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Occurrence of *Euchromius superbellus* (Zeller, 1849) in Hungary (Lepidoptera: Crambidae)

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Abstract – First confirmed record of *Euchromius superbellus* (Zeller, 1849) and several unpublished observations of the species complex including *Euchromius superbellus* and *Euchromius rayatella* (Amsel, 1949) (Lepidoptera: Crambidae) in Hungary are presented.

Key words – citizen science, collection, Mediterranean, migrant species, voucher specimen

INTRODUCTION

The genus *Euchromius* Guenée, 1845 (Lepidoptera: Crambidae) has been represented by two species in Hungary, namely *Euchromius bella* (Hübner, 1796) and *Euchromius ocellea* (Haworth, 1811) (Buschmann & Pastorális 2025) until the publication of the present paper. A third species, *Euchromius superbellus* (Zeller, 1849), has had only doubtful records: Szent-Iványi & Uhrik-Mészáros (1942) reported three specimens from the collectors Lajos Anker (1822–1887) and Hans Rebel (1861–1940) from the 19th century, having the label "Hung.". Gozmány (1963) reported only two specimens from this series and he could not prove that they had been collected within the borders of present-day Hungary. Although no unambiguous record was available, the species remained on the national checklists with the Hungarian name "díszes mozaikmoly" until Pastorális (2007) removed it from the Hungarian fauna list. Fazekas & Farkas (2026) presented a record with photographic documentation on a specimen pertaining to the *E. superbellus–E. rayatella* (Amsel, 1949) species

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complex, purportedly identified as *E. superbellus*, despite acknowledging that reliable identification is only possible through genitalia dissection.

The aim of this paper is to present the first confirmed record of *E. superbellus* from the territory of the present-day Hungary verified by genitalia dissection, and to publish several photographic records of the *E. superbellus–E. rayatella* species complex.

RESULTS

Euchromius superbellus (Zeller, 1849) (Figs 1–2)

Material examined – One female, Hungary, Pest County, near Hosszúcsemő peat bog, 47.1522°N, 19.7140°E, at light, 160 W HMLI, 5.VIII.2026, leg. Balázs Tóth, slide No. TB2510f (deposited in the Hungarian National Museum Public Collection Centre – Hungarian Natural History Museum, Budapest (HNHM)).

Remarks – First verified record from Hungary. Some recent observations discussed below may represent this species, but without certainty.

A survey on the citizen science website www.izeltlabuak.hu resulted in finding four specimens documented by photographs which belong to the *E. superbellus–E. rayatella* species complex. They were recorded in Zalaegerszeg** (Zala County), Kecskemét*** (Bács-Kiskun County), and Klárafalva****, ***** (Csongrád County), with the earliest observation in 2022. Because they are either identified only to genus level or misidentified on that website, they are formally published here as members of the aforementioned complex for the first time. Identification to species level is impossible, as the specimens were not collected and their genitalia are therefore unavailable for study.

Although Fazekas & Farkas (2026) claimed to publish the first confirmed record of this species from Hungary, their observation cannot be accepted as such for the following reasons: the determination is based merely on "a consultation with several colleagues", i.e., essentially an expert opinion poll based solely on a photograph of the forewing pattern; the reported specimen was not collected and is therefore unavailable for dissection; and finally, Fazekas & Farkas (2026) themselves emphasise that both *E. superbellus* and *E. rayatella* display an overlapping variability in ground colour and pattern, making reliable identification impossible without examining the genitalia. We hereby underline again the essential importance of collecting voucher specimens, especially for reporting species new or rare for the fauna of a country.

