

NEW SPECIES OF PLUME MOTHS OF THE GENUS AGDISTIS HÜBNER, 1825 (LEPIDOPTERA: PTEROPHORIDAE: AGDISTINAE) FROM SOUTHERN AFRICA. 4

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[Ковтунович В.Н., Устюжанин П.Я. Новые виды пальцекрылок рода *Agdistis* Hübner, 1825 (Lepidoptera: Pterophoridae, Agdistinae) из Южной Африки. Сообщение 4]

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Ключевые слова: *Pterophoridae, Agdistis, пальцекрылки, Южная Африка, новые виды*

Summary. Six new species of plume moths are described from South Africa: *Agdistis yakovi* sp. n., *Agdistis nikolaii* sp. n., *Agdistis namaqua* sp. n., *Agdistis augrabiesi* sp.n., *Agdistis prisoner* sp.n. and *Agdistis streltsovi* sp.n.

Резюме. Описываются шесть новых видов пальцекрылок из Южной Африки: *Agdistis yakovi* sp. n., *Agdistis nikolaii* sp. n., *Agdistis namaqua* sp. n., *Agdistis augrabiesi* sp.n., *Agdistis prisoner* sp.n. и *Agdistis streltsovi* sp.n.

INTRODUCTION

Part four (parts one, two, and three were published earlier [Kovtunovich & Ustjuzhanin, 2009a, 2009b, 2010]) of the present article is the continuation of studies of genus *Agdistis* Hübner in South Africa. The article is based on the material collected during a field trip to South Africa in October 2009 by the authors and their colleagues-entomologists. As a result of treatment of the material mentioned and also of that of the museums of Transvaal (TM, Pretoria) and Cape Town (SAMC, Cape Town), six species have been revealed, which are new for science. The holotypes of the species described are preserved in the British Museum (BMNH, London); the paratypes – in the British Museum (BMNH, London), Transvaal Museum (TM, Pretoria), South African Museum (SAMC, Cape Town), and also in the private collection of P. Ustjuzhanin and V. Kovtunovich (Col.Ust.& Kovt. Russia, Novosibirsk, Moscow).

RESULTS

Agdistis yakovi sp. n. (Col. pl. II: 1-3)

Material examined: – Holotype, male, BMNH, gen. pr. 22881, S. Africa Rep., Western Cape, 10 km S of Laingsburg, 33°15'S, 20°49'E, h – 700 m, 09.10.2009, leg. Kovtunovich V. & Ustjuzhanin P. Paratype – 1 ♀, ibidem. BMNH, gen. pr. 22882.

External characters. Holotype forewing length – 9 mm. Wingspan 18-19 mm; in holotype – 19 mm. Forewings grey with three dark dots, two of which are located in the discal part on the costal margin of the wing, the other two – in the middle and at the base of the wing. In the distal part of the forewing, along costal margin, there are three black and three white alternating narrow streaks. Hindwings uniform grey.

Male genitalia. Valvae symmetrical with deep incision.

Costal processes on both valvae symmetrical, clavate; they reach beyond the middle of the valva length. Uncus bifurcated in the form of two long processes. Sternite VIII with deep incision. The lobes of sternite VIII rather broad and short. Aedeagus short, almost straight, with a short sharpened spine at the apex.

Female genitalia. Apophyses posteriores thin, rather long. Antrum broad, tubulated. Lamina vaginalis at sternite VII broad, triangular. Ductus long, membranous, smoothly gradating into oval bursa copulatrix.

Differential diagnosis. In the male genitalia, by the shape of uncus, the new species is similar to *Agdistis dimetra* Meyrick, *Agdistis janse* Kovtunovich & Ustjuzhanin, *Agdistis dicksoni* Kovtunovich & Ustjuzhanin, *Agdistis africana* Arenberger. However, this species can be easily distinguished from all those known earlier by the structure of valvae, costal processes on them, and by the shape of sternite VIII.

Flight period: October.

