

NOTES ON HYMENOPTERA (INSECTA) FAUNA OF ASPAT (STROBILOS) (MUĞLA: BODRUM), WESTERN TURKEY

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ABSTRACT: This study is based on the material of the some families of Hymenoptera collected from Muğla province of Turkey in 2008-2009. In this study, 28 species and subspecies in 12 families of Hymenoptera have been listed. Among them: 17 species and subspecies are newly recorded for Muğla province of Turkey. Separately, *Vespa orientalis* Linnaeus, 1771, *Vespula germanica* (Fabricius, 1793), *Apis mellifera* Linnaeus, 1758 and *Xylocopa iris* (Christ, 1791) have been found the most abundant and widespread species. In addition, new localities are mentioned for some species which have already been reported in Turkey.

KEY WORDS: Fauna, Hymenoptera, Muğla, Turkey

Turkey is biogeographically one of the most interesting countries in the West Palaearctic region. Some faunistic studies on this subjects in the Turkey have been made by Benson (1968), Çalmaşur (2002), Çoruh et al. (2004), Lelej & Yıldırım (2009), Ljubomirov & Yıldırım (2008), Özbek & Anlaş (2011), Özbek et al., (1999, 2000), Rosa & Yıldırım (2017), Yıldırım (2012, 2014, 2015), Yıldırım & Lelej (2012), Yıldırım & Kojima, (1999), Yıldırım & Boni Bartalucci (2009), Yıldırım & Wahis (2010) and Yıldırım et al. (2004, 2014).

This study have been conducted in Aspat (Strobilos) ancient city and its territorium (27°26'E and 37°02'N), Bodrum, Muğla, western Turkey, in 500 hectares of land during the years of 2008-2009. Material have been collected by beating, handpicking, bait trapping, pitfall trapping and sweep netting at two weeks' intervals (Tezcan et al., 2013).

The aim of this paper is to present new collection and biological data on Hymenoptera in Turkey.

RESULTS

At the end of this study, 398 specimens of 28 species belong to 12 families of Hymenoptera have been recorded.

Suborder: Symphyta
Family: Tenthredinidae
***Athalia ancilla* Serville, 1823**

Material examined: 11.IV.2009, sweep net, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

***Macrophya (Macrophya) postica* (Brullé, 1832)**

Material examined: 11.IV.2009, sweep net, 5 exs., 11. IV.2009, sweep net, 2 exs., 11. IV.2009, 1 ex., 01.V.2009, sweep net, 2 exs., totally 10 specimens.

***Tenthredo (Zonuledo) zonula* Klug, 1817**

Material examined: 21.III.2009, sweep net, 11 ex., 11.IV.2009, sweep net, 9 exs., totally 10 specimens.

Suborder: Apocrita**Family: Apidae*****Apis mellifera* Linnaeus, 1758**

Material examined: 23.II.2008, by sweep net on *Sinapis* sp., 1 ex., 29.III.2008, sweep net, 10 exs., 12.IV.2008, sweep net, 1 ex., 26.IV.2008, sweep net, 1 ex., 26.IV.2008, bait trap, 1 ex., 01.VIII.2008, pitfall trap, 1 ex., 05.IX.2008, bait trap, 3 exs., 21.III.2009, 2 exs., 11.IV.2009, on *apiaceous plants*, 5 exs., 11.IV.2009, sweep net, 4 exs., 01.V.2009, sweep net, 1 ex., totally 30 specimens.

***Bombus terrestris* (Linnaeus, 1758)**

Material examined: 29.III.2008, sweep net, 1 ex., 26.IV.2008, bait trap, 1 ex., 28.II.2009, sweep net, 1 ex., 21.III.2009, pitfall trap, 1 ex., 10.VIII.2009, bait trap, 1 ex., totally 5 specimens.

***Xylocopa iris* (Christ, 1791)**

Material examined: 29.III.2008, sweep net, 1 ex., 24.V.2008, sweep net, 1 ex., 19.VI.2008, sweep net, 1 ex., 11.IV.2009, sweep net, 3 exs., 01.V.2009, sweep net, 3 exs., 29.VI.2009, sweep net, 2 exs., 09.VIII.2009, 1 ex., 10.II.2010, reared from *apiaceous plants*, 8 exs., totally 20 specimens.

Family: Crabronidae***Lestica subterranea* (Fabricius, 1775)**

Material examined: 24.V.2008, sweep net, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

Family: Sphecidae***Podalonia hirsuta mervensis* Radoszkowski, 1887**

Material examined: 29.III.2008, sweep net, 1 ex., 12.IV.2008, 1 ex., 19.VI.2008, sweep net, 1 ex., totally 3 specimens.

Family: Chrysididae***Chrysis inaequalis* Dahlbom, 1845**

Material examined: 11.IV.2009, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

***Pseudospinolia uniformis* (Dahlbom, 1854)**

Material examined: 29.III.2009, sweep net, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

Family: Gasteruptiidae***Gasteruption jaculator* (Linnaeus, 1758)**

Material examined: 01.V.2009, aspirator, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

Family: Ichneumonidae***Anomalon cruentatum* (Geoffroy, 1785)**

Material examined: 24.V.2009, sweep net, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

Family: Mutillidae***Mutilla quinquemaculata* Cyrillo, 1787**

Material examined: 15.VIII.2008, bait trap, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

***Myrmilla (Myrmilla) caucasica* (Kolenati, 1846)**

Material examined: 07.VI.2008, pitfall trap, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

***Tropidotilla litoralis* (Petagna, 1787)**

Material examined: 01.VIII.2008, pitfall trap, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

Family: Pompilidae***Agenioideus (Schizanoplius) excisus* (Morawitz, 1890)**

Material examined: 15.VIII.2008, pitfall trap, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

***Priocnemis (Umbripennis) fallax* Verhoeff, 1922**

Material examined: 29.III.2008, sweep net, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

***Priocnemis (Priocnemis) parvula* Dahlbom, 1845**

Material examined: 15.VIII.2008, pitfall trap, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

Family: Scoliidae***Colpa (Heterelis) quinquecincta quinquecincta* (Fabricius, 1793)**

Material examined: 19.VI.2008, sweep net, 1 ex., totally 1 specimen.

