.VII.2000, 1♀, 2♂♂, leg. C. Güçlü.

Distribution: Armenia, Azerbaijan, Bulgaria, Czech Republic, Slovakia, Greece, Hungary, Kazakhstan, Moldova, Russia (Chita Oblast, Primor'ye Kray), Ukraine. **New record for Turkey.**

Hosts: *Mordellistena parvula* (Coleoptera: Mordellidae).

**Triaspis Haliday, 1838****Triaspis caucasica Abdinbekova, 1969**

Material examined: Erzurum, Atatürk University Campus, 1850 m, 21.VII.1996, 1♀, leg. E. Yıldırım; Ilıca, Atlokönak, 2250 m, 10.VI.2001, 1♀, 1760 m, 14.VII.2005, 1♀, leg. C. Güçlü.

Distribution: Armenia, Azerbaijan and Kazakhstan. **New record for Turkey.**

Remark: Erzurum (Turkey) is westernmost record of *T. caucasica*.

**Triaspis obscurella (Nees von Esenbeck, 1813)**

Material examined: Erzurum, Atatürk University Campus, 1850 m, 21.VI.2000, 1♀, leg. C. Güçlü. Kars, Sarıkamış, Karakurt, 1600 m, Aras Valley, 1450 m, 14.VII.2004, 1♀, leg. C. Güçlü.

Distribution: Azerbaijan, Bulgaria, Canary Islands, Croatia, Czech Republic, Slovakia, France, Germany, Greece, Hungary, Israel, Italy, Kazakhstan, Lithuania, Moldova, Mongolia, Netherlands, Poland, Russia (Kaliningrad Oblast, Yakutskaya Respublika), Slovakia, Spain, Switzerland, Ukraine, United Kingdom, Yugoslavia-Serbia. **New record for Turkey.**

Hosts: *Acanthoscelides pallidipennis*, *Anobium rufipes*, *Anthaxia quadripunctata*, *Anthonomus rubi*, *Apion carduorum*, *A. craccae*, *A. damryi*, *A. damryi*, *A. semivittatum*, *Bruchidius pusillus*, *Bruchus lentis*, *B. rufimanus*, *Ceutorhynchus assimilis*, *C. contractus*, *C. maculaalba*, *C. obstrictus*, *C. picitarsis*, *C. pleurostigma*, *C. pleurostigma*, *C. rapae*, *C. sulcicollis*, *Gastrallus corsicus*, *G. corsicus*, *Gymnetron antirrhini*, *G. antirrhini*, *G. collinum*, *G. noctis*, *G. villosulum*, *Ochina ptinoides*, *Stenocarus fuliginosus*, *Stereonychus fraxini*, *Tychius flavus* (Coleoptera: Curculionidae and Apionidae)

**Eubazus Nees von Esenbeck 1814****Eubazus (Brachistes) atricornis (Ratzeburg, 1848)**

Material examined: Artvin, Genya Mountain, 1980 m, 21.VII.2002, 1♀; leg. C. Güçlü.

Distribution: Germany, Belgium, Czech Republic, England, Sweden, Switzerland, Italy, France and Turkey: Kayseri (Shenefelt, 1970).

Hosts: *Ips typographus*, *I. sexdenlatus* *Hylurgus piniperda*, *Pissodes piceae*, *P. pini* L., *P. validiroslaris*, *Rhynchaesus* spp., (Coleoptera: Ipsidae); *Curculio nolatus*, *Curculio hercyniae* (Coleoptera: Curculionidae).



*A Contribution to the Knowledge of the Subfamily Brachistinae in Turkey*

***Eubazus (Brachistes) cingulatus (Szépligeti, 1896)***

Material examined: Ardahan, Posof, Ilgar Mountain, 2200 m, 18.VIII.2004, 3♀♀; Kars, Kağızman, 1150 m, 15.V.2005, 1♀, leg. C. Güçlü.

