

New data on Anomologini from Palaeartic Asia (Gelechiidae)

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Abstract. Two new genera of Gelechiidae, *Spiniphallellus* gen. n. and *Spiniductellus* gen. n., are described from mountain and desert areas of Palaeartic Asia. The new genera are placed in the Anomologini, and they are compared with relevant genera of that tribe. *Spiniphallellus* gen. n. includes three species: *S. desertus* sp. n. (Uzbekistan, Turkmenistan, Kazakhstan), *S. stonisi* sp. n. (Kazakhstan) and *S. fuscescens* (Turkey), and *Spiniductellus* gen. n. includes two species: *S. atraphaxi* sp. n. (Tadzhikistan) and *S. flavonigrum* sp. n. (Kazakhstan). The host plant is known only for *S. atraphaxi* sp. n., which was bred from *Atraphaxis pyrifolia* Bunke (Polygonaceae). The higher classification of the Gelechiidae, and especially the Anomologini is briefly reviewed. Arguments for describing these new taxa outside of a larger taxonomic framework are given, and we discuss why we describe new genera for the species instead of placing them in existing ones.

Zusammenfassung. Zwei neue Gattungen der Gelechiidae, *Spiniphallellus* gen. n. und *Spiniductellus* gen. n. werden aus Gebirgen und Wüsten des paläarktischen Asiens beschrieben. Die neuen Gattungen werden den Anomologini zugeordnet und mit den relevanten Gattungen dieser Tribus verglichen. *Spiniphallellus* gen. n. enthält drei Arten: *S. desertus* sp. n. (Usbekistan, Turkmenistan, Kasachstan), *S. stonisi* sp. n. (Kasachstan) und *S. fuscescens* (Türkei) und *Spiniductellus* gen. n. enthält zwei Arten: *S. atraphaxi* sp. n. (Tadschikistan) und *S. flavonigrum* sp. n. (Kasachstan). Die Nahrungspflanze der Larven ist nur von *S. atraphaxi* sp. n. bekannt, welche von *Atraphaxis pyrifolia* Bunke (Polygonaceae) gezüchtet wurde. Es wird ein kurzer Überblick über die Klassifikation der Gelechiidae und besonders der Anomologini und Argumente für die Beschreibung der neuen Taxa außerhalb einer größeren Revision gegeben und diskutiert, warum wir für die Arten neue Gattungen beschreiben, anstatt sie vorhandenen zuzuordnen.

Introduction

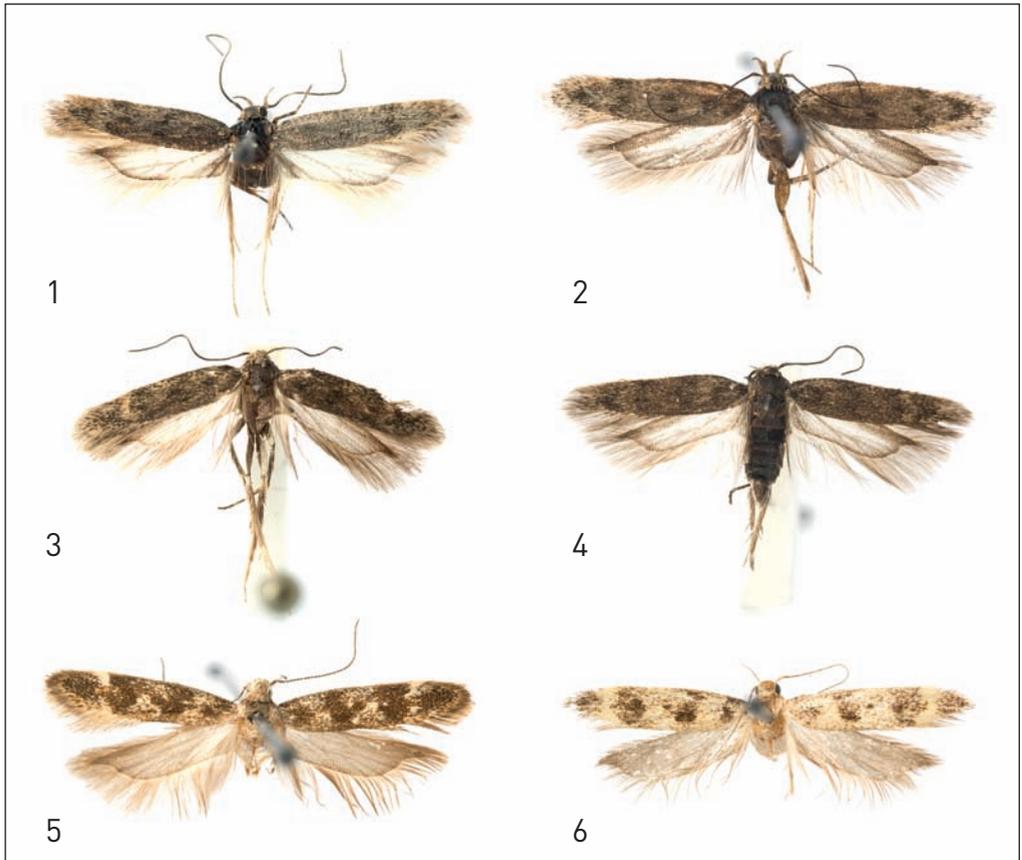
With more than 500 described genera and at least 4500 described and numerous undescribed species (Hodges 1998: 147) the Gelechiidae is the third largest family of Microlepidoptera. It is moreover one of the least known families. They have not been catalogued since Gaede (1937), and check lists have still not been published for all major zoogeographical regions.

