

# Prehistoric Trackways National Monument

The Monument in Your Backyard





# Talking Points

Monument Status

Rosetta So-Whatta

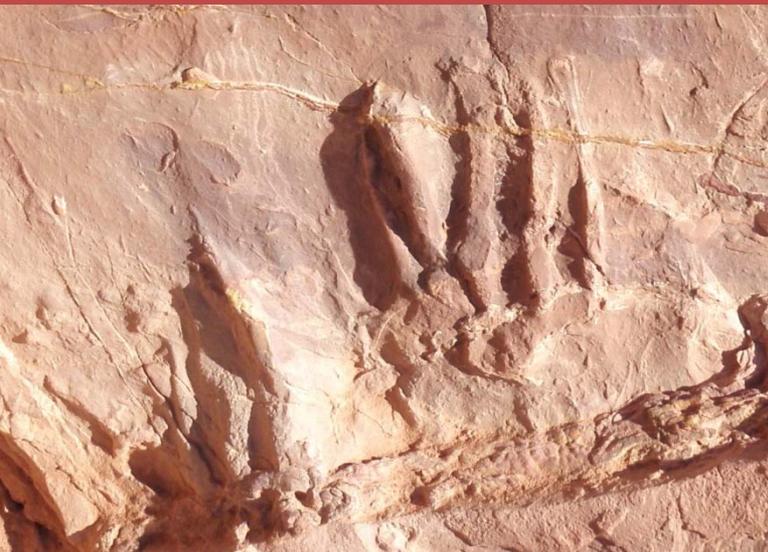
Trackmakers

Fossilized Ecosystem

Interpretation



# Monument Status

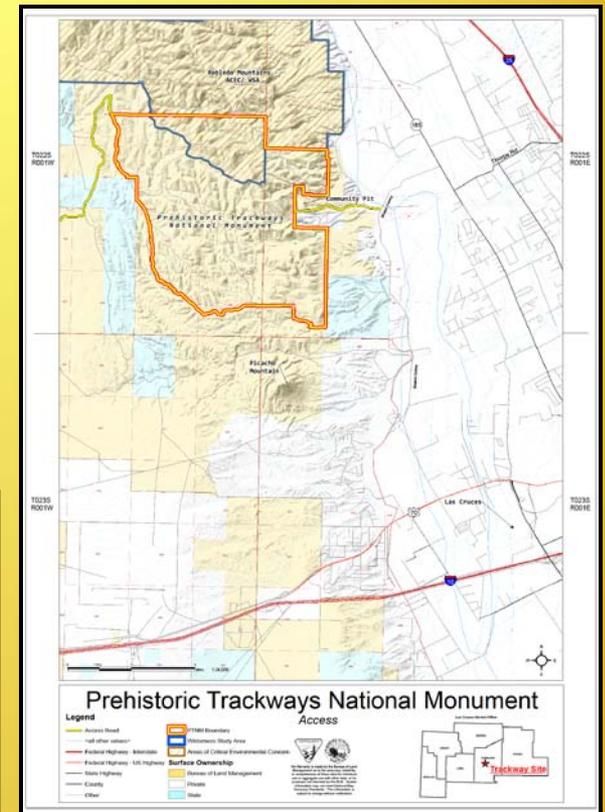
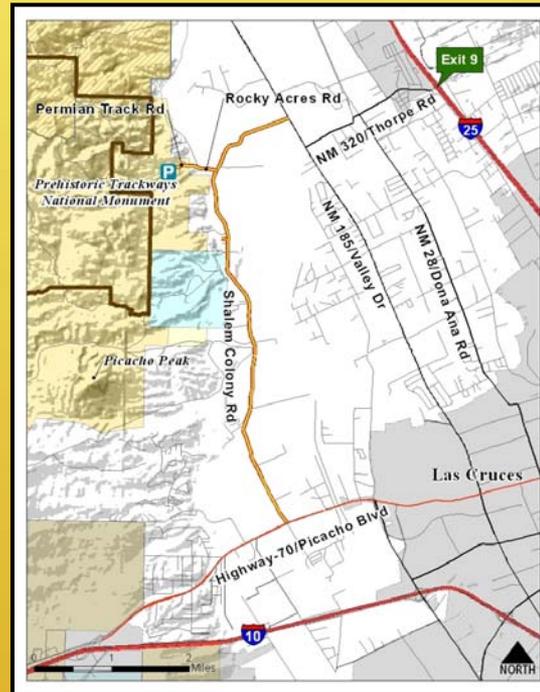


## Directions to the Monument:

Coming from the North (I-25): At the Doña Ana Exit: From NM320 (Thorpe Road) in Doña Ana, go west to US 85, then go north about a half a mile to Shalem Colony Road. Turn west on Shalem Colony Trail, which curves to the south. Go about 1.5 miles until you cross over the Rio Grande then take a right onto county road, Rocky Acres Trail. After turning on Rocky Acres Trail go approximately ¼ mile and then turn left onto Permian Tracks Rd.

Coming from the South (Las Cruces): Travel on Picacho Ave./ Hwy. 70, at the stop light with Shalem Colony Trail, go north on Shalem Colony Trail for approximately 5.5 miles. Prior to reaching the Rio Grande, you will reach a county road, Rocky Acres Trail. Turn west on Rocky Acres Trail. Go west approximately ¼ mile PermianTracks Rd. entrance on the left-hand side.

Cross over a cattleguard and continue to the west. This road, past about a mile, is for high-clearance, 4wd vehicles only.



# Monument Map

# The Monument's story begins with Jerry MacDonald...



In the mid-1980s Jerry MacDonald, an amateur paleontologist, brought national recognition to the Robledo Mountains. Under the supervision of the Smithsonian Natural History Museum and the Carnegie Museum of Natural History, MacDonald excavated thousands of these trackways from what is now known as the Discovery Site. The majority of the over 2500 slabs removed in the excavation comprises “The Jerry MacDonald Paleozoic Trackways Collection” at the New Mexico Museum of Natural History and Science.

# Lay of the Land



The Bureau of Land Management is in the process of writing a resource management plan for the Monument to be completed in 2012. In the meantime, there are no developed hiking and equestrian trails, and no interpretive signs. Roads are not maintained and there are no facilities. There are OHV and mountain bike trails, however they are rugged and require appropriate skills and equipment.

The Prehistoric Trackways National Monument is public land, people are free to visit, but should be aware of the harsh desert environment. Be prepared with water, sun protection, and appropriate shoes and clothing. Make sure to let people know where you are. The fossil sites are not marked and not easy to find. The most accessible place to see trackways is at "The Discovery Site". The coordinates for this location are on the back of the flyer, but there are no developed trails leading to it.

The quarry located off of Permian Track Road is closed to the public. Avoid going in and around it.

# History of Abuse

The area in and around the Monument has been a historic dumping ground, party spot and sometimes has the appearance of being unmanaged.





# Prehistoric Trackways National Monument

was designated in  
The Omnibus Public Lands  
Management Act 2009

In order to conserve, protect, and enhance the unique and nationally important paleontological, scientific, educational, scenic, and recreational resources and values of the public land...

# Scientific Support



- “The 280 million year old fossil tracksite from the Robledo Mountains represents the most diverse and abundant Paleozoic terrestrial trace fossils in the world...It represents the most significant advance in our understanding of terrestrial trace fossils to date.”

Dr. Simon Braddy, Invertebrate paleontologist, University of Bristol, United Kingdom.

