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Acrobasis khachella (Amsel, 1950): Little-known snout moth species and new data about its range and habitats (Lepidoptera, Pyralidae, Phycitinae)

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Abstract. The article provides new data on the range and biology of *Acrobasis khachella* (Amsel, 1950) in Central Asia. The species is recorded for the first time from Kazakhstan, Kyrgyzstan, and Tajikistan. The vertical distribution of the species ranges from 880 to 3,000 m. The geographical distribution of the species includes Central Iran (Zendjan Prov.), the Shakhdarinsky Mts. (Tajikistan), the Dzhungarsky Alatau Mts., the Syrdaryinsky Karatau Mts. (Kazakhstan) and several mountain ridges within North, Inner, and West Tian-Shan and Alai. *A. khachella* inhabits dry stony stations: steppes and semideserts. The article describes the external variability of the species that shows differences in size and wing pattern. The female and its genitalia are figured for the first time.

Keywords: Kyrgyzstan, Tajikistan, Kazakhstan, distribution, snout moth, little-known species.

Acrobasis khachella (Amsel, 1950), малоизвестный вид огневок, и новые сведения о его распространении и местообитаниях (Lepidoptera, Pyralidae, Phycitinae)

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Аннотация. Приводятся новые сведения по распространению и биологии *Acrobasis khachella* (Amsel, 1950) в Средней Азии. Вид впервые приводится из Казахстана, Киргизии и Таджикистана. Вертикальное распространение вида: от 880 до 3000 м н. у. м. Географическое распространение вида включает Центральный Иран (пров. Зенджан), Шахдаринский хр. (Таджикистан), хр. Джунгарский Алатау и Сырдарьинский Каратау (Казахстан) и ряд хребтов Северного, Внутреннего, Западного Тянь-Шаня и Алая. Биотопами *A. khachella* в исследованных локалитетах являются сухие каменистые стации: степи, полупустыни. Описана изменчивость внешних признаков: варьируют как размеры имаго, так и крыловой рисунок. Самка и ее гениталии изображены впервые.

Ключевые слова: Киргизия, Таджикистан, Казахстан, распространение, огневка, малоизвестный вид.

Acrobasis khachella (Amsel, 1950) described from "Fort Sengan", Iran (Amsel 1950: 240, Figs. 29, 69) was never recorded in other areas (Koçak, Kemal 2014; 218). Besides, no data about its biology were known. During the 2013–2019 faunistic studies in Kazakhstan, Kyrgyzstan, and Tajikistan, I collected the *Acrobasis khachella* species in several localities. These findings significantly expanded the range of the species and provided data on some features of its biology, major habitats and vertical distribution. The article provides an overview of the study findings.

