

CRINOIDS

Crinoids (cry-noids) are also called *sea lilies*. They may look like plants, but crinoids are actually animals. They have been around for about 450 million years. Though the ocean floor was once covered with “forests” of crinoids, most have become extinct. Modern-day crinoids now live only in very deep water. Crinoids use their feather-like arms to catch drifting food particles which are then moved down to the mouth.

These bits of fossilized crinoid stems are 300 million years old.



Susan Keil



Steven Henley



Living crinoid

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BRACHIOPODS



Susan Keil

Two types of Brachiopod fossils

Notice the different line patterns

Living brachiopods



ryanphotographic.com



Susan Keil



Brachiopods attach to the ocean floor with a “stem.”

300 million years ago there used to be many more brachiopods (bra-kee-o-pods) in the ocean. They are similar to clams, but their “stem” makes them different. A brachiopod’s stem comes out of a hole at the back of its top shell, making the top and bottom asymmetrical. Because clams have no stem, both shells are symmetrical. Brachiopods feed by pulling in water and filtering out tiny particles of food.

BRYOZOA



300 million year old
bryozoan fossils

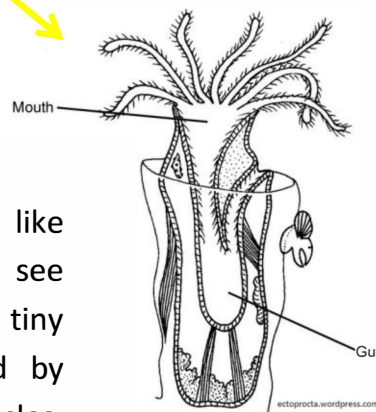
Susan Keil



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In each one of the
little openings lives
one of these, below.

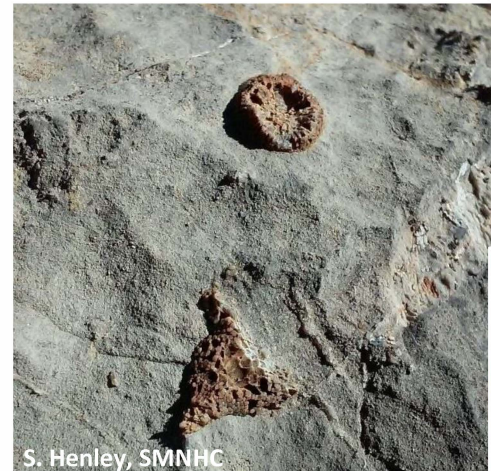


A living bryozoan

At first glance many bryozoans look like plants. But when magnified you can see they are actually a colony of many tiny animals called polypides. They feed by catching little bits of food with tentacles. Though these fossils are 300 million years old, bryozoans are alive and well in Earth's oceans today.

CORALS

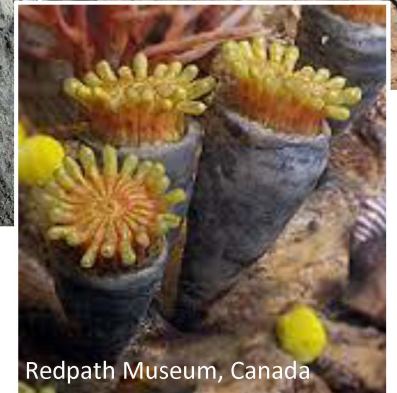
Fossils of horn coral



S. Henley, SMNHC



Susan Keil



Redpath Museum, Canada

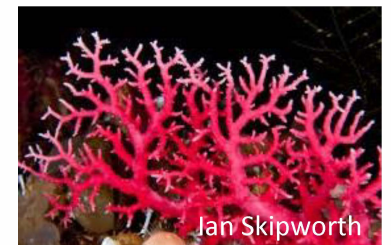
Illustration of what
horn coral looked like

Though there are thousands of coral species living today, *horn coral* is now extinct. There are two parts to coral: a hard "skeleton" and the soft body inside called a polyp. Tentacles are used to capture food as it drifts by. Today, corals normally live in colonies with many polyps in one skeleton, but horn coral polyps were large and lived alone. Most horn coral fossils found in the Sandias will measure less than an inch and are 300 million years old.



Nick Hobgood

Two modern-day
corals



Jan Skipworth

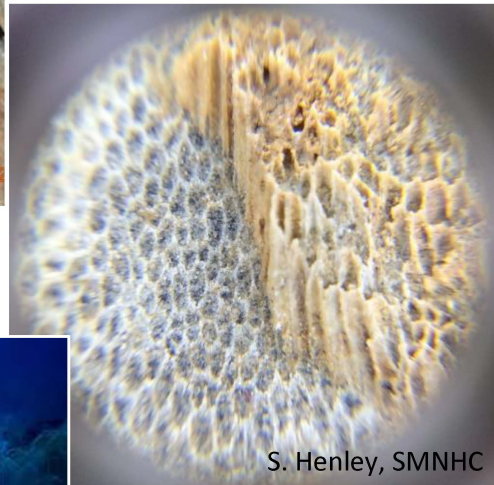
Steven Henley, SMNHC



SPONGES



Fossil of an extinct sponge called chaetetes (kee-tee-teez). It lived in a shallow sea about 300 million years ago.



