

# ***Aethes shakibai* Huemer & Wieser, 2004 a new species of leafroller for the European fauna, with description of a new subspecies from Crimea and the coast of the Sea of Azov (Ukraine) (Lepidoptera: Tortricidae)**

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## **Abstract**

*Aethes shakibai sivashella* Budashkin & Bidzilya, ssp. n., is described based on 30 males and 3 females from the eastern Crimea and the coast of the Sea of Azov (Ukraine). The external appearance of the adult, genitalia of the new subspecies and its habitat are illustrated. Type material of the new subspecies is deposited in the collection of Karadagh Nature Reserve and the collection of the Zoological Museum of Kiev National Taras Shevchenko University.

KEY WORDS: Lepidoptera, Tortricidae, Tortricinae, Cochylini, new subspecies, Ukraine.

***Aethes shakibai* Huemer & Wieser, 2004 una nueva especie de tortricido para la fauna europea, con descripción de una nueva subespecie de Crimea y la costa del Mar de Azov (Ucrania) (Lepidoptera: Tortricidae)**

## **Resumen**

Se describe *Aethes shakibai sivashella* Budashkin & Bidzilya, ssp. n., basada sobre 30 machos y 3 hembras del este de Crimea y de la costa del mar de Azov (Ucrania). De la nueva subespecie se ilustra la apariencia externa del adulto, genitalia y su hábitat. El material tipo de la nueva subespecie se deposita en la colección de la Reserva Natural de Karadagh y en la colección del Museo Zoológico de Kiev Universidad Nacional Taras Shevchenko.

PALABRAS CLAVE: Lepidoptera, Tortricidae, Tortricinae, Cochylini, nueva subespecie, Ucrania.

## **Introduction**

The genus *Aethes* Billberg, 1820 comprises 131 described species distributed in the Holarctic, Oriental and Neotropical regions (BROWN, 2005, BYUN & LI, 2006, RAZOWSKI & BECKER, 2007, RAZOWSKI & WOJTUSAK, 2008, 2009). 79 species are known from the Palaearctic region (RAZOWSKI, 1970, 2009, BLACKSTEIN & KARISCH, 2010), 43 species are reported for Europe (RAZOWSKI, 2002). 27 *Aethes*-species were registered in Ukraine of which 15 are known from the Crimea (BUDASHKIN, 2009).

A series of remarkable *Aethes*-species was collected in the eastern Crimea in 2006-2014. One male was collected close to the coast of the sea of Azov in 1999. According to the genitalia characters these specimens resemble *Aethes shakibai* Huemer & Wieser, 2004, recently described from northern Iran (HUEMER & WIESER, 2004). Our specimens are similar extremally to the

nominotypical subspecies, but the specimens of first generation differ in having a larger size and darker forewing with weaker expressed silver markings. The male genitalia differ in the shape of the triangle protrusion of the sacculus which is broader and shorter. Moreover the median part of transtilla is longer, terminally narrower and more strongly forked.

These differences between *A. shakibai* from northern Iran and our specimens justify their description as a new separate subspecies.

***Aethes shakibai sivashella* Budashkin & Bidzilya, ssp. n.**

Type material. Holotype: ♀ Crimea, Yuzhnoye Prisivashje, okr. p. Lvovo, staryj zaliv Sivasha, zalivayemyj solonchak, 25-V-2006, leg. Yu. Budashkin. Paratypes: 1 ♂, Ukraine, Zaporozhskaja obl., pos. Altagir, 6-VI-1999, leg. V. Getmanchuk; 8 ♂♂, Crimea, Kerchenskij poluostrov, S okraina p. Mysovoye, zalivayemyj solonchak, 24-V-2006, leg. Yu. Budashkin; 13 ♂♂, 1 ♀, Crimea, Yuzhnoye Prisivashje, okr. p. Lvovo, staryj zaliv Sivasha, zalivayemyj solonchak, 25-V-2006, leg. Yu. Budashkin (gen. prep. 336/14 ♂♂, 337/14 ♀♀); 2 ♂♂, 1 ♀, same data, but 19-VI-2007; 3 ♂♂, Crimea, Ustje Arabatskoj Strelki, bereg Sivasha, 8-VIII-2006, leg. Yu. Budashkin; 1 ♂, Crimea, Severnoye Prisivashje, 5 km NEE p. Jasnopoljanskoye, bereg Sivasha, na svet, 27-VIII-2006, leg. Yu. Budashkin; 2 ♂, Crimea, okr. Feodosia, 1 km S p. Steпноye, zalivayemyj solonchak, 14-V-2014 and 19-V-2014, leg Yu. Budashkin.

