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## **Evaluation of Cercaricidal and Miracidial Activity of Selected Plant Extracts Against Larval Stages of *Schistosoma Mansoni***

### Abstract

Schistosomiasis is a parasitic disease caused by blood-flukes of the genus *Schistosoma*. It is one of the most widespread of all human parasitic diseases, ranking second only to malaria in terms of its socioeconomic and public health importance in tropical and subtropical areas. More than 207 million people, 85% of whom live in Africa, are infected with schistosomiasis, and an estimated 700 million people are at risk of infection in 76 countries. Control of schistosomiasis faces serious drawbacks of emergence of drug resistant parasites and molluscicide resistant snail hosts. Due to improper waste disposal, infected faecal matter enter water bodies such as canals rivers and springs where miracidia that hatch from parasite eggs develop into cercariae inside snail intermediate hosts and are infective to humans upon release in to the water. This study sought to evaluate the miracidial and cercaricidal activity of selected plant extracts on larval stages of *Schistosoma mansoni*. Ten cercariae and miracidia were exposed to extract concentrations ranging from 10-150ppm. The most active extracts were *Phytolacca dodecandra* (LT<sub>50</sub> 10.84 and 16.91 minutes) and *Solanum lineaeum* (LT<sub>50</sub> of 22.86 and 26.96 minutes) respectively that killed 50% of miracidia and cercariae in less than 30 minutes. This was followed closely by *Solanum americanum* (LT<sub>50</sub> 31.02 and 31.89) and *Annona squamosa* LT<sub>50</sub> 35.29 and 40.46 minutes respectively. *Piper nigrum* was the least active recording LT<sub>50</sub> 46.84 and 56.75 of miracidia and cercaria respectively. Miracidia were more susceptible to extracts than cercariae. The higher susceptibility of miracidia to extracts has also been reported in other studies and it is advantageous since killing one miracidium prevents the formation of thousands of cercariae which are infective to humans. All the extracts killed larvae within one hour at concentration less than 100ppm and could be categorized as potent cercaricide and miracidicides.

**Keywords:** Miracidial, Cercaricidal, Schistosomiasis, *Phytolacca dodecandra*, *Solanum lineaeum*, *Solanum americanum*, *Annona squamosa* and *Piper nigrum*