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Drasteria scolopax (Alphéraky, 1892) (Lepidoptera: Erebidae): New data on its range and ecology with description of a new subspecies

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Abstract. *Drasteria scolopax* (Alphéraky, 1892) for the first time recorded from Kyrgyzstan as far as the western part of the Tarim depression. The new population discovered in Kyrgyzstan represents a new subspecies, which is described here as *Drasteria scolopax gilmanovi* Korb et P. Gorbunov, **ssp. n.** Its type locality is Kyrgyzstan, Transalai Mts., Kaltabulak stream, 4 km W of Nura, 3025 m, 39°38′21.19″N, 73°49′10.68″E. The new subspecies differs from the nominative one by its wing coloration and wing pattern. The new subspecies looks quite darker than the nominative one because its median and basal belts are brown; the upper side pattern of the wing in the new subspecies is unclear, spots and belts are weakly visible; there is no black marginal spot in the new subspecies forewing underside, which is presented in *D. scolopax scolopax*. The collecting sites of *D. scolopax gilmanovi* **ssp. n.** are described.

Keywords: Kyrgyzstan, new taxon, new data, new record, owlet moths

Drasteria scolopax (Alphéraky, 1892) (Lepidoptera: Erebidae): новые сведения по распространению и экологии, с описанием нового подвида

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Аннотация. *Drasteria scolopax* (Alphéraky, 1892) указывается впервые для территории Киргизии; это указание является также первым для западной части Таримской котловины. Новая популяция, обнаруженная в Киргизии, представляет неописанный подвид, который описывается как *Drasteria scolopax gilmanovi* Korb et P. Gorbunov, **ssp. n.** Типовое местонахождение нового подвида: Киргизия, Заалайский хр., ручей Кальтабулак, 4 км к З. от пос. Нура, 3025 м, 39°38′21.19″ с. ш., 73°49′10.68″ в. д. Новый подвид отличается от номинативного окраской и рисунком крыльев: он выглядит темнее номинативного поскольку его срединная и базальная перевязи коричневые; рисунок крыльев сверху у нового подвида нечеткий, пятна и перевязи слабо выражены; на нижней стороне переднего крыла нет черного краевого пятна, имеющегося у *D. scolopax scolopax*. Описаны местообитания *D. scolopax gilmanovi* **ssp. n.**

Ключевые слова: Киргизия, новый таксон, новые данные, новая находка, совки

Introduction

Drasteria scolopax (Alphéraky, 1892) is little-known and one of the rarest species of the genus *Drasteria* Hübner, 1818 distributed in hardly accessible regions within north-eastern limits of the Tibetan Plateau and in the Helanshan (= Alashan) mountains. The most of materials on this species were collected over a century ago by G.E. Grumm-Grshimailo and P.K. Kozlov and currently deposited in the collections of the Zoological Institute of the Russian Academy of Sciences (Saint Petersburg, Russia; further — ZISP). In the collections of Museum für Naturkunde Leibniz-Institut für Evolutions- und Biodiversitätsforschung (Berlin, Germany; further — ZMHU) and ZISP there are also specimens of *D. scolopax* collected by W. Rückbeil in Altyntag Mountain Ridge, but without exact locality. Most likely it was the most western known locality of this species at present.

We collected it about 1400 km further west from the Altyntag Mts., in another mountain system but in the borders of the same drainless Tarim depression, and it was an unexpected surprise. Due to its differences in wing pattern and coloration we decided to describe the found population as a separate subspecies; this description we place herein.

The type locality of *Drasteria scolopax* (Alphéraky, 1892) was mentioned as "Nian Schian, Gumansy" (by the lectotype designation) (Matov, Korb 2019). According to J. Grieshuber & S. Churkin (2003), Grumm-Grshimailo stayed in the vicinity of monastery Gu-man-sy (Komandse) from 5 to 10 May, 1890. This monastery temple is located in the Qinghai Province of China, at coordinates 37°02′33,81″N, 101°49′21,30″E. The coordinates "36.428741°N, 101.596951°E" in the last *Drasteria* revision (Matov, Korb 2019: 16) were mentioned erroneously as its type locality, and the type locality of *D. scolopax* then must be corrected with the right coordinates: "Nian Schian, Gumansy" (37°02′33,81″N, 101°49′21,30″E).

