SHORT COMMUNICATION

First record of the cotton bollworm, *Helicoverpa armigera* (Hübner) (Lepidoptera: Noctuidae), on the oil-bearing rose, *Rosa damascena* Miller, in Turkey

O. Demirözer

**Summary** The cotton bollworm, *Helicoverpa armigera*, was recorded for the first time on the oil-bearing rose, *Rosa damascena*, at Isparta and Burdur, Turkey in May 2010. Cotton bollworm was found to cause damages not only on oil-rose plants in the field but also on dried rose petals in rose oil factories. As *H. armigera* is a cosmopolitan pest, the potential risk posed to the oil-bearing rose crop should be considered.

_Aditional keywords: Helicoverpa armigera, Rosa damascena, pest, Turkey_

The oil-bearing rose (*Rosa damascena* Miller) (*R. gallica* L. and *R. phoenicia* Boiss hybrid) is an important aromatic plant providing volatile oils which are used for the production of medicines, perfumes, cosmetics and other aromatherapy products. It is cultivated as an agricultural crop in various countries of the northern hemisphere such as Bulgaria, China, Egypt, France, India, Iran, Morocco and Turkey. Among these countries, Turkey and Bulgaria are the largest producers of this crop all over the world. The annual production of oil-bearing rose is approximately 1.5–2 tons and 1–1.5 tons in Turkey and Bulgaria respectively (2, 8, 16).

*Helicoverpa armigera* (Hübner, 1808) (Lepidoptera: Noctuidae) is a cosmopolitan pest with a wide host plant range of more than 200 species. It is a polyphagous pest and many of its host plants are economically important crops in Africa, Asia, Oceania and Europe (6). Among other crops, tomato, cotton, pigeon pea, chickpea, sorghum and cowpea are the most important hosts. Additionally, groundnut, okra, peas, field beans, soybeans, lucerne, *Phaseolus* spp., tobacco, potatoes, maize, flax, *Dianthus* spp., *Rosa* spp., *Pelargonium* spp., *Chrysanthemum* spp., a number of fruit trees and forest trees could also be potential hosts for *H. armigera* (7, 9, 15).

Many insects are considered pests for *R. damascena*. In Bulgaria, Nikolova reported 14 specific and 56 polyphagous species in Kazanlika (11, 12, 13, 14) and Natskova recorded 9 aphid species in Sophia (10). In Isparta-Turkey, two armoured scale insects were recorded for the first time in 2009 increasing the number of pests on *R. damascena* to 25 (1, 5).

In 2011, Demirözer and Karaca conducted a comprehensive survey of arthropods in oil-bearing rose orchards in Isparta, the results of which bring the total number of phytophagous arthropods to 62 species. However, only three species of moths have been recorded as pests on oil-bearing rose in Turkey: *Notocelia rosaecolana* (Double-day), *Archips rosana* (L.) (Lepidoptera: Tortricidae) and *Cnaemidophorus rhododactyla* (Denis & Schiffermüller) (Lepidoptera: Pterophoridae) (1, 3, 4).

The present study is a first record of in-
festations by *H. armigera* on flowers of *R. damascena* in Aglasun-Burdur and Atabey-Isparta, Turkey (Figures 1, 2). During May and June 2010, 53 oil-bearing rose orchards were inspected and four of them were found infested. Larvae of *H. armigera* were collected from flowers of *R. damascena* in different localities, which are listed in Table 1. All the collected specimens were moved into a growth chamber at 26±1°C and 60% relative humidity and fed daily with fresh oil-bearing rose flowers. Both laboratory and field observations have displayed that the pest attacks principally carpels and stamens and less petals. Furthermore, *H. armigera* larvae were observed feeding on dried rose petals located on drying racks in rose oil factories. These rose petals were being dried for personal use and the feeding activity of the pest affected their value. As *H. armigera* is a pest having world-wide distribution, the oil-bearing rose growers and agricultural advisers need to be alerted and the potential risk posed to the oil-bearing rose crop should be considered.

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**Figure 1.** Flower of *Rosa damascena*, Turkey, Isparta, damaged by *Helicoverpa armigera*.

**Figure 2.** Larva of *Helicoverpa armigera* on rose petals of *Rosa damascena*.

**Table 1.** Regions, collection period and number of *Helicoverpa armigera* specimens collected on *Rosa damascena* in Turkey.

<table>
<thead>
<tr>
<th>Region</th>
<th>Coordinates</th>
<th>Altitude</th>
<th>Collection period</th>
<th>Number of Specimens</th>
</tr>
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<tr>
<td>Isparta-Atabey</td>
<td>N 37° 36' 7.2&quot;</td>
<td>990m</td>
<td>13May, 2010</td>
<td>2</td>
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<tr>
<td>(Onac district)</td>
<td>E 30° 30' 36&quot;</td>
<td></td>
<td>19 May, 2010</td>
<td></td>
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<tr>
<td></td>
<td>N 37° 46' 46.1&quot;</td>
<td>1030m</td>
<td>28 May, 2010</td>
<td>6</td>
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<tr>
<td>Isparta-Atabey</td>
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<td></td>
<td>4 June, 2010</td>
<td></td>
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<tr>
<td>(Onac district)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burdur-Aglasun</td>
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<td>1100m</td>
<td>22 May, 2010</td>
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<tr>
<td>(Kiprit village)</td>
<td>E 30° 38' 22.56&quot;</td>
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<td>4</td>
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<tr>
<td>Burdur-Aglasun</td>
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<td>1093m</td>
<td>29 May, 2010</td>
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<td>(City Center)</td>
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Literature Cited


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ΣΥΝΤΟΜΗ ΑΝΑΚΟΙΝΩΣΗ

Πρώτη καταγραφή του πράσινου σκουληκιού, Helicoverpa armigera (Hübner) (Lepidoptera: Noctuidae), στην τριανταφυλλιά Rosa damascena Miller στην Τουρκία

Ο. Demirözer

Περιλήψη Προνύμφες του πράσινου σκουληκιού, Helicoverpa armigera, διαπιστώθηκαν για πρώτη φορά σε καλλιέργεια τριανταφυλλιάς Rosa damascena, από την οποία παράγεται το ροδέλαιο, στην Τουρκία τον Μάιο του 2010. Το έντομο βρέθηκε να προκαλεί ζημιές τόσο στην καλλιέργεια όσο και σε αποξεραμένα ροδόπετα σε μονάδα παραγωγής ροδελαίου. Δεδομένου ότι το πράσινο σκουλήκι έχει παγκόσμια εξάπλωση, θα πρέπει να ληφθεί σοβαρά υπόψη η πιθανή επικινδυνότητα του στη συγκεκριμένη καλλιέργεια.


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