

Linzer biol. Beitr.	38/1	409-422	21.7.2006
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A Study on Braconidae and Ichneumonidae from Ganos Mountains (Thrace Region, Turkey) (Hymenoptera, Braconidae, Ichneumonidae)*

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A b s t r a c t : In the present study specimens of Braconidae (Adeliinae, Agathidinae, Blacinae, Braconinae, Cheloninae, Euphorinae, Macrocentrinae, Microgastrinae, Opiinae, Rogadinae) and Ichneumonidae (Anomaloninae, Banchinae, Cremastinae, Ophioninae and Tryphoninae) were collected from a total of 8 localities of the Ganos Mountains (European part of Turkey) between the years 1999 and 2003. A total of 75 species belonging to 21 genera of Braconidae and 8 genera of Ichneumonidae were identified. Four species are new records for the Turkish ichneumonoid fauna. These species are *Acaelius subfasciatus* FOERSTER, *Macrocentrus collaris* SPINOLA, *Opius nigricolaratus* FISCHER and *Oedomopsis scabricula* GRAVENHORST.

K e y w o r d s : Braconidae, Ichneumonidae, Hymenoptera, Fauna, Turkey.

Introduction

In recent years, studies on the ichneumonoid fauna of Turkey have been progressing, in particular concerning the Mediterranean, Marmara, Black Sea and the Aegean regions (AYDOĞDU & BEYARSLAN 2002, 2005; BEYARSLAN 1985, 1988, 1999; BEYARSLAN & INANÇ 1990; BEYARSLAN et al., 2002, 2004, 2005; CETIN ERDOĞAN 2005; CETIN & BEYARSLAN 2001; CETIN ERDOĞAN & BEYARSLAN 2004, 2005; ÇORUH et al., 2002; GÜRBÜZ & AKSOYLAR 2005; INANÇ 1997; INANÇ & BEYARSLAN 1990, 2001a, 2001b; INANÇ & CETIN ERDOĞAN 2004; KOLAROV & BEYARSLAN 1994; KOLAROV et al., 1994, 1997a, 1997b, 1999, 2002; KOLAROV & GÜRBÜZ 2004; YURTCAN & BEYARSLAN 2002, 2005; YURTCAN et al. 1999; ZETTEL & BEYARSLAN 1992).

The Ganos mountains are generally constituted of Eosen-Oligosen masses. The area is located in NE-SE direction and its highest altitude is 920 m. The Ganos mountains have been partly protected against human settling because of their unfavourable topographic structure for agricultural use.

The Ganos mountains are heavily forested areas in the region. They are covered with moist forest especially from the northern base of the mountain up to its peak. Dominant tree species are *Quercus dschorochensis*, *Tilia argentea*, *Carpinus orientalis* and

* This research was supported by Trakya University Research Project TUBAP-210.

Castanea sativa. The southern parts, on the other hand, are covered with *Q. pubesceni*, *Q. prainetto*, *Q. dalachampli* and *Juniperus oxycedrus*.

Materials and Methods

Adult specimens of Ichneumonoidea were collected in various habitats of the Ganos mountains between 1999 and 2003. Sweep-nets and light traps were used to collect specimens on grass-type plants. Collected samples were pinned and labelled according to taxonomic rules and regulations. The specimens are deposited in the collection of the Zoological Museum of the Department of Biology, Trakya University. Relevant literature was used for taxonomic examination of the material. Specimens were identified using the following literature; DELRIO 1975; FAHRINGER 1934; FITTON et al. 1988; GAULD 1976; KASPARYAN 1981; KASPARYAN & TOLKANITZ 1999; KOLAROV 1997; NIXON 1968, 1970, 1986; PAPP 1959, 1976, 1978, 1979, 1980, 1981, 1982, 1984a 1984b, 1985, 1990, 1995; SHENEFELT 1972, 1973; SIMBOLOTTI & ACHTERBERG 1992, 1999; TOBIAS 1986; TOWNES 1969.

List of species

Braconidae

Acaeliinae

Acaelius HALIDAY 1834

Acaelius subfasciatus HALIDAY 1834

Tekirdağ-Işıklar, 9.9.1999, ♀. New record for Turkish fauna.

Agathidinae

Agathis LATREILLE 1804

Agathis syngenesiae NEES VON ESENBECK 1814

Tekirdağ-Işıklar-Vadi, 25.8.2000, 3♂♂, 8♀♀.

Agathis malvacearum LATREILLE 1805

Tekirdağ-Uçmakdere, 24.8.2000, ♀.

Agathis umbellatarum NEES VON ESENBECK 1814

Tekirdağ- Uçmakdere, 24.8.2002, 2♀♀, ♂.

