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NOTES ON GEOGRAPHIC DISTRIBUTION

New distributional data on *Euclasta splendidalis* (Herrich-Schäffer, 1848) (Lepidoptera, Crambidae), with the first records from Uzbekistan

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Abstract. *Euclasta splendidalis* (Herrich-Schäffer, 1848) is reported from Uzbekistan for the first time, and its known distribution is summarised and mapped. Seven specimens were collected with a light trap in the southern Fergana Valley (Chimyon foothills and Fergana city) in June 2025 and June 2026. Identification was confirmed by examination of the male and female genitalia, which are illustrated. These are also the first records of the genus *Euclasta* Lederer, 1855 from Uzbekistan. The new localities lie ca. 1,200 km northeast of the nearest known Central Asian record, in the Kopetdag, Turkmenistan.

Keywords. Central Asia, Fergana Valley, faunistics, light trapping, new distribution records, genitalia

Shermatov M, Mukhammedov M, Botirov E, Kayumova O, Abdikakhorov B, Nosirova S (2026) New distributional data on *Euclasta splendidalis* (Herrich-Schäffer, 1848) (Lepidoptera, Crambidae), with the first records from Uzbekistan. Check List 22 (5): 1067–1072. https://doi.org/10.15560/22.5.1067

Introduction

The genus *Euclasta* Lederer, 1855 belongs to the family Crambidae, subfamily Pyraustinae, and currently includes 17 species distributed in Africa, southern Europe, Asia, and Australia (Koren 2012; Nuss et al. 2003–2026). Adults of the genus are characterised by their long legs, by the multifurcate setae on the head of the uncus in the male genitalia, and by an appendix bursae arising from the anterior part of the ductus bursae in the female genitalia (Mally et al. 2019). Two species are known from Europe: *E. splendidalis* (Herrich-Schäffer, 1848) and *E. varii* Popescu-Gorj & Constantinescu, 1973 (Slamka 2013; Nuss et al. 2003–2026).

Euclasta splendidalis (Herrich-Schäffer, 1848) was described from Turkey as *Botys splendidalis* and is the type species of *Euclasta* by monotypy (Koçak and Kemal 2018). African and western Mediterranean populations were long referred to *E. splendidalis* until Popescu-Gorj and Constantinescu (1973) separated *E. varii* on the basis of genital characters. Because the two species are externally almost identical, several published records need verification; the records from the Maltese Islands, for example, refer to *E. varii* (Sammut 2005). As currently understood, *E. splendidalis* ranges from Italy and the Balkan Peninsula eastwards through Turkey, the Caucasus and the Middle East to Turkmenistan (Slamka 2013; Zilli and Pavesi 2015; Plant and Jakšić 2018; Nuss et al. 2003–2026; Alipanah et al. 2023). No record of the species from Uzbekistan has been published so far.

The lepidopteran fauna of the Fergana Valley is not yet fully documented, and recent studies have added new records for Uzbekistan (Shermatov et al. 2025; Zokirov et al. 2026).

During light-trapping surveys in the southern part of the Fergana Valley in 2025 and 2026, we collected three males and four females of *E. splendidalis* in the Chimyon foothills and in Fergana city. Here we report this material, which represents the first records of the species and of the genus *Euclasta* from Uzbekistan, and illustrate the adults, the male and female genitalia, and the known distribution of the species.

OPEN ACCESS

Academic editor: Reza Zahiri
Received: 19 August 2026
Accepted: 20 October 2026
Published: 30 October 2026

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Methods

Moths were collected in the Fergana Region of Uzbekistan, in the foothills near Chimyon village (Fergana District) and in Fergana city, in June 2025 and June 2026. Moths were attracted to a light trap consisting of a 250 W mercury-vapour lamp (E40 socket), powered by a 1,000 W petrol generator and placed in front of a white cotton sheet. The sampling sites lie outside protected areas, and no collecting permits were required. Specimens were killed with ethyl acetate, pinned, dried and labelled.

Specimens were identified using external characters and genitalia, following Koren (2012), Slamka (2013) and Mally et al. (2019). Genitalia were prepared following Robinson (1976): abdomens were macerated in 10% potassium hydroxide (KOH) and transferred to distilled water, in which the genitalia were dissected; the preparations were then rinsed in 96% ethanol.