Drasteria mongoliensis Wiltschire, 1969 is the closest species to *D. scolopax* both by the wing pattern and genitalia structures; its range covers Central Mongolia and Tuva in Russia. We believe *D. mongoliensis* was recorded from Ulan-Ude environs (Transbaikal) as "*Aleucanitis scolopax* Alph." (Kanter 1977); the figures in the mentioned publication (Kanter 1977: Figs. a, b) are very schematic, but the wing pattern more or less resembles *D. mongoliensis*; the genitalia depicted in the cited paper cannot be used for species identification due to its schematic view.

Taxonomic description

***Drasteria scolopax gilmanovi* ssp. n.**

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(Figs. 1–6)

Material. Holotype: female, 19.07.2023, Kyrgyzstan, Transalai Mts., Kaltabulak stream, 4 km W of Nura, 3025 m, 39°38′21.19″N, 73°49′10.68″E, leg. S.K. Korb, P. Y. Gorbunov. Paratypes: 2 males, 10 females, 18–19.07.2023, same locality, leg. S. K. Korb, P. Y. Gordunov; 1 male, 2 females, 15–17.07.2023, Kyrgyzstan, Alai Mts., 6,2 km NW Nura, 2922 m, 39°40′9.77″N, 73°48′37.40″E, leg. S. K. Korb, P. Y. Gorbunov. Holotype deposited in ZISP, paratypes — in ZISP and author's collections.

Description. Forewing length in holotype 23 mm, in paratypes 20–24 mm. Head, thorax, abdomen uppersides brown, undersides whitish-yellowish. Antennae covered by brown scales, in males at ventral side with long (a bit longer than antenna width) light chetae. Legs covered by light beige scales. Forewing triangular, relatively narrow with straight costal edge. Maximum width to length ratio in forewing is 0.43. Forewing upperside brown, hindwing upperside grayish-yellowish; underside of both wings of the same color, grayish-yellowish. When moth is just collected, its body and forewings upperside partially covered by pink scales; after short time (several days) these scales turned to a regular brown coloration. In the holotype these pink scales are visible in the upperside of thorax and in the basal part of forewing. Wing upperside pattern represented by three lighter parts: discal belt with serrated edge (this belt does

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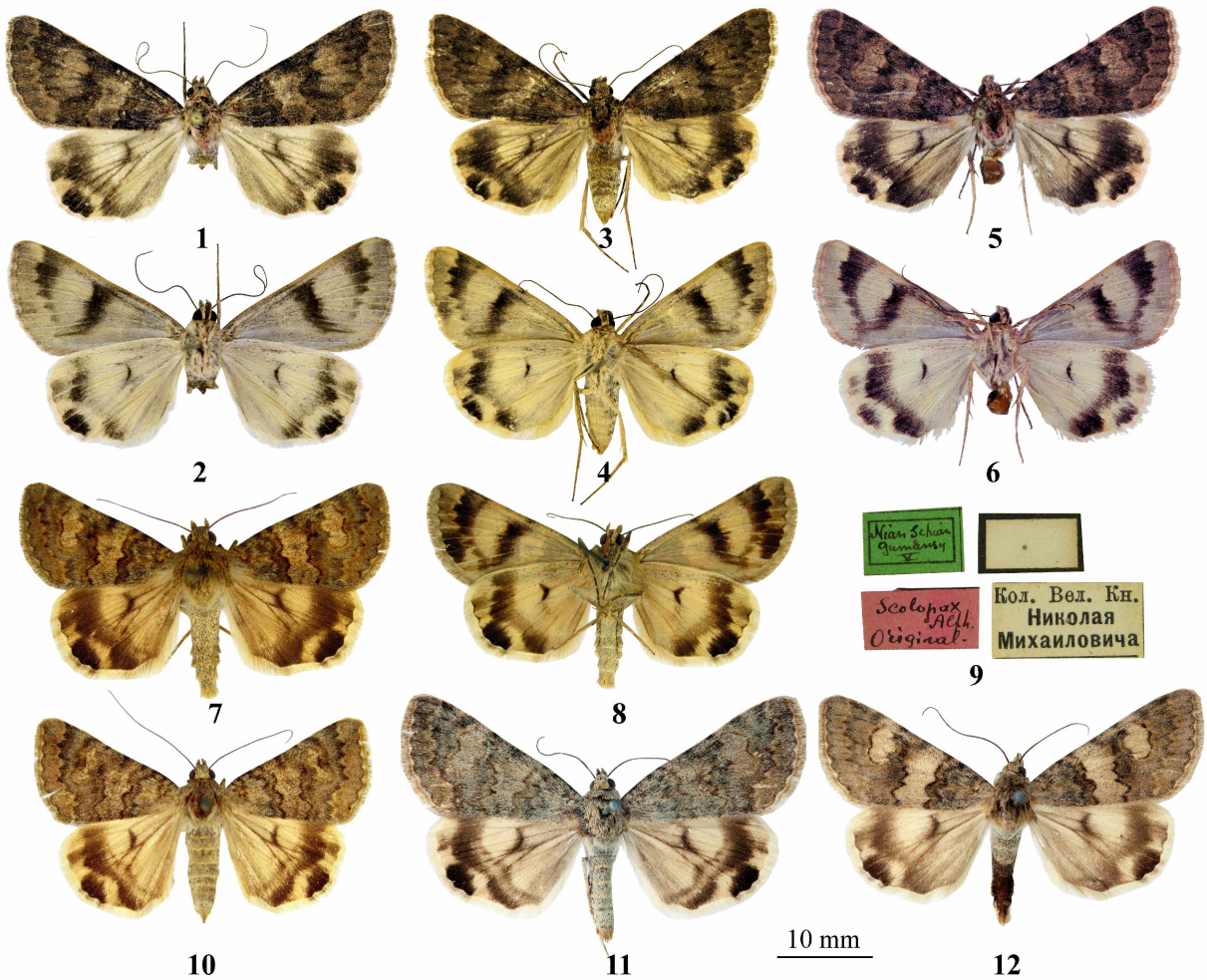


