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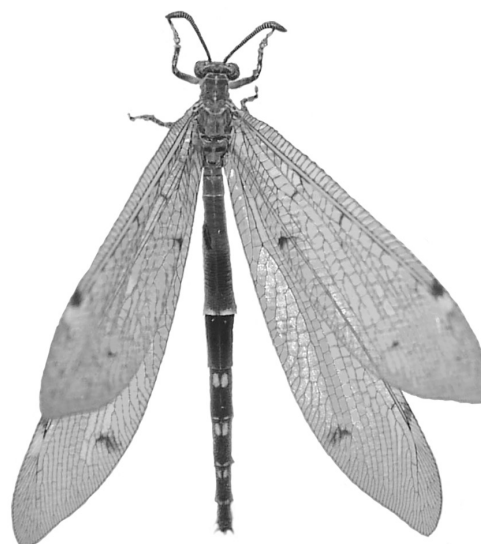


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## The first record of *Loxostege ayhanana* Kemal et Koçak, 2017 (Lepidoptera: Crambidae) from the Europe, with notes on its bionomy

## Первое указание *Loxostege ayhanana* Kemal et Koçak, 2017 (Lepidoptera: Crambidae) для Европы с замечаниями по биологии

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**Key words:** Lepidoptera, Crambidae, *Loxostege ayhanana*, Crimean Peninsula, new faunistic find.

**Ключевые слова:** Lepidoptera, Crambidae, *Loxostege ayhanana*, Крымский полуостров, новая фаунистическая находка.

**Abstract.** The first record of the micromoth *Loxostege ayhanana* Kemal et Koçak, 2017 from the Europe is presented, the larva, the moth with genitalia of both sexes are figured, and the larval foodplant and other details of biology are determined.

**Резюме.** Для фауны Крыма и Европы впервые указывается *Loxostege ayhanana* Kemal et Koçak, 2017, приводятся изображения гусеницы, имаго и гениталий обоих полов. Установлено кормовое растение гусениц и другие особенности биологии.

Species of the genus *Loxostege* Hübner, [1825] 1816 generally inhabit lowland, dry, herbaceous biotopes; a few are recorded in montane and boreal regions. Larvae, where known, usually live on plants of the family Asteraceae, in particular on *Artemisia* spp., among spun leaves or flowers. Nearly all species are local or rare, with the exception of the widely distributed and ubiquitous *Loxostege sticticalis* (Linnaeus, 1761). Hitherto 23 species of the genus were known from Europe, with three species recorded from Crimea [Slamka, 2013].

During 2006–2017 lepidopterological fieldwork in the south-eastern part of the peninsula, we have found another one, *Loxostege ayhanana* Kemal et Koçak, 2017, which appears to be new to both Crimea (Fig. 1) and Europe.

### Material and methods

**Material.** Crimean Peninsula: 1♀, 3.5 km NE of Solnechnaya Dolina settl., Delamet-Kaya Mt., 600 m, 11.06.2006 (V.V. Savchuk); 1♀, 2.5 km NW of Staruy Krym town, Agarmysh Mt., 550 m, 29.05.2010 (V.V. Savchuk); several dozens of adults, same locality, 31.05.2013 (V.V. Savchuk, N.S. Kajgorodova); 6 last instar larvae, same locality, 29.07.2013 (N.S. Kajgorodova, V.V. Savchuk); around 20 adults, same locality, 15.06.2014 (V.V. Savchuk); 1♀, same locality, 11.07.2016 (V.V. Savchuk); 1♀, same locality, 6.05.2017 (V.V. Savchuk); around 30 adults, same locality, 20.06.2017 (V.V. Savchuk, N.S. Kajgorodova); 1♀, 1 km S of Shchebetovka settl., Papas-Tepe Mt., 240 m, 31.05.2016 (V.V. Savchuk); 5 final instar larvae, 2.5 km NE of Krasnokamenka settl., Sandyk-Kaya Mt., 680 m, 23.07.2016 (V.V. Savchuk); 2♂, 1♀, same locality, 17.05.2017 (V.V. Savchuk, N.S. Kajgorodova); 1♂, 1 km SW of Podgornoe settl., Uzun-Syrt Ridge, 220 m, 15.06.2017 (V.V. Savchuk).

Moths were disturbed from vegetation and captured with an aerial net. Last instar larvae were found by searching the foodplants. Collected larvae were reared on the natural host plant, but under artificial conditions.

