

**New records of Coleophoridae and Crambidae from Hungary  
(Lepidoptera)**

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**Abstract** – The first records of *Coleophora gardesanella* Toll, 1953 and *Coleophora avellanae* Tabell et Huemer, 2024 (Lepidoptera: Coleophoridae), and the second record of *Spoladea recurvalis* (Fabricius, 1775) (Lepidoptera: Crambidae: Spilomelinae) from Hungary are presented.

**Key words** – Microlepidoptera, vagrant species, tropical and subtropical species, pest, faunistics

INTRODUCTION

Altogether 212 species of the family Coleophoridae (Lepidoptera) have hitherto been known from Hungary; several species have been reported as new to the country in recent years (SZABÓKY & TAKÁCS 2021, BALDIZZONE *et al.* 2022, TABELL *et al.* 2024, TAKÁCS *et al.* 2024).

The original description of *Coleophora gardesanella* Toll, 1953 was based on male specimens collected by Hartig at the Garda Lake, Italy (TOLL 1953), while *Coleophora avellanae* Tabell et Huemer, 2024 was recently described from Carinthia, Austria (TABELL *et al.* 2024). In this paper, both species are reported from Hungary for the first time.

The family Crambidae (Lepidoptera) is represented by 169 species in Hungary, of which 24 belong to the subfamily Spilomelinae (TAKÁCS & KŐSZEGI 2023). Species of this subfamily feed on plants of several families (e.g., Asteraceae, Fabaceae, Lamiaceae, Rosaceae, Caryophyllaceae, Rhamnaceae, Buxaceae, Cistaceae, and Azollaceae). However, the host plants of many species are still unknown. Invasive pests such as *Cydalima perspectalis* (Walker, 1859) and subtropical vagrant species such as *Palpita vitrealis* (Rossi, 1794) are also members of this subfamily (SÁFIÁN & HORVÁTH 2011), as well as

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*Spoladea recurvalis* (Fabricius, 1775), a species non-native in Central Europe, which was recently reported for the first time from Hungary (SZABÓKY & BUSCHMANN 2010). Here we provide the second record of this species from the country.

Photos were taken using a Canon 450 D camera set on a Carl Zeiss Stemi-2000 binocular stereomicroscope. Genitalia slides were prepared by Ignác Richter (Mala Čausa, Slovakia) via the traditional method.

*Abbreviations* – HNHM = Hungarian National Museum Public Collections Centre – Hungarian Natural History Museum, Budapest; IR = genitalia slide by Ignác Richter.

## RESULTS AND DISCUSSION

### Coleophoridae

#### *Coleophora gardesanella* Toll, 1953 (Figs 1–2)

*Material examined* – Hungary, Fejér County, Pákozd, 47°13'00.8"N, 18°34'15.5"E, 18.VII.2023, leg. A. Takács, one male, det. I. Richter, gen. prep. 34937 IR. Deposited in A. Takács's private collection.

*Remarks* – First record from Hungary. The voucher specimen was collected by an automated light trap near the hussar monument in the National Military Memorial Park, Pákozd. The trap was operated with an Actinic light tube (T5 BL, peak emittance at 368 nm) and a strip of UV-LEDs (peak emittance between 390–405 nm). *Coleophora gardesanella* might be more frequent and widespread than our results suggest as its host plants are often dominant species in various associations. Apparently, this species exhibits low attractivity for artificial light.

*Distribution* – The species has been known from Austria, Belgium, Croatia, Estonia, Finland, France, Germany, Great Britain, Greece, Italy, Latvia, Luxembourg, North Macedonia, Sweden, and Switzerland (RENNWALD & RODELAND 2023a).

*Habitat* – Short steppe vegetation on sodic soil. The vegetation is 14–40 cm tall, its coverage ranges from 30% to 80%. Various soil properties cause special heterogeneity. The dominant association is wormwood steppe, chequered by patches of saline grassland and communities of annual halophytic plants. Dominant species: *Artemisia santonicum* L. (Asteraceae) (LENDVAI 2021).

*Bionomy* – Flight time: late May to early June. The larva consumes leaves of the following host plants (all Asteraceae): *Artemisia vulgaris* (L.), *Artemisia maritima* L., *Achillea ptarmica* (L.), *Achillea millefolium* (L.), *Tanacetum*

*vulgare* (L.), *Leucanthemum vulgare* Lam., and *Centaurea jacea gaudinii* (Boiss. et Reut.) (EMMET *et al.* 1996). Newly hatched larva (L1) overwinters, then continues feeding in the spring. Fully grown larva attaches its case to the host plant or other surface for pupation.

*Identification* – Wingspan ca. 10 mm. Forewing ochreous, mixed with brown towards apex, with white or cream-coloured lines along costa to five-eighths of its length; hindwing grey, cilia grey (EMMET *et al.* 1996). Adults of *Coleophora gardesanella* are similar to *Coleophora albicans* Zeller, 1849, *Coleophora argentula* (Stephens, 1834) and *Coleophora chrysanthemi* Hofmann, 1869; worn specimens can only be identified via dissection of genitalia (EMMET *et al.* 1996). The silk case is trivalved, tubular.

