

COMPETITION BY ANEMONEFISHES FOR A PREFERRED HOST ACTINIAN. D.G. Fautin. California Academy of Sciences, San Francisco, and Beloit College, Wisconsin.

Heteractis magnifica, one of 10 species of sea anemones symbiotic with 26 species of anemonefishes, is inhabited by two of five anemonefishes at Lizard Island, Great Barrier Reef, Australia. Two of the three anemones located were occupied by Amphiprion perideraion, the other by A. percula. In direct challenge field experiments, the former outcompeted the latter for this limited resource, but only with difficulty. At Lizard Island, A. perideraion inhabits only H. magnifica, whereas A. percula occupies Stichodactyla gigantea as well. Congruence of competitive dominance for territories (= anemones) and of host specificity with number of individuals was also documented among the other three species of anemonefishes at Lizard Island that share the host Entacmaea quadricolor. Thus, for a particular locality, proportion of an actinian occupied by various fishes and number of individuals of those fishes are direct, and probably quantitative, reflections of competitive hierarchy among those fishes.

This research was supported by the Cocos Foundation.