Hodges (1986: 6–7) divided the Gelechiidae into three subfamilies, Gelechiinae, Dichomeridinae and Pexicopiinae, later adding the Physoptilinae (Hodges 1998: 147). Among these the Gelechiinae are again divided into a number of tribes, depending on authors. In an alternative classification Ponomarenko (2006: 377) argues for separating the Gelechiidae into five subfamilies: Physoptilinae, Anomologinae, Gelechiinae, Anacampsinae and Dichomeridinae. The new system of Gelechiidae proposed by Ponomarenko is based mainly on the study of the musculature of the male genitalia and, undoubtedly, is a very important step towards improving the system of Gelechiidae in general. At the generic and specific level very few global and relatively few regional revisions exist. This is especially the case for the Anomologini s. lat. There is no phylogenetic analysis at generic level, resulting in a more or less random classification. According to Ponomarenko's system the subfamily Anomologinae comprises four tribes: Anomologini, Apatetrini, Aristoteliini and Pexicopiini based on such apomor-

phies as dilated anterolateral parts of tegumen and valve fused with tegumen. Within this subfamily the clade Anomologini + Apatetrini is characterized by reduced gnathos and uncus. The tribe Anomologini is characterized by the synapomorphy of muscles m1 divided into two parts (m1a and m1b) and can be separated from the Apatetrini by having phallus sac-shaped and dilated throughout its length (Ponomarenko 2005: 64, 89; 2006: 377). In spite of using a new approach to the classification of Gelechiidae the above mentioned new definition of the Anomologinae leaves some unresolved problems. First of all, it is difficult to agree with including Pexicopiinae in Anomologinae: the former is characterized by many unique genitalic and external characters. Furthermore, the association of *Gladiovalva* Sattler, 1960; *Bryotropha* Heinemann, 1870; *Ornatiovalva* Gozmány, 1955; *Curvisignella* Janse, 1951; *Ivanauskiella* Ivinskis & Piskunov, 1980; *Filisignella* Janse, 1951 and some other genera with the Aristoteliini (Ponomarenko 2005: 72) seems very unusual. It is clear that the system of Anomologini s. lat., as well as Gelechiidae as a whole, should be considerably improved, based on world-wide detailed evaluation of characters of a much larger number of taxa, first of all at generic level. In this connection it is important to note that the Anomologini s. lat. is perhaps the most diverse tribe within the Gelechiidae, with many undescribed taxa even in Europe, and it is unlikely that this tribe can be revised within the foreseeable future. There is, however, a need for describing the diversity also of this group of Microlepidoptera. Below we describe two small groups of moths belonging here, representing five undescribed species from Central Asia and Turkey, which we place into two new genera. All these species share such 'traditional' characters of the Anomologini as reduced gnathos, relatively short valva closely connected to tegumen, short tegumen and well developed transtilla lobe (Piskunov 1975: 857; Povolný 1979: 44). Without a phylogenetic framework it is of course not possible to place these taxa in a correct position within the (non-existing) classification of the Anomologini. We are moreover aware of the increased risk for creating synonyms when describing new taxa in an unrevised group of moths. However, we find it important to describe and name the diversity of moths especially when, as in this case, these represent combinations of characters which are unusual in the Gelechiidae. By describing and illustrating such taxa we share our knowledge with the lepidopterist community, thereby making them known and available for future research. We also considered placing the new species in existing genera like *Gladiovalva* Sattler, 1960 and *Monochroa* Heinemann, 1870, respectively, to which the genera described below are related. There is a long tradition among gelechiid taxonomists of describing new species in 'well known' genera like *Telphusa* Chambers, 1872, *Gelechia* Hübner, 1825 or *Lita* Treitschke, 1833, where the unique characters of such species, however, become hidden among the numerous other species in these genera.

The studied material came from the following institutions:

- ZIN Zoological Institute, Academy of Sciences, St. Petersburg, Russia
- ZMUC Zoological Museum, Natural History Museum, University of Copenhagen, Denmark
- ZMUH Zoological Museum, University of Helsinki, Finland
- ZMKU Zoological Museum, University of Kiev, Ukraine



Figs 1–6. Adults of *Spiniphallellus* and *Spiniductellus* species (all except fig. 4 are holotypes). **1.** *Spiniphallellus desertus* sp. n. ♂, Uzbekistan. **2.** *Spiniphallellus stonisi* sp. n. ♂, Kazakhstan. **3–4.** *Spiniphallellus fuscescens* sp. n. ♂, Turkey. **5.** *Spiniductellus atraphaxi* sp. n. ♂, Tadjikistan. **6.** *Spiniductellus flavonigrum* sp. n. ♂, Kazakhstan.

RESULTS

Spiniphallellus gen. n.

Type species: *Spiniphallellus desertus* sp. n.

Diagnosis. Adult (Figs 1–4). Wingspan 14–18 mm. Labial palp with furrowed brush on underside of segment 2; segment 3 of same length as segment 2. Both wing pairs relatively short and broad. Hindwing with moderately pointed apex; central part white. Legs with black femur and lighter tibia and tarsus.

Male genitalia (Figs 7–9). Segment VIII posterior-laterally separated into sternum and tergum; sternum sub-rectangular to almost quadrangular, with more or less developed anterior emargination; tergum broadly tongue-shaped, anteriorly emarginated. Tegumen broader than long, anterior margin with strongly developed broad emargination, lateral flaps broad, sub-triangular, in *S. stonisi* a pair of dagger-shaped processes

medially in tegumen; uncus sub-oval or arrow-shaped sclerotized, mainly at margins; gnathos absent; valva broad, sub-triangular or prolonged, covered mainly distally and laterally with short strong or long hair-like setae; transtilla lobe small, digitate, large and rounded, or reduced; vinculum broad, posterior margin with deep triangular medial emargination; saccus short, rectangular or broadly rounded distally; phallus short, stout, medially with distinct lateral thorn, basal half flattened, distal part gradually narrowed, apex pointed.

Female genitalia (Figs 14–17). Segment VIII simple, sternum VIII with or without medial incision, almost entirely or partially sclerotized; papilla analis prolonged, sparsely covered with setae. Apophyses anteriores rod-like, slightly or distinctly longer than segment VIII. Antrum funnel-shaped or rounded, opened on anterior margin of sternite VIII; ductus bursae long and slender without sclerotized colliculum; corpus bursae sub-oval; signum a sub-oval plate with more or less serrated margins.

Distribution. Turkey and Central Asia: Kazakhstan, Uzbekistan, Turkmenistan.

Life history. Early stages and host plant unknown.

Remarks. All examined specimens are more or less greasy. This is especially characteristic for species whose larvae are internal feeders in roots, stems or fruits.

