



SHILAP Revista de Lepidopterología

ISSN: 0300-5267

avives@eresmas.net

Sociedad Hispano-Luso-Americana de
Lepidopterología
España

Fibiger, M.; Kravchenko, V. D.; Ronkay, L; Mooser, J.; Muller, G. C.
A new species in the genus *Pseudohadena* Alphéraky, 1889 from Israel (Lepidoptera: Noctuidae,
Xyleninae)

SHILAP Revista de Lepidopterología, vol. 34, núm. 136, 2006, pp. 337-343

Sociedad Hispano-Luso-Americana de Lepidopterología
Madrid, España

Available in: <http://www.redalyc.org/articulo.oa?id=45513602>

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System

Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal

Non-profit academic project, developed under the open access initiative

A new species in the genus *Pseudohadena* Alphéraky, 1889 from Israel (Lepidoptera: Noctuidae, Xyleninae)

M. Fibiger, V. D. Kravchenko, C. Li, J. Mooser & G. C. Muller

Abstract

A large amount of Lepidoptera faunal material was collected during the last 20 years on Mt. Hermon, northern Israel, by the Israeli-German project for the study of Israeli Lepidoptera. Recently, a single male specimen of a new species of the genus *Pseudohadena* was found, and appears to be a sister-species of the Mediterranean, allopatrically distributed *Pseudohadena chenopodiphaga* (Rambur, 1832). The new species, *Pseudohadena (Eremohadena) eibinevoi* Fibiger, Kravchenko, Li, Mooser & Muller, sp. n. and its habitat is described and pictured herein and its habitat is described and pictured herein.

KEY WORDS: Lepidoptera, Noctuidae, Xyleninae, *Pseudohadena*, new species, zoogeography, Israel

Una nueva especie en el género *Pseudohadena* Alphéraky, 1889 de Israel (Lepidoptera: Noctuidae, Xyleninae)

Resumen

Una gran cantidad de material de Lepidoptera fue colectado durante los últimos 20 años en el Monte Hermon, norte de Israel, por el proyecto Germano-israelí para el estudio de los Lepidoptera de Israel. Recientemente, se encontró un solo espécimen macho de una nueva especie del género *Pseudohadena* y parece ser una especie hermana de la mediterránea, alopatricamente distribuida, *Pseudohadena chenopodiphaga* (Rambur, 1832). Se describe su hábitat y se ilustra aquí la nueva especie *Pseudohadena (Eremohadena) eibinevoi* Fibiger, Kravchenko, Li, Mooser & Muller, sp. n.

PALABRAS CLAVE: Lepidoptera, Noctuidae, Xyleninae, *Pseudohadena*, nueva especie, zoogeografía, Israel

Introduction

The Israeli-German project for the study of Israeli Lepidoptera fauna conducted widespread collecting from 1986-2006. This project was a joint effort of The Hebrew University, Tel Aviv University, The Nature Reserves and Park Authority of Israel, the Zoologische Staatssammlung Munich in Germany, and Museum Witt in Munich, Germany. Over a period of 18 years, Lepidoptera were collected on a total of approximately 3000 nights by mobile light traps powered by generator (250 Watt bulbs HQL & ML) and on approximately 1500 nights by mobile light trap systems powered by batteries (12Volt 8 Watt & 20Watt, 6 Volt 4 Watt Black light UVB tubes). The traps were moved on a daily basis. Additionally, a widespread network of permanent light traps (220V 20W Black light UVB & UVC tubes) was maintained. These traps were relocated on an annual basis. Each year, 10-34 traps were in operation. Although the traps were spread fairly evenly over the country, special attention was paid to northern Galilee, with its high biodiversity, during the last ten years of the study. It was here, within several hundred square kilometres, that most of the new Israeli Lepidoptera species were found.

The Mt. Hermon is cluster of mountains with three distinct summits. The highest peak is approxi-

M. FIBIGER, V. D. KRAVCHENKO, C. LI, J. MOOSER & G. C. MULLER

mately 2800 m. a. s. l. and they comprise the southernmost part of the Anti-Lebanon mountain range. The area is well known for its wealth of indigenous animals and plants however, it is a sensitive border area between Israel, Lebanon and Syria and as such it was, in the last few decades, extremely difficult to collect material, especially at night.

