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Distribution and status of *Antheraea pernyi* (Guérin-Méneville, 1855) in the island of Mallorca (Spain) (Lepidoptera: Saturniidae)

S. Pinya, J. J. Suárez-Fernández & X. Canyelles

Abstract

Antheraea pernyi is one of the few Saturniidae moths present in Europe, which was initially introduced in the XIXth Century for its silk-producing qualities, arriving to the Balearic Islands (Mallorca and Menorca) in 1881. Due to the lack of recent citations, *A. pernyi* has been considered scarce or even endangered in Mallorca, since the last published citations date back from the 1960's. Several observations have been recorded during the last few years, indicating that a population of *A. pernyi* still exists. Our data show that the species is distributed in an area close to 54.000 ha and suggest that *A. pernyi* should be considered as a scarce resident in Mallorca.

KEYS WORDS: Lepidoptera, Saturniidae, *Antheraea pernyi*, distribution, Mallorca, Spain.

Distribución y estatus de *Antheraea pernyi* (Guérin-Méneville, 1855) en la isla de Mallorca (España) (Lepidoptera: Saturniidae)

Resumen

Antheraea pernyi es uno de los pocos Saturniidae presentes en Europa, que fue introducido inicialmente en el siglo XIX por sus cualidades de productor de seda, llegando a las Islas Baleares (Mallorca y Menorca) en 1881. Debido a la falta de citas recientes, *A. pernyi* ha sido considerada escasa o incluso en peligro de extinción en Mallorca, ya que las citas más recientes databan de la década de los años 60. Varias observaciones se han registrado durante los últimos años, lo que indica que una población de *A. pernyi* todavía está presente. Nuestros datos muestran que la especie se distribuye en un área próxima a las 54.000 ha, y sugieren que *A. pernyi* debe ser considerada como un residente escaso en Mallorca.

PALABRAS CLAVE: Lepidoptera, Saturniidae, *Antheraea pernyi*, distribución, Mallorca, España.

Introduction

Antheraea pernyi (Guérin-Méneville, 1855) is one of the few Saturniidae moths present in Europe (LERAUT, 2006). It is a night flying moth and is commonly attracted to light (DE VIEDMA & GÓMEZ-BUSTILLO, 1976; LERAUT, 2006). According to the available literature, it can have one single generation or two broods over the year (mid-spring and mid-summer) (DE VIEDMA & GÓMEZ-BUSTILLO, 1976; LERAUT, 2006; LIU *et al.*, 2010).

Originally a native of China, where it was domesticated for silk production (LIU *et al.*, 2010), it is also present from Mongolia and northern China to India and Japan (DE VIEDMA & GÓMEZ-BUSTILLO, 1976). In Europe, it was initially introduced into France in the XIXth Century for its silk-producing qualities (LERAUT, 2006). Its introduction started in 1855 due to an epidemic that affected *Bombyx mori* (PONS, 2000). In Spain, it was first introduced in Navarra and Guipúzcoa (N Spain) in 1875, and later in Barcelona and Castellón de la Plana (E Spain). It arrived in the Balearic Islands

(Mallorca and Menorca) in 1881 (DE VIEDMA & GÓMEZ-BUSTILLO, 1976). Nowadays, its distribution on the European continent is restricted to the Balearic Islands and the province of Barcelona (LERAUT, 2006).

Due to the lack of recent citations, *A. pernyi* has been considered scarce or even endangered in Mallorca, since last published citations date back to the 1960's (COLOM, 1988; DE VIEDMA & GÓMEZ-BUSTILLO, 1976). However, several observations have been recorded during the last few years (Table I), indicating that a resident population of *A. pernyi* still exists on the Island of Mallorca, the north of the Tramontana Mountain Range being the area where it is most abundant (Figure 1).