Identification was carried out by means of wing characters and male genitalia. Genitalia were prepared by maceration in KOH, and examined with a binocular microscope MBS-9. Material is stored in authors' private collections.

### Results and discussion

The forewing length is 10–13 mm. The intensiveness and hue of the wing pattern are variable. However, the males are usually more greyish-ochreous (Figs 2, 3), while females are usually olivaceous brick-red (Figs 4, 5). Genitalia of both sexes are figured on Figs 6–8. Last instar larva (Fig. 9) is greyish-green, the prothoracic shield and the anal plate with black speckling. Ventral side is yellowish; dorsal side with a dark longitudinal stripe. Large dark pinacula carries light-coloured setae. Head lightly-coloured with brown speckling. Pupal cremaster carries a row of 8 spines (Fig. 10).

The habitats are situated at altitudes of 220–680 m a.s.l. and represent dry stony hillsides with very

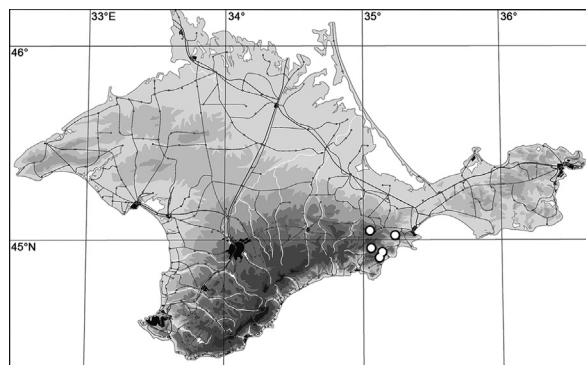


Fig 1. Distribution of *Loxostege ayhanana* in Crimea.

Рис. 1. Распространение *Loxostege ayhanana* в Крыму.



Figs 2–5. *Loxostege ayhanana*, imago. 2 – male, Uzun-Syrt Ridge, 15.06.2017; 3 – male, Agarmysh Mt., 31.05.2013; 4 – female, Agarmysh Mt., 31.05.2013; 5 – female, Sandyk-Kaya Mt., 17.05.2017.

Рис. 2–5. *Loxostege ayhanana*, имаго. 2 – самец, хр. Узун-Сырт, 15.06.2017; 3 – самец, г. Агармыш, 31.05.2013; 4 – самка, г. Агармыш, 31.05.2013; 5 – самка, г. Сандык-Кая, 17.05.2017.

sparse herbaceous or scrub vegetation. Characteristic plants include *Artemisia caucasica* Willd., *Cephalaria coriacea* (Willd.) Steud., *Ferulago galbanifera* var. *brachyloba* (Boiss.) Thell., *Helianthemum* spp., *Scorzonera crispa* M. Bieb., *Sideritis taurica* Steph. ex Willd., *Thymus* spp. According to our observations, the species is most numerous on Agarmysh Mt., inhabiting the south-facing slopes (Fig. 11).

Adult flight period takes place from the beginning of May to early July, peaking in the first half of June. Our observations were during daytime, and we did not find any actively-flying individuals. The moths were disturbed from the vegetation, and came to rest again after flying for several metres.

Under natural conditions, the larvae were found on *Scorzonera crispa* M. Bieb. We did not find any early-instar larvae. The last-instar larvae live concealed in leaves spun into tubes around the central vein. Such shelter is laid with silk on the inside. The feeding damage was also recorded on the leaves of the host plant.

Collected larvae ceased feeding between the end of July and early August. Fully grown caterpillars make thin white tubular cocoons in the soil, 30–35 mm in length (Fig. 12), in which they hibernate until spring, and pupate afterwards. In captivity, the pupation took place in May, with adults emerging in early June.

In conclusion, the first population of *Loxostege ayhanana* was found in the Crimean Peninsula and Europe. This recently described species was hitherto known only from Van Province of Turkey [Kemal, Koçak, 2017a, b]. In Crimea the species was recorded in five localities in the south-east of the peninsula: Delamet-Kaya Mt., Agarmysh Mt., Papas-Tepe Mt., Sandyk-Kaya Mt. and Uzun-Syrt Ridge (Fig. 1).

