Southeast Asian Fisheries Development Center **Aquaculture Department**

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Research on catfish... at the African Regional Aquaculture Centre

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were 22% in salt solution, 17% in tannin, 23% in salt and tannin, and 10-12% in tap water and other treatments.

The hatchery and nursery techniques for native catfish are being refined by Armando Fermin. Fry (1.6 cm, 30.6 mg) were fed formulated dry diets at 0, 10, 20, 30, or 40% of body weight. After 35 days of feeding, lengths (2.6-2.9 cm) and survival (45-71%) of juveniles were not different among treatments. Starved fry all died within 16 days.

Practical diets for native catfish broodstock are being developed and evaluated by Corazon Santiago. A 21-week feeding trial with wild juveniles showed poor growth and high mortality on four practical diets. A separate feeding trial was then done on hatchery-reared juveniles (8 grams). Control catfish were fed a combination of frozen fish and commercial pellets; four other groups were fed four practical diets with different sources of protein. All four diets contained fish meal, soybean meal, and meat and bone meal at different levels; one diet also contained copra meal, and another diet had ipil-ipil leaf meal. After 36 weeks, all catfish were relatively small (15-23 grams) but some had already matured; fully 50% of those fed the diet with copra meal but only 12% were of those fed the diet with ipil-ipil leaf meal.

The ecological impact of the introduced African catfish is being studied by Alejandro Santiago. First, the predatory habits of the fish were observed in aquaria. Mixed sizes of tilapia, tiger perch (*ayungin*) and gobies (*bulig* and *dulong*) were provided. The African catfish consumed about five tilapia, or five gobies, but one *ayungin* per day. Fish less than 4 cm long were preferentially taken. Culture of the African catfish is now regulated by the Bureau of Fisheries and Aquatic Resources.

... at the African Regional Aquaculture Centre

A paper by AA Adeyemo, GA Oladosu and AO Ayinla of the African Regional Aquaculture Centre (accepted June 1993 for publication in **Aquaculture**) showed the potential of *Moina dubia* as first feed for the African catfishes *Heterobranchus bidorsalis*, *Clarias gariepinus* and "Heteroclarias" (hybrid of *H. bidorsalis* male and *C. gariepinus* female).

The use of zooplankton as a first feed source for rearing larvae or fry of hatchery fish has been widely studied. Most studies have shown that the fry grow better when fed with live zooplankton than with dry artificial diets.

Laboratory-cultured *Moina dubia*, mixed zooplankton (harvested from earthen pond), *Artemia* nauplii, and a commercial dry diet (54.2% crude protein) were tested as first feed for the fry of selected African catfish species. Concentrated volumes of the live food were fed daily and the commercial diet was given *ad libitum*.

After a 7-day nursery period, the best growth and survival were observed among fry fed *Moina*. Mortality was similar among fry fed the live food diets and somewhat higher among those given the commercial diet.

The better growth of African catfishes fed cultured *Moina* is likely due to the preference of the catfish fry for *Moina* rather than to any nutritional deficiency in the other zooplankton in the diet.

The use of cultured *Moina* is considered a convenient alternative to *Artemia* and dry feeds. *Moina* was cultured as follows: Phytoplankton medium was prepared to contain potassium nitrate (0.132 grams), sodium monophosphate, sodium silicate and ethylenediaminetetraacetic acid (EDTA) (at 66 mg each) in 10 liters of brackish water (salinity 18-22 ppt) from a nearby creek. The medium is exposed to daylight for 3 days to generate a phytoplankton (mostly diatoms) bloom. It was then diluted with filtered freshwater to a salinity of 2 ppm and equally divided into two aquaria, and aerated. The aquaria were then inoculated with 4 individuals of *Moina* collected from earthen ponds.

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