



## Parastenocarididae (Crustacea, Copepoda, Harpacticoida) of India: description of *Parastenocaris mahanadi* n. sp., and redescription of *P. curvispinus* Enckell, 1970 from hyporheic habitats

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### Abstract

Only four species of the genus *Parastenocaris* Kessler, 1913, were previously known from India: *P. curvispinus* Enckell, 1970, *P. gayatri* Ranga Reddy, 2001, *P. savita* Ranga Reddy, 2001, and *P. sandhya* Ranga Reddy, 2001. A fifth species, *Parastenocaris mahanadi* n. sp., is here described from the hyporheic habitat of the River Mahanadi near Raipur city in the State of Chhatisgarh, central India. This is the first Indian representative of the *minuta* species-group. It can be distinguished from the other members of this group by a unique combination of morphological characters, especially of the male: fifth antennular segment bearing an extraordinarily long aesthetasc and seventh segment without apophysis; caudal rami as long as anal somite and over four times as long as their maximum width; lateral setae inserted at about distal third of rami; anal operculum smooth; leg 4 bearing two chitinized, claw-like spines at distal inner corner of basis; endopodite small, 0.4 as long as first exopodite segment and ornamented with two groups of long spinules; leg 5 produced into smooth, slender, acute, spinous process at distal inner corner, and with only three setae.

*Parastenocaris curvispinus*, which was originally incompletely described from Sri Lanka by Enckell (1970), is redescribed from several hyporheic habitats. This highly variable species, which was found co-occurring, *inter alia*, with *P. mahanadi* n. sp., is the dominant and most wide-spread parastenocaridid in the hyporheic habitats of peninsular India. Following the recent resurrection of the genus *Remaneicaris* Jakobi, 1972, the taxonomic position of this species is reviewed. Furthermore, the distribution of the Indian parastenocaridids is briefly discussed.

**Key words:** Copepoda, Parastenocarididae, *Parastenocaris mahanadi* n. sp., *P. curvispinus* redescription, hyporheic habitats, India

### Introduction

Parastenocaridids along with bathynellaceans are the most characteristic elements of the freshwater interstitial fauna (Schminke 1981). In India, research on both these groups is still rudimentary. The family Parastenocarididae Chappuis, 1940, which currently contains about 225 species and subspecies worldwide (Karanovic 2005), has only four representatives known from India, all belonging to the most speciose and nearly cosmopolitan genus *Parastenocaris* Kessler, 1913: *P. curvispinus* Enckell, 1970; *P. gayatri* Ranga Reddy, 2001; *P. savita* Ranga Reddy, 2001; and *P. sandhya* Ranga Reddy, 2001.

Ongoing investigations of the Indian stygofauna have yielded a hyporheic population representing a new species, named *Parastenocaris mahanadi* n. sp., which belongs to the *minuta* species-group of *Parastenocaris*. The present paper gives an illustrated description of the new species and an updated list of the species of the *minuta*-group, along with their geographical and ecological distribution. Furthermore, *P. curvispinus*, which was originally incompletely described from Sri Lanka, is redescribed herein. Examination of a large