Distribution: Armenia, Azerbaijan, Georgia, Greece-main, Hungary, Moldova, Russia (Dagestan, Krasnodar Kray, Russia-Primor'ye Kray). **New record for Turkey.**

***Eubazus (Brachistes) fuscipalpis (Wesmeal, 1835)***

Material examined: Erzurum, Ilıca, Atlikonak, 2250 m, 10.VII.2001, 1♂, leg. C. Güçlü; Oltu, Ayvalı, 1100 m, 20.IX.2000, 1♂, leg. C. Güçlü. Iğdır, Gaziler, 1020 m, 16.V.2005, 1♀, leg. C. Güçlü. Kars, Sarıkamış, Karakurt, Aras Valley, 1600 m, 02.V.2000, 1♂, 14.VII.2000, 1♀, leg. C. Güçlü.

Distribution: Belgium, Hungary, England, Poland, France, Finland and Kazakhstan. **New record for Turkey.**

***Eubazus (Eubazus) flavipes Haliday, 1835***

Material examined: Erzincan, Üzümlü, 1480 m, 22.VII.2003, 1♀, leg. C. Güçlü. Erzurum, Aşkale, Kop Mountain, 2050 m, 21.VI.2003, 1♀, leg. C. Güçlü. Kars, Sarıkamış, Karakurt, Aras Valley, 1550 m, 04.VIII.2001, 1♀, leg. C. Güçlü.

Distribution: Armenia, Austria, Bulgaria, France main, Germany, Hungary, Ireland, Italy, Korea, Lithuania, Moldova, Netherlands, Poland, Russia (Primor'ye Kray, Sakhalin Oblast), Slovakia, Switzerland, England. **New record for Turkey.**

Hosts: *Curculio notatus* and *Exocentrus punctipennis* (Coleoptera: Curculionidae).

***Eubazus (Brachistes) nigricoxis (Wesmael, 1835)***

Material examined: Erzurum, Aşkale, Kop Mountain, 1900 m, 29.V.2001, 4♂♂, 2♀♀, leg. Ş. Güçlü. Kars, Sarıkamış, Karakurt, Aras Valley, 1550 m, 14.VII.2000, 1♀, 03.VII.2003, 1♀, leg. C. Güçlü.

Distribution: Armenia, Belgium, Finland, France, Georgia, Germany, Greece, Hungary, Italy, Kazakhstan, Lithuania, Moldova, Poland, Romania, Russia (Irkutsk Oblast, Primor'ye Kray), Sweden, Switzerland, Ukraine. **New record for Turkey.**

***Eubazus (Eubazus) pallipes (Nees von Esenbeck, 1812)***

Material examined: Erzurum, Narman, Kireçli Dağı, 2250 m, 23.VII.2000, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 1900 m, 26.V.2004, 1♀, 1♂, leg. C. Güçlü.

Distribution: Albania, Azerbaijan, Belgium, France, Germany, Greece, Hungary, Ireland, Moldova, Poland, Romania, Russia (Primor'ye Kray), Switzerland. **New record for Turkey.**

Hosts: *Acanthocinus griseus*, *A. pomorum*, *Ceutorhynchus pleurostigma*, *C. rapae*, *Gymnetron antirrhini*, *G. tetrum*, (Coleoptera: Curculionidae), *Lyctus brunneus*, *L. linearis*, *L. planicollis*, (Lyctidae, Coleoptera) *P. harcyniae*, *P. chrysocephala* (Coleoptera: Chrysomelidae).

***Eubazus (Brachistes) ruficoxis (Wesmael, 1835)***

Material examined: Ardahan, Posof, Ilgar Mountain, 2200 m, 18.VIII.2004, 2♀♀, leg. C. Güçlü. Erzurum, Köprüköy, Yağan, 1650 m, 12.VI.2005, 1♀, leg. C. Güçlü; Tortum, Esendurak, 1450 m, 18.VII.2004, 1♀, leg. C. Güçlü.

