

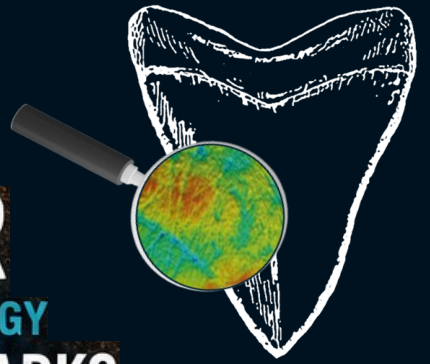


HONOURS PROJECT

DENTAL MICROWEAR

AS A PROXY FOR FEEDING ECOLOGY

IN LARGE PREDATORY SHARKS



WHAT IS DENTAL MICROWEAR TEXTURE ANALYSIS (DMTA)?

DMTA examines microscopic wear patterns on tooth surfaces, and has emerged as a promising tool for understanding feeding ecology.

Sharks actively use their teeth to cut and tear prey, making them an ideal system for testing how effectively dental microwear reflects diet.



THE PROJECT

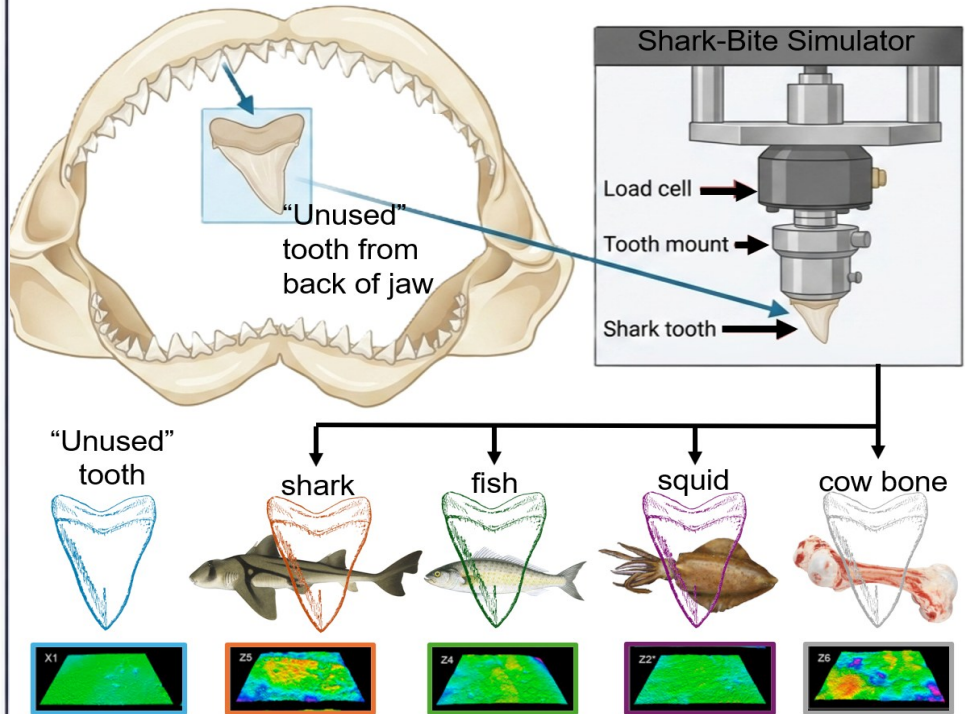
"Unused" shark teeth that have not been in contact with any prey (i.e., extracted from the back of jaws) will be fitted into SSEG's new shark-bite-simulator.

Repeated simulated bites through various preys (shark skin, squid, fish, cow bone) will reveal if and how precisely DMTA can reveal shark diets.

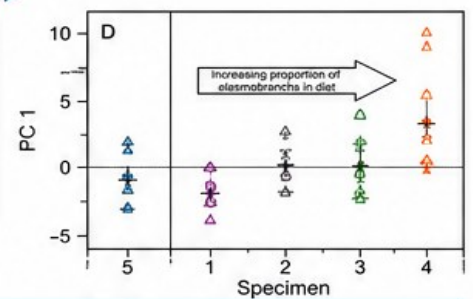
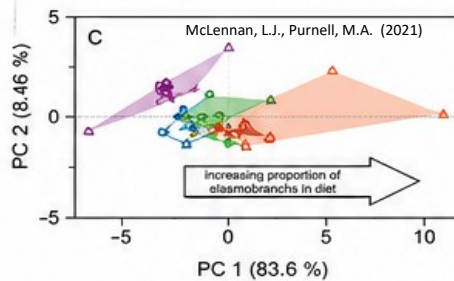
WHY THIS MATTERS

- ✓ Develop framework to test DMTA in sharks
- ✓ Link to diet with experimental data
- ✓ Improves understanding of shark ecology and trophic roles
- ✓ Can help inform on diet of extinct sharks
- ✓ Maximises what we can learn from existing museum and private collections

THE EXPERIMENT: FROM TOOTH TO DIET SIGNAL



Tooth surfaces are scanned using DMTA to capture microscopic wear textures that record feeding interactions.



Statistical analyses test how accurately microwear textures reflect the prey consumed.

YOU WILL GAIN EXPERIENCE IN:



Experimental design and lab techniques



Interpreting ecological patterns



Using the shark-bite-simulator



Scientific writing and communication



Microwear scans and data analysis



SUPERVISORS



Charlie Huveneres
Lauren Meyer
Maddie Riley



Alice Clement
Gavin Prideaux

PASSIONATE ABOUT SHARKS AND HOW THEY FEED?

Join this exciting project at the cutting edge of marine predator research!



INTERESTED?

Send CV with GPA to
Lauren.meyer@flinders.edu.au

