D-14: Consumption preferences of bacteria as food by paddy soil protozoa

W M S Kularatne, P L D Waidyasekera
(*Dept of Zoology, Univ of Sri Jayewardenepura, Nugegoda*)

Most free-living protozoans normally feed by capturing and digesting bacteria. Bacteria forms the staple food supply of holozoic soil protozoa. It has been shown that when fed with a mixture of bacteria, protozoa selected the edible strains.

Information with respect to special situations in water-logged conditions existing in paddy field soils was not available.

Data on the food protozoans has been obtained mainly by the use of axenic cultures. 5 ciliates, 5 flagellates and 3 amoebae isolated into axenic cultures from paddy soils were used for investigating the preferences shown to 13 bacterial isolates supplied in a mixed population. Several modifications of the method suggested by Singh (1941) were employed.

The study revealed that, in a mixed population, protozoa selected the edible bacteria as food while some strains were left behind. On the basis of such selectivity, paddy soil bacteria can be categorised into 4 groups depending on preferential consumption shown by protozoa. It was also found that some paddy soil protozoans were not limited to a particular type of nutrition but changed from one to another depending on environmental circumstances.

Financial support by a NARESA grant is acknowledged.