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# Morphological description and molecular characterization of *Ancyracanthus electrophori* n. sp. (Gnathostomatoidea: Gnathostomatidae): a new nematode parasitic in the electric eel *Electrophorus varii* (Gymnotiformes: Gymnotidae), from the Brazilian Amazon

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## Abstract

A new species of *Ancyracanthus*, parasite of the electric eel *Electrophorus varii*, in the Brazilian Amazon, is described based on morphological and molecular characterization. *Ancyracanthus electrophori* n. sp. differs from the two congeners namely, *Ancyracanthus pinnatifidus* and *Ancyracanthus schubarti*, based on the structure of cephalic appendages, number and arrangement of caudal papillae in males, vulva very close to anus in females, eggs with smoothly mamillated shell, host taxon and geographical origin. Moreover, the new species is the first in the genus to be described with thorny cuticular rings and to be observed with the use of scanning electron microscopy (SEM). The morphology of *A. pinnatifidus* and *A. schubarti* is still poorly-known and should be revised in details; however, the separation between them and the new species was clear. Genetic characterization based on 28S rDNA and cytochrome c oxidase subunit I (*cox1*) mtDNA partial sequences, performed for the first time in *Ancyracanthus*, along with phylogenetic reconstructions using both genetic markers, placed *Ancyracanthus electrophori* n. sp. in a suggestive basal position within Gnathostomatidae. Phylogenetic reconstructions using *cox1* sequences also suggested lack of monophyly in the genera *Gnathostoma* and *Spiroxys* and, consequently, in the subfamilies Gnathostominae and Spiroxyinae. However, such results are preliminary. With the first genetic characterization and observations using SEM in *Ancyracanthus*, resulting in the discovery of a new species and in the expansion of the geographical occurrence of the genus to Amazonian fish, an important step towards a better understanding of these nematodes has been taken.

**Keywords:** Electrophorinae; Integrative taxonomy; Nematoda; Neotropical region; Spiruromorpha; endoparasite; freshwater fish.

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