*Proposed Hungarian name* – pákozdi zsákosmoly.

*Coleophora avellanae* Tabell et Huemer, 2024  
(Figs 3–5)

*Material examined* – Hungary, Borsod-Abaúj-Zemplén County, Tokaj, Nagy-Kopasz hill, 47°13'00.8"N, 18°34'15.5"E, 20.IV.2024, leg. A. Takács, one case, det. J. Tabell; female specimen emerged from the case on 27.V.2023. Deposited in A. Takács's private collection.

*Remarks* – First record from Hungary. The larval case was found on *Corylus avellana* L. (Betulaceae).

*Distribution* – The species has been known from Austria, Croatia, Germany, Italy (mainland, small islands near the mainland, and Sardinia), North Macedonia, Norway (except Spitsbergen and Jan Mayen), and Russia (European part up to Manych lowlands) (TABELL *et al.* 2024).

*Habitat* – Warm oak woodland (Corno-Quercetum pubescentis), characterised by *Quercus petraea* (Matt.) Liebl. (Fagaceae), *Ulmus laevis* Pall. (Ulmaceae), *Carpinus betulus* L. (Betulaceae) and *Prunus avium* (L.) (Rosaceae). The understory is characterised by *Corylus avellana* L. (Betulaceae), *Prunus spinosa* L. (Rosaceae), *Cornus mas* L., *Cornus sanguinea* L. (Cornaceae), and *Viburnum opulus* L. (Adoxaceae) (ZSÓLYOMI & FARKAS 2015).

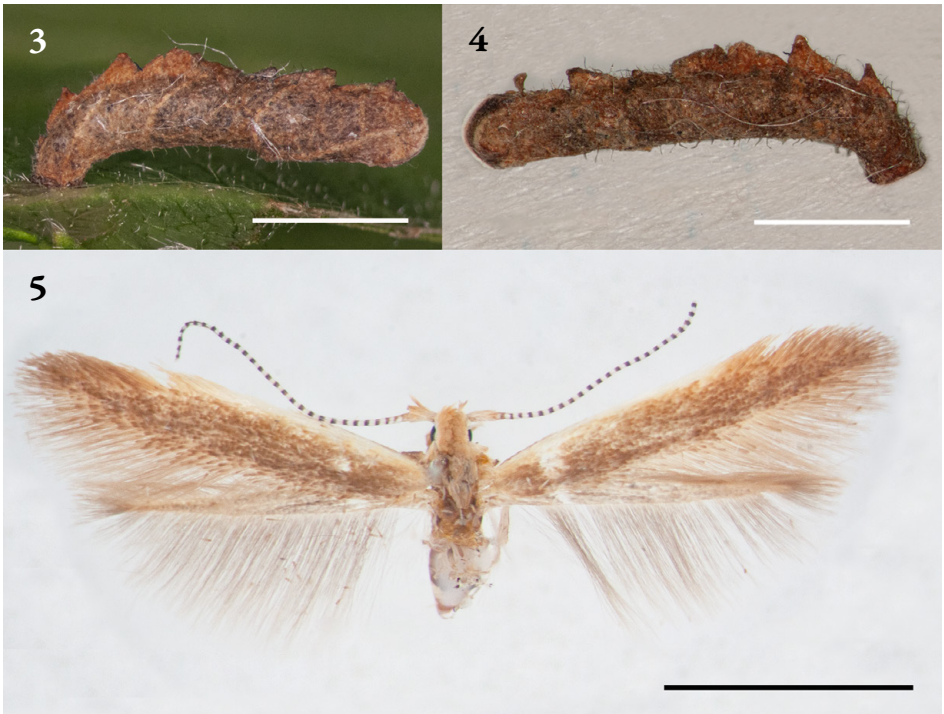
*Bionomy* – Host plants: *Corylus avellana* and *Carpinus betulus* (TABELL *et al.*, 2024). Young larvae overwinter and continue feeding in the spring. The fully grown larva leaves its host plant and attaches its case to a solid surface (stem) for pupation.

*Identification* – Wingspan ca. 10 mm. The species is rather similar to *Coleophora alnifoliae* Barasch, 1934, *Coleophora milvipennis* Zeller, 1839, and *Coleophora adjectella* Herrich-Schäffer, 1861 and can only be identified by genitalia or case (TABELL *et al.* 2024). The leaf case is bivalved, spatulate.

*Proposed Hungarian name* – tokaji zsákosmoly.



**Figs 1–2.** *Coleophora gardesanella* Toll, 1953, 1 = adult male, scale bar = 2.5 mm, 2 = male genitalia, scale bar = 0.1 mm (photos by Attila Takács (Fig. 1) and Ignác Richter (Fig. 2))



**Figs 3–5.** Different stages of *Coleophora avellanae* Tabell et Huemer, 2024, 3 = L4 larval case on *Coryllus avellana*, 4 = L5 larval case of in pupation position, 5 = mounted female, scale bar = 2.5 mm (photos by Attila Takács)

## Crambidae

*Spoladea recurvalis* (Fabricius, 1775)  
(Fig. 6)

*Material examined* – Hungary, Fejér County, Velence, Bence hill, 47.2511N, 18.629E, 9.XI.2023, leg. A. Takács, agricultural light trap, one female. Deposited in the HNHM.