- “I was astonished at the huge collection of tracks and the very good preservation of tracks at the localities. I think the Robledo track and fossil sites are one of the most important cultural and scientific centers of the world for the Permian.”

Dr. Li Jianjun, Deputy Director, Beijing Natural History Museum, China.

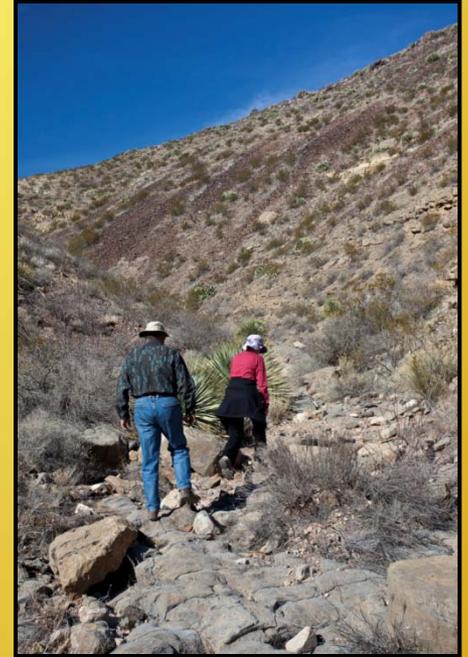
- “The Robledo Mountains fossil deposit is of high cultural and scientific importance on a global scale.”

Dr. Hartmut Haubold, Professor of Paleontology, Martin Luther University, Halle, Germany.

# The Resource Management Plan

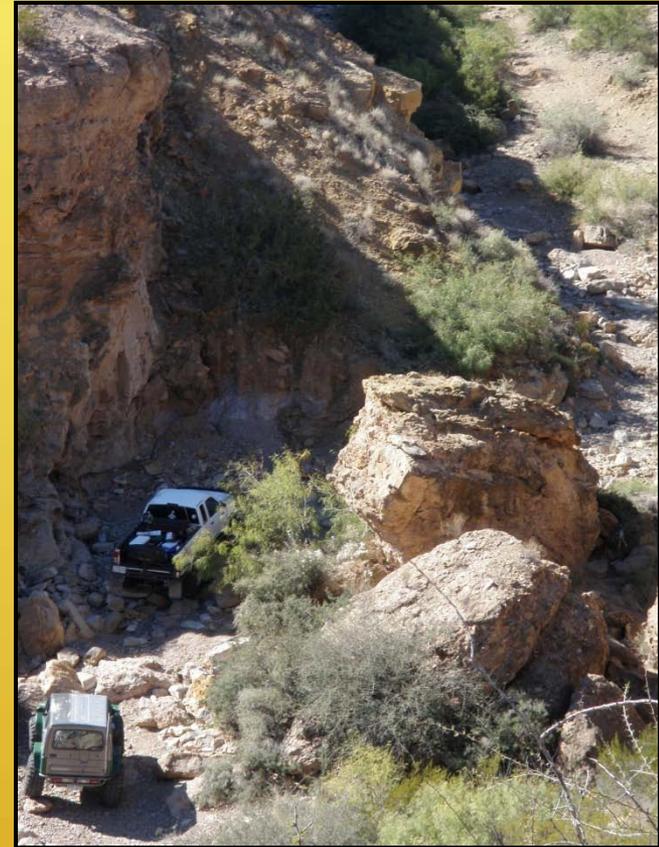
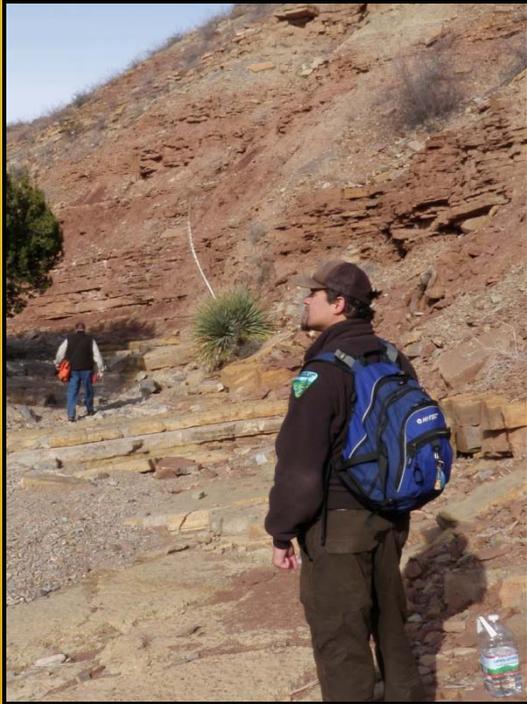


# Monument in my Backyard



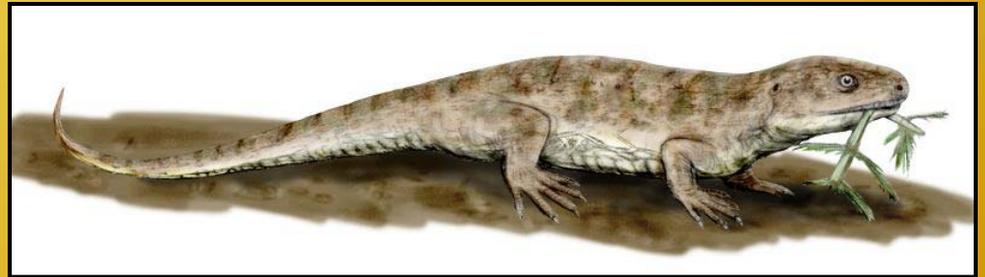
# Physical Access

can be challenging because of the harsh desert environment and rough 4 wheel routes.



# Intellectual Access

is challenging because the science is new and the resources do not necessarily speak for themselves.



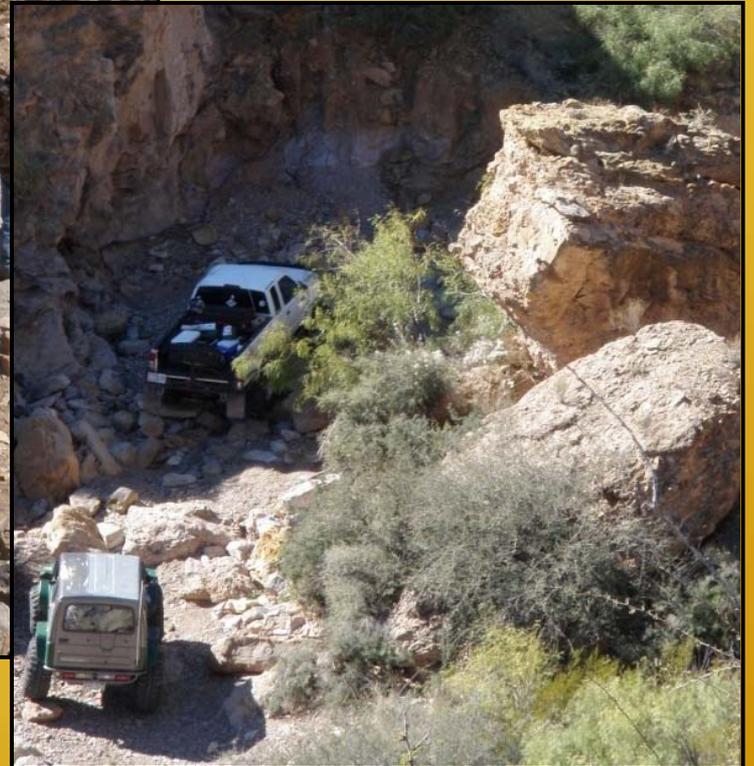
Captorhinus

# Preservation of the Paleontological Resources

is a challenge in managing the Monument.



