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## *Anarta valentinae* sp. n. from Caucasus (Lepidoptera, Noctuidae)

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**Abstract.** Description of *Anarta valentinae* sp. n., a new Hadenina species from the *A. sabulorum* species group, with 8 colour illustrations, 6 genitalia figures and 1 type locality photo.

**Keywords.** Caucasus, taxonomy, Noctuidae, new description.

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### Introduction

The genus *Anarta* Ochseneimer, 1816 is a very diverse Transpalearctic and Nearctic genus of the tribus Hadenini. After the fundamental comprehensive work on the genus of H. Hacker (1998), some closely-related genera were downgraded to subgeneric level and/or synonymized within the genus *Anarta* (Fibiger & Hacker 2005; Fibiger *et al.* 2011). Thus the former genus *Hadula* Staudinger, 1889) was downgraded to subgenus level and synonymized to the subgenus *Trichoclea* Grote, 1883, within the genus *Anarta*.

During the study of a vast quantity of Noctuidae material from the Caucasus Mts. (Dagestan, Russia), a short series of a light silver-greyish coloured Noctuidae was recognized as new species, of which the male and female genitalia structure resembled those of *Anarta sabulorum* (Alpheraky, 1882) (formerly *Hadula sabulorum*), although the two are very different in the colouration and some of the external features. *A. sabulorum* is widely distributed from eastern Turkey, through Armenia, Azerbaijan, Iran and central Asia to NW China (type locality of the nominotypical subspecies). The subspecific characterization of *A. sabulorum* was given by Hacker (1998), however the geographic distribution of the each subspecies in Central Asia is not enough well known. The westernmost subspecies of *A. sabulorum* is *A. sabulorum rhodina* (Christoph, 1893) (type locality: Armenia, Ordubad), having a large distribution range (from E Turkey via Armenia, Azerbaijan, Iran, Turkmenistan, Usbekistan, Tajikistan to Afghanistan). The separation of the subspecies of *A. sabulorum* needs careful study, due to the very strong resemblance in the external features and configuration of the genitalia. The asymmetric male genitalia structure shows slight individual variability, additionally the vesica structure is very simple and hardly distinctive even among the well differing species. In the female genitalia, the shape of ductus bursae and appendix bursae can help in separation.

Taking into consideration the strong resemblance between *Anarta valentinae* sp. n. and *A. sabulorum rhodina* in the genitalia structures, the latter taxa seems to be the closest relative, therefore, it is necessary to compare and separate these two taxa.

Abbreviations for personal and institutional collections used herein: HT = holotype; PT = paratype; PGM = collection of Péter Gyulai (Miskolc, Hungary); GYP = genitalia slide Péter Gyulai; m = male; f = female.

All of the figured specimens and genitalia slides are deposited in the private collection of the author.

### Description of new taxa

*Anarta valentinae* sp. n. (Figs 1–4, 9, 10, 13)

**Holotype:** male, Russia, N Caucasus, Dagestan, Gubden vill., Karabudakhkentsky dist., 1000 m, 21. V. 2021, leg. V. Zurilina, GYP 5790 (coll. P. Gyulai, Miskolc, Hungary).

**Paratypes:** 3 m, 1 f, with the same data; but one-one male with the dates 22. V. 2021. and 23. V. 2021. (PGM); slide nos. GYP 5594m, 5789f.

**Diagnosis.** *Anarta valentinae* sp. n. (Figs 1–4) conspicuously differs from all the Palaearctic congeners by the silver greyish forewings. Further differential characters that distinguish from the closest relative *A. sabulorum rhodina* (Figs 5–8) are: the larger wingspan (36–40 mm and 31–36 mm, respectively); less sharp forewing pattern; the pale orbicular spot and larger, pale greyish, basally whitish reniform stigma and black dot-like claviform stigma; the whitish medial area in the hindwing with scattered greyish scales and the greyish and white cilia. In the male genitalia of *Anarta valentinae* sp. n. (Figs 9, 10) the uncus is distally broader spatulate, the dorsal-medial appendage of juxta somewhat longer, the valvae lack the small triangular costal extension near the cucullus “neck”, the cucullus somewhat larger and differently shaped and the distal section of the right saccular process much longer and more outward diverging than in *A. sabulorum rhodina* (Figs 11, 12). The aedeagus of the new species is less curved and longer than in the close relative subspecies, while the shape of the vesica is almost the same in the two taxa, as usual in the congeners of this subgenus. In the female genitalia, the differences are more conspicuous; the new species (Fig. 13) can be easily distinguished from closely related taxa (Fig. 14) by the asymmetric ductus bursae bearing a small hump-like extension near the appendix bursae, the larger, prominent appendix bursae and the terminally much longer but evenly narrowing ductus bursae.

