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SHILAP Revista de Lepidopterología, vol. 38, núm. 150, junio, 2010, pp. 153-158

Sociedad Hispano-Luso-Americana de Lepidopterología

Madrid, España

Disponible en: <http://www.redalyc.org/src/inicio/ArtPdfRed.jsp?iCve=45518149004>

**SHILAP**

**REVISTA DE LEPIDOPTEROLOGIA**

*SHILAP Revista de Lepidopterología*

ISSN (Versión impresa): 0300-5267

[avives@eresmas.net](mailto:avives@eresmas.net)

Sociedad Hispano-Luso-Americana de

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# On the finding of four recently spreading Noctuidae species in Spain (Lepidoptera: Noctuidae)

J. Šumpich & M. Dvořák

## Abstract

Records are reported of four Noctuidae species collected in Spain between 2005 and 2008, namely *Araeopteron ephaea* (Hampson, 1914), *Polymixis germana* (Rothschild, 1914), *Mythimna languida* (Walker, 1858) and *Actebia photophila* Guenée 1852. An increasing number of findings for *A. ephaea* and *M. languida* at various sites in Europe in recent years strongly suggests the recent spreading of these species outside their former area. Also *P. germana* and *A. photophila* appear to be increasing their range. This paper presents only the second record of faunistic data for these species from Europe.

KEY WORDS: Lepidoptera, Noctuidae, *Araeopteron ephaea*, *Polymixis germana*, *Mythimna languida*, *Actebia photophila*, spreading, Spain.

## Sobre el reciente descubrimiento de cuatro especies de Noctuidae que aumentan su distribución en España (Lepidoptera: Noctuidae)

## Resumen

Se citan cuatro especies de Noctuidae capturadas en España entre los años 2005 a 2008, a saber: *Araeopteron ephaea* (Hampson, 1914), *Polymixis germana* (Rothschild, 1914), *Mythimna languida* (Walker, 1858) y *Actebia photophila* Guenée 1852. El incremento del número de citas para *A. ephaea* y *M. languida* en varios sitios en Europa en los últimos años, sugiere una ampliación de su área de distribución hasta ahora conocida. También *P. germana* y *A. photophila* parecen aumentar su área de distribución. Este trabajo presenta solamente la segunda cita de datos faunísticos para estas especies en Europa.

PALABRAS CLAVE: Lepidoptera, Noctuidae, *Araeopteron ephaea*, *Polymixis germana*, *Mythimna languida*, *Actebia photophila*, distribución, España.

## Introduction

While participating in SHILAP Scientific Project excursions to Spain between 2005 and 2008, we collected a number of Lepidoptera species, including members of the so-called Microlepidoptera, many of which are interesting from an ecological or faunistic point of view. Due to the first author's specialisation in small moths (Microlepidoptera), we were able to detect also a very small Noctuidae species presented here. The full results from these excursions will be published in the near future. In this study, we report only on four interesting noctuid species that are of significance in the European context. We also include faunistic and habitat details relating to each species.

## Material and methods

All the lepidopteran species were attracted using 8 W and 15 W fluorescent ultraviolet lamps.

The species attracted were determined on the spot, notes taken on the local habitat, and selected specimens stored in plastic boxes that conserved the material under optimal humidity conditions throughout the expedition. Upon returning to the laboratory, the specimens were prepared and determined. The significance of the species on a European scale was also determined at this time and faunistic details relating to each species noted. The material is deposited in the authors' collections.

## Results

### *Araeopteron ecphaea* (Hampson, 1914)

Material: Alicante, Santa Pola, 50 m, 26-27-IX-2005, 4 specimens, J. Šumpich leg., det. & coll. (3 specimens), 1 specimen coll. M. Dvořák. This is an inconspicuous and easily overlooked small noctuid species whose European occurrence and taxonomic position were only recognised recently by FIBIGER & AGASSIZ (2001). These authors reported on all the European localities of this species then known and provided summarised information on its worldwide distribution. FIBIGER *et al.* (2006) subsequently added the first records from Malta and Corsica. A re-description of the species (FIBIGER & AGASSIZ 2001) allowed for easier determination and resulted also in additional records from Spain. Today, the species is also known from Andalusia (FIBIGER & AGASSIZ, 2001), Catalonia (FIBIGER & AGASSIZ, 2001; REQUENA, 2002; VALLHONRAT *et al.*, 2006) and now Valencia (see material). Our sample was captured on salt marshes, 1 km south of Balsares near Santa Pola (Fig. 1), using an 8 W super actinic fluorescent tube. The habitat, originally part of a large complex of saltwater wetlands along the coast of the Mediterranean Sea, is presently very disturbed. While some of the nearby larger salt marshes are strictly protected (e. g. Salmesda Santa Pola Natural Park and RAMSAR site), others (including this one) are likely to disappear due to anthropogenic activity (e.g. through building and tourism). Figure 2 shows the voucher specimen of this species. *A. ecphaea* was collected in association with both halophilous and hygrophilous species. FIBIGER & AGASSIZ (2001) discussed the possibility of this species' spreading, pointing out that it may have been overlooked in past studies. A hidden answer to this question may be discovered by examining older private and museum collections to determine whether or not they contain this species.

