



The Ordovician Earth



North America

Forming Nashville's Rocks: The Ordovician Period ~450 million years ago (MYA)



- The size, shape and orientation of **Earth's continents** was much different from today
- Nashville and much of North America was close to the equator and covered by a **warm shallow sea** – similar to today's Bahamas
- Nashville's rocks are **limestone**, formed by the accumulations of shells and hard skeletons of marine animals in shallow oceans



The Bahamas Today: A glimpse of Nashville's past



Fort Negley
Visitors Center

1100 Fort Negley Blvd. ~ Nashville, TN 37203
615-862-8470

VANDERBILT UNIVERSITY

Want to plan a visit?

Visitor Center Hours:

Tuesday- Friday: 12:00- 4:00 PM

Saturday 9:00am – 4:00pm

*Fort is open daily from dawn – dusk for self-guided walking tours

Visit the Fort Negley website:

<http://www.nashville.gov/Parks-and-Recreation/Historic-Sites/Fort-Negley-Visitors-Center.aspx>



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Fossils at the Fort



Historic Fort Negley Nashville, TN



*Using clues from the
Earth to discover
Nashville's ancient past.*

What is a fossil?

A fossil is any evidence of past life. Around Nashville shells of marine animals are most abundant. They are made of calcite (a form of calcium carbonate) secreted by the animals and preserved without change for the past 450 million years

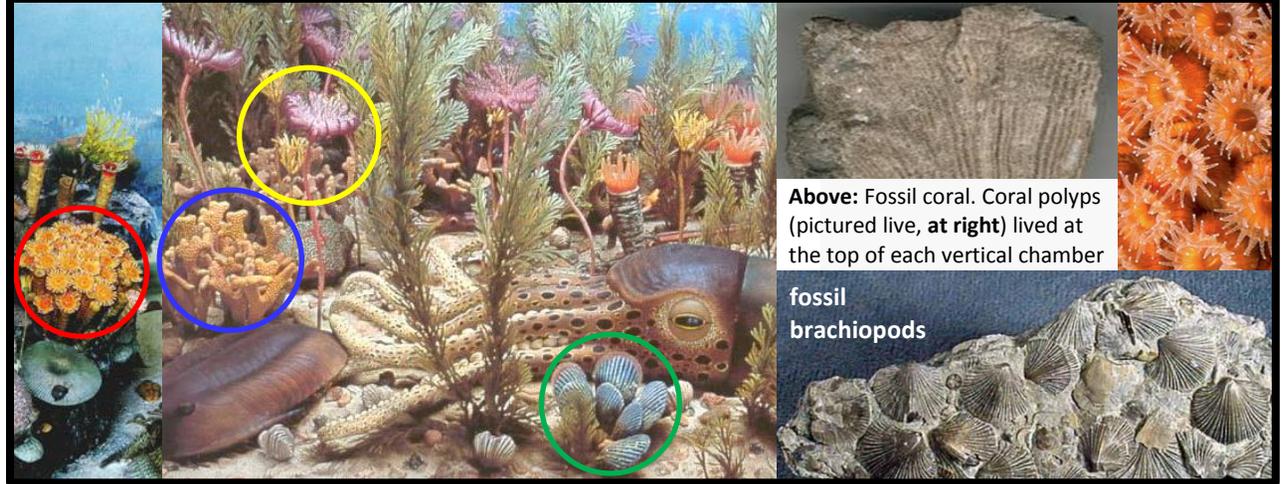
What can we learn from fossils?

The type and condition of fossils reflect the environment in which they lived. Because all fossils are of ocean-dwelling animals, we know that Nashville was covered by an ocean 450 MYA.

Nashville's limestone is composed almost entirely of broken remains of animals and algae. This shows us that land was far away, because no rivers carrying sand and mud emptied nearby.

Most small fossils are broken, probably by waves and tidal currents, suggesting that the ocean was very shallow. The large coral heads at Fort Negley are in their growth position, so either the water was deeper, or waves were not big enough to overturn them.

What fossils can you find at Fort Negley?



Bryozoans:

- Form colonies of tiny zooids
- World's smallest complex animals
- Very abundant in the Ordovician, and still around today
- Ancient colonies are typically preserved as calcite fragments



Corals:

- Solitary (single polyps) or colonial (many polyps living together).
- Today coral colonies form large reefs in shallow tropical seas, and they also did in the past
- Ordovician corals did not form reefs as large as today.
- Ft. Negley has heads of coral, preserved exactly how they were growing on the seafloor 450 MYA!

Stromatoporoids (not pictured):

- Extinct type of filter feeding sponge made of calcite layers



Crinoids:

- Looks like an upside down sea star attached by its back to a long stalk!
- Still living today; acquire food through filter feeding
- Upon death, their feather-like calcite appendages fell apart, but fragments of stalks are abundant in Middle TN rocks.



Brachiopods:

- Animals with two shells, superficially resembling clams
- Efficiently filtered food using an internal ring of tentacles
- Could not move, often attached to sea floor
- Not common today, but dominant 450 MYA