

A new record for Turkish fauna ***Chelonus oculator*** Panzer (Hymenoptera: Braconidae) and its two new hosts

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Summary

The eggs and larvae of *Spodoptera littoralis* (Boisd.) were collected from cotton plants in Adana and brought to Ankara in August, 1998. From the observations in the laboratory, an adult hymenopteran parasitoid was found in *S. littoralis* culture. This parasitoid was being identified as an egg-larval parasitoid, *Chelonus oculator* Panzer. In order to supply the continuity of the parasitoid culture, the eggs of *S. littoralis* and *Ephestia kuehniella* Zeller were presented to the mated female of *C. oculator*. The parasitoid has been reared on these two hosts for a period of three years. From the results of literature search, it is concluded that *C. oculator* is the first record for the Turkish fauna, *S. littoralis* as a natural host and *E. kuehniella* as a laboratory host are the new hosts of *C. oculator* in the world.

Key words: Braconidae, *Chelonus oculator*, egg-larval parasitoid, *Spodoptera littoralis*, *Ephestia kuehniella*, Turkey

Anahtar sözcükler: Braconidae, egg-larval parasitoid, *Chelonus oculator*, *Spodoptera littoralis*, *Ephestia kuehniella*, Türkiye

Introduction

One of the 35 subfamilies of Braconidae (Hymenoptera), the Cheloninae are egg-larval parasites; the female oviposits into egg and the parasite matures and emerges from the late larva or pupa (van Achterberg, 1984).

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Alınış (Received): 18.10.2000

A few researchers have been studying braconid fauna of Turkey. Beyarslan (1985), recorded 19 species from 6 genera belonging to braconid fauna of Turkey. These genera were cited as **Sigalphus** Latreille, **Ascogaster** Wesmeal, **Chelonnella** Szepliget, **Triaspis** Haliday, **Schizoprymnus** Forster and **Chelonus** Jurine. The species of **Chelonus** recorded from Turkey were mentioned as **Chelonus erythrogaster** Lucas, **C. gravenhorstii** (Ness), **C. muctonatus** Thomson, **C. inanatus** (Linne), **C. obscurator** Henrich-Schaffer, **C. carbonator** Marshall.

Materials and Methods

The eggs and larvae of **Spodoptera littoralis** (Boisd.) (Lepidoptera: Noctuidae) were collected from the cotton plants in Adana, south part of Turkey, and brought to the Department of Plant Protection, Faculty of Agriculture, University of Ankara in August 1998. These eggs and larvae were kept under laboratory conditions at $25\pm 1^{\circ}\text{C}$, 16: 8 (L:D) and 70 % relative humidity. The larvae of **S. littoralis** were reared with parsley leaves. From the observations, an adult hymenopteran parasitoid was determined. This parasitoid was being identified. In order to supply the continuity of the parasitoid culture, the eggs of **S. littoralis** and **Ephestia kuehniella** Zeller (Lepidoptera: Pyralidae) were presented to the mated female of **Chelonus oculator** Panzer. After the parasitization of the eggs, parsley leaves were presented to the larvae of **S. littoralis** and 2:1 mixture of wheat flour and bran was presented to the larvae of **E. kuehniella**.

Results

Within the scope of this study, the egg-larval parasitoid **C. oculator** was recorded from Turkey for the first time. **S. littoralis** and **E. kuehniella** were determined as the new hosts for **C. oculator**. In addition to these results, **C. oculator** has been reared on **S. littoralis** and **E. kuehniella** in the laboratory for a period of three years.

Adult: Abdomen in male, at most 2 times as long as wide; in female still shorter, coarsely sculptured in apical third, posteriorly very distinctly curved on lower side. Mesonotum with coarse cellular sculpture. Abdomen usually black with yellow basal spots, rarely red. Antennae in female 22-25 segmented (Tobias, 1995).

General distribution: Grece (Anonymous, 1971), Northwest, center, east, south: Caucasus, Kazakhstan, Central Asia: Western Europe, North Africa, Iran (Tobias, 1995).

Distribution in Turkey: Adana, south part of Turkey

Hosts: **Spodoptera exigua** Hb. (Lepidoptera: Noctuidae) (Anonymous, 1971), **Agrotis segetum** Den. & Schiff., **Helicoverpa armigera** Hb., **Heliothis**

viriplaca Hfn., *H. peltigera* Den. & Schiff., *Spodoptera exigua* Hb., *Photodes elymi* Tr. (Lepidoptera: Noctuidae), *Etiella zinckenella* Tr. (Lepidoptera: Phycitidae), *Pyrausta sticticalis* L. (Lepidoptera: Pyraustidae), *Coleophora anatipennella* Hb. (Lepidoptera: Coleophoridae), *Zeiraphera isertana* F. (Lepidoptera: Tortricidae) (Tobias, 1995).

S. littoralis as a natural host and *E. kuehniella* as a laboratory host are the new hosts of *C. oculator* in the world.

Biological notes: The parthongenetic braconid *C. oculator* is an egg-larval parasitoid. The parasitoid is able to oviposits into eggs of the *S. littoralis* and *E. kuehniella* and the matured parasitoids emerge from the late larvae of the two hosts. The adult parasitoids developed from the *S. littoralis* are bigger than that from *E. kuehniella*.

Acknowledgements

The authors are grateful to Prof. Dr. Ahmet Beyarslan (Department of Biology, Faculty of Natural Science, Trakya University, 22030 Edirne, Turkey) and Dr. Mark R. Shaw (Department of Geology and Zoology, National Museums of Scotland, Chambers Street, Edinburgh EH1 1jf, England) for the identification of the parasitoid, *C. oculator* Panzer.

Özet

Türkiye faunası için yeni bir kayıt *Chelonus oculator* Panzer (Hymenoptera: Braconidae) ve iki yeni konukçusu

Adana ili pamuk ekiliş alanlarından Ağustos 1998'de toplanan *Spodoptera littoralis* (Boisd.) yumurtaları ve larvaları Ankara Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümüne getirilmiştir. Laboratuvar gözlemlerinde *S. littoralis* kültürlerinde Hymenoptera takımına ait bir parazitoit bulundu. Bu parazitoit yumurta- larva parazitoidi *Chelonus oculator* Panzer olarak teşhis ettirildi. Parazitoit kültürünün sürekliliğini sağlamak amacı ile çiftleşen dişi parazitoitlere *S. littoralis* ve *Ephestia kuehniella* Zeller yumurtaları sunuldu. Parazitoit bu iki konukçu üzerinde üç yıl süre ile yetiştirildi. Literatür araştırması sonucunda *C. oculator*'un Türkiye faunası için yeni bir kayıt olduğu, doğal bir konukçu olarak *S. littoralis*'in ve laboratuvar konukçusu olarak *E. kuehniella*'nın bu parazitoitin dünya için yeni konukçuları olduğu sonucuna varılmıştır.

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