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Orijinal araştırma (Original article)

Two new host records of *Atanycolus ivanowi* (Kokujev, 1898) (Hymenoptera: Braconidae) from Turkey

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Summary

This study was carried out in Diyarbakır province in Southeastern Region of Turkey between 2008 and 2009. The larvae of *Sphenoptera (Tropeopeltis) tappesi* Marseul, 1865 (Coleoptera: Buprestidae) and *Osphranteria coerulescens inaurata* Holzschuh, 1981 (Coleoptera: Cerambycidae) were collected from peach [*Prunus persica* (L.) Batsch], sweet cherry (*Prunus avium* L.), apricot (*Prunus armeniaca* L.) and plum (*Prunus cerasifera* Ehrh.) tree plantations in Diyarbakir province of Turkey during October and November and were brought to the laboratory for rearing. 61 larvae were gathered altogether in the study. Of these 56 were *S. (T.) tappesi* and 5 were *O. coerulescens inaurata* larvae. 20 *Atanycolus ivanowi* (Kokujev, 1898) (Hymenoptera: Braconidae) were obtained from *S. (T.) tappesi* larvae and 1 was obtained from *O. coerulescens inaurata* larvae. *S. (T.) tappesi* and *O. coerulescens inaurata* were recorded as two new hosts of *A. ivanowi* from Turkey. *A. ivanowi* is recorded for first time Turkey.

Key words: *Atanycolus ivanowi*, *Sphenoptera (Tropeopeltis) tappesi*, *Osphranteria coerulescens inaurata*, new record, fruit pest

Anahtar sözcükler: *Atanycolus ivanowi*, *Sphenoptera (Tropeopeltis) tappesi*, *Osphranteria coerulescens inaurata*, yeni kayıt, meyve zararlısı

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Introduction

The vast majority of braconids are primary parasitoids of other insects, especially upon the larval stages of Coleoptera, Diptera and Lepidoptera (Wharton et al., 1997). However, they also parasitize hemimetabolous insects such as aphids, Heteroptera and Embiidina (Shaw & Edgerly, 1985; Kavallieratos & Lykouressis, 1999 a, b, 2000, 2004; Lattin & Stanton, 1999; Kavallieratos et al., 2001, 2003, 2004, 2005 a, b, 2006, 2008 a, b; Tomanović et al., 2003, 2006 a, b, 2007, 2008, 2009; Žikić et al. 2009). As parasitoids they almost invariably kill their hosts, although a few only cause their hosts to become sterile and less active. Both external and internal parasitoids are common in the family, and the latter forms often display elaborate physiological adaptations for the enhancement of larval survival within the host insects, including the co-option of endosymbiotic viruses for compromising the host immune defenses (Stoltz & Vinson, 1979; Stoltz, 1986; Whitfield, 1990; Stoltz & Whitfield, 1992; Beckage, 1993; Whitfield, 2002; Whitfield & Asgari, 2003)

Atanycolus species are idiobiont solitary ectoparasitoids of the larvae-pupae of Cerambycidae, Buprestidae, Curculionidae and Scolytidae. Their larvae develop singly while feeding externally on the host. Adults attack host larvae by inserting a long ovipositor through the bark of a tree and laying an egg on a larva. The wasp larva then emerges and feeds externally on the host larva, eventually forming a cocoon from which an adult will later emerge by chewing through the bark (Urano & Hijii, 1991; 1995).

The wood-boring types of the family Buprestidae generally favor dying or dead branches on otherwise healthy trees, while a few types attack green wood; some of these are serious pests capable of killing trees and causing major economic damage (Bílý, 1999; Bellamy, 2006). Two of the largest genera, *Agrilus* Curtis, 1825 (one of the largest genera in the world with nearly 3,000 described spp.) and *Chrysobothris* Eschscholtz, 1829 are cosmopolitan; two others, *Anthaxia* Eschscholtz, 1829 and *Acmaeodera* Eschscholtz, 1829 found on all continents except Australia; *Sphenoptera* Dejean, 1833 with more than 1,000 species found only in the Palaearctic, Afrotropical and Oriental regions (Bellamy, 1985; Niehuis & Tezcan, 1993).

Material and Methods

Larvae of *Sphenoptera (Tropeopeltis) tappesi* Marseul, 1865 and *Osphranteria coerulescens inaurata* Holzschuh, 1981 were collected from *Prunus persica* (L.) Batsch, *Prunus avium* L., *Prunus armeniaca* L. and *Prunus*

cerasifera Ehrh. tree plantations in the provinces of Diyarbakır, Turkey during October and November 2008, and were brought to the laboratory for rearing.

During the course of the study, a total of 56 larvae (apricot 24, plum 17 and sweet cherry 15) of *S. (T.) tappesi* and 5 larvae (peach 5) of *O. coerulescens inaurata* were collected.

The larvae were reared in boxes containing apricot, plum, sweet cherry and peach branches from the same field. These branches of 10-15 cm size pieces separated into plastic containers have been put in 20x20x20 cm. The containers were covered with net. The larvae were reared at a temperature of 26±1°C, relative humidity of 65±5 %, and illumination of 3500 lux for 16 hours per day. In 2009 started in March and June from adult outlets have continued until output.