Figs. 1–12. *Drasteria scolopax* (Alphéraky, 1892), habitus: *1–2 — D. scolopax gilmanovi,* holotype, female, Kaltabulak, 19.07.2023; *3–4 — D. scolopax gilmanovi,* paratype, female, Kaltabulak, 19.07.2023; *5–6 — D. scolopax gilmanovi,* paratype, male, Kaltabulak, 19.07.2023; *7–9 — D. scolopax scolopax,* lectotype, male, Gumansu; *10 — D. scolopax scolopax,* paralectotype, female, Gumansu; *11–12 — D. scolopax scolopax,* males, Altyntag. Photos *1–6* — by S. K. Korb, *7–12* — by A. Yu. Matov

Рис. 1–12. *Drasteria scolopax* (Alphéraky, 1892), габитус: *1–2 — D. scolopax gilmanovi*, голотип, самка, Калтабулак, 19.07.2023; *3–4 — D. scolopax gilmanovi*, паратип, самка, Калтабулак, 19.07.2023; *5–6 — D. scolopax gilmanovi*, паратип, самец, Калтабулак, 19.07.2023; *7–9 — D. scolopax scolopax*, лектотип, самец, Гумансу; *10 — D. scolopax scolopax*, паралектотип, самка, Гумансу; *11–12 — D. scolopax scolopax*, самцы, Алтынтаг. Фотографии *1–6* — С. К. Корб; *7–12* — А. Ю. Матов

not reach costal border of the wing); large kidney-shaped spot with unclear borders; marginal band about 3 mm width with relatively smooth internal border and with protrusions between veins. Hindwing with dark-gray suffusion along the veins, especially along the discal one (there is dark discal v-shaped stroke). The darkest part of the hindwing pattern is oval black-gray spot adjacent to the middle part of the outer margin; the marginal dark gray band is not connected to the discal stroke and touches the black marginal spot. Fringes of the same color as wing background.

Male and female colorations are identical, male wing pattern is ever more unclear than in female.

