

SOME TAPHONOMIC SIGNATURES OF FRESHWATER MOLLUSK SHELLS PREDATED BY FISHES IN SOUTHERN BRAZIL

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This study reports some observations on the possible importance of the southern Brazilian freshwater malacophagous fishes in the taphonomic signatures assigned in Present-day molluscan dead assemblages. Could the freshwater malacophagous fishes disarticulate and/or fragment the molluscan shells during or after the digestion? Are these shells completely destroyed? Or do they return to the environment and how? To answer these questions we analyze the stomach and intestine contents of 307 specimens of three species of fishes, collected during quarterly field expeditions (1999 to 2002), in six sampling points, in the Ibicuí River basin (Rio Grande do Sul State, Brazil). Mollusks were found in 39% of the stomachs and in 26% of the intestines examined, being the occurrences more frequent in *Iheringichthys labrosus* (49,5% and 29,89 respectively), which was also the more frequent malacophagous fish in the sampling area. In an analysis of the fragments ingested, the stomachs yielded 1885 specimens of mollusks, and the intestine 1229. They were represented by the following “taphonomic signatures” and frequencies (stomach/intestine): mollusks (75%/83%), shells (5%/5%), valves (1%/1%), fragments (11%/9%), and soft parts (8%/0,4%); suggesting that, although the digestion at the stomach level could diminish the number of specimens that eventually reaches the intestine, the frequencies of the damages remain similar. However, the ranking of frequencies is something different in *I. labrosus*. Its intestine showed higher values of shells (15%) than fragments (0,2%). The results here assigned (presence of shells in the intestine) suggest that the shells predated by the malacophagous fishes studied could return to river. However, due to the low frequencies registered concerning the disarticulation and fragmentation, the thanatocoenoses will probably show no sign of these damages. In others words, it will be difficult to differentiate the shells predated by fish from the others. Concerning the identity of the mollusks, five genera of gastropods and six of bivalves were registered in the viscera examined. The more frequent were the gastropods *Heleobia* (42%) and *Biomphalaria* (19%), and also little or young non identified bivalves (18%). Differences concerning the more frequent genera in each fish were also observed. *Eupera* (80%) was dominant in *Rhinodoras dorbigni* and *Potamolithus* in *Pterodoras granulatus*. Genera with proportionally thick shells (*Heleobia* and *Potamolithus*) were more frequent in the intestines than in the stomachs suggesting that intrinsic factors influence the shells susceptibility to taphonomic signature, as previously observed in marine environments.