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New records of pyralid moths (Lepidoptera: Pyraloidea) in the Altai Republic, Russia

© A.E. Naydenov¹, A.N. Streltsov²

¹Altai State University, Lenin Avenue, 61, Barnaul 656049 Russia. E-mail: naydenov.24@mail.ru

²The Herzen State Pedagogical University of Russia, Moyka River Embankment, 48, Saint Petersburg 191186 Russia. E-mail: streltsov@mail.ru

Abstract. First faunistic records of 11 species of phycitine moths (Pyralidae) and one species of grass pyralid moth (Crambidae) in the Altai Republic of Russia are presented. *Christophia granulella* (Zerny, 1914) and *Yelenka calciferella uyghurica* Trofimova et Shovkoon, 2020 are recorded for Russia for the first time, and *Cadra furcatella* (Herrich-Schäffer, 1849) is recorded for the Asian part of Russia for the first time.

Key words: Pyralidae, Crambidae, fauna, new records, Altai Mountains, Siberia.

Новые находки огневок (Lepidoptera: Pyraloidea) в Республике Алтай, Россия

© А.Е. Найденов¹, А.Н. Стрельцов²

¹Алтайский государственный университет, пр. Ленина, 61, Барнаул 656049 Россия. E-mail: naydenov.24@mail.ru

²Российский государственный педагогический университет им. А.И. Герцена, набережная реки Мойки, 48, Санкт-Петербург 191186 Россия. E-mail: streltsov@mail.ru

Резюме. Приведены данные о первых находках 11 видов узкокрылых огневок (Pyralidae) и 1 вида травяной огневки (Crambidae) в Республике Алтай (Россия). *Christophia granulella* (Зерну, 1914) и *Yelenka calciferella uyghurica* Трофимова et Шовкоон, 2020 впервые указаны для фауны России, *Cadra furcatella* (Херрих-Шэффер, 1849) – для азиатской части России.

Ключевые слова: Pyralidae, Crambidae, фауна, новые указания, Алтайские горы, Сибирь.

The knowledge of the pyraloid moth fauna in Altai is incomplete. Currently, there is no overview of the species composition of pyralids in Altai with specific locality records. The most comprehensive faunistic list for the Russian Altai is published in the Catalogue of the Lepidoptera of Russia, where 39 species of Pyralidae [Sinev et al., 2019] and 70 species of Crambidae [Sinev, Streltsov, 2019] are reported. For comparison, in Omsk Region of Russia, where targeted studies on the diversity of Lepidoptera including pyraloid moths have been conducted, 77 species of Pyralidae and 102 species of Crambidae have been recorded [Knyazev, Sinev, 2023]. The study of the biodiversity of Lepidoptera in the Russian Altai is of great interest due to the cross-border location of the Altai mountain region at the intersection of Central Asian, Western and Eastern Palaearctic faunas (Fig. 1).

During the study of entomological material at the Zoological Institute of the Russian Academy of Sciences (ZISP, St Petersburg, Russia), as well as the private collections of P.Ya. Ustjuzhanin (Novosibirsk, Russia) and the first author (NABC, Barnaul, Russia), 11 species were discovered that had not previously been recorded for the Altai Republic of Russia, including one species and one subspecies previously unknown to the fauna of Russia.

Pempeliella ornatella ([Denis et Schiffermüller], 1775)
(Figs 2, 19–21)

Material. 1♂ (ZISP, genitalia preparation NA117), Ulagan Distr., Chibit vill., 1200 m, 16.06.1999 (V.A. Lukhtanov).

Distribution. Russia: the species is distributed in the European part of Russia (except for the northern regions),

in the south of Western Siberia and Krasnoyarsk Region, Cisbaikalia and Transbaikalia, and in southern Yakutia [Sinev et al., 2019]. Northwest Africa, Europe (excluding northern parts and Norway), Turkey, Transcaucasia, Iran, Central Asia, Himalaya [Slamka, 2019].