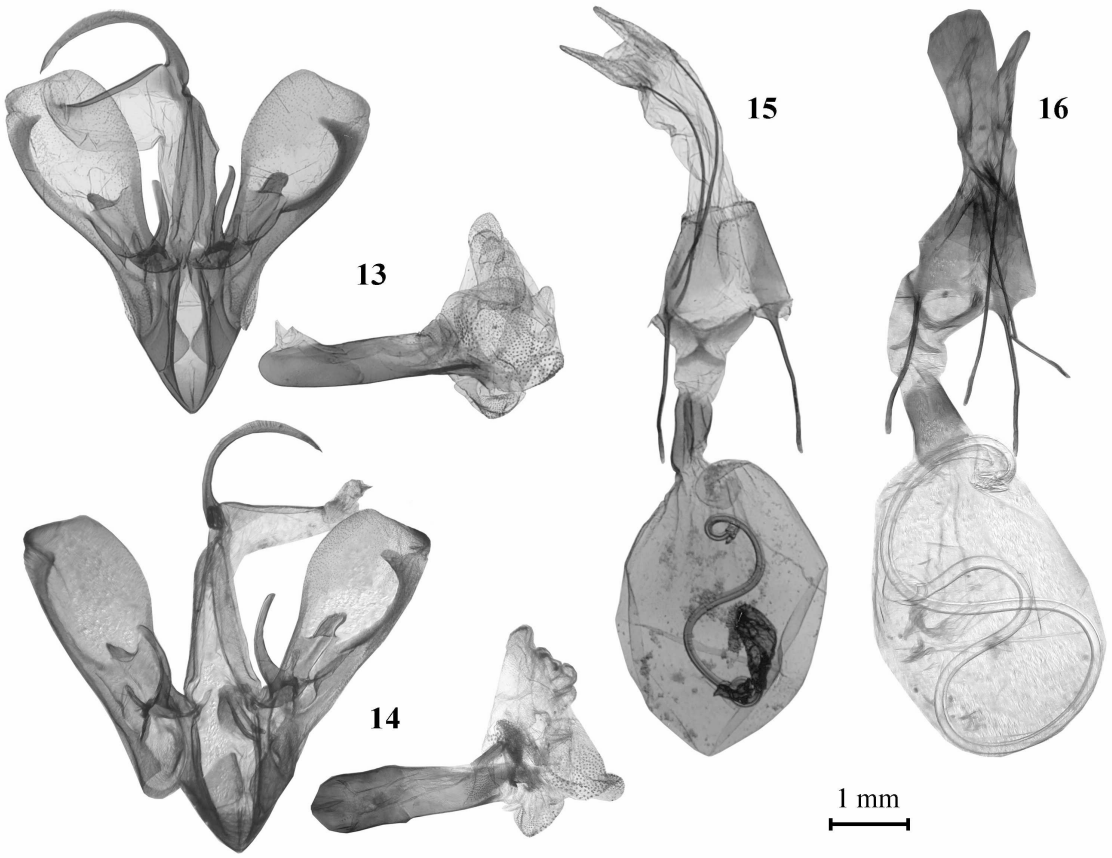
Diagnosis (Figs. 1–12). The new subspecies differs from the nominate one by its wing coloration and wing pattern. Difference in wing coloration: new subspecies looks quite

darker than the nominate one because its median and basal belts are brown (in the nominate subspecies they are light-brown or even gray). Differences in wing pattern: upper side pattern of wings in the new subspecies is unclear, spots and belts are weakly visible (in the nominate one they are clear and visible); there is no black marginal spot in the new subspecies forewing underside, which is presented in *D. scolopax scolopax*. Male and female genitalia of the new subspecies are identical to the same of the nominate one (Figs. 13–16).

Etymology. This subspecies is named after Radion Gilmanov (Ekaterinburg, Russia), a school teacher living and working in Ekaterinburg, Russian Lepidoptera collector, who participated in the trip where this taxon was discovered.

Ecology. There is no data on the habitats of *D. scolopax* in the literature. However, analyzing information on the collection sites of this species (Myn-Dyn-Sha south of Sining, Gumansu north of Sining, Blagodatny spring in the valley of the Danhe River, Tszosto and Yamata streams in the Alashan Mountains, near the Gu-man-su Monastery) in the works of P. K. Kozlov (1899; 2015) and G.E. Grumm-Grshimailo (1899), in all cases it can be distinguished that habitats are river valleys in arid treeless (or almost treeless) areas located in the middle mountains (at altitudes between 2300 and 3100 m a.s.l.).

In the Alai Region of Kyrgyzstan, we collected *D. scolopax* in two rather different, although closely located (4 km in a straight line) habitats at an altitude of about 3000 m a.s.l.



