

# A new record of the genus *Pelochrista* Lederer, 1859 from Türkiye (Lepidoptera: Tortricidae)

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## Abstract

Tortricidae is a big family over 11,000 described species. The large flat papilla anales on the female genitalia are the only known apomorphic characteristic of the family. In this study, *Pelochrista huebneriana* (Lienig, 1846, in Lienig & Zeller, 1846) is recorded from Türkiye for the first time. Thus, a contribution was made to the distribution of the species. In addition to the adult individual of the species, a male genital photograph is included.

**Keywords:** Lepidoptera, Tortricidae, *Pelochrista huebneriana*, new record, Türkiye.

## Un nuevo registro del género *Pelochrista* Lederer, 1859 de Turquía (Lepidoptera: Tortricidae)

## Resumen

Tortricidae es una gran familia con más de 11.000 especies descritas. Las grandes papilas anales planas de la genitalia de la hembra son la única característica apomórfica conocida de la familia. En este estudio, *Pelochrista huebneriana* (Lienig, 1846, in Lienig & Zeller) se registra por primera vez en Turquía. De este modo, se hizo una contribución a la distribución de la especie. Además del individuo adulto de la especie, se incluye una fotografía de la genitalia del macho.

**Palabras clave:** Lepidoptera, Tortricidae, *Pelochrista huebneriana*, nuevo registro, Turquía.

## Introduction

Tortricidae family has approximately 11,365 species worldwide, consisting of 22 tribes within 3 subfamilies (Chlidanotinae, Olethreutinae and Tortricinae) (Huang et al. 2023). This family includes many species that are economically harmful. Tortricidae are also notable for their use as biological agents and in genetic, evolutionary and pheromone studies (Regier et al. 2012). Although many family-specific morphological characters have been described, the only known apomorphic character is the large flat papilla anales on the female genitalia (Horak, 1999). In the first detailed molecular phylogenetic study of Tortricidae, Reiger et al. (2012) reported that the taxa Tortricinae and Olethreutinae are strongly monophyletic and are also sister groups, while the subfamily Chlidanotinae contains the earliest diverging tortricid lineages. Horak (1999) mentioned the following characters for the Olethreutinae subfamily in the key he created for the subfamilies within the Tortricidae family: Antennae are mostly short-ciliated and bear a ring of scales on each segment; juxta, caulis and aedeagus are fused in the male genitalia; sterigma is not connected to the anterior apophyses in the female genitalia and cubital pecten is usually visible.

Koçak & Kemal (2018) listed 507 taxa (505 species, 2 genera) belonging to the Tortricidae family from Türkiye. Kemal et al. (2019) added the species *Eana andreana* (Kennel, 1919) to the fauna of

Türkiye. Then, in 2020, Kemal & Koçak (2020) described a new species (*Thiodia uyghurica*) in the Tortricidae. In this case, the number of Tortricidae species can be expressed as 507 in Türkiye.

In this study, a new species *Pelochrista huebneriana* (Lienig, 1846 in Lienig & Zeller) is recorded for Tortricidae in the Turkish fauna.

## Material and methods

The available material was collected from Central Anatolia of Türkiye, Sivas prov., in 2015. The sample was caught by UV light traps and equipment that consisted of UV LED strip lights, 12 volts and 7 ampere battery, killing bottle (ethyl acetate) and a funnel box. The trap was positioned at the trapping sites before sunset and were taken back in the early hours of the morning. After killing the specimen with ethyl acetate, it was pinned and labelled. Specimen was identified according to their external characters and genital structure. Genital dissection was performed following Robinson (1976). Approximately 10% potassium hydroxide (KOH) was used to macerate the entire abdomen. The cleaned abdominal segments and genital organs were dehydrated overnight in 96% ethanol before mounting on Euparal. Adult specimen of the species was photographed with a Nikon D7100 camera, and the genitalia of male was dissected and prepared under a Leica S8APO stereo microscope by the first author. The material was stored in the Zoology Research Laboratory of Bitlis Eren University.

## Results

Family Tortricidae Latreille, 1803  
Subfamily Olethreutinae Walsingham, 1895  
Tribus Eucosmini Meyrick, 1909

Genus *Pelochrista* Lederer, 1859

*Pelochrista* Lederer, 1859, *Wien. ent. Monats.*, 3, 331

= *Callimosema* Clemens, 1865; *Eucosmoides* Obratzsov, 1946; *Pseudeucosma* Obratzsov, 1946; *Pygolopha* Lederer, 1859 (Gilligan et al. 2013).

