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Observation of the larva of an unknown Lepidoptera species in the inflorescence of an apricot tree (*Prunus armeniaca*) in Hungary

Imre Fazekas

Abstract. An unidentified Lepidopteran larva was observed feeding within apricot (*Prunus armeniaca*) flowers during early spring (end of March) in Central Europe. The larva (~10 mm) exhibited a uniform waxy cream colouration, distinct segmental pinacula, a pale head capsule, and a smooth integument. It occurred solitarily within individual flowers, without silk production, and fed selectively on reproductive structures, particularly the pistil. This combination of traits does not correspond to the commonly documented apricot pests in Europe. The observation is interpreted as opportunistic florivory by a polyphagous species under phenological constraints. Such interactions are likely underreported in fruit crop systems and may contribute to unrecognised early-season yield losses.

Keywords. Lepidoptera larva, florivory, apricot, Central Europe, phenology, polyphagy

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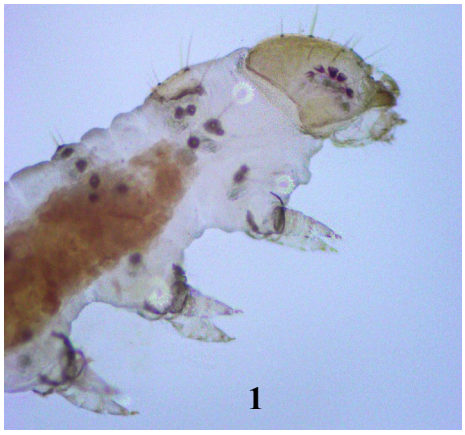
Introduction

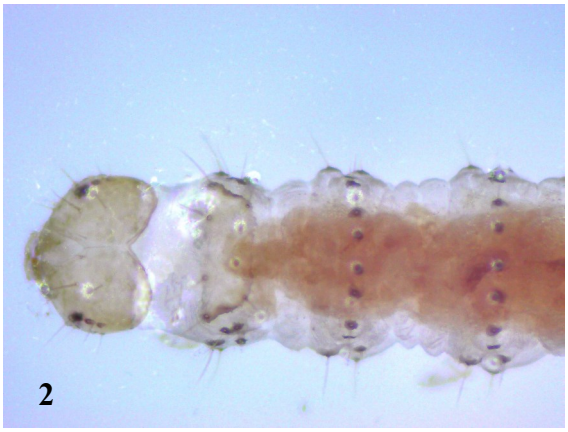
Lepidopteran pests of apricot in Europe are typically described in relation to foliar and fruit damage, with limited attention to feeding on floral structures (Alford, 2012; Balázs & Papp, 2017). Early-season interactions, particularly during bloom, remain insufficiently documented despite their potential impact on fruit yield. Polyphagous larvae may exploit transient resources such as flowers when preferred vegetative tissues are unavailable (Bernays & Chapman, 1994; Schoonhoven et al., 2005, pp. 22–25). In Hungary, Jermy & Balázs (1993) identified the larvae of 26 moth species on the apricot tree. Potential candidates have been examined, but none matched the larva observed.

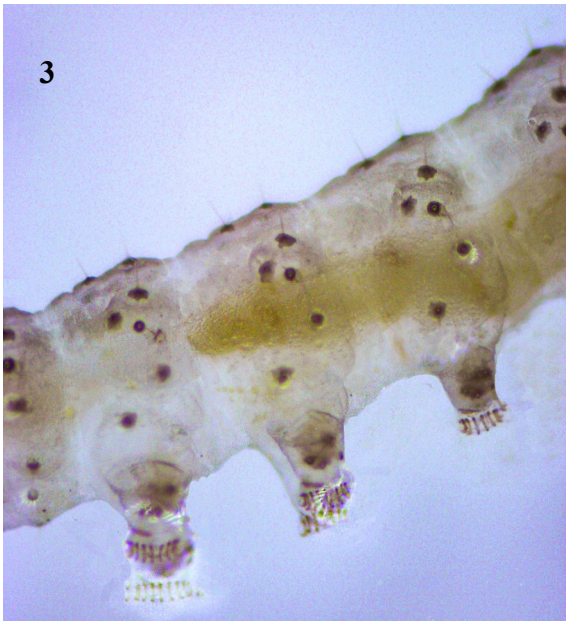
Materials and Methods

I collected the larval specimen (1 ex) during the third decade of March 2026 from the blossoms of a senescent apricot tree (*Prunus armeniaca* L., approximately 60–70 years old). The study site was my private domestic garden in Pécs, Hungary, on the southern slopes of the Mecsek Mountains at an elevation of 350 m above sea level. The surrounding area consists of a suburban residential zone characterised by numerous similar domestic orchards. I observed the larva feeding specifically on the flower's generative organs.

