

New and interesting findings of the Lepidoptera from Astrakhan and Volgograd Territories (Southern Russia)

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Abstract

Two species of moths, *Drasteria christophi* (Alphéraky, 1895) (Erebidae) and *Protarchanara abrupta* Eversmann, 1854 (Noctuidae), are reported from Russia for the first time; seventeen species of Notodontidae and Noctuidae are found as new for the fauna of Astrakhan and Volgograd Territories (Southern Russia).

Keywords

Biodiversity, Lepidoptera, Notodontidae, Erebidae, Noctuidae, fauna, new records, Volga Region

Introduction

The distribution of Lepidoptera in the south of European Russia (including southern Volga region) is quite well studied. The modern data on the distribution of moths in Astrakhan and Volgograd territories are represented in a series of large faunal studies (Anikin et al. 2017, 2019). The present paper is based on the mate-

rial collected by the first author in Astrakhan and Volgograd Territories (Southern Volga Region, Russia) in 2018–2023. The specimens were collected on a light trap using a DRV-250 lamp. All the material is deposited in the private collection of S. Rybalkin (Snezhinsk, Russia).

Species new for Astrakhan Territory marked as *, new for Russia – **.

Result

Family Notodontidae

**Furcula bifida* (Brahm, 1787)

Fig. 1

Material. Russia: Astrakhan Territory, Akhtubinsk, 28–30.vii.2019, 1 female, leg. S. Rybalkin.

Distribution. NW Africa, Europe, Transcaucasia, Turkey, Mongolia and Western Siberia (Schintlmeister 2008; Streltsov et al. 2022). First record for Astrakhan Territory.

Family Erebidae

***Drasteria christophi* (Alphéraky, 1895)

Fig. 2

Material. Russia: Astrakhan Territory, Akhtubinsk, 14–15.v.2018, 1 male, leg. S. Rybalkin.

Distribution. Deserts of Kazakhstan, Uzbekistan and East Turkmenistan (Matov and Korb 2019). First record for Russian fauna.

Family Noctuidae

**Bryophila orthogramma* Boursin, 1954

Fig. 3

Material. Russia: Astrakhan Territory, Akhtubinsk, 31.vii.2019, 1 male, leg. S. Rybalkin.

Distribution. Eurasian, subboreal species (Kononenko 2016). First record for Astrakhan Territory.

**Phidrimana amurensis* (Staudinger, 1892)

Fig. 4

Material. Russia: Astrakhan Territory, Akhtubinsk District, Kochevaya village, 18.viii.2018, 2 males, leg. S. Rybalkin.

Distribution. Eastern palaeartic, subboreal. In the west of the range, was known from Middle-Volga region, Southern Urals and Western Siberian plain (Nupponen et al. 2002; Knyazev et al. 2010; Anikin et al. 2017, 2019; Knyazev 2020). First record for Astrakhan Territory.

**Cucullia dracunculi* (Hübner, [1813])

Fig. 5

Material. Russia: Astrakhan Territory, Akhtubinsk, 16–17.viii.2018, 3 males, leg. S. Rybalkin.

Distribution. West-Palaearctic species (Ronkay and Ronkay, 2009). First record for Astrakhan Territory.

**Shargacucullia gozmanyi* Ronkay & Ronkay, 1994

Fig. 6

Material. Russia: Volgograd Territory, Ol'khovskiy distr., Dmitrievka village, 30.iv.2023, 1 male, leg. S. Rybalkin.

Distribution. Known from Hungary, Turkey and Southern-Ural Region of Russia (Ronkay and Ronkay 1994; Çalışkan 2008, Anikin et al. 2019). First record for Volgograd Territory of Russia.

**Atethmia ambusta* ([Denis et Schiffermüller], 1775)

Fig. 7

Material. Russia: Astrakhan Territory, Akhtubinsk, 10.ix.2018, 2 males, leg. S. Rybalkin.

Distribution. European species (Anikin et al. 2019). First record for Astrakhan Territory.

***Protarchanara abrupta* Eversmann, 1854

Fig. 8

Material. Russia: Astrakhan Territory, Akhtubinsk, 10.ix.2018, 1 male, leg. S. Rybalkin.

