

## ON THE KNOWLEDGE OF LEPIDOPTERA OF KUNASHIR ISLAND, RUSSIA

S. A. Rybalkin

Independent researcher, Snezhinsk, Russia

### Author

Sergey A. Rybalkin  
E-mail: [rybalkinsa@mail.ru](mailto:rybalkinsa@mail.ru)

**Copyright:** © The Author (2020).  
Published by Herzen State Pedagogical  
University of Russia. Open access under  
CC BY-NC License 4.0.

**Abstract.** The species *Garaeus specularis* (Moore, 1868) (Geometridae) is recorded in Russia for the first time. Nineteen species, *Gigantalcis flavolinearia* (Leech, 1891), *Ennomos nephotropa* (Prout, 1930), *Dysstroma korbi* (Heydermann, 1929) (Geometridae), *Amphipyra livida* (Denis & Schiffermuller, 1775), *Apamea monoglypha* (Hufnagel, 1766), *Conistra fletcheri* (Sugi, 1958), *Diarsia ruficauda* (Warren, 1909), *Euxoa karschi* (Graeser, 1890), *Hydraecia mongoliensis* (Urbahn, 1967), *Ipimorpha retusa* (Linnaeus, 1761), *Karana laetevirens* (Oberthur, 1884), *Lithophane socia* (Hufnagel, 1766), *Mniotype melanodonta* (Hampson, 1906), *Pyrrhivalva sordida* (Butler, 1881), *Spodoptera depravata* (Butler, 1879), *Telorta edentata* (Leech, 1889), *Xestia efflorescens* (Butler, 1879), *Triphaenopsis lucilla* (Butler, 1878) (Noctuidae), *Agrius convolvuli* (Linnaeus, 1758) (Sphingidae), are new for the fauna of the Kuril Islands; and three species *Antivaleria viridimacula* (Graeser, 1889), *Spaetotis ravida* (Denis & Schiffermuller, 1775), *Agrotis segetum* (Denis & Schiffermüller, 1775) are new for the fauna of Kunashir Island.

**Keywords:** Lepidoptera, Geometridae, Noctuidae, fauna, new record, Kunashir, Kuril Islands, Russia.

## К ПОЗНАНИЮ ЧЕШУЕКРЫЛЫХ НА ОСТРОВЕ КУНАШИР, РОССИЯ

С. А. Рыбалкин

Независимый исследователь, г. Снежинск, Россия

### Сведения об авторе

Рыбалкин Сергей Александрович  
E-mail: [rybalkinsa@mail.ru](mailto:rybalkinsa@mail.ru)

**Права:** © Автор (2020). Опубликовано Российским государственным педагогическим университетом им. А. И. Герцена. Открытый доступ на условиях лицензии CC BY-NC 4.0.

**Аннотация.** Один вид *Garaeus specularis* (Moore, 1868), (Geometridae) впервые приводится для фауны России. Девятнадцать видов — *Gigantalcis flavolinearia* (Leech, 1891), *Ennomos nephotropa* (Prout, 1930), *Dysstroma korbi* (Heydermann, 1929) (Geometridae), *Amphipyra livida* (Denis & Schiffermuller, 1775), *Apamea monoglypha* (Hufnagel, 1766), *Conistra fletcheri* (Sugi, 1958), *Diarsia ruficauda* (Warren, 1909), *Euxoa karschi* (Graeser, 1890), *Hydraecia mongoliensis* (Urbahn, 1967), *Ipimorpha retusa* (Linnaeus, 1761), *Karana laetevirens* (Oberthur, 1884), *Lithophane socia* (Hufnagel, 1766), *Mniotype melanodonta* (Hampson, 1906), *Pyrrhivalva sordida* (Butler, 1881), *Spodoptera depravata* (Butler, 1879), *Telorta edentata* (Leech, 1889), *Xestia efflorescens* (Butler, 1879), *Triphaenopsis lucilla* (Butler, 1878) (Noctuidae), *Agrius convolvuli* (Linnaeus, 1758) (Sphingidae) — впервые отмечены для фауны Курильских островов; три вида — *Antivaleria viridimacula* (Graeser, 1889), *Spaetotis ravida* (Denis & Schiffermuller, 1775), *Agrotis segetum* (Denis & Schiffermüller, 1775) — для фауны острова Кунашир.

