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Description of *Pseudingolfiella possessionis* n. sp. (Crustacea, Amphipoda) from sub-Antarctic Île de La Possession, Crozet archipelago: the second freshwater amphipod known from the Antarctic biome, a human introduction of Gondwanan ancestry?

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Abstract

A new species of freshwater amphipod, *Pseudingolfiella possessionis* n. sp. (Senticaudata, Pseudingolfiellidae), is described from the submerged moss vegetation of small brooklets at sub-Antarctic Île de La Possession, Crozet archipelago. It constitutes the second freshwater amphipod species known for the sub-Antarctic and Antarctic region, and the fourth member of the genus. The main characters distinguishing it from all congeners are: the spine on the posterior margin of the dactylus, incisor and lamina mobilis of mandible each with 5 teeth, the setation of the maxilliped, the vestigial second article of pleopod 3 in the female, the undulate and laterally notched posterolateral margin of the external ramus of uropods 1 and 2 in the male, the spinulate dorsomedian projection of the telson.

Key words: Antarctica, diversity, *Pseudingolfiella*, biogeography, chorology

Introduction

About 1,870 amphipod species and subspecies are recognized from fresh or inland waters world-wide, accounting for 20% of the total known amphipod diversity (Väinölä *et al.* 2008). The described systematic diversity of freshwater amphipods from the sub-Antarctic and Antarctic (Pugh *et al.* 2002; Väinölä *et al.* 2008) is confined to a single species, *Kergueleniola macra* (Ruffo, 1970), family Kergueleniolidae Lowry & Myers, 2013, that has so far only been reported once. It was described by Ruffo (1970, 1974) on a single specimen found in the stomach of a freshwater trout, *Salvelinus fontinalis* (Mitchill, 1814), from the sub-Antarctic Îles Kerguelen. An unidentified amphipod species was mentioned from benthic vegetation of South Georgia by Dartnall & Heywood (1980). During a study on freshwater micro-invertebrates of the sub-Antarctic island Île de La Possession, Crozet archipelago (Îles Crozet), a new species of amphipod belonging to the genus *Pseudingolfiella* was encountered, which is described here.

Material and methods

The Crozet archipelago (45°57'–46°27'S, 50°15'–52°15'E) consists of 5 small volcanic islands situated in the Southern Indian Ocean (Fig. 1), just north of the Antarctic Convergence. Biogeographically it belongs to the cold temperate province of Stonehouse (1982). The main island Île de La Possession (46°25'S–51°45'E) has a surface area of 147 km², and is characterized by an oceanic and cold climate. The mean annual temperature is 5.1°C; little variation is recorded over the year, with a mean minimum temperature of 3°C and mean maximum temperature of 7.9°C (Météo-France, 1970–94 records). The annual precipitation usually surpasses 2,200 mm, with 293 rain-days per year. Strong winds, which may exceed 200 km h⁻¹, and usually coming from SW-NNW, scourge the island throughout the year.

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