Psorosa nucleolella (Möschler, 1866)
(Figs 3, 41)

Material. 1♀ (ZISP, genitalia preparation NA77), Ulagan Distr., 12 km SSE Koo vill., 50°58'N / 87°56'E, 550 m, 6–8.07.2013 (S.Yu. Sinev).

Distribution. Russia: the species is widespread in the south of the European part of Russia, in the south of Western Siberia and Krasnoyarsk Region, in Tuva Republic, as well as in Cisbaikalia and Transbaikalia [Sinev et al., 2019]. Southeast Europe, Turkey, Lebanon, Palestine, Egypt, Syria, Iraq, Kazakhstan [Slamka, 2019].

Christophia granulella (Zerny, 1914)
(Figs 4, 22–24)

Material. 1♂ (ZISP, genitalia preparation NA100), Kosh-Agach Distr., Kurman Mt., 1900 m, 20.06.1999 (V.A. Lukhtanov).

Distribution. China: Xinjiang Uygur Autonomous Region, Lop Nor Desert (Lob Noor) [Roesler, 1993; Liu, Li, 2013]. The species is recorded for the fauna of Russia for the first time.

Yelenka calciferella uyghurica Trofimova et Shovkoon, 2020
(Figs 5, 25, 26)

Material. 1♂ (ZISP, genitalia preparation NA65), Kosh-Agach Distr., 5 km N Chagan-Uzun vill., 50°07'N / 88°24'E, 2100 m, 11–13.07.2013 (S.Yu. Sinev).

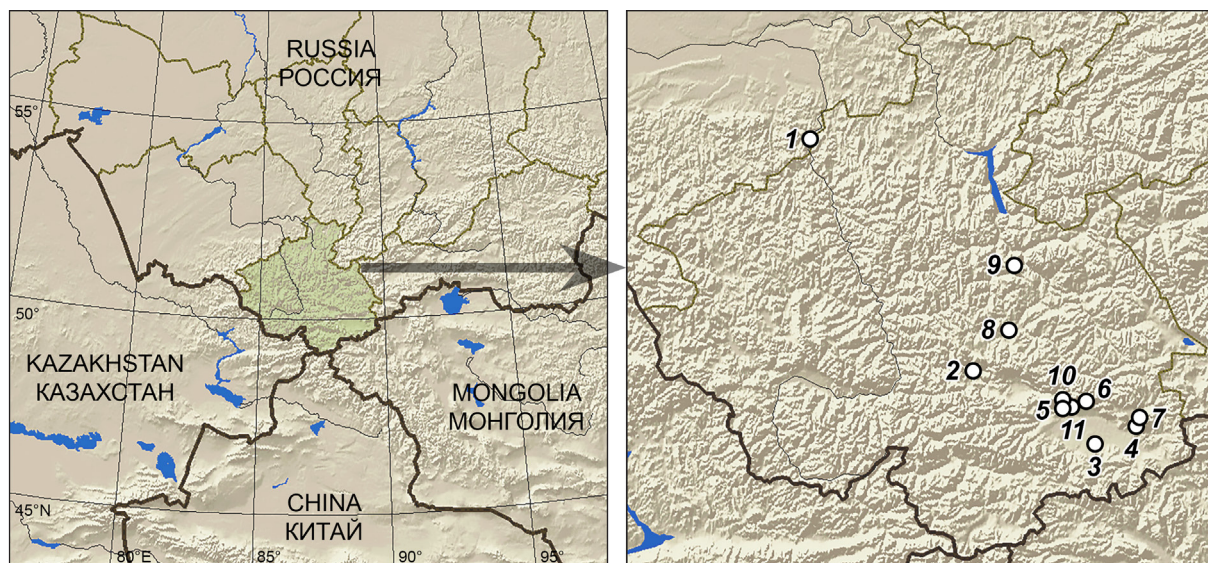


Fig. 1. Collecting sites in the Altai Republic: 1 – Mayma District, Manzherok village, near the Katun River; 2 – Ulagan District, Chibit village; 3 – Kosh-Agach District, Kurman Mount; 4 – Kosh-Agach District, Talduair Mount; 5 – Kosh-Agach District, near Chagan-Uzun village; 6 – Kosh-Agach District, Kuray Ridge, 18 km N of Kosh-Agach village; 7 – Kosh-Agach District, 17 km NE of Kokorya village; 8 – Ulagan District, 10 km SW of Ulagan village; 9 – Ulagan District, 12 km SSE of Koo village; 10 – Kosh-Agach District, 5 km N of Chagan-Uzun village; 11 – Kosh-Agach District, 5 km SE of Chagan-Uzun village.

