

# Description of the female of *Dasypolia maria* Volynkin 2012 (Lepidoptera: Noctuidae) with the notes on the distribution of the genus in the Altai Republic (Russia, South Siberia)

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## Abstract

The unknown female of *Dasypolia maria* Volynkin 2012 is described and diagnosed. Adults of male and female are illustrated as well as genitals of both sexes. Distribution map of *D. maria* is given. Additional data on the distribution of other species of the genus *Dasypolia* Guenée, 1852 in Russian Altai is provided.

## Keywords

Lepidoptera, Noctuidae, *Dasypolia maria*, Siberia, Altai Republic, Russian Altai, new records

## Introduction

The genus *Dasypolia* Guenée, 1852 includes about 70 known species and their number is constantly being updated (Ronkay et al. 2010; 2014; 2023; Benedek et al. 2011; 2014; Volynkin 2012; Benedek et Saldaitis 2014; Chen et al. 2022; Pekarsky et Pe-

karska 2022; Titov et al. 2023). New data on the morphology and distribution of separate species are also emerging (Titov et al. 2025).

Noctuid fauna of the Russian Altai has been studied and published quite well and in detail (Volynkin 2012a; Kononenko 2016). The species composition of the genus *Dasypolia* Guenée, 1852 in Altai was revised (Volynkin 2012b) and includes 5 species: *D. bubnovae* Volynkin, 2012; *D. lama* Staudinger, 1896; *D. maria* Volynkin, 2012; *D. templi* (Thunberg, 1792); *D. tuektiensis* Zolotarenko, 1993. The species *D. maria* Volynkin 2012 described in the mentioned revision was known by three males from the vicinity of the village of Aktash in the Ulagan region. The female was still unknown. Later, we provided material on this species from the Mongolian Altai (Knyazev et al. 2020) as part of the general faunal list.

In the spring of 2025, we undertook two expeditions in mid-April and mid-May to study the early spring complex of Lepidoptera species in the region. We also conducted an expedition in autumn, at the end of September, to check the composition of the late autumn fauna of Heterocera species. During the autumn expedition, we collected a series of specimens of different species from the genus *Dasypolia* Guenée, 1852, including several females of *D. maria*, which allowed us to prepare a detailed description of its external morphology, as well as the genital structures.

## Materials and methods

All material processed within the framework of this article was collected on the territory of Altai Republic by the authors using standard method of collecting by attracting moths to the light of the Mercury lamps Sylvania 250W in a nighttime. All collected specimens are deposited in the collections of Zoological Institute of the Russian Academy of Sciences (ZISP, St. Petersburg), Svyatoslav Knyazev (CSKO, Omsk, Russia) and Vadim Ivonin (CVIN, Novosibirsk, Russia). The photos of collectible specimens were taken using a Canon EOS 5D Mark II camera with a Canon EF-100mm macro lens. Photos of habitats and specimens in nature were taken using Xiaomi Redmi Note 10Pro smartphone camera. Photographs of genitalia and were taken using a Nikon stereomicroscope (model: SMZ25) coupled with a Nikon digital camera (model: DS-Ri2) and processed with NIS-Elements BR software. The distribution map was prepared using the online resource SimpleMappr ([www.simplemappr.net](http://www.simplemappr.net)).

## Results

### *Dasypolia maria* Volynkin, 2012

Figs 1–14

*Dasypolia maria* Volynkin, 2012, Zootaxa 3478: 419, Figs. Figs. 5, 6, 32, 33, 54, 55 (Type locality: “Altai Republic, Ulagan district, Aktash village, bottom of southern steppe stony slope, h = 1350 m. 50°19' N, 87°35' E”).

**Material examined.** 42♂, 14♀, 17-19.09.2025, Russia, Altai Republic, Kosh-Agachsky district, 7 km E of Telengit-Sortogoi village (Fig. 15), h=2000, 50.000087, 88.844735, S.A. Knyazev, V.V. Ivonin (ZISP; CSKO; CVIN); 1♀, 16-17.09.2025, Russia, Altai Republic, Kosh-Agachsky district, 4 km W of Kurai village, Kuraiskaya steppe (Fig. 16), h=1630, 50.245907, 87.875216, S.A. Knyazev (CSKO).