The genitalia of the new genus can be associated with a group of genera related to *Monochroa* Heinemann, 1870, namely *Eulamprotes* Bradley, 1971, *Metzneria* Zeller, 1839, *Ptocheuusa* Heinemann, 1870 and *Isophrictis* Meyrick, 1917, all having short valvae covered with setae and a transtilla lobe. The new genus differs from them in having phallus without cornuti and a well developed uncus in the male genitalia. The phallus of *Spiniphallellus* is moreover without a ‘window’, a character which according to Sattler (1979: 269) is characteristic of *Deltophora* Janse, 1950, *Eulamprotes* and *Monochroa*.

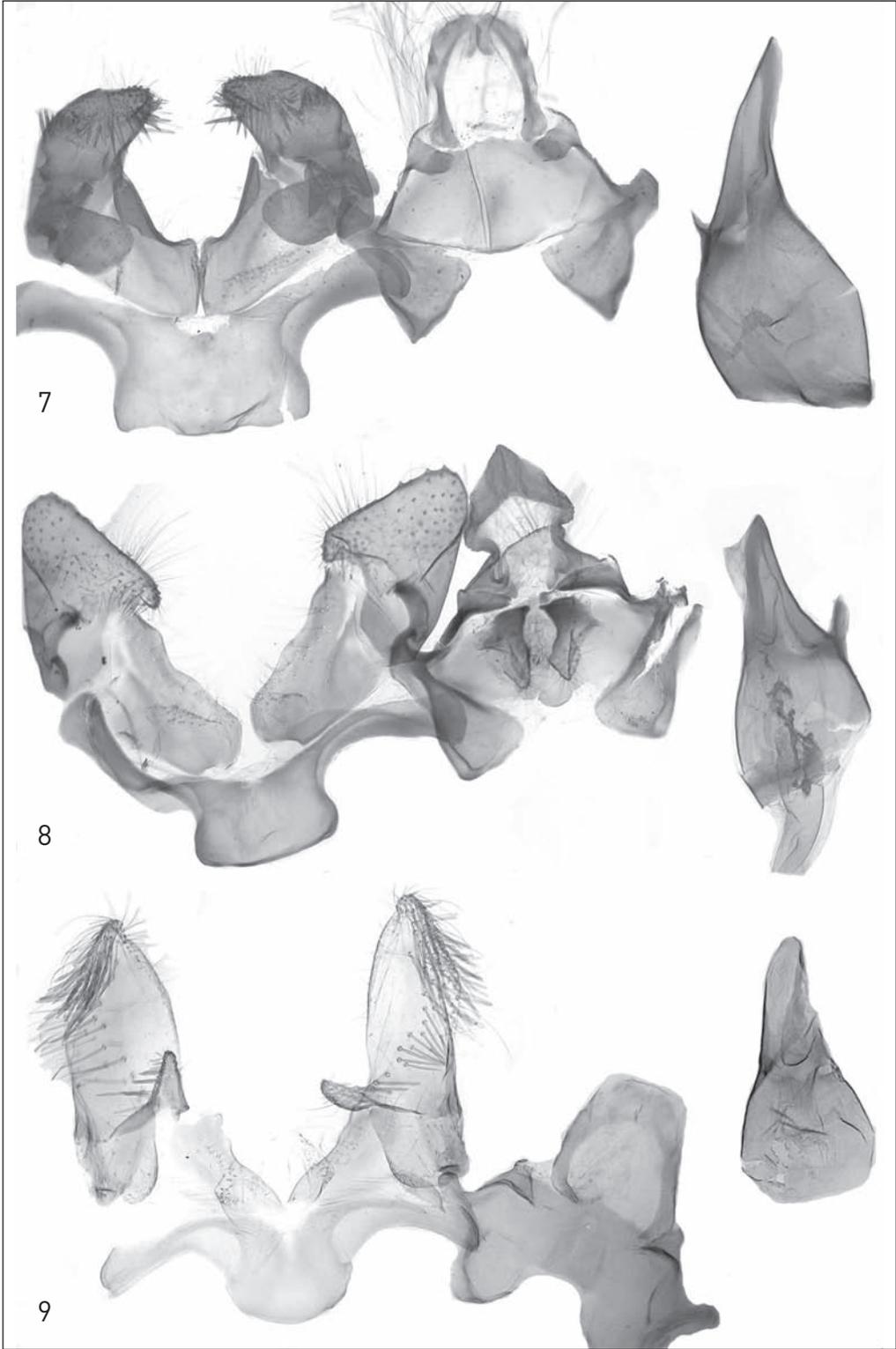
Etymology. The new genus is named after its spinned phallus (Latin: *spinae* – spine).

Spiniphallellus desertus sp. n.

Material. Holotype: ♂, **Uzbekistan** ‘Ajakguzhumdy 40 km O | Dzging. [ildy] Kyzylkum | Zabello 16 v [1]965’ ‘gen. prep. 60/06 ♂’ [in Russian]’ (ZIN). – Paratypes: ♀, ‘Ajakguzhumdy 40 km O | Dzgingildy Uzbek.[istan] | Falkovitsh 3 vi [1]966’ ‘gen. prep. 520/07 ♀’ [in Russian]’; ♀, ‘Ajakguzhumdy 40 km O | Dzging.[ildy] Kyzylkum | Pastuhov 23 v [1]965’; ♀, ‘Ajakguzhumdy 40 km O | Dzgingildy Kyzylkum | Pastuhov 26 v [1]965’ [in Russian]; ♂, ‘Ajakguzhumdy 40 km O | Dzging.[ildy] Kyzylkum | Falkovitsh 17 v [1]965’; ♂, ‘Ajakguzhumdy 40 km O | Dzgingildy Uzbek.[istan] | Falkovitsh 3 vi [1]966’ [in Russian]; ♂, ‘Kyzylkum, Uzbek.[istan] | Zhamansai | Falkovitsh 25 v [1]966’ [in Russian] (ZIN); ♀, [**Turkmenistan**] ‘Turkm.[enskaya] SSR, Badkhyz | kord.[on] Kyzylzhar | na svet | 30 v [19]81 V. Pechen’ ‘gen. prep. 60/06 ♀’ [in Russian] (ZMKU); ♀, ‘**Kazakhstan** | okr.[estnosti] g.[oroda] Aralsk | 11.06.2000 | Ö. Pak leg’ ‘gen. prep. 525/07 ♀’ [in Russian] (ZMKU).