The highest elevation in Israel is 2224 m. a. s. l. The Mt. Hermon range is mostly limestone, while the Golan Heights, to the south, are mostly composed of basalt and other types of volcanic rock, forming a plateau that drops off to the west, to the Jordan River and the Sea of Galilee and to the south, to the Yarmouk River to 200 m below Sea level. The higher summits of Mt. Hermon are covered with snow in summer, while less than 50 km towards the south, in the Rift Valley, the temperatures are subtropical even in winter. Little was collected in this area with light traps before the Israeli German Project (HAUSMANN, 2005). The period from late autumn through winter to early spring proved to be an especially rewarding time to discover many new records and several new species (MULLER, *et al.*, 2005).

Recently, in the region described above, a single *Pseudohadena* Alphéraky, 1889, male was collected in a portable miniature light trap. The specimen looked like the rare, but well known *Pseudohadena chenopodiphaga* (Rambur, 1832) at first glance. Later, examination of the genitalia revealed considerable differences of the juxta and the everted vesica as only found in different species.

Taxonomic Notes

The genus *Pseudohadena* Alphéraky, 1889 is described in *Mémoires sur les Lépidoptères*, 5: 163, with the type species: *Hadena armata* Alphéraky, 1887.

The new species is superficially similar to *Pseudohadena chenopodiphaga* (Rambur, 1832), nevertheless the male genital show specific differences. The *chenopodiphaga* species-group was erected by RONKAY & VARGA (1993); however, the subgenus *Eremohadena* Ronkay, Varga & Fábíán, 1995 (stated as a genus) did not originally include the *chenopodiphaga* species-group. More recently, in RONKAY, VARGA & GYULAI (2002) it is included.

Three subspecies of *Pseudohadena chenopodiphaga* (Rambur, 1832) are presently known: the nominotypic subspecies (figs 2, 5-6) described from Corsica; subspecies *erubescens* (Staudinger, 1901), described from North-West Africa: Algeria and Mauritania; and *roseotincta* (Turati, 1929), described from Libya, Sidi Messri. The easternmost records of *P. chenopodiphaga* are from Crete (FIBIGER, 1992) and Cyprus (FIBIGER, NILSSON & SVENDSEN, 2000).

***Pseudohadena (Eremohadena) eibinevoi* Fibiger, Kravchenko, Li, Mooser & Muller, sp. n.** (Figs. 1, 3-4)

Holotype ♂ Israel: Mt. Hermon, 1700 m, May, 2001, leg. V. Kravchenko, genit. prep. 5375 M. Fibiger, coll. Tel Aviv University.

Description and differential diagnosis

Wingspan: 51 mm. Antennae ciliate. Fronts smoothly rounded. Labial palps porrect, third joint cylindrical, slightly downwards bent, second segment twice as long, heavily tufted ventrally. Head, thorax and ground colour of forewing greyish, light brown, suffused with black scales. Forewing long and narrow, pointed by apex. Basal streak prominent, black. Cross-lines present, though weakly marked. Orbicular, reniform and claviform stigmata well marked. Subterminal line jagged, with wedge-shaped marks subcostally. Terminal line wavy, brownish. Fringes greyish brown. Hindwing unicolorous light grey by basal area, darker towards termen; with an indistinct discal spot and medial line; and light grey fringes. Underside unicolorous light grey, with well marked discal spots and median lines on both wings (superficially hardly separable from *P. chenopodiphaga*).

The male genitalia: Uncus prominent, slightly spatulate subapically, tapered towards tip (that of *P. chenopodiphaga* is broader spatulate). Tegumen longer than vinculum, penicellus large and rounded

A NEW SPECIES IN THE GENUS *PSEUDOHADENA* ALPHÉRAKY, 1889 FROM ISRAEL

(that of *P. chenopodiphaga* is large and quadrangular). Saccus relatively short, V-shaped. Valve long and narrow, broadest by clavus, and with a subapical hump. Sacculus triangular, clavus inconspicuous. Both costal and ventral margins heavily sclerotised. Tip of digitus ventrally directed, asymmetrical, that of right valve ending in a triangular process; that of the left side less acute (the tips of the digitus of *P. chenopodiphaga* are narrower, pointed and spine-like). Clasper almost parallel with valve margins. Ampulla huge, reaching way above costa, subapically bent, apically club-like (that of *P. chenopodiphaga* is conspicuously longer and narrower). Editum large, heavily sclerotised, setose, positioned close to posterior end of clasper. Transtilla medially - above juxta - heavily sclerotised, broad, plate-like (that of *P. chenopodiphaga* is much narrower). Juxta long, bone-like - with clubs at both ends (that of *P. chenopodiphaga* is equally long, but triangular, narrow dorsally).