Distribution. Central Asia: West, South and East Kazakhstan, West China, Mongolia (Volynkin et al. 2014). First record for Russian fauna.

**Euxoa dsheiron* Brandt, 1938

Fig. 9

Material. Russia: Astrakhan Territory, Akhtubinsk, 8.ix.2018, 13.ix.2018, 15.ix.2018, 5 males, leg. S. Rybalkin.

Distribution. Central Asia, in Russia only from Orenburg Territory (Nupponen and Fibiger 2006, 2011). First record for Astrakhan Territory.

**Sideridis rivularis* (Fabricius, 1775)

Fig. 10

Material. Russia: Astrakhan Territory, Akhtubinsk, 13.ix.2018, 1 male, leg. S. Rybalkin.

Distribution. Euro-Siberian species (Anikin et al. 2019). First record for Astrakhan Territory.

**Polymixis trisignata* (Ménétriés, 1847)

Fig. 11

Material. Russia: Astrakhan Territory, Akhtubinsk, 15.x.2021, 2 males, leg. S. Rybalkin.

Distribution. South Europe, Caucasus, Transcaucasia, Asia Minor, Middle East, Central Asia, Kazakhstan, Southeast Russia, South Ural (Kononenko 2016). First record for Astrakhan Territory.

**Pseudohadena arenacea* Ronkay, Varga & Fábíán, 1995

Fig. 12

Material. Russia: Astrakhan Territory, Akhtubinsk district, 7 km S Zolotukha village, 1–2.x.2022, 2 males, leg. S. Rybalkin.

Distribution. Known from Kazakhstan and Orenburg Territory in Southern Ural (Ronkay et al. 1995; Anikin et al. 2017). First record for Astrakhan Territory.

**Orthosia cruda* ([Denis et Schiffermüller], 1775)

Fig. 13

Material. Russia: Astrakhan Territory, Akhtubinsk, 20.iv.2021, 1 male, leg. S. Rybalkin.

Distribution. West-Palaearctic species (Anikin et al. 2019). First record for Astrakhan Territory.

**Conistra erythrocephala* ([Denis et Schiffermüller], 1775)

Fig. 14

Material. Russia: Astrakhan Territory, Akhtubinsk, 15.iv.2021, 1 male, leg. S. Rybalkin.

Distribution. European species (Anikin et al. 2019). First record for Astrakhan Territory.

Gortyna moesiaca (Herrich-Schaffer, 1849)

Fig. 15

Material. Russia: Astrakhan Territory, Akhtubinsk district, 7 km S Zolotukha village, 1–2.x.2022, 1 male, Astrakhan Territory, Akhtubinsk, 2.x.2017, 1 male leg. S. Rybalkin.

Distribution. South of Rumania, East of Turkey, Armenia, North of Iran and Western Kazakhstan. First record for Astrakhan Region was reported by Matov and Anikin (2015) for Akhtubinsk district. Very rare species for Southern-Volga region.

**Fabula zollikoferi* (Freyer, 1836)

Fig. 16

Material. Russia: Astrakhan Territory, Akhtubinsk district, 7 km S Zolotukha village, 1–2.x.2022, 1 male, leg. S. Rybalkin.

Distribution. West-Palaearctic species (Gyulai and Ronkay 1999; Zilli et al. 2005). Central Asian, subtemperate. Russia: North Caucasus; South Ural, West Siberia, Altai. – North West Europe (migrant), locally in Central and East Europe, Central Asia, Kazakhstan, Mongolia (Kononenko 2016). First record for Astrakhan Territory.

**Aporophyla lutulenta* ([Denis et Schiffermüller], 1775)

Fig. 17

Material. Russia: Astrakhan Territory, Akhtubinsk district, 7 km SW Bataevka, 23–25.ix.2022, 2 males, leg. S. Rybalkin.