Figs. 13–16. Genitalia of *Drasteria scolopax* (Alphéraky, 1892): *13 — D. scolopax scolopax,* lectotype, male, Gumansu; *14 — D. scolopax gilmanovi,* paratype, male, Kaltabulak, 19.07.2023; *15 — D. scolopax scolopax,* paralectotype, female, Gumansu; *16 — D. scolopax gilmanovi,* holotype, female, Kaltabulak, 19.07.2023. Photos *14, 16* — by S. K. Korb, *13, 15* — by A. Yu. Matov

Рис. 13–16. Гениталии *Drasteria scolopax* (Alphéraky, 1892): *13 — D. scolopax scolopax*, лектотип, самец, Гумансу; *14 — D. scolopax gilmanovi*, паратип, самец, Калтабулак, 19.07.2023; *15 — D. scolopax scolopax*, паралектотип, самка, Гумансу; *16 — D. scolopax gilmanovi*, голотип, самка, Калтабулак, 19.07.2023. Фото: *14, 16* — С. К. Корб, *13, 15* — А. Ю. Матов

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Figs. 17–18. *Drasteria scolopax* (Alphéraky, 1892), habitats: *17* — Transalai Mts., Kaltabulak stream; *18* — Alai Mts., Koksu River valley. Photos by P. Y. Gorbunov

Рис. 17–18. *Drasteria scolopax* (Alphéraky, 1892), местообитания: *17* — Заалайский хребет, ручей Калтабулак; *18* — Алайский хребет, долина реки Коксу. Фотографии П. Ю. Горбунова

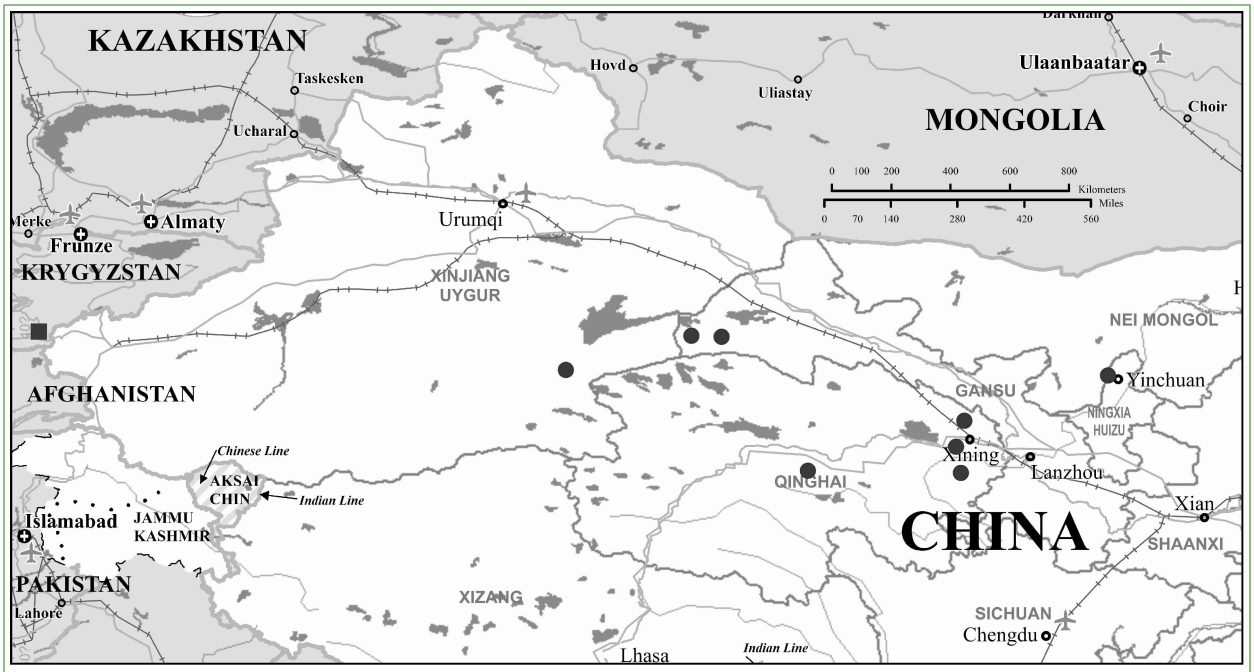

Fig. 19. *Drasteria scolopax* (Alphéraky, 1892), range. Square — new subspecies; circles — nominate subspecies

