

ABSTRACT

Studies on the rearing of larvae, growth of juveniles and the biology of adult Macrobrachium rosenbergii were carried out from January 1980 to October 1982.

The results indicated that under local experimental conditions a stocking rate of about 10-40 larvae per litre was a suitable stocking density during larval culture.

Juveniles fed on Achatina fulica flesh showed a higher growth rate than those fed on chicken feed. When fed with Achatina flesh, the juveniles showed a growth rate of 0.145cm per day and the conversion rate was found to be 3:1.

Juveniles measuring 4.0cm in length were observed to be the most suitable for stocking ponds.

Growth appeared to be higher in males than in females. The asymptotic length determined using Ford-Walford plot was 43cm and the increase in lengths during first and the second year of life was 14cm and 24cm respectively.

Adult M. rosenbergii were found to be omnivorous. Organic detritus formed the main food component. 20-36% of the food items were of animal origin while 10-22% were of plant origin. Sand particles possibly ingested accidentally formed about 3-6%. Some selective feeding was observed in different groups.

In prawns measuring 12-31cm, the fecundity ranged from 19,000 to 137,000. Fecundity showed a linear relationship to body length, carapace length, and body weight. The egg diameter increased with increase in body length.

M. rosenbergii was caught in greater numbers during the rainy periods than during the dry periods. Berried females occurred throughout the year and their occurrence was closer to the lagoons than upstream.

The prawns in the commercial catches in the areas investigated, namely Panadura, Katunayake and Chilaw consisted of a higher proportion of females ranging in length from 10-25cm. The males ranged from 20-35cm in length.

The methods employed locally for catching prawn are similar to those used in other countries of the Indo-Pacific region and are still based on indigenous gear. However, those gears are not used exclusively for catching M. rosenbergii in Sri Lanka.

The present production of M. rosenbergii in Sri Lanka is estimated to be about 10500kg per annum. There is a ready market for M. rosenbergii in Sri Lanka. The local prices ranged from Rs. 45-120/- per kg.

The results have been discussed particularly in relation to environmental conditions.