Genitalia preparations were photographed using an Olympus SZX16 stereomicroscope (Olympus Corporation, Tokyo, Japan) fitted with an E3ISPM20000KPA digital camera (ToupTek Photonics, Hangzhou, China). Adults were photographed with a Canon EOS R6 Mark II camera and a Canon EF 100 mm f/2.8 macro lens (Canon Inc., Tokyo, Japan). Images were edited in Adobe Photoshop. The distribution map was compiled using SimpleMappr (Shorthouse 2010).

All specimens are deposited in the entomological collection of the Department of Zoology and General Biology, Fergana State University (FSU), Fergana, Uzbekistan.

Results

***Euclasta splendidalis* (Herrich-Schäffer, 1848)**

Figure 1

New records. UZBEKISTAN — Fergana Region • Fergana District, Chimyon village; 40°16′27″N, 071°31′56″E; 680 m elev.; 25.VI.2025; M.M. Mukhammedov leg.; light trap; 1 ♂, FSU-Ent-Es-202506001; 3 ♀, FSU-Ent-Es-202506002–202506004 • Fergana District, Chimyon village, 0.8 km SE of the preceding

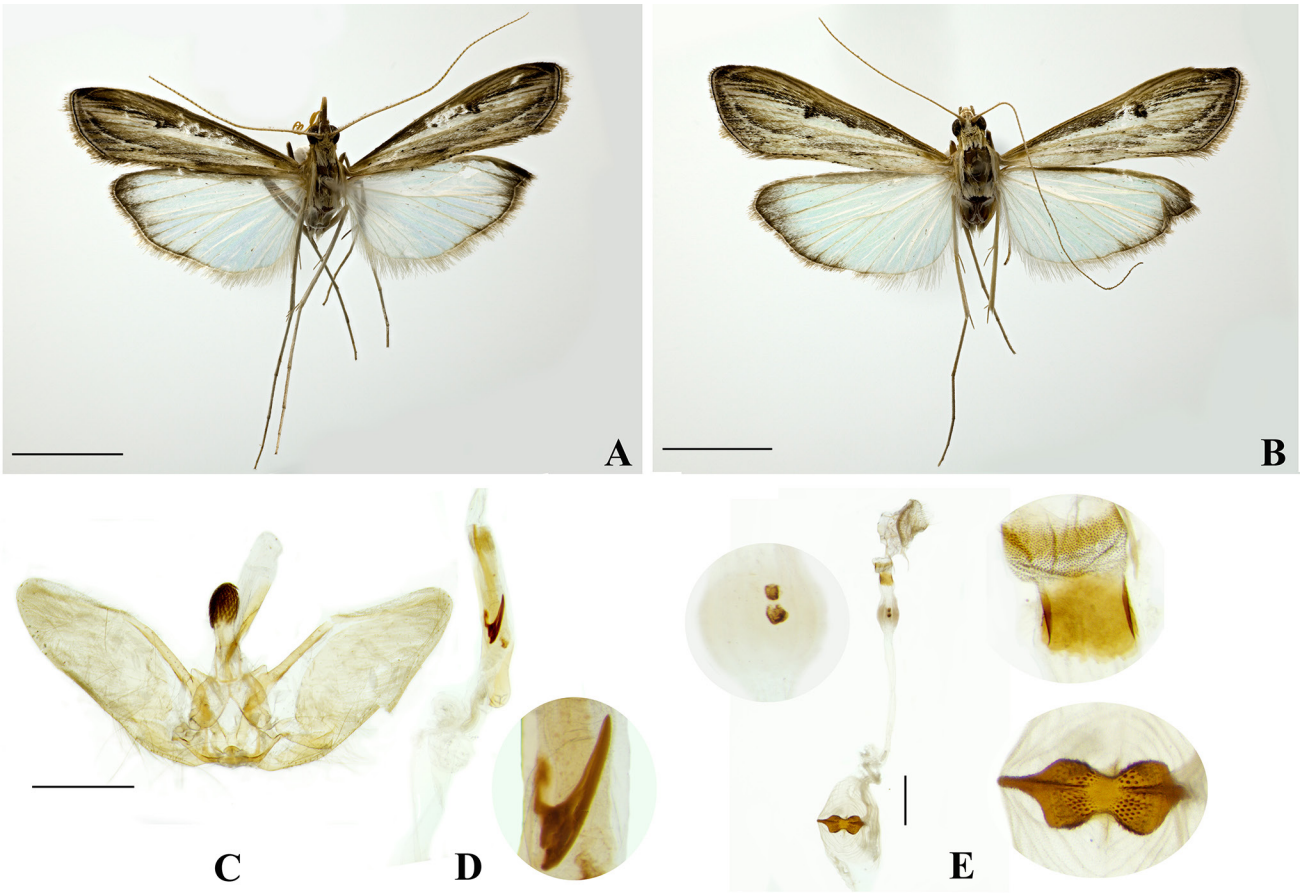

Figure 1. *Euclasta splendidalis* (Herrich-Schäffer, 1848) from Fergana Region, Uzbekistan. **A.** Adult male; **B.** Adult female; **C.** Male genitalia; **D.** Phallus; **E.** Female genitalia. Scale bars: A, B = 5 mm; C–E = 0.5 mm.

site; 40°16′09″N, 071°32′19″E; 620 m elev.; 10.VI.2026; M.M. Mukhammedov leg.; light trap; 2 ♂, FSU-Ent-Es-202606005, FSU-Ent-Es-202606006 • Fergana city; 40°22′02″N, 071°46′32″E; 590 m elev.; 20.VI.2026; B.D. Abdikakhorov leg.; light trap; 1 ♀, FSU-Ent-Es-202606007.

Identification. Our specimens agree with the descriptions and illustrations of *E. splendidalis* given by Koren (2012), Slamka (2013), and Mally et al. (2019). Adults show some external differences from *E. varii* (Slamka 2013), the only congener with which *E. splendidalis* is likely to be confused in the western Palaearctic, but the two species are most reliably separated by their genitalia: in the male by the shape of the cornutus within the phallus, and in the female by the wide ostium bursae and the large, rounded antrum. We therefore dissected one male and one female; the remaining specimens match them in all external characters examined.

Description. Male (*n* = 3; Figure 1A). Forewing narrow with rounded apex; length 10.5–12.0 mm (mean 11.2), width 2.0–3.0 mm (mean 2.3); wingspan 22.5–26.0 mm (mean 24.2). Dorsum brown, with a long whitish streak from the base to the apical area and a darker spot adjacent to the streak. Hindwing length 8.0–9.0 mm (mean 8.3), width 4.6–6.0 mm (mean 5.2); white, with the apical area brown.

