Dinosaurs in an Albertan Ghost Town

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Introduction

- A microsite is a small, defined area with a collection of small fossil materials (Like teeth, phalanges or vertebras) that have been directly deposited or via natural routes like rain or wind.[1]
- Cataloging the fossils allow us to see the abundance of a species in a localized area
  - In this project, we have decided to specialize in the region of Steveville and the surrounding area.
- Steveville is a small ghost town that was abandoned in the late 20th century. Steveville is filled with quarries that are useful for paleontologists.

Methods

- Using small boxes with labels, we would use reference materials to identify the fossil and accurately put the specimen in the box that in belongs to. (Fig 1.)
- Later, we would count up the specimens and group for storage.
- By counting up the specimens, we are able to generate an excel sheet to be cataloged for the Dino Lab database.
- With the GPS coordinates, we are able to map out the bone beds via Google Earth Pro. (Fig. 2)
  - With this, it is possible to tell that in a general area, there was more abundance, or on the contrary, lack of, a species, in a locality.

Fig. 1 – The organizational method used to correctly catalogue each microfossil

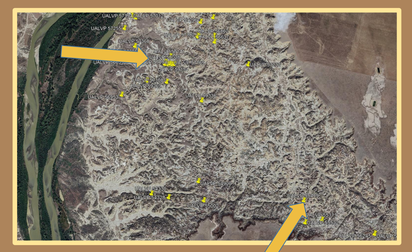

Fig. 2 – Map view of the bone beds in Steveville

The yellow dots are the bone beds

Results

- After cataloging the fossils with Excel (Fig. 3), we could accurately see the abundance of a species in the area.
  - There were no Shark teeth, so we know that there were no sharks in the Steveville area.
  - Fish spines and fish vertebrae were scarce, which tell us that fish may have not been as abundant in the locality.
  - There were a lot Crocodile teeth, Ceratopsian teeth, Hadrosaur teeth and jaws, which tell us that they were plentiful in the region.
  - Ankylosaur osteoderms and teeth were seldom seen, so we can infer that they may have been around the area, but weren't as active and prolific in the Steveville area like the Crocodiles.

UALVPS	Ank. Osteoderms	Ank. Teeth	Ceratopsian Teeth	Coprolites	Crocodile Osteoderm	Crocodile Teeth	distal ungual	Fish Spines	Fish Vertebra	Gar Scales	Hadrosaur Teeth + Hadrosaur Jaws	Theropod Tooth	Myledaphus Teeth	Shark Tooth	Small Vertebrae	Tendons	Turtle Shell	phalanges	Fish Bits	Long Bones	Plants	Unknown
59154											2	8	1									1
59336		2	3			2				5		2	4		3		12			1		10
57255	2	4	1	8		5				4			1				4					4
57360					2						1											
57248		1	1		1	3						7			2							
57194						1					3					1				1		6
57296			1		1	6					2	2					1					1
57182						1												1				1
57245						1														1		3
60180	2	4	8		1	8		1	1	1	18	5	13		9		3					13
54328			4	1	3	3		1		4	2				3		5	1				6
54330			3			4			1	1	1				5		1		2	4		10
58038						1	1				2	10										
59269		2	2	1		1		1	1	3					1		4			1		10
57215	2														2							
57169			2						1		2		1		1		1	1		1		

Fig 3. – Results of the individual microsite analysis on an Excel sheet. This shows the abundance within each bone bed.

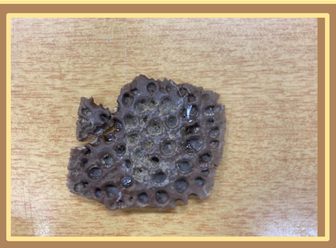

Fig 4. An example of a microfossil – a crocodile osteoderm.

Conclusion

- The information that is found from this project will go into the Dino Lab's database to be used for future research and publications.
- There is lack of plant fossils and shark fossils in the Steveville area.
- There were few Myledahus teeth therefore low Myledahus activity in the region.

Citations and Acknowledgments

[1]Gibbins, Howard. *A Basic Guide to Microsite Analysis*. Edmonton, Alberta: UALVP, n.d.
City of Brooks Alberta - Museum General Store. Accessed August 6, 2024. https://web.archive.org/web/20070927215457/http://www.brooks.ca/about/museum/store.asp.

Thank you to the Dino Lab for hosting me for the summer.
Thank you to Linda Tennekoon for occasionally helping me out