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ISSN 2146-0035 *Orijinal araştırma* (*Original article*)

Chlorophorus varius damascenus (Chevrolat 1854) (Coleoptera: Cerambycidae), a new host record for *Iphiaulax impostor* (Scopoli 1763) (Hymenoptera: Braconidae) in Turkey

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Türkiye'de *Iphiaulax impostor* (Scopoli 1763) (Hymenoptera: Braconidae) için yeni bir konukçu, *Chlorophorus varius damascenus* (Chevrolat 1854) (Coleoptera: Cerambycidae)

Özet: Bu çalışma 2008 yılında yapılmıştır. Diyarbakır ilindeki şeftali (*Prunus persica* (L.) Batsch) ağaçlarında *C. varius damascenus* (Chevrolat 1854)'un larvaları Ekim-Kasım aylarında toplanarak laboratuvara getirilmiştir. Türkiye'de *C. varius damascenus*, *Iphiaulax impostor* (Scopoli 1763)'un yeni bir konukçusu olarak belirlenmiştir.

Anahtar Sözcükler: *Iphiaulax impostor*, *Chlorophorus varius damascenus*, yeni konukçu kaydı, Türkiye

Abstract: This study was conducted in 2008. The larvae of *Chlorophorus varius damascenus* (Chevrolat 1854) were collected from peach *Prunus persica* (L.) Batsch orchards in Diyarbakır province, Turkey during October, November and were brought to the laboratory for rearing. *C. varius damascenus* is a new host record for *Iphiaulax impostor* (Scopoli 1763) from Turkey.

Key words: *Iphiaulax impostor*, *Chlorophorus varius damascenus*, new host record, Turkey

Introduction

Braconidae is one of the most species-rich families of insects. Although tropical faunas are still relatively poorly understood at the species level, most taxonomists on this group would agree on a rough, probably conservative, estimate of 40-50,000 species worldwide as a reasonable extrapolation from the current described number of about 12,000 species (Sharkey & Wahl 1992; Quicke et al. 1999).

The vast majority of braconids are primary parasitoids of other insects, especially upon the larval stages of Coleoptera, Diptera and Lepidoptera but also including some hemimetabolous insects (aphids, Hemiptera, Embiidina). As parasitoids they almost invariably kill their hosts, although a few only cause their hosts to become sterile and less

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active. Both ecto and endoparasitoids are common in the family and the latter forms often display elaborate physiological adaptations for enhancement of larval survival within host insects, including the co-option of endosymbiotic viruses for compromising host immune defenses (Stoltz & Vinson 1979; Stoltz 1986; Whitfield 1990; Stoltz & Whitfield 1992; Whitfield 2002; Whitfield & Asgari 2003).

The Cerambycidae, commonly known as longhorned beetles, longicorns, capricorns, round-headed borers, timber beetles, goat beetles (bock-käfern) or sawyer beetles. Distributed world-wide from sea level to montane sites as high as 4.200 m elevation wherever their host plants are found. Larval stage of Cerambycidae also display a variety of habits. Most species feed within dead, dying or even decaying wood, but some species are able to use living plant tissue. Girdlers (adults of the Onciderini, larvae of the genera in the tribes Methiini, Hesperophanini and Elaphidiini) sever living branches or twigs, with the larvae developing within the nutrient-rich distal portion. The larvae of a few species move freely through the soil, feeding externally upon roots or tunneling up under the root crown. Most adult cerambycids, particularly the brightly colored ones, feed on flowers. Overall, adult feeding requirements are variable, with some species taking nourishment from sap, leaves, blossoms, fruit, bark, and fungi, often not associated with a larval host, while others take little or no nourishment beyond water (Monné & Hovore 2005). Two subspecies of *C. varius* occur in Turkey. *C. varius varius* (Müller 1766) and *C. varius damascenus* (Chevrolat 1854) are exceptionally important pests for fruit trees. The larvae feed in branches of the host tree and become pupae. The adults feed on leaves and bark.

So far no research on Braconidae in peach orchard has been carried out in Diyarbakir provinces. The aim of this study is to determination natural enemy of harmful *C. varius damascenus* on peach trees in Diyarbakır.

