

ABSTRACT

Development, growth, and nutritional requirements of the cascadu, Hoplosternum littorale (Hancock, 1828; Osteichthyes, Callichthyidae).

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Nests of the cascadu were collected from the wild and hatched using various treatments. Treatment of the egg masses with anti-fungal agents and antibiotics appeared to prevent total losses of the egg masses by controlling the spread of infection. The antibiotic treatment was more effective. Better hatchabilities were obtained with older egg masses. The developmental stage of the embryos appeared to be the critical factor in obtaining high hatchabilities.

Embryological development at a temperature of 28°C was rapid. The cleavage phase lasted 17 hours and five stages were observed. The embryo phase lasted 45 hours and 11 stages were seen. Hatching occurred 62 hours after fertilization. The free

embryo stage lasted 48 hours.

The larvae produced were fed initially on washed brine shrimp nauplii and were gradually weaned onto a pelleted high protein ration. After a period of 61 days, the fingerlings measured 41.8 mm, S.D. $\pm$ 3.2 total length and weighed 1.8 g, S.D. $\pm$ 0.3. The mortality rate was 14 per cent.

Feeding trials using isocaloric diets of varying protein levels were conducted. The greatest growth both in length and weight was obtained when the fingerlings were fed a dietary protein level of 35 per cent.

A commercial ration with an assay of approximately 35 per cent crude protein was formulated and manufactured. A field trial in a 0.8-ha pond using 12 000 hatchery-produced fingerlings was carried out. After a grow-out period of 7 months the fish were harvested. They averaged 67.2 g. The mortality rate was 55 per cent. The feed conversion ratio was 3.38 : 1.