Distribution: South Africa: Western Cape.

Etymology. The species is named after the father of one of the authors of this article (Yakov Ustjuzhanin).

Agdistis nikolaii sp. n. (Col. pl. II: 4-6)

Material examined: – Holotype, male, BMNH, gen. pr. 22883, S. Africa Rep., Northern Cape, 40 km SW of Springbok, Namaqua N.P., History Prison, 29°53'S, 17°39'E, h – 320 m, 07.10.2009, leg. Kovtunovich V. & Ustjuzhanin P. Paratype – 1 ♂, ibidem, BMNH, gen. pr. 22884; 1 ♂, 1 ♀, ibidem, TM, gen. pr. 16014, 16015; 2 ♂♂, 2 ♀♀, ibidem, Coll.Ust.& Kovt.; 1 ♂, Northern Cape, 5 km SE of Springbok, Koperberg farm, 29°42' S, 17°55' E, 03-04.01.2009, leg. Kovtunovich V. & Ustjuzhanin P. Coll. Ust.&Kovt..

External characters. Holotype forewing length – 10 mm. Wingspan 18-23 mm; in holotype – 21 mm. Forewings

grey with four dark dots; the two, larger and prolonged, are located in the discal part and on the costal margin of the wing; the other two – in the middle and at the base of the wing. In the distal part of the forewing, along costal margin, there are three black and three white alternating narrow streaks. Hindwings monotonous grey with noticeable darkening in the lower distal part.

Male genitalia. Valvae symmetrical with shallow incision along external margin. Costal processes on both valvae symmetrical, rod-like; they reach beyond the middle of the valva length. Uncus bifurcated in the shape of two thin long processes. Sternite VIII with a deep incision. The lobes of sternite VIII short, in the shape of broad flat bands. Aedeagus straight, slightly broadened at the base, with a row of short sharpened spines at the apex.

Female genitalia. Apophyses posteriores thin, rather short. Antrum short, tubulated. Lamina vaginalis at sternite VII oblong, triangular, with a small excavation at the apex. At the lamina edges, there are acute-angled processes. Ductus broad, sclerotized. Bursa copulatrix oblong, oval.

Differential diagnosis. In the male genitalia, by the shape of uncus, the new species is similar to the previous one, but can be easily distinguished from the latter, as well as from other known species, by the shape of valvae, aedeagus, and by the processes of sternite VIII.

Flight period: January, October.

Distribution: South Africa: Northern Cape.

Etymology. The species is named after the father of one of the authors of this article (Nikolai Kovtunovich).

Agdistis namaqua sp. n. (Col. pl. II: 7, 8)

Material examined: – Holotype, male, BMNH, gen. pr. 22885, S. Africa Rep., Northern Cape, 40 km SW of Springbok, Namaqua N.P., 30°01'S, 17°25' E, h – 200 m, 06.10.2009, leg. Kovtunovich V. & Ustjuzhanin P.

External characters. Forewing length 9 mm. Wingspan 20 mm. Forewings grey, with four dark hardly visible dots; two of them are in the discal part and on the costal margin of the wing, the other two – in the middle and at the base of the wing. In the forewing distal part, along costal margin, there are three white and three black alternating narrow streaks. Hindwings uniform grey.

Male genitalia. Valvae symmetrical, rather narrow, with two short and broad processes from below. Costal processes on both valvae rod-like; they do not go beyond the middle of the valva length. Uncus bifurcated in the shape of two long thin processes. Sternite VIII with narrow and deep incision. The lobes of sternite VIII long and narrow. Aedeagus rather straight, slightly broadened in the basal part closer to the middle, with two short triangular spines at the apex.

Female genitalia. Unknown.

Differential diagnosis. In the male genitalia, by the shape of uncus, the new species is similar to the two previous species, but differs well from them and from all other species known, by a peculiar shape of valvae and aedeagus.

Flight period: October.

Distribution: South Africa: Northern Cape.

