



<http://dx.doi.org/10.11646/zootaxa.3826.1.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:DDB58FB9-F788-45D6-A7D1-B3A6C14E5F11>

Three new species of the genus *Habrobathynella* Schminke, 1973 (Syncarida, Parabathynellidae) from the peninsular India

VENKATESWARA RAO TOTAKURA¹ & YENUMULA RANGA REDDY^{1,2}

Department of Zoology, Acharya Nagarjuna University, Nagarjunanagar 522 510, India

²Corresponding author. E-mail: yrangareddyamu@gmail.com

Abstract

The genus *Habrobathynella* Schminke, 1973, presently contains 11 species: two species from Madagascar and nine from the peninsular India. Two new species of this genus, viz. *H. ajraoi* n. sp., and *H. parakrishna* n. sp., both collected in the phreatic waters of farm bores, and one new species of the same genus, *H. pseudoindica* n. sp., taken from the hyporheic zone of the River Krishna, are described and illustrated, and their position in the genus is discussed. *H. ajraoi* n. sp. has a unique combination of characters, viz. male Th VIII penile region extending well beyond basipod; basipodal seta unusually long, overreaching penile region; uropodal sympod with inhomonomous row of seven spines, with penultimate and ultimate spines being longer than proximal ones; mandibular tooth of ventral edge fused, and pars molaris fork-like with only four small, fused teeth; labrum with eight elongate teeth; female Th VIII subovate in outline; and maxilla with three unequal setae on proximal segment. *H. parakrishna* n. sp. is distinct from its congeners in having only moderately produced male Th VIII penile lobes; antennular sixth segment with three unequal aesthetascs subapically; maxilla with only 1 seta at inner distal corner of proximal segment; uropodal sympod with inhomonomous row of five spines, penultimate spine longest and thickest, and ultimate spine as long as proximal ones; and labrum slightly vaulted, bearing 16 teeth. *H. pseudoindica* n. sp. has a relatively short, subglobular male Th VIII; uropodal sympod with inhomonomous row of four spines, ultimate one longest; pleotelson slightly protruded in lateral view; maxilla with two rather unequal setae on first segment; labrum vaulted, with ten main, large teeth. Furthermore, the principal morphological characters and their states among the habrobathynellids, with special reference to the new species, are briefly discussed.

Key words: Bathynellacea, *Habrobathynella*, stygofauna, taxonomy, character states

Introduction

The family Parabathynellidae Noodt, 1965, has over 170 nominal species, which are distributed on all the continents except Antarctica. An elegant monographic treatment of this family has recently been provided by Schminke (2011), which includes, *inter alia*, a key for all the then known species of *Habrobathynella* Schminke, 1973. Currently, the genus contains two Madagascan species: *H. milloti* (Delamare Deboutteville & Paulian, 1954) and *H. jeanneli* (Delamare Deboutteville & Paulian, 1954), and nine Indian species: *H. nagarjunai* Ranga Reddy, 2002, *H. schminkei* Ranga Reddy, 2004, *H. indica* Ranga Reddy & Schminke, 2005, *H. plenituda* Ranga Reddy & Schminke, 2009, *H. krishna* Ranga Reddy & Totakura, 2010, *H. vaitarini* Ranga Reddy & Totakura, 2010, *H. savitri* Ranga Reddy & Totakura, 2010, *H. vidua* Ranga Reddy & Totakura, 2010, and *H. borraensis* Ranga Reddy, Shabuddin & Totakura, 2014. This paper gives an illustrated description of three new species of the genus and discusses their taxonomic affinities with the congeners. While two of these species, viz. *Habrobathynella ajraoi* n. sp. and *Habrobathynella parakrishna* n. sp., were found in the phreatic waters of farm bores, the third one, viz. *Habrobathynella pseudoindica* n. sp., was met in the hyporheic zone of the River Krishna. On the whole, *Habrobathynella* is most speciose in India, especially in the coastal deltaic belt of the Rivers Krishna and Godavari in Andhra Pradesh state, southeastern India. Furthermore, the principal morphological characters and their states among the habrobathynellids, with special reference to the new species, are briefly discussed.

