REPRODUCTIVE ENERGETICS OF THE TROPICAL, OCEANIC COPEPOD, *EUCHAETA RIMANA* BRADFORD

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ABSTRACT

Reproduction by the carnivorous copepod *Euchaeta rimana* was examined using the Edmondson egg ratio technique in field samples and laboratory experiments designed to determine its limiting factors.

Egg production samples were collected on three cruises in three distinct geographic areas: the oligotrophic central South Pacific, the windward coast of the island of Hawaii, and a transect from Alaska to Hawaii. Hydrographic conditions significantly influenced the distribution and egg production rates of *E. rimana* on two cruises. On the South Pacific cruise, water column disturbances associated with breaking internal waves were followed by a period of increasing egg production. On the Alaska to Hawaii transect, the Subtropical Convergence was the northern limit of *E. rimana's* distribution, and the site of the highest recorded egg production (5 eggs female^{-1} day^{-1}).

When compared to laboratory maxima, low secondary production rates of field-captured females were observed. Field production averaged only 10% of female body carbon per day, compared to a laboratory maximum of 25% of female body carbon per day.