

A STUDY ON THE GENUS *BRACON* FABRICIUS, 1804 (HYMENOPTERA: BRACONIDAE: BRACONINAE) IN ANKARA PROVINCE IN TURKEY

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ABSTRACT: The present study reports *Bracon (Bracon) fulvipes* Nees, *B. (B.) intercessor* Nees, *B. (B.) leptus* Marshall, *B. (B.) pectoralis* Wesmael, *B. (B.) trucidator* Marshall, *Bracon (Cyanopterobracon) sabulosus* Szepliget, *Bracon (Habrobracon) radialis* Telenga and *Bracon (Rostrobracon) urinator* (Fabricius) from Ankara province. Synonymy, general and Turkish distributions of each species are presented. Reported species are first records for the Central Anatolia. Furthermore, *Bracon (Cyanopterobracon) sabulosus* Szepliget is new to the fauna of Turkey.

KEY WORDS: Braconidae, Braconinae, *Bracon*, Distribution, Fauna, New Record, Turkey.

The genus *Bracon* Fabricius, 1804, which is one of the largest genera in the subfamily Braconinae, has about 800 species in the worldwide and of those 300 species are Palearctic (Tobias, 1995). Fahringer (1927) and Tobias (1957, 1961, 1971) divided *Bracon* into several subgenera because of having great number of species (Quicke, 1987).

In Turkey, studies related to Braconinae were mostly carried out in the Marmara, the Mediterranean and Aegean regions (Beyarslan, 1986a, 1986b, 1987a, 1987b, 1988, 1991, 1992, 1996, 1999, 2002a, 2002b; Beyarslan & Fischer, 1990; Beyarslan & Inanc, 1994, 1995; Beyarslan et al., 2002a, 2002b, 2006).

Prior to this study, seven species from the subgenus *Glabrobracon* Fahringer were reported by Güler and Çağatay (2001) from Ankara Province. Present study introduces eight more species of *Bracon* from Ankara Province. Most of these species appeared to be primary parasites of the larvae of Tephritidae, Lonchaeidae (Diptera), Curculionidae, Bruchidae, Cerambycidae (Coleoptera), Plutellidae, Geometridae, Gelechiidae, Pyralidae, Alucitidae, Noctuidae, Coleophoridae, Tortricidae and Sessidae (Lepidoptera), Eurytomidae and Cynipidae (Hymenoptera), which are quite important pests of economically important plants (Quicke & Sharkey, 1989; Shaw & Huddleston, 1991; Beyarslan & İnanc, 1995; Tobias, 1995).

MATERIAL AND METHOD

Specimens were collected by sweep netting from various habitats in different localities of Ankara Province, Altındağ, Ayaş, Çankaya, Elmadağ,

Etimesgut, Haymana and Şereflikoçhisar between May 1995 and August 1996, and killed with ethyl acetate. The materials were mounted on triangular labels and were examined with a stereoscopic binocular microscope.

Papp (1974), Beyarslan (1986a and 1986b), Quicke (1987), Beyarslan & Fischer (1990), Achterberg (1993) and Tobias (1995) were used for the identification of the species. In addition, identifications were checked by Dr. Beyarslan.

The specimens are preserved in the collections of Department of Biology, Hacettepe University (Ankara).

RESULTS

Family: Braconidae

Subfamily: Braconinae

Genus: *Bracon* Fabricius, 1804

Bracon Fabricius, 1804. Syst. Piezat. 102, 40 species

Type-species: *Ichneumon minutator* Fabricius, 1798.

Synonym: *Brachon* Agassiz, 1846; *Brazon* Schulz, 1911; *Microbracon* Ashmead, 1890; *Amicoplidea* Ashmead, 1900; *Macrodyctium* Ashmead, 1900; *Tropidobracon* Ashmead, 1900; *Liobracon* (Ashmead) Nason, 1905; *Eutropobracon* Ayyar, 1928

Subgenus: *Bracon* Fahringer, 1927

Bracon fulvipes Nees, 1834

Bracon fulvipes Nees von Esenbeck, 1834. Hymen. Ichneum. Affin. Monogr. 1:74, 1 female, 1 male.

Synonym: *Bracon carinatus* Szépligeti, 1901; *Bracon sylvanus* Greese, 1928; *Microbracon carinatus* Ferriere, 1930.

Material examined: Elmadağ- Deliler, 23.VII.1995, 940m, 2 females.