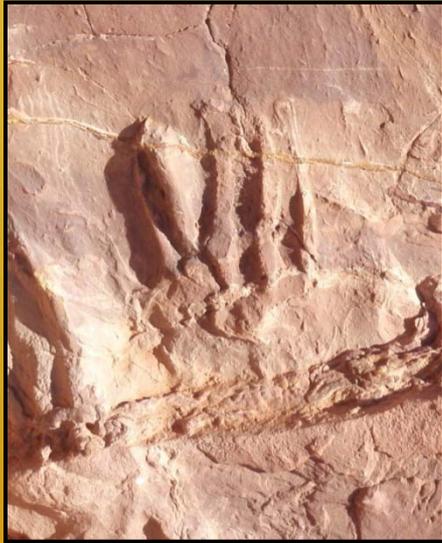
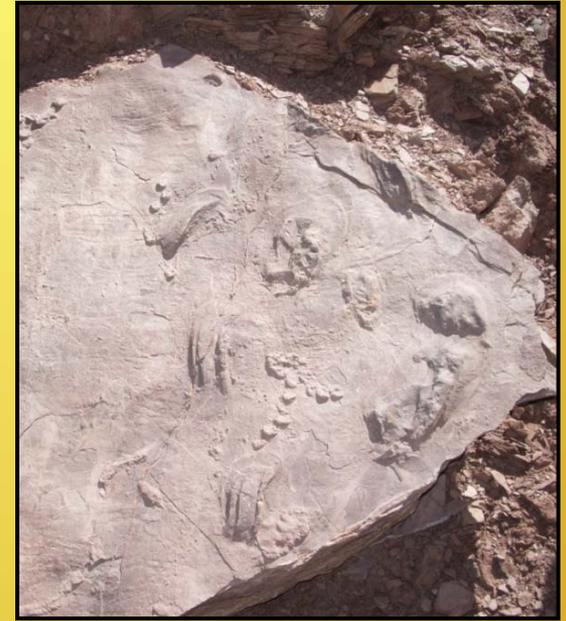
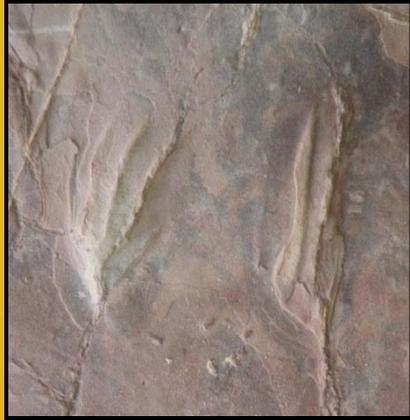
# OHV Use



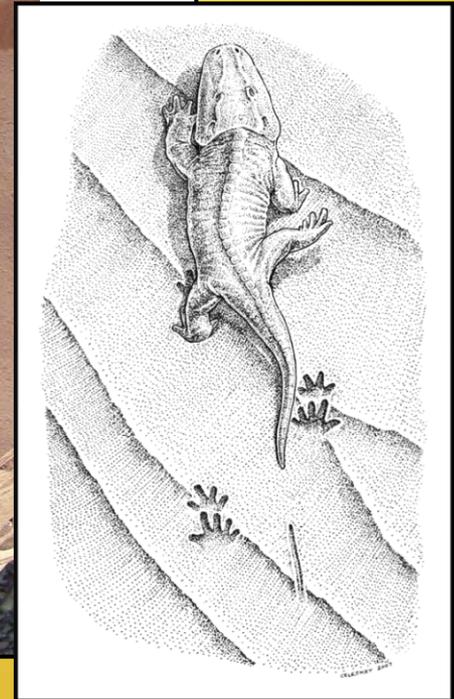
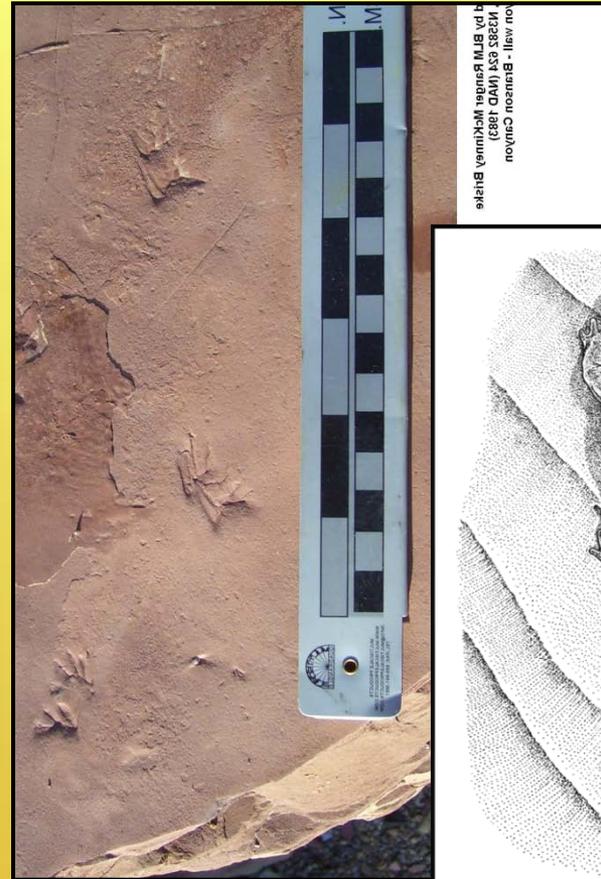
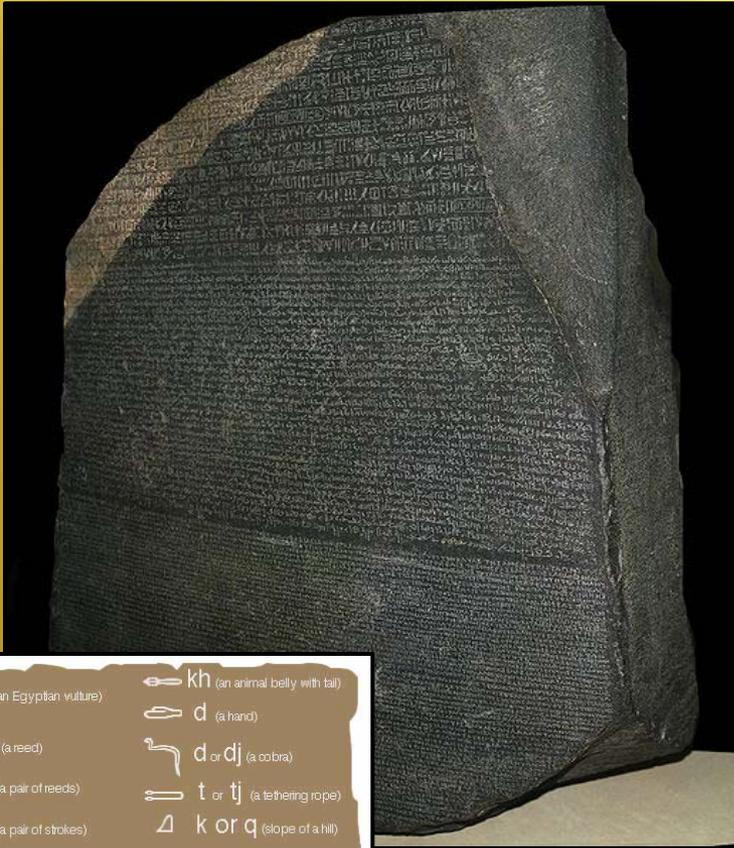
# Rosetta So Whatta?



