

Members of Sawfly Family Argidae (Hymenoptera) from Turkey

SEVDA HASTAOĞLU ÖRGEN AND HASAN H. BASBIÜYÜK

Introduction

The Argidae is the second largest family of Symphyta and is most diverse in tropical regions. It is currently divided into ten subfamilies (Smith, 1992; Goulet, 1993). Argidae are estimated to include about 900 species worldwide and 200–250 in the Palaearctic realm (Benson, 1951; Gault & Bolton, 1988, Taeger & Blank, 2005). In Europe they are represented by 70 species (Taeger & Blank 2004). Members of the family are easily recognized and can be distinguished morphologically from other sawfly families by the combination of the following characters: antenna with three articles, third article very long, in males of particular species bifurcated; abdominal terga without lateral longitudinal carina, spiracles on the ventrolateral portion of terga.

Records related to argids of Anatolia were published in several different occasions (e.g. Benson, 1968; Wolf, 1968; Koch, 1988; Chevin & Desmier de Chenon, 1982; Blank & Taeger, 1998). Benson (1968) recorded 18 species. Wolf (1968) reported 9 species, 7 of these was recorded by Benson (1968). Chevin & Desmier de Chenon (1982) reported 10 species which were already recorded by Benson (1968). Subsequently, Koch (1988) described two new species *Sterictiphora hannemanni* and *Sterictiphora turcica*, and reported a species, *S. angelicae* (Panzer, 1799), for the first time. *S.*

gastrica (Klug, 1812) and *S. nigripes*, which were synonymised with *S. furcata* by Benson (1968), have been removed from synonymy by Muche (1972) and this opinion was later supported by Koch (1988). The male type specimen of *S. nigripes* was collected from Akbez Yeniyan in Hatay province and reported by Muche (1972). Blank & Taeger (1998) discussed species of *Kokujewia*.

Evaluation of previous studies considering synonymy or changes in status of taxa under the study showed that 22 species of the family are known for Turkey at present. The argid fauna of Turkey is represented by four genera, *Kokujewia* and *Aprosthemina* (one species each), *Sterictiphora* (five species), and *Arge* (15 species).

Material and methods

Specimens have been collected from Central Anatolia mainly between 2000 and 2002 for three seasons by applying different methods of collecting, namely sweep netting, yellow pan and Malaise traps. Several different keys are used to identify the specimens (Benson 1950, 1951, 1958, 1968; Koch, 1988; Zhelokhovtsev, 1988). Specimens are housed in collection of Department of Biology at Cumhuriyet University, Sivas. A check list of species known for Turkey and a list of species recorded in present study are provided below.

A check list of species known from Turkey

<i>Arge aurata</i> (Zaddach, 1864)	Benson (1968), Wolf (1968) and Chevin & Desmier de Chenon (1982)
<i>Arge berberidis</i> (Schrank, 1802)	Benson (1968) and Chevin & Desmier de Chenon (1982) and present study
<i>Arge beckeri</i> (Tournier, 1889)	Benson (1968)
<i>Arge fuscipes</i> (Fallén, 1808)	Benson (1968) recorded as <i>A. clavicornis</i>
<i>Arge cyanocrocea</i> (Förster, 1771)	Benson (1968), Chevin & Desmier de Chenon (1982) and present study
<i>Arge ciliaris</i> (Linné, 1767)	Wolf (1968)
<i>Arge enodis</i> (Linné, 1767)	Benson (1968) and present study
<i>Arge frivaldszkyi</i> (Tischbein, 1852)	Benson (1968) and Wolf (1968)
<i>Arge nigripes</i> (Retzius, 1783)	Benson (1968) and present study
<i>Arge melanochna</i> (Gmelin, 1790)	Benson (1968), Wolf (1968), Chevin & Desmier de Chenon (1982) and present study
<i>Arge ochropus</i> (Gmelin, 1790)	Benson (1968), Wolf (1968), Chevin & Desmier de Chenon (1982) and present study
<i>Arge pleuritica</i> (Klug, 1834)	Benson (1968) and Chevin & Desmier de Chenon (1982) and present study
<i>Arge rustica</i> (Linné, 1758)	Benson (1968), Wolf (1968) and Chevin & Desmier de Chenon (1982) and present study
<i>Arge scita</i> (Mocsáry, 1880)	Benson (1968), Wolf (1968) and Chevin & Desmier de Chenon (1982)
<i>Arge simulatrix</i> (Konow, 1887)	Benson (1968), Wolf (1968) and Chevin & Desmier de Chenon (1982)
<i>Kokujewia clementi</i> (Zirngiebl, 1949)	Benson (1968) records as <i>K. ectrapela</i> , and Blank & Taeger (1998)
<i>Aprosthemata tardum</i> (Klug, 1814)	Benson (1968)
<i>Sterictiphora angelicae</i> (Panzer, 1799)	Koch (1988) and present study
<i>Sterictiphora furcata</i> (Villers, 1789)	Benson (1968), Chevin & Desmier de Chenon (1982) and present study
<i>Sterictiphora hannemanni</i> Koch, 1988	Koch (1988)
<i>Sterictiphora nigripes</i> Konow, 1899	Muche (1972)
<i>Sterictiphora turcica</i> Koch, 1988	Koch (1988)

