

УДК 595.782

SOME NEW AND LITTLE KNOWN SPECIES FLAT MOTHS OF THE GENERA
 AGONOPTERIX HÜBNER, [1825] AND EXAERETIA STAINTON, 1849 (LEPIDOPTERA:
 DEPRESSARIIDAE) FROM SIBERIA

A.L. Lvovsky¹, S.A. Knyazev²

НЕКОТОРЫЕ НОВЫЕ И МАЛОИЗВЕСТНЫЕ ВИДЫ ПЛОСКИХ МОЛЕЙ ИЗ РОДОВ
 AGONOPTERIX HÜBNER, [1825] И EXAERETIA STAINTON, 1849 (LEPIDOPTERA:
 DEPRESSARIIDAE) ИЗ СИБИРИ

А.Л. Львовский¹, С.А. Князев²¹Zoological Institute, Russian Academy of Sciences, Universitetskaya Emb. 1, St. Petersburg 199034, Russia.

E-mail: alexander.lvovsky@zin.ru

²Irtyskaya naberezhnaya 14-16, Omsk, 644042, Russia. E-mail: konungomsk@yandex.ru**Key words:** Lepidoptera, Depressariidae, new and little known species, Siberia

Summari. *Agonopterix buryatica* sp. n. is described from Republic Buryatia. New locality for the rare species *A. melancholica* (Rebel, 1917) is given from Siberia. The indication of *A. rotundella* (Douglas, 1846) for Russia was found uncorrect and corresponds to *A. medelichensis* Buchner, 2015. The species *Exaeretia kozhantshikovi* Lvovsky, 2013 is pointed for Republic Buryatia at the first time.

¹Зоологический институт Российской Академии наук, Университетская наб. 1, Ст. Петербург 199034, Россия. E-mail: alexander.lvovsky@zin.ru²Иртышская набережная 14-16, Омск, 644042, Россия. E-mail: konungomsk@yandex.ru**Ключевые слова:** Lepidoptera, Depressariidae, новые и малоизвестные виды, Сибирь

Резюме: Описан новый вид плоской моли *Agonopterix buryatica* sp. n. из республики Бурятия. Приводится новый локалитет для редкого вида *A. melancholica* (Rebel, 1917) в Сибири. Указание для России *A. rotundella* (Douglas, 1846) оказалось ошибочным и относится к близкому недавно описанному виду *A. medelichensis* Buchner, 2015. Вид *Exaeretia kozhantshikovi* Lvovsky, 2013 впервые отмечен в республике Бурятия.

INTRODUCTION

The family Depressariidae numbers more 500 species in the World, mainly in holarctic fauna. There are 76 species of *Agonopterix* and 16 species of *Exaeretia* in Russia [Lvovsky, 2008; 2013]. The both genera are young in evolutionary aspect. Therefore they number many similar species difficult for diagnostic. The European fauna of this family is studied more or less satisfactorily, but we can not say the same about Siberian fauna.

MATERIAL AND METHODS

Material for this paper was collected by S.A. Knyazev during expeditions 2012-2015 in different localities of West and East Siberia. Collecting

points with geographical coordinates are given in paragraphs "Material" for every species. Adults were collected at the night time on the light of HSL-BW 250W Sylvania lamps and at the UV-light traps.

The standard techniques of study the genitalia structures was used for determination of the species [Robinson, 1976]. The drawings of genitalia structures was prepared with the help of Gorodkov's apparatus [Gorodkov, 1961].

TAXONOMY

Agonopterix buryatica sp. n.

Material: Holotype, female, Russia, Republic of Buryatia, Tunkinsky distr., 4 km N of Mondy vill., Mt.