Material and method

Larvae of the *C. varius damascenus* were collected from peach *Prunus persica* (L.) Batsch tree plantations in Diyarbakır province, Turkey during October, November in 2008 and were brought to the laboratory for rearing. During the course of the study, 5 larvae were collected. The larvae were reared in boxes containing peach branches from the same orchard at a temperature of 26±1°C, relative humidity of 65±5 %, and illumination of 3500 lux for 16 hours per day. The boxes were checked daily. The last instar braconid larvae left the host larvae and transformed to the pupae next to the remains of their hosts. Host pupae and braconid pupae were placed in separate petri dishes containing moistened cotton until the adult cerambycid and braconid wasp emerged.

Host was identified by Dr. Hüseyin Özdikmen (Gazi University, Faculty of Arts and Sciences, Department of Biology, Ankara, Turkey) as *C. varius damascenus* and the parasitoid was identified as *I. impostor* by Dr. Ahmet Beyarslan (Trakya University, Faculty of Science, Department of Biology, Edirne, Turkey).

Results and discussion

Longhorn beetles are likely one of the most easily recognizable families of beetle due to their striking colours. Cerambycid species make up the majority of the collection and are mainly xylophagous, feeding on wood. These feeding habits cause the beetles in some cases to be significant pests (Borror et al. 1981). *C. varius damascenus* is an exceptionally important pest for fruit trees.

The larvae feed in branches of the host and become pupae. The adults feed on leaves and bark. Information of natural enemy and distribution of the species is following.

Chlorophorus varius damascenus (Chevrolat 1854)
Family: Cerambycidae
General distribution: Europe, south-western Siberia (Urals), Asia Minor, Caucasus, Transcaucasia, northern Iran, Middle East (Iraq, Jordan, Lebanon, Israel), western part of North Africa (Egypt), Cyprus (Sama et al. 2010).
Distribution in Turkey: The species is apparently widely distributed in Turkey. İzmir (Demelt & Alkan 1961; Gül-Zümreoğlu 1975); Adana, İçel, Karaman, Niğde (Özdikmen 2006); Antalya, Niğde (Özdikmen & Demir 2006).
Host plant: Polyphagous in deciduous trees and herbaceous plants. The species on *Ficus carica* L. (Demelt & Alkan 1961; Gül-Zümreoğlu 1975).
Natural enemy: *Iphiaulax impostor* (Scopoli 1763), new record. One parasitoid emerged from one of 5 larvae collected in peach (*Prunus persica* (L.) Batsch) branches from Diyarbakır (37^o 53'N, 40^o 16'E at altitude of about 669 m)

Iphiaulax impostor (Scopoli 1763)
Family: Braconidae
Host pest. Cerambycidae (Coleoptera)*:* Acanthocinus aedilis (Linnaeus); *Aegomorphus* clavipes (Schrank) (=*Acanthoderes clavipes* (Schrank); *Aegomorphus* varius (Fabricius) (=*Acanthoderes varius* (Fabricius); Apriona germari (Hope); Icosium tomentosum (Lucas). On *Tetraclinis articulata* (Vahl) Masters (Rungs 1947); Leiopus nebulosus (Linnaeus); Monochamus galloprovincialis (Olivier); Monochamus sutor (Linnaeus); Oberea linearis (Linnaeus); *Plagionotus arcuatus* (Linnaeus); Purpuricenus budensis (Gotz); Rhagium inquisitor (Linnaeus); Saperda populnea (Linnaeus) on *Populus tremula* Linnaeus (Georgiev 2001). Buprestidae: Anthaxia (*Melanthaxia*) morio (Fabricius). Lepidoptera, Cossidae: *Xyleutes persona* (le Guillou)**;** *Zeuzera* sp. (Yu et al. 2006).
General distribution: Austria, Belarus, Crete, Cyprus, Czech Republic, Estonia, Finland, French mainland, Germany, Hungary, Italian mainland, Latvia, Macedonia, Norwegian mainland, Poland, Romania, Russia, Sicily, Slovakia, Spanish mainland, Sweden, Switzerland, The Netherlands, Ukraine, Yugoslavia, East Palaearctic (Anonymous 2009).

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