In situ rearing of COTS larvae

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Abstract

The in situ larval rearing equipment developed by Olson was modified with a series of in-line filters (100 µm, 1, 0.2 and Activated Charcoal Filter-ACF) to determine what parameters are most important for the nutrition and survival of A. planci larvae. The result of the trial showed that a higher proportion of larvae were ready to settle in 100 µm filtered seawater (100 FSW), while a slightly lower proportion were ready to settle in 1 and 0.2 FSW. The larvae reared in ACF water did not develop beyond early brachiolaria stage. This seemed to suggest that adequate nutrients were available in natural seawater to support larval development. However, assessment of water quality inside the plastic larval chamber revealed that chlorophyll a levels of 100, 1 and 0.2 FSW were significantly higher than natural. This indicates that seawater inside the chambers was possibly more nutritious than natural seawater. The elevated chlorophyll a level may be due to algal fouling on the wall of the chambers and / or filter system. Environmental parameters, as an index of food availability, needs to be assessed when seeking to relate feeding and nutrition in the study of A. planci larvae.