

## FIRST REGISTER OF *BIOMPHALARIA STRAMINEA* DUNKER, 1848, IN SANTA CATARINA STATE<sup>(1)</sup>.

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### SUMMARY

The first register of *Biomphalaria straminea*, vector species of schistosomiasis, in Santa Catarina State, South Brazil is described.

The specimens were obtained from two ornamental aquaria of private residences. In both cases the ornamental plants and/or fishes were bought from the same supplier. The presence of this species was later confirmed in the farm where these plants and fishes are cultivated, in the city of Governador Celso Ramos, also in Santa Catarina State.

The occurrence in natural environments was later detected in two different places of the Island of Santa Catarina.

**KEY WORDS:** *Biomphalaria straminea*; Schistosomiasis; Snails; Malacological survey.

### INTRODUCTION

Three species of the genus *Biomphalaria* sp are vectors of schistosomiasis mansoni in Brazil: *Biomphalaria tenagophila*; *Biomphalaria glabrata* and *Biomphalaria straminea*. In Santa Catarina State only *B. tenagophila* has been registered so far<sup>15</sup>.

The introduction of planorbid hosts of *Schistosoma* through plants and fishes used in ornamental aquaria has been reported in Brazil<sup>1,2,5</sup> and abroad<sup>8,3,4,16</sup>.

*Biomphalaria straminea* has been observed throughout South America. In the Brazilian territory, Santa Catarina is the only State where this species has not yet been found<sup>11,14</sup>. Nevertheless, it exists in neighbouring places such as Paraguay<sup>7</sup>, North of Argentina<sup>7</sup> and Uruguay<sup>12,6</sup>.

This recently described distribution confirms the conclusion of TELES & VAZ<sup>13</sup> that the capacity of this species to occupy new ecotops is high, even though it does not have the best susceptibility to the *Schistosoma mansoni*. It is therefore impor-

tant to update the information about its distribution and adaptation.

Our paper reports, for the first time, the introduction of *Biomphalaria straminea* in Santa Catarina State both in artificial and natural environments.

### MATERIALS AND METHODS

Seventy-five specimens of *Biomphalaria* sp were collected on September 3<sup>rd</sup>, 1989 in two ornamental aquaria from different houses in two areas of Florianópolis. The fishes and ornamental plants were bought from the same supplier. Some of these specimens were desiccated in the Genetics Laboratory at the Biology Department of the Federal University of Santa Catarina (UFSC) and some were sent to the Malacology Laboratory of the Biosciences Institute in São Paulo University (IBUSP). The remaining specimens were kept at the UFSC laboratory in order to obtain new generations. The shell and genital anatomy of the animals were examined to identify the material.

When the identification was confirmed, the

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fishes and ornamental plants' supplier in Florianópolis was contacted. He owns many shops spread over the State and a little farm in the city of Governador Celso Ramos (near to Florianópolis), where he keeps a tank to breed fishes and plants, some of them coming from different areas of Brazil.

A sample of molluscs was collected out of these tanks on September 13<sup>th</sup>, 1989. The identification was performed in our laboratory (UFSC) and confirmed at the IBUSP.

More recently, on March 7<sup>th</sup>, 1991, 425 other specimens were collected in two places of the Island of Santa Catarina: Anchieta and Alto Ribeirão underwent the same procedure described above.

## RESULTS AND DISCUSSION

The results obtained from the identification of the analysed material are summarized in Table 1.

MEIER-BROOK<sup>8</sup>, DUDGEON & YIPP<sup>4</sup> showed that *B. straminea* has great capacity of adaptation to new environments. This could eventually promote the dissemination of this species in the whole Brazilian territory.

NEVES<sup>10</sup> recently confirmed registers of *B. straminea* in isolated regions of the States of Acre, Amazonas, Para, Maranhão and Goiás. This species was also found in the whole Northeastern region of Brazil, East of Bahia, Northeast and Center of Minas Gerais, West of Parana and few areas of South Mato Grosso and North Mato Grosso States.

TELES and VAZ<sup>13</sup> found this species in 23 cities in the State of São Paulo. The register of this species in the State of Santa Catarina had not yet been done.

Besides its great capacity of dispersion, *B. straminea* has shown, under laboratory conditions, greater competition capability when compared to *B. glabrata*<sup>9</sup>.

Some of our studies, which have not yet been published, have suggested that *B. straminea* collected in Mocambo (MG), Southeastern Brazil, presents higher capacity for fecundation, fertilization and hatching when compared to *B. tenagophila* of São Francisco do Sul (Santa Catarina State).

Therefore the study of the distribution, ecological adaptation and susceptibility of this species, which is being introduced in the State of Santa Catarina, is relevant.

## RESUMO

### Primeiro registro de *Biomphalaria straminea* Dunker, 1848, no Estado de Santa Catarina.

É descrito o primeiro registro de *Biomphalaria straminea*, espécie vetora da esquistossomose no Estado de Santa Catarina. Os exemplares foram obtidos a partir de 2 aquários ornamentais de residências particulares. Nos dois casos, o fornecedor de plantas e/ou peixes ornamentais era o mesmo. Coleta posterior, no sítio de cultivo de plantas e peixes deste fornecedor, no município de Governador Celso Ramos.

Table 1.  
Identification of the material.

City	Locality	Type of hydric collection	Nº of collected individuals	Species
Florianópolis	house 1	aquarium	25	<i>B. straminea</i>
	house 2	aquarium	50	<i>B. straminea</i>
Governador Celso Ramos	Caieira do Norte	tank to breed fishes and ornamental plants.	231	<i>B. straminea</i>
Florianópolis	Anchieta	puddles	166	<i>B. straminea</i>
Florianópolis	Alto Ribeirão	ditch	59	<i>B. straminea</i>

dor Celso Ramos (SC), confirmou a presença desta espécie.

Mais recentemente, foi detectada a ocorrência na natureza em duas localidades na Ilha de Santa Catarina.

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