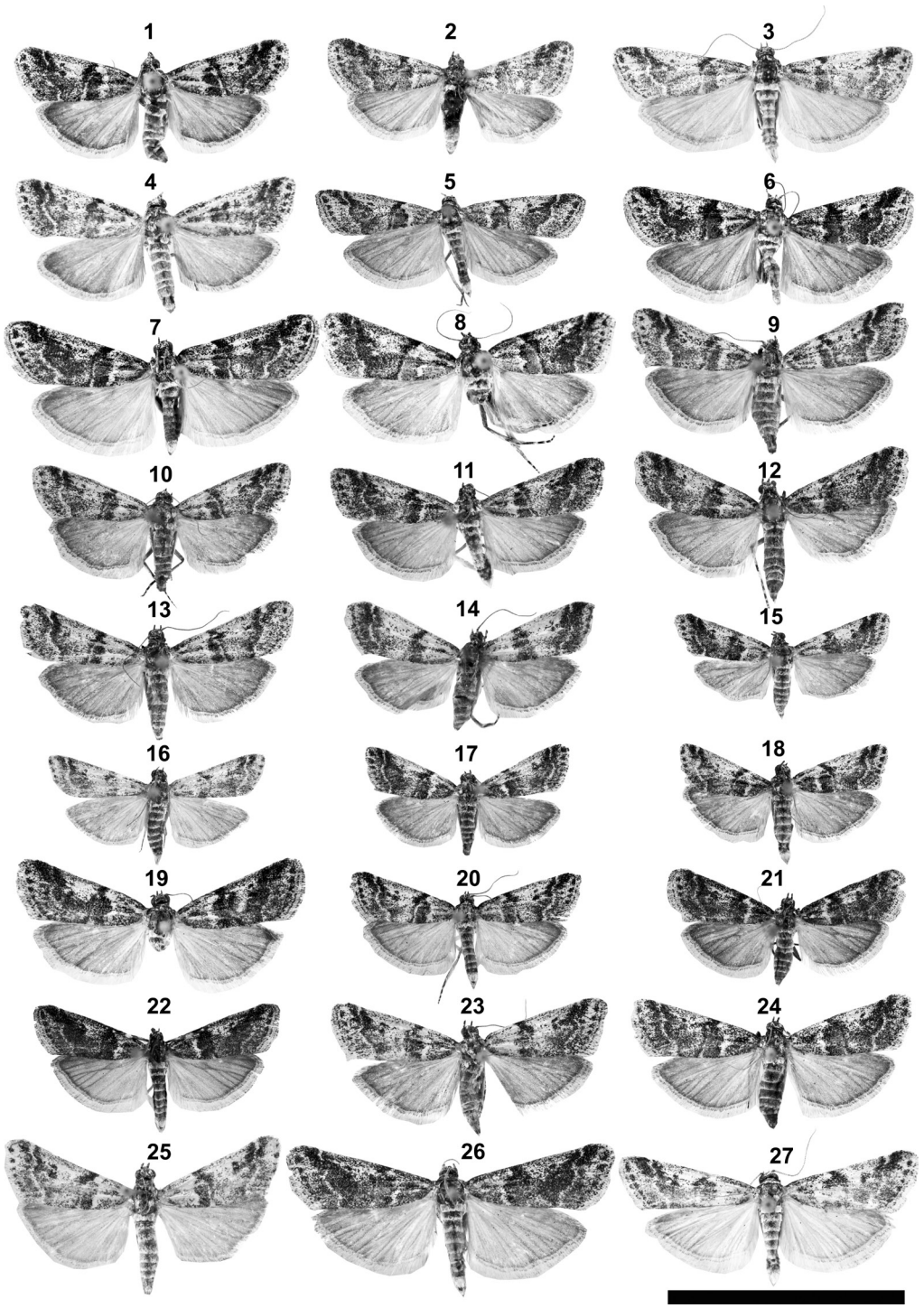
Material examined. ***Kyrgyzstan***. 2♂, 9.07.2014, Suusamyrtoo Mts., 14 km S Kojomkul, 42°2′4.29″ N, 74°9′46.72″ E, 1,800 m, leg. S. K. Korb; 2♂, 10.07.2014, Moldo-Too Mts., near the Koro-Goo Pass, N 41°31.303′, E 74°45.824′, 1,997 m, leg. S. K. Korb; 2♂, 13.07.2015, Bishkek env., Ala-Too, 1,000 m, leg. S. K. Korb; 2♂, 13.07.2015, Fergansky Mts., 5.5 km S of Imeni Chkalova (S shore of Toktogul reservoir), N 41°42.223′, E 72°57.165′, 1,768 m, leg. S. K. Korb; 9♂, 1♀, 14.07.2015, Alai Mts., small valley between Tashkoro and Kara-Bulak, N 40°14.119′, E 73°24.484′, 1,805 m, leg. S. K. Korb; 1♂, 8.07.2016, south shore of the Issyk-Kul Lake, 6.6 km E of Kara-Talaa, N 42°18.281′, E 76°28.904′, 1,591 m, leg. S. K. Korb; 2♂, 26.07.2016, Suusamyrtoo Mts., Kekemeren river valley 3.6 km N of Kyzyl-Oi, N 41°59.211′, E 74°09.396′, 1,808 m, leg. S. K. Korb; 12♂, 3♀, 25.07.2017, Moldo-Too Mts., 10 km E of Kaindy, 41°29′37.45″N, 74°35′32.56″E, 1,800 m, leg. S. K. Korb; 5♂, 26.07.2017, Moldo-Too Mts. near the Koro-Goo Pass, N 41°30.49.53′, E 74°38.25.44′, 1,945 m, leg. S. K. Korb; 1♂, 1♀, 28.07.2017, Moldo-Too Pass, near the Koro-Goo Pass, N 41°31.11.61′, E 74°45.51.56′, 2,010 m, leg. S. K. Korb; 1♂, 1♀, 2–8.07.2019, Moldo-Too Mts., near the Koro-Goo Pass, 41.521710° N, 74.764240°E, 2,015 m, leg. S. K. Korb; 1♂, 21–22.07.2019, Osh Prov., Alai Mts., 6.25 km NNE Kyzyl-Eshme, 39.620689° N, 72.286766° E, 2,961 m, leg. S. K. Korb; 2♂, 2♀, 24.07.2019, Dzhalal-Abad Prov., Fergansky Mts., 9.2 km S of Toktogul Reservoir, Kara-Suu river bank, 41.685956°N, 72.974411°E, 1,231 m, leg. S. K. Korb; 15♂, 3♀, 27-28.07.2019, Talas Prov, Talassky Mts., Kara-Buura river bank, 31 km S of Kluchevka, 42.7976°N, 71.60727°E, 1,707 m, leg. S. K. Korb; 1♂, 30.07.2019, Chui Prov., Suusamyrtoo Mts., Kekemeren river bank, 12 km S of Kojomkul, 42.046225°N, 74.154575°E, 1874 m, leg. S. K. Korb. ***Kazakhstan***. 1♂, 25-27.07.2010, Syrdaryinsky Karatau Mt. Range, Koshkarata River, 880 m a.s.l., 43°41′ N, 68°49′ E, leg. P. Gorbunov; 2♂, 04-06.07.2015, Boro-Khoro Mts., Usek Valley, N 44°28.082′, E 79°49.760′, 1,260 m, leg. S. K. Korb. ***Tajikistan***. 3♂, 1♀, 21.07.2011, Shakhdarinsky Mts., Vezdara river valley near Vezd Kishlak, N 37°12.102′, E 71°49.768′, 2,900 m, leg. S. K. Korb.

