

A new species of the genus *Standfussiana* Boursin, 1946 from Armenia (Lepidoptera, Noctuidae)

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Abstract. The present study describes *Standfussiana ghrejjani* sp. n. from Armenia. The description is accompanied by 5 colour illustrations and 4 genitalia figures.

Keywords. Caucasus, new description, taxonomy, Noctuidae.

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Introduction

Standfussiana Boursin, 1946 is a small genus belonging to the Noctuidae family, with a Trans Palearctic distribution that extends from Northern Africa and Spain to the Himalayas. *Standfussiana* comprises 12 known species, with most of these species found in the Mediterranean, Near East, Caucasus, and the Central Asiatic high mountains. The taxonomic interpretation and new descriptions of *Standfussiana* were last revised by Fibiger & Lafontaine, 1997; Varga, 2011; Aulombard et al., 2020; and Gyulai, 2021. The first author has collected a new species of *Standfussiana*, which is described below.

Abbreviations for personal and institutional collections used herein include: PGYM = Péter Gyulai (Miskolc, Hungary); GYP = slide number of Péter Gyulai; HT = holotype; PT = paratype; m = male.

Description of the new species

Standfussiana ghrejjani sp. n. (Figs 1, 6)

Holotype. Male (Fig. 1), Armenia, Aragats Mt., Alagats [near Kari lich Lake], 3100 m, 40° 47'19.54" N, 44°19'32.95" E, 23.VII. 2022, leg. A. Saldaitis, GYP 6089 (coll. PGYM).

Diagnosis. Although the new species (Fig. 1) resembles most of the taxa of the genus *Standfussiana* in its external features and colouration, its closest relative based on genitalia configuration is the externally more different *Standfussiana defessa* (Lederer, 1858) (Fig. 2) distributed in the Levante and Lorestan (West Iran). *Standfussiana ghrejjani* sp. n. can be easily separated from *S. defessa* by the brownish ground colour of the wings, which are different shades of ochreous or pale yellowish on *S. defessa*. Additionally, the wing pattern is dark brownish, the forewing apex more elongated and the inner area of the hindwing is much darker in the new species than in *S. defessa*. From the Caucasian, whitish *Standfussiana lucernea dor-*

othea Aulombard, Landry, Curval, Ronkay, Ronkay & Varga, 2020, *S. ghrejyani* **sp. n.** strictly differs with its greyish-brownish wings; additionally, the two taxa are very different in genitalia configuration. *S. ghrejyani* **sp. n.** differs from all the other Asian taxa of the genus *Standfussiana* with its darker ground colour of the wings, the more contrastive hindwing and the more elongated forewing apex. Externally the most similar to the new species is the dark male of *Standfussiana nyctimera osmana* (Wagner, 1929) (Fig. 3), however, the new species has a less wavy, rather zigzag antemedial line, less arcuated postmedial line, weaker reniform macula and more contrasting hindwing, with an uneven, dark brownish-greyish marginal area, which is the broadest in its medial section. A further, somewhat similar species to *S. ghrejyani* **sp. n.** is *Standfussiana benedeki* Gyulai, 2021 (Fig. 4), but the new species has much darker wings, smaller reniform macula and conspicuously darker, uneven marginal area in the hindwings.

Male genitalia (Fig. 6). The main reliable distinctive features of *S. defessa* (Fig. 7) are the longer and terminally rather spatulate outer arm of the bifid costal extension, the much broader but less prominent protrusion in the subbasal vesica, bearing a thin, serrate ribbon and the much longer, stronger, straight, sclerotized subterminal, cornutus-like appendage in the vesica of *S. ghrejyani* **sp. n.**, while the latter one is much smaller, weaker, slightly curved in the vesica of *S. defessa*. This strong and straight sclerotized appendage is a diagnostic feature of the new species, since it is a curved, asymmetric, sclerotized tongue-like appendage in all of the known further species of *Standfussiana*. Only in the northeastern Iranian-Turkmenian *S. benedeki* Gyulai, 2021 (Fig. 9) is the appendage slightly similar to that of the new species, but much shorter. Additionally, in *S. ghrejyani* **sp. n.**, the outer arm of the bifid costal extension is shorter, the vesica tube and the protrusion in the subbasal vesica are much broader, but the latter one is less prominent.