General distribution: One of the most common *Bracon* species in the Palearctic Region (Papp, 1968), Austria, Belgium, Caucasus, Central Asia, England, Far East, Finland, France, Germany, Greece, Hungary, Italy, Kazakhstan, Mongolia, the Netherlands, Poland, Russia, Spain, Sweden, Yugoslavia (Shenefelt, 1978; Tobias, 1995).

Distribution in Turkey: Adana (Feka), Antalya (Merkez), Burdur (Merkez), Gaziantep (İslahiye), Hatay (Reyhanlı, Dörtöyl), İçel (Tarsus), Kahramanmaraş (Göksun), (Beyarslan, 1986b), Bursa (İnegöl, Karacabey, Burhaniye, Cumalıkızık), Bilecik (Küplü, Pazaryeri, Vezirhan), İzmit (Sapanca- İstanbul Ü. Tesisi), (Beyarslan & İnanç, 1995), Adapazarı (Akyazı- Madenler, Geyve-Bağlarbaşı), Antalya (Duraliler), Balıkesir (Yakupköy, Manyas-Kuş Cenneti, Karacaköy), Edirne (Süloğlu, Havsa-Abalar, Köseömer, Keşan-Korudağı, Çıplakada- Yenikadın), Elazığ (Baskil), Erzincan (Merkez), Isparta (Milas), İstanbul (Çatalca-Binkılıç,

Silivri), Kırklareli (Dereköy, Yeniceköy), Tekirdağ (Ganos Dağları, Hayrabolu, Malkara- Kaşıkçı) (Beyarslan, 1999), Çanakkale (Gökçeada-Tigem- Şahinkaya Köyü) (Beyarslan et al., 2002b).

***Bracon intercessor* Nees, 1834**

Bracon intercessor Nees von Esenbeck, 1834. Hymen. Ichneum. Affin. Monogr., I: 71, 1 female, 1 male.

Synonym: *Bracon lativentris* Thomson, 1892; *Bracon universitatis* Dalla- Torre, 1898; *Bracon bisinuatus* Szépligeti, 1901; *Bracon dubtosus* Szépligeti, 1901; *Bracon elegans* Szépligeti, 1901; *Bracon fallciosus* Szépligeti, 1901; *Bracon haemirugosus* Szépligeti, 1901; *Bracon mixtus* Szépligeti, 1901; *Bracon mundus* Szépligeti, 1901; *Bracon maidli* Fahringer, 1925; *Microbracon intercessor* Menozzi, 1938.

Material examined: Haymana, 05.VIII.1995, 2 females.

General distribution: One of the most frequent *Bracon* species in the Palearctic Region (Tobias, 1995), Austria, Caucasia, England, France, Germany, Hungary, Italy, Kazakhstan, Lithuania, Poland, Russia, Spain, Sweden, Syria, Yugoslavia (Papp, 1968; Shenefelt, 1978).

Distribution in Turkey: Adana (Merkez, Osmaniye), Antalya (Merkez), Burdur (Merkez), Hatay (Hassa, Reyhanlı), Isparta (Merkez), İçel (Tarsus, Erdemli, Silifke), Kahramanmaraş (Göksun, Tekir) (Beyarslan, 1986b), Adapazarı (Akyazı- Dedeler, Geyve- Bağlarbaşı), Afyon (Emirdağ), Antalya (Merkez), Balıkesir (Dursunbey- Saçayağı, Gönen- Gebeçınar, Manyas- Kuşcenneti, Yakupköy), Bilecik (Bakırköy, Pazaryeri), Bursa (Süleymaniye, İnegöl- Mezitli, Nebiyatağı, Taraklı, Osmaniye, Karacabey- Çingençeşme, Kulakpınar, Uludağ- Yeşiltarla), Çanakkale (Biga, Çan, Lapseki- Bayramdere), Edirne (Trakya Ü. Kampüsü, Havsa- Necatiye), Gaziantep (İslahiye, Süleoğlu), İstanbul (Silivri), İzmit (Sapanca- İstanbul Ü. Tesisleri, Uzuntarla), Kırklareli (Kaynarca, Ürünlü, Lüleburgaz, Türkgeldi- Pınarhisar- Yeniceköy), Tekirdağ (Hayrabolu, Muratlı) (Beyarslan & İnanç, 1995), Erzurum (Merkez), (Beyarslan, 1999), Çanakkale (Gökçeada- Tigem- Kale Köyü- Uğurlu Köyü) (Beyarslan et al., 2002b).

***Bracon leptus* Marshall, 1897**

Bracon leptus Marshall, 1897. Spec. Hymen. d'Europe et d'Algerie, V(2): 64, 1 female, 1 male.

Synonym: *Bracon centaureae* Szépligeti, 1910.