List of species recorded in present study

Arge berberidis Schrank, 1802

Turkey: Sivas, Tecer [39°23'N 37°12'E] 1300 m, 02.06.2000, 1 ♂.

Arge cyanocrocea (Forster, 1771)

Turkey: Ankara, Beynam Forest [39°41'N 32°56'E] 1180 m, 15.06.1999, 1 ♀; Sivas, Karaçayır [39°54'N 36°58'E] 1750 m, 01.07.2000, 1 ♂; 09.06.2001, 1 ♀; Sivas, Taşlıdere [39°39'N 37°02'E] 1230 m, 22.05.2001 1 ♂; Kırşehir [39°13'N 34°12'E] 970 m, 02.06.2001, 1 ♀; Sivas, Gürün, Gökpınar [38°38'N 37°16'E], 28.07.2001, 1 ♀.

Arge enodis (Linné, 1767)

Turkey: Kırşehir, [39°14'N 34°12'E] 980 m, 02.06.2001, 1 ♀; Sivas, Çallı [39°39'N 36°44'E] 1300 m, 01.06.2001, 60 ♀ ♀, 70 ♂ ♂.

Notes: This species was recorded by Benson (1968) in Ankara. We have observed a huge population of this species on grasses under its host plant (willow trees) in early June 2001 by the side of Sivas-Yozgat road at Çallı village.

Arge nigripes (Retzius, 1783)

Turkey: Sivas, Taşlıdere [39°40'N 37°02'E] 1240 m, 22.05.2001, 1 ♂, 1 ♀.

Arge melanochra (Gmelin, 1790)

Turkey: Ankara, Beynam Forest [39°41'N 32°56'E] 1180m, 15.06.1999, 1 ♀.

Arge ochropus (Gmelin, 1790)

Turkey: Sivas, Tecer [39°25'N 37°13'E] 1350 m, 02.06.2000, 1 ♂; Sivas, Kampüs [39°42'N 37°01'E] 1260 m, 31.05.2001, 2 ♀ ♀.

Notes: The species listed in Benson (1968) and Wolf (1968) under name of *A. pyrenaica* (André, 1879) is synonymised with *Arge ochropus* by Lacourt (1976) and therefore excluded from the check list.

Arge pleuritica (Klug, 1834)

Turkey: Sivas, Taşlıdere [39°39'N 37°02'E] 1230 m, 22.06.2001, 5 ♂ ♂, 5 ♀ ♀

Arge rustica (Linné, 1758)

Turkey: Malatya, Arguvan, Çobandere, [38°59'N 38°13'E] 1550 m, 05.1991, 1 ♂; Sivas, Tecer [39°23'N 37°12'E] 1330 m, 02.06.2000, 1 ♂.

Sterictiphora angelicae (Panzer, 1799)

Turkey: Kırşehir-Kayseri road 15. km., [39°00'N 34°04'E] 1010 m, 02.06.2001, 1 ♀

Notes: This species is collected very rarely and it was found in a wheat field.

Sterictiphora furcata (Villers, 1789)

Turkey: Sivas, Kampüs [39°41'N 37°02'E] 1255 m, 06.06.2000, 1 ♂; Kırşehir, Mucur [39°13'N 34°29'E] 1100 m, 02.06.2001, 2 ♂ ♂.

Notes: This species was reported by Benson (1968) in İstanbul, Ankara, Amasya, Zonguldak, Sinop and Erzurum. He synonymised *Hylotoma gastrica* Klug, 1814, *Schizoceros nigripes* Konow, *S. henschi* (Konow, 1907) and *S. bleusei* PIC, 1918, within this species. However, Muche (1972) has later stated that *Sterictiphora gastrica* (Klug) and *Sterictiphora nigripes* (Konow) are two valid species and this opinion was confirmed by Koch (1988). Chevin & Desmier de Chenon (1982) have claimed that this species occurs in Bolu. We have tentatively included this species in the list at present.

