CO-OCCURRENCE OF TWO SPECIES OF THE GENUS
HABROBATHYNELLA SCHMINKE, 1973 (MALACOSTRACA,
BATHYNELLACEA) IN SANDY SEDIMENTS OF THE RIVER GODAVARI,
SOUTHEASTERN INDIA, WITH THE DESCRIPTION OF A NEW SPECIES

BY

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ABSTRACT

A new species of the genus Habrobathynella Schminke, 1973 is described from India as Habrobathynella plenituda sp. n. Including this new species, six species are now known in the genus, two from Madagascar and four from India. There appear to be only slight morphological differences between the Indian and the Madagascan species, despite the long isolation of both landmasses since their separation on their drift north. The new species occurs together in the sample with Habrobathynella schminkei Ranga Reddy, 2004. The possibility for the co-occurrence of two congeneric species in this case may be their difference in body size, H. schminkei reaching only 55% of the size of H. plenituda sp. n. This difference in size is supposed to facilitate coexistence in mixed substrata, with different sizes of the interstitial spaces.

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INTRODUCTION

Species of the genus *Habrobathynella* Schminke, 1973 are so far known only from Madagascar and India. They appear to be widely distributed in the groundwater of both landmasses. Together with a new species to be described herein, six species are known, two from Madagascar (Delamare Deboutteville & Paulian, 1954; Schminke, 1973b) and four from India (Ranga Reddy, 2002, 2004; Ranga Reddy & Schminke, 2005). Bearing in mind the long isolation of both groups of species since the separation of Madagascar from India during their drift northward, one would expect them to be quite different morphologically. Whether or not this expectation is borne out by the facts, is also examined.

The new species was sampled in large numbers from the surficial layer of a sandy riverbed where it occurred together with another species of the same genus. Such co-occurrences of congeneric species are rather exceptional. Normally, coexisting species belong to different genera. Schminke (1973a) has reviewed the cases known until then and analysed the factors that may make such coexistence possible. It will be interesting to find out what allows co-occurrence in the present case.

MATERIAL AND METHODS

*Habrobathynella plenituda* sp. n. is described from the hyporheic zone of the River Godavari at Rajahmundry town (16°9′N 81°47′E), South India. The sampling site is located almost in the middle of the river basin, from where sand is regularly being mined and transported ashore. Here the riverbed has a deposit of fine sand and detritus particles, but with little or no clay, and is devoid of macrophytic vegetation. No tidal influence from the nearby Bay of Bengal is exerted and hence freshwater conditions prevail throughout the year.

Samples were collected from moist, exposed, and submerged parts in the middle of the riverbed. The sediment column was sampled up to a depth of only about 10 cm by using a short (c. 20 cm) improvised corer, i.e., a plastic two-liter water bottle chopped off at both ends; also, a plankton net (mesh size 70 μm) was used to collect the surface sediments. Samples were fixed in 5% formaldehyde. Specimens were isolated in 70% alcohol, and subsequently transferred to glycerin. Drawings were made with the aid of a camera lucida on a Leica Diaplan microscope, equipped with UCA condenser, IC prism, and doubler ×1.5.

SYSTEMATIC ACCOUNT

Family PARABATHYNELLIDAE Noodt, 1965

Genus *Habrobathynella* Schminke, 1973