Variation. The species is very variable. The size of specimens can differ almost twice. The wing pattern and coloration is very different even within the same population: the coloration is from almost white to almost black due to the differences in the development of wing pattern elements (spots and bands) (Figs. 1–27). Such variability does not offer any stable characteristics to identify different subspecies in the species range. Obviously, the species is represented by the nominative subspecies throughout its entire range.

Female. Females are described for the first time. Their wing pattern and coloration are the same as in males.

Male and female genitalia (Figs. 28–34) have almost no variability. Some differences between genitalia specimens can be found in size and shape of genital structures, i. e., bursa copulatrix in females and aedoeagus in males. Presumably, the differences in the size of these genital elements are related to the size of the specimens: in larger ones, these parts of the genitalia are larger. The female genitalia (Figs. 31–34) are illustrated here for the first time.

Range. The geographic distribution of *A. khachella* covers Central Iran (Zendjan Prov.), the Shakhdarinsky Mts. in Tajikistan, mountain ridges Kirgizsky, Dzhumgaltoo, Moldo-Too, Fergansky, Alai and Talassky, the southern shore of Issyk-Kul Lake in Kyrgyzstan, and the Dzhungarsky Alatau Mts. and



Figs 1–27. *Acrobasis khachella* (Amsel, 1950), upper sides: *1* — Kyrgyzstan, Kirghizsky Mts., Ala-Too environs; *2* — Kazakhstan, Dzhungarsky Alatau Mts., Usek river valley; *3* — Tajikistan, Shakhdarinsky Mts., Vezdara river valley; *4* — Kyrgyzstan, Fergansky Mts., southern shore of Toktogul reservoir near Imeni Chkalova; *5* — Kyrgyzstan, Alai Mts., Kyzyl-Eshme valley; *6–8* — Kyrgyzstan, Alai Mts. near Kara-Bulak; *9–14* — Kyrgyzstan, Talassky Mts., Kara-Buura river valley; *15–18* — Kyrgyzstan, Fergansky Mts., Kara-Suu river valley; *19* — Kyrgyzstan, south shore of the Issyk Kul Lake near Kara-Talaa; *20–27* — Kyrgyzstan, Moldo-Too Mts., near the Koro-Goo Pass. *1, 9, 23, 24* — females, the remaining specimens — males. Scale bar: 1 cm

