ESTIMATION OF SELECTED PRODUCTION PARAMETERS FOR IAO, *PRANESUS INSULARUM INSULARUM*, IN KANEOHE BAY, OAHU

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I. INTRODUCTION

The iao, Pranesus insularum insularum, is a small atherinid fish common in the shallow, nearshore waters of the Hawaiian Islands (Gosline and Brock,1960; Jordan and Everman,1902; June and Reintjes,1953). It is ecologically important as a trophic link between herbivorous zooplankton and piscivorous fish (Chase,1969; June and Reintjes,1953; Hiatt and Strasburg,1960) and some birds, particularly noddy terns. Iao are also commercially important as a tuna baitfish. Chase (1969) reported a mean of approximately 6% of iao in the commercial baitfish catch from Kaneohe Bay from 1948 to 1969.

Despite the trophic and commercial importance of iao, there has been little work done on this species. Occasional baitfish surveys have reported the occurrence of iao in the Hawaiian Islands (Eckels,1949; June,1951a and 1951b; Smith and Schaeffer,1949). Chase (1969) described iao embryology and made a few general observations on some aspects of its life history. Pritchard (1953) determined the oxygen requirements of iao at different temperatures. To date however, there have been no detailed studies of any of the basic life history parameters for iao.

The present study was undertaken to determine selected production parameters for iao in Kaneohe Bay. Of particular interest were: growth rate; spawning season; the relationship between length and weight; and feeding periodicity. Estimates of sampling variability and food passage rate through the digestive tract were obtained as necessary precursors to the above. Field sampling was continued for one year to obtain estimates of seasonal variation in the parameters studied.