

Nematocyst composition and density in the frilled anemone, *Metridium senile*, in response to predatory pressures

Prey rely on chemical and physical stimuli. If prey can detect predators early, they can coordinate a defensive response. This study investigated, the predator-prey dynamic between the frilled anemone *Metridium senile* and *Dendronotus frondosus*. *M. senile* possess several types of nematocysts, each with specialized qualities that can be used for feeding or defense. *M. senile* was subjected to three different predator treatments; no predator, predator cue, and predator grazing. Anemone nematocysts were analyzed and quantified using the cerata squash method to determine whether there was a change in composition and/or density of nematocysts as a result of treatment. There was a significant change in nematocyst composition in the predator cue treatment. There was also a proportional change in the mean number of feeding and defensive nematocysts across all treatments during this experiment, but this change was independent of treatment. The change in overall nematocyst composition in the predator cue treatment may infer that *M. senile* relies on chemical stimuli rather than mechanical stimuli to coordinate a defensive response. These unexpected results afford future research to investigate whether *M. senile* depends on alternate forms of defense other than nematocysts for protection.