

FISH FAUNA AND ENVIRONMENTAL CHARACTERISTICS OF HEADWATER STREAMS THAT CROSS THE ATLANTIC FOREST OF SOUTH SÃO PAULO STATE

Theme: Impacts of Local and Global Changes on the Atlantic Rain Forest

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The Maciço de Piedade, in the Serra de Paranapiacaba presents a high and heterogeneous relief, contributing to the formation of numerous small streams. This region is the watershed of Tietê and Ribeira and Paranapanema river basins. This situation prompted us for the present study that aimed to compare the fish composition and community structure and the environmental characteristics in headwater streams of these three river basins. We selected a 100 m stretch in 19 streams comprising five sub-basins (Sorocaba, Sarapuí, Turvo, Pinhal and Juquiá-Guaçu). During the drought of 2010, the fish fauna were caught with an electrofishing equipment and the environmental characteristics were sampled. We captured 2,138 fishes grouped in 57 species of which about 40% was smaller than 50 mm of total length. There were no significant differences in environmental characteristics ($p = 0.24$). Nonetheless, Sorocaba, Sarapuí and Turvo sub-basins were statistically less steep than the Pinhal and Juquiá-Guaçu streams ($p = 0.019$). In streams of Ribeira de Iguape and Paranapanema basins we captured 28 species while in the Sorocaba basin, 23 species. By applying the rarefaction method the expected richness in streams of the Sorocaba river basin were significantly lower than the other two basins ($N = 567$; $S_{\text{Iguape}} = 26 \pm 1.1$, $S_{\text{Paranapanema}} = 28$ and $S_{\text{Sorocaba}} = 22 \pm 0.4$). The specific composition in the Ribeira de Iguape river basin was statistically different from Sorocaba ($p = 0.0013$) and Paranapanema ($p = 0.0001$) river basins. On the other hand, there was no significant differences between Sorocaba and Paranapanema river basin ($p = 0.09$). The results above are expected, because: 1. The Sorocaba river basin streams were more homogeneous, has less riparian vegetation and lower basin slopes, which might lead to a lower species richness; 2. Streams of the Sorocaba and Paranapanema river basins are in the Upper Paraná River basin which justifies the higher similarity in species composition and; 3. The Ribeira de Iguape river basin streams have a different fish fauna due to different biogeographical histories.