Diagnosis. Adult (Fig. 1). Wingspan 16–18 mm. Labial palp cream-white, somewhat mottled with brown; tip of segment 3 blackish brown. Antenna black, ringed with light grey. Head and tegula blackish brown mottled with grey-brown; thorax almost black. Forewing blackish brown with a faint cover of light grey, especially at costal and apical part; black stigmata in middle of wing hardly visible; light grey-brown scales in fold;

Figs 7–9. Male genitalia of *Spiniphallellus* species. **7.** *S. desertus* sp. n., holotype (gen. prep. 60/06), Uzbekistan. **8.** *S. stonisi* sp. n., holotype (gen. prep. 63/06), Kazakhstan. **9.** *S. fuscescens* sp. n., holotype (gen. prep. 2977), Turkey.



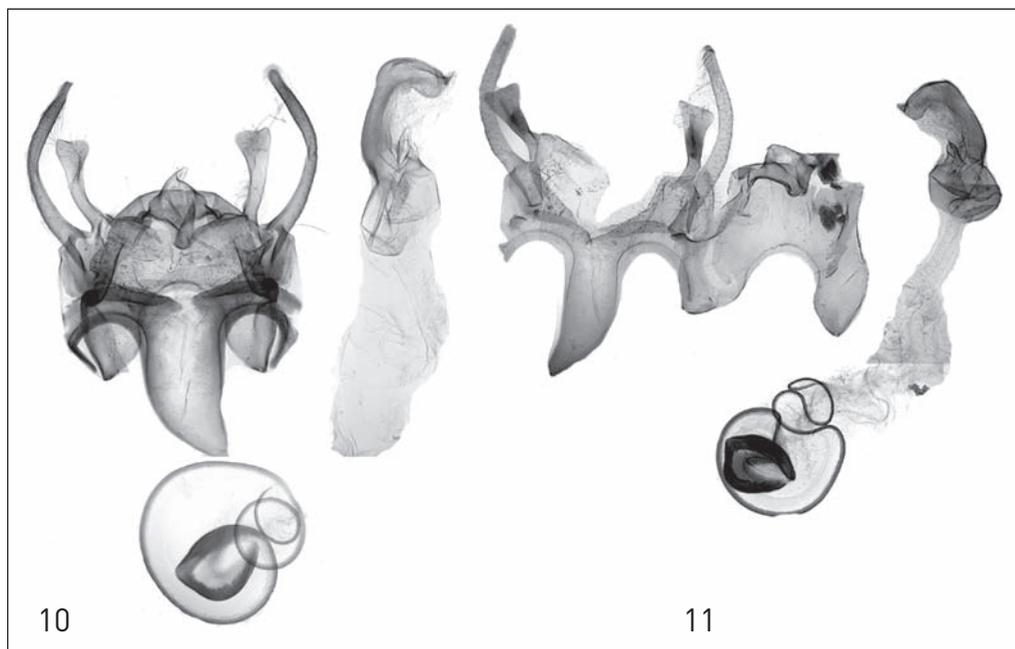
basal half of cilia blackish, apical half light grey. Hindwing white with black margins and veins. The white hindwings having only the margins and veins darker is characteristic for this species.

Male genitalia (Fig. 7). Sternite VIII sub-rectangular, with broad sub-triangular anterior emargination, posterior margin broadly rounded; tergite broadly tongue-shaped, anterior margin distinctly broad emarginated. Posterior margin of tegumen laterally with two small flaps; uncus sub-oval, sclerotized only at margins and with two short, inwardly bent digitate processes at posterior end; valva shorter than tegumen, triangular, curved inwards, with apex narrowed and covered with strong short setae; transtilla lobe broad, rounded; posterior margin of vinculum with broad, suboval medial emargination; saccus short and broad, rectangular; phallus medially with distinct lateral thorn, basal half flattened, distal part relatively slender, tapered apically.

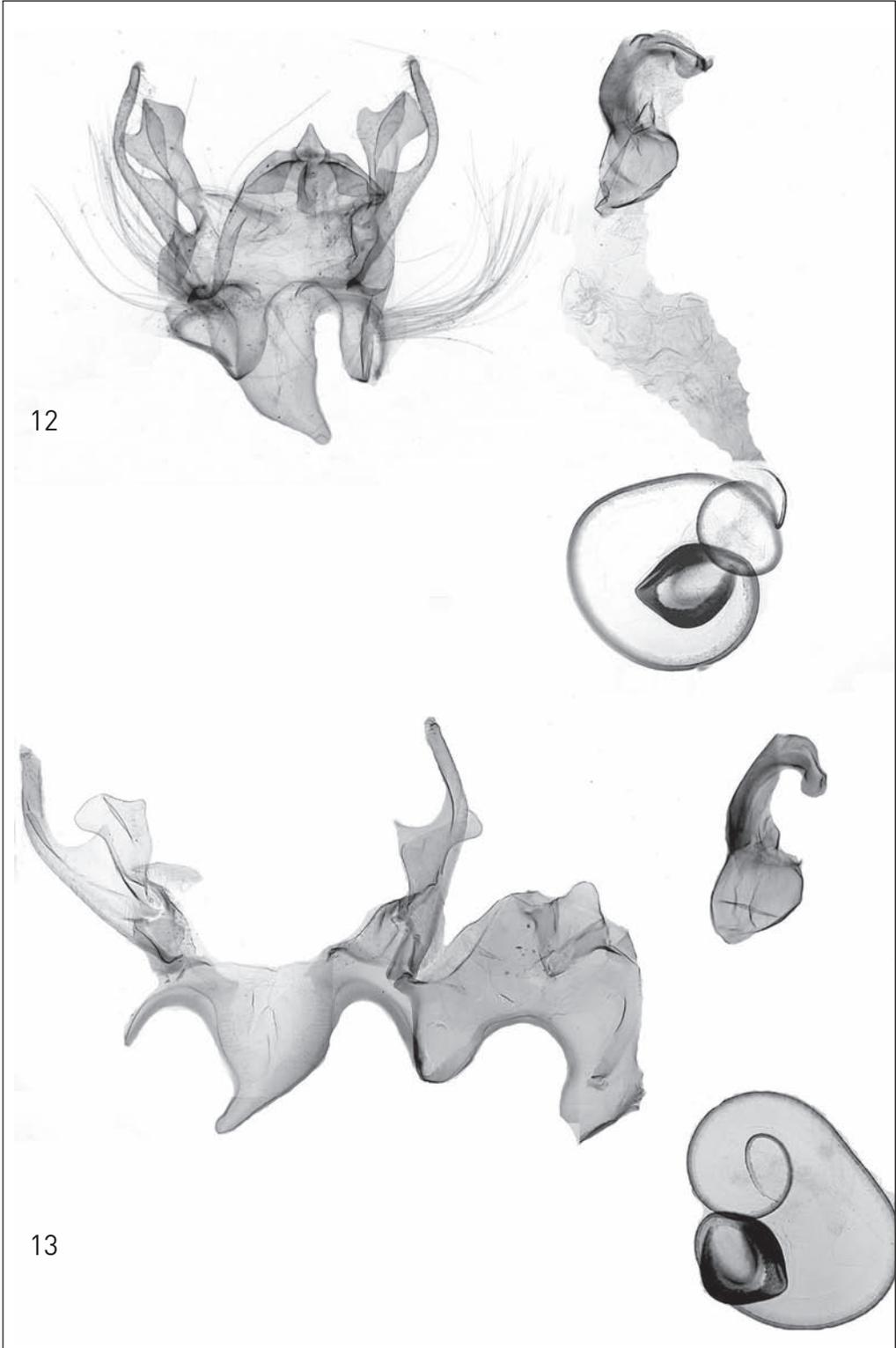
The species differs from *S. fuscescens* in the distally curved valva and the broad, rounded transtilla lobe; from *S. stonisi* it differs in the shape of the uncus.