**Ключевые слова:** Lepidoptera, Geometridae, Noctuidae, фауна, новые находки, Кунашир, Курильские острова, Россия.

The research on the fauna of Lepidoptera in the Russian Far East remained insufficient until the recent years, when a number of new species were discovered, and significant amendments have since been made to the records of the Lepidoptera fauna of Russia and, particularly, the Kuril Islands (Lelej 2016; Rybalkin, Yakovlev 2017; Rybalkin, Yakovlev, Benedek 2018; Rybalkin, Yakovlev, Knyazev, Beljaev 2019; Rybalkin 2020). The present paper is based on the material collected by the author in Kunashir Island in 2015, 2017, 2019. The specimens were collected by means of a light trap equipped with a DRV-250 lamp. All the material remains deposited in the author's private collection.

### NEW RECORDS

#### Family Geometridae

##### *Garaeus specularis* (Moore, 1868)

Fig. 1: 1, 2

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 1.09–19.09.2019, 40 ♂, 8 ♀, leg. S. Rybalkin.

**Distribution.** Japan (Hokkaido, Honshu, Shikoku, Kyushu), India, Nepal, China, Korea. The species is recorded for the first time from Russia.

##### *Ennomos nephotropa* (Prout, 1930)

Fig. 1: 3, 4

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 1.09–22.09.2019, 12 ♂, 3 ♀, leg. S. Rybalkin.

**Distribution.** Russia (Sakhalin), Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

##### *Gigantalcis flavolinearia* (Leech, 1891)

Fig. 1: 5

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 8.09.2019, 1 ♂, leg. S. Rybalkin.

**Distribution.** Japan (Hokkaido, Honshu, Shikoku, Kyushu), Russia (Sakhalin) (Sinev 2019). The species is recorded for the first time from the Kuril Islands.

##### *Dysstroma korbi* (Heydermann, 1929)

Fig. 1: 6

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 17.09–22.09.2019, 4 ex., leg. S. Rybalkin.

**Distribution.** Russia (Khabarovsk Krai, Primorsky Krai) (Lelej 2016), Japan (Hokkaido, Honshu), Korea, NE China. The species is recorded for the first time from the Kuril Islands.

#### Family Noctuidae

##### *Antivaleria viridimacula* (Graeser, 1889)

Fig. 1: 7

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 14.09–22.09.2019, 4 ex., leg. S. Rybalkin.

**Distribution.** Russia (Khabarovsk Krai, Sakhalin, Primorsky Krai, Kuril Islands (Iturup Island), Japan (Hokkaido, Honshu, Shikoku, Kyushu), China, Korea, (Lelej 2016). The species is recorded for the first time from Kunashir Island.

##### *Amphipyra livida* (Denis & Schiffermuller, 1775)

Fig. 1: 8

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 2.09–19.09.2019, 19 ex., leg. S. Rybalkin.