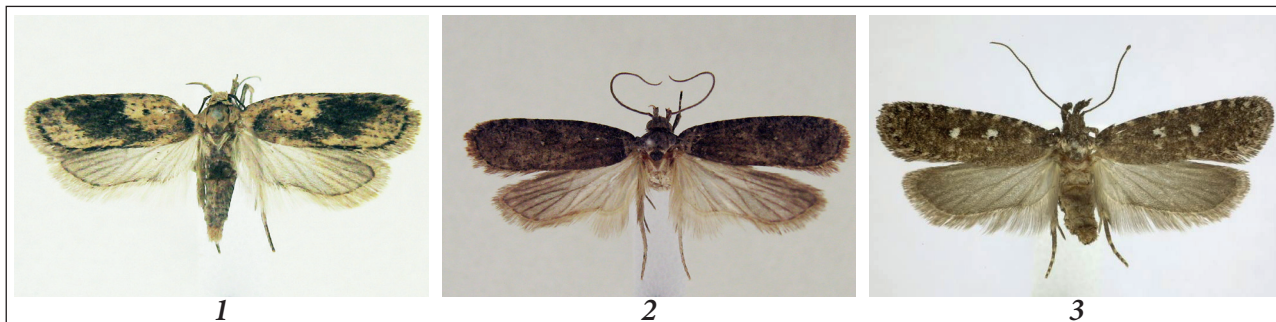


Fig. 1. New and little known species of flat moths from Siberia. 1 – *Agonopterix buryatica* Lvovsky et Knyazev, sp. nov., female, holotype; 2 – *A. melancholica* (Rebel, 1917), male; 3 – *Exaeretia kozhantshikovi* Lvovsky, 2013, female

Рис. 1. Новый и малоизвестные виды плоских молей из Сибири: 1 – *Agonopterix buryatica* Lvovsky et Knyazev, sp. nov., самка, голотип; 2 – *A. melancholica* (Rebel, 1917), самец; 3 – *Exaeretia kozhantshikovi* Lvovsky, 2013, самка

Khulugaisha, 51°42'32" N, 100°59'58" E, at light, 21-24.VII.2015, S.A. Knyazev leg. Holotype deposited in Zoological Institute Russian Academy of Sciences.

External characters (Fig. 1: 1). Forewing length 6,5 mm, wingspan 15 mm. Antennae black. Head light yellow. Labial palpi upcurved, light yellow with gray and black scales. Forewing light yellow with large black spot from costal margin to hind margin of the wing. Along outer margin and costal margin near apex the row of black points. One black point in the middle of the cell. Short transversal black streak near the base of the wing. Hind wing light gray.

Female genitalia (Fig. 2: 1). Ductus bursa copulatrix long. Bursa copulatrix small with small oval signum. Unfortunately the caudal end of abdomen was destroyed.

Diagnosis. New species resembles to *A. doronicella* (Wocke, 1849) by external characteristics, but differs by the large diamond-shaped black spot on forewing. The female genitalia differs by the longer ductus bursa copulatrix, when bursa copulatrix reaches the beginning of abdomen.

Notes. Holotype was collected in the forest belt at an altitude of 1800 meters. Habitat represents with mountain forest of *Larix sibirica* Ledeb. and *Betula pendula* Roth. mainly, mixed with *Salix* sp., *Rhododendron* sp. and grasses.

Etymology. The species is named after Republic of Buryatia where the holotype was collected.

Agonopterix medelichensis Buchner, 2015

Material: 3 ♂, Russia, Omsk province, Cherlaksy district, near village Tatarka, 53°58'58.47" N,

75°2'1.22" E, 19-20.IV.2012, leg. S. Knyazev.

Distribution. In Russia: Omsk province. Abroad: Austria, Italy, Slovakia, Hungari, Greece [Buchner, 2015].

Biology. In Europe larvae feed on *Trinia glauca* and another Apiaceae. The species hibernates as adults [Buchner, 2015].

Notes. This species was erroneously determined as *A. rotundella* (Douglas, 1846) and pointed as new for Russia [Lvovsky, Knyazev, 2013]. The reason of mistake was in drawing of the male genitalia incorrectly determined by H.J. Hannemann as *A. rotundella* [Hannemann, 1953] while it was a new species. The mistake was detected by P. Buchner [2015] who described this species. The general appearance of both species is very similar. The main differences are in genitalia structures: *A. medelichensis* has some longer gnathos, some longer cuiller narrowing to the apex which almost reaches the upper margin of valva (Fig. 2: 2). Valva of *A. medelichensis* narrowing to the apex gradually, while at *A. rotundella* more sharply.

Agonopterix melancholica (Rebel, 1917)

= *Agonopterix funebrella* (Caradja, 1920)

Material: 2 ♂, Russia, Omsk province, Cherlaksy district, 20 km E Cherlak, 6 km SE village Nikolaevka, near lake Ul'zhai, 54°13'48.02" N, 75°6'51.61" E, 8-9.IX.2015, at light, leg. S. Knyazev; 1 ♀, the same label.