For preservation and subsequent morphological analysis, I submerged the specimen in 80% lactic acid for two weeks. Following this treatment, I rinsed the larva several times in 75% ethanol. To ensure the specimen remained undeformed during microscopic examination, I placed it in 96% glycerol within a concave microscope slide. I conducted the observations and captured a comprehensive series of photographs using a trinocular stereomicroscope. Following the documentation process, I transferred the larva to a glycerol-filled microvial, which I then pinned with standardised locality labels for long-term storage and future reference.







Figs 1–3.
The observed unknown larva (10x):
1. Head and thoracic legs (lateral view).
2. Head, back (top view).
3. The abdominal prolegs and patterns of pinacula (lateral view).

Results

The plant species observed

Prunus armeniaca L.

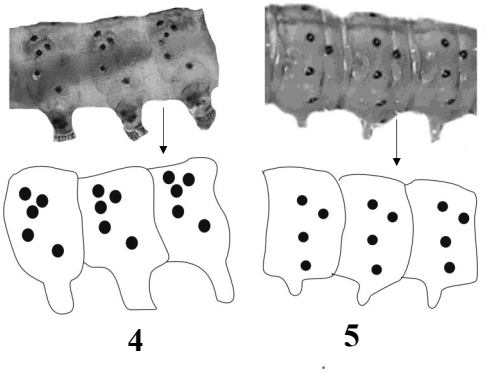
Native ranges: North-Central China, South-Central China, Inner Mongolia, Kazakhstan, Kyrgyzstan, Crete, Manchuria, Qinghai, Uzbekistan, Xinjiang.

Cultivated in Europe, Asia and North America. *Prunus armeniaca* L. (apricot) represents a significant economic crop in both Australia and New Zealand, although its production volume remains lower than that of the world's leading producers.

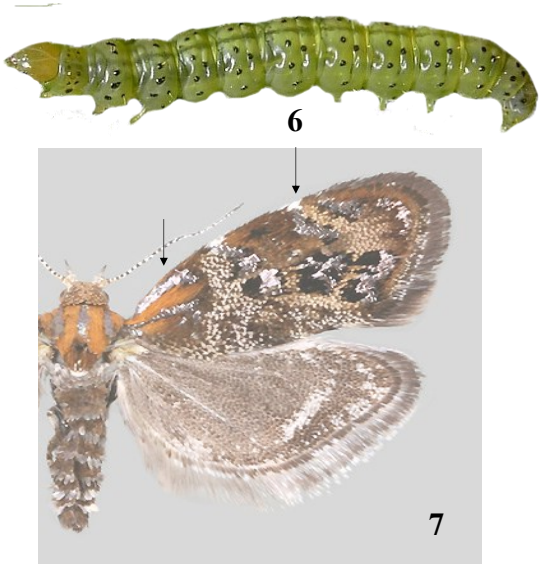
Description of the observed larva

Description of the larva

The observed larva measured approximately 10 mm in length and exhibited a uniform, waxy cream-colored body. Each body segment bore regularly arranged circular black pinacula. The head capsule was uniformly pale and lacked contrasting markings. The integument appeared smooth, with minimal or no visible setation (see Figures 1–3).



Figs. 4–7. Comparison of the larvae.
4. The unidentified larva has a spotted pattern (lateral). The schematic diagram is shown below
5. The spotted patterns of *Tebenna bjerkandrella* (lateral). The schematic diagram is shown below



Figs. 6–7. *Tebenna bjerkandrella*:
6. larva (lateral) **7.** adult ♀

A similar larva
I found the larva of *Tebenna bjerkandrella* (Thunberg & Borgstoem, 1784) [Choreutidae] to be the most similar. Important differences: *T. bjerkandrella* has a greenish base colour with a continuous green line running down the centre of its back. The black spots on its sides are spaced farther apart than those on the larva I observed (see Figs 4–6)

Behaviour
I observed the larva exhibiting diurnal activity, located openly within the flower's interior with no evidence of concealment. I noted no silk production or binding of plant structures. The specimen occurred solitarily, as I found only a single larva within the flower.

Feeding Ecology
Location and date of observation: Hungary, Pécs, 350 m, southern slope of the Mecsek Mountains, orchard in a suburban residential area. A 60- to 70-year-old apricot tree in full bloom. Date: March 25, 2026.