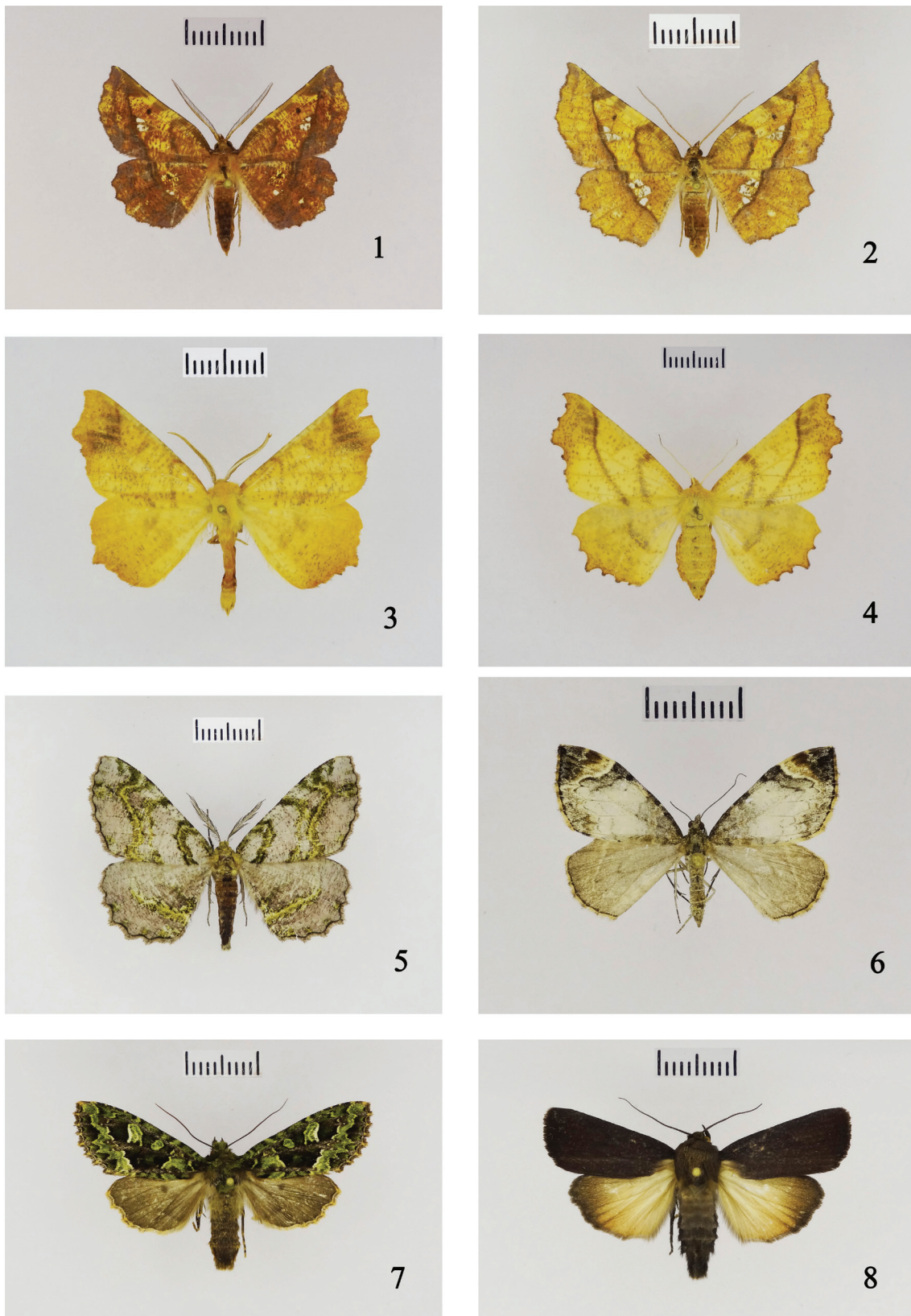
**Distribution.** Russia (Khabarovsk Krai, Sakhalin, Primorsky Krai, Amur Region, S. Siberia, W. Siberia, Ural, European Russia, N. Caucasus), Japan (Hokkaido, Honshu, Shikoku, Kyushu), China, Korea, N. India, Middle Asia, Near East, Transcaucasia, Baltic countries, Belarus, Ukraine, Europe (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

##### *Apamea monoglypha* (Hufnagel, 1766)

Fig. 2: 9

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 16.07–29.07.2015, 4 ex., 7.07–12.08.2017, 2 ex., leg. S. Rybalkin.

**Distribution.** Russia (Sakhalin, W. Siberia, Ural, European Russia, N. Caucasus), Mongolia, Kazakhstan, Europe (Lelej 2016). The species is recorded for the first time from the Kuril Islands.



**Fig. 1.** Imago of Lepidoptera from Kunashir Island [Чешуекрылые с острова Кунашир] (coll. S. Rybalkin): 1 — *Garaeus specularis* (Moore, 1868), ♂; 2 — *Garaeus specularis* (Moore, 1868), ♀; 3 — *Ennomos nephotropa* (Prout, 1930), ♂; 4 — *Ennomos nephotropa* (Prout, 1930), ♀; 5 — *Gigantalcis flavolinearia* (Leech, 1891), ♂; 6 — *Dysstroma korbi* (Heydermann, 1929), ♂; 7 — *Antivaleria viridimacula* (Graeser, 1889), ♂; 8 — *Amphipyra livida* (Denis & Schiffermuller, 1775), ♂

***Conistra fletcheri* (Sugi, 1958)**

Fig. 2: 10

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 15.09.2019, 1 ex., leg. S. Rybalkin.

