



**CREATION DETECTIVES**

**#1**

# THE FLOODED DESERT

*(BASED ON TRUE EVENTS)*





# CREATION DETECTIVES

## THE FLOODED DESERT

BASED ON RESEARCH BY SCIENTISTS  
LEONARD BRAND AND JOHN WHITMORE



FAITH &  
SCIENCE  
COUNCIL



GEOSCIENCE  
RESEARCH INSTITUTE



NATURALEZA Y CREACION

**ORIGINAL IDEA AND ARGUMENT:**

**NOEMÍ DURÁN**

**MANOLO QUINTANILLA**

**ADAPTED SCRIPT:**

**FALI RUIZ-DÁVILA**

**EDITING:**

**TIMOTHY STANDISH**

**TRANSLATION:**

**LISA DECKER**

**DESIGN AND TECHNICAL REALIZATION:**

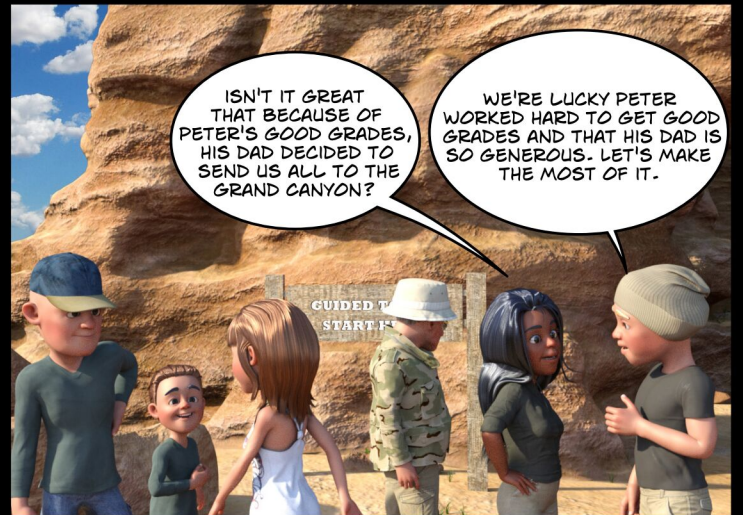
**ALEJANDRO TORQUEMADA**

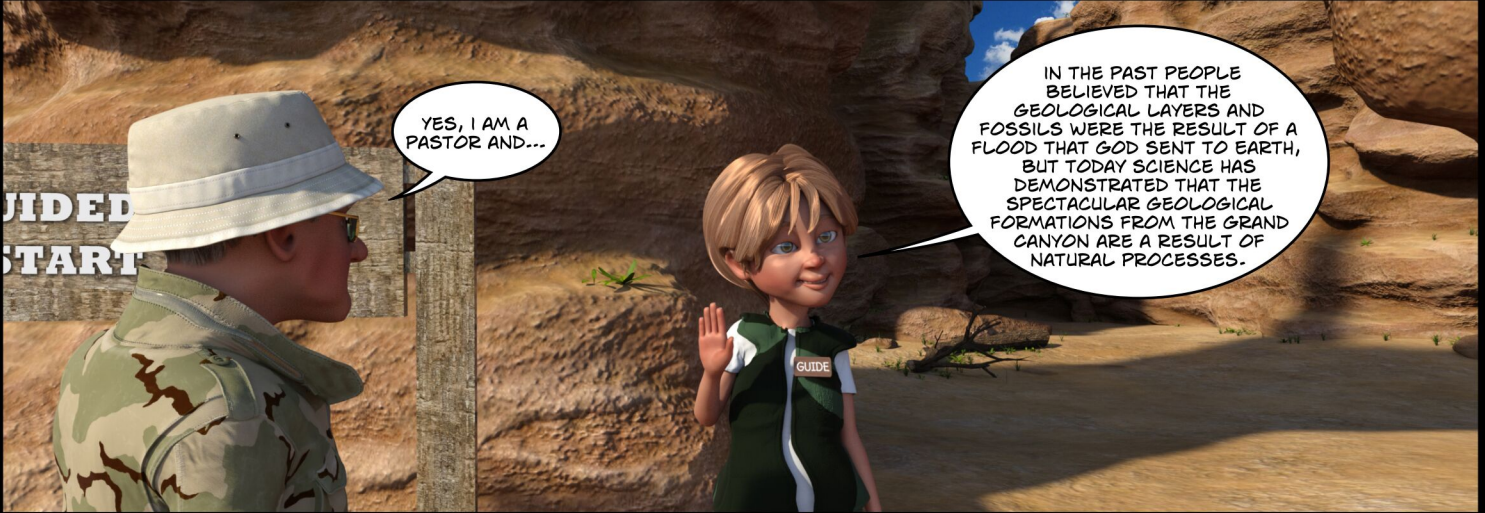
**EVA ARA**

**PEDRO AGUERRI**

**ROBERTO BALLESTERO**







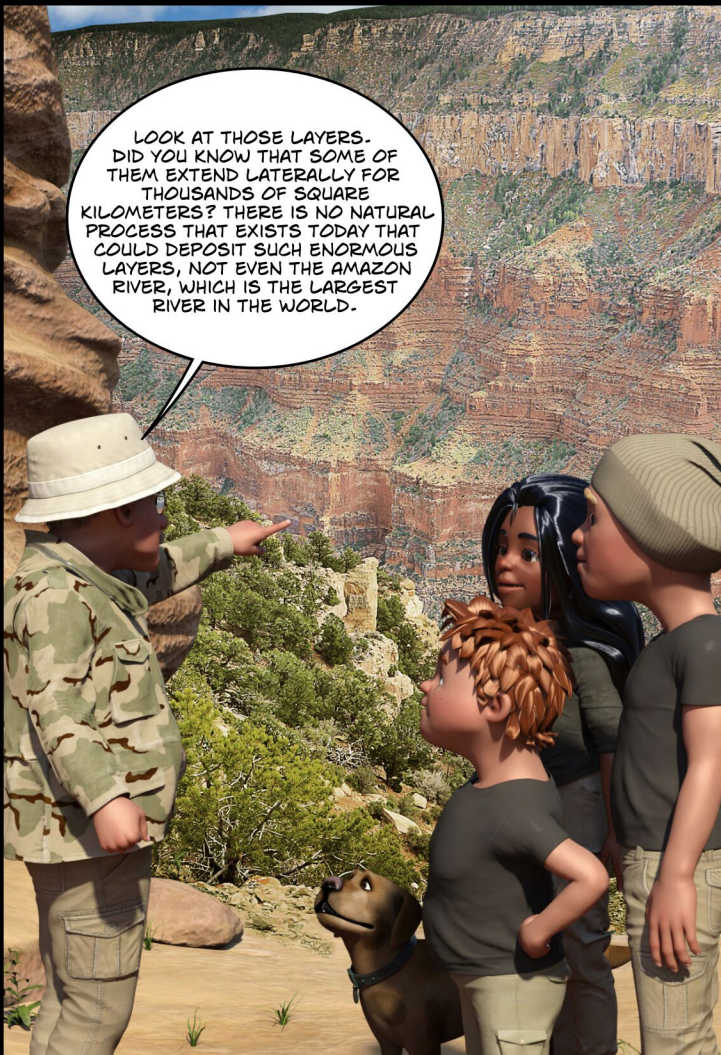


THE FLOOD THAT THE BIBLE DESCRIBES WAS MUCH MORE THAN 40 DAYS OF SIMPLE RAIN.

IT WAS MORE LIKE FOUR OR FIVE DISASTER MOVIES HAPPENING ALL AT ONCE: TROPICAL STORMS, TSUNAMIS, VOLCANOES, EARTHQUAKES, AND PROBABLY EVEN METEORITES FALLING AND HITTING THE EARTH.

THOUSANDS OF TONS OF MATERIAL AND DEBRIS MOVING FROM ONE PLACE TO ANOTHER, GIGANTIC CURRENTS DEPOSITING THE LAYERS AND THEN ERODING THEM, AND THESE PROCESSES CONTINUED FOR A LONG TIME EVEN AFTER THE RAIN HAD STOPPED, COMPLETELY CHANGING THE APPEARANCE OF THE PLANET.





LOOK AT THOSE LAYERS. DID YOU KNOW THAT SOME OF THEM EXTEND Laterally FOR THOUSANDS OF SQUARE KILOMETERS? THERE IS NO NATURAL PROCESS THAT EXISTS TODAY THAT COULD DEPOSIT SUCH ENORMOUS LAYERS, NOT EVEN THE AMAZON RIVER, WHICH IS THE LARGEST RIVER IN THE WORLD.



