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Observations on a new species of *Monocystis* Stein, 1848 (Protozoa: Apicomplexa: Monocystidae) *Monocystis levinei* sp. nov. from an Indian earthworm (Annelida: Oligochaeta) *Eutyphoeus incommodus*

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Abstract

Surveys of acephaline gregarines infesting earthworms from Kalyani of Nadia districts of West Bengal, India revealed the occurrence of a new species of *Monocystis* Stein, 1848. *Monocystis levinei* sp. nov., found in the coelomic fluid of the earthworm. Trophozoites of *M. levinei* sp. nov. are elongated in shape, 145.0–175.0 (163.0±1.5) µm x 18.0–43.0 (29.0±1.1) µm with a prominent tail-like protrusion at the posterior end, measuring 7.0–10.0 (7.9±7.9) µm x 1.5–3.1 (1.8±2.1) µm and rounded nucleus, measuring 14.2–26.3 (22.3±7.3) µm x 18.4–30.5 (26.4±2.6) µm. Gametocysts are ovoid in shape ranging from 130.0–163.0 (152.0± 0.4) µm, whereas oocysts are navicular in shape, ranging in size from 8.9–12.0 (10.4±1.0) µm x 5.2–7.3 (6.9±0.5) µm.

Key words: Acephaline gregarines, *Monocystis levinei* sp. nov., earthworm, seminal vesicles, India

Introduction

Gregarines are chiefly coelozoic or lumen-dwelling protozoans of invertebrates, especially arthropods and annelids. Of these two major groups of gregarines, acephaline and cephaline, earthworms harbour the acephaline forms. The acephaline or aseptate forms are characterized by the presence of a non-septate body. Aseptate gregarine fauna have been reported from various parts of the world including India. Investigations in search of acephaline gregarines infesting earthworms of West Bengal, India revealed the occurrence of a new species of *Monocystis* Stein, 1848. Members of the genus *Monocystis* is characterized by having indistinct unmarked mucron, ovoid gamonts, short, elongate, solitary trophozoite and biconical, symmetrical oocysts (Levine 1988). Until now, there are only records of

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