

Identificação morfológica e molecular , biometria, abundância e distribuição geográfica de *Biomphalaria spp.* (Preston, 1910) (Mollusca, Planorbidae) no município de Juiz de Fora, estado de Minas Gerais

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Abstract. Morphologic and molecular identification, biometry, abundance and geographical distribution of *Biomphalaria spp.* (Preston, 1910) (Mollusca, Planorbidae) snails in the municipality of Juiz de Fora at Minas Gerais state. The objective of this study was to identify the species of *Biomphalaria* and evaluate their prevalence, infectivity, biometry, abundance and geographic distribution in the municipality of Juiz de Fora, Minas Gerais, Brazil, in 2004. The samples were collected for two purposes. The first was to identify the infectivity, abundance and geographic distribution of the species found. Therefore, samples were collected in 31 locations: 6 reservoirs, 11 rudimentary holding ponds, 7 irrigation ditches, 5 lakes, 1 ornamental pond and 1 waterfall. The 124 field visits were spaced throughout the four seasons (each point visited four times) and 1,770 snails were captured, with standardized collection intervals. The second purpose, to enlarge the sample to assess infectivity, occurred at the start of the wet season in 2004, and 3,494 exemplars of *Biomphalaria* were collected, without standardized collection intervals. These specimens were gathered from 10 locations – 3 rudimentary holding ponds and 7 irrigation ditches – predominantly in regions located to the east and north of the main urban sprawl. All told, then, 5,264 specimens were collected. All the irrigation ditches were colonized by *Biomphalaria*. Through morphological and molecular identification techniques, three species were identified: *B. tenagophila*, *B. peregrina* and *B. straminea*. *B. tenagophila* was prevalent in 60 % of the positive points and *B. peregrina* in 20% of them. This is the first report in the municipality of *B. straminea*, occurring in 20% of the positive points. No snails were found infected by *Schistosoma mansoni*, but snails of the species *B. straminea* captured at 21°39'59"S and 43°25'09"W, when submitted to the susceptibility test to *S. mansoni*, showed an infection rate of 25.4%. There was a strong inverse correlation between the abundance of *Biomphalaria* and the local rainfall, in all species studied. Temperature influenced the populations of *Biomphalaria* studied in the range below 15.7°C. Statistical study of the size and weight variables revealed that the smallest biometric averages occurred in *B. peregrina*, followed by *B. straminea*, and the largest body dimensions were those of *B. tenagophila*. There was a strong positive correlation between weight (body mass) and size (shell diameter) in the exemplars found. The conclusion is that three species of *Biomphalaria* occur in the municipality of Juiz de Fora, two of them (*B. straminea* and *B. tenagophila*) of epidemiological importance. Rainfall and temperature interfered in the abundance of the local specimens. All the weight and size measures of the *Biomphalaria* specimens in Juiz de Fora are below the maximum figures referred to in the literature.

Keywords: *Biomphalaria*, *Schistosoma mansoni*, irrigation ditches, infectivity, rainfall.