

The Alien Brittle Star *Ophiothela mirabilis* in South Florida: Abundance, Distribution, Ecological Interactions, and Asexual Reproduction

Abstract

The brittle star *Ophiothela mirabilis* are native to the Eastern Pacific and are epizoic associates of octocorals. In the past two decades, *O. mirabilis* have been discovered inhabiting Atlantic reefs ranging from Brazil to South Florida. Here, we document this alien species' abundance, distribution, ecological interactions, and asexual reproduction in south Florida to evaluate its potential effects on Atlantic reef systems. Monthly collections revealed greater *O. mirabilis* abundance in cool months. Sampling efforts across south Florida indicate a distribution of approximately 70 km ranging from Deerfield Beach south to Miami Beach. Experimental work demonstrated a neutral effect of *O. mirabilis* on octocoral host feeding behavior. Additionally, a model based on monthly collections demonstrated a negative effect of *O. mirabilis* on the abundance of the native ctenophore *Coeloplana waltoni*. Research on asexual reproduction is ongoing, with a primary focus on the effects of temperature on fission rate.