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Paper No. 23-6

Presentation Time: 1:30 PM-5:30 PM

**POPULATION AND SIZE DISTRIBUTION OF *CIBICIDES ANTARCTICUS* ON
ADAMUSSIUM COLBECKI WITHIN EXPLORERS COVE, ANTARCTICA**

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We studied the population and size distribution of the parasitic foraminifer *Cibicides antarcticus* living on the shell of the Antarctic scallop *Adamussium colbecki* within Explorers Cove, Western McMurdo Sound, Antarctica. Previous work examined populations and parasite load between two distinct geographic locations, but our study focuses on the population and size distribution of *C. antarcticus* within one embayment, Explorers Cove. We hypothesize that if *A. colbecki* are living in the same embayment and have one recruitment event, then populations and their size distributions should be similar; but, if they have differing populations and sizes, they likely are recruiting from very localized microhabitats with varying recruitment events.

Live *A. colbecki* were collected from the Jamesway (water depth 24.4 m), Smallberg (9.1 m), and Anoxic Pit (9.1 m) sites in Explorers Cove. Five top valves were examined for *C. antarcticus* under 75x magnification. The foraminifera were counted, their spatial distribution noted, and their largest diameter was measured using ImageJ. All data from each site was pooled to compare the sites.

Results indicate that all the sites had different populations of parasitic *C. antarcticus*. Smallberg had the most parasitic foraminifera (n = 663), followed by Jamesway (n = 319); the Anoxic Pit site had the fewest (n = 55). The largest size classes (0.70–1.30 mm) occurred at the Anoxic Pit and Smallberg sites, while the smallest size classes (0.18–0.70 mm) were found at Jamesway, the deepest site. The average size of *Cibicides* was also smaller at Jamesway (0.71 mm), compared to Smallberg (0.92 mm), and Anoxic Pit (0.94 mm). In general, *C. antarcticus* recruits to the youngest part of the scallop shell while larger adults are found on oldest part of the shell. The skewed size frequency distributions and differing population sizes suggest that *C. antarcticus* has localized microhabitat recruitment in Explorers Cove, rather than one synchronous recruitment event.

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