

**Title:** Isolation of fungi from an affluent located in the lower Rio Negro, Manaus – AM

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Rio Negro is one of the three largest river in the world and the main in Amazon. During the rainy season in that region the contact of water and vegetation increases as the level of the rivers rises considerably. However, this phenomenon allows an interaction among decomposing microorganisms. As an example we can highlight the fungi performance within the cycle of organic substances releasing nutrients toward aquatic environment. Thus, the freshwater fungi biodiversity is extremely important as a source of nutrition for aquatic organisms due to black water rivers have few nutrients and an acid pH (5.0) that contributes for that statement. Thus, this study aimed isolate fungi from an affluent located in the lower Rio Negro and verify the most common genres in that environment. Water samples were collected in Taruma-Açu affluent with a random sample distributed in 25 points over 5 km to the meeting with the waters of Rio Negro. After that, 15 mL of water from each point were centrifuged for 5 minutes at 3000 rpm and 100 uL of the seeded was transferred into Petri dishes with agar plus antibiotics. Then, these plates were incubated at room temperature (25° C) for 7 days and observed daily. After this period the macromorphological characteristics were observed in stereoscopic and the colony forming units (CFU) of filamentous fungi and yeast was counted. Therefore, to confirm the fungal genre we observed the fungi micromorphology in optical microscopy. As a result, we obtained a total of 193 CFU in 25 samples which 85 were from Hyphomycetes, 4 Zygomycetes, 25 black unidentified fungi in genre level and 17 yeasts. Further, among all Hyphomycetes genre *Penicillium* sp. was the most frequent (69 CFU) and *Trichoderma* sp. was the less frequent (3 CFU). Therefore, these genres remain be most prevalent in terms of biodiversity as compared with other sources of isolation as well.

**Keywords:** Amazon, freshwater, fungal, identification