YOLK SAC STAGE ENERGETICS

OF THE

LARVAE OF THREE HAWAIIAN FISHES

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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.