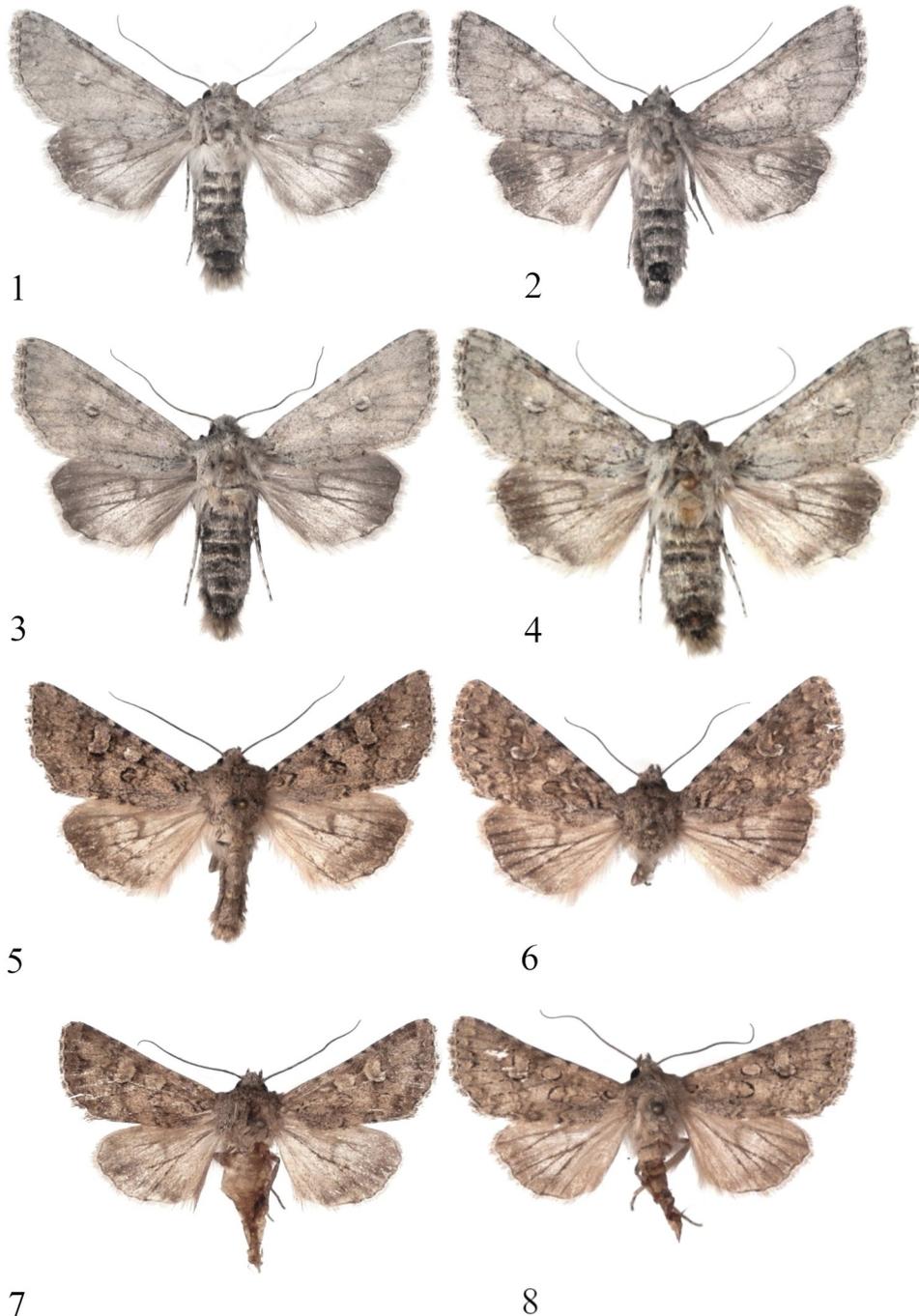
**Description** (Figs 1–4). Forewing length 17–19 mm, wingspan 36–40 mm. Vesture of head, thorax, abdomen variegated light greyish, with bushy, whitish hairy with slight greyish suffusion on the under side and legs; tarsi densely ringed in blackish and white. Palpi thin, thread-like, densely ringed in greyish and white, lighter in the female and finely ciliated in the males. Forewings light silver greyish, in certain individuals the basal area may be slightly darker tinged; scattered with darker greyish scales. Transverse lines obscure or not visible, the arcuate, lanceate postmedian line somewhat more defined, the antemedian line oblique. Orbicular and reniform stigmata like a light diffuse patch; the lower part of the reniform stigma lighter, whitish, partly finely bordered by black scales. Claviform stigma indicated as a black dot-like mark. Hindwings whitish with light brownish-greyish suffusion, but more or less evenly brownish-greyish suffused in the broad marginal area; discal spot present as a conspicuous thin, somewhat curved mark; median line absent.

