



<http://dx.doi.org/10.11646/zootaxa.3710.4.7>

<http://zoobank.org/urn:lsid:zoobank.org:pub:5B76EC26-3663-4725-9F2F-6F19F149F303>

A checklist of the species under the genus *Monocystis* Von Stein, 1848 (Apicomplexa: Sporozoa: Monocystidae) described from oligochaete hosts

SUTAPA SARKAR & PROBIR K. BANDYOPADHYAY¹

Parasitology Laboratory, Department of Zoology, University of Kalyani, Kalyani-741235, West Bengal, India

¹Corresponding author. E-mail: prabir0432@hotmail.com

Abstract

A checklist of 24 species of the genus *Monocystis* is presented and includes the salient features of each species, type host and site of infection.

Key words: Annotated list, protozoa, aseptate gregarines, *Monocystis*

Introduction

Gregarines represent an extremely large, diverse and highly abundant group of early branching Apicomplexan parasites that inhabit the intestine, coeloms and reproductive vesicles of aquatic and terrestrial invertebrates. Most of the important apicomplexans fall into five main groups. Perhaps the most primitive of these are the gregarines, with about 250 genera and 1650 species have described so far (Levine 1976, 1977, 1988; Clopton 2000; Hausmann *et al.* 2003). The majority of apicomplexan protozoa infect a wide range of animals from molluscs to mammals. Many of them cause diseases of medical and veterinary importance and represent a significant economic burden and global health care challenge.

There are two major groups of 'gregarines', Aseptate and Septate. In aseptate gregarines (acephaline), the trophozoite has a single compartment, but in the Septate group (cephaline), there are several compartments by endoplasmic septa. Arthropods tend to harbour septate gregarines, but aseptate gregarines are frequently found in seminal vesicles and coelomic cavity of earthworms. The majority of the gregarines reported so far are septate gregarines from insects. Monocystid gregarines are parasitic and are frequently found in seminal vesicles and coelomic cavities of terrestrial oligochaetes.

Gregarines are important from an evolutionary perspective because of their suspected early divergence within the Apicomplexa. The genus *Monocystis* was established by Von Stein in 1848. *Monocystis* is chiefly coelozoic or lumen dwelling protozoan of invertebrates, especially arthropods and annelids, are considered as aseptate gregarine. The genus *Monocystis* Von Stein, 1848, is characterized by having no mucron, ovoid gamonts, short or elongated body, solitary, biconical oocysts, and being symmetrical (Levine, 1988). Only few reports are available concerning biodiversity among *Monocystis* species based on morphological characterization. Levine (1988) listed 74 *Monocystis* species under the genus Monocystidae. There is no systematic checklist with description of *Monocystis* species. In view of this it is considered useful to compile a further checklist to include later additional species.

The checklist with description of the different *Monocystis* species is described below including the infested organ, type host, type locality and the original reference of the species.