Description. (Fig. 1). Forewing length 15 mm, wingspan 36 mm. Antennae filiform, finely bipectinate. The vesture of the head, thorax and abdomen brown. Forewings triangle, ground colour brown with slight pale greyish suffusion, the darkest is in the marginal area. Transverse lines dark brown. The antemedial line slightly tortuous-zigzag, the medial fascia diffuse, almost parallel with it; the postmedial line fine, obscure, slightly arcuate, its terminal section oblique. Terminal line interrupted, fine, brown. Orbicular macula conjectural, claviform stigma absent; reniform stigma arched, dark brown. Hindwings pale brownish suffused with an uneven, dark brownish-greyish marginal area, which is the broadest in its medial section. The lunular discal spot hardly defined, and the medial line absent. Fringe dark ochre with brown edge in the forewings; brownish, in the medial section whitish in hindwings.

Male genitalia. (Fig. 6) The clasping apparatus can be characterized by the thin, terminally evenly pointed uncus; subdeltoid juxta with bifid dorsal–medial extension and ventral–medial prominence; V-shaped vinculum; elongate, almost evenly broad valvae with short sacculus and slightly dorsad curved, evenly thin and less sclerotized distal section; thin harpe and dorsal–medially a strongly sclerotized, bifid costal extension, with two terminal process, from which the right one is spatulate and longer. Aedeagus tubular, straight with two sclerotized distal wedges. Vesica tube almost straight, having a broad-based protrusion in the subbasal vesica, bearing a thin, serrate sclerotized ribbon. The vesica subterminally armed with a long, strong, straight, cornutus-like sclerotized appendage.

Distribution. The new species is known only from its type locality in central Armenia.

Bionomics. A single male was collected at ultraviolet light during a warm night (+15 °C) in end of July on the slopes of Aragats Mount (Fig. 7) at 3100 metres altitude.

Etymology. The new species is dedicated to Tigran Ghrejyan (Yerevan, Armenia, Scientific Center of Zoology and Hydroecology NAS RA) expert on Armenian Coleoptera & Lepidoptera.

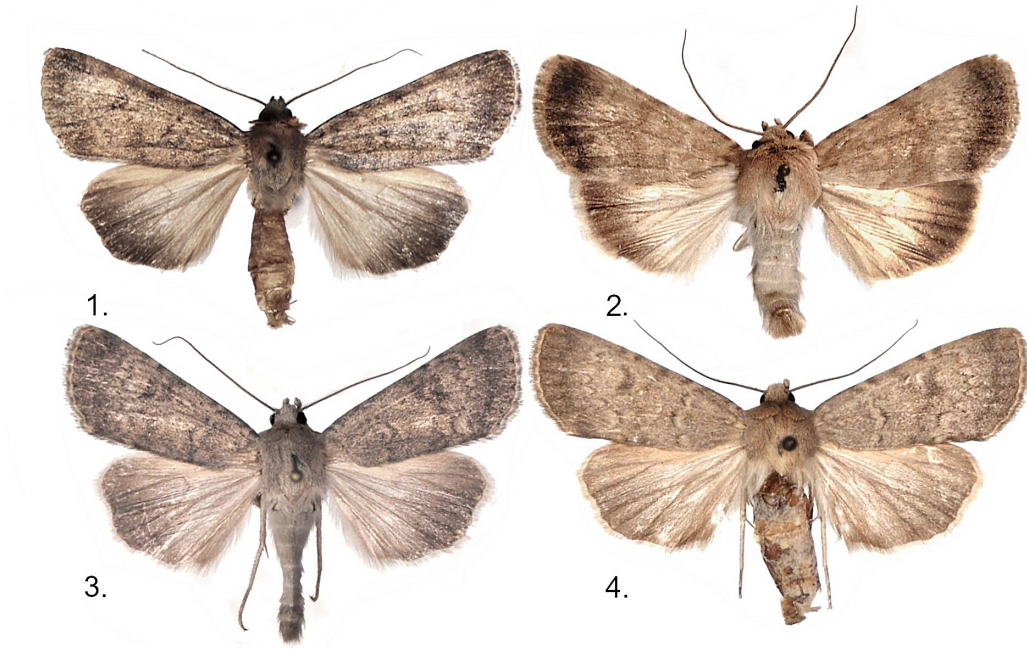
Botanical characteristics of the type locality of the new species

The collection site is situated on the southern slope of Aragats Mount down of high-mountain lake Kari Lich. The ecosystems of the site were classified according to EUNIS habitats' classification (Davies et al., 2004) adapted to Armenia by Fayvush & Aleksanyan (2016). The main habitat type here is Alpine forbs meadows – alpine carpets (**E4.3A2-AM**); the habitat is under intensive grazing and can be classified as *Taraxacum stevenii* dominated carpets (**E4.3A21-**