**Distribution.** Russia (Khabarovsk Krai, Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Diarsia ruficauda* (Warren, 1909)**

Fig. 2: 11

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 6–11.09.2019, 2 ex., leg. S. Rybalkin.

**Distribution.** Russia (Khabarovsk Krai, Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Euxoa karschi* (Graeser, 1890)**

Fig. 2: 12

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 2.09.2019, 1 ex., leg. S. Rybalkin.

**Distribution.** Russia (Khabarovsk Krai, Primorsky Krai, Amur Region), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Hydraecia mongoliensis* (Urbahn, 1967)**

Fig. 2: 13

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 1.09–19.09.2019, 8 ex., leg. S. Rybalkin.

**Distribution.** Russia (Kamchatka, Khabarovsk Krai, Sakhalin, Siberia, Ural, European Russia), Mongolia, Kazakhstan, Middle Asia, Near East (Turkey), Baltic countries, Belarus, Ukraine, Europe, N. America (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Ipimorpha retusa* (Linnaeus, 1761)**

Fig. 2: 14

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 4.09.2019, 1 ex., leg. S. Rybalkin.

**Distribution.** Russia (Khabarovsk Krai, Sakhalin, Primorsky Krai, Amur Region,

S. Siberia, W. Siberia, Ural, European Russia), Japan (Hokkaido, Honshu), Korea, China, Mongolia, Baltic countries, Belarus, Ukraine, Europe (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Karana laetevirens* (Oberthur, 1884)**

Fig. 2: 15

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 24.07–12.08.2017, 162 ex., leg. S. Rybalkin.

**Distribution.** Russia (Khabarovsk Krai, Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Lithophane socia* (Hufnagel, 1766)**

Fig. 2: 16

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 9.09.2019, 1 ex., leg. S. Rybalkin.

**Distribution.** Russia (Magadan region, Sakhalin, Khabarovsk Krai, Amur Region, Primorsky Krai, S. Siberia, W. Siberia, Ural, European Russia, N. Caucasus), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China, Baltic countries, Belarus, Ukraine (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Mniotype melanodonta* (Hampson, 1906)**

Fig. 3: 17

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 5.09–22.09.2019, 15 ex., leg. S. Rybalkin.

**Distribution.** Russia (Sakhalin, Khabarovsk Krai, Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Pyrrhivalva sordida* (Butler, 1881)**

Fig. 3: 18

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 1.09–10.09.2019, 7 ex., leg. S. Rybalkin.

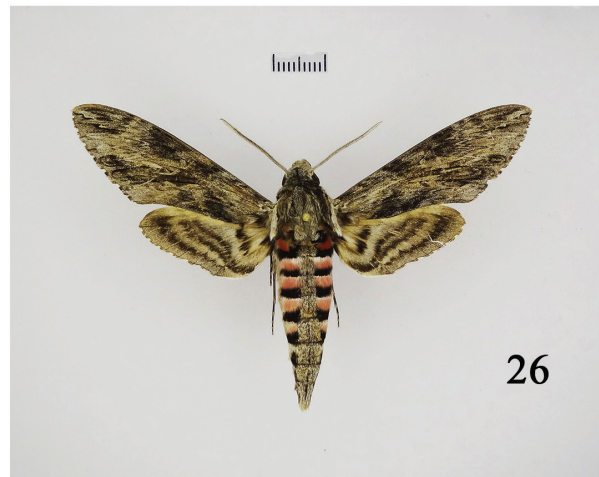
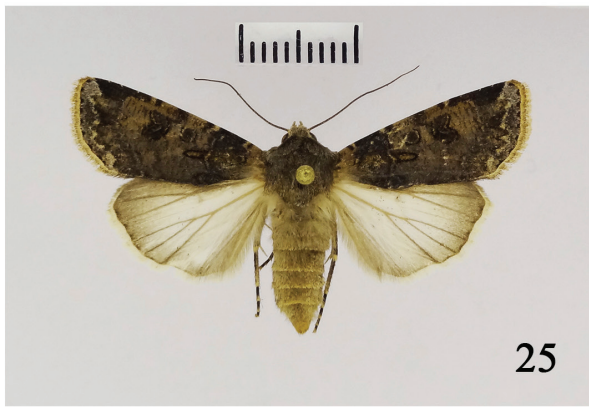
**Distribution.** Russia (Sakhalin, Khabarovsk Krai, Amur Region, Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China, Taiwan (Lelej 2016). The species is recorded for the first time from the Kuril Islands.



