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Observations on daily feeding rhythm of juvenile milkfish, *Chanos chanos*, in brackishwater ponds

Introduction

Milkfish (*Chanos chanos*) production is widely spread in the Asian-Pacific region. The importance of milkfish to the livelihood and nutrition of the Asia-Pacific population is evidenced by the enormous amounts of land, water and human resources involved in milkfish culture. In the Philippines, milkfish (Fig. 1) is the most important cultured finfish species in terms of quantity. Milkfish is often described as daytime feeder, and feeding schemes are often based on this assumption. Previous studies however raised doubts about that. The present study was conducted to determine the voluntary feeding rhythm of commercially cultured milkfish in brackishwater ponds.

Material and methods

Eight ponds (1 - 9 ha area, 0.2 - 0.4 m depth) of two commercial milkfish farms on Panay Island (Fig. 2) were monitored between March and August 1998. Water parameters like temperature and dissolved oxygen were monitored. Samples of up to 3 fishes were caught with a cast net every even hour on the first day and every odd hour on the second day of sampling, so that every hour of the day was covered after 48 hours. This sampling regime minimized the disturbance of the fish in the pond. After collection, fish were measured and weighed. In total, 267 fishes, ranging from 54 g to 173 g mean body weight, were sampled. The stomach was removed, preserved in 70% ethanol, and the content analysed microscopically (qualitative) and gravimetrically (quantitative). Start and duration of the feeding period was calculated for each pond by considering changes in stomach contents.



Fig. 1: Juvenile milkfish, *Chanos chanos*



Fig. 2: Monitored milkfish pond

Results and conclusions

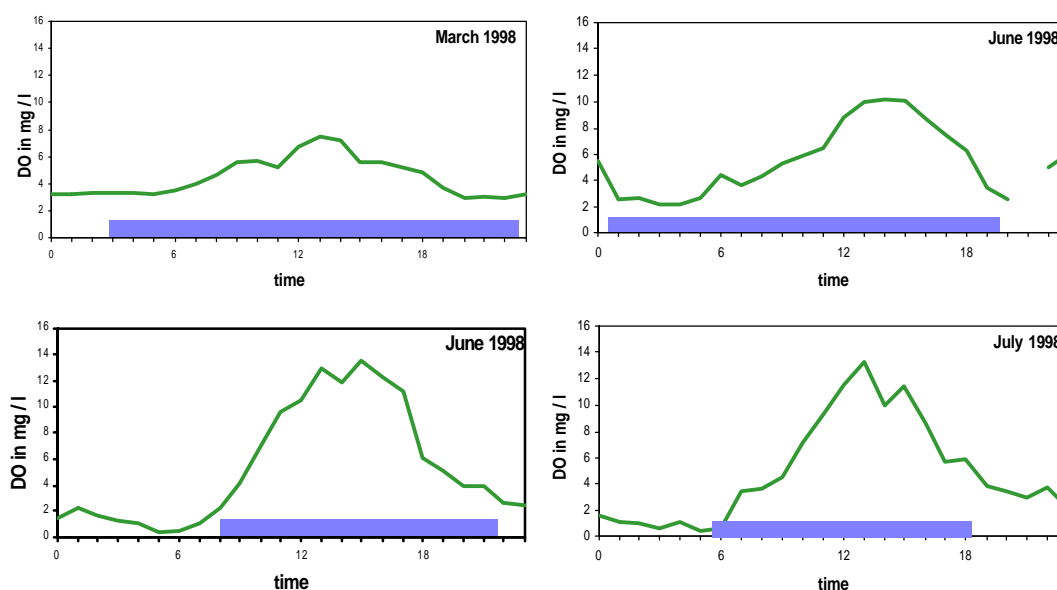


Fig. 3: Dissolved oxygen (DO) and feeding activity of juvenile milkfish in the course of the day in ponds between March and August 1998 (blue bar = feeding activity)

Results are shown in Figure 3. During the monitored period, milkfish started feeding as early as midnight or shortly after, and feeding on natural food alone was extended up to 21 hours if dissolved oxygen levels in the water were above 1.5 mg l⁻¹.

It can be concluded; that milkfish is not a strict daytime feeder, but feeds during the whole day, if water parameters (e.g. dissolved oxygen level) are suitable.