

SHORT COMMUNICATION

First record of *Coptotriche angusticollella* (Duponchel, 1843) (Lepidoptera: Tischeriidae) on the oil-bearing rose in TurkeyO. Demirözer¹, A. Uzun^{1*}, S. Erbaş² and F. Can³

Summary *Coptotriche* spp. are known to cause damage on plants of Rosaceae and Fagaceae. *Coptotriche angusticollella* (Duponchel, 1843) (Lepidoptera: Tischeriidae) was recorded for the first time infesting the oil-bearing rose, *Rosa damascena*, at the last half of May 2017 in Isparta, Turkey. It should not be ignored that *C. angusticollella* can be a potential risk posed to the oil-bearing rose crop.

Additional keywords: pest, *Rosa damascena*, rose oil, trumpet leafminers

Cultivation of the oil-bearing rose, *Rosa damascena* Mill. (Rosaceae), has an important economic position in agricultural production of Turkey. Furthermore, approximately 90% of the world's oil-bearing rose cultivation is located in Turkey and 50% of the world's rose oil is provided from this country (Baydar and Kazaz, 2013).

Rosa damascena is a host of several insect pests, including three Lepidoptera, *Cnaemidophorus rhododactyla* (Denis and Schiffermüller) (Pterophoridae), *Archips rosana* (L.) (Noctuidae) and *Notocelia rosaecolana* (Doubleday) (Tortricidae) (Demirözer *et al.*, 2011; Demirözer, 2012). In this study, *Coptotriche angusticollella* (Duponchel, 1843) (Lepidoptera: Tischeriidae) was collected for the first time on leaves of oil-bearing rose in Isparta, Turkey (Figure 1a) adding a trumpet leafminer to the lepidopteran pests of the oil-bearing rose.

Trumpet leafminers (Lepidoptera: Tischeriidae) are known as the smallest moths, with a wingspan of only 5–11 mm. Their larvae make usually trumpet-shaped mines or

blotch mines, on a variety of host plants (Kobayashi *et al.*, 2016). Pupation occurs in the leaf mines and adults are diurnally active.

Main hosts of Tischeriidae belong to the plant families of Rosaceae, Fagaceae and Asteraceae (Puplesis and Diškus 2003; Stonis *et al.*, 2014). Until this time, 115 *Tischeria* species have been reported from different parts of the world. *Coptotriche* spp. have been associated with fruit and ornamental trees: *Coptotriche* spp. on *Carpinus* (Betulaceae) and *Quercus* (Fagaceae) trees in Japan (Sato, 2011); *C. citrinipennella* and *C. zelleriella* on *Quercus* sp.; *C. castaneaeella* on *Quercus imbricaria* (Anonymous, 2018). *Coptotriche angusticollella* has been reported in Japan (Hokkaido, Honshu), Europe (Slovenia), Tunisia, Caucasus, Turkmenistan, South Korea, the Russian Far East. The plant hosts recorded were *Rosa multiflora*, *R. wichuriana*, *R. canina*, *Rosa* spp. and other Rosaceae (Kollar and Hrubik, 2009; Lesar and Govedik, 2010; Kobayashi *et al.*, 2016). *Coptotriche angusticollella* had been previously reported in Turkey but hosts were not fully defined then and Rosaceae were reported as potential hosts for this species (Kobayashi *et al.*, 2016).

In the present study, infestation of *R. damascena* by *C. angusticollella* was recorded at Ardıçlı Village (37°47'51.0 N, 30°11'22.1 E, 974 m) in the district of Keçiörlü, which holds a considerable amount of the oil-

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bearing rose cultivation areas (11.700 acres) in Turkey (Tüik, 2018). *Coptotriche angusticollis* was observed during the last half of May 2017 in a three year old conventional oil-bearing rose plantation (8 acres), where one third of the plants were infested. Larvae caused an opaque white gallery becoming a blotch mine on the upper or, occasionally, lower epidermis surface of the leaves (Figures 1a, 1b). Infested leaf samples were placed in paper bags and transferred to the laboratory in cold chain. The leaves were then placed into plastic boxes (long side 22-cm x 15-cm wide x 15-cm high) and kept in a climate-controlled room at $25\pm 1^{\circ}\text{C}$, 60 % RH, and 16: 8 h photophase: scotophase. Larvae (Figure 2a) were easily visible within the translucent mines. The pupal stage was completed in the mines (Figure 2b). The emerged moths (Figure 2c) were identified by Dr Erik J. Van Nieuwerkerken and kept

