



SHILAP Revista de Lepidopterología

ISSN: 0300-5267

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Sociedad Hispano-Luso-Americana de
Lepidopterología
España

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SHILAP Revista de Lepidopterología, vol. 43, núm. 171, septiembre, 2015, pp. 377-380

Sociedad Hispano-Luso-Americana de Lepidopterología
Madrid, España

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Description of a new *Anomalotinea* Spuler, 1910 species from the Moroccan High Atlas Mountains with a brachypterous female (Lepidoptera: Tineidae)

R. Gaedike & J. Kullberg

Abstract

Anomalotinea tisliticola Gaedike & Kullberg, sp. n. is described from the Moroccan High Atlas Mountains. The species is the first member of the genus with a brachypterous female.

KEY WORDS: Lepidoptera, Tineidae, *Anomalotinea*, new species, Morocco.

Descripción de una nueva especie de *Anomalotinea* Spuler, 1910 de las montañas del Alto Atlas marroquí, con una hembra braquíptera (Lepidoptera: Tineidae)

Resumen

Se describe Anomalotinea tisliticola Gaedike & Kullberg, sp. n. de las montañas del Alto Atlas marroquí. Esta especie es el primer miembro del género con una hembra braquíptera.

PALABRAS CLAVE: Lepidoptera, Tineidae, *Anomalotinea*, nueva especie, Marruecos.

Introduction

In the material, which was sent to the first author for determination, there was a series of Tineidae specimens, which belonged to a new species in the genus *Anomalotinea* Spuler, 1910. Especially interesting is that the series contains also a brachypterous female. This is the first evidence of brachyptery in the genus *Anomalotinea*. However as the female was not found copulating with a male we used DNA Barcode analysis for confirming, that both sexes belong to the same taxon.

The genus *Anomalotinea* is distributed in the Palearctic and hitherto there are twelve known species, most of them occurring in North Africa. No information is available about the biology of the genus or of *A. tisliticola*.

The type series is deposited in the collection of the Finnish Museum of Natural History, Helsinki, Finland (FMNH) and in the collection of the Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany (SDEI).

Results

***Anomalotinea tisliticola* Gaedike & Kullberg sp. n.**

Holotype: 1 ♂, "Morocco, Middle Atlas 2270 m, 32° 11' 30"N, 5° 38' 08"W, Er Rachidia

Prov., Lake Tislit, steppe hill 4 km N Imchil, 11-V-2010, J. Kullberg & Z. Kolev leg.;" "DNA sample 23494 Lepid Phyl.;" "Holotypus ♂, *Anomalotinea tisliticola* sp. n. det. R. Gaedike 2014;" FMNH; BankIt1793982 LEFIJ2282-14.COI-5P. Paratypes: 4 ♂♂, same dates as the holotype; "Gen. präp. [genitalia slide] R. Gaedike 8008, 8009, 8022;" FMNH; SDEI; 1 ♀, same dates as the holotype; "Gen. präp. [genitalia slide] R. Gaedike 8006;" "DNA sample 23888 Lepid Phyl.;" FMNH. BankIt1793982 LEFIJ2450-14.COI-5P KP

Description: Male (Fig. 1): wingspan 15-16 mm, head brush pale cinnamon, above palpi somewhat paler; antenna dark brown and pale yellowish ringed, upper side of scapus pale yellowish; labial palpi nearly white, second segment apically bristled. Thorax, tegulae and forewings pale cinnamon, forewings without any pattern; hindwings dark grey.

Female (Fig. 2): wingspan 11 mm (brachypterous), head brush pale clay-coloured, antenna ringed too, but scapus and the first segments of flagellum unicoloured pale clay-coloured; also thorax, tegulae and the brachypterous forewings are pale clay-coloured; hindwings, in contrast to males, shiny whitish. Both fore- and hindwings apically pointed.

Variation: Colouration of some specimens more pale brownish.

Male genitalia (Figs 3-6): Shape of uncus characteristic for the genus, tegumen broad, basal edge strongly sclerotized, vinculum and saccus longer than uncus-tegumen complex, more or less triangular; arms of gnathos curved, apically pointed. Valva as long as uncus-tegumen complex, costal edge straight, apically rounded, ventral edge basally with square (formed?) process, apically prolonged into a pointed process. Phallus as long as vinculum-saccus-complex, straight, narrow, with two thin, strong sclerotized cornuti.

Female genitalia (Fig. 7): Anterior apophyses unforked, ostium immersed, the edge strongly sclerotised, laterally enlarged to a triangular plate.

Diagnosis: Superficially not distinguishable from *A. fulvescentella* (Lucas, 1956) and *A. wernoi* Gaedike, 2009, both from Morocco. Clear differences are seen in the genitalia structure. The phallus of both species has two hook-shaped cornuti and the shape of valvae is clearly different.

Etymology: Named after the location - Lake Tislit - of the type series.

Biology: Preimaginal states unknown. The type series was collected after a cold night, early morning in sunshine, well before butterflies were on the wing approx. 07:00-08:00. The males were swarming about 10-40 cm above the ground in locally barren dry meadow with tussock grasses, *Astragalus* and *Salvia* ssp. The only female was collected beating the low tussock vegetation on the same place where males were observed (figs 8-9). At the locality there were many of ant nests.

At night temperature fell quickly close to zero and the microlepidoptera catch was very poor at the locality. However some day flying species can be used to characterize the locality since Lycaenidae species such as *Plebejus punctifera* (Oberthür, 1876) *P. escheri* (Hübner, [1823]) and Satyrinae as *Melanargia occitanica* Esper, 1793 and *M. ines* (Hoffmannsegg, 1804) are endemic.

Remarks: One male and the only female were barcoded and the difference between them was 0.3%. Normally the difference between even closely related Tineidae species are several percent's, as e.g. in certain Holarctic cases such as *Scardia*, *Triaxomera*, *Nemapogon*, *Elatobia* and *Tinea* (LANDRY *et al.*, 2013), which are clearly clumped accordingly, but often with remarkable variation within the species. Also the only other barcoded *Anomalotinea* in the BOLDSysmcs, namely *A. cubiculella*, is not even close to *A. tisliticola* (M. Mutanen, pers. com.). The sequences of *A. tisliticola* are publicly available in GenBank under accession numbers KP697340 – 697341.

Acknowledgements

We are grateful for Dr. Marko Mutanen for receiving barcodes of *A. tisliticola* and commenting the results and MSc. Zdravko Kolev for accompanying us in the field. The expedition was financed and organized by Prof. Ilkka Hanski and Metapopulation Research Group of Helsinki University.

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(Recibido para publicación / *Received for publication* 29-I-2015)

(Revisado y aceptado / *Revised and accepted* 5-III-2015)

(Publicado / *Published* 30-IX-2015)

