



Presenter: Trinity Lopez

Session & Time: Poster_SCI

Room/Time: Science Bldg / 4:00-6:00

Discipline: Biology

Faculty Mentor: Doreen Gurrola

Digital Portfolio URL: <https://sites.google.com/students.dominican.edu/trinity-lopez/home>

Title: Patterns of Skull and Tooth Echinochrome Staining in Southern Sea Otter

Abstract:

This study focused on echinochrome staining in the teeth of southern sea otter skulls (*Enhydra lutris nereis*) and the correlation between tooth and skull staining. Consumption of purple sea urchins (*Strongylocentrotus purpuratus*) leads to echinochrome on sea otter skull and teeth, which are a purple-red pigment. Data for this study was collected from the California Academy of Sciences, which has the largest collection of southern sea otter skulls. A total of 372 skulls and over 10,000 teeth were examined. Adults and subadults were compared including males and females. Results showed that most adult skulls (59.8%) had moderate staining with only a small percent (9.2%) showing heavy staining. Subadults showed a higher correlation ($r = 0.598629$) which suggests that staining patterns may be more connected in young otters. Overall, echinochrome staining varies by age and sex and further research is necessary to better understand how sea urchin consumption may affect skull staining and dental wear.

