

Sphiximorpha garibaldii Rondani, 1860 and *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) (Diptera: Syrphidae: Eristalinae), two new species for Portugal

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Abstract: *Sphiximorpha garibaldii* Rondani, 1860 and *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) (Diptera: Syrphidae: Eristalinae) are reported for the first time from Portugal, extending their known distribution range in the Iberian Peninsula.

Key words: Diptera, Syrphidae, *Sphiximorpha garibaldii*, *Sphiximorpha subsessilis*, first records, Portugal.

Resumen: *Sphiximorpha garibaldii* Rondani, 1860 y *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) (Diptera: Syrphidae: Eristalinae), dos nuevas especies para Portugal. Se citan *Sphiximorpha garibaldii* Rondani, 1860 y *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) (Diptera: Syrphidae: Eristalinae) por primera vez de Portugal, ampliando su distribución conocida en la Península Ibérica.

Palabras clave: Diptera, Syrphidae, *Sphiximorpha garibaldii*, *Sphiximorpha subsessilis*, primeros registros, Portugal.

Recibido: 12 de noviembre de 2025

Publicado on-line: 29 de diciembre de 2025

Aceptado: 12 de diciembre de 2025

Introduction

The family Syrphidae (Insecta: Diptera) features multiple hymenopteran mimics, with varying degrees of similarity to their stinging counterparts. The Cerioidini tribe, in particular, comprises some of the best wasp-mimic syrphids (VAN STEENIS *et al.*, 2016), namely the genus *Sphiximorpha* Rondani, 1850. Hoverflies in this genus are largely associated with mature deciduous forests. The larvae are saproxylic, frequently present in or around sap runs and rot holes on old, living, broad-leaved trees like *Quercus* spp., *Populus* spp., *Alnus* spp., *Fraxinus* spp. and others (KEHLMAYER, 2001; ROTHERAY *et al.*, 2006; VAN STEENIS *et al.*, 2016; SPEIGHT, 2024).

Two species of *Sphiximorpha* are currently known to inhabit the Iberian Peninsula, both recorded solely from Spain: *Sphiximorpha garibaldii* Rondani, 1860 and *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) (VAN STEENIS *et al.*, 2016; RICARTE & MARCOS-GARCÍA, 2017). As shown in Map 1 and Map 2, both species are known from the Spanish province of Ciudad Real, with *S. subsessilis* having been found also in the provinces of Huelva, Huesca, Navarra and Salamanca (KEHLMAYER, 2001; RAMÍREZ-HERNÁNDEZ *et al.*, 2015; RICARTE & MARCOS-GARCÍA, 2017; ARACIL *et al.*, 2021a, b). Additionally, a few unpublished records of *S. garibaldii* have been made in the Pyrenees (A. ARACIL, pers. com., 22 December 2025) which are not included in Map 1 because the exact localities are not available. Both species' conservation status is classified as "LEAST CONCERN" (LC) in Europe by the International Union for Conservation of Nature (IUCN) (ARACIL *et al.*, 2021a, b).

Only one record of *Sphiximorpha* has been published, as of December 2025, for the Portuguese territory: that of a specimen photographed in 2017, in the Mação municipality, Santarém district, which was not identifiable to species-level (ALMEIDA, 2024). Similarly, an additional record of the genus *Sphiximorpha* was made in the municipality of Lousada, Porto district, in 2022: a male specimen, photographed by F. Gil and uploaded to the online platform iNaturalist (see [here](#)). The photographs of this individual also do not allow for a trustworthy species-level identification.

In this paper, we present a significant contribution to the knowledge of the hoverfly diversity and distribution in Portugal (and the Iberian Peninsula) by reporting the first records of *S. garibaldii* and *S. subsessilis* for the country.

Results

Sphiximorpha garibaldii Rondani, 1860

PORTUGAL: Guarda district: Sabugal municipality: Near Quinta dos Moinhos (Rendo) (40.391275, -7.051704; 737 m above sea level; MGRS 29TPE6573), 26/05/2025, 1 ♀ on *Quercus* sp. on the side of a road (photographed by Ana Botelho).