***Bassus* FABRICIUS 1804**

***Bassus tumidulus* (NEES VON ESENBECK 1814)**

Tekirdağ-Yazırköy, 23.8.2000, ♀.

B l a c i n a e

***Blacus* NEES VON ESENBECK 1818**

***Blacus (Ganychorus)* HALIDAY 1835**

***Blacus (Ganychorus) ruficornis* NEES VON ESENBECK 1812**

Tekirdağ-Uçmakedere, 8.9.1999, ♀; Tekirdağ-Yazırköy, 23.8.2000, 3 ♀ ♀.

B r a c o n i n a e

***Bracon* FABRICIUS 1804**

***Bracon (Bracon) fulvipes* NEES VON ESENBECK 1834**

Tekirdağ-Şarköy-Güzelköy, 24.8.2000, ♂; Tekirdağ-Yazırköy, 23.8.2000, ♀.

***Bracon(Bracon) intercessor* NEES VON ESENBECK 1834**

Tekirdağ-Işıklar-Vadi, 25.8.2000, 3 ♂ ♂, ♀; Tekirdağ-Ganos-Radar, 24.8.2000, ♂, Tekirdağ-Şarköy-Güzelköy, 24.8.2000; Tekirdağ-Uçmakedere, 24.8.2000, ♂; Tekirdağ-Yazırköy, 23.8.2000, ♀, 3 ♂ ♂.

***Bracon (Bracon) leptus* MARSHALL 1897**

Tekirdağ-Yazırköy, 23.8.2000, 2 ♂ ♂, ♀; Tekirdağ-Uçmakedere, 24.8.2000, ♂.

***Bracon (Bracon) luteator* SPINOLA 1808**

Tekirdağ-Yazırköy, 23.8.2000, 5 ♂ ♂, 4 ♀ ♀.

***Bracon (Bracon) pectoralis* WESMAEL 1838**

Tekirdağ-Şarköy-Güzelköy; 24.8.2000, ♂; Işıklar, 9.9.1999, 3 ♀ ♀, 4 ♂ ♂; 24.8.2000, 3 ♀ ♀, ♂; Uçmakedere, 24.8.2000, ♂; Yazırköy, 23.8.2000, ♀, ♂.

***Bracon (Bracon) subglaber* SZÉPLIGETI 1904**

Tekirdağ-Ganos-Radar, 24.8.2000, ♂; Işıklar, 24.8.2000, ♀; Yazırköy, 23.8.2000, ♂, ♀.

***Bracon (Bracon) trucidator* MARSHALL 1888**

Tekirdağ-Yazırköy, 23.8.2000, 2 ♂ ♂, ♀; Işıklar, 24.8.2000, 4 ♂ ♂; Işıklar-Vadi, 25.8.2000, 3 ♂ ♂, 4 ♀ ♀.

Bracon (Glabrobracon) FAHRINGER 1957

Bracon (Glabrobracon) anthracinus NEES VON ESENBECK 1834

Tekirdağ-Işıklar-Vadi, 25.8.2000, 2 ♂ ♂, 3 ♀ ♀.

Bracon (Glabrobracon) atrator NEES VON ESENBECK 1834

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♂, Tekirdağ-Yazırköy, 23.8.2000, 2 ♀ ♀.

Bracon (Glabrobracon) fadiche BEYARSLAN 1996

Tekirdağ-Işıklar-Vadi, 25.8.2000, 6 ♂ ♂, 5 ♀ ♀, Tekirdağ-Yazırköy, 23.8.2000, ♂.

Bracon (Glabrobracon) fumipennis (THOMSON 1892)

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♂.

Bracon (Glabrobracon) larvicida WESMAEL 1838

Tekirdağ-Uçmaktdere, 24.8.2000, ♂.

Bracon (Glabrobracon) lividus TELENGA 1936

Tekirdağ-Şarköy-Güzelköy, 8.9.1999, ♀, Tekirdağ-Yazırköy, 23.8.2000, ♀.

Bracon (Glabrobracon) macrurus THOMSON 1892

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♀.

Bracon (Glabrobracon) osculator NEES VON ESENBECK 1812

Tekirdağ-Naip, 7.9.1999, 2 ♀ ♀; Işıklar, 9.9.1999, 2 ♀ ♀; Yazırköy, 23.8.2000, ♂; Ganos-Radar, 24.8.2000, ♂; Uçmaktdere, 24.8.2000, 6 ♂ ♂, 7 ♀ ♀; Işıklar-Vadi, 24.8.2000, ♀; 25.8.2000, ♀, ♂.