### *Polymixis germana* (Rothschild, 1914)

Material: Alicante, Sierra de Salinas, Salinas, 25-IX-2005, 1 specimen J. Šumpich leg. & coll., M. Dvořák det. *P. germana* was only recently mentioned as a new species in Europe (CERVELLÓ *et al.*, 2006). In October 2004, two specimens had been captured in southern Spain, not far from Turre in the Sierra Cabrera. Our specimen was found in September 2005, north of this location. We believe that our record is related to the previously recorded occurrence in that all the records are a consequence of its spreading from the northern countries of Africa (RUNGS, 1981; CERVELLÓ *et al.*, 2006). The habitat in Sierra de Salinas is very similar to that in Sierra Cabrera (CERVELLÓ *et al.*, 2006) and is mainly comprised of rocky steppe (Fig. 3). Our voucher specimen (Fig. 4) represents only the second record of its occurrence in Europe.

### *Mythimna languida* (Walker, 1858)

Material: Almería, Sierra de Alhamilla, 10 km N of Nijar, 500 m, 13-VI-2007, 1 specimen, M. Dvořák leg., det. & coll.; Almería, Sierra Cabrera, El Agua del Medio Mojacar, 100 m, 4-V-2008, 1 specimen, J. Šumpich leg., det. & coll. This widespread species inhabits mainly the European Mediterranean region. For a long time, it was only known from the south-east part of the Mediterranean. Recently, however, several new records have been added from the western Mediterranean region (PARENZAN & SCALERCIO, 1996; REZBANYAI-RESER & HAUSMANN, 2000a and 2000b; HACKER *et al.*, 2002), including the Spanish mainland (YELA & DE VRIEZE, 2002; DE VRIEZE, 2003). The latter two articles discussed its discovery in the

Iberian Peninsula from a faunistic point of view. Our record corresponds with those opinions in terms of the species' progressive spreading westwards and also confirms its present occurrence in this territory. Photographs of the habitat in which it was found and of the voucher specimen are in figures 5 and 6.

#### *Actebia (Parexarnis) photophila* Guenée 1852

Material: Almería, Sierra de los Filabres, Alto del Calar del Gallinero, 1600-2000 m, 17-18-VI-2007, 1 ♀, M. Dvořák leg., det. & coll. The species was described on the basis of one female from Algeria and its general distribution described as northern Africa, including Morocco (FIBIGER, 1990), where it is locally common in the mountains (we observed many specimens in the Moyen and Haut Atlas Mountains in May 2005). A review of known Moroccan localities is contained in RUNGS (1981). Its occurrence was also later confirmed outside of Africa, in the Canary Islands. The first of these new records were in La Gomera and Tenerife, based on older specimens deposited in the Natural History Museum in London (KOBES, 1995), while newer records have come from Fuerteventura (HACKER & SCHMITZ, 1996). Until very recently, this species had been missing from the checklist of mainland European noctuids (FIBIGER & HACKER, 2005). At the time of writing this article, however, SKULE & NILSSON (2008) are publishing the first records from the European continent, namely quoting Peder Skou's May 2006 records from Tarifa in Andalusia. This locality is situated on the southernmost tip of mainland Spain, where frequent shipping may have resulted in contact between North African and European elements of the lepidopteran fauna. Our record from 2007 is located notably more northeast of the first finding, which we regard as evidence of the species' gradual spreading in this territory in a similar manner as *P. germana*, whose subsequent record was also from the northeast. At the same time, it is necessary to add that the species is unlikely to have been overlooked in Europe in the past. SKULE & NILSSON (2008) do not describe the habitat where their specimens were found, only mentioning the altitude as 300 m a.s.l. The habitat at our locality in Almeria corresponds to the generally known ecological requirements of the species, and can be characterised as rocky slopes with mountain steppe vegetation (Fig. 7). It is worth mentioning that another species of the *Parexarnis* subgenus also occurs on the Iberian Peninsula. However, only one specimen has been recorded in the northeast of Spain, near Fraga in Aragon (DUFAY, 1983). This species was later assigned to *Actebia (Parexarnis) fugax* (Treitschke, 1825) (FIBIGER, 1990). A photograph of our specimen of *Actebia (Parexarnis) photophila* is in figure 8.

