

First records of the Oleander hawkmoth *Daphnis nerii* (Linnaeus, 1758) from the Balearic Islands, Spain (Lepidoptera: Sphingidae)

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Abstract

Daphnis nerii (Linnaeus, 1758), the Oleander hawkmoth, is a migrating species with an occasional presence in Europe. In Spain, it was first reported in Andalusia in the mid 19th century. Since then there have only been isolated reports of its occurrence in several provinces of mainland Spain, most of which were located in the eastern side of the country, close to the Mediterranean Sea. To date, there has been no proven evidence of the occurrence of *D. nerii* in the Balearic Islands (Spain). Only eight of Sphingidae species have been recorded previously in the literature from this archipelago, with no evidence of the occurrence of *D. nerii*. Here we provide information about two records of *D. nerii*, one larvae and one adult that constitute the first evidence of the occurrence of this species in the Balearic Islands.

KEY WORDS: Lepidoptera, Sphingidae, *Daphnis nerii*, first report, Balearic Islands, Spain.

Primeros registros de la esfinge de la adelfa *Daphnis nerii* (Linnaeus, 1758) en las Islas Baleares, España (Lepidoptera: Sphingidae)

Resumen

La esfinge de la adelfa, *Daphnis nerii* (Linnaeus, 1758) es una especie migrante con una presencia ocasional en Europa. En España fue documentada por primera vez en Andalucía a mediados del siglo XIX. Desde entonces se han documentado registros aislados de su presencia en varias provincias de España continental, la mayoría de las observaciones se han localizado en la parte más oriental del país próximas al Mar Mediterráneo. Hasta la fecha, no hay evidencia de la presencia de *D. nerii* en las Islas Baleares (España). En este archipiélago sólo ocho especies han sido documentadas previamente. Aquí se aporta información de dos registros de *D. nerii* en estado larvario y adulto, que constituyen la primera evidencia de la presencia de esta especie en las Islas Baleares.

PALABRAS CLAVE: Lepidoptera, Sphingidae, *Daphnis nerii*, primer registro; Islas Baleares, España.

The genus *Daphnis* Hübner, [1819] is comprised of nine species with a tropical and subtropical distribution in the Old World (D'ABRERA, 1986). In Europe only a single species occurs, *Daphnis nerii* (Linnaeus, 1758), which has a Palaeotropical distribution. Records of this species in Europe are generally as immigrant adult individuals, observed in dispersed localities, usually in low numbers (MONTAGUD-ALARIO & ENGRA, 2017). The Oleander hawkmoth, *D. nerii*, occurs in Africa and eastwards as far as the Middle-East; southern Europe where it ventures north, sometimes as far as Scandinavia and Finland, also Ireland and England (LERAUT, 2006). The caterpillar feeds mainly on

the leaves of species of Apocynaceae, such as *Nerium oleander* L. and periwinkle species of the genus *Vinca* (LERAUT, 2006; MONTAGUD-ALARIO & ENGRA, 2017).

Daphnis nerii is an immigrant species (LERAUT, 2006; ROBINEAU *et al.*, 2007). In Europe it seems that migrations occur most years, mainly in central Europe but even in northern Europe, e.g. Finland (LEDERER, 1944) and the United Kingdom (MRH pers. comm.). In mainland Spain the first record was from Andalucía (RAMBUR, 1842), and later on, from other isolated reports it was documented from different provinces of Spain (AGENJO, 1971). Most of the reports are prior to the 21st century but the most recent are from Valencia community in 2016 when reproduction were confirmed (MONTAGUD-ALARIO & ENGRA, 2017), which suggests that *D. nerii* is establishing in this part of the European continent. Most records are from a group of provinces at the eastern mainland Spain; i.e. those provinces bordering the Mediterranean Sea: Barcelona, Cádiz, Castellón, Gerona, Málaga y Valencia (MONTAGUD-ALARIO & ENGRA, 2017).

The Balearic Islands are separated from mainland Spain by just 115 km in a straight line and are considered to be the westernmost inhabited islands of the Mediterranean. To date, eight species of Sphingidae have been recorded from one or more of the Balearic Islands (with the reference to the first published record, as far as we are aware): *Agrius convolvuli* (FRINGS, 1929), *Acherontia atropos* (FRINGS, 1927 “in a local collection”), *Hyles euphorbiae* (GÓMEZ-BUSTILLO & FERNÁNDEZ-RUBIO, 1974), *Hyles dalhii* (PÉREZ-DE GREGORIO, 1997), *Hyles livornica* (FRINGS, 1927), *Macroglossum stellatarum* (GARCÍAS-FONT, 1907), *Deilephila elepenor* (CUELLO & PÉREZ DE-GREGORIO, 1981) and *Hippotion celerio* (FRINGS, 1926). In this note we report the first record of the observation of two different specimens of *D. nerii* on the Balearic Islands.

Two specimens were recorded in Mallorca. The first was found in the larval stage (with clear signs of pre-pupation (Figure 1a-b), near a group of *N. oleander* plants (at 39.557086, 3.177338; Islas Baleares, Manacor, 83 masl, 21-X-2018, col. María Febrer). The second, an adult male (Figure 1c) was found attracted to the light from a lamppost on the street (at 39.598190, 2.687616, Islas Baleares, Palma, 37 masl, 22-X-2018, col. Xavier Canyelles). Both specimens were collected for study purposes and deposited in the Interdisciplinary Ecology Group entomological collection (EI-901, EI-902), University of the Balearic Islands, Palma, Mallorca (Spain). These two records constitute the first proven evidence of the occurrence and reproduction of *D. nerii* on the Balearic Islands and it is likely that its arrival could have happened by natural pathway, the immigration from Africa.

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Figure 1.– Specimens of *Daphnis nerii* found at Mallorca. **a)** Larva in pre-pupal stage, **b)** pupa of the same individual found at Manacor (Mallorca, Balearic Islands, Spain) and **c)** male adult found at Palma (Mallorca, Balearic Islands, Spain).