Description: Adult (Figs. 1-3). Sexual dimorphism very slight. Wingspan 9.0-12.0 mm. Head and thorax comparatively large, covered with grey-brown or brown scales, frons considerably lighter, off-white or mottled with whitish; tegulae grey-brown to brown; labial palpus comparatively short, segment 2 much longer than segment 3, wide, densely covered with very long scales, upperside whitish, lateral side brown; segment 3 very short, concolorous with the second segment. Scape grey-brown or brown, other antennal segments brown in female, with light brown rings and densely ciliated in male. Forewing relatively short and narrow, apex rounded, thornal angle indistinct, covered mainly with light grey-brown or light brown scales; medial fascia dark, of average width, interrupted in medial cell; sub-apical fascia same as medial fascia but more diffuse, sometimes reduced to dark wide spots on costal and dorsal margins; sinuous, weakly shiny, whitish transversal lines and off-white suffusion expressed in distal half of basal, in medial and in outer areas of forewing, but particularly strongly developed on and under costal margin; cilia line brown or dark brown, cilia light brown mixed with dark brown in specimens of the first generation and brown mixed with whitish brown in specimens of the second generation. Hindwing and cilia dark brown.

Variation: The specimens of the second generation differ in smaller size (wingspan 9.0-10.0 mm), and brown rather than dark brown patterns of forewing (Fig. 3).

Male genitalia (Fig. 4): Tegumen trapezoidal, very broad. Socii long and slender. Median part of transtilla relatively strong and wide, trapezoidal, terminal narrowing and forked. Valva broad in basal part, very narrow beyond sacculus, slightly curved and narrowed apically. Distal part of sacculus shaped like a small almost right triangle protrusion. Aedeagus moderately broad and short, curved in middle almost at right angle. Cornutus missing.

Variation: There is a little variation in the shape of triangle protrusion of the sacculus.

Female genitalia (Fig. 5): Papillae anales membranous, moderately long and wide, densely covered with relatively short setae. Posterior and anterior apophyses comparatively short and thin. Ostium bursae broad, more or less narrow-ovate. Antrum broad, sub-quadrangular, its dorsal wall nearly entirely covered with a strongly sclerotized quadrangular pattern. Postostial sterigma short, tongue-shaped, with slender lateral branches. Ductus bursae short, membranous, expanding proximally. Corpus bursae large, broadest postmedially, with weak postmedian fields of sclerotization, rarely covered with microtrichia in proximal half.

Variation: Three examined females show little variability.

Diagnosis: The diagnosis of a new subspecies is based on comparison of original description

of *A. shakibai* with our material of the new subspecies from Crimea and the coast of the Sea of Azov. The specimens of the first generation of the new subspecies differ externally from *Aethes shakibai shakibai* in the larger size of adults, dark brown rather than brown forewing and the weakly expressed shiny markings. The specimens of the second generation of *A. sh. sivashella* are similar externally to the nominate subspecies but are smaller (9.0-10.0 mm in contrast to 9.9-10.6 mm). The male genitalia differ in the shape of triangle protrusion of the sacculus that is broader and shorter in the new subspecies. Moreover the median part of the transtilla is longer, narrower terminally and more strongly forked in the new subspecies. The female genitalia are indistinguishable from those of the nominate subspecies.

**Bionomy:** All specimens of the new subspecies have been collected in the Crimea in wet (sometimes pounding in winter time) salines. The habitats are strongly restricted with *Salicornia europaea* L. (Chenopodiaceae) community (Fig. 6). The last plant is most likely the host for the larvae of the new subspecies (Fig. 7). Adults fly in two generations: from second decade of May to mid June and again in August. The hibernating stage is unknown. Considerable long-term fluctuation of the species abundance has been observed: a large number of specimens were registered in 2006-2007, no specimens were observed in 2008-2013 in spite of the permanent collections in their habitats. The species appeared again in 2014 but was not abundant.

**Distribution:** Eastern Crimea and the coast of the Sea of Azov.

**Etymology:** Sivash, or "Dead Lake" covers a rather large part of the Crimean peninsula. The name of new subspecies reflects its distribution along the Sivash coast and areas covered with Sivash in former times.