Feeding was localised to the reproductive structures of the flower, primarily the pistil (including stigma and ovary). Petal tissues remained largely intact, indicating selective consumption. This feeding behaviour results in direct loss of potential fruit yield.

Atypical Characteristics
The combination of morphological and behavioural traits does not correspond to the commonly documented Lepidopteran pests of apricot (*Prunus armeniaca*). Established pest groups (e.g., Tortricidae, Geometridae, and typical Noctuidae) generally exhibit either distinct morphological differences (e.g., head capsule pigmentation, body patterning) or divergent behaveours (e.g., silk production, gregariousness, cryptic habits). The observed pattern—solitary, non-webbing, florivorous feeding focused on reproductive organs—is rarely described in association with fruit trees.

Scientific Context
European entomological literature does not explicitly categorise Lepidopteran larvae as "florivorous" on fruit crops. Most species are polyphagous and may transiently exploit floral



Figs 8–9. Location of the larva. – **8.** Hungary, Pécs, 350 m a.s.l., southern slope of the Mecsek Mountains; orchard in a suburban residential area (End of April 2026). Detail of the inflorescence. Date: March 25, 2026. – **9.** The larva preserved in a glycerol-filled microvial.

tissues under phenological constraints, particularly before leaf emergence. Consequently, such interactions are underrepresented in pest inventories and are seldom resolved to the species level.

Discussion

The observed morphology and behaviour do not align with typical representatives of Tortricidae (which frequently produce silk and shelter structures), nor with Geometridae or common early-season Noctuidae, which generally exhibit different head capsule pigmentation or feeding patterns (Razowski, 2003; Alford, 2012). The absence of webbing, solitary occurrence, and targeted florivory suggest a non-specialised feeding strategy.

Florivory by Lepidoptera larvae in fruit crops is rarely emphasised in European plant protection literature, likely due to its transient nature and the difficulty of detection. However, phenological constraints—particularly the lack of developed foliage during early spring—may drive polyphagous larvae to exploit reproductive plant tissues (Bernays & Chapman, 1994). Similar opportunistic feeding shifts have been documented in generalist herbivores across temperate systems (Schoonhoven et al., 2005).

Given the lack of diagnostic adult material, species-level identification was not possible. The observation is best interpreted as opportunistic florivory by a polyphagous Lepidopteran larva rather than evidence of a specialised apricot pest species. Nevertheless, such feeding may lead to a direct reduction in fruit yield and therefore warrants increased attention during early-season pest monitoring.

Conclusion

This study documents a previously underreported instance of Lepidopteran florivory in apricot blossoms in Central Europe. The findings highlight the need to consider early phenological windows in pest assessments and suggest that opportunistic feeding behaviours may contribute to unrecognised crop losses.

Taxonomic Considerations and Differential Diagnosis

The absence of rearing data and molecular identification constrains accurate taxonomic placement of the observed larva. Nevertheless, a comparative morphological and ecological assessment allows exclusion of several major Lepidopteran families commonly associated with apricot and other fruit trees in Europe. The diagnostic combination of (1) uniform waxy cream colouration, (2) regularly arranged segmental pinacula, (3) a pale, non-contrasting head capsule, (4) absence of silk production, and (5) solitary florivory focused on reproductive tissues

provides a basis for differential evaluation.

The larva does not conform to typical representatives of Tortricidae, which characteristically produce silk shelters and frequently exhibit cryptic or folded-leaf feeding behaviour (Razowski 2003). Similarly, Geometridae larvae are morphologically distinct due to their reduced proleg number and characteristic looping locomotion, neither of which was observed. Early instars of Noctuidae may superficially resemble the specimen; however, they typically display darker head capsules and more generalised feeding patterns, often including foliar tissues and nocturnal activity (Alford 2012).

The absence of silk structures and the strict localisation of feeding to floral reproductive organs further differentiate the specimen from most Gelechiidae and Yponomeutidae, which commonly produce webbing or mine tissues. The observed traits are most consistent with a non-specialised, polyphagous larva exhibiting opportunistic florivory, potentially within a less frequently documented ecological context.

Synthesis

The differential diagnosis supports exclusion of the principal Lepidopteran pest groups typically associated with apricot in Europe. The observed larva most plausibly represents a polyphagous species exhibiting opportunistic exploitation of floral tissues under early-season conditions. Such behaviour likely reflects phenological constraints rather than host specialisation and may therefore be underrepresented in conventional pest taxonomies.

