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Sustainable Aquaculture for a Secure Future

Title: Experimental Observations on Feeding Biology of Black Carp (*Mylopharyngodon piceus*)

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Abstract: Black carp, *Mylopharyngodon piceus*, has powerful pharyngeal teeth which are adapted for crushing mollusks. Several species of gastropods are nuisance organisms or intermediate hosts in parasite transmission. The black carp may serve as an agent for biological control of some of these pests. Laboratory experiments were conducted to test various aspects of their feeding biology. Mouth gape was determined to be a good estimator of the largest size snail that a particular fish could ingest, crush and swallow. The relationship, gape/total length, can be used to evaluate the scope of predator/prey potential in water bodies with snail pests. Fish between 100 and 500 mm had gapes from 7 to 25 mm, respectively. Based on the size of fish tested in predator/prey studies (120-320 mm; gape 7-17 mm) and gastropod species used, snails of 7 to 17 mm were eaten. Fish between 100 and 200 g (210-270 mm TL) were satiated at 1.5 to 13% of the body weight, while fish around 300 g (similar to 320 mm) were satiated at 1-6% of the body weight. Based on the limited and small size range of fish examined, about 10 g of snail biomass could be eaten per day by these relatively small black carp. These preliminary data might permit some estimate of fish numbers to stock for snail control.

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