YOLK SAC STAGE ENERGETICS
OF THE
LARVAE OF THREE HAWAIIAN FISHES

A THESIS SUBMITTED TO THE GRADUATE DIVISION OF THE
UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE

IN OCEANOGRAPHY

MAY 1973

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ABSTRACT

The energetics of yolk sac stage larvae of C. mate, E. micropus, and A. abdominalis were investigated under laboratory rearing conditions at 24 C. No evidence was found for the existence of an "energy deficit" in any of the species studied, all were anatomically capable of feeding shortly (6-12 hours) after catabolic requirements exceeded yolk sac caloric reserves. Each species was capable of surviving by consumption of larval tissue for extended periods following yolk depletion. Oxygen consumption studies showed that larvae of the three species had similar metabolic rates on a per unit weight basis. Efficiencies of yolk utilization ranged from 58% (E. micropus) to 75% (C. mate and A. abdominalis). Although the present study does not support the existence of a physiological "critical period" at the time of yolk depletion, the possibility of ecological manifestations of the switch from endogenous to exogenous food sources resulting in high mortality in the period following yolk depletion remains.