IN MY CAREER AS AN ARCHAEOLOGIST, I'VE FOUND LOTS OF EVIDENCE PREDICTED BY THE BIBLE'S HISTORICAL RECORD. AFTER RETIRING, I STUDIED GEOLOGY AND PALEONTOLOGY BECAUSE I'M CONVINCED THESE SCIENCES SHOULD ALSO YIELD THEORIES CONSISTENT WITH WHAT THE BIBLE REVEALS.

WOW! HOW DO YOU KNOW SO MUCH ABOUT THIS?



THIS TAN-COLORED LAYER IS THE COCONINO SANDSTONE. IT FORMED FROM WINDBLOWN DESERT SAND THAT WAS SLOWLY BURIED AND COMPACTED BEFORE BEING CEMENTED INTO SOLID ROCK...



...THESE ARE THE REMAINS OF ANCIENT DESERT DUNES THAT ONCE OCCUPIED THIS PLACE.

ARE YOU SURE THAT THIS LAYER WAS A DESERT?



ABSOLUTELY! THE GEOLOGIST EDWIN MCKEE DEMONSTRATED IN HIS 1933 MONOGRAPH ON THE COCONINO SANDSTONE THAT IT IS OF DESERT ORIGIN.



THE KIDS ASK MAX WHY THAT IS A PROBLEM.

IF THE GRAND CANYON'S LAYERS WERE FORMED DURING THE BIBLICAL FLOOD, THE BIBLE TELLS US THE LAND WAS COMPLETELY COVERED BY WATER. HOW COULD THERE HAVE BEEN A DESERT TO FORM THE COCONINO SANDSTONE?



?



THERE ARE DUNES UNDER THE OCEAN ALSO. MAYBE THE SCIENTISTS HAVE MADE A MISTAKE.

SOMEONE SHOULD REEXAMINE THE EVIDENCE. MAYBE IT IS ACTUALLY CONSISTENT WITH THE FLOOD.

WE COULD DO IT!



WHAT A GREAT IDEA JAMES!

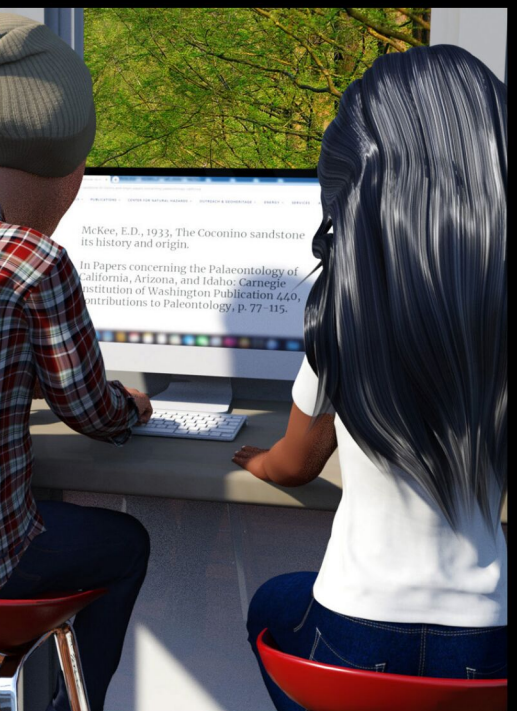
I'M IN!

WHAT DO YOU SAY PASTOR? WE CAN'T DO IT WITHOUT YOU.

