

Study of parasites found in freshwater snails from Nandurbar district

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ABSTRACT

The present work was based on a preliminary survey of the snail species infected with parasites. Snails were collected from five different freshwater bodies from Nandurbar District, identified and examined for infection. Ten snails of each species from each site were examined. The Study shows that cercaria is more in number in snails and is also found in water of freshwater bodies.

Keywords: *Snail, parasite, cercaria, freshwater snails.*

INTRODUCTION

The freshwater snails transfer many parasites to cattle, sheep and human also as they serves as intermediate host of these parasites. Freshwater snails serve as vector of water-born parasitic diseases such as schistosomiasis, fasciolosis etc. Schistosomiasis is widely spread than other human parasitic diseases particularly in poor or rural areas. It has been reported in Indian subcontinent (Narain et al., 1994; Agarwal et al., 2000; Essa et al., 2013). In India fasciolosis has been reported in Arunachal Pradesh, Assam , Bihar, Maharashtra, U.P. and West Bengal (Narain et al., 2006; Elhence et al., 2001; Vatsal et al., 2006; Gandhi et al., 2010; Ramchandran et al., 2012). Present work was based on a preliminary survey of snail species infected with parasites.

MATERIAL METHODS

The snails were collected from five different freshwater bodies from Nandurbar District of Maharashtra stae i.e. site-1 is ponds, Site-2 is River of Dehali, Site-3 is river of Prakasha, Site-4 is Kothar dam and Sit -5 is Padalpur. Ten snails of each species from each site were collected manually by hand picking. The period of study was from July 2020 To Jan 2021. Mainly two species of snails as *Bellamya bengalensis* and *Indoplanorbis exustus*.

The snails were examined for cercariae by natural shedding and examined fresh and identified by using description and keys (Rao et al., 1901; Smyth, 2005). Immature larval stages were examined by crushing. All the stages are preserved in 70% ethanol for future study.

RESULTS & DISCUSSION

We collected and examined a total fifty snails of each species as *Bellamya bengalensis* (Fig.1) and *Indoplanorbis*

exustus (Fig.2) belonging to families Viviparidae and Planorbidae respectively. Both species were found infected by trematode cercariae. Highest infection was observed in snails collected from temporary ponds developed in rainy season. Among these two species of snails highest infection was observed in *Indoplanorbis exustus*. The life cycle stages like eggs, miracidia and radia were also observed along with cercaria. The common type of cercaria observed in *Bellamya bengalensis* and *Indoplanorbis exustus* was *Xiphidiocercaria*.

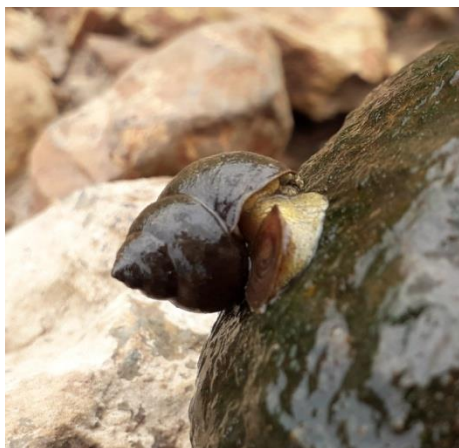


Fig.1 *Bellamya bengalensis*



Fig.2 *Indoplanorbis exustus*

Table:- The infection of *Xiphidiocercaria* and life stages in snails from Kothar dam.

Sr. No.	Snail species	Egg	Miracidia	Radia	Cercaria
1	<i>Bellamya bengalensis</i>	04	02	38	72
2	<i>Indoplanorbis exustus</i>	03	05	58	118

The characters shown by *Xiphidiocercaria* are the presence of circular body with oral and ventral sucker and posterior tail. The oral sucker is with strong suckorial pharynx. The parasites and parasitic stages are found tremendous in snail *Indoplanorbis exustus* collected from temporary pond developed in rainy season.

In present study two species of freshwater snails were observed for parasitic infection collected from five different freshwater bodies. Snails are examined by natural shedding and crushing methods. Natural shedding shows only cercarial stage and crushing method is useful in detection of immature stages. The present study shows that *Xiphidiocercaria* is common parasite in all freshwater snails.

Among two species of snails studied, *Indoplanorbis exustus* is highly infected snail and infection was high in rainy season and minimum in January as snail number also decreases due to low availability of water. The infection is more acute in temporary water ponds which are developed in rainy season. Cercariae are also observed in water of freshwater bodies from where snails were collected. These parasites are also transferred to animals and humans visiting these freshwater bodies or using water for drinking without purification.

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REFERENCES

- Agarwal MC, Sirkar SK and Panday S, 2000. Endemic form of cercarial dermatitis (khujlee) in bastar area of Madhya Pradesh. *Journal of Parasitic Diseases*.24:217-218.
- Elhence V, Mehta B and Gupta RK, 2001. Fasciolosis: A case from Central Uttar Pradesh. *Indian Journal of Gastroenterology*.7:88-95.
- Essa T, Birhane Y, Endris M, Moges A and Moges F, 2013. Current status of *Schistosoma Mansoni* infections and associated risk factors among students in Gorgora town. Northwest Ethiopia. *ISRN Infectious Diseases 2013*. Article ID636103.7 pages.
- Gandhi V, Jain P, Rathod and Nagral S, 2010. Endoscopic Ultrasound in billiary fasciolosis. *Indian Journal of Gastroenterology*. 29:128.
- Narain K, Biswas D, Rajguru SK and Mahanta J, 1997. Human distomatosis due to *Fasciola hepatica* infection in Assam. India. *Journal of Communicable Disease*.29(2):161-165.
- Narain K, Mahanta J, Dutta R and Dutta P, 1994. Paddy field dermatitis in Assam: a cercarial dermatitis. *Journal of Communicable Disease*. 26:26-30.
- Ramchandran J, Ajjampur SR, Chandramohan A and Varghese GM, 2012. Case of human fascioliasis in India: Tip of the iceberg. *Journal of Postgraduate Medicine*. 58(2):150-152.
- Smyth JD.2005.Parasitology. Cambridge University Press, U.K..pp.175-251.
- Subba Rao NV, Jonathan JK and Srivastava, 1991. Snails, Flukes and ManDirector ZSI Calcutta.pp1-116.
- Vatsal. DK, Kapoo S, Vankatesh V, Vatsal P and Hussain N, 2006. Ectopic fasciolosis in the dorsal spine: case report. *Neurosurgery*. 59(3):706-707.

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