COMPARISON OF AVIAN AND NON-AVIAN REPTILE DIGESTION ON SMALL MAMMAL REMAINS AND THE IMPLICATIONS FOR PALAEOECOLOGICAL INTERPRETATIONS

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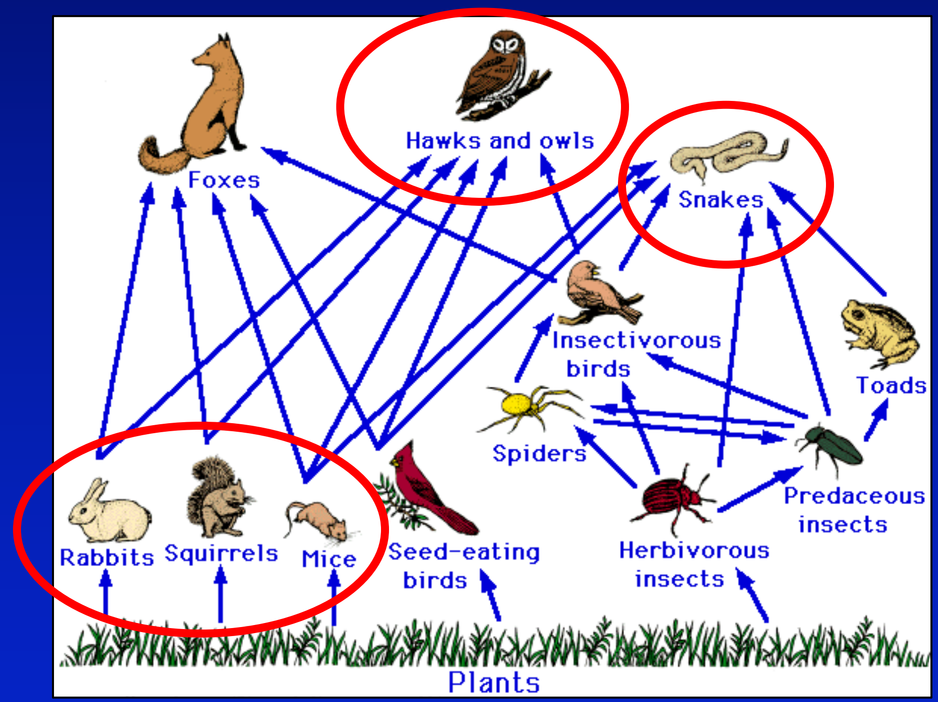
Introduction

- Small Mammals = Prey Source
- Peter Andrews (1990) – Owls, Caves, and Fossils
  - Category 1-5 Modification
- Owls ~ Category 1-2 (Light)
- Mammals ~ Category 5 (Extreme)
- Snakes ~ ???