New Delhi, for providing funding support under Major Research Projects: SR/SO/AS/25/2007, and SR/SO/AS-21/2011. We also gratefully acknowledge the critical comments offered by the anonymous reviewers.

References

- Delamare Deboutteville, C. & Paulian, R. (1954) Recherches sur la faune interstitielle des sédiments marins et d'eau douce à Madagascar. V. – Découverte de l'Ordre des Syncarides. Description de trois espèces nouvelles. *Mémoires de l'Institut Scientifique de Madagascar, Série A*, 9, 75–89.
- Ranga Reddy, Y. (2002) *Habrobathynella nagarjunai* n. sp., the second representative of Bathynellacea (Crustacea, Syncarida) from groundwaters of South India. *Hydrobiologia*, 470, 37–43.
- Ranga Reddy, Y. (2004) Existence of the Order Bathynellacea (Crustacea, Syncarida) in South Asia: a new species of the genus *Habrobathynella* Schminke from River Pennar, South India. *Journal of the Bombay Natural History Society*, 101 (2), 277–284.
- Ranga Reddy, Y. & Schminke, H.K. (2005) Morphologic diversity of habrobathynellids (Parabathynellidae, Bathynellacea) in India, with the description a new species. *Journal of Natural History*, 39 (24), 2217–2224.
<http://dx.doi.org/10.1080/00222930400007464>
- Ranga Reddy, Y. & Schminke, H.K. (2009) Co-occurrence of two species of the genus *Habrobathynella* Schminke, 1973 (Crustacea, Malacostraca, Bathynellacea) in sandy sediments of the River Godavari, South India, with the description of a new species. *Crustaceana*, 82 (4), 475–485.
<http://dx.doi.org/10.1163/156854008x400595>
- Ranga Reddy, Y. & Totakura, V.R. (2010) A taxonomic revision of the genus *Habrobathynella* Schminke, 1973, with the description of four new species from southeastern India (Crustacea, Malacostraca, Bathynellacea). *Zootaxa*, 2532, 1–54.
- Ranga Reddy, Y., Drewes, J. & Schminke, H.K. (2008) A new species of the genus *Atopobathynella* Schminke, 1973 (Crustacea, Syncarida, Bathynellacea) from the hyporheic zone of the River Godavari, South India. *Zootaxa*, 1829, 52–60.
- Ranga Reddy, Y., Shabuddin, S. & Totakura, V.R. (2014) *Habrobathynella borraensis* n. sp. (Syncarida: Bathynellacea: Parabathynellidae) from the Borra caves of southeastern India, with a note on the taxonomic significance of paragnath morphology. *Journal of Crustacean Biology*, 34 (1), 90–106.
<http://dx.doi.org/10.1163/1937240x-00002210>
- Schminke, H.K. (2011) *Arthropoda: Crustacea: Malacostraca: Bathynellacea Parabathynellidae*. In, *Invertebrate Fauna of the World. Vol. 21*. National Institute of Biological Resources, Seo-gu Incheon, Republic of Korea, 1–244.
- Serban, E. & Coineau, N. (1975) *Haplophallonella heterodonta* n. g., n. sp. Parabathynellidé (Podophallocarida, Bathynellacea) d'Afrique (Côte d'Ivoire). *Travaux de l'Institut de Spéologie 'Émile Racovitza'*, 14, 51–70.
- Serban, E. & Coineau, N. (1994) *Racovitzaibathynella emilei* n. g., n. sp. et *R. transvaalensis* n. sp., Parabathynellidae d'Afrique du Sud (Bathynellacea, Podophallocarida), *Travaux de l' Institut de Spéologie 'Émile Racovitza'*, 33, 11–30.