**Remark.** New findings show the widespread distribution of this species in the south-eastern Altai.

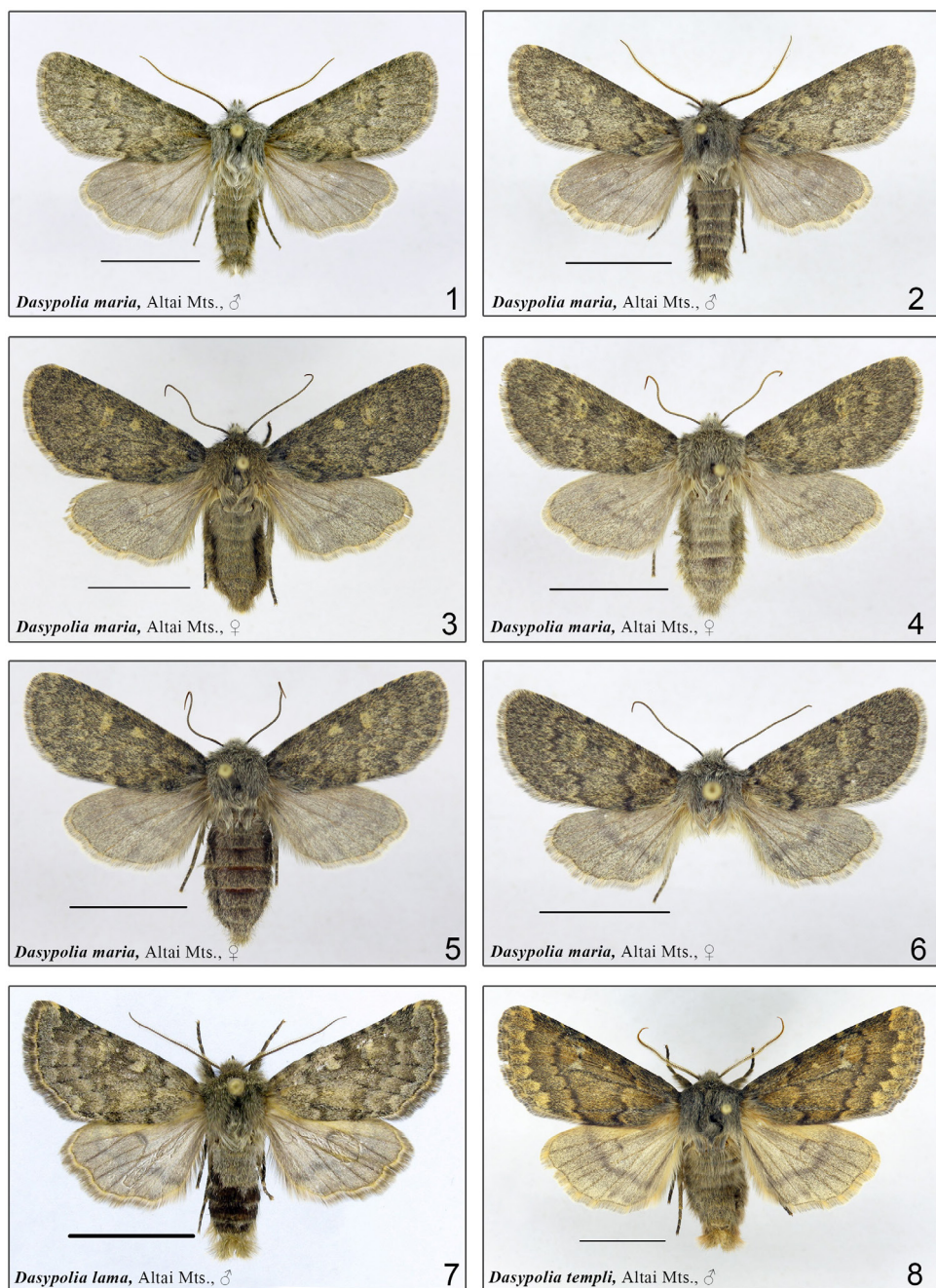
## Description of the female adult

**External morphology.** The females (Figs 3–6) is very similar habitually with the males (Figs 1–2). Wingspan 32–40 mm, forewing length 14–18 mm. Antennae filiform. Head, thorax and abdomen olive-grayish-brown. Abdomen length is 9–10 mm. Ground color of the forewing olive-grayish-brown. Antemedial and postmedial lines well defined, dark, dentate. Subterminal line dentate, pale, diffused. Terminal line dark, thin, poorly defined. Orbicular stigma small, circular or slightly elongate, pale ochreous with very small olive brown core in some specimens. Reniform stigma small, pale ochreous with very small olive brown core. Cilia brownish grey. Hindwing brownish grey. Medial line broad, strongly diffused, grey. The discal spot is faintly marked, grey, narrow.