Aedeagus long, straight and narrow, 5 x longer than wide. Vesica equally narrow as aedeagus, membranous, 2 times longer than aedeagus; coiling medially in a narrow, full loop; subapically with a large cone-line diverticulum; apically with a prominent spine-like cornutus (aedeagus of *P. chenopodiphaga* is slightly broader, vesica twice as wide as aedeagus; 2 times longer than aedeagus; curving gently in a large, half loop; subapically with a huge cone-like diverticulum, apically with a similar cornutus as that of *P. eibinevoi*).

Distribution, habitat description and phenology

Thus far, *P. eibinevoi* was only collected in Israel in the temperate region, on the upper altitudes of Mt. Hermon. It is highly probable that this species will also be found in the Syrian and Lebanese parts of Mt. Hermon, possibly even further north in the Anti-Lebanon mountain ridge. Even with an extended distribution pattern, this species is probably indigenous to the Levant. Though this sole specimen was collected in early May, it might, like the other congeners, fly from late autumn through winter to early spring.

To date, the new species was observed only once in a xerotherm montane steppe on a south exposed karstic, rocky slope with some patches of grass, herbaceous annuals, scattered *Crataegus azarolus*, and *Rosa canina* dwarf bushes.

The host plants of *P. eibinevoi* are unknown, however, the larvae of the sister species *P. chenopodiphaga* are oligophagous feeding on foliage of *Chenopodium fruticosum*, *Atriplex portulacoides* and *Salsola soda* plants which are not found on the higher altitudes of Mt. Hermon.

Etymology

This species is named in honour of Eviatar Nevo Professor of Evolutionary Biology and holder of the Chair in Evolutionary Biology, a Fellow of the American Association of the Advancement of Science, a Member of the New York Academy of Sciences and a Foreign Member of the Linnaean Society of London, and a Foreign member of the National Academy of Science of Ukraine; a world renowned ecologist with hundreds articles in peer-reviewed journals and an author of numerous books.

BIBLIOGRAPHY

- FIBIGER, M., 1992.- Contribution to the knowledge of the Lepidoptera fauna of Greece. Noctuidae on Crete during November 1991-with description of one new species and three new subspecies (Lepidoptera, Noctuidae).- *Esperiana*, **3**: 379-390.
- FIBIGER, M, NILSSON, D. & SVENDSEN, P., 1999.- Contribution to the Noctuidae fauna of Cyprus, with descriptions of four new species, six new subspecies, and reports of 55 species not previously found on Cyprus (Lepidoptera, Noctuidae).- *Esperiana*, **7**: 639-667.
- RONKAY L. & VARGA, Z. 1993. Taxonomic Studies on the Genera *Pseudohadena* Alphéraky, 1889 and *Auchmis* Hübner, [1821] (Lepidoptera, Noctuidae), Part IV.- *Acta zool. hung.*, **39**: 211-248.
- RONKAY L., VARGA, Z. & FÁBIÁN, G., 1995.- Taxonomic Studies on the Genus *Pseudohadena* Alphéraky, 1889. Part V. The Revision of the genus *Pseudohadena* s. str.- *Acta zool. hung.*, **41**: 251-282.

M. FIBIGER, V. D. KRAVCHENKO, C. LI, J. MOOSER & G. C. MULLER

- RONKAY L., VARGA, Z. & GYULAI, P., 2002.– Taxonomic Studies on the Genus *Pseudohadena* Alphéraky, 1889 (s. l.). Part VI. Descriptions of eight New Taxa of *Pseudohadena* (s. l.) and a New *Heterographa* Staudinger, 1877 Species (Lepidoptera, Noctuidae).– *Acta zool. hung.*, **48**: 41-77.
- HAUSMANN, A., 2005.– Schmetterlinge aus dem Land der Bibel. In K. SCHOENITZER (ed.).– Tiere und Kunst aus Israel.– *Ber. Freunde ZSM*, **2**: 18-21.
- MULLER, G. C., KRAVCHENKO, V. D. & SCHLEIN, Y., 2005.– Die Erforschung der Israelischen Lepidopteren Fauna. In K. SCHOENITZER (ed.).– Tiere und Kunst aus Israel.– *Ber. Freunde ZSM*, **2**: 30-39.