Distribution. In Russia: districts of Tula, Penza, Saratov, Volgograd, Orenburg and Omsk regions. Abroad: Western Kazakhstan near Uralsk

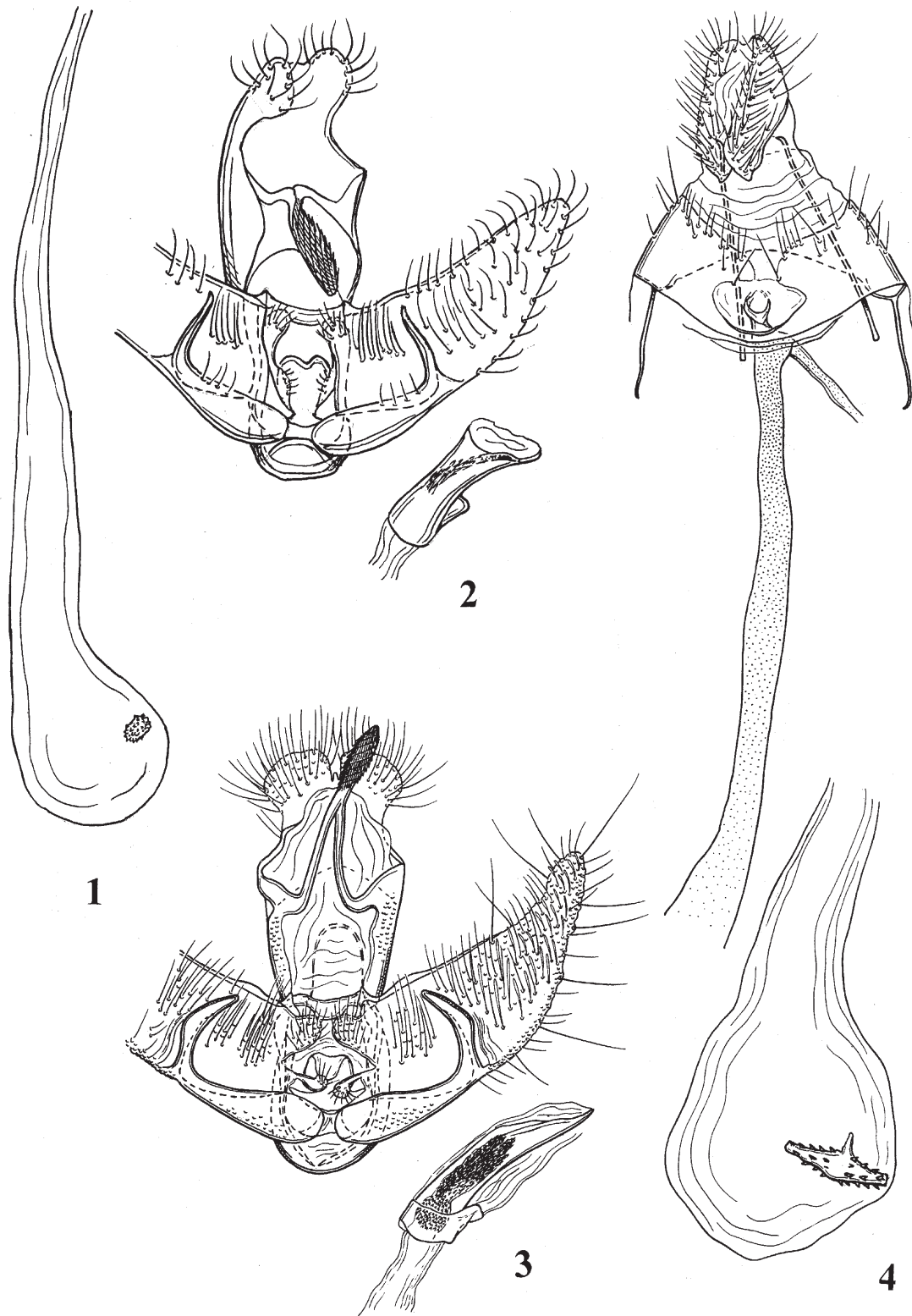


Fig. 2. Genitalia structures of the flat moths from Siberia: 1 – *Agonopterix buryatica* Lvovsky et Knyazev, **sp. nov.**, female, holotype; 2 – *A. medelichensis* Buchner, 2015, male; 3 – *A. melancholica* (Rebel, 1917), male, lectotype; 4 – the same, female, paralectotype

Рис. 2. Строение гениталий плоских молей из Сибири: 1 – *Agonopterix buryatica* Lvovsky et Knyazev, **sp. nov.**, самка, голотип; 2 – *A. medelichensis* Buchner, 2015, самец; 3 – *A. melancholica* (Rebel, 1917), самец, лектотип; 4 – то же, самка, паралектотип

and lake Inder and Romania (Transylvania) [Hannemann, 1958, 1976; Lvovsky, 2006; Bolshakov et al., 2010].

