



BIOMEDICAL RESEARCH INSTITUTE

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Behavior of *Schistosoma mansoni* cercariae

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Introduction

The cercariae of most trematode species exhibit very specific characteristic behavior patterns. Learning to distinguish normal from abnormal cercarial behavior is very important, since abnormal cercarial behavior likely indicates problem areas that might adversely affect the outcome of experiments.

Equipment

- Dissecting microscope
- 200 ml glass beaker

Materials and reagents

- Artificial pond H₂O (see recipe in SRC SOPs)

Procedure

Indications of normal behavior

- *S. mansoni* cercariae typically will swim to the surface of the water, rest momentarily and sink down partially in the water column before swimming again. Some may also sink to the bottom of the container and lie quiescent before they resume swimming. *The body of the cercaria is the trailing part of the swimming organism, led vertically by the vigorous movement of the tail.*

Indications of abnormal behavior

- Cercariae that swim continuously without stopping. In the most extreme situation, this continual movement is quickly followed by their sinking to the bottom of the container. High chlorine levels are one major contributor to this behavior.
- Cercariae that lie on the bottom of the container and cannot be stimulated to move by quickly changing the light. Soluble products released by rotifers (order *Bdelloidea*) are frequently responsible for this behavior. This behavior may also indicate poor water quality.

Comments

Recognizing the normal and abnormal behavior of free-swimming cercariae can give the investigator valuable insight into an underappreciated aspect of the organism that may greatly impact the outcome of their experiments. Cercariae are extremely sensitive to innumerable physical and chemical agents. Among the more common contaminants in laboratories are high chlorine levels and byproducts of commensals such as rotifers. The resulting altered behavior of the cercariae limits and/or may completely inhibit their skin penetration capability.

References

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