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# Addressing taxonomic shortfalls in Neotropical gastrotrichs: a new genus and species of freshwater Gastrotricha (Chaetonotida: Paucitubulatina) from Brazil

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## ABSTRACT

Freshwater meiofauna in the Neotropics remain vastly understudied, and many species are yet to be discovered due to sampling biases and methodological constraints. In this study, we describe *Carianotus dives* gen. nov., sp. nov., a new genus and species within Chaetonotidae (Chaetonotida: Paucitubulatina) from Brazil. This species, found in several regions spanning over 3000-km linear distance, features a unique set of morphological features, importantly a distinctive crest of five lanceolate-leaf-shaped spines deriving from small basal scales on the anterior dorsal head. The integrative description is based on light and scanning electron microscopy and molecular phylogenetic analyses of concatenated *18S* and *28S* rDNA sequences. Our analyses suggest the phylogenetic placement of *Carianotus* gen. nov. within a paraphyletic branch of *Chaetonotus*, with spined *Chaetonotus* lineages and spineless species of *Lepidodermella*. This research highlights the importance of integrative taxonomy in uncovering hidden biodiversity within the Neotropical region, and demonstrates the still underexplored status of the freshwater meiofauna of Brazil, with many species yet to be discovered.

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