Etymology. The species is named after the location of collecting. “Namaqua” is a unique South-African

biocoenosis with semidesert vegetation.

Agdistis augrabiesi sp.n. (Col. pl. II: 9-11)

Material examined: – Holotype, male, BMNH, gen. pr. 22886, S. Africa Rep., Northern Cape, 100 km W of Upington, Augrabies N.P., Orange riv., 28°31'S, 20°07'E, h – 600 m, 01.10.2009, leg. Kovtunovich V. & Ustjuzhanin P. Paratype – 1 ♀, ibidem, BMNH, gen. pr. 22887; 1 ♀, ibidem, TM, gen. pr. 16016; 1 ♂, TM, gen. pr. 16017, Northern Cape, Kenhardt, 6 m. West of, 12-14.10.1954, A.J.T. Janse; 1 ♂, SAMC, Bushmanld., Jackals Water, Ligh foot. Oct. 1911; 4 ♂♂, 2 ♀♀, Coll. Ust. & Kovt., S. Africa Rep., Northern Cape, 100 km W of Upington, Augrabies N.P., Orange riv., 28°31'S, 20°07'E, h – 600 m, 01.10.2009, leg. Kovtunovich V. & Ustjuzhanin P.

External characters. Holotype forewing length – 9 mm. Wingspan 19-24 mm; in holotype – 19 mm. Forewings grey, with four dark dots, located in a regular way. No streaks visible along costal margin. Hindwings uniform grey.

Male genitalia. Valvae asymmetrical. In the distal part, they are narrowing, and then the valvae apices form broad rectangular plates. On the left valva, such plate has a triangular excavation; with a papillate process from below. On the right valva, the plate is unbroken, without excavation and without process. Costal processes on both valvae long, broadened towards the apex. Uncus broad, in the shape of two oval petals. Sternite VIII with a well-developed deep oval excavation. The lobes of sternite VIII rather long. Aedeagus long, of even thickness, slightly curved.

Female genitalia. Apophyses posteriores thin, rather long. Antrum short, broad, tubulated. Lamina vaginalis at sternite VII large, broad, with a deep incision at the apex. Along the rear edge of the lamina, there are rather large icicle-shaped processes. Ductus short, broad. Bursa copulatrix oval.

Differential diagnosis. In the male genitalia, by a broad uncus, the new species is similar to *Agdistis krooni* Kovtunovich & Ustjuzhanin, but differs from it in the shape of uncus. In *Agdistis krooni*, uncus is heart-shaped, whereas in the new species it has a shape of two ovals. Besides, the new species differs from the latter and from other species of the genus by the structure of valvae: the presence of a papillate process on the left valva, the shape of the valvae apices.

Flight period: October.

Distribution: South Africa: Northern Cape.

Etymology. The species is named after the location of collecting. “Augrabies Falls” is a National Park in the North of South Africa, on the Orange River bank.

Agdistis prisoner sp.n. (Col. pl. III: 1-3)

Material examined: – Holotype, male, BMNH, gen. pr. 22888, S. Africa Rep., Northern Cape, 5 km SE of Springbok, Koperberg farm, 29°42'S, 17°55'E, 03-04.01.2009, leg. Kovtunovich V. & Ustjuzhanin P. Paratype – 1 ♀, BMNH, gen. pr. 22889, Northern Cape, 40 km SW of Springbok, Namaqua N.P., History Prison, 29°33' S, 17°39'E, 13.01.2008, leg. Kovtunovich V. & Ustjuzhanin P.; 1 ♂, . ibidem, TM, gen. pr. 16018; 1 ♀, TM, gen. pr. 16019, Western Cape, 10 km S of Laingsburg, 15.01.2008,

leg. Kovtunovich V. & Ustjuzhanin P.; 2 ♂♂ ibidem, Col. Ust. & Kovt.; 26 spec. bears same label as holotype, Col. Ust. & Kovt.