Distribution: Belgium, Czech Republic, Slovakia, Finland, France, Germany, Greece, Hungary, Italy, Japan, Kazakhstan, Mongolia, Netherlands, Poland, Romania, Russia (Primor'ye Kray, Sakhalin Oblast), Slovakia, Switzerland, Ukraine, England. **New record for Turkey.**

Hosts: *Bytiscus betulae*, *B. populi*, *B. venustus*; *B. populi* (L.) *Pteleobius vittatus*, (Coleoptera: Attelabidae).

### ***Eubazus (Brachistes) rufithorax* Tobias, 1979**

Material examined: Erzurum, Karagöbek, 1900 m, 19.VII.2001, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 1900 m, 29.V.2001, 1♀, 1♂, leg. Ş. Güçlü; Çat, 1700 m, 19.V.2002, 1♂, leg. C. Güçlü.

Distribution: Georgia, Moldova, and Sweden. **New record for Turkey.**

Remark: Erzurum (Turkey) is the southernmost distribution records of this species.

Hosts: *Blastophagus piniperda*, *Dendroctonus micans*, and *Ips sexdentatus* (Scolytidae, Coleoptera).

Remark: *Eubazus rufithorax* was recorded from Turkey for the first time, it is a parasitoid of very destructive forest pests such as *B. piniperda*, *D. micans*, and *I. sexdentatus*.

### ***Eubazus (Brachistes) talitzkii* Tobias, 1981**

Material examined: Erzincan, Üzümlü, 1250 m, 13.VI.2001, 1♀, leg. C. Güçlü. Erzurum, Aşkale, Kop Mountain, 1900 m, 29.V.2001, 1♂, 2250 m, 21.VI.2001, 1♀, 1♂, leg. C. Güçlü.

Distribution: Azerbaijan, Georgia, Hungary, Moldova, Russia (Irkutsk Oblast, Khabarovsk Kray, Krasnodar Kray, Primor'ye Kray), Turkmenistan. **New records for Turkey.**

### ***Eubazus (Brachistes) tibialis* Haliday, 1835**

Material examined: Erzurum, İlica, Atlıkonak, 1850 m, 13.VI.2002, 1♀, leg. C. Güçlü; Oltu, Başaklı, Karadağ Mountain, 1850 m, 02.VII.2000, 1♀, leg. C. Güçlü.

Distribution: Belgium, Bulgaria, Croatia, Czech Republic, Slovakia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Moldova, Netherlands, Norway, Poland, Russia (Kaliningrad Oblast, Kamchatka Oblast, Magadanskaya Oblast, Yakutskaya Respublika), Slovakia, Sweden, Switzerland, Ukraine, England, Yugoslavia-Serbia. **New record for Turkey.**

Hosts: *Anobium* sp. (Coleoptera, Anobiidae), *Bytiscus betuleti* Fabricius, *B. populi* L., *Diprion palliduta* (Coleoptera: Attelabidae).

### ***Foersteria Szépligeti*, 1896**

### ***Foersteria longicauda* Achterberg, 1990**

Material examined: Artvin, Genya Mountain, 1760 m, 10.VI.2005 1♂, leg. C. Güçlü. Erzincan, Kemah, 1250 m, 25.V.2004, 1♀; 1250 m, 25.V.2005 1♀, leg. C. Güçlü. Erzurum, Umudum Plateau, 1900 m, 26.VI.2003 1♀, leg. C. Güçlü; Ataturk University Campus, 1850 m, 07.VI.2000, 1♂, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 1650 m, 21.VI.2001, 2♀♀, 4♂♂; 2250 m, 16.VI.2001, 1♂; 2200 m, 21.VI.2001, 1♀, leg. C.

