

***STUDIES ON LEECHES ASSOCIATED WITH  
CERTAIN PLANORBID SNAILS IN EGYPT AND  
THEIR POSSIBLE ROLE IN THE BIOLOGICAL  
CONTROL OF THESE SNAILS.***

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## **Abbreviations used with the figures**

a	Annuli
as	Anterior sucker
e	Eyes
eg	Eggs
m	Mouth
p	Papillae
pb	Proboscis
ps	Posterior sucker
y	Youngs

## Key Words

- *Helobdella punctatolineata*
- leech
- predation
- biological control
- Hirudinae
- *Biomphalararia alexandrina*
- Egypt
- biology of *Helobdella*

## Abstract

**Magda Fayek Attallah. Studies on leeches associated with certain planorbid snails in Egypt and their possible role in the biological control of these snails. Master degree (M.SC) in Zoology, Department of Zoology. Faculty of Science, Ain Shams Univerist (2003)**

The freshwater leech *Helobdella punctatolineata*, (Family Glossiphoniidae), proved to predate on pulmonate snails, including schistosome vectors. Therefore, the morphology and biology of this leech and the factors affecting the process of predation were studied. Preference as food of different snail species were determined. Conditioned water by leeches was also tested for its effect on the infection of *Biomphalaria alexandrina* snails with *Schistosoma mansoni* miracidia.

Surveying revealed the collection of *Helobdella punctatolineata*, *Batrachobdelloides tricarinata* and *Alboglossiphonia polypompholyx* (Family Glossiphoniidae) and *Barbronia assiuti* (Family Salifidae). *Helobdella* was the only leech species that showed predatory activity against snails. The results showed that the consumption of snails decreased as leeches increased in relative density, increased with the increase leeches size, the relative density of snails showed no significant difference while the predation increased with the decrease of snails size.

The optimum degree for predation was 23°C. Light and darkness showed no effect. Consumption of snails was not affected in various water volumes indicating that leeches are active predators. Presence of mud, spring water and plant increased significantly the predation of leeches on snails. The present results showed that *Helobdella* is not predacious upon egg-masses of the snails. The prey preference is descendingly: *B. alexandrina*, *Physa acuta* followed by *Bulinu truncatus* and *Lymnaea natalensis* then came *Melanoides tuberculata*, *Cleopatra bulimoides* and *Gabbiella senaariensis*. Leech conditioned water showed no effect on the infectivity of *S. mansoni* miracidia to *B. alexandrina* snails.

The present work gives indication that *Helobdella* may be a potential biological factor against medically important snails.