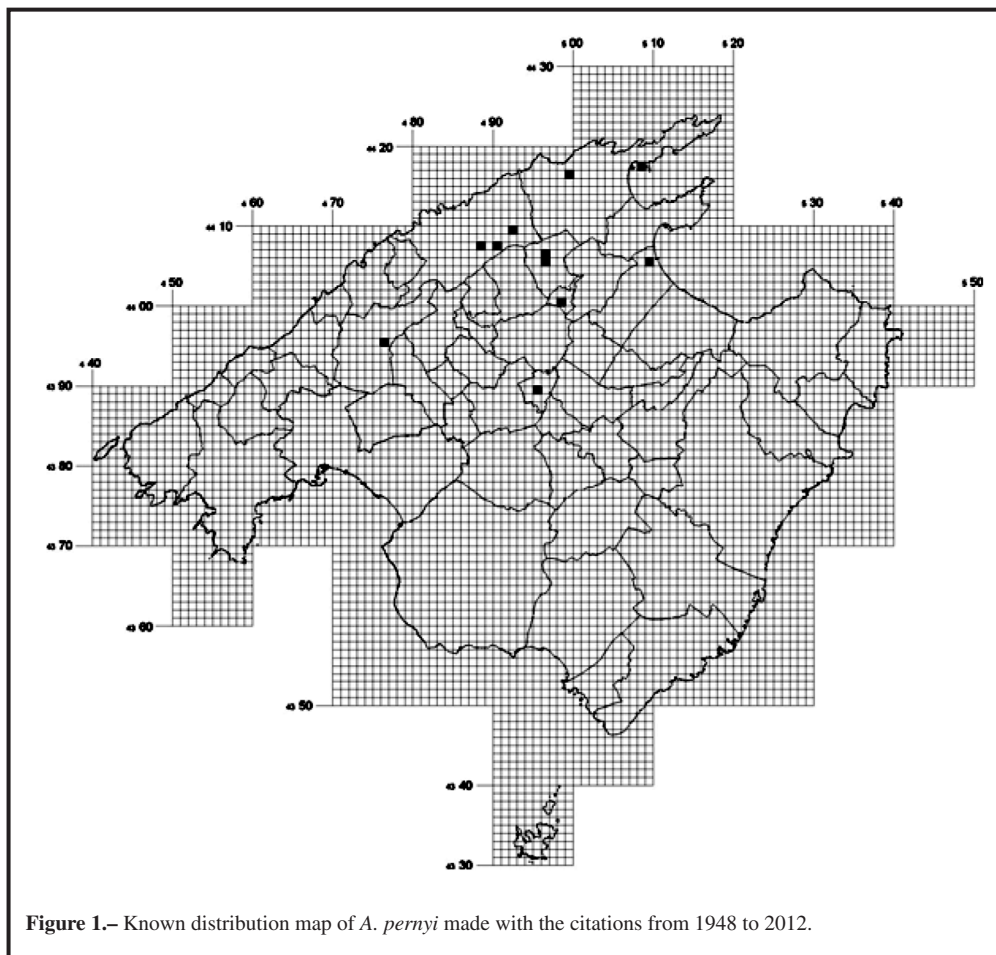


Figure 1.— Known distribution map of *A. pernyi* made with the citations from 1948 to 2012.

Based on our data (Table 1), it seems to be a univoltine species in Mallorca, with one single generation starting in late March and lasting until late May, and even July. The bulk of its population is established in the municipality of Escorca (NW Mallorca), and reaches areas as northern as Pollença, Campanet, Bugar, Costitx and Bunyola within a distribution area of 53.900 ha and an observed occupational area of 11 ha.

A. pernyi is clearly more widespread in Mallorca than was previously thought (DE VIEDMA & GÓMEZ-BUSTILLO, 1976), and nowadays should be considered as a scarce resident in Mallorca.

Further field efforts should be undertaken in order to improve the knowledge of its current distribution and consequently of its current status.

Despite the fact that *A. pernyi* is a non-native, introduced species and it is a non listed species, it is worth highlighting that it is a very scarce moth in Europe. Since it does not behave like an invasive species, nor have there been any documented harmful effects on local biodiversity; its conservation should be taken into account (DE VIEDMA & GÓMEZ-BUSTILLO, 1976). Therefore, special efforts should be addressed to this species, such as the conservation of its habitat: the Mediterranean oak forest. The area where it is distributed is part of the Tramontana Mountain Range Nature Area, ses Fonts Ufanes Nature Monument and several Natura 2000 SPA's and SAC's, so the conservation of its habitat in the Balearic Archipelago is legally guaranteed by the Balearic Environmental Agency.

Date	Nº Individuals	Locality	Municipality	UTM (31N)	Observers	Source
<1948	Unknown	Lluc	Escorca	Unknown		Garcías Font, 1955
V-1948	Unknown	Unknown	Pollença	Unknown	G. Colom Casasnoves	Garcías Font, 1955
25-III-1955	1 female	Unknown	Búger	498 4400	F. Blanes Boysen	Garcías Font, 1955
1956	1 exemplar	Unknown	Pollença	Unknown	Collection Jordà	University of the Balearic Islands
1-IV-1959	1 exemplar	Unknown	Mallorca*	Unknown	Collection Jordà	University of the Balearic Islands
1990	1 exemplar	Sa Roca, s'Albufera de Mallorca	Muro	509 4405	N. Riddiford	Riddiford, 2003
1991-1993	2 females 1 male	Center City	Costix	495 4389	Xavier Canyelles	Museum of Natural History of Costitx
20-III-1999	1 exemplar	Ternelles	Escorca	499 4416	M. Jiménez J. Tapia	Personal Communication
20-III-2005	1 exemplar	Coll de sa Bataia	Escorca	490 4407	J. A. Oliver	Bioatles
21-V-2011	1 male 2 females	Binifaldó	Escorca	492 4409	M. Honey N. Riddiford S. Pinya	Personal Communication
5-VI-2011	1 exemplar	Cases de Cas Garriguer	Bunyola	476 4395	N. Pou Oliver	Personal Communication
30-III-2012	1 male	Voltes d'en Galileu	Escorca	488 4407	J. Bauzá	Bioatles
6-IV-2012	1 male	Port of Pollença	Pollença	508 4417	J. Llompart	Biel Perelló's Communication
21-IV-2012	1 male	Binifaldó	Escorca	492 4409	S. Pinya	Personal Communication
24-IV-2012	1 male	Ses Fonts Ufanes	Campanet	496 4405	A. Vila	Personal Communication
27-IV-2012	5 males	Binifaldó	Escorca	492 4409	M. Honey N. Riddiford S. Pinya J. J. Suárez	Personal Communication
19-V-2012	2 males	Binifaldó	Escorca	492 4409	E. Perelló S. Pinya J. J. Suárez	Personal Communication
22-VII-2012	1 exemplar	Center City	Campanet	496 4406	C. Encinas	Personal Communication

Table I.– Records of *A. pernyi* in Mallorca in a chronological order from 1948 to 2012.



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