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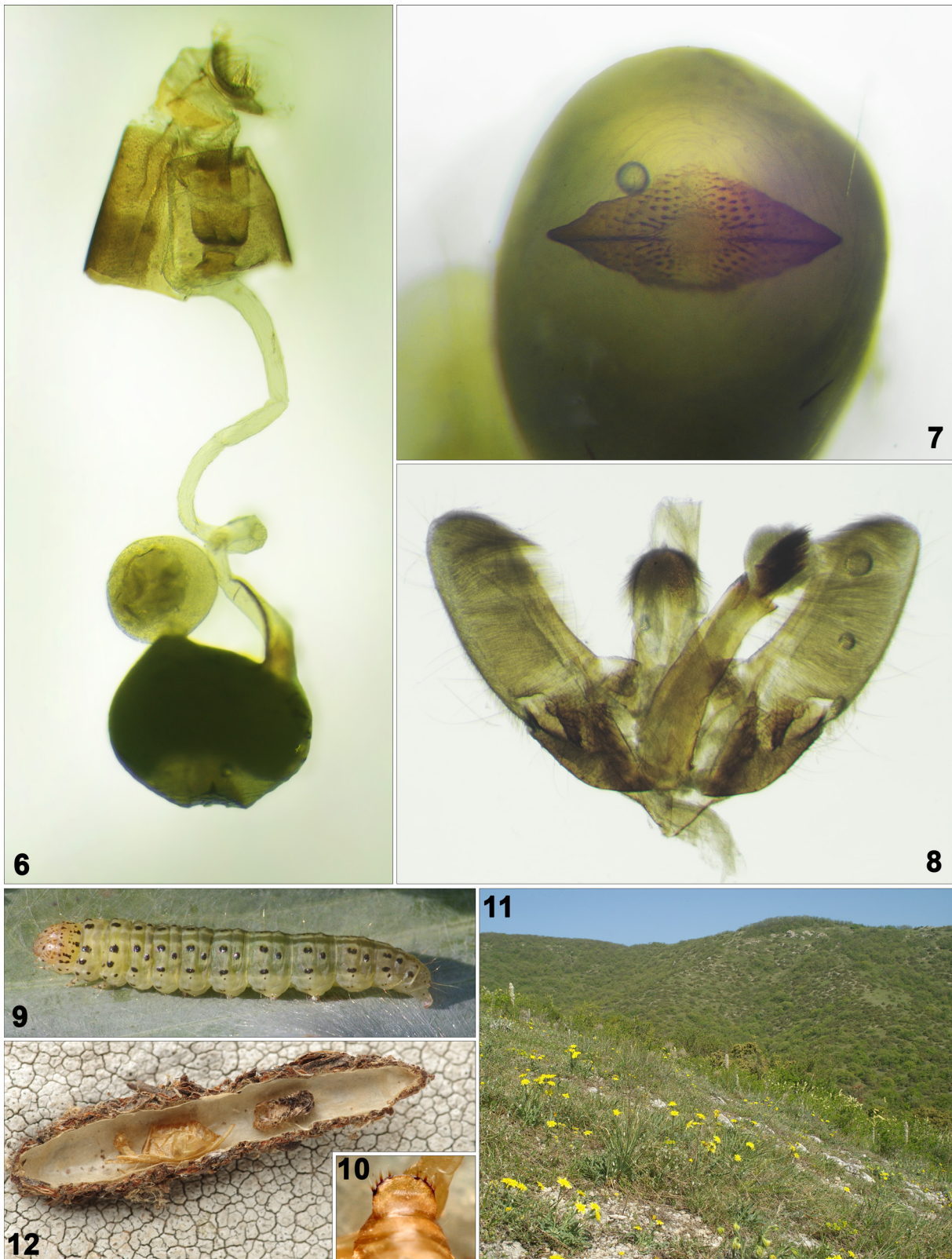
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Figs 6–12. *Loxostege ayhanana*, genitalia, larva, pupal cremaster, cocoon and habitat.

6–7 – female genitalia, Agarmysh Mt., 31.05.2013; 6 – overall appearance, 7 – signum; 8 – male genitalia, Agarmysh Mt., 20.06.2017; 9 – last-instar larva, Agarmysh Mt., 29.07.2013; 10 – pupal cremaster; 11 – habitat with the food plant in the foreground, Agarmysh Mt., 4.05.2017; 12 – cocoon with exuvia.

Рис. 6–12. *Loxostege ayhanana*, гениталии, гусеница, кремастер, кокон и биотоп.

6–7 – гениталии самки, г. Агармыш, 31.05.2013; 6 – общий вид, 7 – сигнум; 8 – гениталии самца, г. Агармыш, 20.06.2017; 9 – гусеница последнего возраста, г. Агармыш, 29.07.2013; 10 – кремастер; 11 – биотоп с кормовым растением на переднем плане, г. Агармыш, 4.05.2017; 12 – кокон с экзувием.