# What is this???



Stones do not really speak for themselves...especially these ones.



	a (an Egyptian vulture)		kh (an animal belly with tail)
	i/a (a reed)		d (a hand)
	y (a pair of reeds)		d or dj (a oobra)
	y (a pair of strokes)		t or tj (a tethering rope)
	a (an arm)		k or q (slope of a hill)
	k (a basket with a handle)		m (an owl)
	w (a quail chick)		n (a ripple of water)
	w (hieratic quail chick)		p (a reed mat or stool)
	b (a lower leg)		r (a mouth)
	f (a horned viper)		s (a folded cloth)
	g (a jar stand)		s (a door bolt)
	h (a reed shelter)		sh (a garden pool)
	h (a twisted wick)		t (a loaf of bread)
	kh (a placenta)		

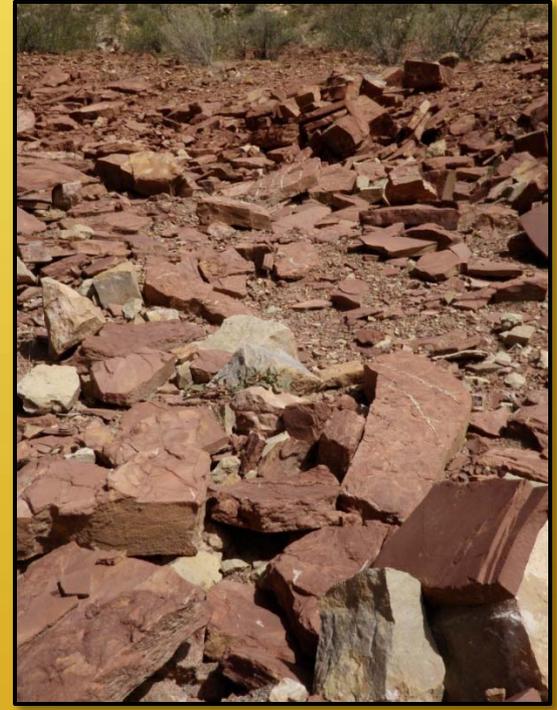
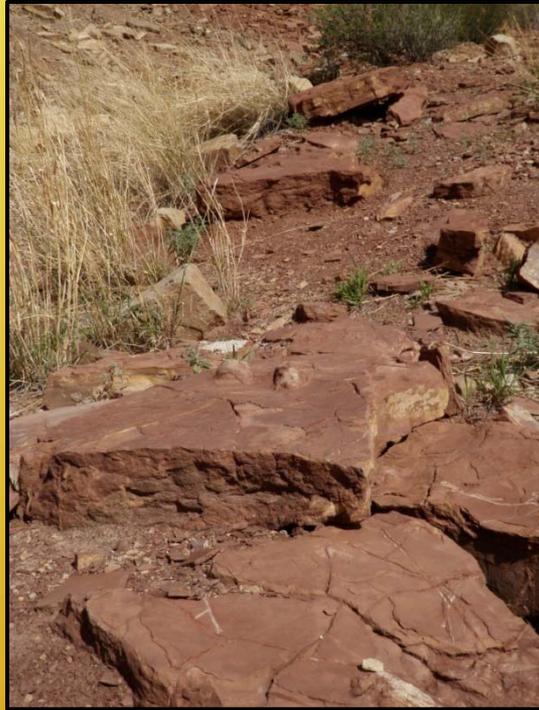
“These unique fossils are unlike anything ever discovered in the country and even in the world. These trackways serve as a ‘Rosetta Stone’, enabling the interpretation and understanding of ancient fossils from around the world.”

US Senator Jeff Bingaman (D-NM)

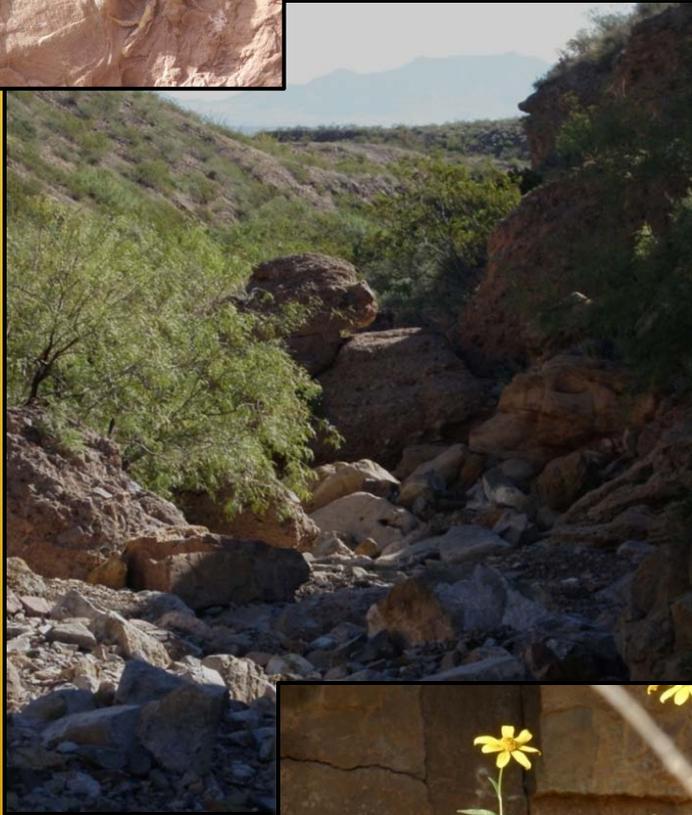
# Discovery Site



...(is) "probably the most outstanding fossil trackway localities ever discovered for vertebrate and invertebrate animals in terms of quality, quantity and variety."  
Dr. David S. Berman  
Carnegie Museum of Natural History.



# Branson Canyon

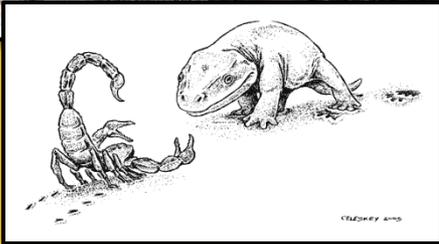
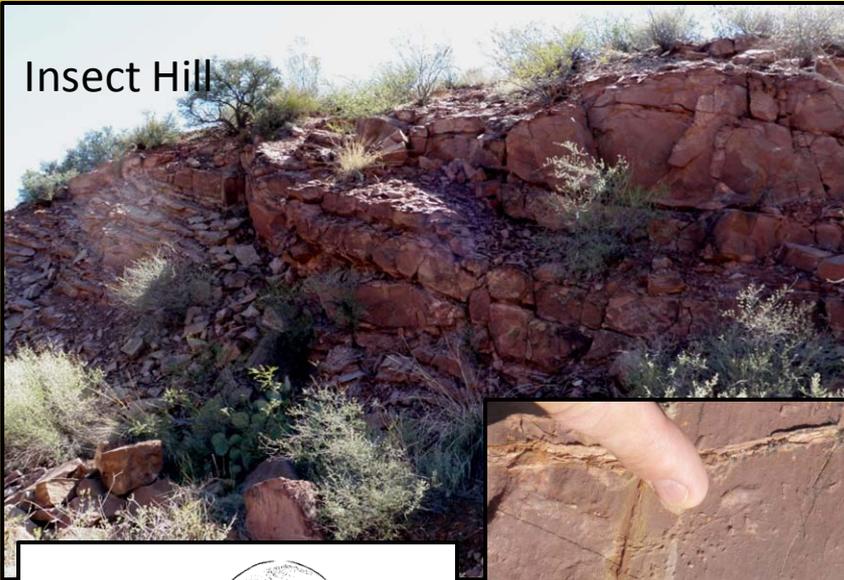


**Trackways and the  
“Rosetta Mountain” located here.**

is a valuable tool in figuring out the layers of the Robledo Permian periods, because unlike the rest of layers, this mountain has stayed free of intrusion and uplifts and folds, so it is in perfect chronological order.