Рис. 19. *Drasteria scolopax* (Alphéraky, 1892), ареал. Квадрат — новый подвид; кружочки — номинативный подвид

We collected 14 specimens in the valley of the Kaltabulak stream, 3 km upstream of its confluence with the Kyzylsu River (sometimes called Eastern Kyzylsu, the Chinese name is Ulugchat) (Fig. 17). The depth of the narrow Kaltabutak valley here reaches 20 m. In the floodplain there are patches of meadow subalpine vegetation represented by *Ligularia heterophylla*, *Pedicularis dolichorrhiza*, *P. ludwigii*, *Stachyopsis lamiiflora*, *Swertia lactea*, *Galium verum*, *Dracocephalum integrifolium*, *Alfredia acantholepis*, *Dactylorhiza umbrosa*, *Cirsium esculentum*, etc., in combination with shrubs of *Caragana jubata*, *Lonicera microphylla*, *L. stenantha*, *Rosa* sp., *Juniperus* sp., and *Ribes meyeri*. Stony-clay rather flat slopes are covered with fragmented, but quite diverse vegetation with the presence of *Neotrinia splendens*, *Krascheninnikovia ceratoides*, *Juniperus* sp., *Ferula kokanica*, *Hedysarum cumuschtanicum*, *Zygophyllum obliquum*, *Artemisia rutifolia*, *Bassia prostrata*, *Hippolytia herderi*, *Ziziphora pamiroalaica*, *Dianthus kuschakewiczii*, *Dichodon cerastoides*, etc.

In the second habitat, in the wide valley of the Koksu River 2 km upstream of its confluence with the Kyzylsu River (Fig. 18), only 3 specimens of *D. scolopax* were collected. The light traps were located in a wide floodplain occupied by subalpine forb or sedge-forb meadows dominated by *Astragalus tibetanus*, *Carex* sp., *Ligularia heterophylla*, *Pedicularis ludwigii*, *Lomelosia alpestris*, *Dactylorhiza umbrosa*, and *Geranium collinum*, and areas with trees and shrubs dominated by *Hippophae rhamnoides*, *Salix* sp., *Myricaria squamosa*, *Rosa* sp., and *Lonicera stenantha*. Stony slopes with fragmentary xerophytic vegetation were located at a distance of about 100–200 m from the traps. *Krascheninnikovia ceratoides*, *Clematis songorica*, *Zygophyllum obliquum*, *Thymus seravschanicus*, *Ziziphora pamiroalaica*, *Chondrilla laticoronata*, *Hedysarum flavescens*, *Rhinactinidia limoniifolia*, *Angelica ternate*, etc. were recorded on these slopes.

Collecting dates of the museum specimens start from 5–10 May and end on 1 July. Correcting for the Julian calendar used in Russian Empire, we have a flight period in the Chinese part of the range from late May to mid-July. We collected *D. scolopax* on 15–19 July. Since mainly females and three severely damaged males were captured, it can be assumed that

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the flight period was coming to an end.

Distribution (Fig. 19). The new subspecies range covers south-eastern extreme of Kyrgyzstan, the so-called "Kyrghyz Kashgaria"; at present there are two closely located sites in the Alai and the Transalai Mountain Ridges (about 4 km from each other by direct line), far away (about 1400 km) from the closest known locality in China. It is very possible that its range in Kashgaria (not only Kyrgyz but also Chinese) is much wider, as there are no light trappings conducted in this area in the right time.

Discussion

Based on the number of *D. scolopax* collected, it can be concluded that the habitat with closely located slopes and rich xerophytic vegetation (Kaltabulak stream) is more suitable for this species. Further, it can be assumed that according to its ecological preferences, *D. scolopax* is a mountain-steppe xerophylic taxon, moreover, located in this area of the Pamir-Alai at the upper limit of its vertical distribution (this is also evidenced by the late flight dates in comparison with the Nan Shan and the Alashan specimens), and, consequently, at the western limit of its range. It cannot cross the higher parts of the Alai Valley or the mountains of the Eastern Pamirs to go further west. Another reason for the limited distribution of the species in Kyrgyzstan may be the local distribution of its host plants, which can be, for example, *Hedysarum* spp. or *Zygophyllum* ssp. known for some other species of the genus *Drasteria* and presented in both habitats.

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