Bracon (Glabrobracon) picticornis (WESMAEL 1838)

Tekirdağ-Şarköy-Güzelköy, 24.6.2003, ♀; 25.6.2003, ♂, ♀; Yazırköy, 24.6.2003, ♂.

Bracon (Glabrobracon) pineti THOMSON 1892

Tekirdağ-Şarköy-Güzelköy, 24.6.2003, ♀.

Bracon (Glabrobracon) popovi TELENGA 1936

Tekirdağ-Uçmaktdere, 24.8.2000, ♂; Işıklar-Vadi, 25.8.2000, ♀; Şarköy-Güzelköy, 25.6.2003, ♂.

Bracon (Glabrobracon) tekkensis TELENGA 1936

Tekirdağ-Yazırköy, 24.6.2003, ♀.

Bracon (Glabrobracon) variator NEES VON ESENBECK 1812

Tekirdağ-Yazırköy, 23.8.2000, ♂, ♀; 24.6.2003, 2 ♀ ♀; Işıklar-Vadi, 25.8.2000, 4 ♀ ♀.

Bracon (Lucobracon) FAHRINGER 1927

Bracon (Lucobracon) erraticus (WESMAEL 1838)

Tekirdağ-Yazırköy, 23.8.2000, 2 ♂ ♂, 24.6.2003, ♀; Şarköy-Güzelköy, 24.8.2000, ♂, ♀.

Bracon (Lucobracon) grandiceps THOMSON 1892

Tekirdağ-Yazırköy, 23.8.2000, 2 ♂ ♂.

Bracon (Lucobracon) hungaricus SZÉPLIGETI 1896

Tekirdağ-Yazırköy, 23.8.2000, ♂, ♀.

Bracon (Lucobracon) suchorukovi TELENGA 1936

Tekirdağ-Yazırköy, 23.8.2000, ♀.

Bracon (Habrobracon) ASHMEAD 1895

Bracon (Habrobracon) hebetor SAY 1836

Tekirdağ-Yazırköy, 23.8.2000, ♀.

Bracon (Habrobracon) variegator SPINOLA 1808

Tekirdağ-Yazırköy, 23.8.2000, ♂; Işıklar-Vadi, 25.8.2000, ♂, ♀.

Bracon (Rostrobracon) TOBIAS 1957

Bracon (Rostrobracon) urinator FABRICIUS 1798

Tekirdağ-Yazırköy, 23.8.2000, ♂, 4 ♀ ♀; 24.6.2003, 2 ♂ ♂, ♀.

Pigieria ACHTERBERG 1985

Pigieria piger (WESMAEL 1838)

Tekirdağ-Işıklar, 9.9.1999, ♂, ♀; Yazırköy, 23.8.2000, ♂; 24.6.2003, 2 ♂ ♂; Işıklar-Vadi, 25.8.2000, ♀; Şarköy-Güzelköy, 24.6.2003, ♀.

Pseudovipio SZÉPLIGETI 1896

Pseudovipio inceptor NEES VON ESENBECK 1834

Tekirdağ-Şarköy-Güzelköy, 8.9.1999, 4 ♂ ♂, 23 ♀ ♀; 24.8.2000, 4 ♂ ♂, 8 ♀ ♀; Uçmakedere, 8.9.1999, 4 ♂ ♂, 2 ♀ ♀; Işıklar, 9.9.1999 4 ♂ ♂, ♀; Yazırköy, 23.8.2000, 3 ♂ ♂; 24.6.2003, 4 ♂ ♂, ♀; Ganos-Radar 24.8.2000, 7 ♂ ♂; Işıklar-Vadi, 25.8.2000, ♂.

Vipio LATREILLE 1805

Vipio tentator (ROSSI 1790)

Tekirdağ-Şarköy-Güzelköy, 8.9.1999, ♂; Işıklar-Vadi, 25.8.2000, ♂.

C h e l o n i n a e

***Chelonus* JURINE 1801**

***Chelonus oculator* (PANZER 1779)**

Tekirdağ-Işıklar, 24.8.2000, 2 ♂♂, ♀.

***Chelonus scabrator* (FABRICIUS 1793)**

Tekirdağ-Işıklar, 24.8.2000, ♂, ♀; Tekirdağ-Uçmaktdere, 24.8.2000, 3 ♂♂.

E u p h o r i n a e

***Meteorus* HALIDAY 1835**

***Meteorus rubens* (NEES VON ESENBECK 1811)**

Tekirdağ-Naipköy, 7.9.1999, 3 ♀♀.