# Apache Canyon

Insect Hill



Conifer Forest

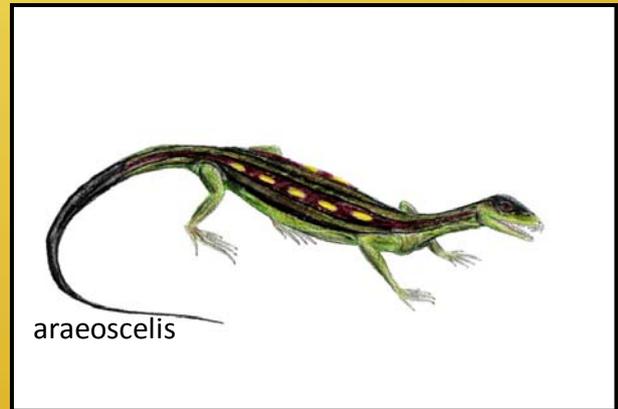


“In addition to the numerous reptile and amphibian tracks...(are) insects scientist know ‘virtually nothing’ about. Amazing trackways of primitive scorpions, giant centipedes, and millipedes, horseshoe crabs, flying insects, an assortment of crawling bugs and beetles have been collected... Many of the insect trackways also show the prints of larger insectivores hunting them down. Many insect trails end under the heavy print of a reptile’s foot.” - MacDonald, pg 5. 1990

# Story of the Trackmakers

these tracks tell us the story of those who left them behind.

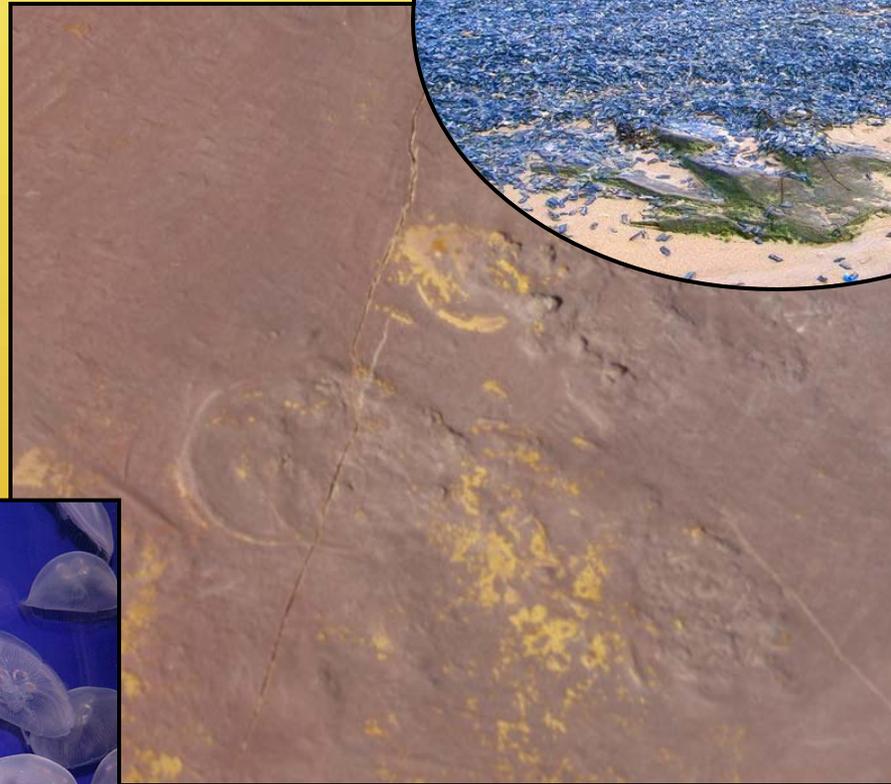


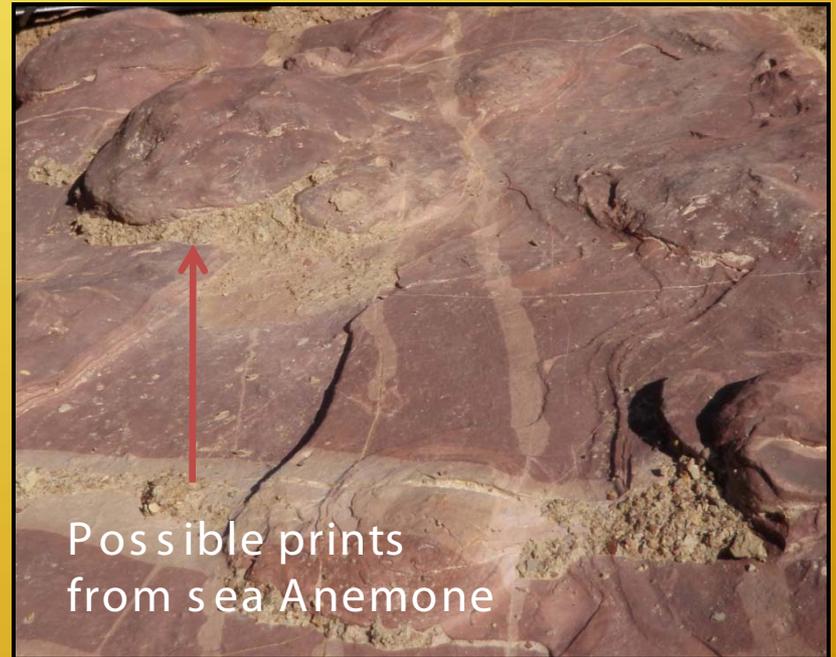
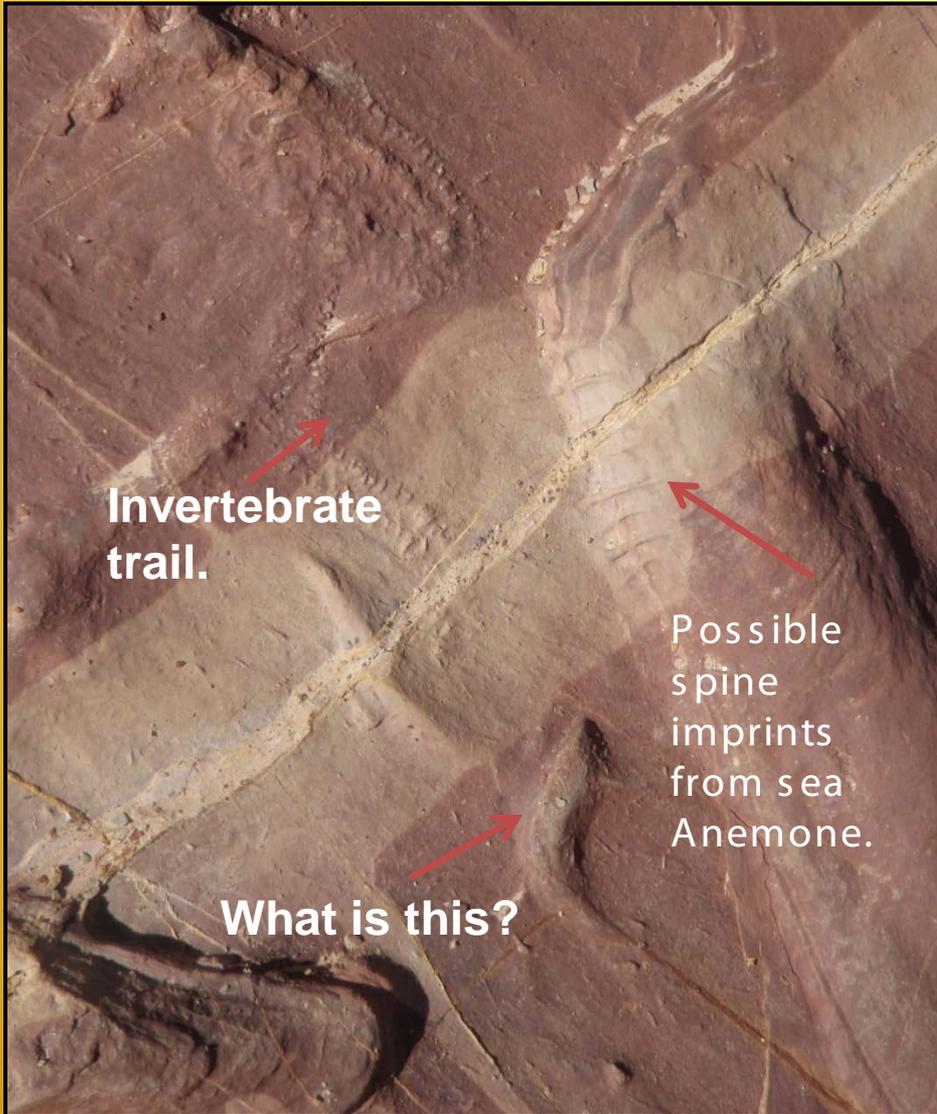