**Fig. 2.** Imago of Lepidoptera from Kunashir Island [Чешуекрылые с острова Кунашир] (coll. S. Rybalkin): 9 — *Apamea monoglypha* (Hufnagel, 1766), ♂; 10 — *Conistra fletcheri* (Sugi, 1958), ♂; 11 — *Diarsia ruficauda* (Warren, 1909), ♂; 12 — *Euxoa karschi* (Graeser, 1890), ♂; 13 — *Hydraecia mongoliensis* (Urbahn, 1967), ♂; 14 — *Ipimorpha retusa* (Linnaeus, 1761), ♂; 15 — *Karana laetevirens* (Oberthur, 1884), ♂; 16 — *Lithophane socia* (Hufnagel, 1766), ♂



**Fig. 3.** Imago of Lepidoptera from Kunashir Island [Чешуекрылые с острова Кунашир] (coll. S. Rybalkin): 17 — *Mniotype melanodonta* (Hampson, 1906), ♂; 18 — *Pyrrhivalva sordida* (Butler, 1881), ♂; 19 — *Spaelotis ravida* (Denis & Schiffermuller, 1775), ♂; 20 — *Spodoptera depravata* (Butler, 1879), ♂; 21 — *Telorta edentata* (Leech, 1889), ♂; 22 — *Xestia efflorescens* (Butler, 1879), ♂; 23 — *Triphaenopsis lucilla* (Butler, 1878), ♂; 24 — *Agrotis segetum* (Denis & Schiffermüller, 1775), ♂



**Fig. 3.** Imago of Lepidoptera from Kunashir Island [Чешуекрылые с острова Кунашир] (coll. S. Rybalkin): 25 — *Agrotis segetum* (Denis & Schiffermüller, 1775), ♀; 26 — *Agrius convolvuli* (Linnaeus, 1758), ♂; 27 — *Agrius convolvuli* (Linnaeus, 1758), ♀

***Spaelotis ravida* (Denis & Schiffermüller, 1775)**

Fig. 3: 19

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 4.09–19.09.2019, 8 ex., leg. S. Rybalkin.

**Distribution.** Russia (Kamchatka, Khabarovsk Krai, Sakhalin, Kuril Islands (Iturup Island), S. Siberia, W. Siberia, Ural, European Russia, N. Caucasus), Japan (Hokkaido), Korea, China, Mongolia, Kazakhstan, Middle Asia, Near East, Baltic countries, Belarus, Ukraine, Europe, N. India, Pakistan (Lelej 2016). The species is recorded for the first time from Kunashir Island.

***Spodoptera depravata* (Butler, 1879)**

Fig. 3: 20

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 7.09.2019, 2 ex., leg. S. Rybalkin.

**Distribution.** Russia (Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Telorta edentata* (Leech, 1889)**

Fig. 3: 21

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 20.09.2019, 1 ex., leg. S. Rybalkin.

**Distribution.** Russia (Khabarovsk Krai, Amur Region, Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Xestia efflorescens* (Butler, 1879)**

Fig. 3: 22

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 1.09–12.09.2019, 14 ex., leg. S. Rybalkin.

**Distribution.** Russia (Sakhalin, Khabarovsk Krai, Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China, Taiwan (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Triphaenopsis lucilla* (Butler, 1878)**

Fig. 3: 23

**Material. Russia:** Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo

village, 1.09–22.09.2019, 7 ex., leg. S. Rybalkin.

**Distribution.** Russia (Sakhalin, Primorsky Krai), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

***Agrotis segetum* (Denis & Schiffermüller, 1775)**

Fig. 3: 24; fig. 4: 25

**Material.** Russia: Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 7.07–30.07.2015, 17 ex., 1.09–22.09.2019, 5 ex., leg. S. Rybalkin.