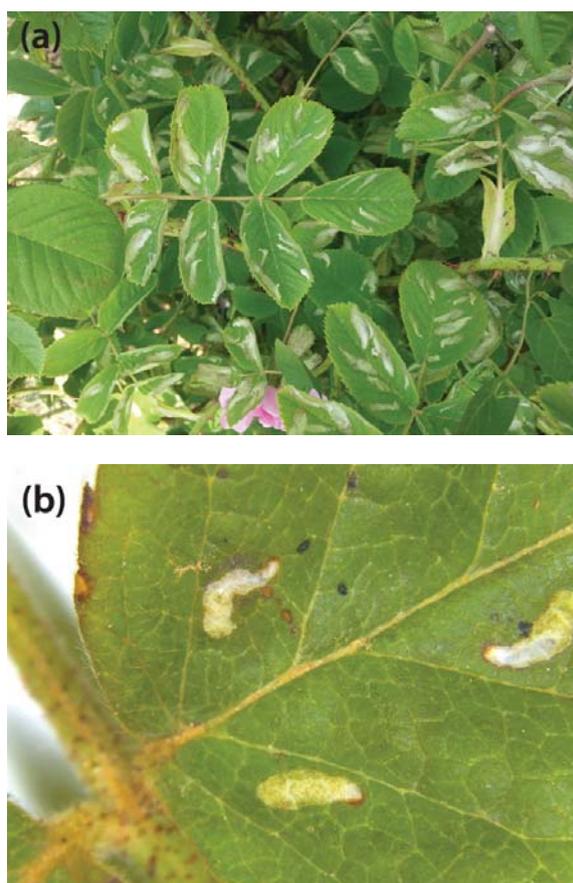


Figure 1. Infestation by *Coptotriche angusticollis* larvae on leaves of *Rosa damascena*: infested leaves (a); opaque white galleries (b).

in EMIT (Entomological Museum of Isparta, Turkey).

After flowering of the oil-bearing rose (15 May-end of June), observations were repeated during post harvest period (July-October) in the Ardıçlı village at other rose fields as well as Kermes Oak (*Quercus coccifera* L.) but no damage symptoms were found. Moreover, no natural enemy was obtained from the infested samples.

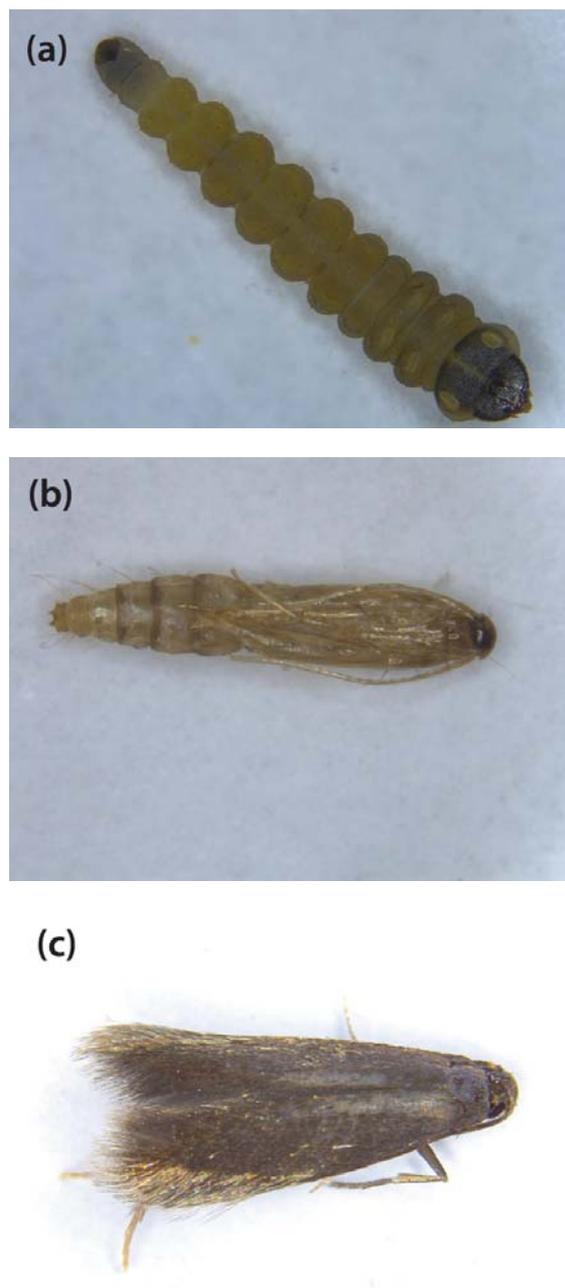


Figure 2. Larva (a), pupa (b) and adult (c) of *Coptotriche angusticollis*.

We would like to draw the attention of researchers, growers and advisers to an intensive monitoring for the presence of symptoms from this minute leafminer in oil-bearing rose cultivations in Turkey during the next season in order to prevent an outbreak of the pest.

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ΣΥΝΤΟΜΗ ΑΝΑΚΟΙΝΩΣΗ

Πρώτη καταγραφή του *Coptotriche angusticollella* (Duponchel, 1843) (Lepidoptera: Tischeriidae) στο ρόδο *Rosa damascena* στην Τουρκία

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Είδη του γένους *Coptotriche* spp. είναι γνωστό ότι προσβάλλουν φυτά των Οικογενειών Rosaceae και Fagaceae. Η εργασία αυτή αποτελεί την πρώτη καταγραφή του μικρολεπιδόπτερου *Coptotriche angusticollella* (Duponchel, 1843) (Lepidoptera: Tischeriidae) στο φυτό *Rosa damascena*, κοινώς ρόδο της Δαμασκού ή εκατοντάφυλλη τριανταφυλλιά, το Μάιο του 2017, στην περιοχή της πόλης Isparta της Τουρκίας. Το έντομο μπορεί να αποτελέσει εν δυνάμει κίνδυνο για την παραγωγή του ροδέλαιου, το οποίο παράγεται από την καλλιέργεια του φυτού.

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