Рис. 1–27. *Acrobasis khachella* (Amsel, 1950), вид сверху: *1* — Киргизия, Киргизский хр., окр. пос. Ала-Тоо; *2* — Казахстан, хр. Джунгарский Алатау, долина р. Усек; *3* — Таджикистан, Шахдаринский хр., долина р. Вездара; *4* — Киргизия, Ферганский хр., южный берег Токтогульского вдхр. близ пос. имени Чкалова; *5* — Киргизия, Алайский хр., ущ. Кызыл-Эшме; *6–8* — Киргизия, Алайский хр. близ пос. Кара-Булак; *9–14* — Киргизия, Таласский хр., долина р. Кара-Буура; *15–18* — Киргизия, Ферганский хр., долина р. Кара-Суу; *19* — Киргизия, южный берег оз. Иссык-Куль близ пос. Кара-Талаа; *20–27* — Киргизия, хр. Молдо-Тоо, близ пер. Коро-Гоо; *1, 9, 23, 24* — самки, остальные — самцы. Масштабная метка: 1 см

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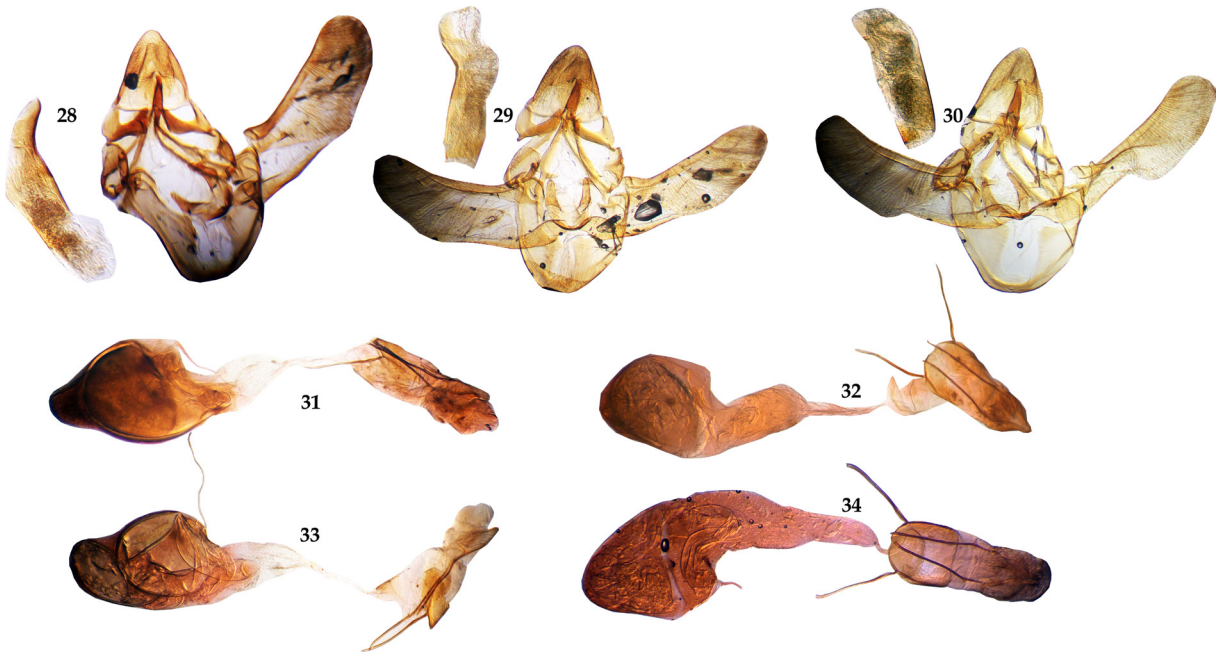

