

## A new genus and species for Turkish fauna: *Zeiraphera isertana* (Fabricius, 1794) (Lep.: Tortricidae)

Mustafa ÖZDEMİR\*, Ayşe ÖZDEMİR

Plant Protection Central Research Institute, 06172 Yenimahalle, Ankara - TURKEY

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**Abstract:** In this study, *Zeiraphera isertana* (Fabricius, 1794) is newly recorded among Turkish Tortricidae fauna. This is the first record of the genus *Zeiraphera* Treirschke, 1829 from Turkey. The specimens were collected from cherry trees in Afyonkarahisar Province during 2008. Collection was done via bait traps used for the control of Tortricidae pest moths. Both male genitalia and imago were depicted.

**Key words:** *Zeiraphera isertana*, Tortricidae, Lepidoptera, new record, Afyonkarahisar, Turkey

### Türkiye faunası için yeni bir cins ve tür: *Zeiraphera isertana* (Fabricius, 1794) (Lep.: Tortricidae)

**Özet:** Bu çalışmada *Zeiraphera isertana* (Fabricius, 1794) Türkiye Tortricidae faunası için yeni kayıt olarak verilmiştir. *Zeiraphera* Treirschke, 1829 cinsi de Türkiye'den ilk defa kaydedilmiştir. Örnekler 2008 yılında Afyonkarahisar ilinde kirazda zararlı Tortricidae türlerinin mücadelesi amacıyla kullanılan besin tuzaklarında yakalanmıştır. Çalışma ergin ve erkek genital fotoğrafları ile birlikte sunulmuştur.

**Anahtar sözcükler:** *Zeiraphera isertana*, Tortricidae, Lepidoptera, yeni kayıt, Afyonkarahisar, Türkiye

Studies on the Tortricidae fauna of Turkey began with Mann (1861, 1862, 1864), Staudinger (1878, 1879, 1881), and Romanoff (1879) and were continued by researchers such as Wagner (1929), Wehrli (1934), Osthelder (1935), Zukowsky (1941), Kansu (1961), Çanakçıoğlu (1963, 1982), Koçak (1991, 1992, 1993), Avcı (1997, 2000), Seven (2000), Groenen and Özbek (2002), Seven et al. (2005), and Özdemir et al. (2005). The work of Seven and Özdemir (2007a,

2007b, 2007c) can be given as examples of important studies on the Lepidoptera fauna of different regions of Turkey. Ultimately, 452 species of Tortricidae were listed in Turkey by Koçak and Kemal (2007), but no record of *Zeiraphera* has been produced from this country until now.

The *Zeiraphera* genus, belonging to the tribe Eucosmini in the family Tortricidae, is mostly distributed in the Palaearctic and Nearctic regions.

\* E-mail: ozdemir\_m@lycos.com

It currently includes 32 described species worldwide (Brown, 2005). Of these, about 20 species occur in the Palearctic region, 8 species have been recorded from the Nearctic region, and 4 species are known in Europe (Kuchlein and Naves, 1999). *Zeiraphera* is closely related to *Epinotia*, but it can be differentiated from *Epinotia* by the former species' reductions of the uncus and henion. *Zeiraphera* species are generally a single generation in 1 year, and they hibernate during the egg stage. The larvae of *Zeiraphera* feed in spun leaves of both deciduous trees and conifers. Some of these species are important economically, and occasional damage to forests and parks has been observed. *Zeiraphera isertana* is the most variable species during imago, especially in terms of forewing coloration and marking. The larvae feed on *Quercus* spp. in spun or rolled leaves (Kennel, 1921; Kuznetsov, 1987; Razowski, 2003). Csóka and Szabóky (2005) reported that this species feeds on *Quercus petraea* Liebl. The larvae of *Z. isertana* can sometimes be found in galls caused by *Diplolepis quercusfolii* L. (Hymenoptera: Cynipidae) and are occasionally entomophagous (Geest and Evenhuis, 1991; Razowski, 2003).

The presence of the genus *Zeiraphera* and species *Z. isertana* in Turkey is first reported in this paper. The specimens were identified by the first author using the descriptions of Kuznetsov (1987) and Razowski (2003); after examination, specimens were deposited at the Taxonomy and Plant Protection Museum of

Ankara's Plant Protection Central Research Institute.

***Zeiraphera isertana* (Fabricius, 1794)**

**Material examined:** Afyon, Sultandağı, Yeşilçiftlik, 1000 m, 01.05.2002, 2♂. GP4575, GP4576.

**Adult:** Wing span 15 mm. Ground color of forewings grayish white, dorsal patch clearly defined, in pentagonal shape, and whitish grey with grey-brown strigulae hardly reaching the length of half the wing. Basal blotch whitish grey, best visible at dorsum, and connecting with median fascia. Costal strigulae grey and white. Speculum rather weakly developed. Markings dark brownish grey, costal half and apical area paler than middle of the wings. Cilia paler brownish grey. Hindwings brownish, paler toward base, cilia more creamy (Figure 1).

**Male genitalia:** Uncus strongly reduced. Gnathos absent. Socii broad, curved outward, and hairy. Tegumen in small convex form. Henion absent. Valva long and slender, without clasper, basal process with short distinct neck. Sacculus with weak caudal angle. Cucullus hairy but, before apex, with band free of hair along outer margin. Aedeagus simple, cornuti in the form of a bunch of spines (Figure 2).

**Distribution:** Russia, Transcaucasia, Cyprus, in Europe from Portugal to Albania and from Great Britain to Scandinavia (Kuznetsov, 1987; Razowski, 2003), Turkey (new record).

**Remarks:** Razowski (2003) recorded that the larvae of *Z. isertana* feed on the leaves or spun leaves

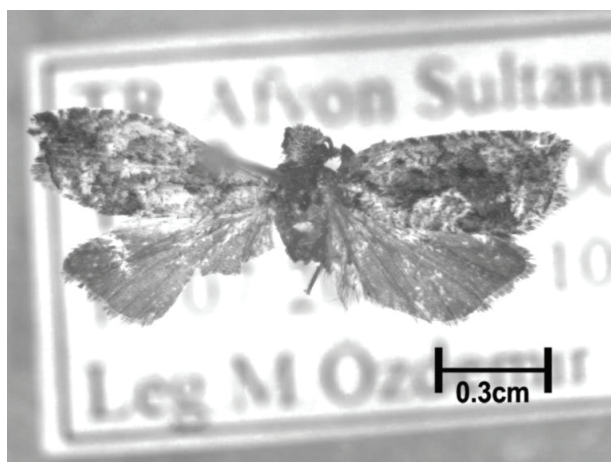


Figure 1. Imago of *Zeiraphera isertana* (Fabricius, 1794).



Figure 2. Male genitalia of *Zeiraphera isertana* (Fabricius, 1794) (GP4576).

of *Quercus* spp. The specimens of this study were collected by bait traps used on cherry plantations to control Tortricidae pest moths. The adult specimens probably came to the traps from *Quercus* trees in the forests near this area.

There is no record of any *Zeiraphera* species in Turkey prior to this report (Koçak and Kemal, 2007). Both the genus *Zeiraphera* and the species *Z. isertana* are first reported from Turkey with the present work.

The presence of *Zeiraphera* species in Turkey had been hypothesized, particularly since the species *Z. griseana* (Hubner 1799) and *Z. rufimitrana* (Herrich-Schaffer 1851) are known in neighboring countries. *Z. griseana* is distributed in the Balkan Peninsula and Caucasia while *Z. rufimitrana* has been recorded from Greece (Razowski, 2003). The data on the distribution of this species in Turkey could be enhanced with new faunistic studies.

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