**Male genitalia** (Figs 9–10). Uncus moderately long, distally broadly spatulate, apically pointed. Juxta shield-shaped with long dorsal medial extension continuing in a dorsal-medial appendage; vinculum V-shaped. Valvae elongate, evenly curved, almost equally wide, only the ventral costa slightly expanded medially; neck of cucullus section curved outward, cucullus broad, evenly rounded dorsally, slightly extended ventrally, with a row of fine setae in the corona. The most conspicuous, strongly asymmetric saccular process, with a long, outward-diverging section in the right side; harpe regressed. Aedeagus tubular, long, slightly ventral curved. Vesica the same as it is typical of the subgenus *Trichoclea*, bearing a large, conical, prominent diverticulum, terminated with a small cornutus.

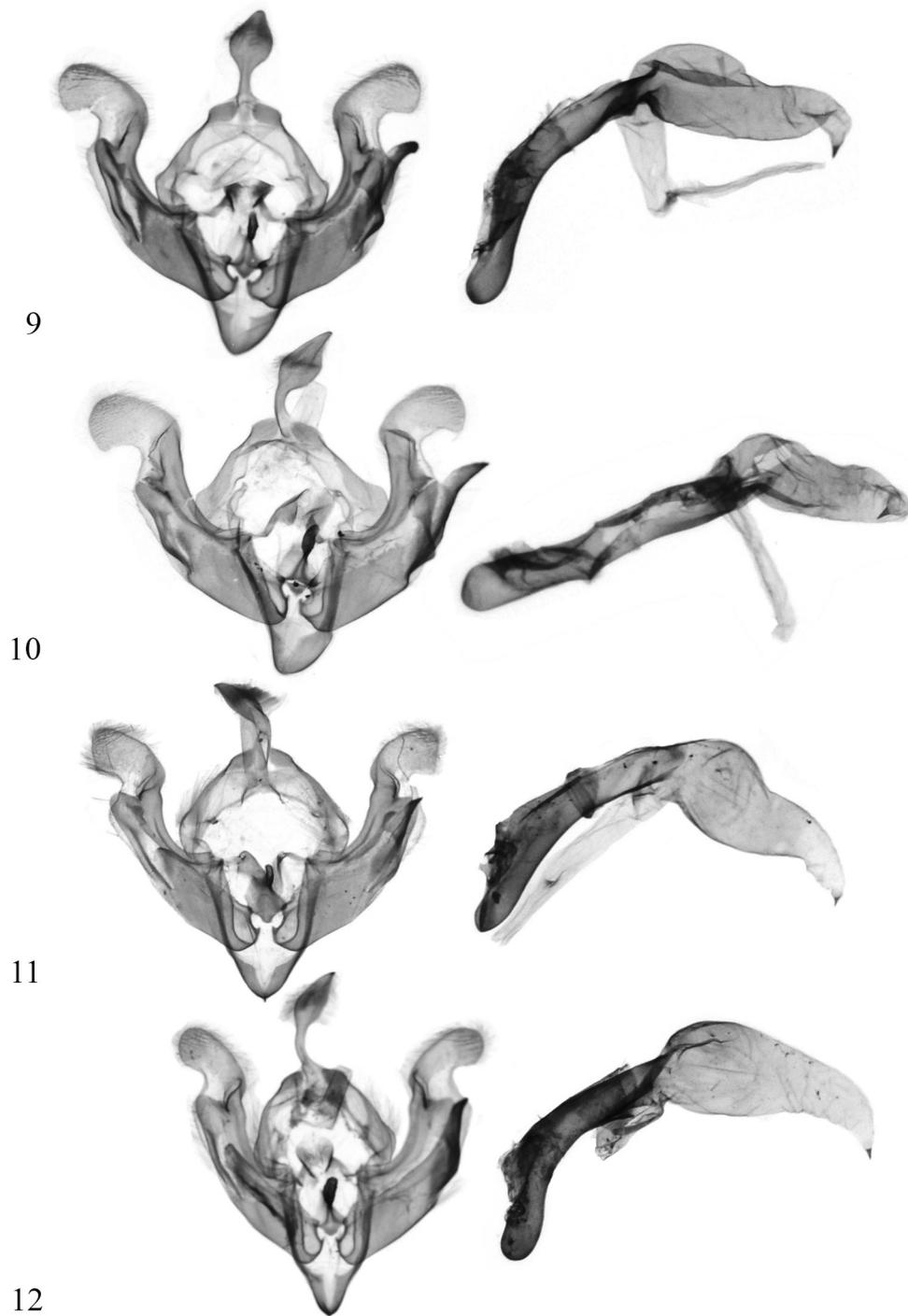
**Female genitalia** (Fig. 13). Papillae anales setose, broad, angular; apophyses anteriores and posteriores thin, the latter ones much longer. Ostium oval, antrum broadly funnel-like, strongly sclerotized. Ductus bursae short, strongly sclerotized, asymmetrically tubular, medially slightly constricted, bearing a small hump-like extension near the small but prominent, longitudinally wrinkled appendix bursae. Corpus bursae large, saccate, posteriorly less ample with a few longitudinal wrinkles and without signum.

