

New discoveries of Geometridae on the territory of the State Nature Reserve “Tigireksky”, West Altai, Russia (Lepidoptera: Geometridae)

A. E. Naydenov & R. V. Yakovlev

Abstract

17 new species of Geometridae, discovered for the first time on the territory of the State Nature Reserve “Tigireksky”, are mentioned.

KEY WORDS: Lepidoptera, Geometridae, fauna, Nature Reserve, Altai, Russia.

Nuevos descubrimientos de Geometridae sobre el territorio de la Reserva Natural Estatal “Tigireksky”, oeste del Altai, Rusia (Lepidoptera: Geometridae)

Resumen

Se mencionan 17 nuevas especies de Geometridae, descubiertas por primera vez del territorio de la Reserva Natural Estatal “Tigireksky”.

PALABRAS CLAVE: Lepidoptera, Geometridae, fauna, Reserva Natural, Altai, Rusia.

Introduction

The State Nature Reserve “Tigireksky” is a specially protected natural territory, located in the south-western portion of the Altai region (Fig. 1), covering the low-mountain and mid-mountain peripheries of the western portion of Altai. Its aim is to preserve the biological and landscape diversity of this territory. The reserve “Tigireksky” was established on December 4, 1999. It is one of the youngest reserves of Russia.

The fauna of Lepidoptera of this territory has been studied since the formation of the scientific department in 2003, and consequently, a systematic research of all animals, plants and fungi started there. The result for several years of work was the book published in 2011 “Biota of the Tigirek Nature Reserve” (VOLYNKIN *et al.*, 2011), which presented a wide list of taxonomic groups including Geometridae. The authors noted for the reserve territory 103 species of 71 genera. Annual discoveries of new species of insects for the reserve Tigireksky (GUSKOVA, 2013a, b; GUSKOVA, KUFTINA, 2016; SNIGIREVA, 2015; NEPAEVA, 2017) show that this catalog needs to be supplemented, and it also concerns the faunal list of Geometridae.

Material and methods

The article is based on the materials collected by the authors during the field study in the reserve

Tigireksky in 2016. The Geometridae fauna was examined in three localities of the reserve (Fig. 2) in the period 02-10-VII-2017:

1. Russia, Altai Krai, Tigirek vill., 484 m., (51° 08' 45" N 83° 02' 11" E)
2. Russia, Altai Krai, 4 km SSE Tigirek vill., 1000 m., (51° 06' N 83° 02'E)
3. Russia, Altai Krai, 12 km SSW Tigirek vill., Tigireksky ridge, 1470 m., (51° 02' N 82° 58'E)

The Geometridae were collected by the following methods:

1. Mowing with a butterfly net;
2. Night catching on light.

Species list (* - representatives of genera new for the Tigireksky reserve fauna)

ENNOMINAE

Abraxas grossulariata (Linnaeus, 1758) (Fig. 3)

Material: 1 ♀, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

* *Deileptenia ribeata* (Clerck, 1759) (Fig. 4)

Material: 1 ♂, Russia, Altai Krai, 12 km SSW Tigirek vill., Tigireksky ridge, 1470 m. (51° 02' N 82° 58'E), 08-10-VII-2016 leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

* *Megaspilates mundataria* (Stoll, 1782) (Fig. 5)

Material: 1 ♂, 1 ♀, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

GEOMETRINAE

* *Thetidia smaragdaria* (Fabricius, 1787) (Fig. 6)

Material: 1 ♀, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

Hemistola chrysoprasaria (Esper, 1795) (Fig. 7)

Material: 1 ♂, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

STERRHINAE

* *Rhodostrophia vibicaria* (Clerck, 1759) (Fig. 8)

Material: 1 ♂, Russia, Altai Krai, 4 km SSE Tigirek vill., 1000 m. (51° 06' N 83° 02'E), 05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

Scopula decorata (Denis & Schiffermüller, 1775) (Fig. 9)

Material: 2 ♀♀, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

LARENTIINAE

Ecliptopera capitata (Herrich-Schäffer, 1839) (Fig. 10)

Material: 1 ♂, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VIII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

Epirrhoe hastulata (Hübner, 1790) (Fig. 11)

Material: 2 ♂♂, 2 ♀♀, Russia, Altai Krai, 12 km SSW Tigirek vill., Tigireksky ridge, 1470 m. (51° 02' N 82° 58' E), 08-10-VII-2016 leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

Heterothera taigana (Djakonov, 1926) (Fig. 12)

Material: 2 ♂♂, Russia, Altai Krai, 12 km SSW Tigirek vill., Tigireksky ridge, 1470 m. (51° 02' N 82° 58' E), 08-10-VII-2016 leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

