PREFACE

Protozoa as a biological group, excel most of the others in their ability to adapt themselves to a wide variety of ecological conditions. Because of their minute size they are easily dispersed from place to place. The small streamlet carrying the waters of the showers, the large rivers coming through hundreds of miles and the fast currents of ocean waters all carry a variety of protozoa. Winds drift their cysts over long distances. The protozoa are found practically everywhere including all types of fresh and saline waters.

Fresh water forms a major constituent of the human body, the largest single item of diet, and the most widely used natural medium. Therefore the quality of fresh water is of vital significance to human beings.

Freshwater waters harbour a wide variety of protozoa, which play an important role in the ecosystem. Several flagellates are vital as "producers" while other protozoa are capable of taking up dissolved organic matter and using it as a source of energy.

The rise of human population and industrial revolution have led to the extensive pollution of environment in general and freshwater bodies in
particular. The pollution of freshwater bodies would have an immense impact on mankind, both directly and indirectly. The protozoa play a vital role in breaking down organic pollutants and thus are extremely useful in reducing the damage due to organic pollution. The protozoa, by virtue of their variety and adaptability, serve as useful indicators of pollution. In this context, the study of protozoan fauna of freshwaters is thus extremely useful.

While extensive studies have been made in India on freshwater bodies, analysing the physico-chemical variables and zooplankton in general, very few attempts have been made to analyse the protozoa and ciliates in particular. The present thesis is a preliminary attempt in this direction, embodying the studies on ciliate populations in relation to the environmental conditions, at three selected stations in the Marathwada region of Maharashtra State. While making this attempt one can not but recollect the statement of Dujardin (1871) that:

"Nothing is simpler than to prepare infusions and to watch infusoria developing in them but nothing is harder than to produce like results in two infusions prepared under apparently the same conditions."