Female genitalia (Figs 14–16). Segment VIII broader than long, with broad triangular anterior emargination. Apophyses anteriores straight, about 4 times shorter than apophyses posteriores and distinctly longer than segment VIII. Sternum VIII not divided, with paired sclerotized diffuse lateral patches at base of apophyses anteriores; anterior margin of sternum VIII oblique, strongly sclerotized; periostial lobes small, prolonged; antrum funnel-shaped weakly sclerotized; ductus bursae long and slender; corpus bursae sub-oval; signum a sub-oval plate with serrated margins.

For separation from *S. fuscescens* see under that species.



Figs 10–13. Male genitalia of *Spiniductellus* species. **10.** *S. atraphaxi* sp. n., holotype (gen. prep. 142/07). **11.** *S. atraphaxi* sp. n., paratype (gen. prep. 66/06), Tadzjikistan. **12.** *S. flavonigrum* sp. n., holotype (gen. prep. 143/07), Kazakhstan. **13.** *S. flavonigrum* sp. n., paratype (gen. prep. 5359), Kyrgyzstan.



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Variation. There is some variation in the shape of antrum in specimens from different localities.

Distribution. Uzbekistan, Turkmenistan, S Kazakhstan.

Life history. Early stages and host plant unknown. It is possible that the larvae are internal feeders. Adults fly from mid-May to mid-June.

Etymology. The specific name refers to the species distribution in desert areas (Latin: *deserta* – desert).

Spiniphallellus stonisi sp. n.

Material. Holotype: ♂, **SE Kazakhstan** ‘Tian Shan, 90 km E | Tschimkent, H = 1300m | Aksu Dzhabagly | 8.8.87 R. Puplesis’ gen. prep. 63/06 ♂ (ZIN).

Diagnosis. Adult (Fig. 2). Wingspan 17 mm. Segment 2 of labial palp cream-white mottled with light brown; segment 3 blackish brown, darkest at tip. Antenna black. Head and tegula blackish brown mottled with grey-brown; thorax almost black. Forewing covered with light grey, dark grey-tipped scales and mottled with blackish brown; black stigmata in fold and at 1/3 and 2/3 in middle of wing, with second plical directly below first discal; faint, black costal and tornal spots followed by light scales; cilia grey with black cilia line. Hindwing grey, with central part white.

This species can be separated from *S. desertus* by its darker hindwings, and from *S. fuscescens* by its slightly larger size and the more distinct black stigmata in the forewings.

Male genitalia (Fig. 8). Segment VIII as in *S. desertus*. Posterior margin of tegumen sparsely covered with long hair-like setae, laterally with two elongate flaps; medially in tegumen paired, dagger-shaped processes; uncus arrow-shaped; valva broad, triangular, with distinct cucullus, covered with short setae; transtilla lobe reduced; vinculum broad, posterior margin with deep triangular medial emargination; saccus short, rectangular; phallus with distinct medial thorn, distal part relatively broad, gradually tapered distally.