Рис. 1. Точки сбора в Республике Алтай: 1 – Майминский район, с. Манжерок, рядом с рекой Катунь; 2 – Улаганский район, с. Чибит; 3 – Кош-Агачский район, гора Курман; 4 – Кош-Агачский район, гора Талдуай; 5 – Кош-Агачский район, рядом с с. Чаган-Узун; 6 – Кош-Агачский район, Курайский хребет, 18 км севернее с. Кош-Агача; 7 – Кош-Агачский район, 17 км северо-восточнее с. Кокоря; 8 – Улаганский район, 10 км юго-западнее с. Улаган; 9 – Улаганский район, 12 км юго-юго-восточнее с. Коо; 10 – Кош-Агачский район, 5 км севернее с. Чаган-Узун; 11 – Кош-Агачский район, 5 км юго-восточнее с. Чаган-Узун.

Distribution. The subspecies is found in Eastern Kazakhstan (Tarbagatai) and Western Mongolia (Mongolian Altai). The nominotypical subspecies occurs in Voronezh and Saratov regions (European Russia), and Kharkov Region (Eastern Ukraine) [Trofimova et al., 2020]. *Yelenka calciferella uyghurica* is recorded for the fauna of Russia for the first time.

Euzophera formosella (Rebel, 1910)
(Figs 6, 27, 28)

Material. 1♂ (collection of A.N. Streltsov, St Petersburg, Russia), Kosh-Agach Distr., 18 km N Kosh-Agach vill., Kuray Ridge, 2200 m, 27.07.2001 (P.Ya. Ustjuzhanin); 1♂ (NABC, genitalia preparation No. 661), Kosh-Agach Distr., 5 km SE Chagan-Uzun vill., 1815 m, 50°04'33.9"N / 88°25'03.0"E, 6–7.07.2024 (A.E. Naydenov, K.E. Naydenova).

Distribution. Russia: the species is found in the south of the European part of Russia and in Southern Ural [Sinev et al., 2019]; the first record for Southern Siberia. Syria, Iraq, Iran, Central Asia, Afghanistan, Mongolia [Roesler, 1973].

Ancylosis (Ancylosis) cinnamomella (Duponchel, 1836)
(Figs 7, 8, 29–31, 42)

Material. 4♂ (ZISP, genitalia preparations NA103, NA109, NA125, NA127), Kosh-Agach Distr., Kurman Mt., 1900 m, 20.06.1999 (V.A. Lukhtanov); 4♂, 1♀ (ZISP, genitalia preparations NA102, NA120, NA121, NA124), Kosh-Agach Distr., near Chagan-Uzun vill., 1700 m, 6.07.1999 (V.A. Lukhtanov); 2♂ (ZISP, genitalia preparation NA78), Ulagan Distr., 12 km SSE Koo vill., 50°58'N / 87°56'E, 550 m, 6–8.07.2013 (S.Yu. Sinev).

Distribution. Russia: the species is found in the south of the European part of Russia, in the south of Western Siberia and Krasnoyarsk Region, in the Tuva Republic,

as well as in the Cisbaikal and Transbaikal regions [Sinev et al., 2019]. North Africa, Europe, Turkey, Central Asia [Roesler, 1973].