Family: Tiphidae***Meria dorsalis* (Fabricius, 1804)**

Material examined: 24.V.2008, by sweep net on apiaceous plants, 1 ex., 04.IX.2008, sweep net, 1 ex., totally 2 specimens. This species is newly recorded from Muğla province.

***Tiphia (Tiphia) femorata* Fabricius, 1775**

Material examined: 24.V.2008, by sweep net on apiaceous plants, 1 ex., 15.VIII.2008, pitfall trap, 1 ex., totally 2 specimens.

***Tiphia persica* Turner, 1908**

Material examined: 23.V.2009, sweep net, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

Family: Vespidae***Ancistrocerus auctus* (Fabricius, 1793)**

Material examined: 29.III.2008, sweep net, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

***Euodynerus (Euodynerus) curictensis* Bluethgen, 1940**

Material examined: 01.V.2009, sweep net, 1 ex., totally 1 specimen. This species is newly recorded from Muğla province.

***Odynerus melanocephalus armeniacus* (Morawitz, 1885)**

Material examined: 29.III.2008, sweep net, 2 exs., 12.IV.2008, sweep net, 1 ex., 21.III.2009, sweep net, 1 ex., 11.IV.2009, sweep net, 1 ex., totally 5 specimens. This species is newly recorded from Muğla province.

***Polistes dominulus* (Christ, 1791)**

Material examined: 07.VI.2008, bait trap, 1 ex., 06.VII.2008, sweep net, 1 ex., 04.IX.2008, bait trap, 1 ex., 01.V.2009, bait trap, 1 ex., totally 4 specimens.

***Vespa orientalis* Linnaeus, 1771**

Material examined: 10.V.2008, sweep net, 1 ex., 24.V.2008, bait trap, 1 ex., 01.VIII.2008, sweep net, 1 ex., 15.VIII.2008, bait trap, 13 exs., 15.VIII.2008, pitfall trap, 2 exs., 04.IX.2008, bait trap, 25 exs., 25.IX.2008, bait trap, 22 exs., 21.X.2008, bait trap, 11 exs., 29.XI.2008, bait trap, 14 exs., 23.V.2009, bait trap, 4 exs., 20.VII.2009, bait trap, 1 ex., 09.VIII.2009, 1 ex., 10.VIII.2009, pitfall trap, 1 ex., 24.VIII.2009, bait trap, 13 exs., 24.VIII.2009, pitfall trap, 1 ex., 18.IX.2009, bait trap, 22 exs., 16.X.2009, bait trap, 44 exs., 16.X.2009, sweep net, 1 ex., totally 178 specimens.

***Vespula germanica* (Fabricius, 1793)**

Material examined: 12.IV.2008, bait trap, 1 ex., 26.IV.2008, bait trap, 1 ex., 10.V.2008, bait trap, 1 ex., 07.VI.2008, bait trap, 3 exs., 19.VI.2008, bait trap, 1 ex., 15.VIII.2008, bait trap, 9 exs., 04.IX.2008, bait trap, 25 exs., 25.IX.2008, bait trap, 23 exs., 21.X.2008, bait trap, 9 exs., 29.XI.2008, bait trap, 23 exs., 01.V.2009, bait trap, 3 exs., 10.VIII.2009, bait trap, 1 ex., 24.VIII.2009, bait trap, 1 ex., 18.IX.2009, bait trap, 3 exs., 16.X.2009, bait trap, 8 exs., 16.X.2009, pitfall trap, 1 ex., totally 113 specimens.

DISCUSSION

As a result of this study, 28 species were identified. Among them *Vespa orientalis* Linnaeus, 1771 (178 specimens), *Vespula germanica* (Fabricius, 1793) (113 specimens), *Apis mellifera* Linnaeus, 1758 (30 specimens) and *Xylocopa iris* (Christ, 1791) (20 specimens) were the most abundant species. Separately, *A. ancilla* Serville, 1823, *A. auctus* (Fabricius, 1793), *O.melanocephalus armeniacus* (Morawitz, 1885), *E. curictensis* Bluethgen, 1940, *M. caucasica* (Kolenati, 1846), *T. litoralis* (Petagna, 1787), *M. quinque maculata* Cyrillo, 1787, *P. fallax* Verhoeff, 1922, *P. parvula* Dahlbom, 1845, *A. excisus* (Morawitz, 1890), *A. cruentatum* (Geoffroy, 1785), *P. uniformis* (Dahlbom, 1854), *C. inaequalis* Dahlbom, 1845, *M. dorsalis* (Fabricius, 1804), *T. persica* Turner, 1908, *L. subterranea* (Fabricius, 1775) and *G. jaculator* (Linnaeus, 1758) were recorded for the first time from Muğla province of Turkey. The number of species collected only in 2008 was 12 (42,86%) and in 2009 was nine (32,14). The number found in both year was seven (25%).

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