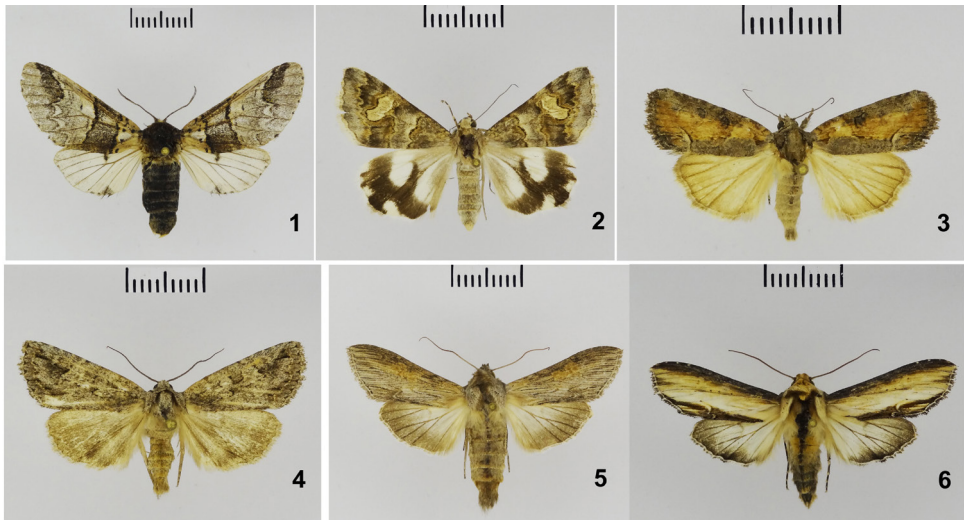
Distribution. European species (Anikin et al. 2019). First record for Astrakhan Territory.

**Opigena polygona* ([Denis et Schiffermüller], 1775)

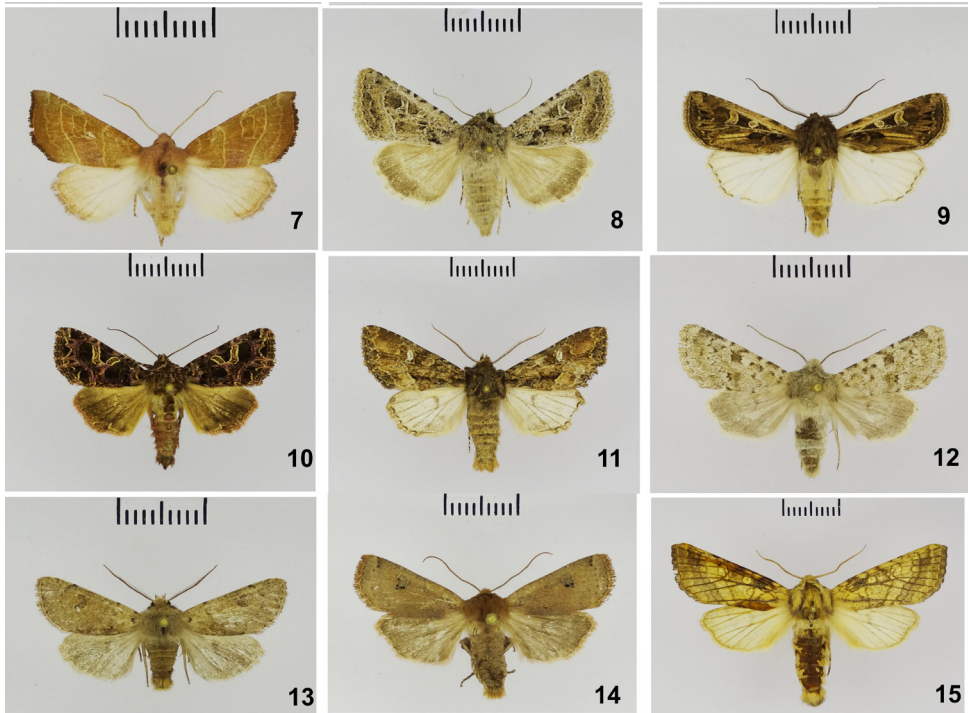
Fig. 18

Material. Russia: Astrakhan Territory, Akhtubinsk, 7.ix.2018, 1 female, 9.vi.2018, 1 male leg. S. Rybalkin.

Distribution. Euro-Siberian species (Anikin et al. 2019). First record for Astrakhan Territory.



