**Age determination of red deep-sea crab (*Chaceon quinquedens)* by growth ring analysis.**

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The age structure and growth rates of crustaceans are poorly understood due to their lack of true skeletal structures that do not shed (e.g. shells, scales, otoliths) that have the potential to form annual growth rings. A recent development in crustacean aging is the discovery of growth rings or bands in calcified sections of the gastric mill ossicles (Kilada et al. 2012). By examining these structures, more accurate and direct age estimates can be determined. We are studying the red deep sea crab (*Chaceon quinquedens*), which live at depths of 200 to 1800 meters along the Atlantic continental shelf and slope of North America.. The mesocardiac and zygocardiac ossicles were separated from the gastric mills, embedded in epoxy, and then sectioned by a diamond-bladed Isomet saw. Sections were viewed and photographed under a microscope. Rings were counted and compared between ossicles. Readable bands were counted to obtain estimated ages between 4 to 11 y. Carapace width of aged individuals ranged from 67 to 144 millimeters. These data will be used to construct age-length keys and estimate growth rates for this species. Estimates of age composition will contribute greatly to improved stock assessment for this species.