Morphological, histological, and SSU rDNA data of a *Henneguya* species infecting an Amazonian fish of the family Cynodontidae

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Myxozoans are cnidarian endoparasites, mainly found in fish, with some species causing significant diseases. The genus *Henneguya* comprises more than 200 species, most commonly found in freshwater environments. The Amazon Basin covers an area of approximately 6.2 million km² and is one of the most productive ecosystems on the planet, with a vast diversity of fish. Among the fish species found in the Amazon are members of the family Cynodontidae, which are highly prized for sport fishing. In this study, we report the first record of a *Henneguya* sp. infecting the gills of *Cynodon gibbus*, a cynodontid species commonly used as food by riverside dwellers. Local fishermen collected specimens from the Rio Capim River, Pará State, Brazil. Twelve *C. gibbus* specimens were captured alive and examined for myxozoan infections. Parasite analyses were based on morphology, histology, small subunit ribosomal DNA (SSU rDNA) sequencing, and phylogenetic analysis. Cysts of *Henneguya* sp. were observed at the tips of the gill filaments. The myxospores measured 37.2 µm (36.0–39.4) in total length, 10.0 µm (9.4–10.9) in body length, 3.8 µm (3.83–4.34) in width, and 27.0 µm (25.4–29.36) in caudal appendage length. The nematocysts were of equal size, measuring 4 µm (3.43 – 4.47) in length, 1 µm (0.93 – 1.36) in width, and containing tubules with 3 to 4 turns. Histological analyses revealed that the parasite develops in the connective tissue of the gill filaments, causing structural deformation and disorganization of structure of the gill filaments. Phylogenetic analysis showed that *Henneguya* sp. parasite of *C. gibbus* grouped as a sister species to *Henneguya piaractus*, a gill parasite of the characid *Piaractus mesopotamicus*. The combination of morphological, molecular, and biological data allowed us to identify the myxozoan studied here as a putative new species, further increasing the documented biodiversity of Myxozoa in this poorly sampled region.

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