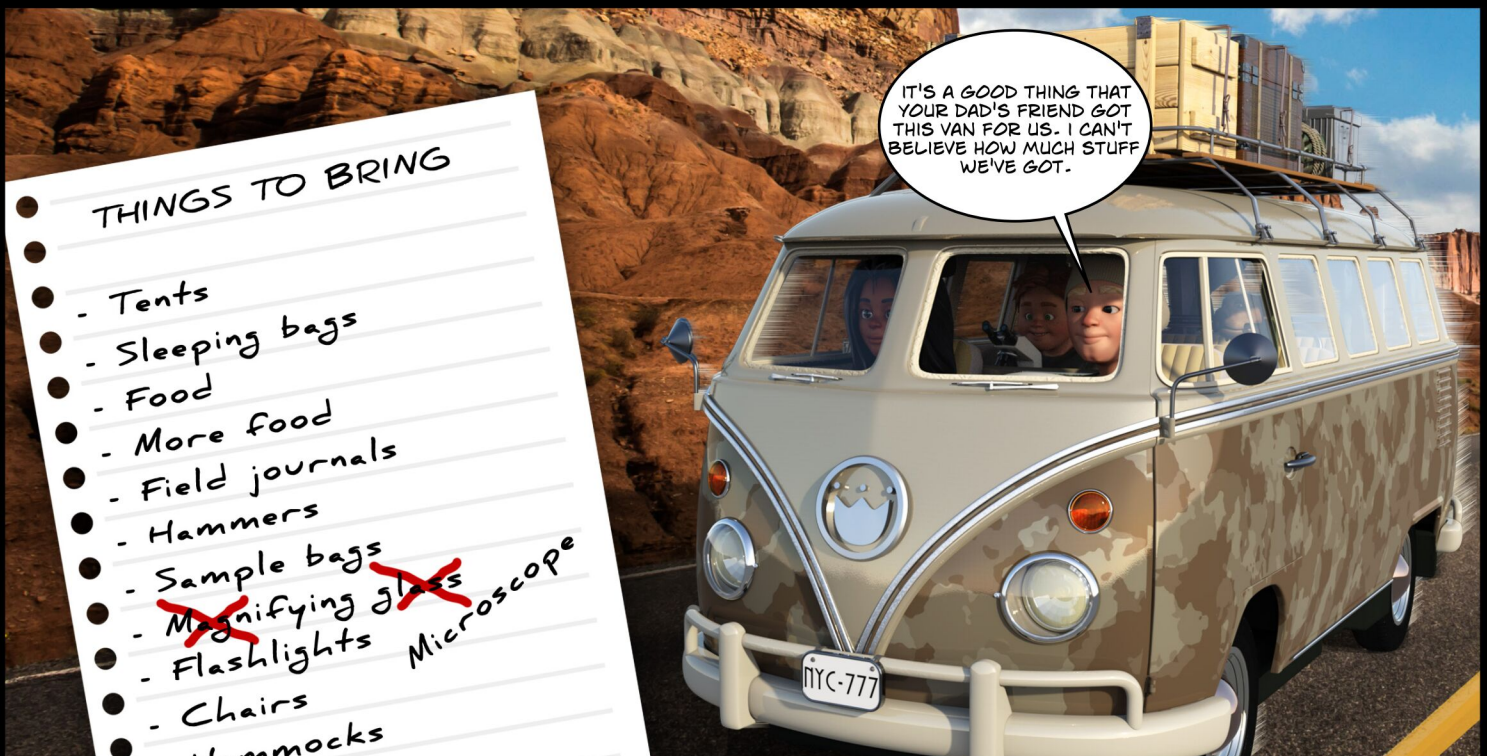
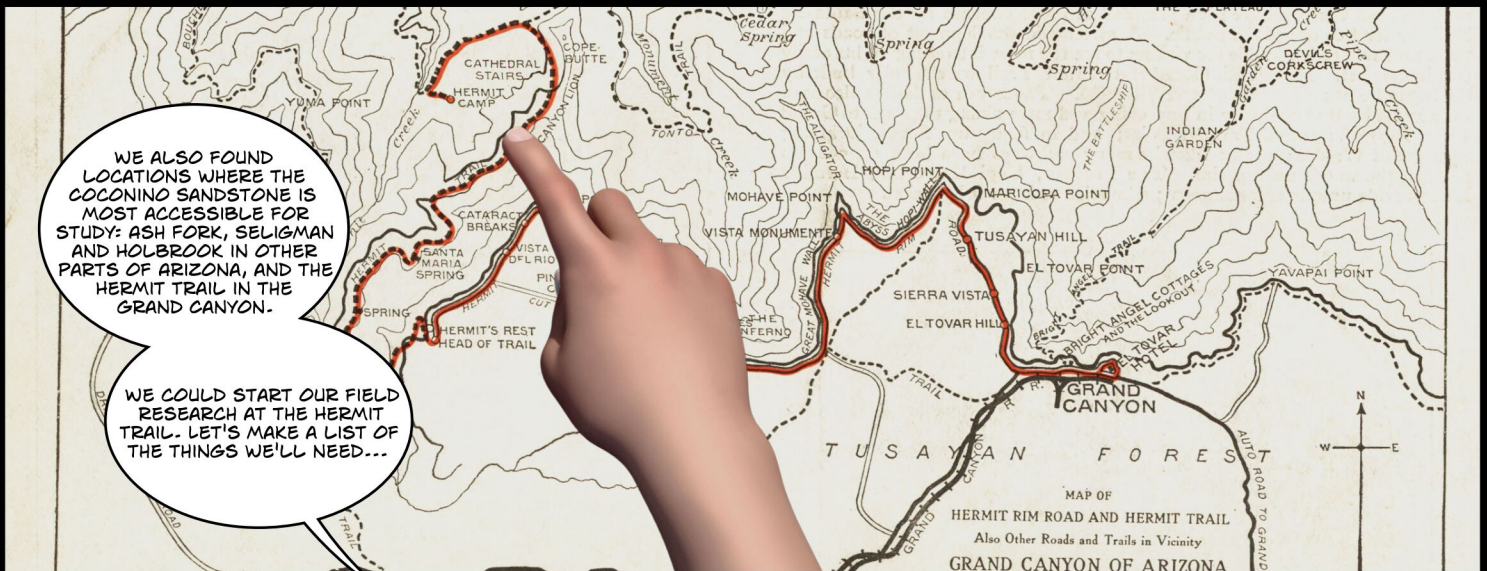
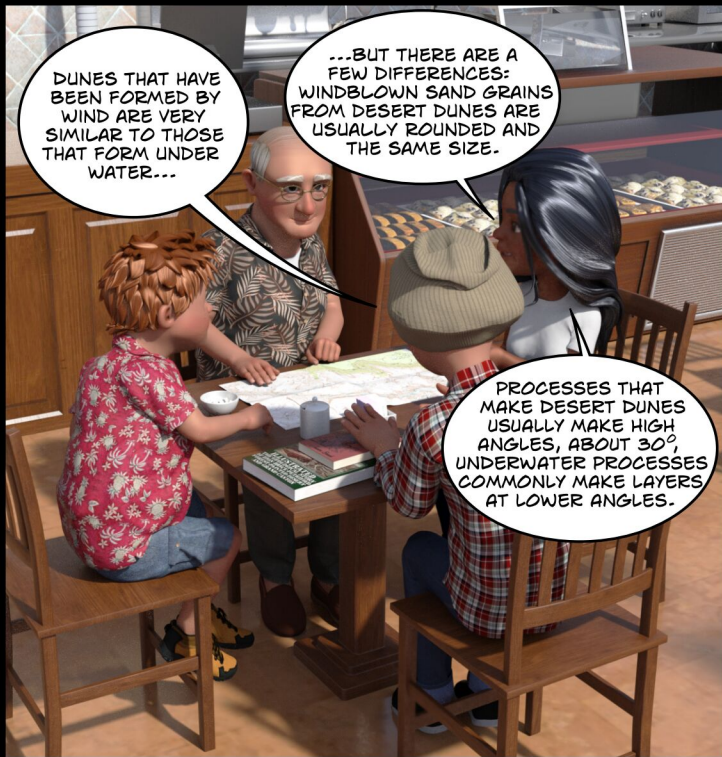
I... YOU CAN COUNT ON ME!