External characters. Holotype forewing length 11,5 mm. Wingspan 21-26 mm; in holotype – 23 mm. Forewings grey with four dark dots, two of which are in the discal part and on the costal margin of the wing, the other two – in the middle and at the base of the wing. Streaks hardly noticeable along costal margin. Forewings uniform grey.

Male genitalia. Valvae symmetrical. In the basal part, they are broad, then, before the apex, they get narrower and form a bifurcated ending. Costal processes on both valvae rather long, broadened lobe-like towards the apex. Uncus narrow, with small horn-shaped processes at the apex (in frontal view). Sternite VIII with a well-developed shallow triangular excavation. The lobes of sternite VIII short and broad. Aedeagus faintly shorter than valva, slightly deflected in the basal part.

Female genitalia. Apophyses posteriores thin, rather long. Antrum large, broad, funnelform. Lamina vaginalis at sternite VII large, broad, with a small excavation at the apex. Along the rear edge of the lamina, there are long icicle-shaped processes. Small processes at the sides of the lamina. Ductus short, broad, with a sacciform formation. Bursa copulatrix oval.

Differential diagnosis. In the male genitalia, by the shape of valvae and sternite VIII, the new species is similar to *Agdistis kevintucki* Kovtunovich & Ustjuzhanin, but differs by the shape of uncus and the structure of the costal processes of valvae.

Flight period: January.

Distribution: South Africa: Northern Cape, Western Cape.

Etymology. The species is named after the location of collecting. In “Namaqua Land” National Park, there is a small territory named “History Prison”; near the ruins of this old prison, the specimens of the new species have been collected.

Agdistis streltsovi sp.n. (Col. pl. III: 4-6)

Material examined: – Holotype, male, BMNH, gen. pr. 22890, S. Africa Rep., Northern Cape, 40 km SW of Springbok, Namaqua N.P., 30°03'S, 17°27'E, h – 120 m, 05.10.2009, leg. Kovtunovich V. & Ustjuzhanin P. Paratype – 1 ♀, ibidem, BMNH, gen. pr. 22891; 1 ♂, ibidem, TM, gen. pr. 16020; 1 ♂, TM, gen. pr. 16021, Western Cape, Wilderness, 8.01.1955, A.J.T. Janse; 27 spec. bears same label as holotype, Col. Ust. & Kovt.

External characters. Holotype forewing length 10,5 mm. Wingspan 22-24 mm; in holotype – 22 mm. Forewings brownish-grey, with four dark dots; two dots are located in the discal part and on the costal margin of the wing; the other two – in the middle and at the base of the wing.

Mid-field brown. Streaks are faint along costal margin. Hindwings uniform grey.

Male genitalia. Valvae slightly asymmetrical. On the right valva, in the apical part, there is a rounded excavation from below. On the left valva, this excavation is hardly noticeable. Costal processes of valvae long, broadened after the middle. Uncus broad, capitate, with a rounded excavation at the apex. Sternite VIII with an expressed shallow triangular excavation. The lobes of sternite VIII short and broad. Aedeagus slightly less than the valva length, almost straight.

Female genitalia. Apophyses posteriores thin, rather long. Antrum broad, tubulated. Lamina vaginalis at sternite VII large, with a deep, rather narrow excavation at the apex. Along the rear edge of the lamina, there are long processes, narrowing towards the end. Ductus short, broad, smoothly gradating into narrow oval bursa copulatrix.

Differential diagnosis. In the male genitalia, by the shape of uncus and sternite VIII, the new species is similar to *Agdistis meyi* Arenberger, but differs from it by the structure of valvae and costal processes.

Flight period: January, October.

Distribution: South Africa: Northern Cape, Western Cape.