Research Objectives

1. Develop an effective method for collecting rodent remains from snake excrement.

2. Document the differences in tooth and bone destruction between owls and snakes.

Materials

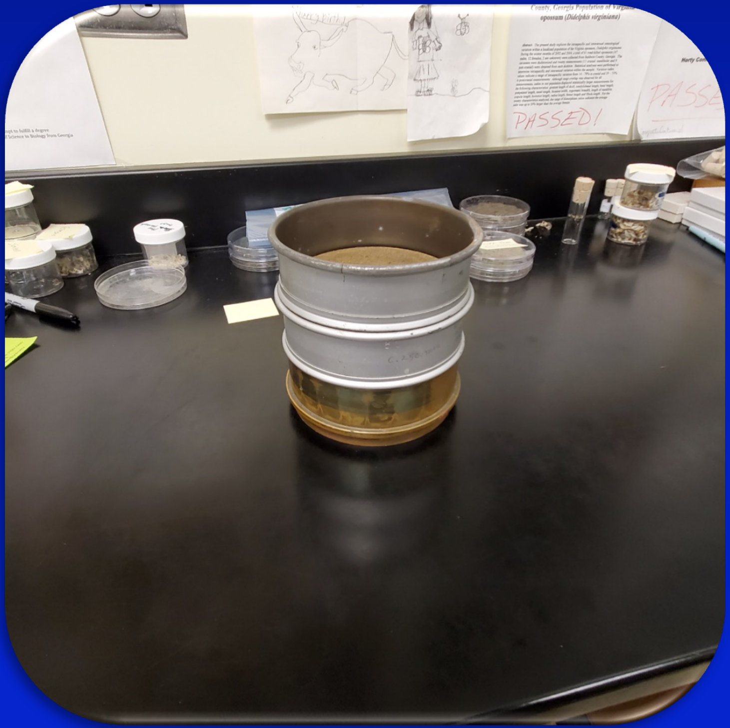
- Owl Pellets from Carolina Biological

Materials

- Snake Scat from DeSantis’ Snake Lab

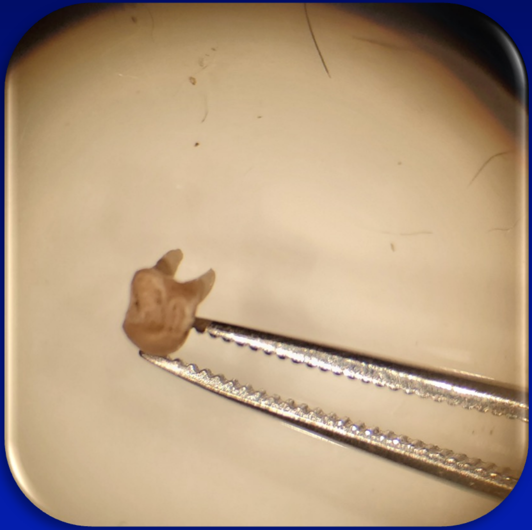
Methods

- SOP Development



Methods

- Sorting, Cleaning, Mounting



Methods

- Imaging
  - Visionary Digital BK Plus imaging system with a mounted Canon EOS 5DSR
    - Zerene Stacker Version 1.04
    - Adobe Photoshop 13.0