AM), besides *T. stevenii* (Spreng.) DC., *Ranunculus dissectum ssp. aragatsi* (Grossh.) Bulany & Derv., *Carum caucasicum* (M.Bieb.) Boiss., *Tripleurospermum caucasicum* (Willd.) Hayek, *Carex oreophila* C.A.Mey., *Catabrosella variegata* (Boiss.) Tzvelev, and other species are presented in the vegetation

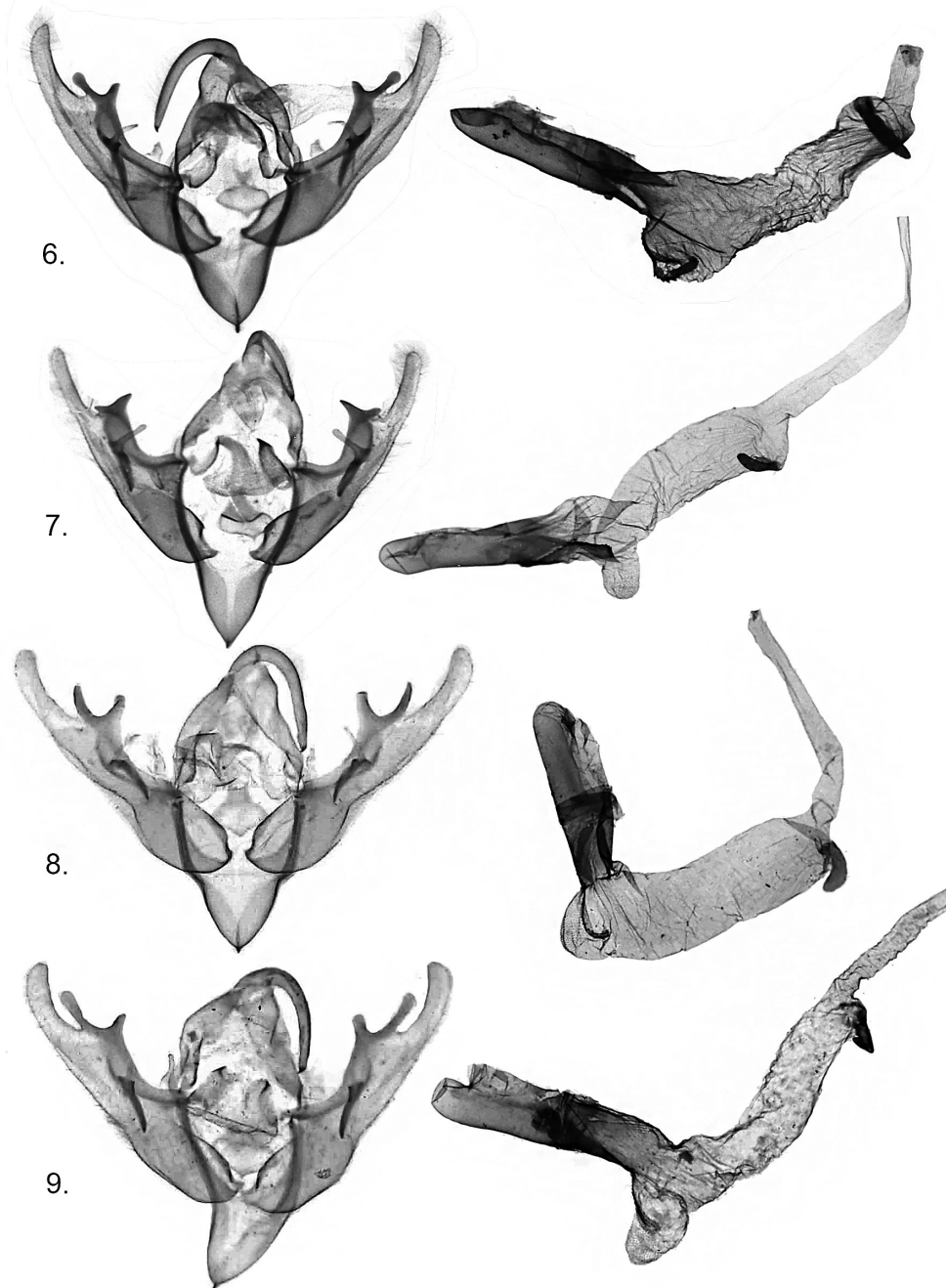
On steep slopes, Armenian bolder fields – “chingils” (**H5.371-AM**) are widespread with characteristic vegetation which includes *Doronicum oblongifolium* DC., *Hieracium cymosum* L., *Tanacetum chiliophyllum* (Fisch. & C.A.Mey. ex DC.) Sch.Bip., *Minuartia dianthifolia* (Boiss.) Hand.-Mazz., *Delphinium foetidum* Lomakin, etc. The red-listed *Pieris (Artogeia) bowdeni* (Eitschberger, 1984) (Aghasyan & Kalashyan (eds.) 2010) is known only from this habitat in Armenia. Glacial meltwaters (**C2.23**) in the site are also represented.