Female (*n* = 4; Figure 1B). Forewing length 13.0–14.5 mm (mean 13.6), width 3.0–4.0 mm (mean 3.4); wingspan 28.0–30.0 mm (mean 28.6). Hindwing length 10.0–11.7 mm (mean 10.7), width 7.0–8.0 mm (mean 7.4). External characters otherwise as in the male.

The morphology of the male and female genitalia of the examined specimens agrees fully with the descriptions provided by Slamka (2013) and Mally et al. (2019). No significant external or internal morphological variation was observed among the specimens examined from Uzbekistan.

Distribution. *Euclasta splendidalis* is known from Turkey (Herrich-Schäffer 1848), Transcaucasia, Iran and Syria (Slamka 2013; Alipanah et al. 2023), Cyprus, Bulgaria, Romania, North Macedonia and Greece (Slamka 2013; Plant and Jakšić 2018), Croatia (Koren 2012; Gumhalter et al. 2018), Italy (Zilli and Pavesi 2015), Ukraine (Yepishin et al. 2021, 2024), and southern Russia (Sinev and Streltzov 2019). Earlier records from the Maltese Islands refer to *E. varii* (Sammut 2005). In Central Asia, the species has so far been reported only from the Kopetdag Range in Turkmenistan (Koçak and Kemal 2018), which corresponds to "Transcaspia" of Slamka (2013). The known distribution and the new Uzbekistan localities are shown in Figure 2.

Host plant. The larvae have been recorded on *Periploca graeca* L. (Apocynaceae) (Yepishin et al. 2021). This climbing subshrub is listed as native to Uzbekistan and Turkmenistan (POWO 2026), so a suitable host plant is available in the Fergana Valley.

Discussion

The material reported here provides the first records of *Euclasta splendidalis*, and of the genus *Euclasta*, from Uzbekistan. The nearest previously published locality known to us lies in the Kopetdag Range of Turkmenistan (Koçak and Kemal 2018), ca. 1,200 km west-southwest of Chimyon. The new records therefore extend the known range of the species considerably eastwards and represent, at present, its easternmost known locality overall. The two new localities lie ca. 23 km apart, at 590–680 m elevation, in the transition zone between the irrigated lowland of the Fergana Valley and the northern foothills of the Alay Range.

