A new genus of burrowing and cave-dwelling millipedes (Diplopoda: Polydesmida: Dalodesmidae) from Tasmania, Australia

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Abstract

Atalopharetra johnsi n. gen., n. sp. and A. bashfordi n. sp. are forest-dwelling, burrowing millipedes with overlapping distributions in southern and southwestern Tasmania. A. clarkei n. sp. and A. eberhardi n. sp. are troglomorphic, cavernicolous species from limestone karst near Ida Bay and Precipitous Bluff, respectively, within the ranges of A. bashfordi and A. johnsi.

Key words: Diplopoda, Polydesmida, Dalodesmidae, Tasmania, Australia, cave, troglomorphy

Introduction

A number of millipede species have previously been reported as accidentals in caves in Australia (e.g., Mesibov 2002, 2004b; Shear 1992). To date, only Speleostrophus nesiotes Hoffman, 1994 (Spirobolida: Pachybolidae) from Barrow Island, Western Australia (Hoffman 1994) and four species of Stygiochiropus Humphreys & Shear, 1993 (Polydesmida: Paradoxosomatidae) from Cape Range, Western Australia (Humphreys & Shear 1993; Shear & Humphreys 1996) have been described as cave-adapted, i.e. as having troglomorphic features.

In this paper I describe two surface-dwelling and two troglomorphic cave-dwelling millipedes from Tasmania and place them in the new genus Atalopharetra (Polydesmida: Dalodesmidae). The four species are united by the structure of the gonopods, in which the solenomere is partly contained within a distal “hood” formed by curved laminar processes. A similar hood is found in Bromodesmus Mesibov, 2004, but the solenomere in Bromodesmus is long and needle-like, while in Atalopharetra it is stout and blunt. The surface-dwelling species are well-pigmented burrowers with greatly reduced paranota. The cave-dwellers have well-developed paranota, longer segments, thinner legs, fewer or no sphaerotrichomes and little or no pigmentation.