Material examined: Haymana, 16.V.1995, 2 females; Çankaya- Beytepe, 11.VII.1995, 1 female; Çubuk- Ağınlı, 25.V.1996, 1 female.

General distribution: Austria, Caucasus, Far East, Hungary, Kazakhstan, Siberia, Spain, Tajikistan, Turkmenistan, Ukraine, Uzbekistan (Papp, 1968; Shenefelt, 1978; Tobias, 1995).

Distribution in Turkey: Çanakkale (Gökçeada- Aydınçık Köyü- Tigem- Uğurlu Köyü) (Beyarslan et al., 2002b).

***Bracon pectoralis* Wesmael, 1838**

Bracon pectoralis Wesmael, 1838. Nouv. Mem. Acad. Sci. Bruxelles, 11: 12, 1 female, 1 male.

Synonym: *Bracon ochrosus* Szépligeti, 1896; *Micrabracon pectoralis* Brues, 1926; *Bracon (Striobracon) pectoralis* Fahringer, 1927.

Material examined: Elmadağ- Karacahasan, 23.VII.1995, 1295m, 1 male; Elmadağ-Süleymanlı, 23.VII.1995, 940m, 1 female; Haymana, 03.VIII.1995, 1 male; 05.VIII.1995, 2 females, 3 males; Elmadağ, 12.VIII.1995, 2 females; Etimesgut- Eryaman, 18.V.1996, 1 female.

General distribution: Albania, Austria, Azerbaijan, Belgium, Bulgaria, Caucasia, England, France, Germany, Hungary, Italy, Kazakhstan, Russia, Spain, Tunisia, Turkmenistan, Ukraine, Yugoslavia (Papp, 1968; Shenefelt, 1978; Tobias, 1995).

Distribution in Turkey: Adana (Feke, Karaisalı), Antalya (Merkez, Duraliler, Elmalı, Finike, Korkuteli, Kumluca, Manavgat), Burdur (Merkez), Hatay (Dörtyol, Reyhanlı), Isparta (Merkez, Eğirdir), İçel (Silifke), (Beyarslan, 1986b), Adapazarı (Akyazı- Dedeler, Madenler, Geyve- Bağlarbaşı, Göktepe), Balıkesir (Dursunbey- Saçayağı, Yakupköy, Manyas- Karacaköy, Kuşçenneti), Bilecik (Ayvacık, Bayırköy, Pazaryeri, Vezirhan, Yeniköy), Bursa (Burhaniye, Cumalıkızık, Süleymaniye, İnegöl-Osmaniye, Karacabey- Canbazköy, Çingenceşme, Kulakpınar, Keleş-Baraklı, Orhaneli- Çırpı, Gönükbelen), Çanakkale (Biga, Çınardere, Çan, Kazdağı), Edirne (Enez, Havsa, Osmanlı), İzmit (Sapanca-İstanbul Ü. Tesisleri), Kırklareli (Kaynarca, Lüleburgaz- Evrensekiz), Tekirdağ (Uçmakedere, Malkara- Kaşıkçı, Muratlı- Hanoğlu, Saray- Safaalan), Van (Gürpınar) (Beyarslan & İnanç, 1995), Çanakkale (Bozcaada-Amerikançeşme, Gökçeada- Uğurlu Köyü, Şahinkaya Köyü- Tigem) (Beyarslan et al., 2002b).

***Bracon trucidator* Marshall, 1888**

Bracon trucidator Marshall, 1888. Spec. Hym. Eur. Alg. 4:93, 1 female, 1 male.

Synonym: *Bracon bilineatus* Thomson, 1892; *Bracon hilaris* Marshall, 1897

Material examined: Çankaya- Beytepe, 18.VII.1995, 1 female 1 male; Haymana, 19.VII.1995, 1 female; 01.VIII.1995, 1 male; 05.VIII.1995, 2 females; Şereflikoçhisar- Devekonağı, 22.VII.1995, 1 female; Elmadağ-Deliler, 23.VII.1995, 920m, 2 females, 1 male; Elmadağ- Süleymanlı, 23.VII.1995, 940m, 2 females, 1 male; Ayaş- Başbereket, 13.VII.1996, 1 female.

General distribution: Belgium, Caucasia, England, France, Hungary, Italy, Kazakhstan, Lithuania, Romania, Russia, Spain, Switzerland, Yugoslavia (Papp, 1968; Shenefelt, 1978).