* *Hydriomena furcata* (Thünberg, 1784) (Fig. 13)

Material: 1 ♂, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

* *Odezia atrata* (Linnaeus, 1758) (Fig. 14)

Material: 1 ♂, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

* *Polythrena coloraria* (Herrich-Schäffer, 1855) (Fig. 15)

Material: 1 ♀, Russia, Altai Krai, 12 km SSW Tigirek vill., Tigireksky ridge, 1470 m. (51° 02' N 82° 58' E), 08-10-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

* *Rheumaptera hastata* (Linnaeus, 1758) (Fig. 16)

Material: 3 ♂♂, 4 ♀♀, Russia, Altai Krai, 12 km SSW Tigirek vill., Tigireksky ridge, 1470 m. (51° 02' N 82° 58' E), 08-10-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

* *Spargania luctuata* (Denis & Schiffermüller, 1775) (Fig. 17)

Material: 4 ♂♂, 5 ♀♀, Russia, Altai Krai, 12 km SSW Tigirek vill., Tigireksky ridge, 1470 m. (51° 02' N 82° 58' E), 08-10-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

* *Thera variata* (Denis & Schiffermüller, 1775) (Fig. 18)

Material: 1 ♀, Russia, Altai Krai, 4 km SSE Tigirek vill., 1000 m. (51° 06' N 83° 02' E), 05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

Xanthorhoe ferrugata (Clerck, 1759)

Material: 2 ♂♂, Russia, Altai Krai, Tigirek vill., 484 m. (51° 08' 45" N 83° 02' 11" E), 02-05-VII-2016, leg. A. E. Naydenov (coll. A. E. Naydenov, Novoaltaysk).

Results

Thus, the fauna of Geometridae of the reserve Tigireksky is currently represented by 120 species of 81 genera. This list of Geometridae can't be considered final, as this group of insects requires a long period of research on the territory of the reserve Tigireksky.

Acknowledgments

The authors are grateful to S. V. Vasilenko (Novosibirsk) for the assistance in identifying the material, and to A. A. Davydov and O. M. Krugova (Barnaul) for organizing the field study on the territory of the Tigireksky Reserve.

BIBLIOGRAPHY

- GUSKOVA, E. V., 2013a.– Leaf-beetles (Coleoptera, Chrysomelidae) of Tigirek Reserve (Northern-Western Altai, Russia). 1. Subfamilies: Orsodacninae, Synetinae, Criocerinae, Clytrinae, Cryptocephalinae, Eumolpinae.– *Vestnik altajskogo gosudarstvennogo agrarnogo universiteta*, **1**(99): 70-76. (in Russian)
- GUSKOVA, E. V., 2013b.– Leaf-beetles (Coleoptera, Chrysomelidae) of Tigirek Reserve (Northern-Western Altai, Russia). 2. Subfamilies: Chrysomelinae, Galerucinae, Alticinae, Cassidinae.– *Vestnik altajskogo gosudarstvennogo agrarnogo universiteta*, **2**(100): 66-72. (in Russian)
- GUSKOVA, E. V. & KUFTINA, G. N., 2016.– New Chrysomelidae (Coleoptera) species for the fauna of Tigireksky Nature Reserve (North-Western Altai, Russia).– *Biological Bulletin of Bogdan Chmelniyskiy Melitopol State Pedagogical University*, **6**(2): 98-100.
- NEPAEVA, E. A., 2017.– Fauna of ladybird beetles (Coleoptera: Coccinellidae) of Tigireksky Nature Reserve (Altai Krai, Russia).– *XV Congress of the Russian Entomological Society. Russia, Novosibirsk, July 31 – August 7, 2017. Materials of the Congress*: 351-352. (in Russian).
- SNIGIREVA, L. S., 2015.– On the Fauna of Pyraloidea (Lepidoptera) of Tigirek Nature Reserve.– *Trudy Tigirekskogo Zapovednika*, **7**: 65-66. (in Russian)
- VOLYNKIN, A. V., TRILIKAUSKAS, L. A., BAGHIROV, R. T-O., BURMISTROV, M. V., BYVALTSEV, A. M., VASILENKO, S. V., VISHNEVSKAYA, M. S., DANILOV, YU. N., DUDKO, A. YU., DUDKO, R. YU., KNYSHOV, A. A., KOSOVA, O. V., KOSTROV, D. V., KRUGOVA, T. M., KUZNETSOVA, R. O., KUZMENKIN, D. V., LEGALOV, A. A., LVOVSKY, A. L., NAMYATOVA, A. A., NEDOSHIVINA, S. V., PERUNOV, YU. E., RESCHNIKOV, A. V., SINEV, S. YU., SOLOVAROV, V. V., TYUMASEVA, Z. I., UDALOV, I. A., USTYUZHANIN, P. YA., FILIMONOV, R. V., TSHERNYSHEV, S. E., TSHESNOKOVA, S. V., SHEIKIN, S. D., SHCHERBAKOV, M. V. & YANYGINA, L. V., 2011.– [Invertebrates of the Tigirek Nature Reserve (an annotated check-list), Biota of the Tigirek Nature Reserve].– *Trudy Tigirekskogo Zapovednika*, **4**: 165-226 (in Russian)

