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## A new *Psammogammarus* (Amphipoda: Eriopisidae) from anchialine pools on the Exuma Cays, Bahamas

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### Abstract

*Psammogammarus lucayensis* sp. nov. is described from anchialine pools on Little Iguana Cay (Exuma Cays, Great Bahama Bank). It can be easily distinguished from the other 14 members of the genus by the combination of: 1) carpus of G2 longer than broad; 2) male G2 palm margin non-excavated, evenly convex and devoid of strong mid-palmar robust setae; 3) basis of P7 with subparallel margins; 4) armature arrangement of ventral margin of epimeral plates as 0–2–3; 5) posteroventral angle of epimeral plate III strongly produced; 6) protopod of U2 with distomedial angle armed with comb of 3–4 robust setae; 7) U3 endopod as long as exp1; and 8) telson with robust setae on tip. The generic diagnosis is amended in order to allow the precise characterization of members of *Psammogammarus* compared to other eriopisids.

**Key words:** Amphipoda, Senticaudata, Eriopisidae, *Psammogammarus*, anchialine, Bahamas

### Introduction

The Bahama banks in the western Atlantic Ocean harbour the richest assemblage of stygobitic anchialine crustaceans currently known. No less than 96 species occur in this region, including phyllocarids (1), decapods (8), isopods (12), amphipods (5), mysids (2), thermosbaenaceans (2), bochusaceans (1), remipedes (17), and representatives of several orders of copepods (25) and ostracods (23). Most of these species are endemic, many represent phylogenetic and/or biogeographic relicts, and many represent exclusively anchialine genera or even families (Daenikas *et al.* 2009; see also <http://www.cavebiology.com>).

The shallow water environment of the Bahamas represents a rare case of a habitat that persisted over a long geological time scale. The constitutive limestone—of marine shallow-water origin—has been accumulating *in situ* since the Cretaceous, up to its current thickness of at least 4448 m (Mullins & Lynts 1977; Sealey 1994). Extensive karstification combined with tectonic fracturation (Myroie & Carew 1995), have led to the development of a vast network of voids within this huge mass of limestone, offering a suitable habitat for anchialine fauna. The persistence of this habitat over the last 120 Ma and the buffered environmental condition of the subterranean environment, may partly explain the unusual accumulation of subterranean taxa in the Bahama banks.

Contrary to other taxonomic groups, the biodiversity of subterranean Amphipoda in the Bahamas is rather low. Only five truly stygobiotic species have been reported thus far, four in the hadziid genus *Bahadzia* Holsinger, and one in the pardaliscid genus *Speleonicippe* Stock & Vermeulen. Only *Bahadzia obliqua* Stock, *B. setimana* Stock and *Speleonicippe provo* Stock & Vermeulen occur in the Great Bahama Bank, the greatest platform of the archipelago (Stock 1986; van der Ham 2002).

Here we describe a new species of stygobiotic eriopisid amphipod belonging to the genus *Psammogammarus*, from a small cay of the Exumas (Great Bahama Bank; Fig. 1). This genus is currently composed of only 14 species, and shows a broad but punctuated circum-global distribution in shallow interstitial and anchialine habitats of