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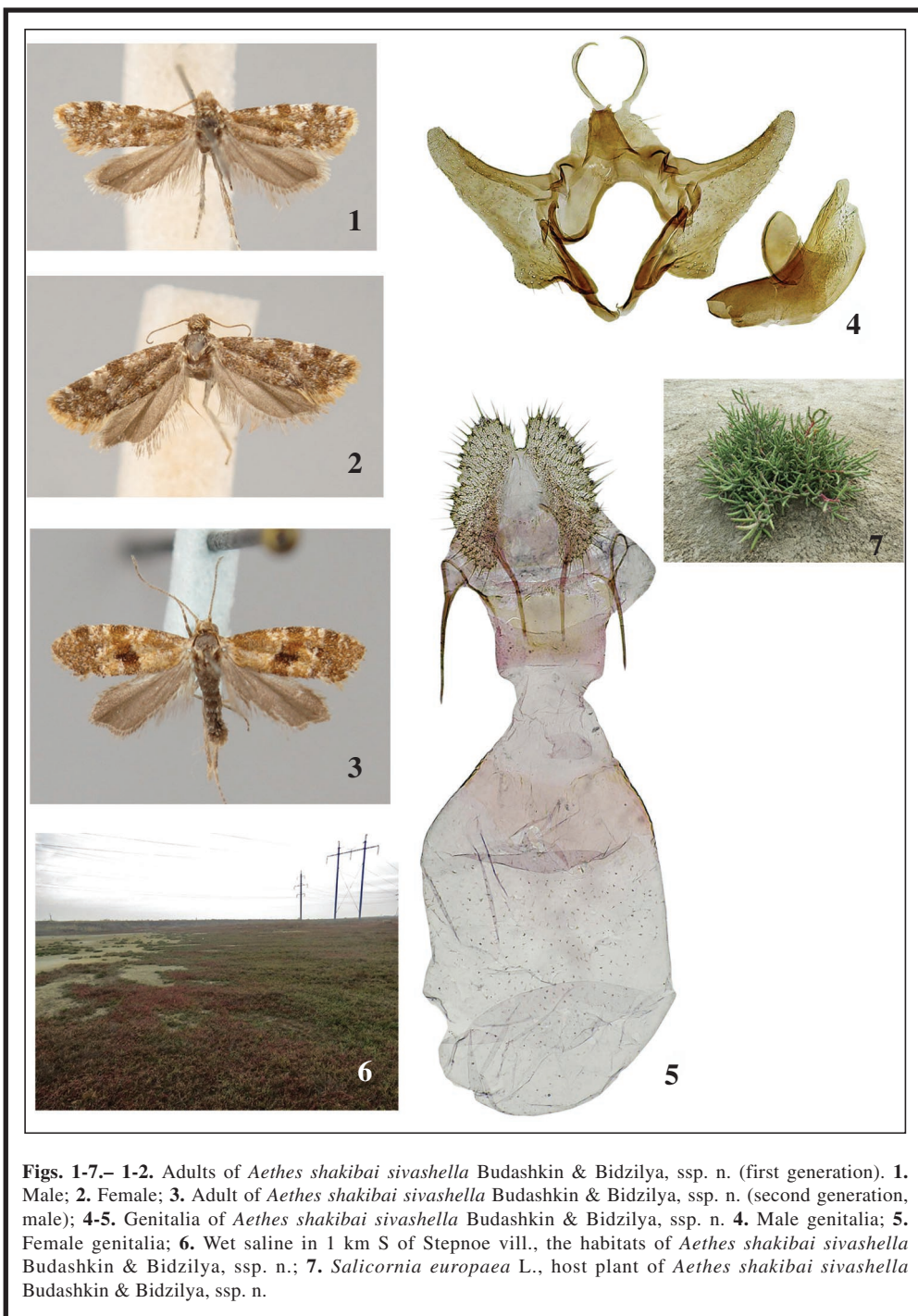
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**Figs. 1-7.**– 1-2. Adults of *Aethes shakibai sivashella* Budashkin & Bidzilya, ssp. n. (first generation). 1. Male; 2. Female; 3. Adult of *Aethes shakibai sivashella* Budashkin & Bidzilya, ssp. n. (second generation, male); 4-5. Genitalia of *Aethes shakibai sivashella* Budashkin & Bidzilya, ssp. n. 4. Male genitalia; 5. Female genitalia; 6. Wet saline in 1 km S of Stepnoe vill., the habitats of *Aethes shakibai sivashella* Budashkin & Bidzilya, ssp. n.; 7. *Salicornia europaea* L., host plant of *Aethes shakibai sivashella* Budashkin & Bidzilya, ssp. n.