



Article

Hebesuncus mollispinus (Eutardigrada, Hypsibiidae), a new species from maritime Antarctica

GIOVANNI PILATO¹, SANDRA J. MCINNES² & OSCAR LISI¹

¹University of Catania, Department of Animal Biology “Marcello La Greca”, Via Androne 81, 95124 Catania, Italy.

E-mail: pilato@unict.it

²British Antarctic Survey, Natural Environmental Research Council, Madingley Road, Cambridge, CB3 0ET, UK

Abstract

A new species of eutardigrade, *Hebesuncus mollispinus* **sp. nov.** is described from Charcot Island, maritime Antarctica. The three known species of *Hebesuncus* are either widespread with questionable reports from the Antarctic (*H. conjungens*) or endemic to maritime and continental Antarctica (*H. ryani* and *H. schusteri*). *Hebesuncus mollispinus* **sp. nov.** differs from its congeners in terms of egg morphology and is further differentiated from *H. ryani* via a longer bucco-pharyngeal tube, claw shape and length; and from *H. schusteri* via a narrower bucco-pharyngeal tube and shorter claws.

Key words: Tardigrada, Hypsibiidae, Antarctic

Introduction

Charcot Island was first viewed and named by the French Antarctic Expedition of 1908-10, but, other than overflights and aerial reconnaissance, has been rarely visited (Headland 1989). The prevailing weather patterns indicated by satellite images show the island almost perpetually covered by cloud or fog making it virtually inaccessible. Exploration and biological collections of the island have been restricted to three British Antarctic Survey (BAS) expeditions in January 1995, December 1997 and January to February 1999.

Charcot Island lies to the west of Alexander Island at the base of the Antarctic Peninsula (Figure 1) and falls within the southern boundary of the maritime Antarctic biogeographic zone (Lewis-Smith 1984). With the exception of Marion Nunataks (69°45'S, 75°15'W), the island is ice-covered and, at the time of the collections for this study, was connected to Alexander Island by the decaying Wilkins Ice Shelf. The 12 km chain of rock outcrops that make up Marion Nunataks overlook the mid-north coast of Charcot Island and consist of predominantly steep north-facing cliffs, with Mount Monique (750 m.s.l.) towards the western end and Mount Martine (1000 m.s.l.) to the eastern end. Marion Nunataks were found to be unique to the region having vegetation that had either not previously been recorded in the Antarctic or were rarely found at such southerly latitudes. Also unusual for the region was the absence of springtails (Collembola) and predatory arthropods, which were reported present in all, and numerically dominant in most, known maritime Antarctic sites (Convey *et al.* 2000). These aspects have led to the site being designated an Antarctic Specially Protected Area (ASP) (United Kingdom 2008).

Only three species were currently ascribed to the tardigrade genus *Hebesuncus* Pilato, 1987: *H. conjungens* (Thulin 1911), *H. schusteri* (Dastych 1984) and *H. ryani* Dastych & Harris, 1994. *H. conjungens* was reported as widespread, probably cosmopolitan, with records from Europe, North America, Greenland, Hawaii, South America, New Zealand and Antarctica (McInnes 1994), though the Antarctic references were either suspect or have been amended to *H. schusteri* or *H. ryani*. *H. schusteri* was originally recorded from Dronning Maud Land, continental Antarctica, with a single specimen from King George Island, South Shetland Islands (Dastych 1984). Further reports have been added from Joinville Island (single specimen – Usher & Dastych 1987), Dronning Maud Land (Sohlenius *et al.* 1995) and a possible record from sub-Antarctic Macquarie Island (Miller *et al.* 2001). *H. ryani* was described from Dronning Maud Land (Dastych & Harris 1994), with further references to this area and