The only documented larval host of *E. splendidalis* is *Periploca graeca* (Yepishin et al. 2021), a relict Mediterranean species whose natural range in the former USSR is restricted to riparian forests and thickets of the Caucasus and the Black and Caspian Sea coasts (Grossheim 1939–1967; Chikov 1983). In Uzbekistan, *P. graeca* is grown mainly as an ornamental plant in parks and settlements, and the few spontaneous populations apparently originated from cultivation (Vvedensky 1961; Gaziev 2016; Isagaliyev et al. 2021), although POWO (2026) treats the species as native to the country.

The occurrence of *E. splendidalis* in the Fergana Valley is therefore probably linked to the cultivation of its host. A comparable situation exists in southern Ukraine, where the only larval record (Yepishin et al. 2021) comes from an area in which *P. graeca* is considered naturalised from cultivation (Chikov 1983). This suggests that the moth can establish on planted and feral hosts. The species may have reached Uzbekistan through the gradual spread of host plantings or with transported plant material. Its presence in two localities 23 km apart and in two consecutive years suggests an established population rather than vagrant individuals. We expect the species to occur elsewhere in Uzbekistan where *P. graeca* is cultivated, especially in parks, gardens and irrigated settlements. Searching for larvae on planted hosts would be the most efficient way to test this.

