



## Menthol-induced bleaching as a tool to rear aposymbiotic foraminifera for symbiosis investigations

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Larger benthic foraminifera (LBF) are important carbonate producers in tropical and subtropical settings and play a large role in the carbon cycle. They suffer from bleaching (the expulsion/loss of the photosymbiotic microalgae) under increased sea surface temperature due to climate change. For artificial bleaching experiments, we used the diatom-bearing foraminiferan *Amphistegina lobifera*, because of its robustness in the laboratory for symbiosis investigations, and also the more sensitive *Sorites orbiculus* which hosts endosymbiotic dinoflagellates. In order to induce bleaching, the LBF were exposed to menthol at non-lethal concentrations. Additionally, DCMU (3-(3,4-dichlorophenyl)-1,1-dimethylurea) was applied as a photosynthetic inhibitor. After the 6 week experiment, foraminifera were >95% bleached, visible with the fluorescence microscope. Survival rate of protists was high, as pseudopodial movement was still visible. The foraminifer in this bleached state was able to move and extend its pseudopodial network. The next step will be to test symbiont-uptake of those bleached foraminifera, and measure survival time and ecophysiological features of re-infected foraminifera.