

ESTIMATING THE FECUNDITY OF MONCHONG, *EUMEGISTUS ILLUSTRIS*,
AT CROSS SEAMOUNT

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ABSTRACT

The lustrous pomfret or monchong (*Eumegistus illustris*), is an important resource for the fishing industry here in Hawaii. The main objective of this study was to understand oocyte maturation, seasonality of spawning, and estimate fecundity of this species, to improve our understanding of its biology and inform management of the fishery. Results of this study suggest that *E. illustris* exhibit asynchronous ovary development. Five ovaries were sampled from monchong specimens caught at Cross Seamount, of which three showed oocytes at advanced stages of maturation. These fish were obtained from three of the four seasons in a year: one from spring, one from summer and three from fall. Fecundity estimations from this study suggest that the lustrous pomfret population at Cross Seamount are probably spawning year round. Fecundity calculations estimate the number of eggs a female can release at one time during the spawning season. Oocyte size distributions were obtained by taking aliquots from each ovary, photographing groups of oocytes from each aliquot under a microscope, and using image analysis software to count and measure the oocyte diameters. Batch fecundity was estimated either by counting hydrated oocytes, or counting oocytes in the mode undergoing maturation. *E. illustris* were estimated to spawn an average of 167,613 +/- 38,405 oocytes in each batch and 28,791 +/- 8,617 oocytes per kilogram.