Host identification (*Sphenoptera (Tropeopeltis) tappesi*) was made by Dr. Göksel TOZLU (Atatürk University, Plant Protection Department, Erzurum, Turkey) and the other host identification (*Osphranteria coerulescens inaurata*) was made by Dr. Hüseyin ÖZDİKMEN (Gazi University, Faculty of Arts and Sciences, Department of Biology, 06500 Ankara, Turkey). *Atanycolus ivanowi* (Kokujev, 1898) identification was made by Dr. Ahmet BEYARSLAN (Trakya University, Faculty of Arts and Sciences, Department of Biology, 22030 Edirne, Turkey)according to Tobias 1986.

Results

As a result of this study, one parasitoid species *Atanycolus ivanowi* (Kokujev, 1898) (Hymenoptera: Braconidae) identified. Twenty-one specimens were reared from 61 collected larvae.

***Atanycolus ivanowi* (Kokujev, 1898)**

Distribution: Armenia, Austria, Azerbaijan, Croatia, Czech Republic, Czechoslovakia, Finland, France, Germany, Greece, Hungary, Italy, Japan, Kazakhstan, Russia, Slovakia, Switzerland, Tajikistan, Turkmenistan, Ukraine, Uzbekistan (Yu et al., 2006).

Distribution in Turkey: New record to Turkey (Diyarbakır)

Host: Coleoptera, Buprestidae: *Anthaxia (Anthaxia) deaurata deaurata* (Gmelin), *Chrysobothris solieri* (Laporte & Gory), *Ovalisia (Scintillatrix) mirifica* (Mulsant), *Melanophila picta decastigma* (Fabricius); Cerambycidae: *Arhopalus syriacus* (Reitter), *Stictoleptura rubra* (Linnaeus), *Monochamus galloprovincialis*

(Olivier), *Tetropium fuscum* (Fabricius), *Tetropium gabrieli* Weise (Anonymous, 2004; Yu et al., 2006).

Material examined: Diyarbakır (37°53'N, 40°16'E at altitude of about 669 m.)

16♀♀ 4♂♂ (11♀♀ 2♂♂ apricot tree, 1♀ 1♂ sweet cherry tree, 4♀♀ 1♂ plum tree) from *Sphenoptera (Tropeopeltis) tappesi* Marseul, 1865.

1♀ (peach tree) from *Osphranteria coerulescens inaurata* Holzschuh, 1981.

Recorded hosts:

1. *Sphenoptera (Tropeopeltis) tappesi* Marseul, 1865 (Coleoptera: Buprestidae)

Host plant: Almond (Bolu, et al., 2005), Peach and Plum (Bolu, 2008).

Distribution: Near East: Caucasian Russian Republics, Georgia, Armenia, Azerbaijan, Lebanon, Syria, Israel, Jordan, Sinai Peninsula (Egypt), Arabian Peninsula, Iran, Iraq; Europe: Albania, Crete, Greek mainland, Macedonia, North Aegean Islands (Anonymous, 2004; 2006; Obenberger, 1930; Derwesh, 1965; Georghiou, 1977).

Distribution in Turkey: Aegian region (Lodos & Tezcan, 1995); Diyarbakır, Elazığ, Mardin (Bolu et al. 2005); Diyarbakır (Bolu, 2008).

2. *Osphranteria coerulescens inaurata* (Coleoptera: Cerambycidae)

Host plant: Almond (Maçan, 1986; Bolu, et al., 2005),

Distribution: Iran, Turkey, Syria, Iraq (Anonymous, 2006).

Distribution in Turkey: This species was recorded first in Diyarbakır of Turkey by Maçan (Almond) (Maçan, 1986); Şanlıurfa (Pistachio) (Bolu, 2002); Diyarbakır, Mardin, Elazığ (Almond) (Bolu et al. 2005); Van (Özdikmen et. al., 2005).

Özet

Türkiye'den *Atanycolus ivanowi* (Kokujev, 1898) (Hymenoptera: Braconidae)'nin kaydedilen iki yeni konukçu türü

Bu çalışma 2008–2009 yıllarında, Türkiye'nin Güneydoğu Anadolu Bölgesi'nde yer alan Diyarbakır ilinde yapılmıştır. Diyarbakır ilindeki şeftali [*Prunus persica* (L.) Batsch], kiraz (*Prunus avium* L.), kayısı (*Prunus armeniaca* L.) ve erik (*Prunus cerasifera* Ehrh.), ağaçlarında *Sphenoptera (Tropeopeltis) tappesi* Marseul, 1865 (Coleoptera: Buprestidae) ve *Osphranteria coerulescens inaurata* Holzschuh, 1981 (Coleoptera: Cerambycidae)'nin

larvaları ekim-kasım aylarında toplanarak laboratuvara getirilmiştir. Toplam 61 larva toplanmıştır. Bunların 56'sı *S. (T.) tappesi* ve 5 tanesi de *O. coerulescens inaurata* larvasıdır. *S. (T.) tappesi* larvalarından 20 adet, *O. coerulescens inaurata* larvalarından 1 adet *Atanycolus ivanowi* (Kokujev, 1898) (Hymenoptera: Braconidae) elde edilmiştir. Türkiye'den *S. (T.) tappesi* ve *O. coerulescens inaurata*, *A. ivanowi*'nin yeni bir konukçusu olarak belirlenmiştir. Ayrıca, *A. ivanowi* Türkiye faunası için de ilk kayıttır.

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