#### Conclusion

The noctuid species reported in this study were found in a range of different habitats, suggesting that each species is characterised by differing ecological demands. A common factor to all the species was their location close to the Mediterranean coast, which provides ecological conditions similar to their presumed source of migration in northern Africa. At the time of capture, two of the species, *Polymixis germana* and *Actebia photophila*, had not been observed in Europe, and the first data are being published coincident with the preparation of this paper. Our results, therefore, represent only the second observation of these two species in Europe.

#### Acknowledgements

We would like to thank all of our colleagues for their help, namely Mr. Arcadi Cervelló and Dr. Joseph Ylla for providing the paper relating to *Polymixis germana*, and Dr. José L. Yela and Dr. Hermann Hacker for providing further information. We would also like to thank Dr. Antonio Vives for providing the Spanish translation of the abstract. This research received support from the Czech Ministry of Education (Project LC-6073), the Grant agency of the Czech Academy of Sciences (Grant KJB600070601) and the Biotop Foundation, Prague.

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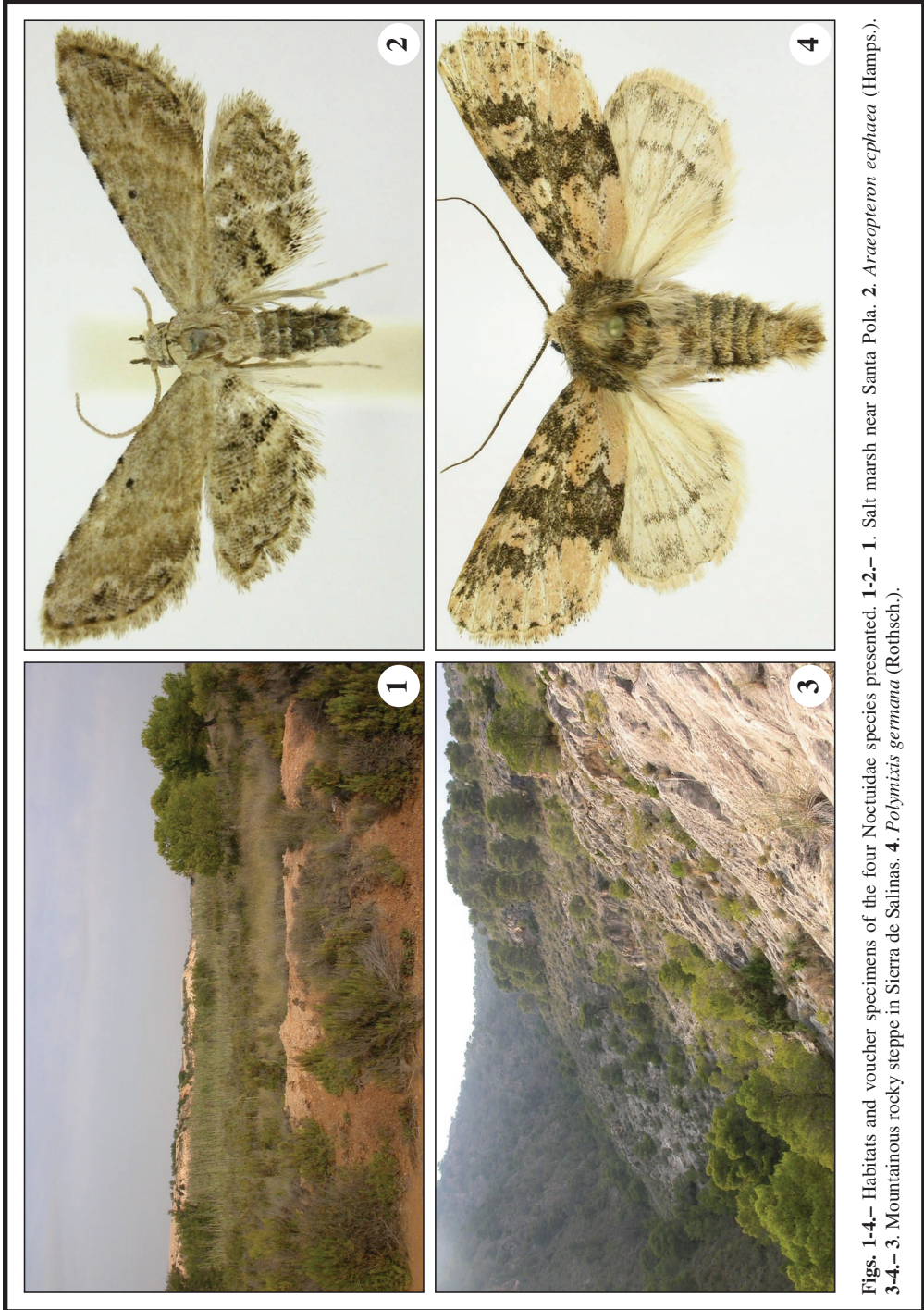
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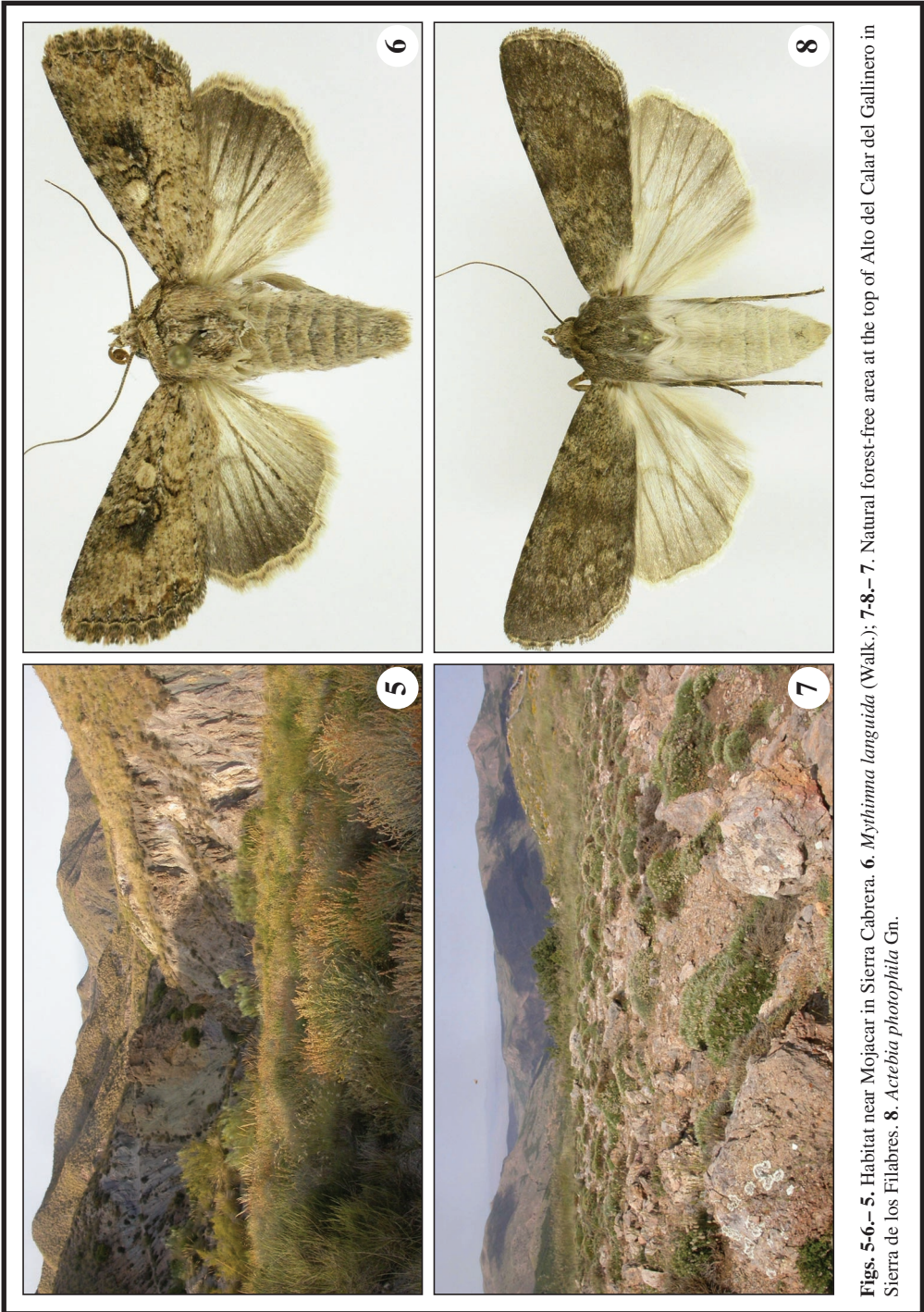
(Recibido para publicación / Received for publication 1-XII-2009)

(Revisado y aceptado / Revised and accepted 7-II-2010)

(Publicado / Published 30-VI-2010)



**Figs. 1-4.**— Habitats and voucher specimens of the four Noctuidae species presented. **1-2.**— **1.** Salt marsh near Santa Pola. **2.** *Araeopteron ephaca* (Hamps.). **3-4.**— **3.** Mountainous rocky steppe in Sierra de Salinas. **4.** *Polymixis germana* (Rothsch.).



Figs. 5-6.- 5. Habitat near Mojacar in Sierra Cabrera. 6. *Mythimna languida* (Walk.); 7-8.- 7. Natural forest-free area at the top of Alto del Calar del Gallinero in Sierra de los Filabres. 8. *Actebia photophila* Gn.