Results*

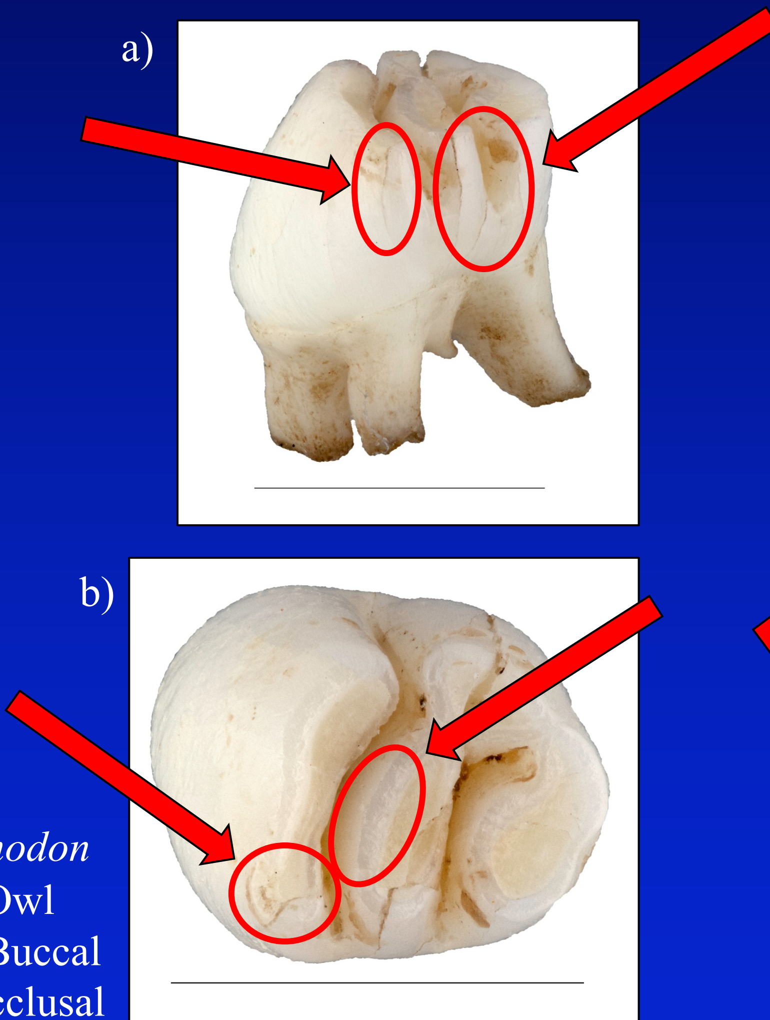


Fig 1: *Sigmodon* right M3; Owl Pellet; a) Buccal view, b) Occlusal view

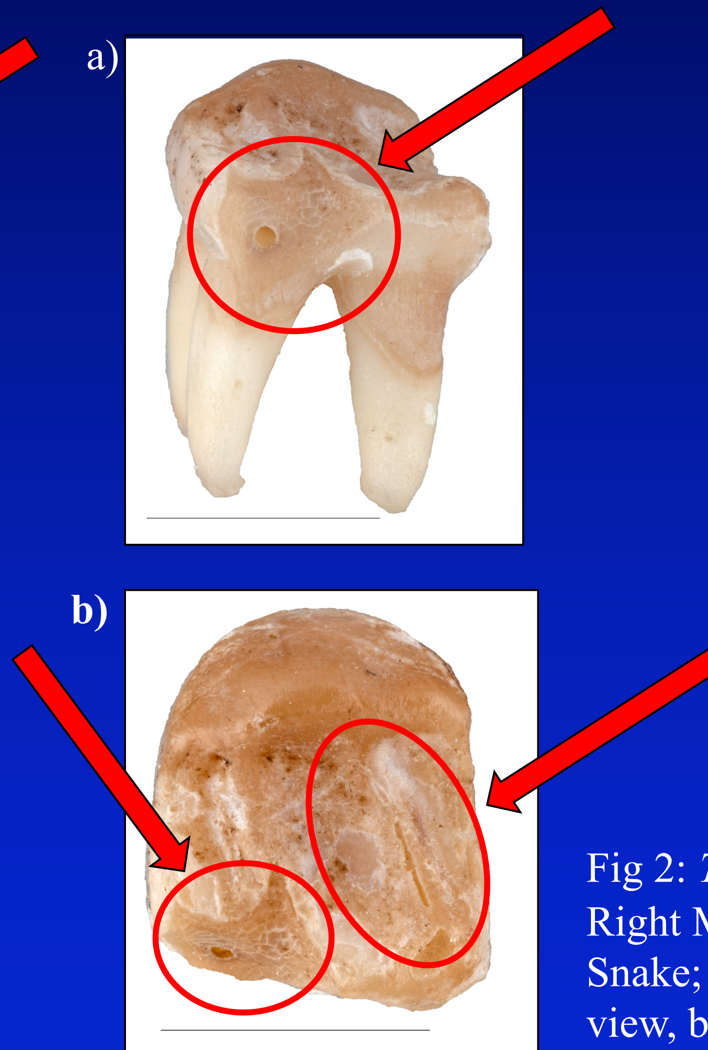


Fig 2: *Tamais* Right M3; Snake; a) Buccal view, b) Occlusal view

All Scale Bars = 2mm

Results*

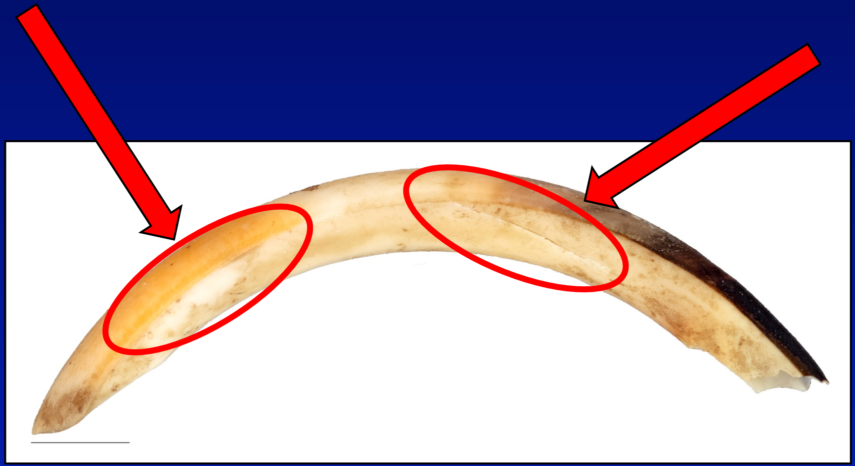


Fig 3: *Sigmodon* right mandibular incisor; Owl Pellet.

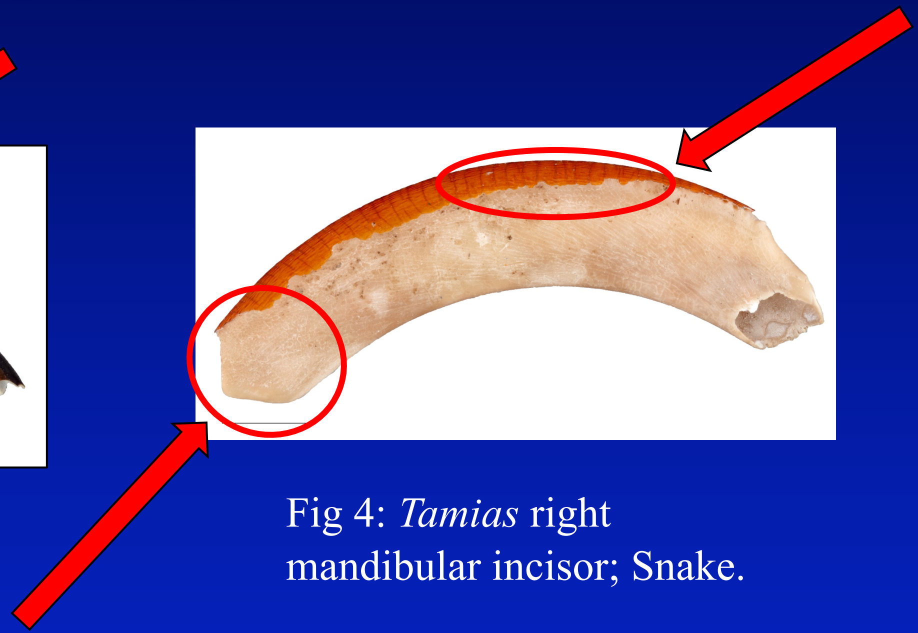


Fig 4: *Tamias* right mandibular incisor; Snake.

Fig 5: *Mus musculus* left maxillary fragment; Snake.

All Scale Bars = 2mm

Conclusions*

1) *Develop an effective method for collecting rodent remains from snake excrement.*

Conclusions*

2) *Document the differences in tooth and bone destruction between owls and snakes.*

- <u>Owls</u>
  - Minor External Damage
  - Enamel Remains Intact
  - Category 1-2
- <u>Snakes</u>
  - Major External Damage
  - Enamel Degraded
  - Category 5

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Questions?

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