The fossil magnified



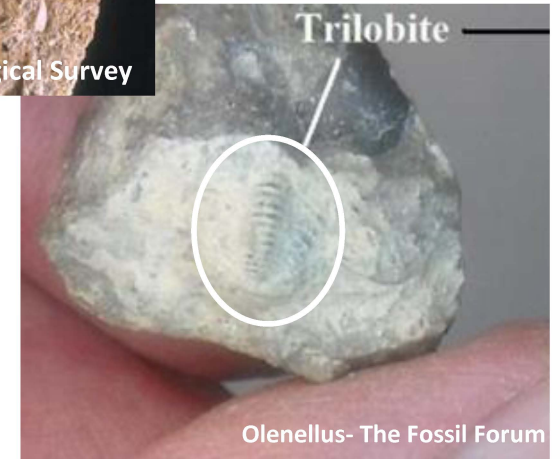
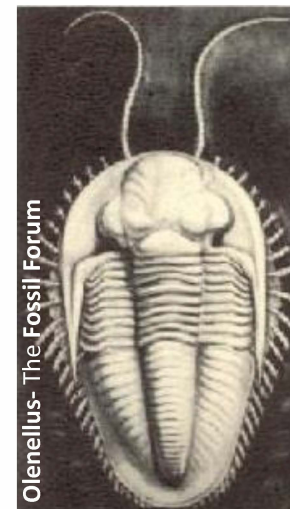
A colony of sponges living today

Sponges were one of the first animals to evolve on Earth. They have very simple bodies. Water goes in through tiny openings around the side and exits through the big opening at the top. As the water moves through it, food is collected by cells and then digested. There are many types of sponges living today, but *chaetetes* (fossils above) is extinct. It had a hard shell-like "skeleton", while most sponges today do not.

TRILOBITES

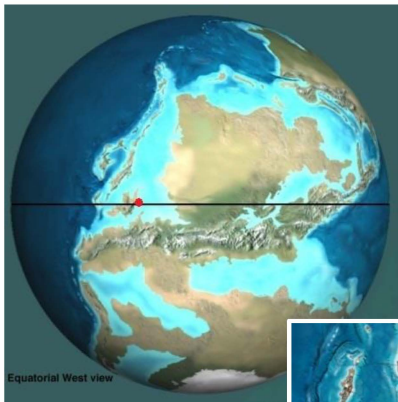


These trilobite fossils are about 300 million years old.



An illustration of this trilobite species

There once were thousands of trilobite species, but all were extinct by about 250 million years ago. Some trilobites crawled along the ocean floor as predators and some as scavengers, while others swam freely eating plankton. Trilobite fossils are rare in the Sandia Mountains and may be no more than one inch long. The biggest trilobite fossil was found in Canada, measuring 2½ feet. The oldest trilobite fossils date back about 520 million years.

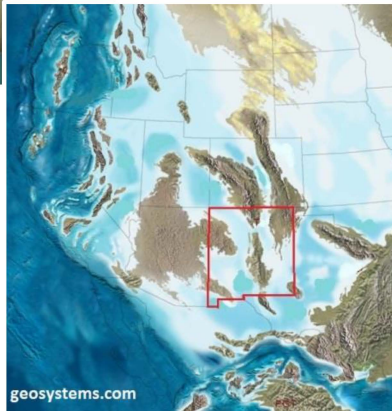


The Earth as it looked 300 million years ago



Compare where the continents were to where they are now.

The red shows where New Mexico would have been.



These two pictures show what the sea and land could have looked like.



superyachts.com



Walter Myers

How do we know what the plants looked like? Fossils!

- * Why are all of the fossils in this location about 300 million years old?
- * From the fossil evidence, what sort of ecosystem was here 300 million years ago?
- * What are some similarities between these organisms?
- * Look at the pictures on the left and observe the mountains around you. What has changed over the past 300 million years? How have these changes affected life here?
- * Why are there similar organisms still living today?

Interesting Facts

All these fossils are from a period of time we call the *Carboniferous*, meaning coal-bearing.

Decomposers at that time could not break down the *lignin* in dead trees, leaving them to pile up, get buried and eventually become coal.

The oldest dinosaur fossils found date back 240 million years. That means our fossils here are 60 million years older.

At that time, about 35% of Earth's atmosphere was oxygen. Today it's only 21%.