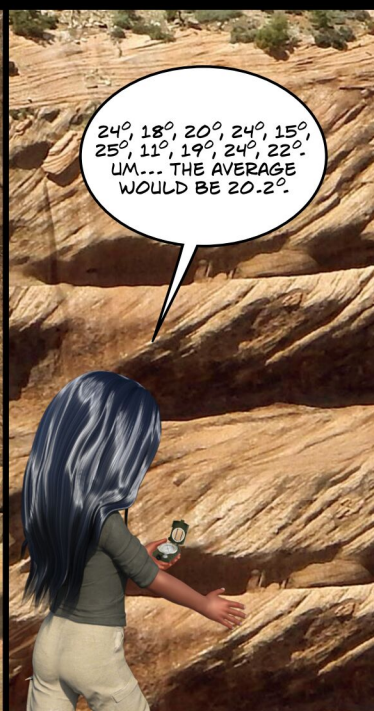


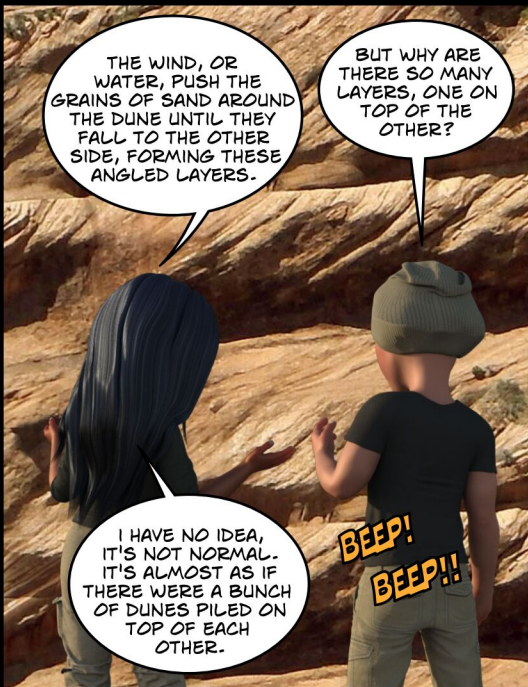
WELL, I'M GONNA HAVE TO FIND A GOOD SOLVENIR FROM HERE...







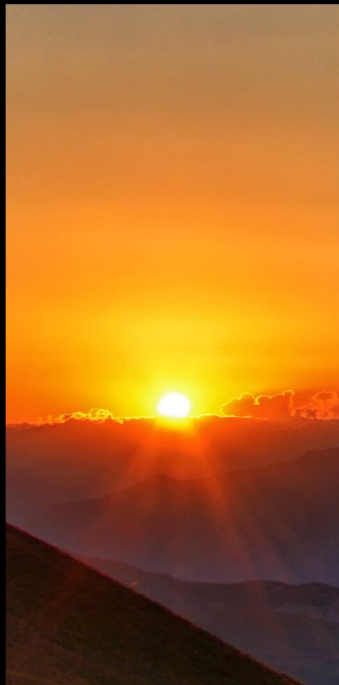






WHAT IS THAT SMELL? YOU DIDN'T BRING YOUR BOOTS IN THE TENT, DID YOU?

UH YEAH. WHAT, DO YOU WANT BUGS TO GET IN THEM OR SOMETHING?



SO, WHAT DO WE HAVE SO FAR?

UNDER THE MICROSCOPE THE GRAINS DON'T LOOK ROUND AND THEY'RE NOT ALL THE SAME SIZE.

AND THE AVERAGE ANGLE OF THE LAYERS IS WELL BELOW 30°.

IT'S SO OBVIOUS: THIS WASN'T A DESERT, IT WAS AN OCEAN.

WOOF! WOOF!

I'M NOT SURE THAT THIS EVIDENCE WILL BE ENOUGH.



POIROT, WHAT IS IT? DID YOU FIND THE ONLY LIZARD OF THE DESERT?

AND FOOTPRINTS!

GRRRR!



BUT THESE FOOTPRINTS... THEY ARE PART OF THE ROCK!



PASTOR MAX, JAMES, DIANA, COME LOOK AT THIS! FOSSIL FOOTPRINTS!

GRRRR!





WELCOME. WHAT DO YOU HAVE TO SHOW ME?

THIS SURE BEATS THE LIBRARY, DOGS ARE WELCOME HERE.



I'M PRETTY SURE THAT THE FOOTPRINTS ARE FROM A SMALL LAND VERTEBRATE, PROBABLY A LIZARD OR AN AMPHIBIAN, BUT IT'S HARD TO KNOW EXACTLY.



AMPHIBIANS? AREN'T THOSE FROGS AND TOADS? THEY DON'T LOOK LIKE FROG FOOTPRINTS TO ME.

THERE ARE OTHER KINDS OF AMPHIBIANS LIKE SALAMANDERS THAT DON'T JUMP, AND THEY HAVE FOUR LEGS SIMILAR TO THOSE OF LIZARDS.

IF SALAMANDERS ARE AMPHIBIANS THEN THEY CAN WALK ON BOTH LAND AND UNDER WATER, RIGHT?

THAT'S RIGHT.

MAYBE WE COULD USE SALAMANDERS TO INVESTIGATE WHETHER THE FOOTPRINTS WERE MADE IN THE DESERT OR UNDER WATER.

THAT'S NOT A BAD IDEA.

YOU CAN USE MY LAB FOR THE EXPERIMENTS.