*A. E. N.

Altai State University
Prospect Lenina, 61
RF-656049 Barnaul
RUSSIA / RUSSIA
E-mail: colias24@mail.ru
<https://orcid.org/0000-0001-9367-3578>

R. V. Y.

Altai State University
Prospect Lenina, 61
RF-656049 Barnaul
RUSSIA / RUSSIA
E-mail: yakovlev_asu@mail.ru
<https://orcid.org/0000-0001-9512-8709>

y / and

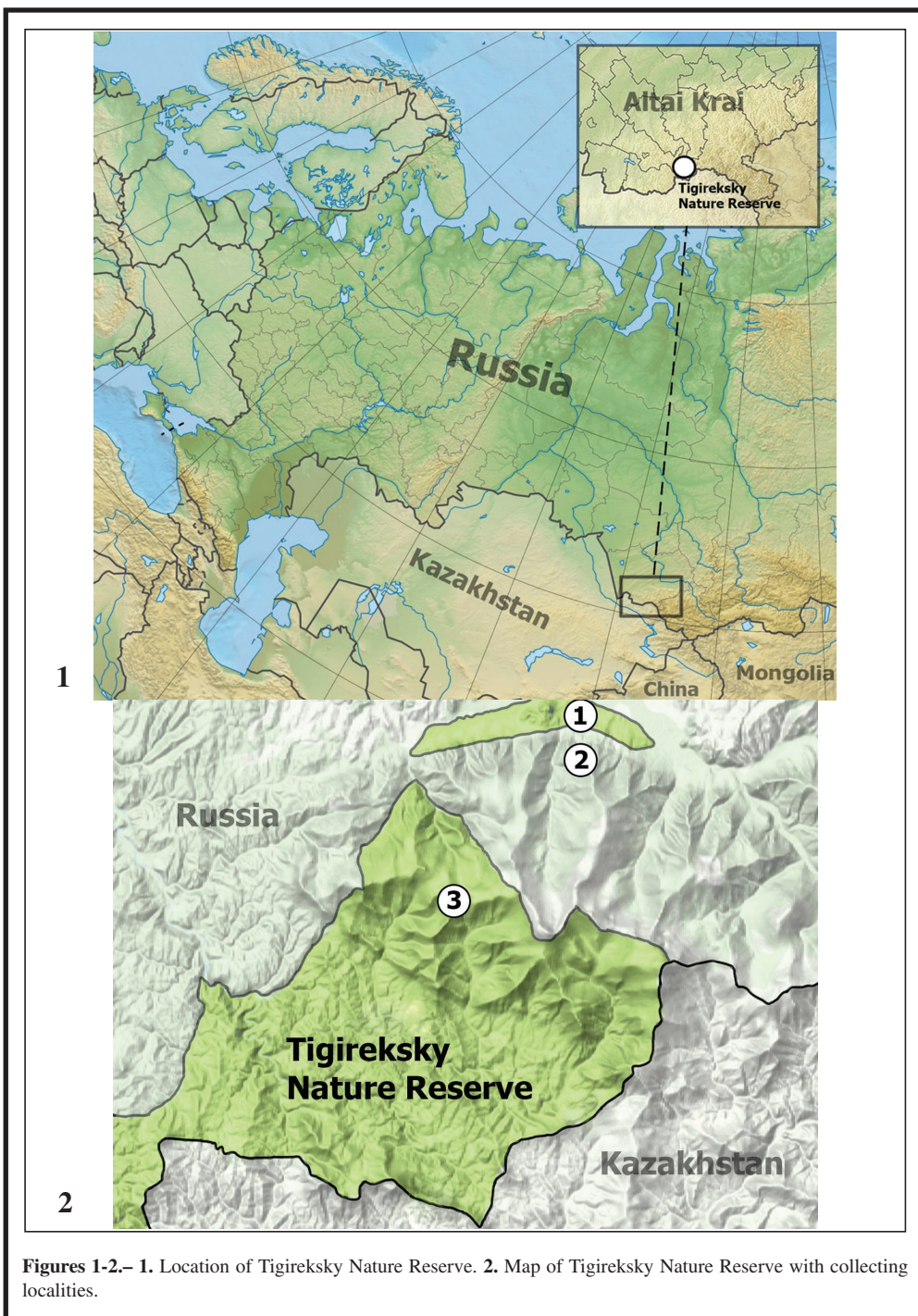
Tomsk State University
Prospect Lenina, 36
RF-634050 Tomsk
RUSSIA / RUSSIA