Biology. Flight period from end of June to September, probably with hibernation. Larvae is not known.

Notes. This species has the same genitalia structures of males and females as *A. cnicella* (Treitschke, 1832) (Fig. 2: 3, 4), but differs from it by dark gray, sometimes nearly black coloration of forewings (Fig. 1: 2). This species was firstly pointed from the south-west of Omsk Region [Knyazev et al., 2015]. According new materials we are reporting the most eastern locality for this species to the east of the river Irtysh. All specimens from Omsk Province were collected on the South of region, not so far from the border with Kazakhstan, in steppes of different types near salt lakes: Ebeity and Ul'zhai.

Exaeretia kozhantshikovi Lvovsky, 2013

Material: 1 ♀, Russia, Republic of Buryatia, Selenginsky distr., 18 km SW of Gusinozersk city, near lake Gusinoye, 51°11'37" N, 108°15'53" E, at light, 26-27.VII.2015, S.A. Knyazev leg.

Distribution. In Russia: Krasnoyarsk, Transbai-

kal and Primorski Territories, Republic of Buryatia. Abroad: North China (Inner Mongolia).

Biology. Flight period from middle of July to beginning of August probably with hibernation. Larvae is not known. Habitat where the species has been collected in South Buryatia represents by rocky dry steppe slope on the western coast of lake Gusinoye. There are single trees of *Larix sibirica* not so far from collecting point and some trees of *Padus* and *Salix* in the ravine between two small hills.

Notes. This species is similar to *E. indubitabella* (Hannemann, 1971) and earlier it was erroneously mixed with the latter [Lvovsky, 2006; 2008; Liu, Wang, 2010], but differs from it by the dark coloration of forewing with white spot in the middle of the cell (Fig. 1: 3).

ACKNOWLEDGEMENTS

The study was performed in the frames of the state research project no. 01201351189 and supported by the Russian Foundation for Basic Research (grant no. 14-04-00770) and by the Presidium of the Russian Academy of Sciences (subprogram "Biodiversity of the natural systems").

REFERENCES

- Bolshakov L.V., Ryabov S.A., Anikin V.V., Piskunov V.I., Baryshnikova S.V., Lvovsky A.L., 2010. Additions and corrections to the fauna of Lepidoptera of the Tula Province. 3. *Eversmannia*. No 21-22. P. 42-55. *In Russian*.
- Buchner P., 2015. Two new species of *Agonopterix* (Depressariidae, Lepidoptera) from Europe. *Zootaxa*. 3986 (1). P. 101-114.
- Gorodkov K.B., 1961. The simplest microprojector for drawing Insects. *Entomological Review*. T. 40, No 4. P. 936-939. *In Russian*.
- Hannemann H.J., 1953. Natürliche Gruppierung der europäischen Arten der Gattung *Depressaria* s. l. (Lep. Oecoph.). *Mitteilungen Zoologischen Museum in Berlin*. Bd. 29. Heft 2. S. 269-373.
- Hannemann H.J., 1958. Die Gruppierung weiterer *Depressaria* nach dem bau ihrer Kopulationsorgane, Teil 1 (Lep. Oecophoridae). *Mitteilungen Zoologischen Museum in Berlin*. Bd. 34. Heft 1. S. 3-47.
- Hannemann H.J., 1976. *Depressaria*-Studien (Lep., Oecophoridae). *Deutsche Entomologische Zeitschrift*. N. F. Bd. 23, Heft 4-5. S. 233-252.
- Knyazev S.A., Ivonin V.V., Dubatolov V.V., Vasilenko S.V., Ponomaryov K.B., 2015. New records of Lepidoptera from the South of West Siberia. *Amurian zoological journal*. Vol. 7, No 1. P. 43-50. *In Russian*.
- Liu S., Wang S.X., 2010. One new and three newly recorded species of the genus *Exaeretia* Stainton, 1849 (Lepidoptera: Elachistidae: Depressariinae) from China. *Zootaxa*. No 2444. P. 45-50.
- Lvovsky A.L., 2006. Check-list of the broad-winged and flat moths (Lepidoptera: Oecophoridae, Chimabachidae, Amphisbatidae, Depressariidae) of the fauna of Russia and adjacent countries. *Proceedings of the Zoological Institute*, St. Petersburg. Vol. 307. P. 1-118. *In Russian*.
- Lvovsky A.L., 2008. Depressariidae. *Catalogue of the Lepidoptera of Russia* / Ed. S.Yu. Sinev. St. Petersburg – Moscow, KMK Scientific Press Ltd. P. 53-57. *In Russian*.
- Lvovsky A.L., 2013. A review of flat moths of the genus *Exaeretia* Stainton, 1849 (Lepidoptera, Depressariidae) of the fauna of Russia and neighbouring countries. *Entomological Review*. T. 92, No 4. P. 780-801. *In Russian*.
- Lvovsky A.L., Knyazev S.A., 2013. *Agonopterix rotundella* (Lepidoptera, Depressariidae) – a new species to the