REMEMBER THOUGH, THAT WHEN YOU USE LIVE ANIMALS IT'S VERY IMPORTANT THAT YOU TREAT THEM WELL AND IN COMPLIANCE WITH ANIMAL WELFARE LAWS.

I'LL HELP YOU.





WE'LL PUT THE SALAMANDERS IN TWO TERRARIUMS.

AND WE'LL TAKE PICTURES OF THE FOOTPRINTS THAT THEY LEAVE IN EACH ONE.

FOOTPRINTS? I CAN DO FOOTPRINTS.



**FOSSIL FOOTPRINTS**

**UNDER WATER**

**DRY SAND**

POIROT!!! WHAT ARE YOU DOING? WATCH OUT!



THE FOSSIL FOOTPRINTS LOOK MUCH MORE LIKE THE FOOTPRINTS LEFT BY THE SALAMANDER UNDER WATER THAN ON DRY SAND.

BUT, WHAT IF IT WAS SIMPLY WET SAND FROM THE RAIN?



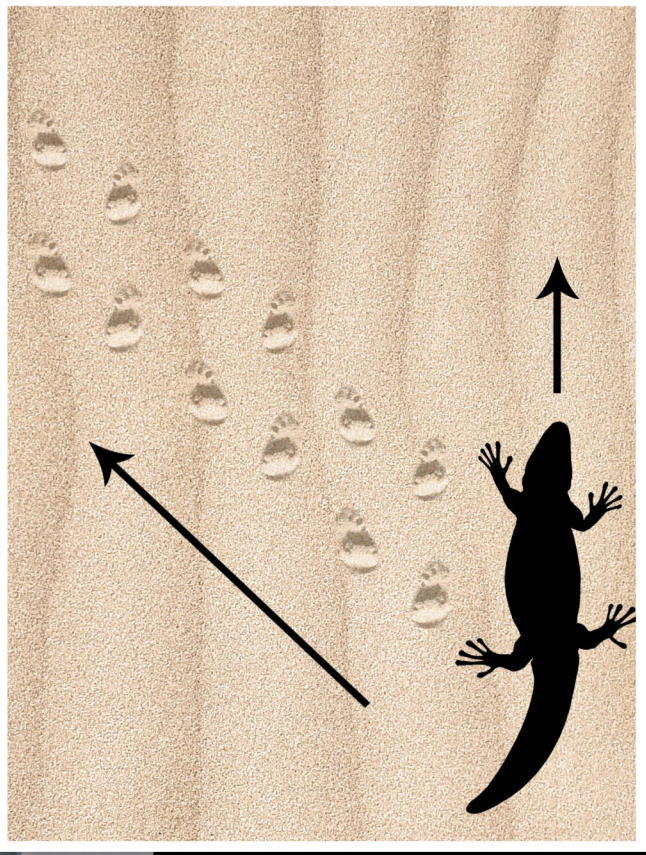


AM I THE ONLY ONE THAT THINKS THAT THERE'S SOMETHING WEIRD ABOUT THE DIRECTION OF THESE FOOTPRINTS?



THE DIRECTION OF THE FOOTPRINTS DOESN'T MATCH THE POSITION OF THE TOES.

IT LOOKS LIKE THE ANIMAL TRIED TO WALK STRAIGHT BUT SOMETHING FORCED IT TO MOVE SIDeways. HOW CAN THAT BE?

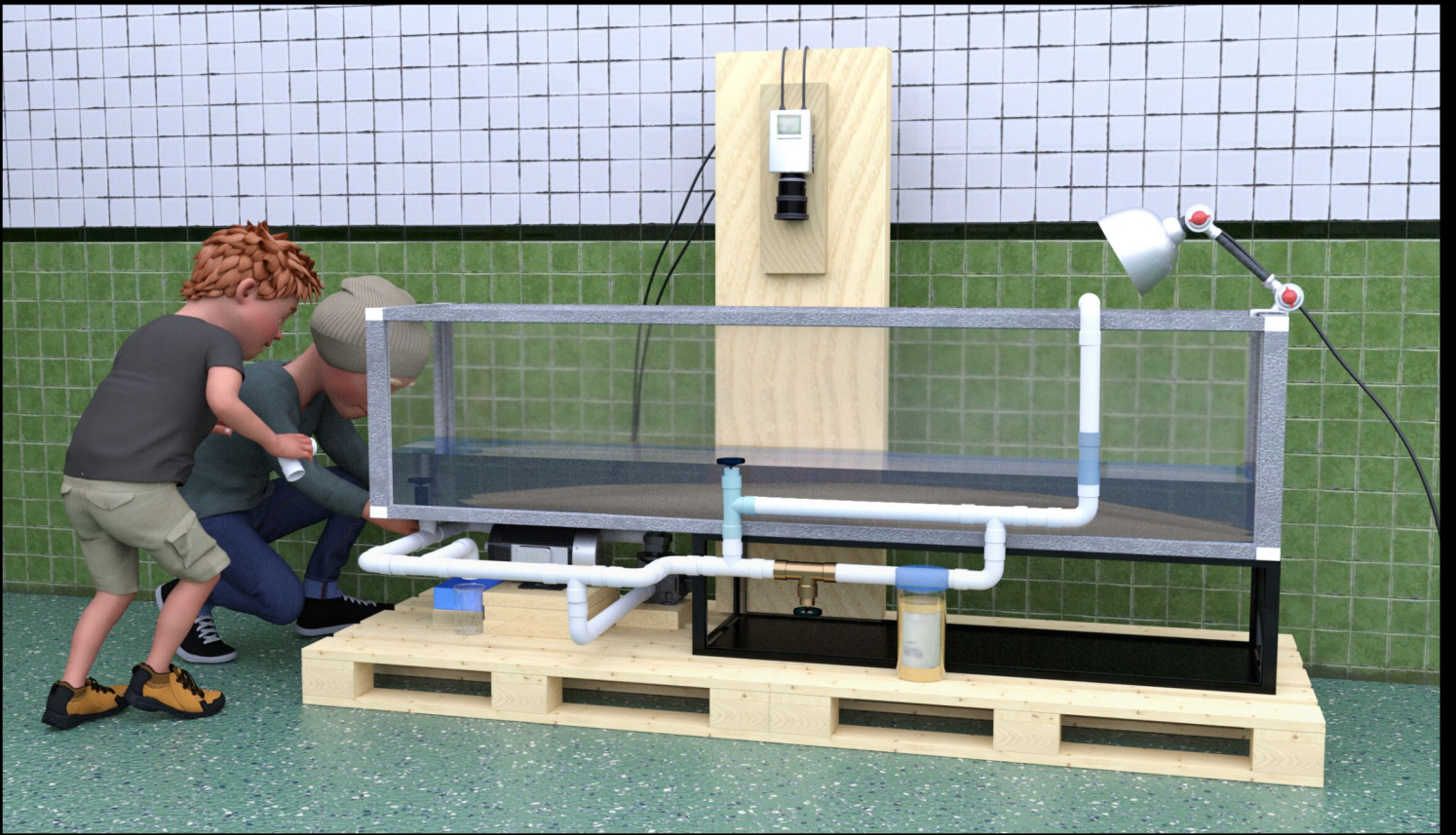
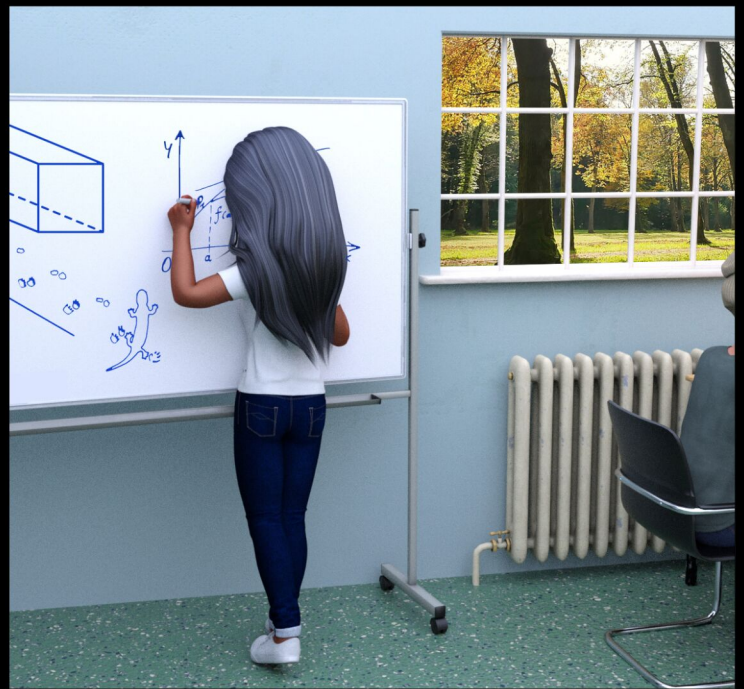


