

New Records of Crabronidae (Insecta: Hymenoptera) from Turkey

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ABSTRACT

In the present study, six specimens belonging to Crabronidae (Insecta: Hymenoptera) family were collected from their natural habitats in Tokat province (Middle Black Sea region) between 2009 and 2012. Four species were identified and recorded as new for Turkish fauna from the studied material. All specimens were prepared as standard museum materials and deposited in Gaziosmanpaşa University, Tokat. The number of species belonging to Crabronidae family in Turkey were reached to 485.

Key words: Hymenoptera, Crabronidae, fauna, Turkey, new records.

INTRODUCTION

Crabronidae (Hymenoptera) family includes solitary digger wasps, which are common in temperate regions all over the world. It is represented by about 9000 species in the world (Bohart and Menke, 1976, Goulet and Huber, 1993, Pulawski, 2012), and 481 species in Turkey (de Beaumont 1967, 1969; Pulawski, 1967, 1971; Hensen and van Ooijen, 1987; Tüzün *et al.*, 1999; Gülmez and Tüzün, 2005; Straka 2005; Ljubomirov and Yıldırım, 2008; Yıldırım, 2012).

Crabronidae is a relatively well studied family among other families of Hymenoptera in Turkey. Some of the earlier studies about the family are: Lepeletier de Saint Fargeu (1845), Kohl (1905), Fahringer and Friese (1921), Fahringer (1922), and Bytinski-Salz (1956). Guichard and Harvey (1967) collected vast material from almost all provinces of the country in 1959, 1960, and 1962. These specimens were evaluated by de Beaumont (1967) and Pulawski (1967). Subsequent studies are de Beaumont (1969), Pulawski (1973, 2007), Gayubo *et al.* (2003), Gayubo and Ozbek (2005) Ljubomirov and Yıldırım (2005), Straka (2005), and Yıldırım (2012). To date, a total of 481 species belonging to the family were recorded from Turkey.

Turkey has a diverse vegetation and habitat types such as Euro-Siberian, Mediterranean, and Irano-Turanian vegetation elements (Kurt, 2006). This configuration affects insect fauna in such a way that species found in Turkey are composed of Black Sea, Mediterranean, European, and North African species (de Beaumont, 1967). Moreover some of the researchers (Guichard and Harvey, 1967; Hensen and Ooijen, 1987) drew attention to the rich fauna and the possibility to detect

new species. Recently, many studies revealed new species records for Crabronidae fauna of Turkey as a proof of this statement. (de Beaumont, 1967; Pulawski, 1967, 1971; Hensen and van Ooijen, 1987; Gülmez and Tüzün, 2005; Straka, 2005; Yıldırım, 2012). Consequently, Turkish insect fauna has not been explored yet.

Tokat province is one of the most interesting regions for insect habitation in Turkey because of its climate and geographical position. Within the county area, altitude ranges between 250 m and 1900 m. the northern parts are under the effect of wet Black Sea region climate, whereas southern parts are under the effect of dry Central Anatolian region climate. The number of insect species is thought to be high as a result of this habitat diversity. In this study, four species belonging to Crabronidae family were recorded for the first time for Turkish fauna from Tokat province.

MATERIALS AND METHODS

Adult crabronid wasps were collected by insect net from their natural habitats around Tokat province between 2009-2012. After they were killed and prepared as museum materials, specimens were identified by one of the authors (Gülmez) according to their original descriptions and keys in the following literature: de Beaumont (1961), Bitsch *et al.* (1997), and Gayubo and Felton (2000). Leica S6E stereomicroscope were used for observation of the specimens. The material is deposited in the Entomological Laboratory, in Gaziosmanpaşa University, Tokat.

RESULTS

Subfamily Bembicinae

Alysson ratzeburgi Dahlbom, 1843

Material examined: Almus: Ormandibi road 10th km, 900 m, 06.07.2010 1♀.

Distribution: Norway, Russia, Germany, Poland , Scandinavia , Austria, Italy, France, Sweden, Finland, Netherlands, Switzerland , Fennoscandia and Denmark, Hungary, Romania, Czech Republic and Slovakia, Ukraine, Asia, Japan, Korea, and China (Pulawski, W. J., 2012)

Harpactus tauricus Radoszkowski, 1884

Material examined: Tokat: Çördük, 900 m, 04.08.2009, 1♀.

Distribution: Russia, Ukraine, Kazakhstan, Turkmenistan, Tajikistan, Crimea, Italy, Greece, Croatia, Czechoslovakia, Hungary, Romania, and N. Iran (Pulawski, W. J., 2012)

Subfamily Crabroninae

Liris inopinatus de Beaumont, 1961

Material examined: Tokat: Erbaa: Lâdik road, 280 m, 25.04.2010, 1♀; Tokat: Erbaa, GPS location: 36:34:11 E, 40:40:13 N 25.09.2012, 1♀; Tokat: Kömeç, 650 m, 16.10.2008, 1♂.

Distribution: Cyprus, Greece, Israel, and Western Europe (Pulawski, W.J., 2012)

Nitela truncata Gayubo and Felton, 2000

Material examined: Almus: Tekneçik, 1250 m, 28.07.2010, 1♀.

Distribution: France, Germany, Greece, Italy, Portugal, and Spain (Pulawski, W. J., 2012)

DISCUSSION AND CONCLUSION

Four species were identified in this study, *Alysson ratzeburgi* Dahlbom 1843, *Harpactus tauricus* Radoszkowski 1884, *Nitela truncata* Gayubo and Felton 2000, and *Liris inopinatus* de Beaumont 1961, which are firstly recorded for the fauna of Turkey. Although they have not been known from Turkey, these species are distributed in a large area in the palaearctic region as well as countries around Turkey. Therefore these species can easily be estimated to be found in the country.

With this study, the number of species belonging to the Crabronidae family in Turkey has reached to 485. This number well represents the fauna. Still, the number of species are expected to increase in future studies.

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