### *A Contribution to the Knowledge of the Subfamily Brachistinae in Turkey*

Güçlü; Horasan, Aras Valley, 1450 m, 19.VI.2005 1♀, leg. C. Güçlü; Köprüköy, Yağan, 1600 m, 20.VI.2003, 1♀, 1♂, 20.VII.2003, 2♀♀, leg. C. Güçlü; Ilıca, Atlıkonak, 1900 m, 2250 m, 10.VI.2001, 6♀♀, 7♂♂; 11.VI.2000, 3♀♀, 2♂♂, 13.VI.2002, 3♀♀, 3♂♂, 26.VI.2000, 2♀♀, 4♂♂; 2150 m, 26.VI.2000, 12♂♂, 3♀♀, 14.VII.2000, 5♀♀, 3♂♂, leg. C. Güçlü; Kandilli, 1750 m, 27.VI.2001, 1♀, leg. C. Güçlü; Narman, Kireçli Dağı, 2100 m, 23.VII.2000, 1♀, 1♂, leg. C. Güçlü; Oltu, Başaklı Mountain, 2100 m, 02.VII.2000, 1♀, 1♂, leg. C. Güçlü; Tekman Plateau, 2450 m, 18.VII.2005, 2♀♀, 19.VII.2005 1♀, leg. C. Güçlü; Tortum, Bağbaşı, 1550 m, 11.IX.2001, 1♀, leg. C. Güçlü; Esendurak, 1450 m, 11.VI.2001, 1♀, leg. C. Güçlü. Kars: Kağızman, 1350 m, 03.VI.2004, 4♀♀, 1♂, leg. C. Güçlü.

Distribution: Known from Turkey (Van) (van Achterberg, 1990).

Remark: *Foersteria longicauda* was described from Van, (Turkey). Artvin, Erzincan, Erzurum and Kars are additional localities after type locality of *F. longicauda*. With present knowledge *F. longicauda* is endemic to Turkey. Interestingly, it is an abundant species in recorded localities.

### ***Polydegmon Förster, 1862***

#### ***Polydegmon foveolatus (Herrich-Schaeffer, 1838)***

Material examined: Erzincan, Kemah, 1250 m, 25.V.2004, 1♀, leg. C. Güçlü. Erzurum, Köprüköy, Yağan, 1600 m, 20.VI.2003, 2♀♀, leg. C. Güçlü.

Distribution: Bosnia Hercegovina, Croatia, Czech Republic, Slovakia, Germany, Greece, Hungary, Kazakhstan, Moldova, Russia (Bashkirskaia Respublika, Volgograd Oblast), Ukraine, Uzbekistan, Serbia, and Turkey: Nevşehir and Ürgüp (van Achterberg, 1990).

#### ***Polydegmon sinuatus Förster, 1862***

Material examined: Erzurum, Karagöbek, 1900 m, 27.VI.2001, 1♀, leg. C. Güçlü; Aşkale, Kop Mountain, 2100 m, 21.VI.2001, 2♂♂, leg. C. Güçlü; Köprüköy, Yağan, 1600 m, 20.VI.2003, 1♀, leg. C. Güçlü; Ilıca, Atlıkonak, 1850 m, 14.VI.2000, 1♀; 1850 m, 26.VI.2000, 2♂♂; 1850 m, 13.VI.2002, 1♀, leg. C. Güçlü; Oltu, Başaklı Mountain, 1800 m, 02.VII.2000, 1♀, leg. C. Güçlü.

Distribution: Armenia, Azerbaijan, Bulgaria, Czech Republic, Slovakia, Georgia, Germany, Hungary, Kazakhstan, Moldova, Russia (Moscow Oblast, Orenburg Oblast, Stavropolskiy Kray, Volgograd Oblast), Slovakia, Uzbekistan, Yugoslavia and Turkey: Kayseri (van Achterberg, 1990).

## **CONCLUSION**

It is remarkable to emphasize that most of the new recorded species have very large distribution areas in particular, European countries, their hosts were detected, and they are very abundant recorded localities in Turkey. Thus this type of studies should be further conducted in Turkey.

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