*Pelochrista* larvae, most of the species of which are distributed in the Holarctic region, feed commonly on species belonging to the Asteraceae family (Gilligan et al. 2013). Koçak & Kemal (2006) listed 84 species belonging to this genus. Later, Gilligan & Wright (2013) presented a total of 311 taxa, 85 of which were synonyms. In "Tortricid.net", an important online platform for Tortricidae, there are 341 names in the genus *Pelochrista* (Gilligan et al. 2018). Koçak & Kemal (2018) mentioned 12 species concerning *Pelochrista* genus in Türkiye. These are; *Pelochrista agrestana* (Treitschke, 1830); *P. arabescana* (Eversmann, 1844); *P. caecimaculana* (Hübner, [1799]); *P. dagestana* Obratzsov, 1949; *P. griseolana* (Zeller, 1847); *P. hepaticaria* (Herrich-Schäffer, [1851]); *P. infidana* (Hübner, [1824]); *P. invisitana* Kuznetsov, 1986; *P. labyrinthica* (Christoph, 1872); *P. medullana* (Staudinger, 1880); *P. modicana* (Zeller, 1847) and *P. praefractana* (Kennel, 1901). The type locality of two of these species (*P. invisitana* (type loc.: Mardin), *P. medullana* (type loc.: İzmir)) is Türkiye (Gilligan & Wright, 2013). The species *Pelochrista praefractana* listed by Koçak & Kemal (2018) was described by Kennel in 1901 in the genus *Epiblema* based on 1 female specimen in Staudinger's collection. The type locality was stated as "Itmasia". Gilligan & Wright (2013) presented the species *P. praefractana* Kennel, 1901 under the title "Eucosmini unplaced" in their catalog of the genera *Eucopina*, *Eucosma*, *Pelochrista*, *Phaneta* and gave the type locality as Russia: Amasia. LEPIFORUM e. V. (2024) stated that the type locality of this species was mistakenly written as "Itmasia" and the correct one is Amasya and presented the species in the genus *Epiblema*. This species is currently included in the genus *Epiblema* in "Fauna Europaea" (De Jong, 2016).

*Pelochrista huebneriana* (Lienig, 1846 in Lienig & Zeller) (Figure 1)

*Paedisca huebneriana* Lienig, 1846 in Lienig & Zeller. *Isis von Oken*, 1846(3), 237-238

LT: [LATVIA, Livlandia (East Balticum).

= *Grapholitha chanana* Staudinger, 1900. *Dt. ent. Iris*, 12, 349

Material: 1 ♂ Türkiye, Sivas province, Mescidli village, 08-IX-2015. leg. Akın & Seven.

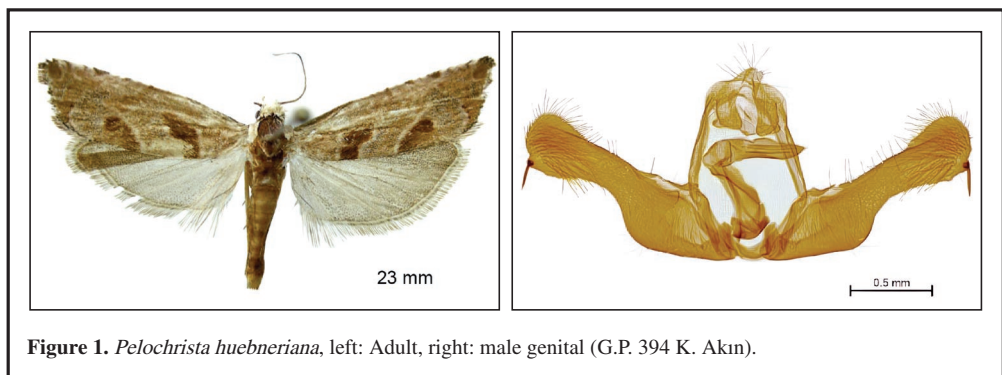
Distribution: China, Mongolia, Kazakhstan, Sweden, Finland, the Baltics, Poland, Russia, Slovakia, Austria, and Türkiye (this study) (Razowski, 2003; Kopp & Brägger, 2017).

Considering European countries in the distribution of the species, the record in Türkiye constitutes the southernmost record in the distribution of the species.

Host-plant: Unknown, but as mentioned above, larvae of most species of this genus feed on Asteraceae plants.

Diagnosis: In the identification of the species, the dorso-postbasal blotch and the subternal blotch on the forewing of the adult stand out. In the male genitalia, the shape of the cucullus and the spine it bears, the shape of the sacculus and the basal cavity are prominent.

As a result of this study, *Pelochrista huebneriana* (Lienig, 1846 in Lienig & Zeller) is presented as a new record for the Tortricidae fauna of Türkiye. According to the literature evaluated above, the species *P. praefractana* (Kennel, 1901), which is included in the genus *Pelochrista* in the Lepidoptera list of Türkiye, should be included in the genus *Epiblema*. Together with the new record of *P. huebneriana* (Lienig, 1846 in Lienig & Zeller), the number of *Pelochrista* species in Türkiye should be considered as twelve.



**Figure 1.** *Pelochrista huebneriana*, left: Adult, right: male genital (G.P. 394 K. Akın).

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