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Glyptogidiella omanica gen. et sp. nov., an inland groundwater bogidiellid from Oman with enlarged coxal plate V (Crustacea, Amphipoda)

RONALD VONK[1] & DAMIÀ JAUME[2]

[1]*Netherlands Centre for Biodiversity Naturalis / Zoological Museum of the University of Amsterdam, Mauritskade 61, 1092 AD Amsterdam, The Netherlands. E-mail: vonk@science.uva.nl*
[2]*IMEDEA (CSIC-UIB), Instituto Mediterráneo de Estudios Avanzados, C/ Miquel Marquès 21, 07190 Esporles, Balearic Islands, Spain. E-mail: d.jaume@uib.es*

Abstract

A new genus and species of Amphipoda is reported from inland ground waters of the Sultanate of Oman. Although *Glyptogidiella omanica* **gen. et sp. nov.** exhibits several features typical of the Bogidiellidae (i. e. combined display of distinct carpal lobe on first gnathopod, reduced pleopodal rami, and unsegmented exopodite of third uropod), its exceptionally large fifth coxal plate and short rami of third uropod do not fit in the restricted diagnosis of the family as recently presented elsewhere. In fact, the enlarged coxal plate V is a feature not reported in any other amphipod, whereas no other bogidiellid displays an expanded basis on pereopod VII. The habitus of *Glyptogidiella* is not typical for a dweller of a true interstitial niche, with its short antennae, large coxal plate and short and stubby rami on the third uropod. This suggests that the interstitial medium could not be the primary habitat for the species, and that the underground of wadis might contain interstices of large size and could also be in contact with karstic hollows.

Key words: Gammaridea, Bogidiellidae, stygofauna, subterranean waters, hyporheic, wadi, Arabian Peninsula

Introduction

In the spring of 1996 the Zoological Museum of the University of Amsterdam and the Oman Research Department of the Ministry of Water Resources conducted a biological ground water survey in the Sultanate of Oman (Stock *et al*., 1997). Several organisms living in subterranean waters were collected from wadis (= ravines that remain dry except in the rainy season), shores of lagoons, springs, wells, and anchialine and freshwater caves. In subsequent years most of this stygobiont fauna, ranging from water mites (Smit, 2003), water beetles (Wewalka & Biström, 1998), bristle- and earthworms (Glasby, 1997; Martínez-Ansemil *et al.* 2003) to amphipod (Ruffo *et al*., 2003; Iannilli *et al.*, 2006) and isopod crustaceans (Botosaneanu & Stock, 1997; Magniez & Stock, 1999; 2000) were studied by European, American, and Australian specialists, and new species were described.

Some crustaceans remained in the drawers of the museum in Amsterdam, as they were intended to be worked on by the late Jan H. Stock, initiator of the Oman survey. The present study re-examines this material and dislodges some more amphipod specimens, this time belonging to a new and morphologically rather aberrant species of the family Bogidiellidae. The specimens, 10 in number, were retrieved from the hyporheic flow (shallow groundwater) on several spots in a dry wadi placed in the Halban area some 15 km from the coast, and in one case from an open well in the vicinity of the city of Nizwa, 100 km from the coast. Both localities are situated in the North of Oman (Fig. 1). The specimens are characterised by an exceptionally large coxal plate of the fifth pereopod.

Earlier studies on the stygobiont crustaceans of this groundwater expedition in 1996 rendered new Bogidiellidae that were placed in two separate new genera *Stockigidiella* and *Omangidiella* (Iannilli *et al.*, 2006). Now, partially from the same locality as *Omangidiella*, another new taxon is described. As the foregoing two genera, the new genus was found only in freshwater.

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