

Feeding behavior under dark conditions in larvae of sutchi catfish *Pangasianodon hypophthalmus*

Abstract

Sutchi catfish *Pangasianodon hypophthalmus* hatch with morphologically immature sensory organs; however, sensory organs develop rapidly with larval growth. Two-day-old larvae commenced ingesting *Artemia* nauplii. The larvae displayed many taste buds on the barbels, the head surface, and in the buccal cavity. Other sense organs were also well developed at this stage. Feeding experiments revealed that 2-day-old larvae ingested *Artemia* under both light and dark conditions, moreover, the larvae could ingest frozen dead *Artemia*. The ingestion rates for 4- and 7-day-old larvae were significantly higher under dark conditions than under light conditions. The rates using frozen dead *Artemia* were mostly higher than the rates using live *Artemia*. Therefore, feeding behavior under dark conditions is most likely not mediated by visual or mechanical senses, but rather by chemosensory senses, such as taste buds. Larval fish are vulnerable to predators; thus, if they can search for and eat food at night, they can avoid diurnal predators. The behavior observed here appears to represent their survival strategy. Moreover, these results suggest a new possibility that sutchi catfish larvae can be reared under dark or dim light conditions in order to improve survival and growth rates as in the case of African catfish *Clarias gariepinus*. © 2010 The Japanese Society of Fisheries Science.