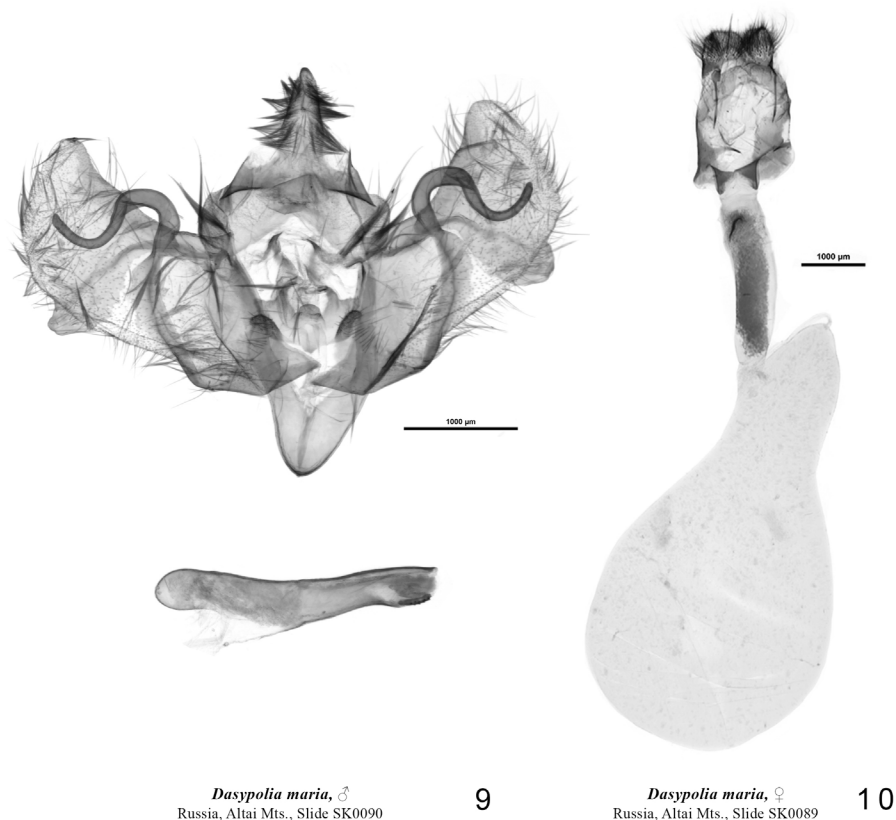
**Female genitalia.** (Fig. 10) Ovipositor short, rounded. Palpilla analis rounded trapezoidal, setose. Apophyses thin and short, anterior one 4 times shorter than posterior one. The antrum is short, smoothly turning into a ductus bursae, which is elongated, slightly curved, with a sclerotised plate along its entire length. Corpus bursae pyriform, appendix bursae rounded-conical in shape.

**Diagnosis.** There are no closely related species in the Altai Mountains with which *D. maria* can be confused. It looks similar to sympatric species *D. templi* and *D. lama* from which it differs in the smaller size of both males and females, the grayer color of the wings, and the rounded tornus of forewing. The female genitalia of *D. maria* (Fig. 10) differ from *D. templi* and *D. lama* published in (Volynkin 2012b) by more shorter apophyses, narrower and less sclerotized antrum and ductus bursae. Corpus bursae in *D. maria* is broader, tapering more strongly to the appendix bursae than in *D. templi* and it differs well from the round corpus bursae in *D. lama*.

**Distribution and bionomics.** The species is currently known from Altai Mountains in Russia (Altai Republic) and in Western Mongolia (Fig. 17). Imago activity is observed in late September-October. Specimens were collected on dry steppe slopes at an altitude of 1600–2000 m a.s.l. Biotopes of this species are mainly arid mountainous areas with sparse arid herbaceous vegetation without the participation of tree and shrub species in the vicinity of the village of Telengit-Sortogoi (Fig. 15) and with the presence of *Larix sibirica*, *Juniperus sabina*, *Caragana bungei* and *Lonicera* in the Kurai steppe (Fig. 16). Imagoes are nocturnal and are well attracted to light. Moths flight is observed throughout the night if the temperature does not drop below -2°C. The preimaginal stages and host plants are unknown.



**Figures 1–8.** Adults of *Dasypolia* spp.: 1–6 *Dasypolia maria*, Russia, Altai Republic, Tel-engit-Sortogoi, 17–19.09.2025 (CSKO); 7 – *Dasypolia lama*, Russia, Altai Republic, Kurai, 16–17.09.2025 (CVIN); 8 – *Dasypolia templi*, Russia, Altai Republic, Kurai, 16–17.09.2025 (CSKO). 1, 2, 7, 8 – males; 3, 4, 5, 6 – females.



**Figures 9–10.** Genitalia of *Dasypolia maria*: 9 – male, slide SK0090, specimen deposited in CSKO; 10 – female, slide SK0089, specimen deposited in CSKO.

