ABSTRACT

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Rearing of chokka squid (*Loligo vulgaris reynaudii)* paralarvae: growth, yolk utilization and metabolism

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To understand the mechanisms that influence recruitment of the commercially important squid *Loligo vulgaris reynaudii*, knowledge is required on its early life history. In this paper, an experiment was undertaken to evaluate the influence of food supply on yolk utilization rate, growth and metabolism of paralarvae. Eggs were collected by SCUBA divers on the spawning grounds, were incubated and the paralarvae reared in the laboratory for 42 days at 16°C (± 1.0°C). Simultaneous rearing of two groups of paralarvae took place, each group with one replicate and each replicate in one tank. In order to determine the survival time of unfed paralarvae, food was supplied to one group (fed) while no food was supplied to the other (starved). Mantle length (ML), wet and dry weights (WW and DW) and yolk weight (YW) were obtained daily from samples of 10 to 51 paralarvae from each group. Measurements of yolk content were made using image analysis and converted into volume and then weight. Mean ML, WW, DW and YW at hatching were found to be 2.3mm, 1.86mg, 0.45mg, and 0.21mg, respectively. Daily exponential yolk utilization rates were calculated at 86%.d^{-1} for fed paralarvae and 95%.d^{-1} for starved paralarvae. This indicated that the yolk reserve was almost exhausted 3-4 days after hatching. Starved paralarvae survived for 6 days (with 80% mortality), while fed paralarvae attained a growth rate of 7.8% body WW.d^{-1} in the first 22 days after hatching. Standard metabolic rates, estimated using daily mean WW and temperature, were about 0.00012Kcal.d^{-1}.