National Park Service
U.S. Department of the Interior

Badlands National Park

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Badlands in Brief

Kylie's Fossil Find Episode Transcript

Introduction

Badlands National Park preserves and protects a rich fossil record from the Golden Age of Mammals. The Badlands are a place of active scientific discovery and research. Sometimes visitors play an important role in this process. In 2010, seven year old Kylie Ferguson discovered one of the most amazing fossils ever found at Badlands National Park. Just a few hundred feet from the visitor center, she found a rare saber tooth cat skull. The fossil turned out to be a museum-quality, scientifically significant specimen.

Interview with Dr. Rachel Benton, Park Paleontologist

Well Kylie was participating in a Junior Ranger program here at Badlands National Park and she was out on a hike, which is part of that program. She noticed something unusual weathering out of the rock. And it turned out to be just the back portion of a skull. And that's how we like to find fossils --is when they're just starting to weather out of the rock. Otherwise, if it's too late, much of the bone is already disturbed from wind and rain and freeze and thaw activity. So, she found the fossil just at the right time. Now, Kylie also did the right thing. She reported her find to a park ranger. And that way, the fossil could be properly documented right away and then we were able to actually collect the fossil before it deteriorated. And it is now prepared and it's housed in the park museum collection.

Interview with Clint Boyd, Physical Science Technician

So, this is our nimravid skull also known as a saber tooth cat. We got very lucky when it was found because just these white areas here are what were showing. Normally a significant portion of the specimen is gone before we find it but this one was pretty much all there, so we got this nice complete skull that gives us some good data on what these things looked like, how they lived, and potentially some interaction between different individuals as well in terms of how this one might have died.

This animal it seems more than likely died from attack from another saber tooth cat. Normally we are lucky enough just to get the animal out of the ground and maybe tell a little bit about it. Here we actually get a bit of a window in to what possibly killed this animal.

So, as the specimen is being prepped up, we found this nice oval puncture on the top of the skull and we were trying to figure out what it was and kept cleaning and started finding more marks around the skull. And, so this was very interesting and became more so when we looked to the opposite side of the specimen, where we noticed that this big wing here which is called the zygomatic arch it's basically the cheek bone of the cat, was busted off and

down in the orbit, the eye socket, we see another puncture and then right back here on the brain case we see a much larger even deeper puncture followed by a nice rounded puncture on the back of the skull and we put all of that evidence together what it suggests for us at the moment, is that we had a set of bites that happened on this animal. The first with the front teeth coming up this way and the back lower jaw crushing this crest in and then a second bite which occurred either before or after the first we can't really tell yet coming at an angle like this with the front teeth crushing in and then the lower jaw coming up and making this back puncture and doing this damage to the side of the skull here.

We can't tell for certain yet, that this is what killed the animal. We're probably going to be doing some CT scans so that we can look deeper in the animal, see exactly what was damaged, exactly what injury the animal sustained and whether that would be enough to kill the animal, but just from general overall examining it, a puncture of this size would have been fairly significant and likely resulted in significant damage to the brain and on top of that, even if this wasn't a killing type shot this bite here combined with this bite here would have led the cat to be completely blinded anyway, and he likely would have died soon after either of starvation or of thirst.

Interview with Dr. Rachel Benton, Park Paleontologist

I'd like to thank Kylie for being so diligent in terms of reporting her find and also for her enthusiasm. So there are always interesting things going on at Badlands National Park in terms of paleontology.