*Remarks* – Second record of the species from Hungary. As the voucher specimen of the first record (SZABÓKY & BUSCHMANN 2010) is deposited in Csaba Szabóky's private collection, this species has not been represented in the HNHM so far. We suspect that this specimen emerged nearby due to its fresh and intact condition; a migrant or transported adult would have been more or less worn.

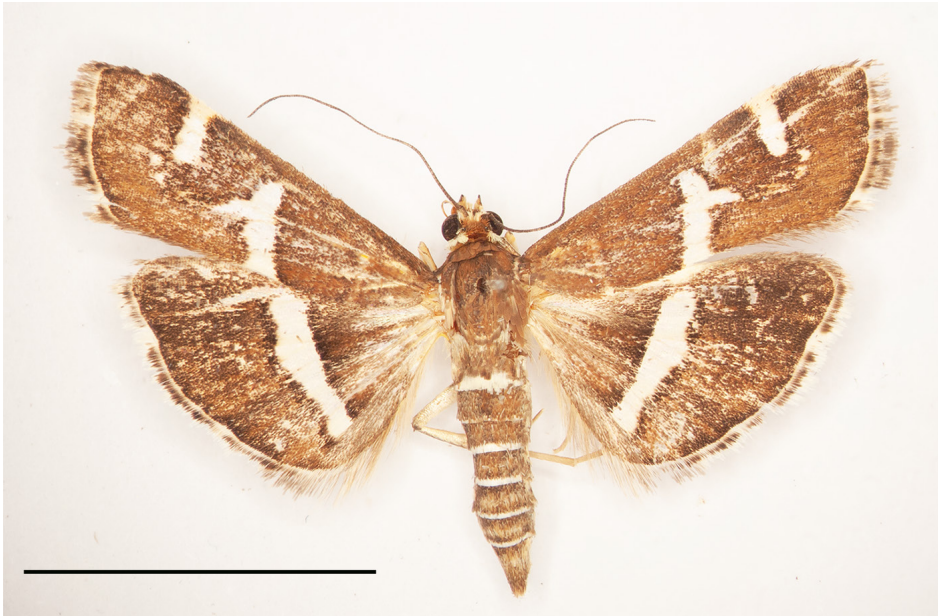


Fig. 6. Adult of *Spoladea recurvalis* (Fabricius, 1775), scale bar = 10 mm (photo by Attila Takács)

*Distribution* – *Spoladea recurvalis* is a widely distributed tropical-subtropical species found in Asia, Africa, Australia, North and South America (LICHTENBERGER & LÄNGAUER 2014). Its first European record was from the United Kingdom in 1951 ((RENNWALD & RODELAND 2023b). The species has been found in Albania, Austria, Azores, Balearic Islands, Belgium Bulgaria,

Canary Islands, Corsica, Crimea, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Madeira, Malta, Monaco, Netherlands, Norway, Portugal, Russia, Sardinia, Sicily, Slovenia, Spain, and Sweden (HASLBERGER & SEGERER 2016, RENNWALD & RODELAND 2023b).

*Habitat* – The trap was installed at the eastern foot of Bence hill, on the premises of Dr. Ferenc Entz Agricultural High School, ca. 100 m from the main road to Nadap, between a greenhouse and a plastic tunnel for plant cultivation, Ornamental plants and vegetables are grown in these facilities; damages from *Spoladea recurvalis* have not been found there. Arable lands are on the opposite side of the road where maize (*Zea mays* L. (Poaceae)), sunflower (*Helianthus annuus* L. (Asteraceae)), rape (*Brassica napus* L. (Brassicaceae)) and soybean (*Glycine max* (L.) Merr. (Fabaceae)) are cultivated. The position of the light trap was given erroneously by TAKÁCS & KŐSZEGI (2023): the trap is situated not in the oak woodland but ca. 15 m away from it.

*Bionomy* – The larva of *Spoladea recurvalis* is extremely polyphagous, its main host plants are spinach (*Spinacia oleracea* L.), amaranth (*Amaranthus* spp.), beet (*Beta* sp.) (Amaranthaceae), cotton (*Gossypium herbaceum* L. (Malvaceae)), maize (*Zea mays*), soybean (*Glycine max*), and purslane (*Portulaca oleracea* L. (Portulacaceae)). Host plants include ornamental plants as well as crops and native species. Its development is very quick in the tropics; larvae hatch one week after egg laying and pupate three weeks later. They feed on the underside of the leaves in groups, in a loose web. The pupal period lasts for one week (DE PRINS 2005, OTHIM *et al.* 2016). Development time is not known in Hungary.

*Identification* – This species cannot be confused with any other species in Europe; the only similar species is the Palaeotropical *Hymenia perspectalis* (Hübner, 1796).

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