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Lasioglossum vergilianum (Pérez, 1903), a new bee species for the fauna of France (Hymenoptera: Anthophila: Halictidae)

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Introduction

Bees are a species-diverse group of pollinators with a peak diversity in Mediterranean climatic regions (Nieto et al. 2014). Some bee genera, like *Lasioglossum* Curtis, contain hundreds of species, with a relatively poor knowledge of their spatial distribution, particularly in hotspots of species diversity (Reverté et al. 2023). France is among the European countries with the highest number of *Lasioglossum* species, with 102 recorded (Ropars et al., 2025), surpassed only by Greece and Spain (Reverté et al., 2023). Recent investigations conducted in France in the entomological collection of the Museum Jardin des Sciences de l'Arquebuse à Dijon have led to the country's first record of *Lasioglossum vergilianum* Pérez, 1903, extending its known distribution range further north.

Results and Discussion

Lasioglossum vergilianum (Fig. 1) is considered a member of the subgenus *Sphecodogastra*, distinguished, among other traits, by a well-defined carina delimiting the vertical part of the propodeum. It includes 34 species in Europe (Ghisbain et al., 2023), two of which were known as endemic to the Iberian Peninsula: *Lasioglossum dusmeti* (Blüthgen, 1924) and *L. vergilianum*. *Lasioglossum vergilianum* can be assigned to the subgenus *Sphecodogastra* mainly based on the following characters (Gibbs et al., 2013): second submarginal cell weaker than the first (only females), propodeum with strong lateral and oblique carina (Fig. 1D), separating lateral and posterior propodeal surfaces (both sexes). Furthermore, it can be assigned to the *Lasioglossum malachurum* species group based on the following characters (Pesenko, 2007; Ebmer, 1995): in both sexes, mesopleurae reticulate-rugose, without trace of punctuation, margin of terga translucent, while in males the membranous lobe of the gonocoxite rounded and broad, approximately as long as the gonostylus, with a marginal fimbria of long, slender bristles. *Lasioglossum vergilianum* can be easily recognised in both females and males by the extremely fine and dense punctation of the first tergite (Fig. 1E, F), which is also strongly translucent along the margins. This character contrasts with *L. euboeense* (Strand, 1909) and *L. nigripes* (Lepeletier, 1841), in which the punctation of T1 is much more scattered; in *L. nigripes*, in addition, the convex portion of T1 is distinctly shagreened (Ebmer, 1988). The subsequent tergites (T2–T5) are similarly punctate and covered with dense whitish pubescence (Fig. 1F). On T1, the hairs are longer and more concentrated along the sides of the disc (Fig. 1E). In the male sex, *L. vergilianum* can be recognised by the same extremely fine and dense punctation of T1 and the strongly translucent tergal margin, features that distinguish it from *L. euboeense*, where the translucent area is narrower and the punctation is coarser and less dense (Ebmer, 1988; Ebmer, 1995). Males of *L. euboeense* and *L. nigripes* also lack the membranous lobe on the gonocoxite. In addition, in *Lasioglossum vergilianum*, the marginal areas of the tergites in the male show a distinctive horn-like colouration.

Lasioglossum vergilianum has a western Mediterranean distribution and was previously recorded only in Spain and Portugal (Ortiz-Sanchez & Pauly, 2017; Ebmer, 1995). The species is rare, and according to the records, it inhabits Mediterranean type shrubland and forages upon Brassicaceae species (Pauly & Michez, 2015). In the IUCN Red List of 2014, it was classified as DD (Nieto et al., 2014).

The new record of *Lasioglossum vergilianum* from one site in France expands the known distribution of the species beyond the Iberian Peninsula. This observation is not a surprise as many other bee species show this disjunct distribution, on the Iberian Peninsula and in South-East France (e.g. *Dasypoda albimana* Pérez, 1905; Michez et al. 2004). Further field investigations and targeted surveys are necessary to confirm the current distribution of *L. vergilianum* in France and to better understand its habitat preferences, phenology, and foraging behaviour. Additionally, this finding underscores the importance of entomological collections in documenting species distributions and detecting potential range shifts over time.

Material

https://data.canadensys.net/micropublications/resource?r=specimen_46

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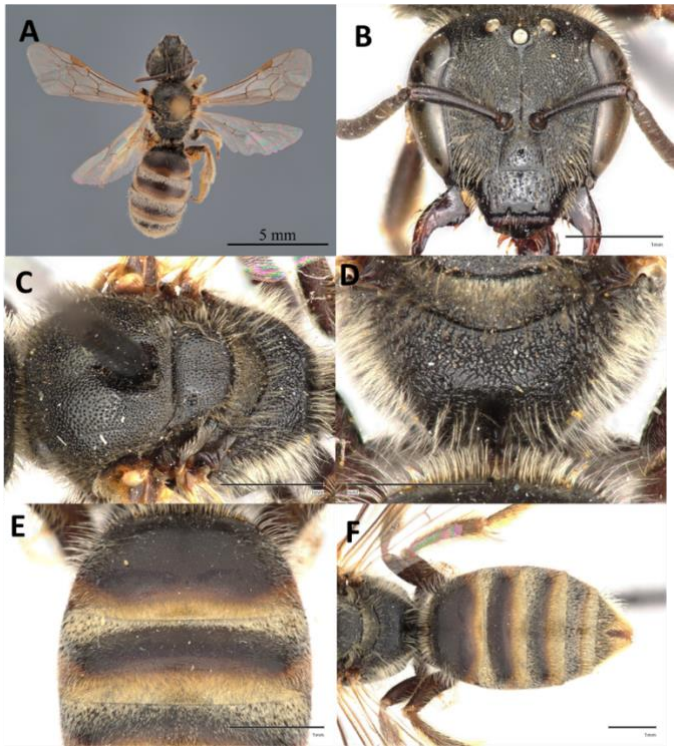

Fig. 1. *Lasioglossum vergilianum*, female, specimen LV-SF_0001. Habitus, dorsal (A); head, frontal (B); scutum, dorsal (C); propodeum, dorsal (D); tergite 1, dorsal (E); metasoma, dorsal (F). Scale bar for the habitus is 5 mm, for the details is 1 mm.