M a c r o c e n t r i n a e

***Macrocentrus* CURTIS 1833**

***Macrocentrus collaris* (SPINOLA 1808)**

Tekirdağ-Işıklar, 9.9.1999, (light trap), 2♂♂, 6♀♀; Tekirdağ-Işıklar-Vadi, 24.8.2000, ♀; Tekirdağ-Naipköy, 8.9.1999, ♀; Tekirdağ-Naipköy, 8.9.1999, (light trap), 2♀♀; 23.8.2000, (light trap), 12♂♂, 18♀♀. New record for Turkish fauna.

M i c r o g a s t r i n a e

***Apanteles* FOERSTER 1862**

***Apanteles articas* NIXON 1965**

Tekirdağ-Uçmaktdere, 24.8.2000, ♂.

***Apanteles ater* (RATZEBURG 1852)**

Tekirdağ-Şarköy-Güzelköy, 8.9.1999, ♀.

***Apanteles bajaraniae* PAPP 1975**

Tekirdağ-Işıklar-Vadi, 24.8.2000, ♂, ♀.

***Apanteles evanidus* PAPP 1975**

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♂.

***Apanteles ingenvoides* PAPP 1971**

Tekirdağ-Işıklar-Vadi, 25.8.2000, 7 ♂ ♂.

***Apanteles obscurus* NEES VON ESENBECK 1834**

Tekirdağ-Yazırköy, 23.8.2000, 2 ♀ ♀.

***Choeras* MASON 1981**

***Choeras dorsalis* SPINOLA 1808**

Tekirdağ-Yazırköy, 23.8.2000, 2 ♀ ♀.

***Cotesia* CAMERON 1891**

***Cotesia ancilla* (NIZON 1974)**

Tekirdağ-Işıklar, 7.8.2003, ♀.

***Cotesia lineola* (CURTIS 1974)**

Tekirdağ-Işıklar, 23.10.2001, ♀; 7.8.2003, ♀.

***Cotesia telengai* (TOBIAS 1972)**

Tekirdağ-Işıklar, 7.8.2003, ♂.

***Dolichogenidea* VIERECK 1911**

***Dolichogenidea principes* WILKINSON 1941**

Tekirdağ-Işıklar-Vadi, 25.8.2000, 2 ♀ ♀; Tekirdağ-Uçmakedere, 24.8.2000, ♀.

***Dolichogenidea litae* NIXON 1972**

Tekirdağ-Işıklar-Vadi, 24.8.2000, ♀.

***Dolichogenidea sicaria* MARSHALL 1885**

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♂.

***Glyptapanteles* ASHMEAD 1905**

***Glyptapanteles eugeni* PAPP 1972**

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♀.

***Iconella* MASON 1981**

***Iconella myeloenta* (WILKINSON 1937)**

Tekirdağ-Işıklar, 7.8.2003, ♀.

***Microplitis* FOERSTER 1862**

***Microplitis mandibularis* THOMSON 1895**

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♂.

***Microplitis marshalli* KOKUJEV 1897**

Tekirdağ-Yazırköy, 23.8.2000, ♂.

***Microplitis varipes* RUTHE 1860**

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♂.

***Microgaster* LATREILLE 1804**

***Microgaster globata* LINNAEUS 1758**

Tekirdağ-Yazırköy, 23.8.2000, ♂; Tekirdağ-Uçmakedere, 24.8.2000, ♂.

O p i i n a e

***Opius* WESMAEL 1835**

***Opius loniceræ* FISCHER 1958**

Tekirdağ-Işıklar-Vadi, 24.8.2000, 2 ♂ ♂; Tekirdağ-Uçmakedere, 24.8.2000, ♂.

***Opius nigricolaratus* FISCHER 1958**

Tekirdağ-Yazırköy, 23.8.2000, 2 ♀ ♀. New record for Turkish fauna.

R o g a d i n a e

***Aleiodes* WESMAEL 1838**

***Aleiodes bicolor* (SPINOLA 1808)**

Tekirdağ-Naipköy, 8.9.1999, ♂ (light trap); 23.8.2000, (light trap), ♂; Tekirdağ-Yazırköy, 23.8.2000, ♂, ♀.

***Aleiodes circumscriptus* (NEES VON ESENBECK 1834)**

Tekirdağ-Işıklar-Vadi, 25.8.2000, 2 ♀ ♀.

***Aleiodes dimidiatus* (SPINOLA 1808)**

Tekirdağ-Işıklar-Vadi, 24.8.2000, ♀; Tekirdağ-Naipköy, 8.9.1999, (light trap), ♀; 23.8.2000, (light trap), 3 ♀ ♀; Tekirdağ-Yazırköy, 23.8.2000, 2 ♂ ♂.