Photographs of the same specimen of *S. garibaldii* were uploaded twice to iNaturalist (see [here](#) and [here](#)). Two of those pictures are shown in Figs. 1-2, the former clearly displaying the distinct pattern of yellow and black on the face typical of the species (cf. VAN STEENIS *et al.*, 2016).

Sphiximorpha subsessilis (Illiger in Rossi, 1807)

PORTUGAL: Coimbra district: Lousã municipality: Covas (40.134540, -8.179140; 291 m above sea level; MGRS 29TNE6943), 18/04/2025, 1 ♂ (photographed by Melanie Pritchard).

Photographs of *S. subsessilis* were uploaded to iNaturalist (see [here](#)), one of which is shown in Fig. 3, with the characteristic color pattern on the face (cf. VAN STEENIS *et al.*, 2016) also visible.

Conclusions

These findings are very interesting not just because of the novelties for the Portuguese fauna, but also because they significantly increase the known Iberian distribution range of two species for which records are few and far between (especially in the Iberian Peninsula) (RICARTE & MARCOS-GARCÍA, 2017; SPEIGHT, 2024). Additionally, despite their IUCN classification as "LEAST CONCERN", their apparent patchy distribution in the Iberian Peninsula might indicate a different, more restrictive, status in this region.

Lastly, this paper also highlights the increasing importance of citizen science regarding the filling of gaps in our current knowledge of the Iberian entomofauna, namely syrphids.

Acknowledgements

We would like to thank Ana Botelho and Melanie Pritchard for providing information regarding the records featured in this paper and for allowing us to use their photographs. We would also like to thank Antonio Ricarte Sabater for his very useful comments and suggestions. Finally, our thanks to Andrea Aracil for providing information on the distribution of *S. garibaldii* in the Pyrenees.

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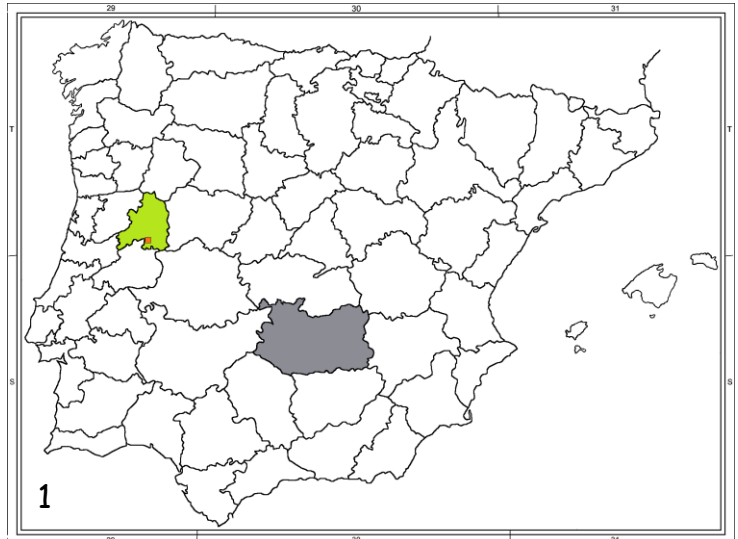


Fig. 1.- Two views of the specimen of *Sphiximorpha garibaldii* Rondani, 1860 photographed on *Quercus* sp. on 26/05/2025. Photos: Ana Botelho.

Fig. 2.- Specimen of *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) photographed on 18/04/2025. Photo: Melanie Pritchard.



Map 1.- Iberian distribution of *Sphiximorpha garibaldii* Rondani, 1860 (grey: previously known Spanish province; green: new Portuguese district; orange: new Portuguese MGRS 100 km² square).



Map 2.- Iberian distribution of *Sphiximorpha subsessilis* (Illiger in Rossi, 1807) (grey: previously known Spanish provinces; green: new Portuguese district; orange: new Portuguese MGRS 100 km² square).