Acknowledgements

We thank Dr. Stephan Blank for reading and commenting on earlier versions of the manuscript. This study was supported in part by a Cumhuriyet University Research Fund grant (CÜBAP F-106) and a TÜBİTAK grant (TBGA-AY/259 102T019).

References

- Benson, R.B. 1950: An introduction to the natural history of British sawflies. – Transactions of the Society for British Entomology 10: 45–138.
- Benson, R. B. 1951: Hymenoptera, Symphyta. Section (a). – Handbooks for the Identification of British Insects 6 (2a): 1–49.
- Benson, R.B. 1958: Hymenoptera, Symphyta. Section (c). – Handbooks for the Identification of British Insects 6 (2c): 139–252.
- Benson, R.B. 1968: Hymenoptera from Turkey, Symphyta. – Bulletin of the British Museum (Natural History) Entomology series 22(4): 109–207.
- Blank, S. & Taeger, A. 1998: revision of the sawfly genera *Asiarge* Gussakovskij, 1935 and *Kokujewia* Konow, 1902. – Beiträge zu Entomologie, Berlin 48(2): 505–515.
- Chevin, H. & Desmier de Chenon, R. 1982: Contribution à la des Hyménoptères Symphytes de Turquie. – Bulletin de la Société entomologique de France 87: 43–45
- Gauld, I.d. & Bolton, B. 1988: The Hymenoptera. British Museum (Natural History). – Oxford University Press, Oxford.
- Goulet, H. 1993: Superfamilies Cephoidea, Megalodon-toidea, Orussoidea, Siricoidea, Tenthredinoidea and Xyeloidea. – In: Goulet, H. and Huber, J.T. (eds):

- Hymenoptera of the World: An Identification Guide to Families. Agriculture Canada, Ottawa: 101–116.
- Koch, F. 1988: Die Gattung *Sterictiphora* Billberg (Insecta, Hymenoptera, Symphyta: Argidae). – Entomologische Abhandlungen Museum für Tierkunde Dresden 52: 30–61.
- Lacourt, J. 1976: Note sur *Arge ochropus* (Hym., Tenthredinoidea). – L'Entomologiste, Paris 32 (6): 211.
- Muche, W.H. 1972: Beitrag zur Kenntnis der Argidae-Gattungen *Sterictiphora* Billberg und *Aprosthemina* Konow (Hymenoptera). – Entomologische Nachrichten, Dresden, 16(11): 137–144.
- Smith, D.R. 1992: A synopsis of the sawflies (Hymenoptera, Symphyta) of America south of the United States: Argidae. – Memoirs of the American Entomological Society 39: 1–201.
- Taeger, A. & S. M. Blank 2004: Fauna Europaea of sawflies. – <http://www.faunaeur.org>.
- Taeger, A. & S. M. Blank 2005: ECatSym-Electronic Catalog of the Symphyta of the World (Insecta, Hymenoptera). – version 1.0 (August 1, 2005), ECatSym Online service Müncheberg, http://www.zalf.de/home_zalf/institute/dei/php_e/ecatsym/ecatsym.php.
- Wolf, F. 1968: Hymenopteres Symphytes de Turquie. – Bulletin des Recherches agronomiques de Gembloux, N. S., Gembloux 3(3): 562–565.
- Zhelokhovtsev, A. H. 1988: Order Hymenoptera. Suborder Symphyta (Chalastogastra). – In: Medvedev, G.S. (ed.): Keys to the Insects of the European Part of the USSR. Hymenoptera, Part 6. Symphyta. E. J. Brill Academic Publisher, Leiden: 1–432 [English translation printed in 1994].

Abstract

Members of Sawfly Family Argidae (Hymenoptera) from Turkey. A check list for argid species of Turkey is provided including a total of 22 species. Ten species are recorded for Central Anatolia. *Arge pleuritica* (Klug, 1834) is reported from this region for the first time.

Zusammenfassung

Die Vertreter der Pflanzenwespenfamilie Argidae (Hymenoptera) in der Türkei. Für die Argidae der Türkei wird eine Checkliste erstellt, die 22 Arten umfasst. Nachweise von 10 Arten werden für Zentralanatolien berichtet. *Arge pleuritica* (Klug, 1834) wird in dieser Region erstmals nachgewiesen.