

DISTRIBUTION OF PARALARVAE OF THE SQUID *OMMASTREPHES BARTRAMII*
NEAR THE HAWAIIAN ARCHIPELAGO

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ABSTRACT

Squids of the family Ommastrephidae are among the largest and most numerous cephalopods in the open ocean and are the basis for major squid fisheries worldwide. Red flying squid, *Ommastrephes bartramii*, occupies waters in the North Pacific near the Subarctic Boundary during summer and fall, where they have been targeted by international driftnet fishing fleets. At the beginning of winter, *O. bartramii* migrates south to spawn. Despite the importance of this species, little is known about where it spawns or the characteristics of its spawning grounds.

Planktonic young (paralarvae) of *O. bartramii* recently have been found in winter and early spring along the Hawaiian Archipelago, suggesting that spawning could be related to proximity to the island chain. Synoptic plankton surveys orthogonal to the Hawaiian Archipelago were conducted in 1991, 1992, and 1993 to determine the spatial distribution of paralarvae. Estimation of age and hatch dates were inferred from analysis of statolith microstructures of the young. Spawning sites were then estimated from hatch dates by back-calculating with physical data on the speed and direction of ocean currents near the archipelago. Data do not support the hypothesis that the location of spawning is solely related to positions referenced by the Hawaiian Archipelago.