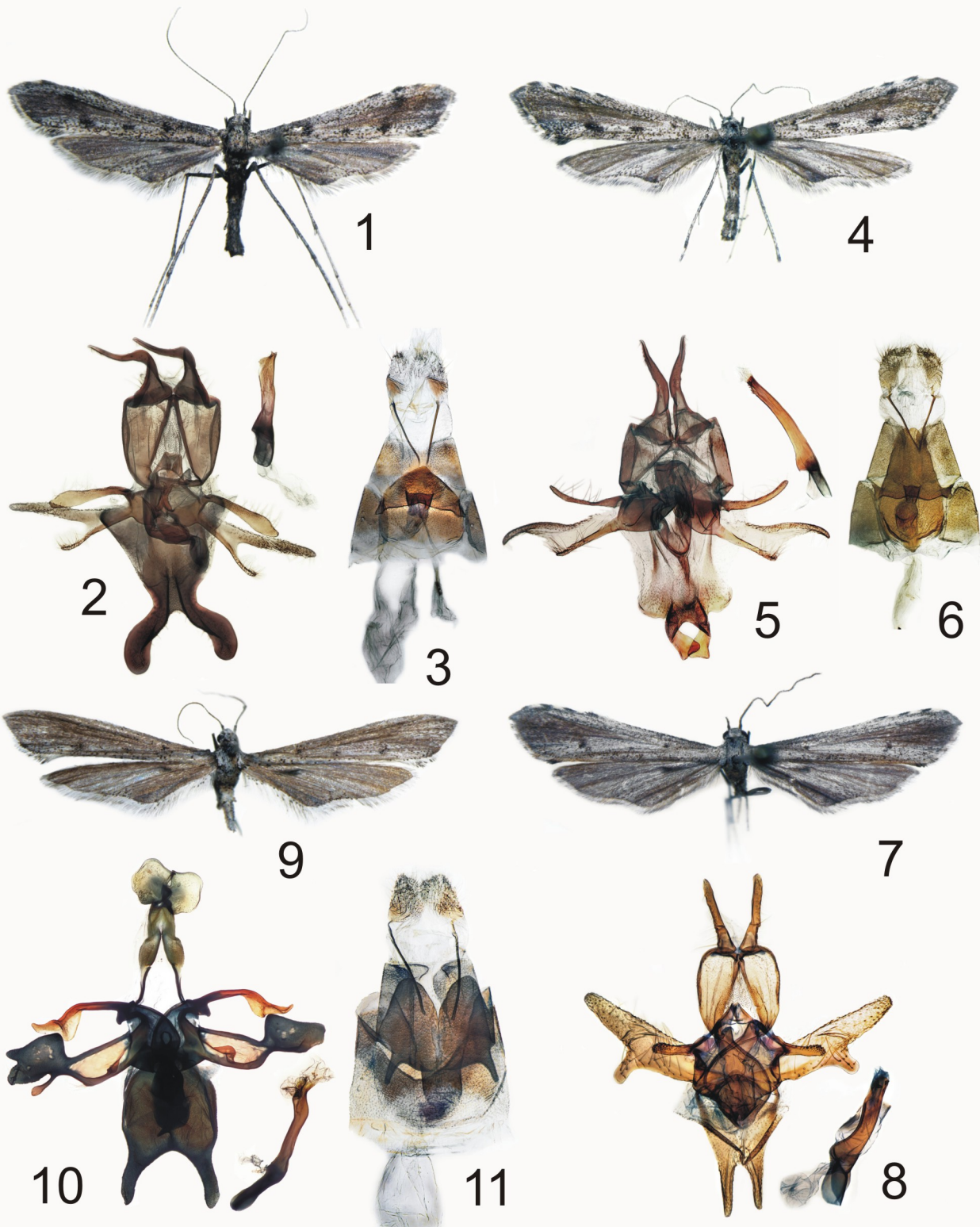
Etymology. The species is named after Russian lepidopterologist Aleksandr Streltsov (Russia, Blagoveshchensk).

