

New and first records of Polyxenida (Diplopoda: Penicillata) from Portugal

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Abstract: To date, no account on the presence of the order Polyxenida, and in fact the subclass Penicillata, was published for mainland Portugal. In this contribution we record the presence of *Polyxenus lagurus* (Linnaeus, 1758) from Parque Nacional da Peneda-Gerês and of *Lophoproctus* cf. *pagesi* Condé, 1982 from Parque Natural da Arrábida.

Key words: Lophoproctidae, Polyxenidae, Iberian Peninsula, cave habitat, leaf litter, pitfall traps, troglobionts.

Introduction

The order Polyxenida is the only order of the subclass Penicillata. This is a basal group of Diplopoda, sister group of all other diplopods (Enghoff, 1984; Sierwald & Bond, 2007). With about 160 known species (Nguyen Duy-Jacquemin & Geoffroy, 2003) the Polyxenida are divided in four families, three of them being known from Europe (Enghoff & Desmond Kime, 2007): Lophoproctidae, distributed in Mediterranean Europe; Polyxenidae, present in all Europe; and Synxenidae, only known from Spain. Despite the wide distribution of some species, polyxenids were never cited from mainland Portugal. They were however referenced for Azores, namely *Polyxenus lagurus* (Linnaeus, 1758) at the islands of São Miguel and Pico (Condé & Nguyen Duy-Jacquemin, 1994) and *Polyxenus fasciculatus* Say, 1821 in Madeira and Selvagens (Enghoff & Desmond Kime, 2007; Enghoff, in prep.). Here we present the first published accounts of the order Polyxenida and subclass Penicillata for mainland Portugal (Fig. 1).

Polyxenus lagurus (Linnaeus, 1758)

STUDIED MATERIAL: Mata da Albergaria (Parque Nacional da Peneda-Gerês), 1-VI-2005 / 15-VI-2005, 1 adult ale, 1 male with 12 pairs of legs, 1 female with 12 pairs of legs and 1 juvenile with 10 pairs of legs. All Cardoso *et al.* leg.

All individuals were captured in pitfall traps in a mixed English oak (*Quercus robur*, L.) and pyrenean oak (*Quercus pyrenaica*, Willd.) woodland with relatively deep leaf litter. The altitude is 600 to 700 m (41°47.700'N, 008°08.200'W). For more details on the sampling site and method refer to Cardoso *et al.* (in press).

All the individuals belong to the bisexual form, as in northern latitudes it is more common to find parthenogenic populations (Condé & Nguyen Duy-Jacquemin, 1994).

Lophoproctus cf. *pagesi* Condé, 1982

STUDIED MATERIAL: Gruta do Fumo (Parque Natural da Arrábida), 5-II-2005, 1 adult female and 2 males with 12 pairs of legs. All Cardoso & Rasteiro leg.

All specimens were captured by hand collecting in a cave, at the total obscurity area hanging in tree roots (Fig. 2). The same species was however found in the same cave soil even at the partial obscurity area. *Lophoproctus pagesi* is the single troglobiont species known of Polyxenida. Curiously, all species of the family Lophoproctidae are eyeless and present no pigmentation, even the ones which are not troglobiont. The specimens have a few differences with the type specimens of *Lophoproctus pagesi* found in a cave from Majorca, Cueva de Genova. The gnathochilarial palps of our specimens present a smaller number of sensilla than reported by Condé (1982) and the structure of the pretarsus is slightly different. Further future collecting will enable us to confirm its identity.

Acknowledgements

We would like to thank Clara Gaspar, António Cardoso and Sérgio Henriques who accompanied PC and FR during the first collectings of *Lophoproctus* cf. *pagesi*. Also to Nikolaj Scharff, Rui Carvalho,

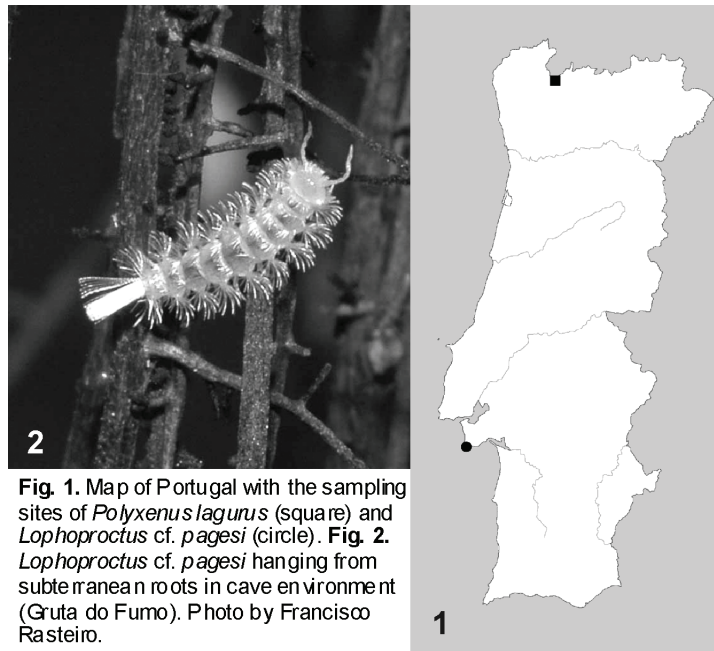


Fig. 1. Map of Portugal with the sampling sites of *Polyxenus lagurus* (square) and *Lophoproctus* cf. *pagesi* (circle). **Fig. 2.** *Lophoproctus* cf. *pagesi* hanging from subterranean roots in cave environment (Gruta do Fumo). Photo by Francisco Rasteiro.

Pedro Humberto Castro, Jesper Schmidt, Israel Silva, Tamas Szűts, Alberto de Castro and Luís Crespo for the fieldwork in Gerês that allowed collecting *Polyxenus lagurus*.

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