

## INTRODUCTION

To date there is a lack of knowledge of Iberian fireflies, except from recent studies of Portuguese Lampyridae, including the description of a new species, *Lampyris iberica* (Geisthardt et al. 2008).

A general revision in the Catalogue of Palaearctic Coleoptera (Geisthardt 2007) and other references show the presence of at least 11 species of Lampyridae in Spain & Portugal:

*Lampyris noctiluca*, *Lampyris raymondi*, *Lampyris iberica*  
*Nyctophila reichei* & *Nyctophila heydeni* (only on the Balearic islands)  
*Lamprohiza mulsanti* & *Lamprohiza paulinoi*  
*Phosphænus hemipterus*  
*Luciola lusitanica*  
*Phosphænopterus metzneri* (no recent records)  
*Pelania mauretanicus* (no recent records)

Studies of the Spanish firefly fauna are very scarce and usually limited to few anecdotal records. In spite of this lack of scientific knowledge, glow-worms are relatively common in Spain, especially in the countryside where villagers are used to the presence of these insects. Nevertheless, as pointed out in other studies, many have the perception that the number of glow-worms has decreased. However, this impression is difficult to contrast due to the lack of census and inventories and a lack of information how to identify the different species. In order to improve the knowledge of the fauna of Lampyridae in Spain, the project:

"Have you seen a glow-worm?" has been launched on the web in May 2009 ([www.gusanosdeluz.es](http://www.gusanosdeluz.es)).

## METHODS

The web project "Have you seen a glow-worm?" is based on other websites, especially on the "UK glow-worm survey" website (<http://www.glowworms.org.uk>). It has no official status, funding nor affiliation, although it was initially developed while one of the authors was Associate Professor at the University of Cordoba. Besides general information about the ecology and species of glow-worms, an online form is provided that can be filled in by the collaborators, i.e. the website visitors. Soon after the launch of the site, we were invited to collaborate in a photo-biodiversity database named "Biodiversidad Virtual". Here we both act as experts on Lampyrids in order to identify the species uploaded by the website members.



Figure 1. Main page of the website [www.gusanosdeluz.es](http://www.gusanosdeluz.es)

## OBJECTIVE

To show the first results of the presence and distribution of Spanish Lampyrids based on the data of the photo website project, "Biodiversidad Virtual" and from online survey forms of "www.gusanosdeluz.es".

## RESULTS

Since May 2009 till May 2010, 21 online forms have been received and 159 photos have been supervised. On only four online forms the species have been reported; the specimens send in on photographs have been assigned to a taxonomic entity as accurate as possible (Table 1).

	Total	Larva	Female	Male
<i>Lamprohiza</i> ssp	9	-	2	7
<i>Lampyris</i> ssp.	44	38	6	2
<i>Nyctophila reichei</i>	106	87	8	13

Table 1. Identifications from the survey and the photo-database "Biodiversidad Virtual"

The wide geographical distribution of the sites where glow-worms have been reported are shown in Figures 2 to 5. Identification of larvae is quite difficult as we still have no clear characteristics to discriminate between the juveniles of the three species of *Lampyris* recorded in Spain (Figure 2). Four *Lampyris iberica* adults have been recorded (Figure 3) and at least one male adult of *Lampyris noctiluca* from the Northern province of Cantabria. Interestingly, *Nyctophila reichei* shows a much more Mediterranean and Southern distribution than the *Lampyris* species (Figure 4). *Lamprohiza* shows a very distinct presence in the East Mediterranean area along the Valencian, Catalan and Murcian coastlines, with the exception of a record from the North-West in Galicia, in the A Coruña province (Figure 5). Although these are still preliminary results, a possible explanation for this pattern may be the existence of two different species of *Lamprohiza* (notably, the traits of the Eastern *Lamprohiza* lead to the hypothesis of belonging to a new species).



Figure 2. *Lampyris* distribution in Spain.



*Lampyris* larva  
photo: Juan Carlos Cambroner



*Lampyris* (*raymond?*) larva  
photo: Thomas Rickfelder



Figure 3. *Lampyris iberica* distribution in Spain.



*Lampyris iberica* female  
photo: Fernando Barragan



*Lampyris iberica* female  
photo: Manel Soria



Figure 4. *Nyctophila reichei* distribution in Spain.



*Nyctophila reichei* larva  
photo: Ferran Turmo



*Nyctophila reichei* males  
photo: Angel Martinez



*Nyctophila reichei* female  
photo: Isidro Martinez



Figure 5. *Lamprohiza* distribution in Spain.



*Lamprohiza* female  
photo: Jordi Moratal



*Lamprohiza* male  
photo: Fani Martinez

See more photos on

<http://www.biodiversidadvirtual.org/insectarium/Familia+Lampyridae+137-cat183.html>

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