Figures 1–6. Adult Lepidoptera from Astrakhan and Volgograd Territories (private collection of S. Rybalkin): 1. *Furcula bifida*, female; 2. *Drasteria christophi*, male; 3. *Bryophila orthogramma*, male; 4. *Phidrimana amurensis*, male; 5. *Cucullia dracunculi*, male; 6. *Shargacucullia gozmanyi*, male.



Figures 7–15. Adult Lepidoptera from Astrakhan Territory (private collection of S. Rybalkin): 7. *Atethmia ambusta*, male; 8. *Protarchanara abrupta*, male; 9. *Euxoa dsheiron*, male; 10. *Sideridis rivularis*, male; 11. *Polymixis trisignata*, male; 12. *Pseudohadena arena-cea*, male; 13. *Orthosia cruda*, male; 14. *Conistra erythrocephala*, male; 15. *Gortyna moesi-aca*, male.

**Xestia xanthographa* (Denis & Schiffermüller, 1775)

Fig. 19

Material. Russia: Astrakhan Territory, Akhtubinsk, 13.ix.2018, 1 male, Astrakhan Territory, Akhtubinsk district, 7 km S Zolotukha village, 1.ix.2018, 1 female, leg. S. Rybalkin.

Distribution. European species (Anikin et al. 2019). First record for Astrakhan Territory.

**Oligia versicolor* (Borkhausen, 1792)

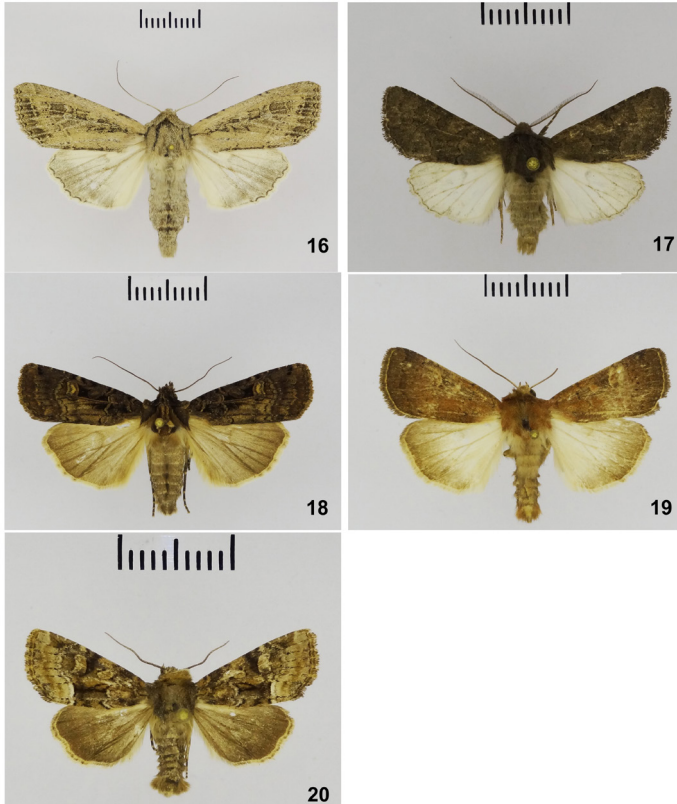
Fig. 20

Material. Russia: Astrakhan Territory, Akhtubinsk, 20.v.2018, 4 males, leg. S. Rybalkin.

Distribution. European species (Anikin et al. 2019). First record for Astrakhan Territory.

Discussion

This work emphasizes the high relevance of conducting entomological faunistic studies in such seasons as autumn and early spring, since traditionally much less work is carried out at this time than in the summer months. The high efficiency of such lepidopterological studies has recently been shown on the example of the Republic of Dagestan and the Kuril Islands (Rybalkin 2020a, b; Ustjuzhanin et al. 2022; Yakovlev et al. 2022; Dubatolov et al. 2023).



Figures 16–20. Adult Lepidoptera from Astrakhan Territory (private collection of S. Rybalkin): **16.** *Fabula zollikoferi*, male; **17.** *Aporophyla lutulenta*, male; **18.** *Opigena polygona*, male; **19.** *Xestia xanthographa*, male; **20.** *Oligia versicolor*, male.