# WATER CURRENTS!!!



THERE WAS PROBABLY SOME KIND OF CURRENT THAT PULLED THE ANIMAL SIDeways.

LET'S INVESTIGATE IT!



POIROT ALSO WANTS TO CHECK WHAT HAPPENS WHEN YOU TRY TO WALK FORWARD, BUT SOMETHING DRAGS YOU SIDWAYS AND ...







**WE'RE HERE!**



CONFERENCE  
Oral Communication:  
THE FLOODED DESE

...AS YOU HAVE SEEN, BOTH OUR IN SITU OBSERVATIONS AND RESULTS OF OUR LAB EXPERIMENTS SUGGEST THAT FOSSIL FOOTPRINTS FOUND IN THE COCONINO SANDSTONE WERE MADE BY A VERTEBRATE ORGANISM WALKING IN MOVING WATER.

THESE CONCLUSIONS CALL INTO QUESTION THE COMMONLY ACCEPTED HYPOTHESIS THAT THE COCONINO SANDSTONE IS A DESERT DEPOSIT. THEY INSTEAD FAVOR REINTERPRETATION OF THE COCONINO SANDSTONE AS ANCIENT UNDERWATER DUNES THAT HAVE BEEN CEMENTED INTO SANDSTONE.



I THINK THIS RESEARCH HAS BEEN MANIPULATED.

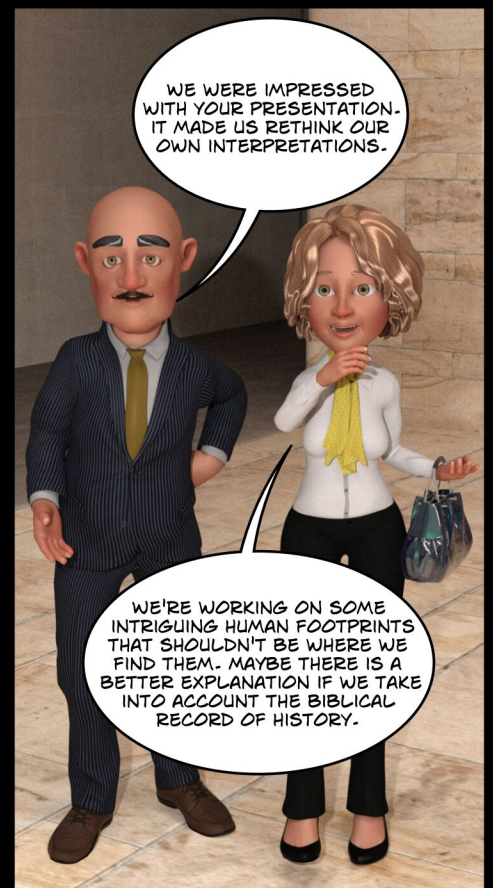
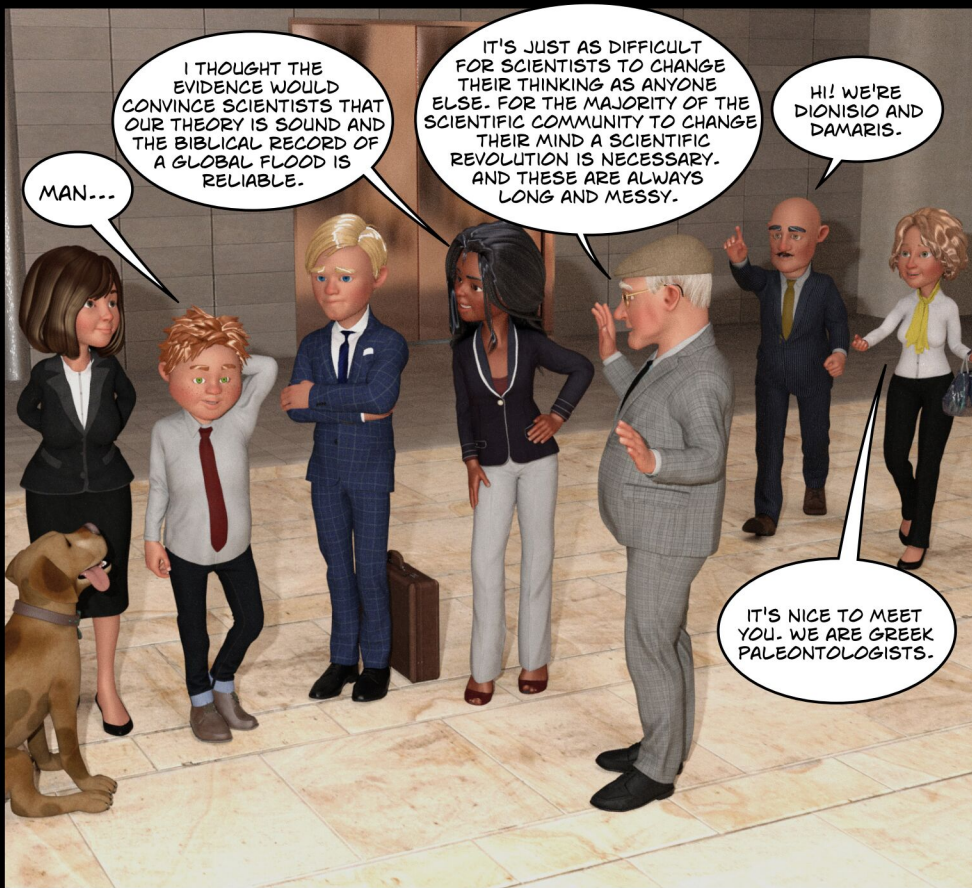
I WOULD LIKE TO KNOW WHAT YOUR **REAL** OBJECTIVE IS WITH THIS INVESTIGATION. IT WOULDN'T HAVE ANYTHING TO DO WITH A FLOOD AND A BOAT FULL OF ANIMALS, WOULD IT?