M. F.
Molbechs Alle 49
DK-4180 Sorø
DINAMARCA / DENMARK

V. K.
Department of Zoology
The George S. Wise Faculty of Life Sciences
Tel Aviv University
Ramat Aviv 69978
ISRAEL / ISRAEL

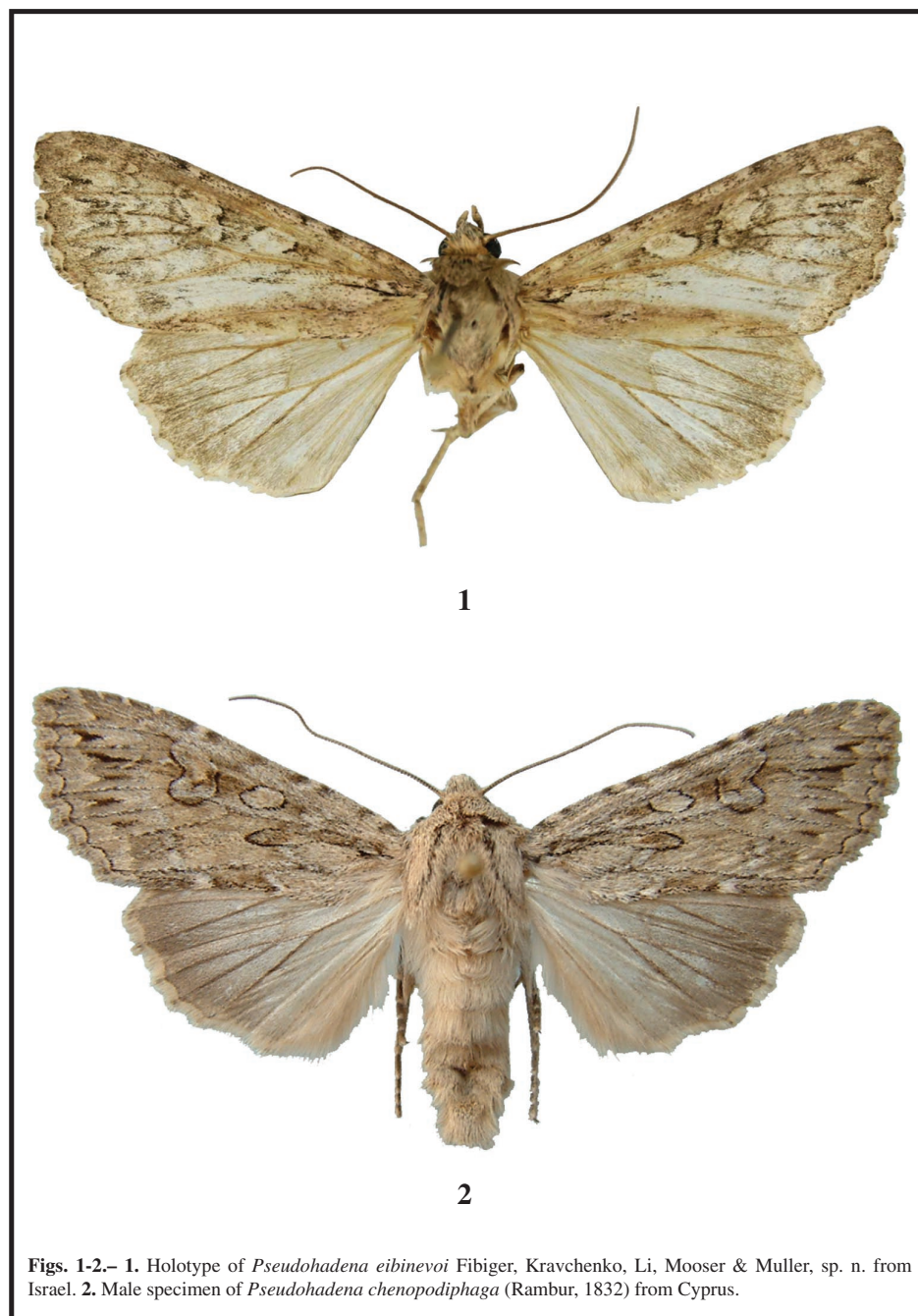
C. L.
Department of Parasitology
Kuvim Centre for the Study of
Infectious and Tropical Diseases
The Hebrew University -
Hadassah-Medical School
Jerusalem
ISRAEL / ISRAEL

J. M.
Seilerbruecklstrasse, 2
D-85354 Freising
ALEMANIA / GERMANY

C. G. M.
Department of Parasitology
Kuvim Centre for the Study of Infectious and Tropical Diseases
The Hebrew University - Hadassah-Medical School
Jerusalem
ISRAEL / ISRAEL

