

Phylogenetic taxonomy of *Polydiniella mysorea* from Asian elephants

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SUMMARY

Polydiniella mysorea in the family Polydiniellidae of the order Entodiniomorpha is a characteristic species found in the large intestines of Asian and African elephants. However, no detailed reports on this species, except the first report, exist in the literature. Therefore, its taxonomic position has been left unclear. We examined its detailed morphology using silver carbonate impregnation and SEM, in addition to the examination on the sequence of SSU rDNA, and discussed its phylogenetic position. *P. mysorea* had cask-like body with retractable adoral ciliary zone, 3–7 accessory ciliary ribbons partially encircling the body surface, three skeletal plates, and a caudal lobe borne with short cilia. Adoral ciliary complex of this species consisted of an adoral polybrachykinety (AP) running along the vestibular opening and a vestibular polybrachykinety (VP) extending on the vestibular wall spirally. This composition was similar to those of the families Gilchristidae found from African white rhinoceros and Ophryoscolecidae found from ruminants. The phylogenetic tree constructed by maximum evolutionary method showed that *P. mysorea* and the species of Ophryoscolecidae were clustered as a sister group. Based on these results, *P. mysorea* was inferred to be related phylogenetically to the ciliates of the families Gilchristidae and Ophryoscolecidae.