I DIDN'T COME TO A SCIENTIFIC CONFERENCE TO LISTEN TO THIS RELIGIOUS TRASH.

PFF... HERE WE GO AGAIN WITH THE BIBLICAL FLOOD STORY.

THESE KIDS ARE REALLY INTELLIGENT AND BRAVE. I SHOULD DEFEND THEM, BUT I'M AFRAID THAT I COULD LOSE MY JOB.







Now that you finished reading the story...

**DO YOU DARE TO PUT YOUR MEMORY AND UNDERSTANDING TO**

**THE TEST?**



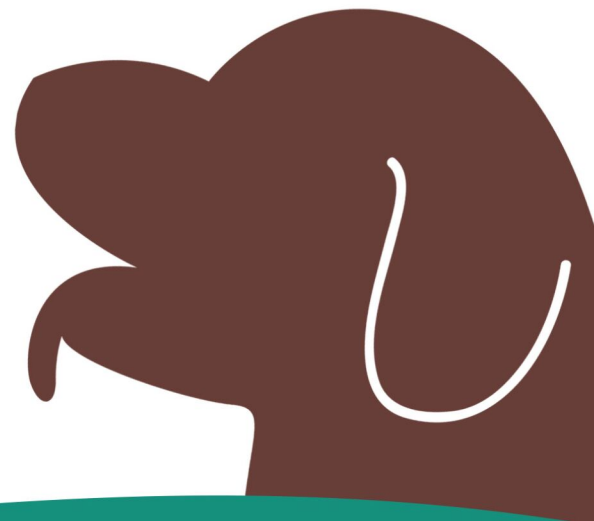
Try answering these questions about the story:

1. What is Max's profession, besides being a pastor?
2. What "disaster movie" events probably happened during the flood?
3. What famous geologist published a monographic on the Coconino Sandstone in 1933?
4. What is the name of the trail where you can observe the Coconino Sandstone at the Grand Canyon?
5. Can you recall 5 things from the Creation Detectives camp list?
6. Which two French expressions can be found in this comic book?
7. What was the average angle of inclination in Coconino Sandstone layers?
8. What kind of animals are frogs, toads and salamanders?
9. What is the title of the oral communication that James, Diana and Peter presented at the conference?
10. What is it called when the scientific community changes its way of thinking?



Can you find these objects in the comic book?:

1. A little girl dressed exactly as her mother
2. A sun in paradise
3. A red bow
4. A water fountain
5. A necklace with a cross
6. A book about Persia
7. A book written by Dr Leonard Brand
8. Colored stars
9. A Greek purse
10. The name of the zoologist



**ANSWERS:**

B1-Page 5; B2-Page 8; B3-Page 22; B4-Page 17; B5-Pages 22 y 23; B6-Page 20; B7-Page 8; B8-Page 18; B9-Page 24; B10-Page 14.  
and "Quelle folle"; A7-20.20; A8-Amphibians; A9-The Flooded Desert; A10-Scientific Revolution.  
A1-Archaeologist; A2-Storms, tsunamis, volcanoes, earthquakes and meteorites; A3-Edwin Mckee; A4-Hermit; A5-Tents, sleeping  
bags, food, hammers, notebooks, sample bags, magnifying glasses, microscope, flash lights, chairs, hammocks; A6-"Mon ami!"

# **THE TRUE HEROES:**

## **LEONARD BRAND AND JOHN WHITMORE**

The characters in this comic book are fictional, but real scientific research has been done on the Coconino Sandstone. The data discussed, along with much more, were discovered in this research. Several scientists participated in the investigation, but the main players were professors Leonard Brand and John Whitmore. Would you like to know them a little more?



### **LEONARD BRAND**

Dr Leonard Brand is a professor in the Earth and Biological Sciences Department at Loma Linda University, California. Dr Brand has been studying the Coconino Sandstone since 1975. Yes, he is an expert on the subject! He designed the salamander experiments showing that the Coconino sandstone fossil trackways formed underwater.