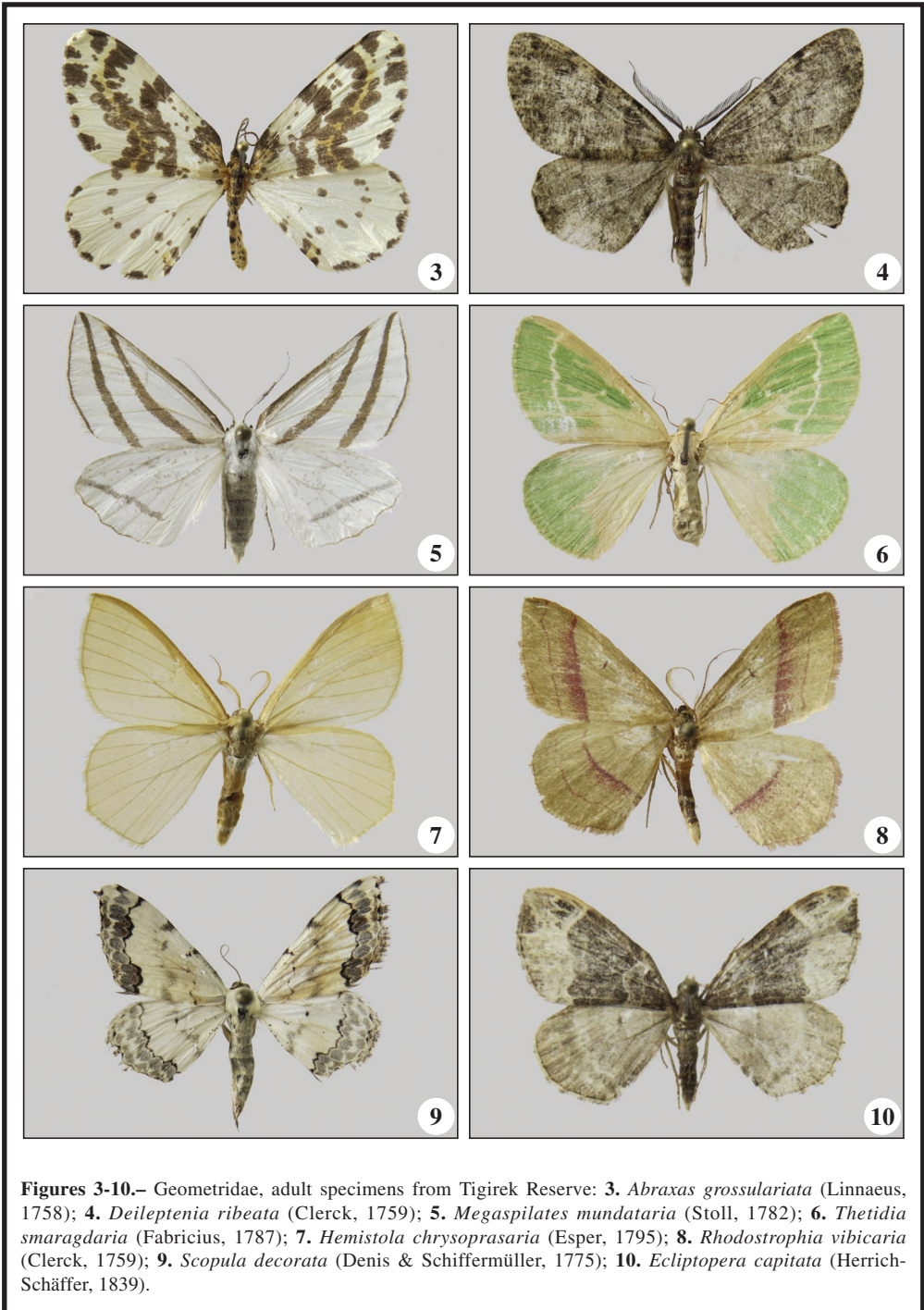
*Autor para la correspondencia / *Corresponding author*