This trackmaker the araeoscelis left marks of its scales behind.

# Marine Life

Jellyfish imprints –  
Tells us about behavior and weather.





# Animal Life

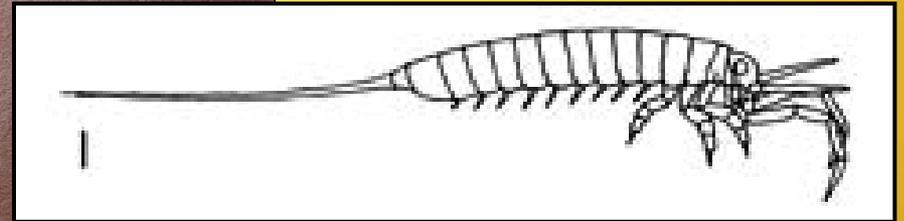
The traces from these fossils translate the stories of the Permian Period.



# Insect Life

Even traces of a hopping insect...

Photo courtesy of Jerry MacDonald



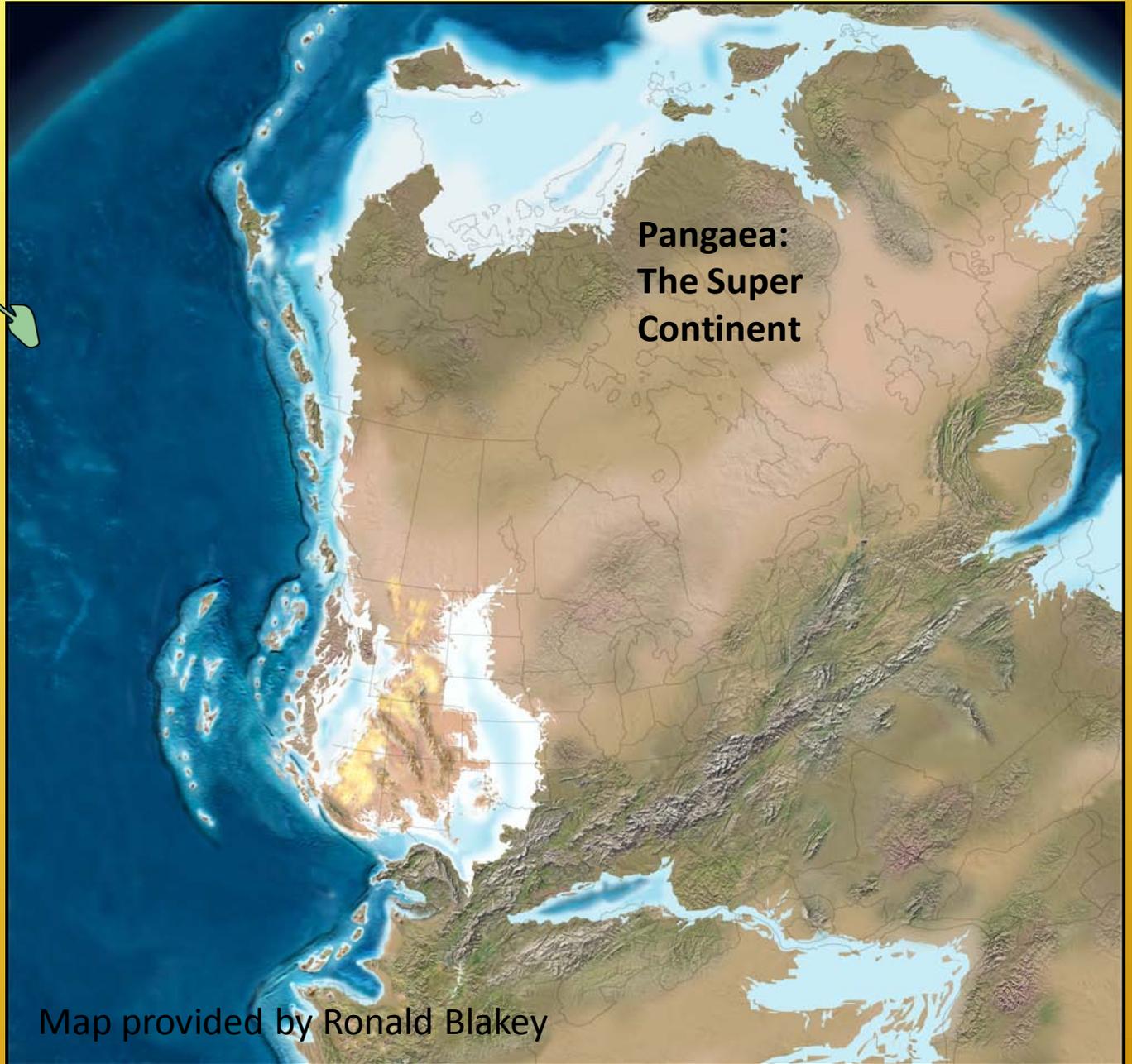
tonganoxichnus

# Ancient Eco-System

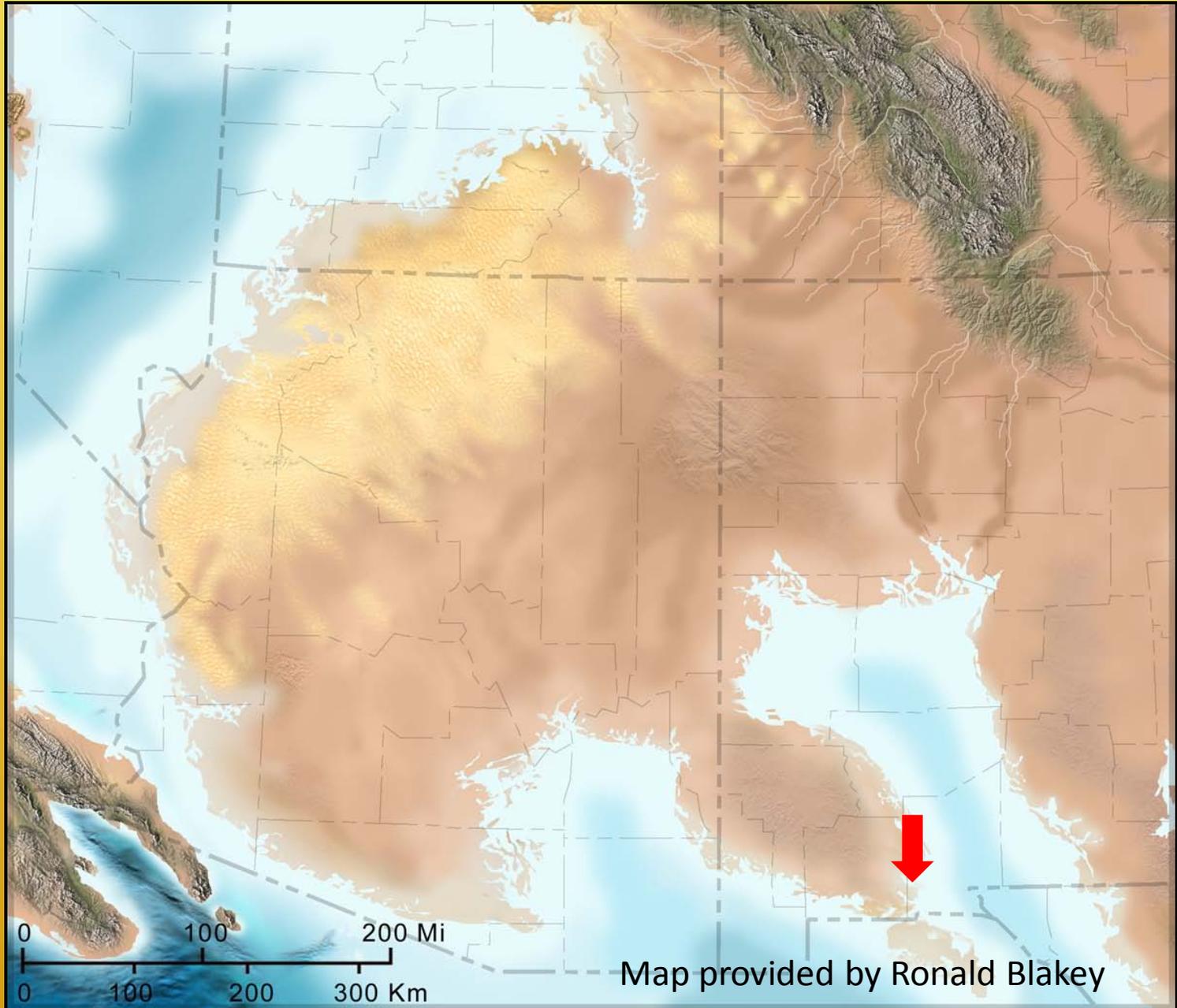
The Trackways is not just about trackways, it is almost a whole ancient ecosystem.



The Permian period was at the end of the Paleozoic period. At the end of the Permian period, 90 to 95 percent of life vanished from the world. The trackways gives us clues as what that world was like.



Map provided by Ronald Blakey