### **JOHN WHITMORE**

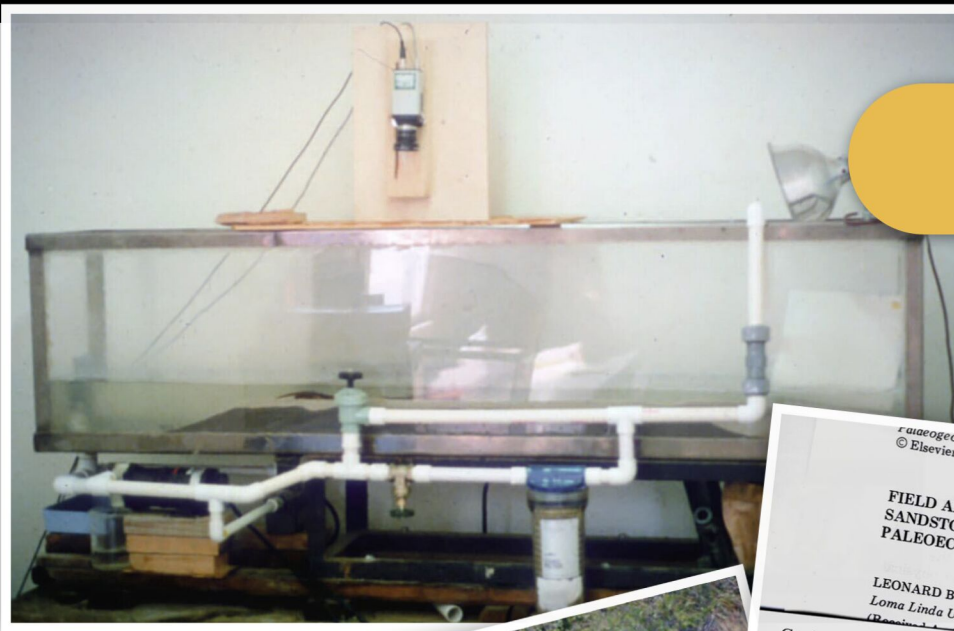
Dr John Whitmore is a Geology professor at Cedarville University, Ohio. He has studied the Coconino Sandstone for 20 years, starting as a graduate student at Loma Linda University. He discovered that the angle of the layers is too small for desert dunes, the sand grains are not as rounded as described in the literature, and that the sandstone contains minerals typical of a marine environment.

Doctors Brand and Whitmore, along with some of their students and other collaborators, have published several articles on the Coconino Sandstone in renowned scientific journals\*. And the research on this important geological formation is not over yet! Dr. Sarah Maithel (photo), a former student of both professors, is currently studying some of the mysteries that are still hidden in the Coconino Sandstone.

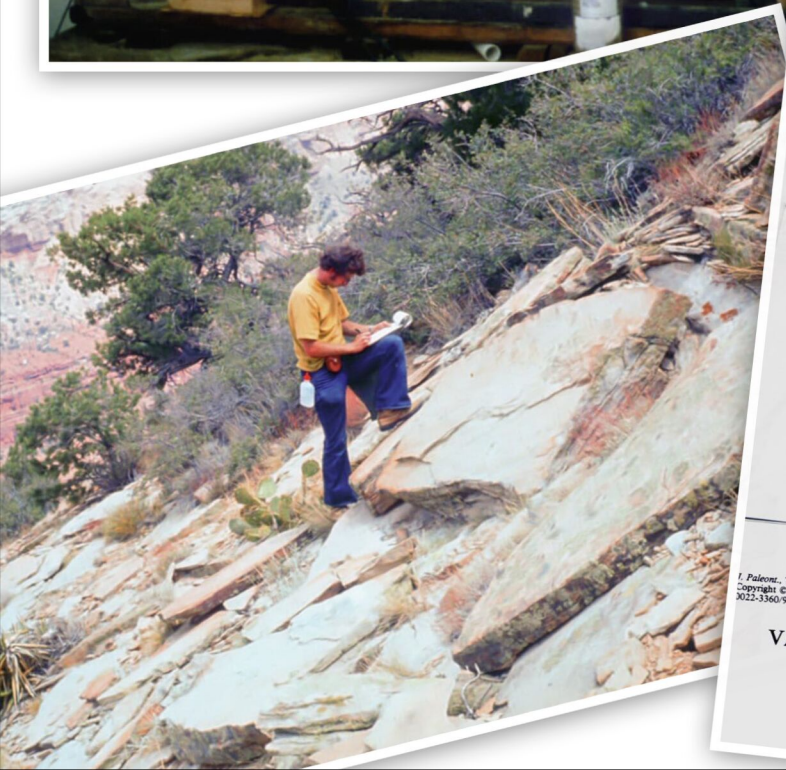


Find more information on the Coconino Sandstone, other exciting research projects and valuable help to deal with the apparent conflicts between science and the Bible at [grisda.org](http://grisda.org) (English), [grisda.org/espanol](http://grisda.org/espanol) (Spanish), [nyc.org.es](http://nyc.org.es) (Spanish) and [nyc.org.es/en](http://nyc.org.es/en) (English).

\* Brand, L.R.; Tang, T. (1991). "Fossil vertebrate footprints in the Coconino Sandstone (Permian) of northern Arizona: Evidence for underwater origin". *Geology*. 19 (12): 1201–1204; Whitmore, J. H., & Strom, R. (2010). "Sand injectites at the base of the Coconino Sandstone, Grand Canyon, Arizona (USA)". *Sedimentary Geology*, 230(1-2), 46–59 and several others.



**IMAGES FROM THE RESEARCH  
CARRIED OUT BY DR LEONARD BRAND**



Journal of Paleogeography, *Palaeoclimatology, Palaeoecology*, 28(1979): 25–38  
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**FIELD AND LABORATORY STUDIES ON THE COCONINO SANDSTONE (PERMIAN) VERTEBRATE FOOTPRINTS AND THEIR PALEOECOLOGICAL IMPLICATIONS**

LEONARD BRAND  
Loma Linda University, Loma Linda, Calif. 92354 (U.S.A.)

*Geology* v. 19 (1991): 1201-1204

**Fossil vertebrate footprints in the Coconino Sandstone (Permian) of northern Arizona: Evidence for underwater origin**

Leonard R. Brand, Thu Tang  
Department of Natural Sciences, Loma Linda University, Loma Linda, California 92350

*Ichnos*, v. 4, pp. 225–230, 1996  
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**Underprints of vertebrate and invertebrate trackways in the Permian Coconino Sandstone in Arizona**

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Leonard R. Brand<sup>1</sup> and Loma Linda University

**VARIATIONS IN SALAMANDER TRACKWAYS RESULTING FROM SUBSTRATE DIFFERENCES**

LEONARD R. BRAND  
Department of Natural Sciences, Loma Linda University,  
Loma Linda, California 92350

**COMING SOON...**

**A NEW ADVENTURE  
WITH OUR FRIENDS  
THE CREATION  
DETECTIVES!**



NO POIROT!  
THAT'S NOT A FIRE  
HYDRANT...



**FAITH &  
SCIENCE**  
COUNCIL

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