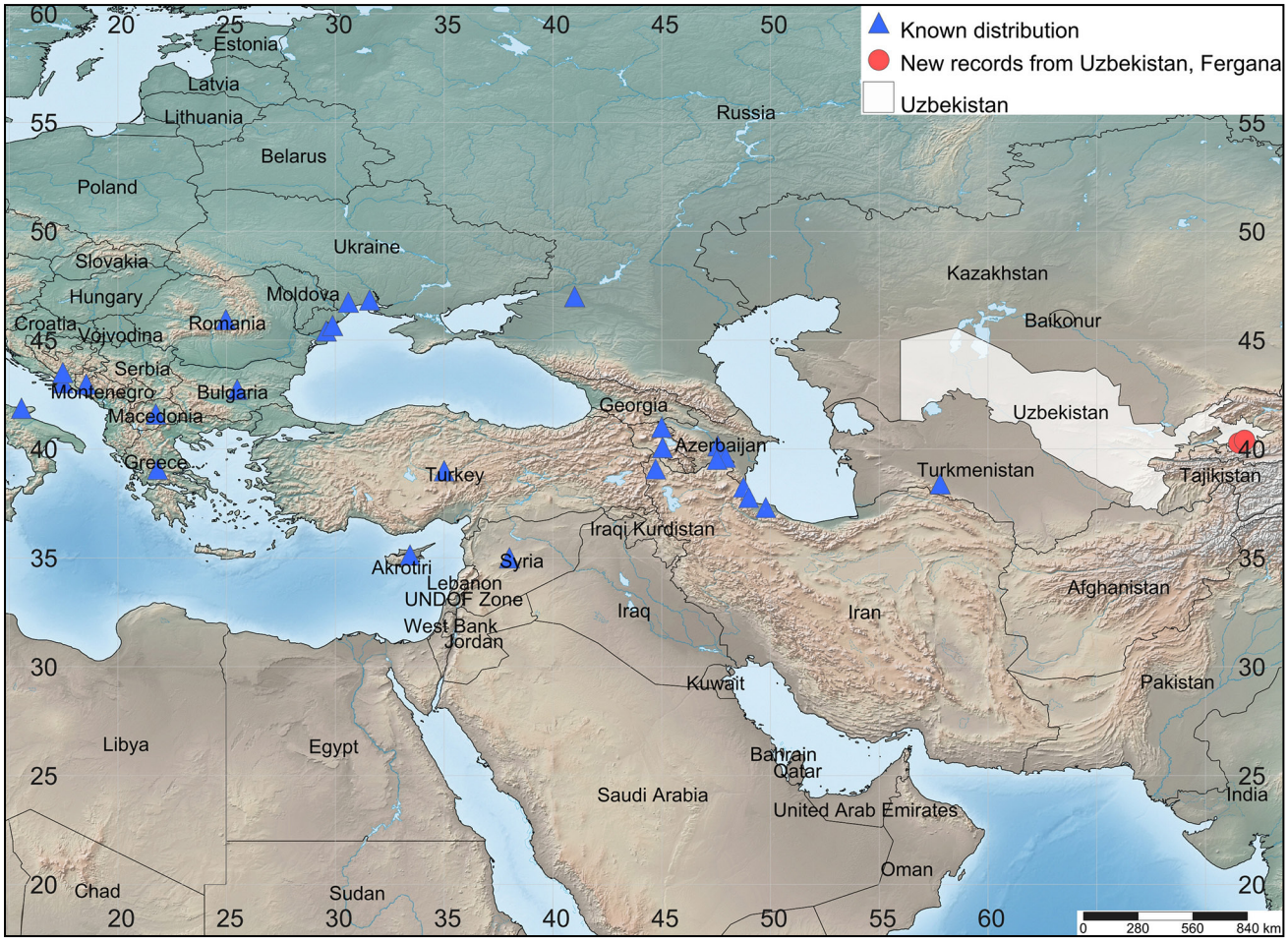

Figure 2. Known distribution of *Euclasta splendidalis* (Herrich-Schäffer, 1848): blue triangles, records from the literature; red circles, the new records from Fergana Region, Uzbekistan.

Within its natural range, *E. splendidalis* has probably spread along the riparian habitats of its host, which extends from southeastern Europe through Asia Minor to the Caucasus and northern Iran (Chikov 1983; POWO 2026). Because *P. graeca* is a relict Mediterranean species, any spread associated with the host more likely proceeded eastwards from the Mediterranean region than westwards from Central Asia to Europe. The Central Asian records, including ours, may reflect a more recent, human-mediated extension of the range following cultivation of the host. Molecular comparison of Central Asian, Caucasian and European populations is needed to test this.

Within Iran, all records, including those from Kohgiluyeh and Boyer-Ahmad Province in the southwestern Zagros Mountains (Alipanah et al. 2023), come from mountainous or humid regions, whereas the species has not been recorded from the arid lowlands of Mesopotamia, the central Iranian Plateau or the Arabian Peninsula (Figure 2). The southern limit of the range may therefore be determined by the availability of moist habitats, possibly reflecting the riparian requirements of the host plant, rather than by latitude. However, the absence of records from these regions may also reflect undersampling.

Our specimens were collected between 10 and 25 June, whereas in Croatia the species has been recorded in August (Koren 2012; Gumhalter et al. 2018). Whether this reflects an earlier flight period or a longer, possibly bivoltine, flight period in Central Asia cannot be determined from the present material; season-long sampling is needed.

Because *E. splendidalis* and *E. varii* cannot be reliably separated by external characters, and because this similarity has already produced erroneous published records (Sammut 2005), we recommend that further Central Asian records of the genus be confirmed by examination of the genitalia or by DNA barcoding.

The Pyraustinae of Uzbekistan remain poorly documented: there is no national checklist of the subfamily, and the phylogenetic limits of the subfamily were substantially revised by Mally et al. (2019), so that earlier regional lists require reassessment. The new records, together with the recent first records of *Calymma* Hübner, 1823 for Uzbekistan (Shermatov et al. 2025) and new distributional data for

Pericyma albidentaria (Freyer, 1842) (both Erebidae; Zokirov et al. 2026), suggest that the moth diversity of Uzbekistan is greater than hitherto documented. The fauna of the Fergana Valley in particular remains undersampled, and further faunistic work is needed. This also holds true for neighbouring countries, as evidenced by recent faunistic additions (e.g. Davlatov 2026, for Tajikistan).

Acknowledgements

The authors sincerely thank Dr. Bakhtiyor Sheraliev (Fergana State University, Uzbekistan), as well as the editor Dr. Juliana Rodrigues, subject editor Dr. Reza Zahiri, and the reviewers Dr. Stanislav Korb, Dr. Matthias Nuss, and Dr. Helen Alipanah, for their valuable comments and constructive suggestions, which helped improve this manuscript.

Additional information

Conflict of interest

The authors declare that no competing interests exist.

Ethical statement

No ethical statement is reported.

Funding

This research received no external funding.

Author contributions

Conceptualisation: MRS, MMM. Data curation: MRS, MMM. Investigation: MMM, BDA, SAN, OIK. Methodology: MRS, MMM, EAB, BDA, OIK. Visualisation: MMM, EAB, BDA. Writing – original draft: MRS. Writing – review and editing: MRS, MMM, EAB, OIK, BDA, SAN.

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Data availability

All data that support the findings of this study are available in the main text.

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