Ancylosis (Ancylosis) maculifera Staudinger, 1870
(Figs 9, 10, 43)

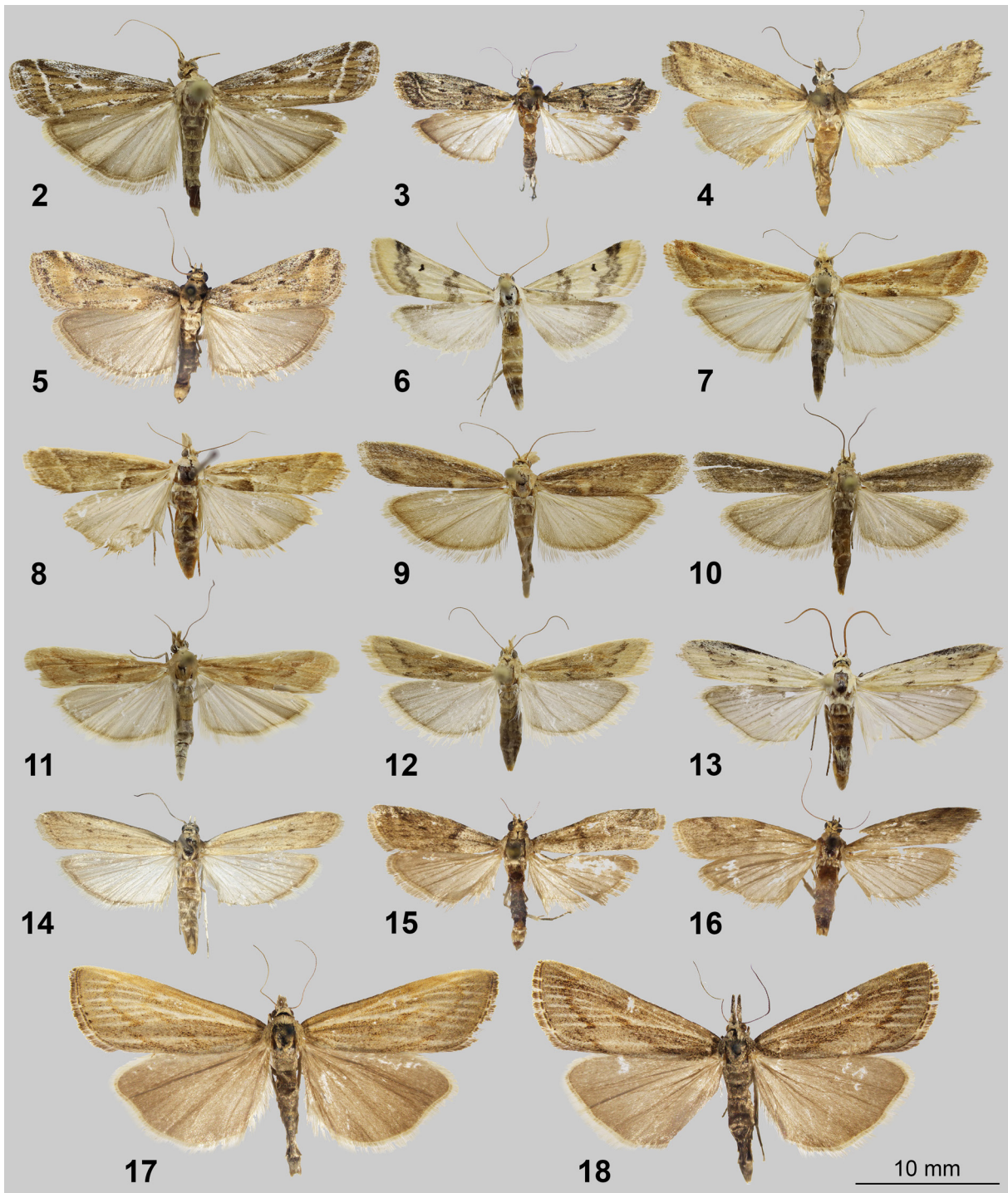
Material. 2♀ (ZISP, genitalia preparation NA108), Kosh-Agach Distr., Talduair Mt., 2250 m, 22.06.1999 (V.A. Lukhtanov).