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References

- Anikin VV, Baryshnikova SV, Beljaev EA, Budashkin YuI, Van Nieuwerkerken EI, Dubatolov VV, Efetov KA, Zolotuhin VV, Knyazev SA, Kovtunovich VN, Kozlov MV, Kononenko V.S., Lovtsova JuA, Lukhtanov VA, Lvovsky AL, Matov AYu, Mironov VG, Nedoshivina SV, Ponomarenko MG, Sviridov VA, Sinev SYu, Solovjev AV, Streltsov AN, Trofimova TA, Ustjuzhanin PY, Shovkoon DF, Yakovlev RV (2019) Catalogue of the Lepidoptera of Russia. St. Petersburg. 448 pp. [In Russian]
- Anikin VV, Sachkov SA, Zolotuhin VV (2017) “Fauna Lepidopterologica Volgo-Uralensis” from P. Pallas to present days. Proceedings of the Museum Witt Munich 7: 1–696.
- Çalışkan SS (2008) Contribution to the Biology of a New Record for Turkey: *Shargacucullia gozmanyi* Ronkay, G. and Ronkay, L., 1994 (Lepidoptera: Cucullinae). Journal of the Kansas Entomological Society 81 (3): 256–260. [http://dx.doi.org/10.2317/0022-8567\(2008\)81\[256:CTTBOA\]2.0.CO;2](http://dx.doi.org/10.2317/0022-8567(2008)81[256:CTTBOA]2.0.CO;2)
- Dubatolov VV, Zinchenko VL, Ustjuzhanin PYa (2023) Autumn Moths and Butterflies (Lepidoptera) new for the Fauna of Kunashir Island. Far Eastern Entomologist 474: 11–24. <https://doi.org/10.25221/fee.474.3>
- Gyulai P, Ronkay L (1999) The Noctuidae (Lepidoptera) material collected by two Hungarian expeditions to Mongolia in 1996 and 1997. Esperiana 7: 687–713.
- Kononenko VS (2016) Noctuoidea Sibiricae. Part 3: Noctuidae: Cucullinae – Noctuinae, part (Lepidoptera). Proceedings of the Museum Witt Munich 5: 1–500.
- Knyazev SA (2020) Catalogue of Lepidoptera of Omsk Oblast (Russia). Macrolepidoptera. Families: Hepialidae, Brachodidae, Cossidae, Sesiidae, Limacodidae, Zygaenidae, Thyrididae, Drepanidae, Uraniidae, Geometridae, Lasiocampidae, Lemoniidae, Endromiidae, Saturniidae, Sphingidae, Notodontidae, Lymantriidae, Arctiidae, Syntomidae, Erebidae, Nolidae, Noctuidae, Hesperidae, Papilionidae, Pieridae, Lycaenidae, Nymphalidae, Satyridae. Acta Biologica Sibirica 6: 139–226. <https://doi.org/10.3897/abs.6.e53005>
- Knyazev SA, Dubatolov VV, Ponomarev KB, Teploukhov VYu, Kholodov ON, Rogalyov VV, Maranik VV (2010) Noctuids (Lepidoptera, Noctuidae) of Omsk Province. Amurian zoological journal 2 (2): 148–183. [In Russian]
- Kravchenko VD, Fibiger M, Mooser J, Junnila A, Müller GC (2007) The Hadeninae of Israel (Lepidoptera: Noctuidae). SHILAP Revista de Lepidopterología 35 (140): 441–454.
- Matov AY, Anikin VV (2015) New data of Noctuae Fauna (Lepidoptera: Nolidae, Erebidae, Noctuidae) of Lower Volga Region. Entomological and parasitological research in the Volga region 12: 43–50. [In Russian]
- Matov AY, Korb SK (2019) A revision of the genus *Drasteria* of Central Asia and Kazakhstan with special attention to the adjacent areas (Lepidoptera: Erebidae). Zootaxa 4673 (1): 1–104. <https://doi.org/10.11646/zootaxa.4673.1.1>
- Nupponen K, Fibiger M (2006) Additions and corrections to the list of Bombyces, Sphinges and Noctuidae of the Southern Ural Mountains. Part I. (Lepidoptera: Lasiocampidae, Lemoniidae, Sphingidae, Notodontidae, Noctuidae, Pantheidae, Lymantriidae, Nolidae, Arctiidae). Esperiana 12: 167–195.