**Biology and distribution.** The new species is known from the type locality only, which is a rocky gorge (1000 m) in a moderate high plateau in the northern Caucasus.

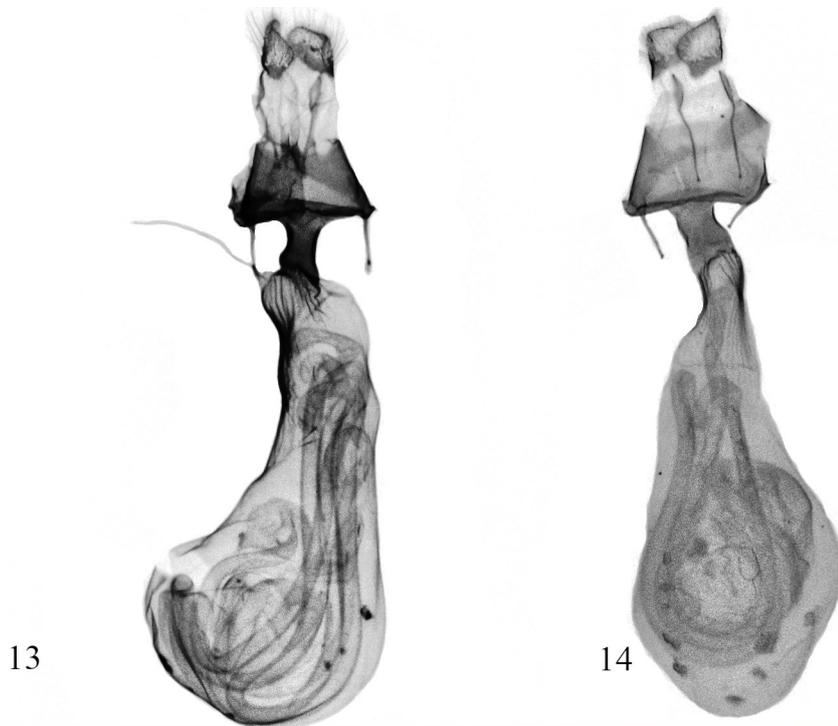
**Etymology.** The new species is named in the honor of Ms. Valentina Zurilina, collector of a short series.



**Figures 1–8.** *Anarta* sp. and ssp. adults. 1. *A. valentinae* **sp. n.**, HT, m, Russia, N Caucasus, Dagestan, GYP 5790; 2. *A. valentinae* **sp. n.**, PT, f, Russia, N Caucasus, Dagestan, GYP 5789; 3–4. *A. valentinae* **sp. n.**, PT, m, Russia, N Caucasus, Dagestan; 5. *A. sabulorum rhodina*, m, Iran, W Azerbaijan; 6. *A. sabulorum rhodina*, f, Turkey, Agri, Hacker 10488; 7. *A. sabulorum rhodina*, m, Iran, W Azerbaijan, GYP 1346; 8. *A. sabulorum rhodina*, Iran, Alborz, Mazandaran, m, GYP 1086



**Figures 9–12.** *Anarta* sp. and ssp. male genitalia. 9. *A. valentinae* sp. n., HT, Russia, N Caucasus, Dagestan, GYP 5790; 10. *A. valentinae* sp. n., PT, Russia, N Caucasus, Dagestan, GYP 5594; 11. *A. sabulorum rhodina*, Iran, W Azerbaijan, GYP 1346; 12. *A. sabulorum rhodina*, Iran, Alborz, Mazandaran, GYP 1086



**Figures 13–14.** *Anarta* sp. and ssp. female genitalia. 13. *A. valentinae* **sp. n.**, PT, Russia, N Caucasus, Dagestan, GYP 5789; 14. *A. sabulorum rhodina*, Turkey, Agri, Hacker 10488.

**Figure 15.** Type locality of *A. valentinae* **sp. n.**, Russia, Dagestan, photo by Valentina Zurilina

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