**Introduction**

Glycymeris pilosa, a large (> 8 cm), long-lived bivalve (>50 years) locally abundant in the Adriatic Sea (>60 years) and recently confirmed by species identity, has a large (> 8 cm) long shell. This species is of interest due to its longevity and clear growth lines, making it an interesting source of geochemical data – including stable isotopes, trace elements, and δ13C.

This research focuses on Glycymeris pilosa with clearly visible annual increments studied for δ13C and δ18O composition. The study includes 5 individuals from the north Adriatic Sea, with shells dated using CO2 derived from CARBONATE SCLEROSPONGES CO2, ATMOSPHERIC CARBON DIOXIDE, and CLIMATIC SITES.

**Sampling and measurements**

Layer sampling was conducted by collecting shell powder from the shells by hand under stereo microscope using a DREMEL Flexi drill.

Area around umbo of one valve of S3FP11 shell was cut, embedded in epoxy resin, cut along axis of maximal growth, ground, polished, and acetate peel was prepared. Composite images and measurements were made in Image-Pro-Plus software. Cross validation of the chronology of 16 collected shells from Istria (Peharda et al. in preparation) was done in software package COFECHA.

**Results & Discussion**

The marine reservoir age was determined from AD1941 layer of S3FP11 live shell and calculated to be 265 years.

**Sclerochronology**

This is the study of physical and chemical variations in the accretional hard tissues of organisms, and the temporal context in which they formed making a natural data archive. The growth patterns reflect annual, monthly, fortnightly, daily, and sub-daily increments of time.

**Vegetable Glycymeris pilosa as Data Archive of the Global Atmospheric δ13C Change and the Suess Effect**

**Ruder Borković Institute, Zagreb, Croatia (sironic@irb.hr)

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Bivalve Glycymeris pilosa as Data Archive of the Global Atmospheric δ13C Change and the Suess Effect

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