

Excess Carbon Dioxide Compromises Shell Integrity, Reproduction, and Behavior in the Freshwater Gastropod *Melanoides tuberculata*

Kim, Keith (School: The McCallie School)

Suh, Eric (School: The McCallie School)

We researched the correlation between varying levels of carbon dioxide on the freshwater Malaysian Trumpet snails. This research was inspired by a well-known ocean acidification shell experiment. Here we measured not only the shell dissolving but also the effects on behavior and reproduction in a freshwater animal. To study behavior, we placed a layer of sand as the substrate. Malaysian Trumpet snails are known for burrowing, and we can see the number of tracks created between each tank. As CO₂ increased, the number of tracks significantly decreased, death rates increased, reproduction decreased, and shell integrity became compromised.