Map provided by Ronald Blakey



The quarry displays the layers of marine and trace fossils.



A whole sidewalk of Permian shrimp burrows.

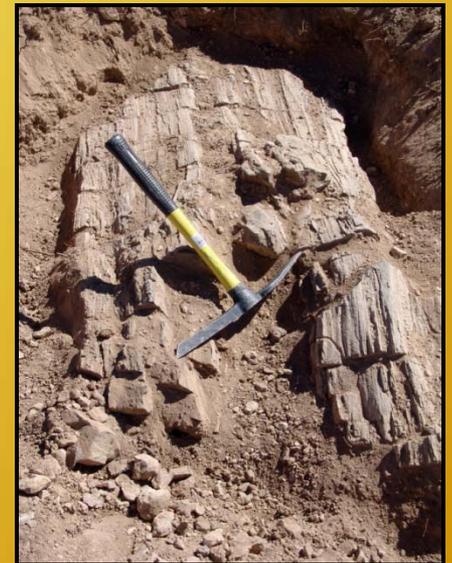


Brachiopods emerging from marine looking deposits.

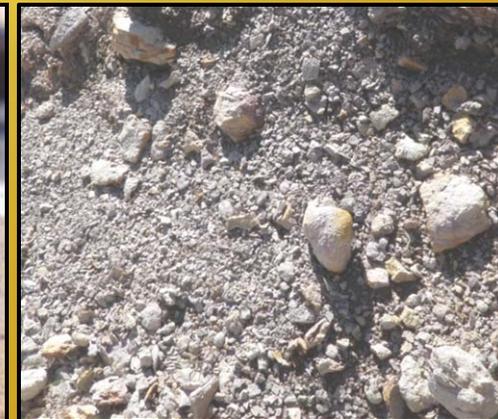
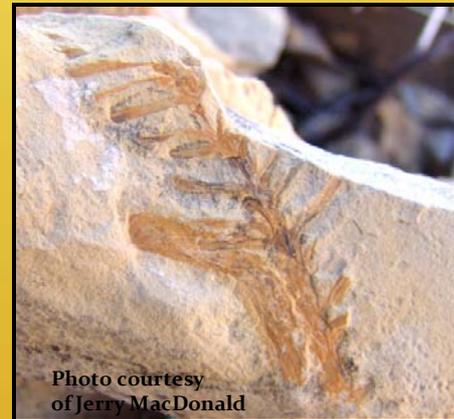
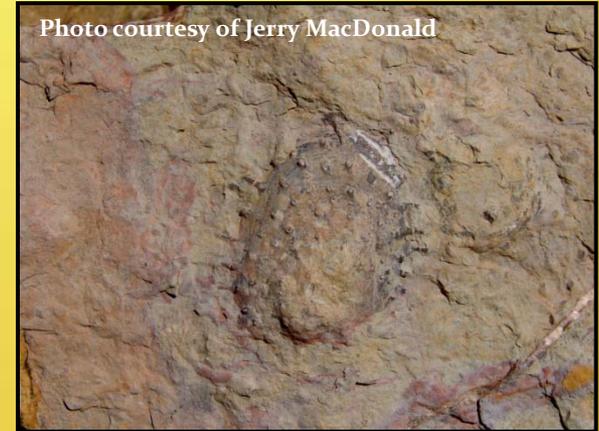
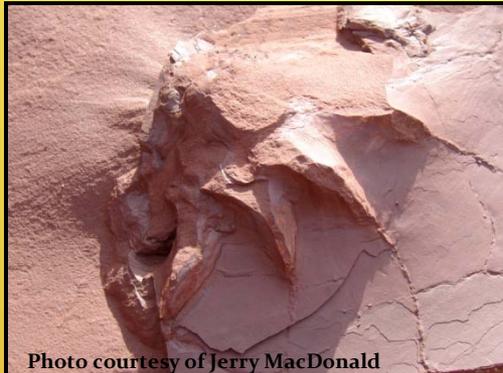


Some of the Robledo plants are the earliest known occurrences of particular genera or species - for example, a field team of scientists from the New Mexico Museum of Natural History and Science, the Smithsonian Institution, and the University of London recently discovered the oldest known specimens of the conifer *Ullmannia* in deposits that also may contain a new form of callipterid peltasperm.

