

**Location Is Everything:  
Differential Mating Success of Wrasses at a Mating Site Impacted By Diver Fish Feeding**

**La Ubicación lo Es Todo: Variabilidad del Éxito del Apareamiento de los Peces *Doncella* en un Sitio de Reproducción Afectado por Actividades de Buceo donde se Alimenta a los Peces**

**La Localisation Fait Tout : Différence de Succès Reproducteur des Labres dans un Site de Reproduction Impacté par le Nourrissage des Poissons par les Plongeurs**

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**EXTENDED ABSTRACT**

Twenty species of wrasses (Labridae) mate either in temporary resident spawning aggregations or in small groups at Finger Reef, Guam. This site is popular also with groups of scuba divers and snorkelers that frequently feed fishes. The influence of fish feeding increases the density of most wrasse species compared to elsewhere. Thus, the mating system of species with increased local densities has changed as well. Five of these species utilized a system that is lek-like with paired or group spawning within a resident spawning aggregation. We measured courtship and spawning success rates for three of these, *Cheilinus trilobatus* (Figure 1), *Epibulus insidiator* (Figure 2) and *Gomphosus varius* (Figure 3). Terminal-phase (TP) males of each species utilized distinctive landmarks and established temporary territories at the landmarks, typical large coral boulders, for courtship. They defended these territories against rival males, and sneaker initial-phase (IP) males, while attempting to attract females that visited the spawning aggregation site. Visitation by IP female *C. trilobatus* and *G. varius* typically began in the morning with up to several females assembling at the landmark over the course of 2-5 hours depending upon the species and the male territory holder. *Cheilinus trilobatus* would often court well into the afternoon whereas *G. varius* would cease courtship by late morning or very early in the afternoon. In contrast, *E. insidiator* TP males established mating territories in mid-to late afternoon, engaged in aggressive defense of these against neighboring males, and courted IP females often until sunset. Male *C. trilobatus* (Figure 1), *E. insidiator* (Figure 2), and *G. varius* (Figure 3) holding temporary territories directly adjacent to the outer reef slope of this site, where current exposure appeared to be greatest, had significantly higher rates of mating success compared to those males holding temporary territories away from the outer slope or in the interior of the site. Our results suggest that dominant males within this resident spawning aggregation that defend these outer reef slope sites successfully against rival males achieve greater mating success through increased access to females, and that females may be selecting these males on the basis of the location of their territories. We continue to collect data on these and other species at the site in order to compare patterns of male territory defense and mating success in relation to location at this resident spawning aggregation site.

KEY WORDS: Courtship site, Lek-like behavior, Reef fishes, Spawning aggregation, Territoriality