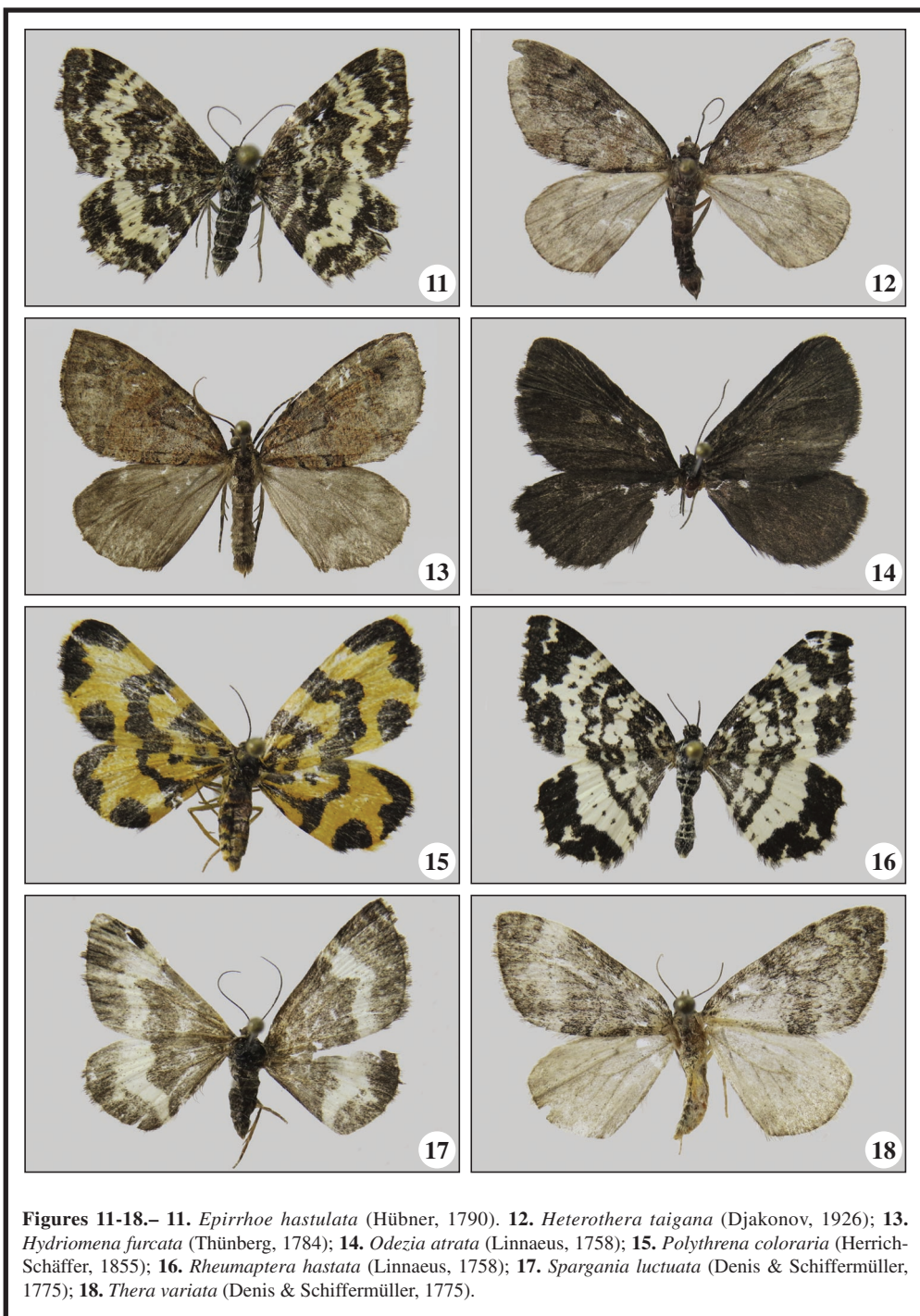
(Recibido para publicación / *Received for publication* 14-VIII-2017)

(Revisado y aceptado / *Revised and accepted* 25-IX-2017)

(Publicado / *Published* 30-VI-2018)







Figures 11-18.– 11. *Epirrhoe hastulata* (Hübner, 1790). 12. *Heterothena taigana* (Djakonov, 1926); 13. *Hydriomena furcata* (Thünberg, 1784); 14. *Odezia atrata* (Linnaeus, 1758); 15. *Polythrena coloraria* (Herrich-Schäffer, 1855); 16. *Rheumaptera hastata* (Linnaeus, 1758); 17. *Spargania luctuata* (Denis & Schiffermüller, 1775); 18. *Thera variata* (Denis & Schiffermüller, 1775).