- Nupponen K, Fibiger M (2011) Additions to the checklist of Bombycoidea and Noctuoidea of the Volgo-Ural region. Part II. (Lepidoptera: Lasiocampidae, Erebidae, Nolidae, Noctuidae). *Nota lepidopterologica* 35 (1): 33–50.
- Nupponen K, Fibiger M, Olschwang V, Nupponen T, Junnilainen T, Ahola M, Kaitila J-P (2002) Contribution to the knowledge of the fauna of Bombycis, Sphyngeles and Noctuidae of the Southern Ural Mountains, with description of a new *Dichagyris* (Lepidoptera, Lasiocampidae, Endromididae, Saturniidae, Sphingidae, Notodontidae, Noctuidae, Pantheidae, Lymantriidae, Nolidae, Arctiidae). *Phegea* 30 (4): 1–185.
- Ronkay G, Ronkay L (1994) Noctuidae Europaeae 6 (Cuculliinae I). Entomological Press, Sorø, 282 pp.
- Ronkay G, Ronkay L (2009) The Witt Catalogue. A taxonomic Atlas of the Eurasian and North African Noctuoidea. Vol. II. Cuculliinae I. Heterocera-Press, Budapest, 365 pp.
- Ronkay L, Varga Z, Fábíán G (1995) Taxonomic studies on the genus *Pseudohadena* Alphéraky, 1889. Part V. The revision of the genus *Pseudohadena* s. str. *Acta Zoologica Academiae Scientiarum Hungaricae* 41 (3): 253–284.
- Rybalkin SA (2020a) New data on Lepidoptera of Kuril Islands. *Far Eastern Entomologist* 401: 18–24. <https://doi.org/10.25221/fee.401.4>
- Rybalkin SA (2020b) On the knowledge of Lepidoptera of Kunashir Island, Russia. *Amurian Zoological Journal* 12 (2): 98–105. <https://doi.org/10.33910/2686-9519-2020-12-2-98-105>
- Schintlmeister A 2008. Palaeartic Macrolepidoptera 1. Notodontidae. Apollo Books, Stenstrup, 482 pp.
- Streltsov AN, Ustjuzhanin PYa, Morozov PS, Naydenov AE, Spitsyn VM, Yakovlev RV (2022) Lepidoptera of South Ossetia (Northern Transcaucasia). Part II. Cossidae, Limacodidae, Erebidae (Lymantriinae, Arctiinae, Syntominiinae, Notodontinae), Lasiocampidae, Lemoniidae, Saturniidae, Sphingidae, Drepanidae and Cimeliidae. *Acta Biologica Sibirica* 8: 647–654.
- Ustjuzhanin PYa, Teimurov AA, Anikin VV, Matov AYu, Naydenov AE, Streltsov AN, Yakovlev RV (2022) Materials on the Lepidoptera fauna of the Dagestan Republic (North-eastern Caucasus, Russia): autumn aspect (Insecta: Lepidoptera). *SHILAP Revista de lepidopterologia* 50 (198): 213–228.
- Volynkin AV, Matov AYu, Gyulai P, Behounek G (2014) A revision of the genus *Protarchanara* Beck, 1999 with description of a new genus and three new species (Lepidoptera, Noctuidae, Xyleninae). *Zootaxa* 3755 (2): 165–178. <https://doi.org/10.11646/zootaxa.3755.2.3>
- Yakovlev RV, Teymurov AA, Kurbanova NS, Anikin VV, Matov AYu, Morozov PS, Naydenov AE, Spitsyn VM, Streltsov AN, Ustjuzhanin PYa (2022) Materials on the Lepidoptera fauna of the Dagestan Republic (Northeastern Caucasus, Russia): spring aspect. Families Coleophoridae, Pterophoridae, Pyralidae, Crambidae, Drepanidae, Geometridae, Sphingidae, Saturniidae, Notodontidae, Erebidae & Noctuidae. *South of Russia: ecology, development* 17 (2): 19–27. <http://dx.doi.org/10.18470/1992-1098-2022-2-19-27> [In Russian]
- Zilli A, Ronkay L, Fibiger M (2005) Noctuidae Europaeae. Volume 8. Apameini. Entomological Press, Søro, 323 pp.