Distribution. Russia: the species is locally distributed in the south of the European part and in Asian part of Russia (including the south of Krasnoyarsk Region, Tuva Republic, Cisbaikal region, Amur Region, Lower Amur (Jewish Autonomous and Khabarovsk regions), Southern Kuril islands and Primorskiy Region) [Sinev et al., 2019]. North Africa, Southeast Europe, Transcaucasia, Turkey, Lebanon, Israel, Iraq, Iran, Afghanistan, Central Asia, China, Mongolia [Roesler, 1973].

Ancylosis (Staudingeria) morbosella (Staudinger, 1879)
(Figs 11, 12, 32, 33, 44)

Material. 1♂ (ZISP, genitalia preparation NA126), Kosh-Agach Distr., Kurman, 1900 m, 20.06.1999 (V.A. Lukhtanov); 6♂, 1♀ (ZISP, genitalia preparations NA105, NA122, NA123), Kosh-Agach Distr., near Chagan-Uzun vill., 1700 m, 6.07.1999 (V.A. Lukhtanov); 3♂, 2♀ (NABC, genitalia preparation No. 669), Kosh-Agach Distr., 5 km SE Chagan-Uzun vill., 1815 m, 50°04'33.9"N / 88°25'03.0"E, 6–7.07.2024 (A.E. Naydenov, K.E. Naydenova).

Distribution. Russia: The species is found in the south of the European part of Russia and in Southern Ural [Sinev et al., 2019]; the first record for Southern Siberia. North Africa, Turkey, Transcaucasia, Central Asia, Afghanistan [Roesler, 1973].