S. stonisi differs from its congeners by the arrow-shaped uncus, triangular valva and reduced sacculus.

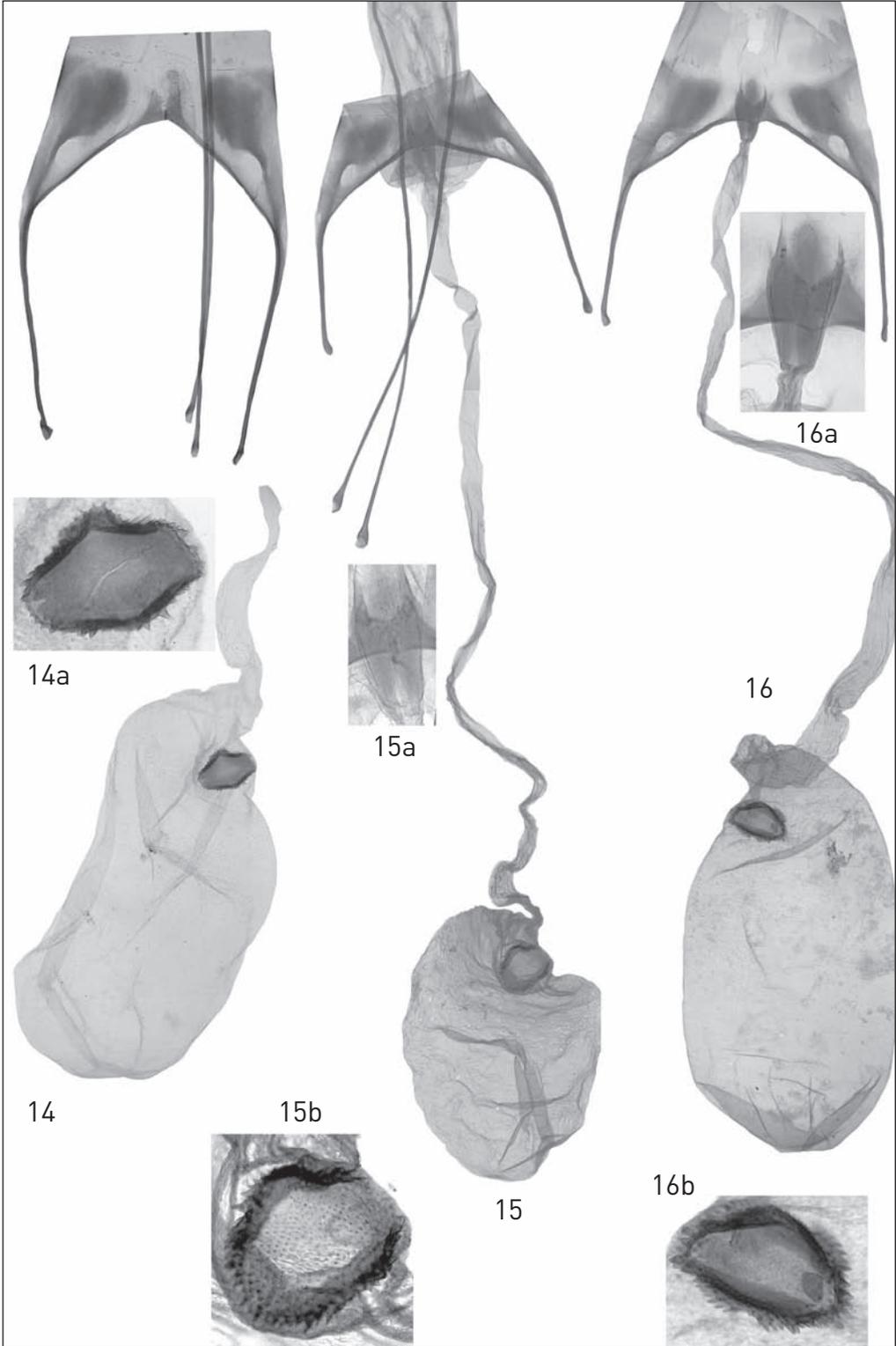
Female. Unknown.

Distribution. Only known from the type locality in the mountains of SE Kazakhstan.

Life history. Early stages and host plant unknown. The holotype has been collected in early August at an altitude of 1300 m.

Etymology. The new species is named after prof. Jonas Rimantas Stonis (formerly Puplesis) of the Vilnius Pedagogical University, Lithuania who collected the holotype.

Figs 14–16. Female genitalia of *Spiniphallellus desertus*. **14.** Paratype (gen. prep. 60/06), Turkmenistan, a: signum (enlarged). **15.** Paratype (gen. prep. 520/07), Uzbekistan, a: antrum (enlarged); b: signum (enlarged). **16.** Paratype (gen. prep. 525/07), Kazakhstan, a: antrum (enlarged); b: signum (enlarged).



***Spiniphallellus fuscescens* sp. n.**

Material. Holotype: ♂, 'Turkey, Agri | 45km W Kagizman | 1450 m, 24.vii.1989 | leg. Fibiger & Esser' 'Gen. prep. | No 2977♂ | H. Hendriksen' (ZMUC). – Paratypes: 1♂, 1♀, Gümüşhane, Pirnakapan, 1800 m, 19.vii.1989, M. Fibiger & N. Esser leg., gen. prep. 6226♀, H. Hendriksen (ZMUC); 1♂, 1♀, Erzurum, 14.vi.2001, H. Ozbek (ZMKU, ZMUC).

Diagnosis. Adult (Figs 3–4). Wingspan 14–15 mm. Labial palp cream-white, more or less mottled with fuscous brown; segment 3 blackish brown. Antenna black, indistinctly lighter ringed. Head and tegula blackish brown, more or less overlaid with light grey-brown; thorax almost black. Forewing covered with light grey, blackish-tipped scales and mottled with brown; black stigmata in middle of wing indistinct; light brown scales in fold and as a faint, oblique fascia at 3/4; basal half of cilia blackish, apical half grey. Hindwing grey, with central part whitish grey.

Variation. The colour of the forewing may look blackish or brownish depending on the amount of light brown scales.

For separation from *S. desertus* and *S. stonisi* see under these.

Male genitalia (Fig. 9). Sternite VIII almost quadrangular with moderately slight anterior emargination; posterior margin of tegumen laterally with two small flaps; uncus sub-oval, sclerotized only at margins; valva elongate, covered mainly distally with long hair-like setae, apically weakly curved inwards; transtilla lobe small, digitate; posterior margin of vinculum with deep triangular medial emargination; saccus short, distally broadly rounded; phallus short, with middle lateral thorn, basal half flattened, distal part gradually narrowed apically.

