Discovery, excavation, preparation, of the skull of a new centrosaurine ceratopsian from the Wahweap Formation of Grand Staircase-Escalante National Monument

Donald DeBlieux
James Kirkland
Utah Geological Survey
Alan Titus
GSENM
Last Chance Ceratopsian

Project background

Discovery

Excavation

Lab preparation
rear margin of parietal 3.75 cm th

parietal bar

postorbital horn

occipital condyle 4 cm dia

right maxilla impression

nasal horn?

orbit

antorbital fenestra

teeth
Field Chronology

April 2002  Discovery, assessment, preliminary map (2 days)

September 2003 Begin excavation with rock saw (1 day)

November 2003 Rock sawing (1 day)

September 2004 Rock sawing (3 days)

October 2004 Plaster cap and rock sawing (1 day)

September 2005 Rock sawing, cargo net (1 day) helicopter transport (1 day)

~ 100 person hours of labor
Rock scored with diamond blade for easier removal with large air scribe and chisel.

Don’t air scribe rock that can be cut off!
After scoring and large-scale air scribing
After small-scale air scribing
Brushing on Acryloid to avoid consolidating the rock
Scorpion survives 15 months imprisoned in fossil sample

BY GREG LAVINE
The Salt Lake Tribune

After spending two months working to free a fossilized dinosaur skull from the grip of a sandstone block, Don DeBlieux figured there was nothing left to surprise him.

But earlier this month, in a Salt Lake City paleontology laboratory, something stirred within the cracks of the rock. After a little investigation, he discovered a live scorpion struggling to escape.

"If something had crawled out during the first month or two, it wouldn't have been surprising," he said.

About 15 months ago, the scorpion apparently scurried under the wrong rock in Grand Staircase Escalante National Monument in southern Utah. The rock chunk happened to contain the skull of an 80-million-year-old, yet-to-be-identified horned dinosaur discovered by the Utah Geological Survey.

To prepare the skull for study, researchers encased it in plaster — along with the 2-inch long hitchhiker.

A few weeks ago, DeBlieux, a paleontologist, opened parts of the plaster jacket to remove the rock. As he moved to a new section, he spotted the scorpion in a crack and fished the arachnid out.

He placed the scorpion in a plastic soda cup to take a picture, then pondered the hitchhiker's fate.

While 15 months seems like an incredible voyage, scorpions and other arthropods have ways to survive tough circumstances, said Richard Baumann, a Brigham Young University zoologist.

Scorpions can't hibernate, but they can enter a phase known as diapause, an extended sleep period in which it does not grow.

"It's possible," Baumann said of the southern Utah scorpion's extended journey.

Under other circumstances, the scorpion might have met an untimely end, but DeBlieux respected the creature's will to survive.

"After 15 months, I wouldn't have had the heart to hurt him," he said.

So the scorpion was set free in a field near the corner of North Temple and Redwood Road to face the challenge of a northern Utah winter.

glavine@sltrib.com
To date, 400 hours of laboratory preparation, we should be at least half way there!
Acknowledgments

We thank the staff of the GSENM, especially Marietta Eaton, Dave Hunsaker, and Alan Titus.

Help with the skull was provided by Bob & Linda Baldazzi, Jane DeBlieux, Walt Elkington, Mike Getty, Martha Hayden, Don & Sheila Hughes, Tom Mellenthin, Andrew Milner, Sandy Mosconi, George Muller, Phil Policelli, Josh “seldom seen” Smith, Steve & Sally Stevenson, Alan Titus, Daryl & Terry Wade, Dave Willcots, Bill & Arlene Yensen, David “Z” Zivcovic, Zion Helitack, and the UGS.