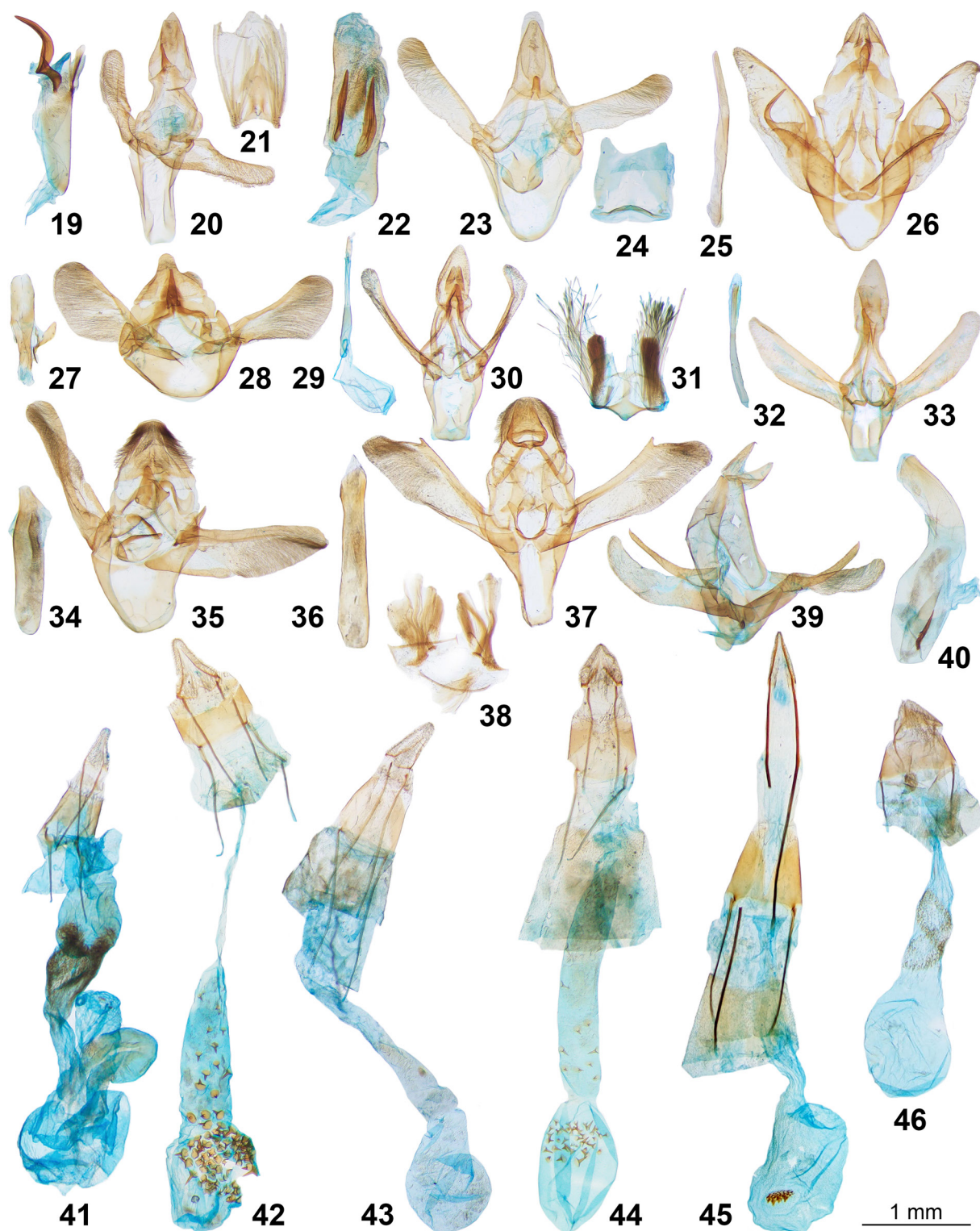


Figs 2–18. Pyralid moths first recorded for the Altai Republic fauna, imagoes.

2 – *Pempeliella ornatella*, male; 3 – *Psorosa nucleolella*, female; 4 – *Christophia granulella*, male; 5 – *Yelenka calciferella uyghurica*, male; 6 – *Euzophera formosella*, male; 7 – *Ancylosis (Ancylosis) cinnamomella*, male; 8 – *Ancylosis (Ancylosis) cinnamomella*, female; 9–10 – *Ancylosis (Ancylosis) maculifera*, female; 11 – *Ancylosis (Staudingeria) morbosella*, male; 12 – *Ancylosis (Staudingeria) morbosella*, female; 13 – *Homoeosoma inustella*, male; 14 – *Homoeosoma nebulella*, female; 15 – *Cadra furcatella*, male; 16 – *Cadra furcatella*, female; 17–18 – *Pediasia jucundella*, male.

Рис. 2–18. Огневки, впервые указанные для фауны Республики Алтай, имаго.

2 – *Pempeliella ornatella*, самец; 3 – *Psorosa nucleolella*, самка; 4 – *Christophia granulella*, самец; 5 – *Yelenka calciferella uyghurica*, самец; 6 – *Euzophera formosella*, самец; 7 – *Ancylosis (Ancylosis) cinnamomella*, самец; 8 – *Ancylosis (Ancylosis) cinnamomella*, самка; 9–10 – *Ancylosis (Ancylosis) maculifera*, самка; 11 – *Ancylosis (Staudingeria) morbosella*, самец; 12 – *Ancylosis (Staudingeria) morbosella*, самка; 13 – *Homoeosoma inustella*, самец; 14 – *Homoeosoma nebulella*, самка; 15 – *Cadra furcatella*, самец; 16 – *Cadra furcatella*, самка; 17–18 – *Pediasia jucundella*, самец.



Figs 19–40. Pyralid moths first recorded for the Altai Republic fauna, male and female genitalia.

19–21 – *Pempeliella ornatella*; 22–24 – *Christophia granulella*; 25–26 – *Yelenka calciferella uyghurica*; 27–28 – *Euzophera formosella*; 29–31, 42 – *Ancylosis (Ancylosis) cinnamomella*; 32–33, 44 – *Ancylosis (Staudingeria) morbosella*; 34–35 – *Homoeosoma inustella*; 36–38, 46 – *Cadra furcatella*; 39–40 – *Pediasia jucundella*; 41 – *Psorosa nucleolella*; 43 – *Ancylosis (Ancylosis) maculifera*; 45 – *Homoeosoma nebulella*. 19–40 – male genitalia: 19, 22, 25, 27, 29, 32, 34, 36, 40 – phallos; 20, 23, 26, 28, 30, 33, 35, 37, 39 – genital capsule; 21, 24, 31, 38 – culcita; 41–46 – female genitalia.

