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CEPHALOPODA, *LOLIGO FORBESI*, REARING, JUVENILE BEHAVIOUR, GROWTH

Loligo forbesi is the largest known loliginid squid, an important biomedical research animal and a commercially fished species in the NE Atlantic. We reared this species from hatching to sexual maturity (140 mm ML) in 369 days at a mean temperature of 15 °C (s.d. 1.62). Eggs were obtained from England and France, air-shipped to Galveston, and hatched successfully (> 70 %) in both natural and artificial seawater in recirculating systems. The hatchlings were very large (3.2-4.0 mm ML) and were fed size-sorted zooplankton (mostly copepods) for the first 50 days. Mysidacean shrimps (1.3-5.3 mm) were mixed in with the zooplankton within 10 days and were the primary food from day 20 through 100; *Palaemonetes* sp. shrimp larvae (2.1-2.4 mm) were also eaten readily from day 10 to 80. One-week-old squids could capture and ingest prey of a wide size range, from less than 1 mm to 5.3 mm. Growth was rapid, exponential during the first two months. In 1983 (mean temperature 14 °C), the growth equation for live wet weight was :

$$\text{Weight} = 8.108e^{0.0541t} \quad (r^2 = 0.98)$$

and for live mantle length it was :

$$\text{Length} = 4.409e^{0.0182t} \quad (r^2 = 0.98)$$

This corresponds to approximately 5.4 % and 1.8 % increase in body weight and length per day, respectively. Slightly lower rates, 3.6 % daily weight increase and 1.3 % daily length increase, were obtained in a 1985 experiment (mean temperature 13.2 °C). In both experiments mortality was high : 94 % in 1983 and 97 % in 1985 by day 60, despite active feeding. By the time squids were approximately 12 mm ML and 0.2 g (approximately 30 — 60 days posthatching) they were capable of schooling together and maintaining their position in a current (2 cm/second). By comparison, *L. opalescens* in culture schooled at a size of 10 to 15 mm ML (Yang *et al.*, 1983, *Aquaculture 31* : 77-88). These results indicate that during the first 2 months of life, wild *L. forbesi* are subject to distribution by currents and can feed upon a wide variety and size of prey.

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