**Distribution.** Russia (Kamchatka, Khabarovsk Krai, Sakhalin, Amur Region, Kuril Islands (Shikotan Island), Primorsky Krai, Yakutia, S. Siberia, W. Siberia, Ural, European Russia, N. Caucasus), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, China, Taiwan, Mongolia, Kazakhstan, Middle Asia, Near East, Baltic countries, Belarus, Ukraine, Europe, SE. Asia, India, Nepal, Africa (Lelej 2016). The species is recorded for the first time from Kunashir Islands.

**Family SpHINGIDAE**

***Agrius convolvuli* (Linnaeus, 1758)**

Fig. 4: 26, 27

**Material.** Russia: Kunashir Island, 4.5 km NW Mendeleyevo Airport, Tretyakovo village, 2–15.09.2019, 2 ♂, 3 ♀, leg. S. Rybalkin.

**Distribution.** Russia (S. Sakhalin, S. Khabarovsk Krai, S. Amur Region, Primorsky Krai, S. Siberia, S. European Russia, N. Caucasus), widespread in the South Palaearctic, Ethiopian, Oriental and Australian areas (Lelej 2016). The species is recorded for the first time from the Kuril Islands.

**ACKNOWLEDGEMENTS**

I wish to thank Mr. Eduard Godun and Mr. Viktor Ignat (Yuzhno-Kurilsk, Russia) for their assistance in the field research on Kunashir Island.

I would also like to extend my thanks to Mr. Balázs Benedek (Törökbálint, Hungary) for his help in identifying *Diarsia ruficauda*, *Euxoa karschi*, *Lithophane socia*, *Pyrrhivalva sordida*, *Spaelotis ravida*, *Spodoptera depravata*, *Triphaenopsis lucilla*; and to Dr. Evgeny Beljaev (Vladivostok, Russia) for his help in identifying *Garaeus specularis*, *Gigantalcis flavolinearia*, *Ennomos nephotropa*, *Dysstroma korbi*.

**References**

- Lelej, A. S. (ed.). (2016) *Annotirovannyj katalog nasekomykh Dal'nego Vostoka Rossii. T. 2: Lepidoptera — Cheshuekrylye [Annotated catalogue of the insects of Russian Far East. Vol. 2: Lepidoptera]*. Vladivostok: Dal'nauka Publ., 812 p. (In Russian)
- Rybalkin, S. A., Yakovlev, R. V. (2017) New for the fauna of Kuril Islands Lepidoptera. *Far Eastern Entomologist*, vol. 346, pp. 13–16. DOI: 10.25221/fee.346.2 (In English)
- Rybalkin, S. A., Yakovlev, R. V., Benedek, B. (2018) New and little known for the fauna of Kunashir and Sakhalin Islands Lasiocampidae and Noctuoidea (Lepidoptera). *Far Eastern Entomologist*, vol. 355, pp. 18–22. DOI: 10.25221/fee.355.3 (In English)
- Rybalkin, S. A., Yakovlev, R. V., Knyazev, S. A., Beljaev, E. A. (2019) New and rare for the fauna of Kunashir Island species of Noctuoidea, Drepanoidea and Geometoidea (Lepidoptera) *Far Eastern Entomologist*, vol. 379, pp. 33–36. DOI: 10.25221/fee.379.3 (In English)
- Rybalkin, S. A. (2020) New data on lepidoptera of Kuril Islands *Far Eastern Entomologist*, vol. 401, pp. 18–24. DOI: 10.25221/fee.401.4 (In English)

**For citation:** Rybalkin, S. A. (2020) On the knowledge of Lepidoptera of Kunashir Island, Russia. *Amurian Zoological Journal*, vol. XII, no. 2, pp. 98–105. DOI: 10.33910/2686-9519-2020-12-2-98-105

**Received** 20 February 2020; reviewed 10 March 2020; accepted 16 March 2020.

**Для цитирования:** Рыбалкин, С. А. (2020) К познанию чешуекрылых на острове Кунашир, Россия. *Амурский зоологический журнал*, т. XII, № 2, с. 98–105. DOI: 10.33910/2686-9519-2020-12-2-98-105

**Получена** 20 февраля 2020; прошла рецензирование 10 марта 2020; принята 16 марта 2020.