



Fish diversity in Development Sustainability Reserve Mamirauá Lakes, Amazonas State - Brazil



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INTRODUCTION

The lakes at Mamirauá Sustainable Development Reserve (MSDR) show a high diversity of fish species, and act as key environments for feeding grounds and nursery for most of them.

OBJECTIVES

To identify the fish fauna of four lakes at MSDR during the phases of the seasonal cycle and determine natural abundances of species selected to be sustainably exploited, and to describe the structure of the fish community, as a baseline to evaluate and monitor eventual impacts of this exploitation.

METHODOLOGY

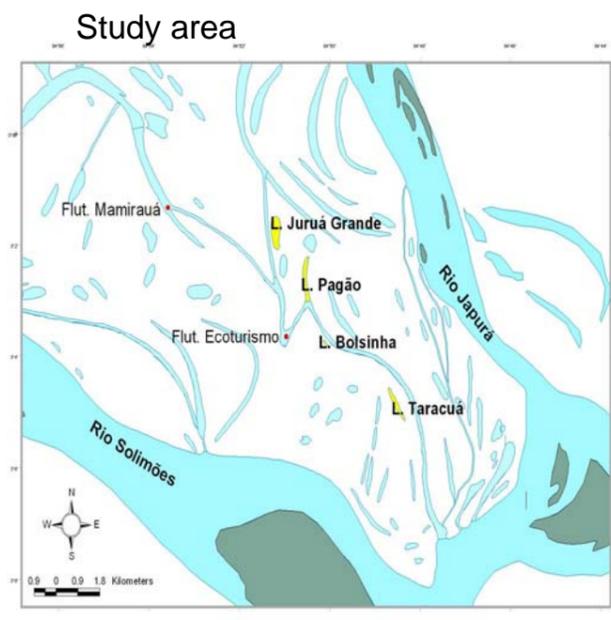


Figure 1: Southern part of the Mamirauá Sustainable Development Reserve, and the sampled lakes

Fish samples are taken every two months from July 2005 to January 2006, using a set of 8 gillnets with different mesh sizes at each lake. The nets were kept in the water for 24 consecutive hours, and all fish caught were removed every three hours. All fish were identified, measured (centimeters) and weighed (grams)



Figure 2: Gillnet in one of the lakes

RESULTS

A total of 5,428 individual fish were collected so far, representing 6 orders, 21 families and 116 species.

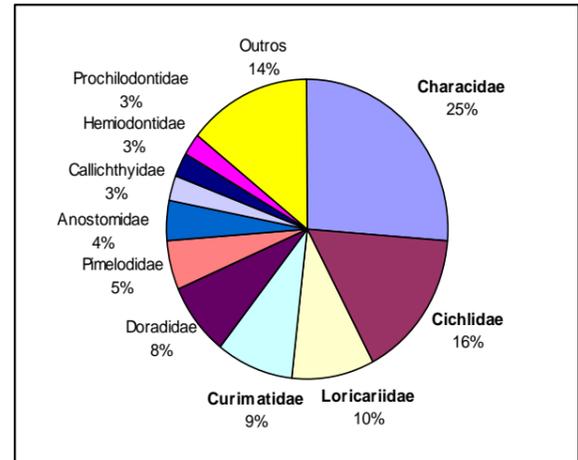


Figure 3: Families composition of the fish community in the lakes of Mamirauá.

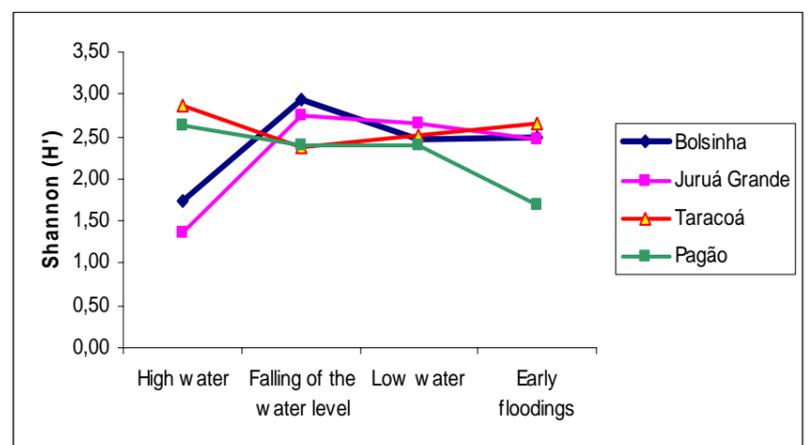


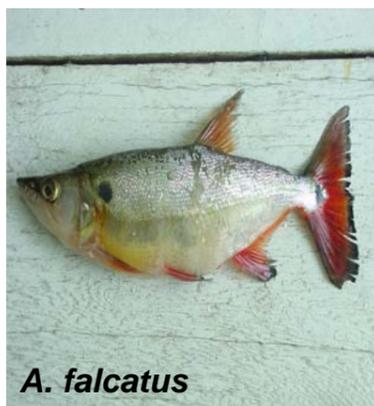
Figure 4: Diversity indexes of four sampled lakes during the seasonal cycle.

Table 1: Distribution of taxonomic groups during the seasonal variation

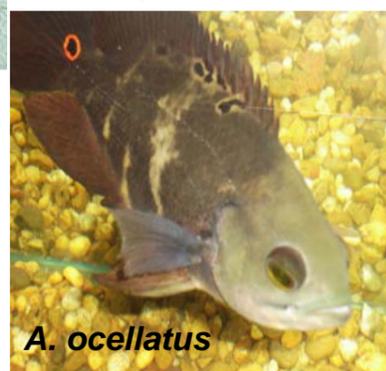
Season	Orders	Families	Species	Individuals	Biomass (kg)
High water	5	12	42	427	39,55
Falling of the water level	4	20	80	2604	520,60
Low water	5	19	68	1407	256,05
Early floodings	4	16	53	991	163,26

CONCLUSIONS

Fish diversity in the lakes of MSDR varies along the seasonal cycle and among the sampled lakes. A higher number of species, higher number of individual fish and higher biomass were recorded during the time the water level was falling. At this time fish community performs a convergent movement towards the channels and rivers, increasing the capture probabilities.



A. falcatus



A. ocellatus



P. scalare