- Dr. Bill DiMichele, Smithsonian Paleobotanist



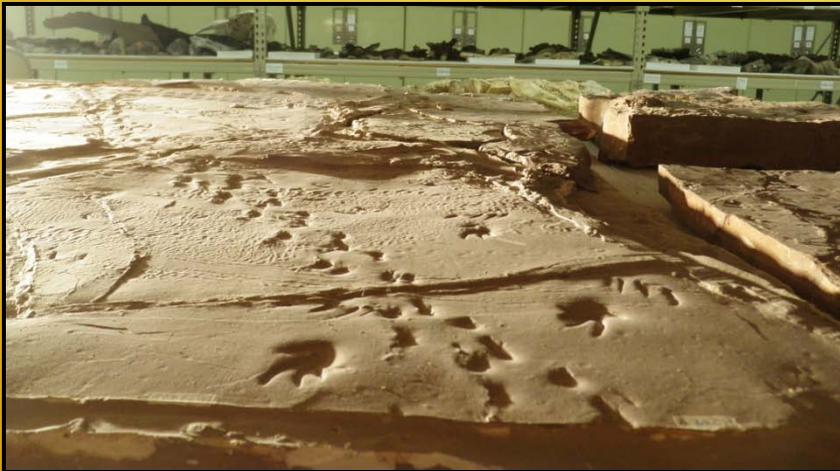
280 million year old ecosystem... and that is why it is considered  
the link to translating life in the Permian Period ...  
the Permian Rosetta Stone.

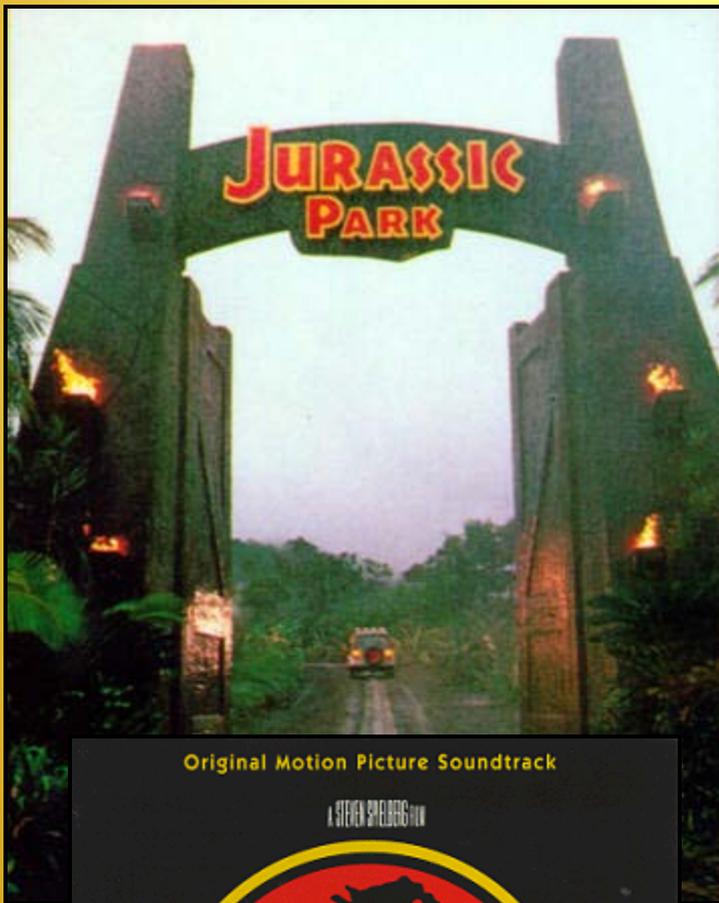


# Interpretation

“...involves translating the technical language of a natural science or related field into terms and ideas that people who are not scientists can readily understand.”

- Sam H. Ham, Environmental Interpretation (1992, 3)





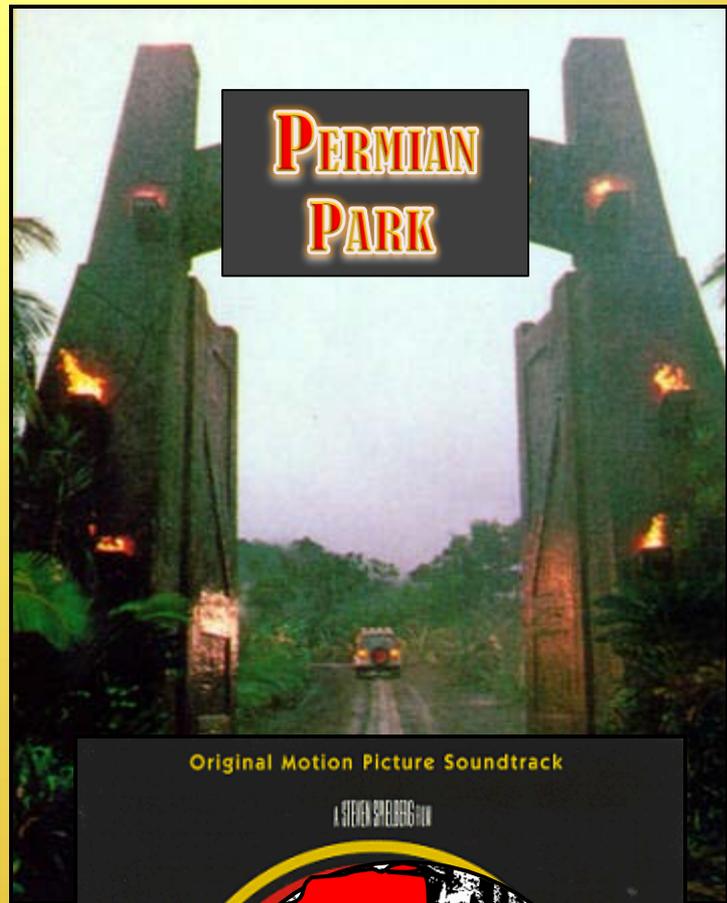
Original Motion Picture Soundtrack

A STEVEN SPIELBERG FILM



**JURASSIC PARK**

Music Composed and Conducted by John Williams



**PERMIAN  
PARK**

Original Motion Picture Soundtrack

A STEVEN SPIELBERG FILM



**PERMIAN PARK**

Music Composed and Conducted by J MacDonald

“The material that paleontologists collect – bones – represent the dead animal. What paleontologists generally find in the rocks is not evidence of how an animal lived but where it died, and we may not even know that for sure. But to see these footprints in these hardened layers, and to be standing on that spot, you know that 270-280 million years ago something else was standing on that spot...and you are right there.”

Dr. Nicholas Hotton III, Researcher Curator Emeritus  
Smithsonian Museum of Natural History

**And now we are right here.**

# Further Information

## Contact:

Bureau of Land Management

Las Cruces District Office

1800 Marquess Street

Las Cruces, NM

575-525-4300

[www.blm.gov/nm/trackways](http://www.blm.gov/nm/trackways)