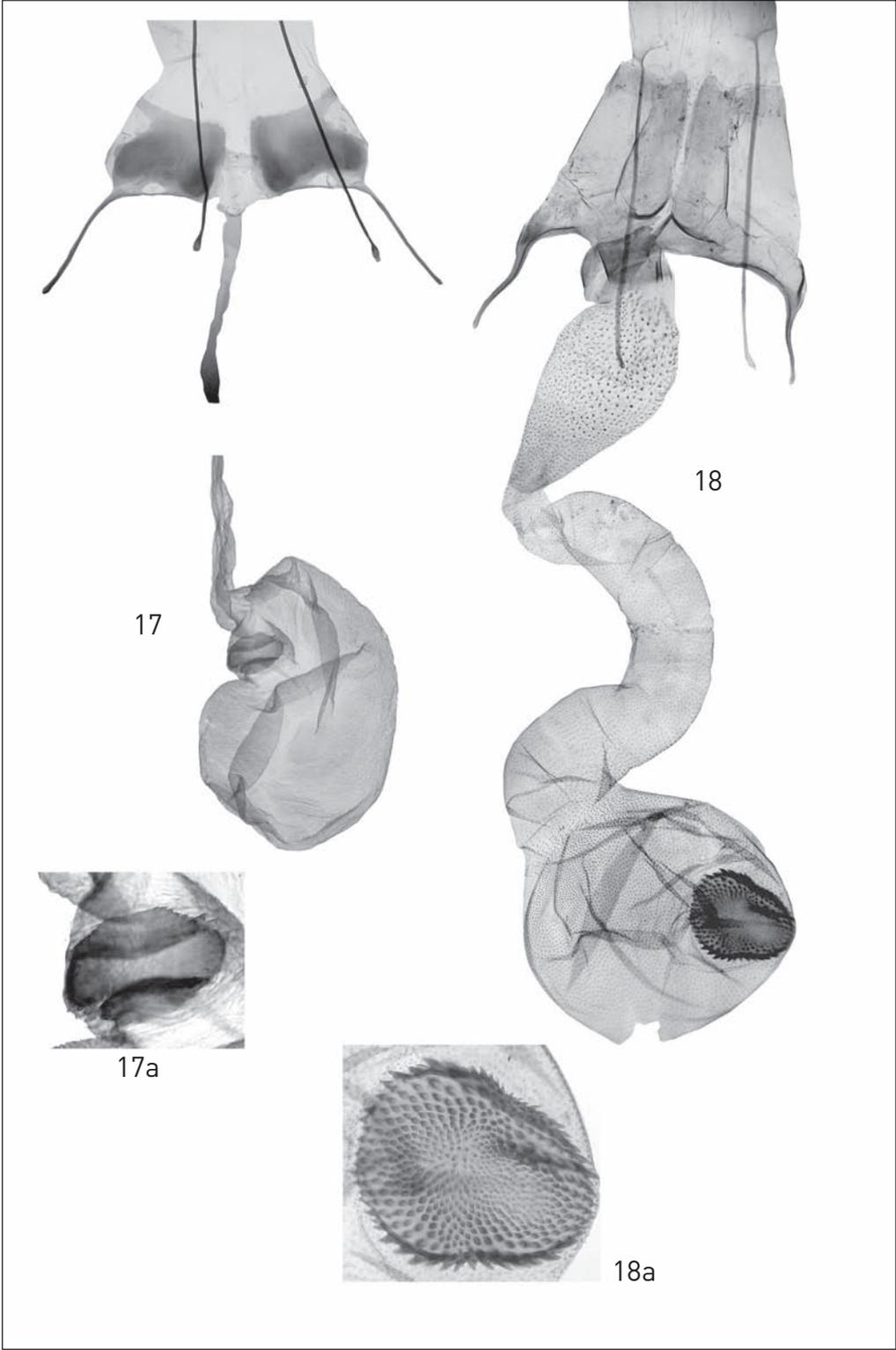
The species is well recognizable by the elongate valva and the digitate transtilla lobe.

Female genitalia (Fig. 17). Segment VIII narrowly sclerotized dorsally and almost entirely sclerotized ventrally, about half as long as broad. Apophyses anteriores straight, about 3.5 times shorter than apophyses posteriors and about 1.5 times longer than segment VIII. Sternite VIII divided by medial incision gradually broadened anteriorly into two sub-quadrangular plates; antrum weakly sclerotized, rounded; ductus bursae long and slender; corpus bursae sub-oval; signum a sub-oval plate with weakly serrate margins. Differs from *S. desertus* in the shorter and more entirely sclerotized segment VIII without anterior emargination and in the rounded rather than funnel-shaped antrum.

Distribution. Known from three provinces in NE Turkey.

Life history. Early stages and host plant unknown. Adults have been collected from middle of June to last part of July at altitudes between 1450 and 1800 m. They are attracted to light.

Etymology. The new species is named after uniformly dark brown forewing (Latin: *fuscus* – dark).



***Spiniductellus* gen. n.**

Type species: *Spiniductellus atraphaxi* sp. n.

Diagnosis. Adult (Figs 5–6). Wingspan 15–16 mm. Labial palp falciform; segment 2 smoothly scaled on lower surface; segment 3 longer than segment 2.

Male genitalia (Figs 10–13). Segment VIII laterally separated into sub-rectangular tergite and distally rounded sternite. Tegumen broad and short, length exceeds width about 1.5 times, anterior margin deeply sub-oval emarginated, lateral flaps prolonged, weakly pointed; uncus small, triangular; gnathos triangular, consisting of paired weakly sclerotized and apically connected sclerites; valva exceeds uncus considerably, slender, weakly curved, of equal width or with strongly developed basal process; sacculus about three-quarters or two-thirds length of valva, basally slender, strongly expanded in apical half, top bone-shaped, with or without additional medial flap; vinculum broad; saccus well developed, asymmetrical, sub-triangular or prolonged, subapical portion narrow; coremata present in at least one species; phallus stout, flattened basally, strongly curved in distal quarter, top weakly broadened, rounded with small curved tip, ductus ejaculatorius with long, coiled, strongly sclerotized lamina.

Female genitalia (Fig. 18). Segment VIII simple, weakly sclerotized; papilla analis prolonged, sparsely covered with setae. Apophyses anteriores weakly curved, about 3.5 times shorter than apophyses posteriores and about 2.5 times shorter than segment VIII. Sternite VIII weakly sclerotized, sub-trapezoid, length slightly exceeds width, posterior margin with deep narrow medial incision towards anterior margin, peristomal lobes prolonged with distinctly sclerotized anterior margin; antrum a well sclerotized quadrangular belt, ductus bursae relatively broad, posterior part abundantly spined, anterior part of ductus bursae and corpus bursae with minute spines; corpus bursae round, signum a sub-rounded plate densely covered with small thorns.

Distribution. Central Asia: SE Kazakhstan, Kyrgyzstan, Tadzhikistan.

