A NEW ALLOCYCLOPINA SPECIES (COPEPODA, CYCLOPOIDA, CYCLOPINIDAE) FROM A HYPORHEIC ZONE OF THE RIVER GODAVARI, INDIA, AND COMMENTS ON THE MORPHOLOGICAL CHARACTERS OF THE GENUS

BY

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ABSTRACT

A new species of the genus Allocyclopina Kiefer, 1954 (Copepoda, Cyclopoida) is described from the brackish hyporheic zone of the River Godavari at Kotipalli, a small coastal village near Ramachandrapuram town in the East Godavari District of Andhra Pradesh State, India. This little-known genus, belonging to the large family Cyclopinidae, was hitherto represented by only three interstitial species: A. madagassica Kiefer, 1954, from Madagascar, A. ambigua Kiefer, 1960, from Reunion Island, and A. australiensis Karanovic, 2008, from South Australia. Allocyclopina inopinata new species, is the fourth representative of the genus and the first Asian representative of the genus. The specimens of A. inopinata n. sp., show a unique combination of both plesiomorphic and apomorphic character states in the female: first pedigerous somite free; antennule ten-segmented; antenna with an exopodal seta and a single inner seta on coxobasis; mandibular basis with one inner seta; maxillulary endopodite with seven setae, without coxal endite; legs 1–4 three-segmented, with last exopodite spine formula 3.4.4.3; second endopodal segment of leg 1 with a single seta, in both sexes; intercoxal plate of leg 5 reduced; leg 6 with two elements; genital double-somite showing two lateral copulatory pores, corresponding to two seminal receptacles, near its anterior margin; furcal rami with six setae each. The generic diagnosis of Allocyclopina is emended, and some morphological affinities with other genera in the family “Cyclopinidae” sensu lato are discussed. The status of A. australiensis is briefly discussed.

RÉSUMÉ

Une nouvelle espèce du genre Allocyclopina Kiefer, 1954 (Copepoda, Cyclopoida) est décrite du milieu hyporhéique saumâtre du fleuve Godavari à Kotipalli, un petit village côtier près de Ramachandrapuram dans le district de Godavari Est, État de l’Andhra Pradesh, Inde. Ce genre...
peu connu, appartenant à la grande famille des Cyclopinidae était représenté jusqu’à présent par seulement trois espèces interstitielles: *A. madagassica* Kiefer, 1954, de Madagascar, *A. ambigua* Kiefer, 1960, de l’île de la Réunion, et *A. australiensis*, d’ Australie du sud. *Allocyclopina inopinata* n. sp. est la troisième espèce du genre et la première découverte en Asie. Les spécimens de *A. inopinata* n. sp. présentent une combinaison unique d’états de caractères pléiomorphes et apomorphes chez la femelle: premier somite thoracique libre; antennule à 10 segments; coxobasis de l’antenne avec une soie exopodale et une seule soie interne; basis de la mandibule avec une soie interne; endopodite de la maxillule portant sept soies, sans endite coxale; rames de P1-P4 à trois segments et à formule des épines du troisième segment de l’endopodite 3.4.4.3; second segment de l’endopodite de P1 avec une seule soie (dans les deux sexes); plaque intercoxale de P5 très réduite; P6 comprenant deux éléments; double somite génital avec, dans sa partie antérieure ventrale, deux pores copulateurs correspondant à deux réceptacles séminaux; branches furcales portant six soies. La diagnose du genre *Allocyclopina* est émendée et certaines affinités morphologiques avec d’autres genres de la famille des «Cyclopinidae» sensu lato sont discutées. Le statut de *A. australiensis* est brièvement discuté.

**INTRODUCTION**

The Cyclopinidae are a large “family”, likely paraphyletic, the status of which has been under discussion over the past few decades. Several attempts have been made at defining new families for accommodating very different genera that were initially diagnosed as belonging to this family (in particular Martínez Arbizu, 2000a, b, 2001a, b, 2006). However, considering the current absence of a detailed study of this large cyclopoid group, Boxshall & Halsey (2004) and more recently Karanovic (2008) preferred to maintain the family Cyclopinidae as valid, comprising about 43 genera, widely distributed in marine waters, some representatives being also present in brackish and in inland fresh waters (Dussart & Defaye, 2006). The genus *Allocyclopina* Kiefer, 1954 was, until recently, only known by two species: *Allocyclopina madagassica* Kiefer, 1954 (type species), which was described from the Maroantsetra Lagoon (Madagascar), based on specimens found in fine sand, and *A. ambigua*, also interstitial, described by the same author in 1960 from a single female collected from interstitial water near St. Pierre, Reunion Island, east of Madagascar and about 200 km southwest of Mauritius. *A. australiensis* Karanovic, 2008 has been described from one female and one male from two different peninsulas in South Australia (the female from Yorke Peninsula, the male from Eyre Peninsula). The fortuitous discovery of a population of an undescribed species in India and its study, using light and scanning electron microscopy, have permitted to precise the morphological characteristics of the genus and to give an emended diagnosis.

Until now, three genera and four species of the Cyclopinidae sensu lato are known from coastal waters of India: *Cyclopetta orientalis* Lindberg, 1941 (Pondicherry, saltmarshes at Mahim, Bombay), *Paracyclopina intermedia* (Sewell,