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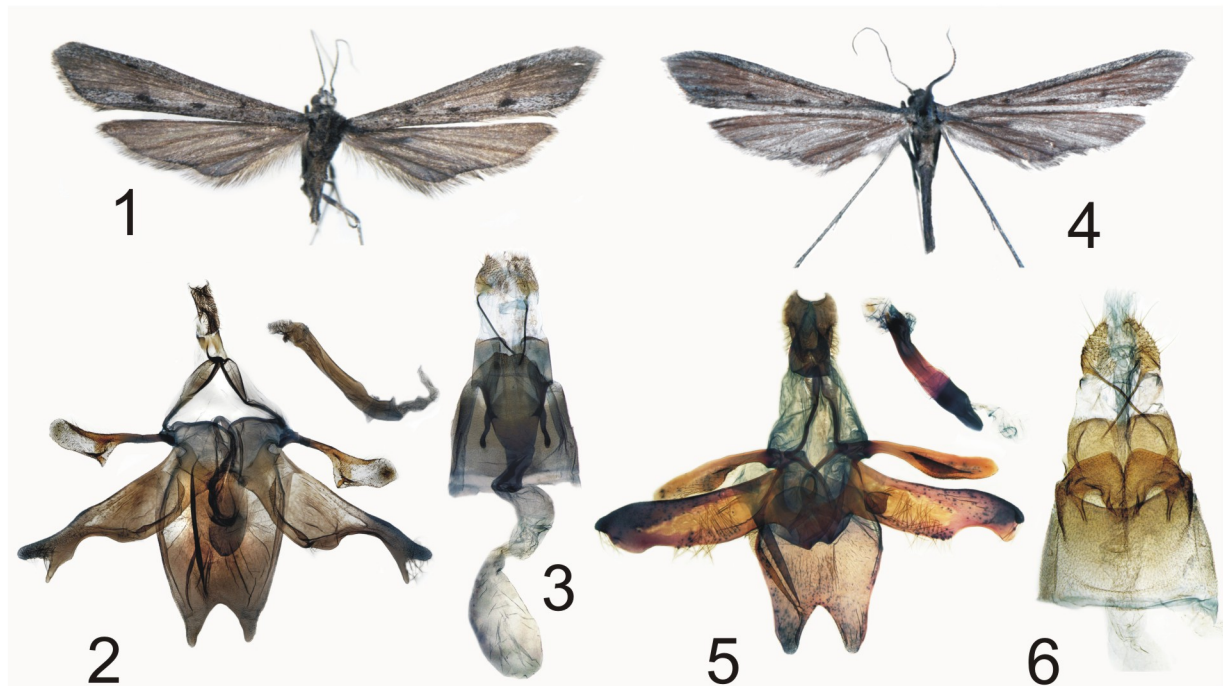
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New species of plume moths of the genus *Agdistis* from Southern Africa: 1-3 – *Agdistis yakovi* sp.n.; 4-6 – *Agdistis nikolaii* sp.n.; 7, 8 – *Agdistis namaqua* sp.n.; 9-11 – *Agdistis augrabiesi* sp.n. 1, 4, 7, 9 – imago; 2, 5, 8, 10 – male genitalia; 3, 6, 11 – female genitalia.

Новые виды пальцекрылок рода *Agdistis* из Южной Африки: 1-3 – *Agdistis yakovi* sp.n.; 4-6 – *Agdistis nikolaii* sp.n.; 7, 8 – *Agdistis namaqua* sp.n.; 9-11 – *Agdistis augrabiesi* sp.n. 1, 4, 7, 9 – имаго; 2, 5, 8, 10 – гениталии самца; 3, 6, 11 – гениталии самки.



New species of plume moths of the genus *Agdistis* from Southern Africa: 1-3 – *Agdistis prisoner* sp.n.; 4-6 – *Agdistis streltzevi* sp.n. 1, 4 – imago; 2, 5 – male genitalia; 3, 6 – female genitalia.

Новые виды пальцекрылок рода *Agdistis* из Южной Африки: 1-3 – *Agdistis prisoner* sp.n.; 4-6 – *Agdistis streltzevi* sp.n. 1, 4 – имаго; 2, 5 – гениталии самца; 3, 6 – гениталии самки.