

## **Anatomy and morphology of the gastrointestinal tract of three fish species with different feeding habits from Lajeado Reservoir, Tocantins river**

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The anatomy and morphology of fish digestive tract are closely related to their feeding habits and adaptive capacity to different natural diet composition. This study describes the anatomical and morphological features of the gastrointestinal tract of three fish species that presents commercial importance for fisheries and potential for aquaculture production, aiming to provide a better understanding of the nutritional dynamics and feeding ecology of these species. Adults of corvina (*Plagioscion squamosissimus*, Perciforms: Sciaenidae) (1.64±0.25 kg, standard length (SL)), cuiú-cuiú (*Oxydoras niger*, Siluriforms: Doradidae) (1.04±0.32 kg, SL) and mandi-moela (*Pimelodina flavipinnis*, Siluriforms: Pimelodidae) (0.57±0.09 kg, SL) were fished in Lajeado Hydroelectric Reservoir, Tocantins river, in October of 2011 (n=5, each species). After recording individual weight and standard length, fish were anesthetized by immersion in ice and subsequently laparotomized. The length of the intestine was measured to calculate intestinal coefficient (IC, relation between intestinal and body length) and total gastrointestinal tract was fixed in 4% formaldehyde for anatomical and morphological analysis. Corvina's gastrointestinal tract is typical of predatory carnivorous Teleosts, presenting a large, Y-shaped stomach and approximately 16-18 pyloric ceca. The intestine is very short (IC=0.51±0.09 cm) and predominantly rectilinear with only two loops. Cuiú-cuiú presents a very small and muscular pouched stomach which probably assures the species the ability to grind their natural diet - detritus, insects, vegetables and algae - into smaller particles. The cuiú-cuiú intestine is relatively short (IC=1.16±0.31 cm) but very coiled - a morphological characteristic that may decrease the transit in the gastrointestinal tract, increasing the time of digestion. The stomach of mandi-moela is small and can be visually distinct in four lobes - two similar smaller ones with few folds where food passes through, and two thicker muscular bigger ones, very muscular that probably act as gizzards, grinding and homogenizing the digesta (mainly insects and crustaceans). The mandi-moela intestine (IC=1.33±0.38 cm) is similar to the description made for cuiú-cuiú intestine. The three fish species presents gastrointestinal tracts strongly adapted to their natural feeding habits. Future researches about histological digestive features and digestive enzymes of these species are needed to a better understanding of their nutritional abilities and aquaculture propection.

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