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#### TITLE

**MALACOLOGICAL AND PARASITOLOGICAL SURVEY IN THE WEST ZONE OF THE CITY OF RIO DE JANEIRO, BRAZIL, CONSIDERED OF LOW ENDEMICITY FOR SCHISTOSOMIASIS MANSONI**

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#### ABSTRACT

Schistosomiasis is the most important disease transmitted by mollusks in terms of Public Health. In Brazil the transmission occurs in 19 states, covering an endemic area along the Brazilian coast from Maranhão state to Espírito Santo and part of Minas Gerais. Schistosomiasis focus are also reported in the states of Pará, Piauí, Goiás, Federal District, São Paulo, Rio de Janeiro, Paraná, Santa Catarina and Rio Grande do Sul. The city of Rio de Janeiro is historically considered of low endemicity for schistosomiasis mansoni, although the presence of the three species of Biomphalaria intermediate hosts, associated to poor environmental, basic sanitation conditions and many immigrants from areas where schistosomiasis is endemic have been reported in several localities. The aim of this study is to present the partial results of a doctoral thesis on malacological and parasitological surveys carried out in one of the areas of Rio de Janeiro most highly impacted by the effects of accelerated urbanization and the reception of a large number of immigrants, mainly from the Northeast region of the country, the West Zone. The snails were collected at 32 georeferenced sampling stations (May, June, August and September 2024) in 10 neighborhoods. All specimens were examined for larval forms of Schistosoma mansoni and other trematodes that could offer human health risk. A total of 4,407 mollusks were obtained belonging to seven families: Ampullariidae, Assimineidae, Lymnaeidae, Physidae, Planorbidae, Succineidae and Thiaridae. Considering the snails of health interest we found intermediate hosts of S. mansoni, Biomphalaria straminea and Biomphalaria tenagophila, Galba sp. and Pseudosuccinea columella, natural hosts of Fasciola hepatica, ethiological agent of fasciolosis in Brazil. Other nine species were also identified: Drepanotrema anatinum, Drepanotrema cimex, Drepanotrema lucidum, Melanoides tuberculata, Omalonyx sp., Stenophysa marmorata, Physella acuta, Pomacea sordida, and Pomacea sp. The parasitological examination revealed four cercarian types in three snail species: the Armatae cercarie type in B. tenagophila and D. cimex, Distoma Brevifurcate Pharingeada cercarie type in B. tenagophila, Ubiquita cercarie type in D. cimex and Pleurolophocerca cercariae type in M. tuberculata. Even though none of the specimens of B. straminea, B. tenagophila, Galba sp. and P. columella were parasitized by S. mansoni or F. hepatica, respectively, we emphasize that some localities are potential source of urban transmission of S. mansoni and F. hepatica, given the presence of the snails transmitters and the presence of migrants from endemic areas for schistosomiasis associated to poor conditions of basic sanitation that favour the water contamination.

#### KEYWORDS

Biomphalaria; Cercarie; Environmental Health; Freshwater Snails; Schistosomiasis

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