fauna of Russia. *Amurian zoological journal*. Vol. 5, No 2. P. 151-152. *In Russian*.

Robinson G.S., 1976. The preparation of slides of lepidoptera genitalia with special references to the microlepidoptera. *Entomologist's Gazette*. Vol. 27. P. 127-132.

ЛИТЕРАТУРА

Большаков Л.В., Рябов С.А., Аникин В.В., Пискунов В.И., Барышникова С.В., Львовский А.Л., 2010. Дополнения и уточнения к фауне чешуекрылых (Lepidoptera) Тульской области. 3 // Эверсманния. № 21-22. С. 42-55.

Городков К.Б., 1961. Простейший микропроектор для рисования насекомых // Энтомологическое обозрение. Т. 40, № 4. С. 936-939.

Князев С.А., Ивонин В.В., Дубатов В.В., Василенко С.В., Пономарев К.Б., 2015. Новые находки чешуекрылых (Insecta, Lepidoptera) в Омской и Новосибирской областях // Амурский зоологический журнал. Т. 7, № 1. P. 43-50.

Львовский А.Л., 2008. Depressariidae // Каталог чешуекрылых (Lepidoptera) России / под ред. С. Ю. Синева. Санкт-Петербург – Москва: Товарищество научных изданий КМК. С. 53-57.

Львовский А.Л., 2006. Аннотированный список ширококрылых и плоских молей (Lepidoptera: Oecophoridae, Chimabachidae, Amphibatidae, Depressariidae) фауны России и сопредельных стран // Труды зоологического института / под ред. С. Ю. Синева. Санкт-Петербург: Российская акад. наук, Зоологический ин-т. Т. 307. С. 1-118.

Львовский А.Л., 2013. Обзор плоских молей рода *Exaeretia* Stainton, 1849 (Lepidoptera, Depressariidae) фауны России и сопредельных стран // Энтомологическое обозрение. 2013. Т. 92. № 4. С. 780-801.

Львовский А.Л., Князев С.А., 2013. *Agonopterix rotundella* (Lepidoptera, Depressariidae) – новый вид для фауны России // Амурский зоологический журнал. 2013. Т. 5. № 2. С. 151-152.

Vichner P., 2015. Two new species of *Agonopterix* (Depressariidae, Lepidoptera) from Europe // *Zootaxa*. 3986 (1). P. 101-114.

Hannemann H.J., 1953. Natürliche Gruppierung der europäischen Arten der Gattung *Depressaria* s. l. (Lep. Oecoph.) // *Mitteilungen Zoologischen Museum in Berlin*. Bd. 29. Heft 2. S. 269-373.

Hannemann H.J., 1958. Die Gruppierung weiterer *Depressarien* nach dem bau ihrer Kopulationsorgane, Teil 1 (Lep. Oecophoridae) // *Mitteilungen Zoologischen Museum in Berlin*. Bd. 34. Heft 1. S. 3-47.

Hannemann H.J., 1976. *Depressarien-Studien* (Lep., Oecophoridae) // *Deutsche Entomologische Zeitschrift*. N. F. Bd. 23, Heft 4-5. S. 233-252.

Liu S., Wang S.X., 2010. One new and three newly recorded species of the genus *Exaeretia* Stainton, 1849 (Lepidoptera: Elachistidae: Depressariinae) from China // *Zootaxa*. No 2444. P. 45-50.

Robinson G.S., 1976. The preparation of slides of lepidoptera genitalia with special references to the microlepidoptera // *Entomologist's Gazette* Vol. 27. P. 127-132.

Accepted: 28.02. 2016

Published: 30.03. 2016

Поступила в редакцию: 28.02. 2016

Дата публикации: 30.03. 2016