***Aleiodes ductor* (THUNBERG 1822)**

Tekirdağ-Şarköy-Güzelköy, 24.8.2000, ♀; Tekirdağ-Ganos-Radar, 8.9.1999, ♀; Tekirdağ-Naipköy, 8.9.1999, (light trap), ♀; 23.8.2000, (light trap), ♂, ♀; Tekirdağ- Yazırköy, 23.8.2000, ♂.

I c h n e u m o n i d a e

A n o m a l o n i n a e

***Anomalon* PANZER 1804**

***Anomalon cruentatum* (GEOFFROY 1785)**

Tekirdağ-Işıklar, 9.9.1999, 2♀ ♀, Tekirdağ-Şarköy- Güzelköy, 8.9.1999, ♂.

B a n c h i n a e

***Lissonata* GRAVENHORST 1829**

***Lissonata bivittata* GRAVENHORST 1829**

Tekirdağ-Ganos-Radar, 8.9.1999, 4♀ ♀.

C r e m a s t i n a e

***Cremastus* GRAVENHORST 1829**

***Cremastus pungens* GRAVENHORST 1829**

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♂.

***Temelucha* FOERSTER 1869**

***Temelucha decorata* (GRAVENHORST 1829)**

Tekirdağ-Işıklar-Vadi, 25.8.2000, ♂.

***Temelucha interruptor* (GRAVENHORST 1829)**

Tekirdağ-Ganos-Radar, 8.9.1999, ♀.

O p h i o n i n a e

***Enicospilus* STEPHENS 1835**

***Enicospilus ramidulus* (LINNAEUS 1758)**

Tekirdağ-Naipköy, 23.8.2000, (light trap), ♀.

T r y p h o n i a e

***Acrotomus* HOLMGREN 1857**

***Acrotomus succinctus* (GRAVENHORST 1829)**

Tekirdağ-Işıklar, 9.9.1999, ♀.

***Netelia* GRAY 1860**

***Netelia (Netelia) fuscicornis* (HOLMGREN 1858)**

Tekirdağ-Işıklar, 9.9.1999, (light trap), 3 ♀.

***Oedomopsis* TSCHEK 1869**

***Oedomopsis scabricula* (GRAVENHORST 1829)**

Tekirdağ-Işıklar, 9.9.1999, ♀. New record for Turkish fauna.

Discussion

A total of 75 species belonging to 15 ichneumonoid subfamilies (Adeliinae, Agathidinae, Blacinae, Braconinae, Cheloninae, Euphorinae, Macrocentrinae, Microgastrinae, Opiinae, Rogadinae, Anomaloniae, Banchinae, Cremastinae, Ophioninae and Tryphoninae) were identified.

Only two species, *Enicospilus ramidulus* LINNAEUS and *Netelia (Netelia) fuscicornis* Holmgren, were caught by light trap at night. Four species, *Macrocentrus collaris* Spinola, *Aleiodes bicolor* Spinola, *Aleiodes dimidiatus* Spinola and *Aleiodes ductor* Thunberg were caught both by light trap and sweep-net and the remaining species were obtained by sweep-net.

Four species are new records for the Turkish ichneumonoid fauna. The majority of the 75 species described in this study are distributed in the Palaearctic region.

Acknowledgments

We are greatly thankful to Dr. Erich Diller for linguistic corrections and to Dr. Janko Kolarov for identifying some of ichneumonidae material.

Zusammenfassung

In der vorliegenden Arbeit werden Braconidae (Adeliinae, Agathidinae, Blacinae, Braconinae, Cheloninae, Euphorinae, Macrocentrinae, Microgastrinae, Opiinae, Rogadinae) und Ichneumonidae (Anomaloniae, Banchinae, Cremastinae, Ophioninae and Tryphoninae) von 8 Lokalitäten der ganos Berge (europäischer Teil der Türkei) aufgelistet. Die Arten wurden in den Jahren 1999 bis 2003 gesammelt. Insgesamt wurden 75 Arten festgestellt aus 21 Braconiden- und 8 Ichneumonidengattungen. Die folgenden Arten sind neu für die türkische Ichneumonoidea-Fauna: *Acaelius*

subfasciatus FOERSTER, *Macrocentrus collaris* SPINOLA, *Opius nigricolaratus* FISCHER and *Oedomopsis scabricula* GRAVENHORST.

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Linzer biologische Beiträge](#)

Jahr/Year: 2006

Band/Volume: [0038_1](#)

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Artikel/Article: [A Study on Braconidae and Ichneumonidae from Ganos Mountains \(Thrace Region, Turkey\) \(Hymenoptera, Braconidae, Ichneumonidae\) 409-422](#)