Figs 28–34. *Acrobasis khachella* (Amsel, 1950), genitalia: *28–30* — male genitalia; *31–34* — female genitalia: *28* — Kazakhstan, Dzhungarsky Alatau Mts., Usek river valley; *29* — Kyrgyzstan, Moldo-Too Mts., near the Koro-Goo Pass; *30* — Tajikistan, Shakhdarinsky Mts., Vezdara river valley; *31* — Kazakhstan, Dzhungarsky Alatau Mts., Usek river valley; *32* — Kyrgyzstan, Fergansky Mts., southern shore of Toktogul reservoir near the settlement Imeni Chkalova; *33* — Kyrgyzstan, Moldo-Too Mts., near the Koro-Goo Pass; *34* — Tajikistan, Shakhdarinsky Mts., Vezdara river valley

Рис. 28–34. *Acrobasis khachella* (Amsel, 1950), гениталии: *28–30* — гениталии самца; *31–34* — гениталии самки: *28* — Казахстан, хр. Джунгарский Алатау, долина р. Усек; *29* — Киргизия, хр. Молдо-Тоо, близ пер. Коро-Гоо; *30* — Таджикистан, Шахдаринский хр., долина р. Вездара; *31* — Казахстан, хр. Джунгарский Алатау, долина р. Усек; *32* — Киргизия, Ферганский хр., южный берег Токтогульского вдхр. близ пос. имени Чкалова; *33* — Киргизия, хр. Молдо-Тоо, близ пер. Коро-Гоо; *34* — Таджикистан, Шахдаринский хр., долина р. Вездара

Syrdaryinsky Karatau Mts. in Kazakhstan. It is very likely that the species is widespread throughout Tajikistan, Kyrgyzstan, and Kazakhstan in suitable locations. In addition, it is very likely to be found in southern Turkmenistan (Kopet-Dag Mts.), southern Uzbekistan and Afghanistan.

Natural history. All specimens were collected in light traps. The vertical zone is from 1,000 m to about 3,000 m. The biotopes include different dry open places (Figs. 35–42). In Kazakhstan (Usek river valley), *A. khachella* was found in dry stony semidesert with bushes (Fig. 41). In contrast, in Tajikistan the species inhabit stony mountainous steppe (Fig. 42). In Kyrgyzstan (Figs. 35–40), it was recorded in dry stony places like mountainous steppes (Kyzyl-Eshme valley, Fig. 40, Dzhumgaltoo Mts. near Kojomkul, Fig. 38, or Kara-Buura river bank, Fig. 35) or mountainous semideserts (Moldo-Too Mts. near the Koro-Goo Pass, Fig. 37). All the biotopes have one thing in common — they are dry and stony.

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Figs 35–42. *Acrobasis khachella* (Amsel, 1950), habitats: **Kyrgyzstan**: *35* — Talassky Mts., Kara-Buura river bank; *36* — Alai Mts., Kyzyl-Eshme valley; *37* — Moldo-Too Mts., Koro-Goo Pass environs; *38* — Dzhumgaltoo Mts., Sary-Kaiky gorge near Kojomkul; *39* — Kirghizsky Mts., Ala-Too settlement environs; *40* — Alai Mts., near Kara-Bulak; **Kazakhstan**: *41* — Dzhungarsky Alatau Mts., Usek river valley; **Tajikistan**: *42* — Shakhdarinsky Mts., Vezdara river valley (in the center: the author of this article with the local driver, Maziyo)

Рис. 35–42. *Acrobasis khachella* (Amsel, 1950), биотопы: **Киргизия**: *35* — Таласский хр., побережье р. Кара-Буура; *36* — Алайский хр., ущ. Кызыл-Эшме; *37* — хр. Молдо-Тоо, окр. пер. Коро-Гоо; *38* — хр. Джумгалтоо, массив Сары-Кайкы близ пос. Кожомкул; *39* — Киргизский хр., окр. пос. Ала-Тоо; *40* — Алайский хр., близ пос. Кара-Булак; **Казахстан**: *41* — хр. Джунгарский Алатау, долина р. Усек; **Таджикистан**: *42* — Шахдаринский хр., долина р. Вездара (в центре: автор настоящей работы и местный водитель, Мазиё)

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