Life history. Early stages undescribed. *S. atraphaxi* has been bred from *Atraphaxis pyrifolia* Bunke (Polygonaceae). Adults have been collected in July and August at altitudes between 950 and 2500 m.

Remarks. The new genus takes a rather isolated position within Anomologini, differing from most other genera in the abundantly spined posterior part of the ductus bursae, the signum plate being densely covered with small thorns, the well developed, bone-shaped sacculus and the apically strongly curved phallus. Only the genus *Gladiovalva* shares such characters as a weakly asymmetrical saccus, short and weakly developed gnathos and ductus ejaculatorius with long, coiled, strongly sclerotized lamina in the male genitalia, as well as sub-rounded serrated signum and posteriorly sclerotized ductus bursae in the female genitalia. *Spiniductellus* differs from *Gladiovalva* in the long, well developed sacculus, presence of triangular gnathos, stout and distally strongly curved aedaeus in the male genitalia; the female genitalia of *Spiniductellus* differ from those of *Gladiovalva* in the minutely spined posterior part of ductus bursae. The presumed relationship of these two genera may be indirectly confirmed by their (known) host-plants belonging to the Polygonaceae. *Atraphaxis spinosa* is known as a host plant also for *Gladiovalva igorella* Falkovitsh & Bidzilya, 2003.

Etymology. The new genus is named after its spined ductus bursae (Latin: *spinae* – spine).

Spiniductellus atraphaxi sp. n.

Material. Holotype: ♂, 'Tadzh. [ikistan] Gissarsk. [iy] chr. [ebet] | ushch. [elie] Kondara 1300 | Shernijazova' 'vyv. [odka] No. | G[usenitza] 3.5 K[ukolka] 12.5 V[ylet] 6.6 [1]971 | Atraphaxis pyrifolia [in Russian]' 'gen. prep. 142/07 ♂' (ZIN). – Paratypes. ♂, 'Kondara | 17.07. [19]76 | Lvovsky' 'gen. prep. 66/06 ♂' (ZIN).

Diagnosis. Adult (Fig. 5). Wingspan 15–16 mm. Segment 2 of labial palp cream-coloured mottled with dark brown, especially on lower and outer surface; segment 3 blackish brown with yellow tip. Antenna black, ringed with yellow-grey. Head cream-coloured mottled with light grey-brown; thorax and tegula concolorous with forewing. Forewing cream-coloured, overlaid with dark brown, especially at base, as two broad fasciae at 1/3 and 2/3 and in apical part; two blackish brown patches in middle of wing between the two broad fasciae; costal and tornal spots cream-yellow, more or less fused; cilia grey with black base and light tip. Hindwing grey with light grey cilia. Hindleg almost unicolorous cream-white.

Worn specimens lose the dark brown scales and hence become more or less cream-coloured with some dark brown patches.

Male genitalia (Figs 10–11). As under genus description. Valva slender, weakly curved, of equal width; sacculus about two-thirds length of valva, bone-shaped, without additional medial flap; saccus prolonged, subapical portion narrow.

Differs from *S. flavonigrum* in the slender valva being of equal width, and the apically narrower sacculus.

Female. Unknown.

Distribution. Tadzhikistan.

Life history. Early stages undescribed. The holotype was bred from *Atraphaxis pyrifolia* Bunke (Polygonaceae) at 1300 m altitude; according to the label information the larva was found 3.05, pupation took place 12.05, and adults emerged 6.06.1971. The paratype was collected in mid-July.

Etymology. The new species is named after the host plant of its larva.

Spiniductellus flavonigrum sp. n.

Material. Holotype: ♂, 'Yu [zhnyi] **Kazakhstan** | z. [apovednik] Aksu-Dzhabagl [y] | Seksjaeva 7.8.1987 [in Russian]' 'gen. prep. 143/07 ♂' (ZIN). – Paratype: 1♀, 43°24'N 75°02'E, Dzhambulskaya obl., 70 km NNE Frunze, 950 m, rocky slope, 15.viii.1990, L. Kaila & K. Mikkola leg., gen. prep. 5360♀, H. Hendriksen (ZMUH); 1♂, 41°25'N 76°20'E, 30 km E Naryn, 2500 m, steppe slope, 29.vii.1990, L. Kaila & K. Mikkola leg., gen. prep. 5359♂, H. Hendriksen (ZMUH).

Diagnosis. Adult (Figs 6). Wingspan 15–16 mm. Labial palp cream-coloured mottled with some dark brown scales, especially on lower and outer surface of segment 2 and on basal ¾ of segment 3. Antenna blackish brown, ringed with yellowish. Head cream-coloured; thorax and tegula concolorous with forewing. Forewing cream-coloured, mottled with dark brown; base, apical area and two broad fascia at 1/3 and 2/3 dark

brown; a distinct black spot in middle of wing posterior to fascia at 1/3; a cream-yellow fascia posterior to fascia at 2/3; cilia dark grey. Hindwing grey with light grey cilia. Worn specimens lose the dark brown scales and hence become more or less cream-coloured with some dark brown patches.

This species is very similar to *S. atraphaxi*. From the limited material available it seems to differ in being somewhat lighter from less dark brown scales.

Male genitalia (Figs 12–13). As under genus description. Basal half of valva with broad medial triangular flap, distal part narrow, curved, rounded apically; sacculus bone-shaped, about three-quarters length of valvae, with more or less expressed emargination in apical part; saccus well developed, sub-triangular; coremata present.

Variation. The studied specimens differ slightly in the length of distal narrow portion of valva, width and shape of the top of sacculus as well as in its medial flap, which is well developed in the specimen from Kazakhstan and almost completely reduced in the one from Kyrgyzstan. Moreover both specimens vary in the shape of saccus, which is broad sub-triangular or prolonged. We believe that the latter variation is due to mounting technique.

Female genitalia (Fig. 18). See genus description.

Distribution. SE Kazakhstan, Kyrgyzstan.

Life history. Early stages and host plant unknown. Adults have been collected in late July and in August. The female paratype was attracted to light on a rocky slope at 950 m altitude, while the male paratype was attracted to light on a steppe slope at 2500 m altitude.

Etymology. The new species is named after the colours of its wing pattern (Latin: *flavo* – yellow; *nigro* – black).

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