RESEARCH NOTE

First Report of *Biomphalaria glabrata* in the State of Rio Grande do Sul, Brazil

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Among the ten species of molluscs of the genus *Biomphalaria* existing in Brazil, only three are found naturally infected with *Schistosoma mansoni: B. glabrata, B. straminea and B. tenagophila*. *B. glabrata* is the most important intermediate host, because of its distribution and efficiency in the transmission of schistosomiasis. *B. straminea* is the most successful species because it is the one which is best adapted to climatic variations. It is found in almost all of the hydrographic basins replacing *B. glabrata* in importance as the intermediate host of *S. mansoni* in the northeast of the country (WL Paraense 1972 Fauna Planorbídica do Brasil, p. 213-239. In CS Lacaz et al., *Introdução à Geografia Médica do Brasil*, Edgard Blücher Ltda and Universidade de São Paulo). *B. tenagophila* is distributed along a strip of coast which goes from the south of the State of Bahia to Chuí, State of Rio Grande do Sul (RS) in the extreme south of the country (WL Paraense 1986 Distribuição dos Caramujos no Brasil, p.117-128. In FA Reis et al., *Modernos Conhecimentos sobre Esquistossomose Mansônica*, Biblioteca da Academia Mineira de Medicina, Belo Horizonte). This snail is responsible for most of the autochthonous cases of schistosomiasis in the State of São Paulo and for the foci of the disease in State of Santa Catarina, the most southest distribution of this parasitosis in Brazil (OJ Bernardini & MM Machado 1981 *Arq Cat Med 10*: 213, JA Ferreira Neto & JR Cavalcanti 1983 Summary of the XIX Congr Soc Bras Med Trop, Rio de Janeiro, RJ, p. 98-99, PT São Tiago 1994 *Rev Soc Med Trop 27*: 192). Although an autochthonous case of schistosomiasis from the municipality of São Valentim in RS has already been described (JLZ Louzada 1973 *Rev Bras Med 30*: 533-535), this data deserves a more detailed study.

In RS, four species and one subspecie of *Biomphalaria* have been reported: *B. tenagophila* (WL Paraense 1959 *Am J Trop Med Hyg 8*: 456-472); *B. straminea* (AG Cunha Neto 1972 *Atas Soc Biol Rio de Janeiro 15*: 151); *B. oligoza* (WL Paraense 1974 *Rev Bras Biol 34*: 379-386); *B. peregrina* (WL Paraense 1966 *Rev Bras Biol 26*: 269-296); *B. t. guaibensis* (WL Paraense 1984 *Mem Inst Oswaldo Cruz 79*: 465-469).

In January 1997, a case of schistosomiasis mansoni from the municipality of Esteio located in the metropolitan region of Porto Alegre, RS, was diagnosed at the Hospital Getulio Vargas (Sapucaia do Sul, RS). A quantitative stool examination (Kato-Katz method), revealed 696 eggs per gram of faece. The patient was treated with oxamniquine.

An epidemiological survey carried out by Fundação Nacional da Saúde (FNS), Secretaria Estadual de Saúde and the authors revealed that this case was not autochthonous. The patient had previously worked in the northeast of the State of Santa Catarina, a region where the occurrence of the disease has already been reported. The epidemiological survey also revelead the existence of a small pond (approximately 400 m of perimeter) close to the patient's residence, near the road (BR 116), and the industrial area in the neighborhood of Osório Village, municipalities of Esteio (Fig.). This pond is often visited by local inhabitants to collecting molluscs wich are used as bait for fishing.

A total of 81 molluscs specimens collected by FNS were sent to the Laboratório de Helmintoses Intestinais of the Centro de Pesquisas René Rachou-Fiocruz where they were measured, examined by exposure to artificial light for *S. mansoni* cercariae and identified morphologically according to WL Paraense 1975 (*Arq Mus Nac RJ 55*: 105-128). The molluscs had a diameter ranging from 0.6 to 3.5 cm. The 29 surviving specimens were examined and none of them were shedding cercariae. The snails were identified as *B. glabrata*, *B. occidentalis* and *B. t. guaibensis*.

B. glabrata was also found in other water collections in the region in a malacological survey carried out by the authors in April 1997. It is worth

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mentioning that at least two of these hydric collections are tributaries of the Sinos river, so the finding of *B. glabrata* downstream will not be a surprise.

Previously, southest record of *B. glabrata* was at the city of Curitiba (latitude 25°25'S) in the State of Paraná (WL Paraense 1986 *loc. cit.*). As a result of its discovery in Esteio, the southern limit of this species is extended to latitude 29°51'S. This observation is of importance because it has been found in water collections located in an industrial district which has been attracting workers, including some from areas of schistosomiasis transmission.

Since the three most important *Biomphalaria* species occur in RS and with risk of introduction of schistosomiasis in the state, a meeting was therefore organized among technicians of FNS, Secretaria Estadual de Saúde and Secretaria Municipal de Saúde of the municipalities of Esteio and Porto Alegre. At this meeting a series of sanitary vigilance measures for schistosomiasis were proposed: (1) Coproparasitological survey (Kato-Katz method) in human groupings such as army, industries and schools (7 to 14 years old). Special attention must be paid to migrants; (2) Treatment of the patients with *S. mansoni* infection and their follow-up to confirm the cure; (3) Malacological survey in the metropolitan region of Porto Alegre; (4) Sanitary engineering measures; (5) Compulsory notification of schistosomiasis cases; (6) Personnel training.

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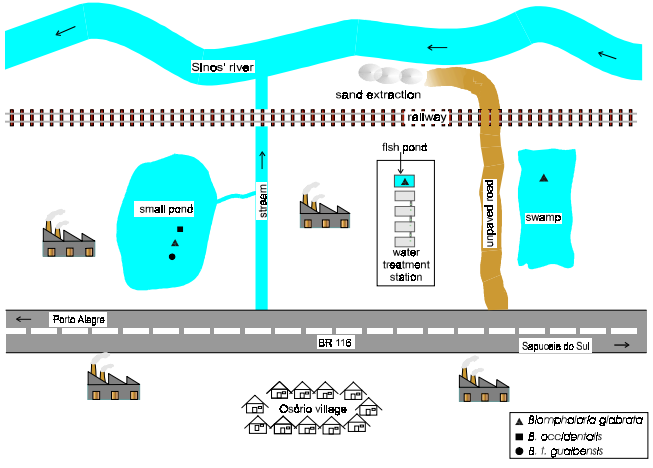

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