

Spot the Difference Semi-Finalist

Josh Pigeon
Biological Sciences
Master's program
Image location: University of Alberta, Edmonton,
Alberta

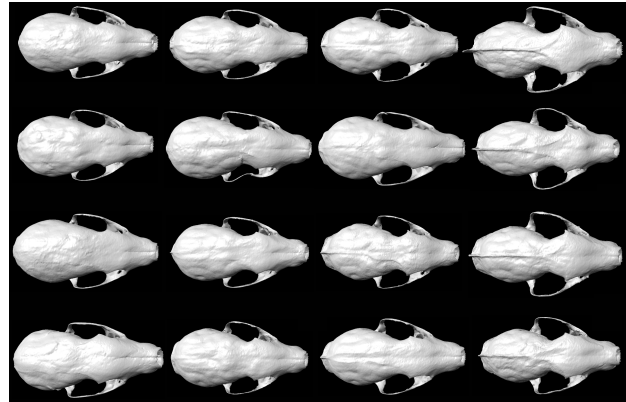


Image Description

These 3D scans of pine marten skulls are part of a collection from Nordegg, AB. The pine marten is a mink-like predator that lives in the Northern Boreal forests of Canada. As you can see, there is quite a bit of variation between individuals. If you look closer, you will begin to notice variation between the left and right sides of a single individual. My research aims to determine the causes of these differences.

Many factors affect variations in size and shape, including age, sex, and genetics. Some variation can also be due to environmental effects. I'm working to isolate the effect of the climate on the shape and size of these skulls. If weather extremes and highly variable climates are stressful for an animal, it may lead to smaller or less symmetrical skulls. Pine marten are small mammals with short fur and little fat stores, so if they are showing signs of stress from the changing climate, they may be the canary in the coalmine for how climate change may affect other wildlife in the future.