Acknowledgments

I would like to express my sincere gratitude to all colleagues who attempted to identify the larva but ultimately classified it as unidentified. I also extend my appreciation to the two reviewers for their valuable comments on the manuscript.

(Magyar nyelvű összefoglaló | Summary in Hungarian)

Ismeretlen Lepidoptera faj hernyójának megfigyelése sárgabarack (*Prunus armeniaca*) virágzatában Magyarországon

Fazekas Imre

Kulcsszavak: Lepidoptera hernyó, florivória, sárgabarack, fenológia, polifágia.
Hivatkozás: Fazekas I. 2026: Observation of the larva of an unknown Lepidoptera species in the inflorescence of an apricot tree (*Prunus armeniaca*). – *Lepidopterologica Hungarica* 22: 165–170.

Bevezetés és célkitűzés

Az európai sárgabarack-ültetvények Lepidoptera-kártevőivel kapcsolatos szakirodalom elsősorban a lombozatot és a termést érintő károsításra fókuszál (Alford 2012). A virágzati struktúrákon történő táplálkozás – különösen a kora tavaszi fenofázisban – kevésbé dokumentált, jóllehet a korai virágzáskori interakciók jelentős hatást gyakorolhatnak a kötődésre és a végső hozamra. Magyarországon Jermy és Balázs (1993) összesen 26 molylepke-faj hernyóját azonosították sárgabarackon, azonban a jelen közleményben leírt morfológiai és etológiai bélyegek egyik ismert taxonnal sem mutattak egyezést.

Anyag és módszer

A vizsgált lárvapéldány gyűjtésére 2026 március 25-én került sor Pécsett, a Mecsek déli lejtőjén (350 m t.f.sz.), egy idős (~60–70 éves) házikerti sárgabarackfa (*Prunus armeniaca L.*) virágzatából. A morfológiai analízishez a példányt kéthetes, 80%-os tejsavas áztatásnak vetettem alá, majd 75%-os etanolos öblítést követően 96%-os glicerinben, konkáv tárgylemezen vizsgáltam trinokuláris sztereomikroszkóppal. A dokumentált példányt glicerinnel töltött mikrotubusban, standardizált lelőhelycímkékkel ellátva archiváltam.

Eredmények

Lárvamorfológia

A hernyó megközelítőleg 10 mm hosszú, teste egyöntetű viaszos krémszínű. A szelvényeken szabályos elrendeződésű, kör alakú fekete pinaculumok láthatók. Términtázatát a 1–5. ábrákon mutatom be. A fejkapszula világos barnás, kontrasztos mintázat nélküli, az integumentum sima, látható szőrzete minimális.

Táplálkozásbiológia és viselkedés

Lokalizáció: A lárva kizárólag a virág generatív szerveit, elsősorban a termőt (bibét és magházat) fogyasztotta. A sziromlevelek épen maradtak, ami szelektív florivóriára utal.

Etológia: Nappali aktivitású, magányos életmódot folytathat. Nem figyeltem meg selyemszál-képzést, szövedéket vagy a virág részei közötti összeszövést.

Kártétel: A táplálkozási mód közvetlen terméskiesést okozhat a reproduktív szervek destrukciója révén.

Diszkusszió és differenciáldiagnózis

A megfigyelt bélyegek alapján több jelentős kártevőcsoport kizárható:

Tortricidae (Sodrómolyok): Jellemzően szövedéket készítenek és rejtetten táplálkoznak, ami jelen esetben hiányzott.

Geometridae (Araszolók): A lárva mozgása és lábszáma nem felelt meg az araszolótípusú morfológiának.

Noctuidae (Bagolylepkék): A kora tavaszi fajok hernyói általában sötétebb fejkapszulával rendelkeznek és generalistább táplálkozást folytatnak.

A leírt jelenség opportunista florivóriaként interpretálható. Valószínűsíthető, hogy polifág fajok a lombfakadást megelőző fenológiai kényszer hatására a virágzatot használják átmeneti táplálékforrásként (Bernays & Chapman 1994). Mivel a virágzáskori kártétel gyakran észrevétlen marad vagy más tényezőknek (pl. fagy) tulajdonítják, az ilyen jellegű interakciók alulreprezentáltak a növényvédelmi jegyzékekben.

Következtetés: A közlemény egy eddig kevéssé dokumentált florivór-táplálkozási esetet mutat be sárgabarackon. Az eredmények rávilágítanak a kora tavaszi fenológiai ablakok fontosságára a kártevő-monitorozásban, mivel az opportunista táplálkozási váltások rejtett gazdasági veszteségeket okozhatnak.

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