Рис. 19–40. Огневки, впервые указанные для фауны Республики Алтай, гениталии самцов и самок.

19–21 – *Pempeliella ornatella*; 22–24 – *Christophia granulella*; 25–26 – *Yelenka calciferella uyghurica*; 27–28 – *Euzophera formosella*; 29–31, 42 – *Ancylosis (Ancylosis) cinnamomella*; 32–33, 44 – *Ancylosis (Staudingeria) morbosella*; 34–35 – *Homoeosoma inustella*; 36–38, 46 – *Cadra furcatella*; 39–40 – *Pediasia jucundella*; 41 – *Psorosa nucleolella*; 43 – *Ancylosis (Ancylosis) maculifera*; 45 – *Homoeosoma nebulella*. 19–40 – гениталии самцов: 19, 22, 25, 27, 29, 32, 34, 36, 40 – фаллос; 20, 23, 26, 28, 30, 33, 35, 37, 39 – генитальный сегмент; 21, 24, 31, 38 – кульцита; 41–46 – гениталии самок.

Homoeosoma inustella Ragonot, 1884
(Figs 13, 34, 35)

Material. 3♂ (NABC, genitalia preparations No. 662, 663), Kosh-Agachsky Distr., 5 km SE Chagan-Uzun vill., 1815 m, 50°04'33.9"N / 88°25'03.0"E, 6–7.07.2024 (A.E. Naydenov, K.E. Naydenova).

Distribution. Russia: the species occurs in the European part of Russia (except for the northern regions) and in Southern Siberia (Tuva Republic, Cisbaikal and Transbaikal regions) [Sinev et al., 2019]. Europe, Turkey, Iran, Afghanistan, Central Asia [Roesler, 1973].

Homoeosoma nebulella ([Denis et Schiffermüller], 1775)
(Figs 14, 45)

Material. 1♀ (ZISP, genitalia preparation NA101), Mayma Distr., Manzherok vill., near the Katun River, 400 m, 9.06.1999 (V.A. Lukhtanov).

Distribution. Russia: the species is widespread in the European part of Russia, in south of Siberia, and in the Russian Far East [Sinev et al., 2019]. Europe, Turkey, Central Asia [Roesler, 1973].

Cadra furcatella (Herrich-Schäffer, 1849)
(Figs 15, 16, 36–38, 46)

Material. 1♂, 1♀ (ZISP, genitalia preparations NA67, NA68), Ulagan Distr., 12 km SSE Koo vill., 50°58'N / 87°56'E, 550 m, 6–8.07.2013 (S.Yu. Sinev).

Distribution. Russia: the species is found in the European part of Russia (except for the northern regions) [Sinev et al., 2019]; the first record for the fauna of the Asian part of Russia. Africa, Europe, Transcaucasia, Turkey, Syria, Iraq, Iran, Afghanistan, Central Asia [Roesler, 1973].

Pediasia jucundella (Herrich-Schäffer, 1847)
(Figs 17, 18, 39, 40)

Material. 2♂ (ZISP, genitalia preparations NA63, NA64), Kosh-Agach Distr., 17 km NE Kokorya vill., 50°00'N / 89°12'E, 2100 m, 2–5.07.2013 (S.Yu. Sinev); 1♂ (ZISP, genitalia preparation NA81), Ulagan Distr., 10 km SW Ulagan vill., 50°35'N / 87°52'E, 1295 m, 5–6.07.2013 (S.Yu. Sinev); 1♂ (ZISP, genitalia preparation NA83), Kosh-Agach District, 5 km N Chagan-Uzun vill., 50°07'N / 88°24'E, 2100 m, 11–13.07.2013 (S.Yu. Sinev).

Distribution. Russia: the species occurs in the European part of Russia (except for the northern regions) and in the south of Krasnoyarsk Region [Sinev, Streltsov, 2019]. East and Southeast Europe, Transcaucasia, Central Asia, Mongolia [Slamka, 2008].

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