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Figures 1–4. *Standfussiana* spp. adults. **1.** *S. ghrejyani* **sp. n.**, HT, m, Armenia, Aragats Mt., Alagats, 3100 m, leg. A. Saldaitis, GYP 6089; **2.** *S. defessa* (Lederer, 1858), m, Syria, prov. Damascus, 4 km NE of Bloudan, leg. Rozner I.-G.-Ib.; **3.** *S. nictymera osmana* (Wagner, 1929), male, Turkey, Zara, leg. P. Gyulai; **4.** *S. benedeki* Gyulai, 2021, HT, male, Iran, Khorassan, leg. B. Benedek, GYP 5409

Fig. 5. Habitat of the type of *Standfussiana ghrejyani* **sp. n.**, HT, m, Armenia, Aragats Mt., Alagats, 3100 m. Expedition of A. Saldaitis in 2022.



Figures 6–9. *Standfussiana* spp. male genitalia. **6.** *S. ghrejyani* **sp. n.**, HT, Armenia, Aragats Mt., Alagats, 3100 m, leg. A. Saldaitis, GYP 6089; **7.** *S. defessa* (Lederer, 1858), Israel, Galilea, Hermon Mts., light trap, GYP 6106; **8.** *S. nictymera osmana* (Wagner, 1929), Turkey, Darende, leg. P. Gyulai, GYP 5385; **9.** *S. benedeki* Gyulai, 2021, HT, Iran, Khorassan, leg. B. Benedek, GYP 5409.

References

- Aghasyan A.L. & Kalashyan M.Yu. (Eds.) 2010: The Red Book of Animals of the Republic of Armenia. – “Zangak” publishers house, Yerevan, 368 p.
- Aulombard F., Landry B., Curval Ph., Ronkay L., Ronkay G. & Varga Z. 2020: The J. Plante Noctuidae Collection Part I. Noctuinae and Hadeninae. – Mémoires de la Société et d'histoire naturelle de Genève, Vol 49/I: 6–341, Budapest.
- Boursin Ch. 1946: Beitrag 40, Trois nouveaux genres paléarctiques de la sous-famille des Agrotinae. – *Revue Française d'Entomologie* 1946:186–192.
- Davies C.E., Moss D. & Hill M.O. 2004: EUNIS Habitat classification revised 2004. European Environment Agency, European Topic Centre on Nature Protection and Biodiversity, 310 p.
- Fayvush G.M. & Aleksanyan, A.S. 2016: Habitats of Armenia. National Academy of Sciences of the Republic of Armenia, Institute of Botany, Yerevan, 360 pp. [in Russian and English]
- Fibiger M. & Lafontaine D. 1997: *in*: Fibiger M., Noctuinae III. Noctuidae Europaeae 3. – Sora Entomological Press, 418 p.
- Gyulai P. 2021: Eight new taxa of the genera *Epipsilia* Hübner, [1821] 1816, *Rhyacia* Hübner, 1821 and *Standfussiana* Boursin, 1946 from Asia (Lepidoptera, Noctuidae). – *Lepidopterologica Hungarica* 17(1): 41–60.
- Lederer J. 1858: Noch einige syrische Schmetterlinge. – *Wiener Entomologische Monatschrift* 2(5): 135–152, pl. 2–4.
- Varga Z. 2011: Revision of the genus *Rhyacia* Hübner (1816) (Lep., Noctuidae) Part I: The *Rh. junonia* species group with redescription of the subgenus *Standfussrhyacia* Hacker & Varga, 1990, with description of new subgenera and new species. – *Esperiana* 16: 255–270.
- Wagner F. 1929: Ein weiterer Beitrag zu dem Lepidopteren-fauna Inner-Anatoliens. – *Mitteilungen der Münchner Entomologischen Gesellschaft*, 19(2–4): 68–80. BioStor: 191569