Distribution in Turkey: Adapazarı (Göktepe), Balıkesir (Gönen), Bilecik (Demirköy, Ayvacık, Osmanlı, Pazaryeri, Vezirhan), Bursa (İnegöl-

Mezitli, Taraklı, Karacabey- Kulakpınar, Süleymaniye, Uluçam- Doğanlı), Çanakkale (Biga, Çınardere, Çan, Lapseki- Bayramdere), Edirne (Eskikadın, Enez, Havsa- Köseömer, Necatiye, Meriç), İstanbul (Silivri), Kırklareli (Ürünlü, Demirköy- Sarpdere, Lüleburgaz- Evrensekiz, Pınarhisar- Yeniceköy), Tekirdağ (Işıklar, Uçmakedere, Hayrabolu, Malkara- Kaşıkçı, Muratlı, Hanoğlu), Van (Yüzüncü Yıl Ü. Kampüsü) (Beyarslan & İnanç, 1995).

Subgenus: *CyanopteroBracon*, Tobias 1957

***Bracon sabulosus* Szepligeti, 1896**

Bracon sabulosus Szepligeti, 1896. Termeszetr. Füz. 19: 293- 367, 1 female.

Material Examined: Haymana, 05.VIII.1995, 2 females, 1 male.

General Distribution: Caucasus, Hungary, Iran, Kazakhstan, Romania, Russia, Yugoslavia (Shenefelt, 1978; Tobias, 1995).

Distribution in Turkey: New record for Turkish fauna.

Subgenus: *HabroBracon* Ashmead, 1895

***Bracon radialis* Telenga, 1936**

Bracon (*Bracon*) *radialis* Telenga, 1936. Fauna SSSR 5(2): 223-393, 1 female, 1 male.

Material Examined: Şereflikoçhisar- Devekonağı, 22. VII.1995, 2 females; Elmadağ- Karacahasan, 23.VII.1995, 1 female.

General Distribution: Austria, Kazakhstan, Mongolia, Turkistan, (Shenefelt, 1978; Tobias, 1995).

Distribution in Turkey: Çanakkale (Gökçeada) (Achterberg, 2004).

Subgenus: *RostroBracon* Tobias, 1957

***Bracon urinator* (Fabricius, 1798)**

Ichneumon urinator Fabricius, 1798. Suppl. Ent. System., 224

Bracon (*RostroBracon*) *urator*: Fahringer, 1928. Opusc. bracon. 1(7-9): 494.

Synonym: *Bracon urinator* Fabricius, 1804; *Vipio urinator* Latreille, 1804; *Agathis urinator* Lamarck, 1817; *Vipion urinator* Lepeletier, 1825; *Brachistes urinator* Rondani, 1871; *Iphiaulax urinator* Brues, 1926; *Bracon* (*GlabroBracon*) *urator* Fahringer, 1928; *Bracon* (*GlabroBracon*- *CyanopteroBracon*) *urator* Papp, 1936.

Material Examined: Çankaya- Beytepe, 13.VII. 1995, 1 female; Haymana, 05.VIII. 1995, 2 females; Altındağ, 04.IX.1995, 2 males.

General Distribution: Albania, Belgium, Caucasus, China, France, Germany, Greece, Hungary, India, Iran, Italy, Kazakhstan, Mongolia, the Netherlands, Portugal, Russia, Siberia, Spain, Syria, Tajikistan, Turkey (Shenefelt, 1978; Tobias, 1995).

Distribution in Turkey: Adana (Merkez, Karaisalı, Pozantı), Gaziantep (İslahiye, Kilis), Hatay (Reyhanlı, Hassa, Dört Yol), Isparta (Eğirdir), İçel

(Erdemli, Anamur), Kahramanmaraş (Merkez, Göksun, Kapiçam, Narlı, Afşin, Tekir), (Beyarslan, 1986a), Antalya (Korkuteli), Balıkesir (Dursunbey- Saçayağı, Manyas- Karacaköy, Kuşçenneti, Susurluk-Yalıçesme), Bilecik (Ayvacık, Çukurpınar, Pazaryeri), Bursa (İnegöl-Mezitli, - Bahçesultan, - İcmeler, Karacabey- Canbazoğlu, Mustafa Kemal Paşa), Edirne (Trakya Ü. Kampüsü), Kırklareli (Lüleburgaz- Türkgeldi), Şanlıurfa (Birecik) (Beyarslan & İnanç, 1995), Çanakkale (Gökçeada-Şahinkaya Köyü) (Beyarslan et al., 2002b).

DISCUSSION

In this study, eight species of the genus *Bracon* are identified and all species determined are first records for the Central Anatolia and *Bracon* (*Cyanopterobracon*) *sabulosus* is first record for the fauna of Turkey.

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