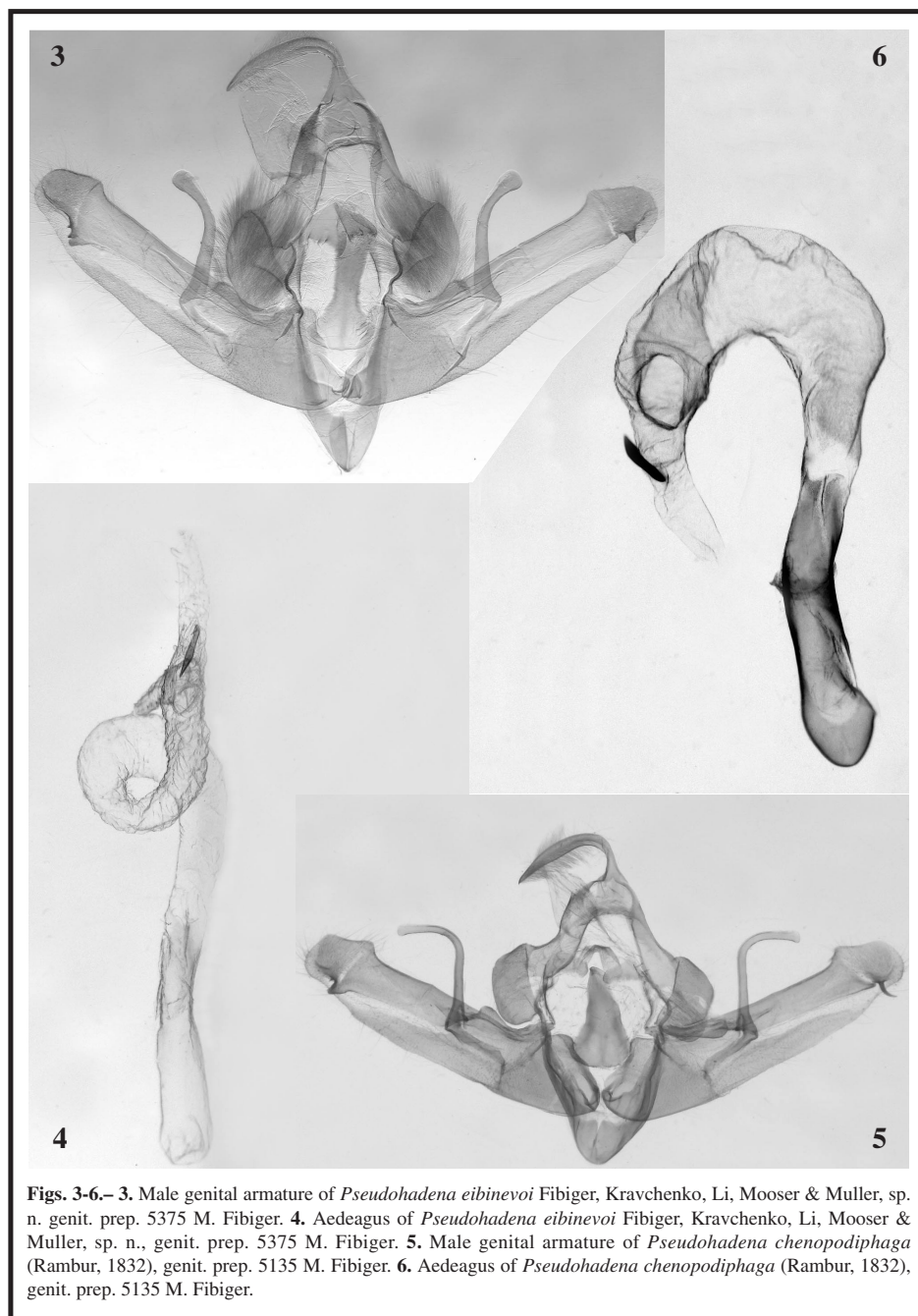
(Recibido para publicación / Received for publication 30-IX-2006)
(Revisado y aceptado / Revised and accepted 20-X-2006)

A NEW SPECIES IN THE GENUS *PSEUDOHADENA* ALPHRAKY, 1889 FROM ISRAEL



Figs. 1-2.– 1. Holotype of *Pseudohadena eibinevoi* Fibiger, Kravchenko, Li, Mooser & Muller, sp. n. from Israel. 2. Male specimen of *Pseudohadena chenopodiphaga* (Rambur, 1832) from Cyprus.

M. FIBIGER, V. D. KRAVCHENKO, C. LI, J. MOOSER & G. C. MULLER



A NEW SPECIES IN THE GENUS *PSEUDOHADENA* ALPHRAKY, 1889 FROM ISRAEL



Fig. 7. Habitat of *Pseudohadena chenopodiphaga* (Rambur, 1832), Southern slope of Mt. Hermon, 1700 m., pictured mid April, 2006.