### *Dasypolia lama* Staudinger, 1896

**Material examined.** 1♂, 16-17.09.2025, Russia, Altai Republic, Kosh-Agachsky district, 4 km W of Kurai village, Kuraiskaya steppe, h=1630, 50.245907, 87.875216, V.V. Ivonin (CVIN).

**Remark.** Rare species distributed in South Siberian mountains, Mongolia and NW China (Volynkin 2012; Sinev 2019). New finding complement the range of the species in Altai Republic.

### *Dasypolia templi* (Thunberg, 1792)

**Material examined.** 14 specimens, 7.V.2019, Russia, Altai Republic, Ongudaisky district, 4 km SE of Ongudai, h=850 m, 50.734808, 86.218118, S.A. Knyazev (CSKO); 3♂, 14-15.09.2025, Russia, Altai Republic, Ongudaisky district, 1,3 km NE



of Stepushka boundary, h=750 m, 50.763610, 86.420060 S.A. Knyazev, V.V. Ivonin (CSKO, CVIN); 2♂, 1♀, 16-17.09.2025, Russia, Altai Republic, Kosh-Agachsky district, 4 km W of Kurai village, Kuraiskaya steppe, h=1630, 50.245907, 87.875216, S.A. Knyazev, V.V. Ivonin (CSKO, CVIN); 2♂, 17-18.09.2025, Russia, Altai Republic, Kosh-Agachsky district, 7 km E of Telengit-Sortogoi village, h=2000, 50.000087, 88.844735, S.A. Knyazev (CSKO); 10♂, 19-20.09.2025, Russia, Altai Republic, Ulagansky district, Aktash village, h=1550 m, 50.334147, 87.649947, S.A. Knyazev (CSKO).

**Remark.** The most common late autumn and early spring overwintering species in Altai Republic. The new findings complement and clarify the distribution of the species on the territory of the Russian Altai.



**Figures 11–14.** Adult specimens of *Dasypolia maria* in nature: **11** – male, Russia, Altai Republic, Telengit-Sortogoi, 18.09.2025 (photo by S.A. Knyazev); **12** – male, Russia, Altai Republic, Telengit-Sortogoi, 17.09.2025 (photo by S.A. Knyazev); **13** – male, Russia, Altai Republic, Telengit-Sortogoi, 18.09.2025 (photo by S.A. Knyazev); **14** – female, Russia, Altai Republic, Kurai, 17.09.2025 (photo by S.A. Knyazev).

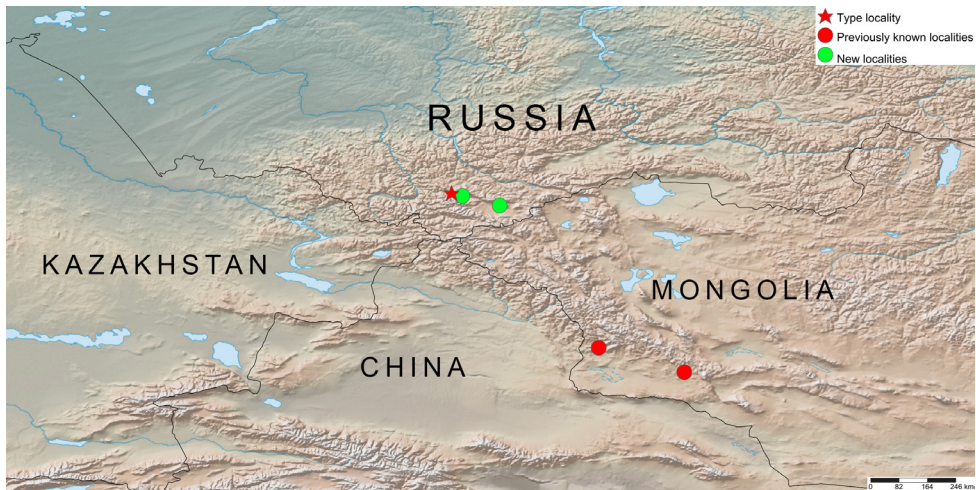


**Figure 15.** Habitat of *Dasypolia maria*: Russia, Altai Republic, Kosh-Agachsky district, 7 km E of Telengt-Sortogoi village, h=2000, 50.000087, 88.844735, 18.09.2025, photo by S.A. Knyazev.



**Figure 16.** Habitat of *Dasypolia maria*: Russia, Altai Republic, Kosh-Agachsky district, 4 km W of Kurai village, Kuraiskaya steppe, h=1630, 50.245907, 87.875216, 16.09.2025, photo by S.A. Knyazev.





**Figure 17.** Distribution map of *Dasypolia maria*.

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