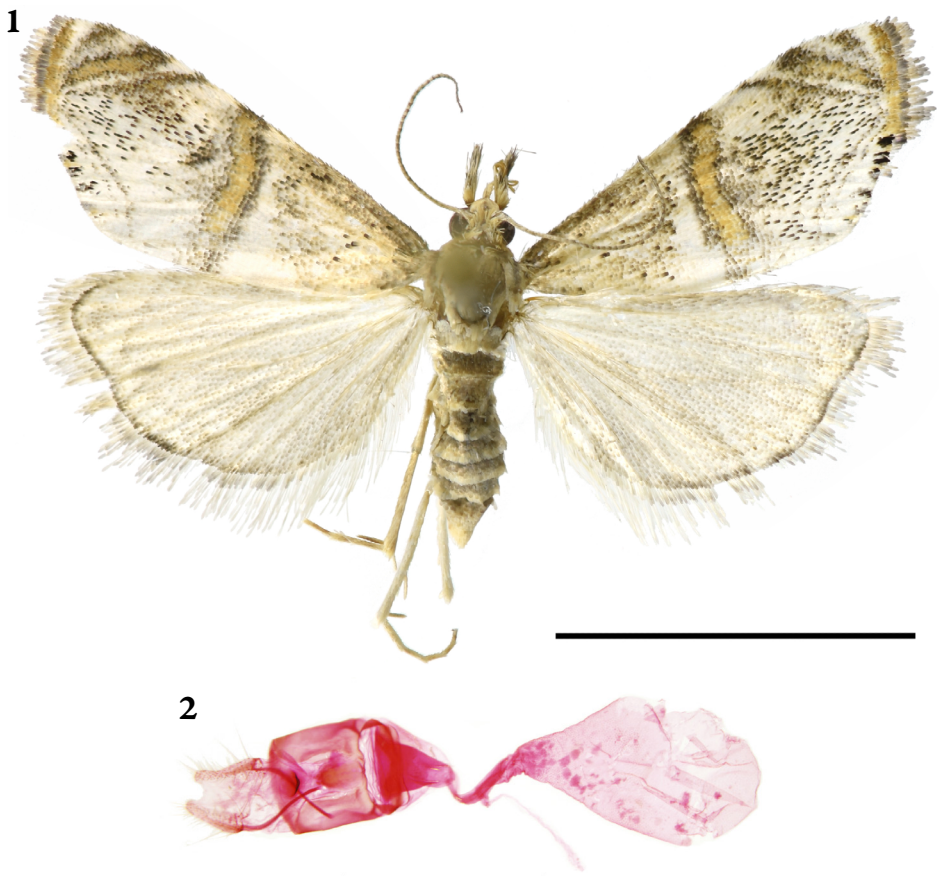
** https://www.izeltlabuak.hu/talalat/486130

*** https://www.izeltlabuak.hu/talalat/629236

**** https://www.izeltlabuak.hu/talalat/374620

***** https://www.izeltlabuak.hu/talalat/285829

The specimens reported by Szent-Iványi & Uhrik-Mészáros (1942) and partially by Gozmány (1963) have been deposited in the Naturhistorisches Museum in Vienna hence we did not have physical access to them; they were not studied.



Figs 1–2. Voucher specimen of *Euchromius superbellus* (Zeller, 1849) from Hungary, 1 = female, dorsal habitus, scale bar = 5 mm, 2 = female genitalia, slide No. TB2510f, scale bar = 1 mm (photos by Balázs Tóth)

Distribution – *Euchromius superbellus* is a Mediterranean–Central Asian species, occurring in Albania, Armenia, Austria (sporadic), Bulgaria, the Crimea, Croatia, Cyprus, France, Georgia, Greece, Hungary (sporadic), Iran, Israel, Italy, Kyrgyzstan, Montenegro, Northern Macedonia, Romania, Russia, Slovenia, Spain, and Turkey (Rennwald & Rodeland 2026, present paper). *Euchromius rayatella* has similar distribution; its closest known locality to the Hungarian border can be found in Dugi Otok Island, Croatia (Koren 2021).

Bionomy – *Euchromius superbellus* is associated with dry habitats in the Mediterranean area. Its ecological requirements, including the host plant of the larva, are unknown. Tendency for migration is yet to be studied. Flight time: from June to September (Rennwald & Rodeland 2026). Our specimen was collected in the Danube–Tisza Interfluve, Great Hungarian Plain, in grassland on sandy soil, close to stands of the invasive *Robinia pseudoacacia* L. (Fabaceae) with *Acer negundo* L. (Sapindaceae) and near a dried out peat bog. The moth arrived to a white sheet illuminated by artificial mixed light, between 00–01 hours. All the four photographed individuals mentioned above, like that of Fazekas & Farkas (2026), were seen in the southern half of the country, suggesting a migratory origin from the Balkan Peninsula. Extreme dry years, like 2026, may facilitate the migration to Hungary.

Identification – The diagnostic characters of the species recorded or potentially occurring in Hungary are summarised in a key below. Potentially occurring species is indicated by square brackets in the key.

1. Forewing elongated, more than twice as long as broad; medial field with two sharp orange transverse fasciae ..... *Euchromius ocellea* (Haworth, 1811)
– Forewing much broader, less than twice as long as broad; medial field with either only one sharp orange transverse fascia or this being accompanied by another proximal, blurred fascia 2
2. Medial field with only one sharp orange fascia; basal field white or grey (genitalia dissection required) 3
– Medial field with one, sharp orange fascia, accompanied by another proximal, blurred fascia; distal fascia sharp; basal field brownish ..... *Euchromius bella* (Hübner, 1796)
3. Male genitalia: with long saccular terminal extension; female genitalia: lamella postvaginalis with one large, granulated plate, lamella antevaginalis large, posterior part of ductus bursae parallel-sided ..... [*Euchromius rayatella* (Amsel, 1949)]
– Male genitalia: without saccular terminal extension; female genitalia (Fig. 2): lamella postvaginalis with two small smooth plates, lamella antevaginalis narrow, posterior part of ductus bursae funnel-shaped ..... *Euchromius superbellus* (Zeller, 1849)

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