



Fossils

The Virtual Fossil Museum
www.fossilmuseum.net



South Carolina
Aquarium

Fossils

- The remains of living things from the past, including all traces of their activities
- These traces have survived to the present day due to fossilization
- Types of fossils
 - > **Petrified**
 - > **Molds and Casts**
 - > **Carbon Films**
 - > **Preserved Remains**
 - > **Trace Fossils**

Petrified Fossils

- Organism is replaced by a mineral substance and becomes hard, like stone
- 3 dimensional
- Also called permineralized fossils



Fossil Molds and Casts

- Molds form when organisms are buried under sediment, they dissolve over time and leave behind only the shape and markings of the outside of the organism
- Casts are molds that have been filled with minerals over time
- Both are 3 dimensional



Carbon Films



- Occur when all that is left of an organism is a carbon “imprint” of the organism
- This fossilization is called carbonization
- 2 dimensional

Preserved Remains

- When organism (or a part of an organism) is preserved completely
- Occurs in frozen environments, in amber or in tar

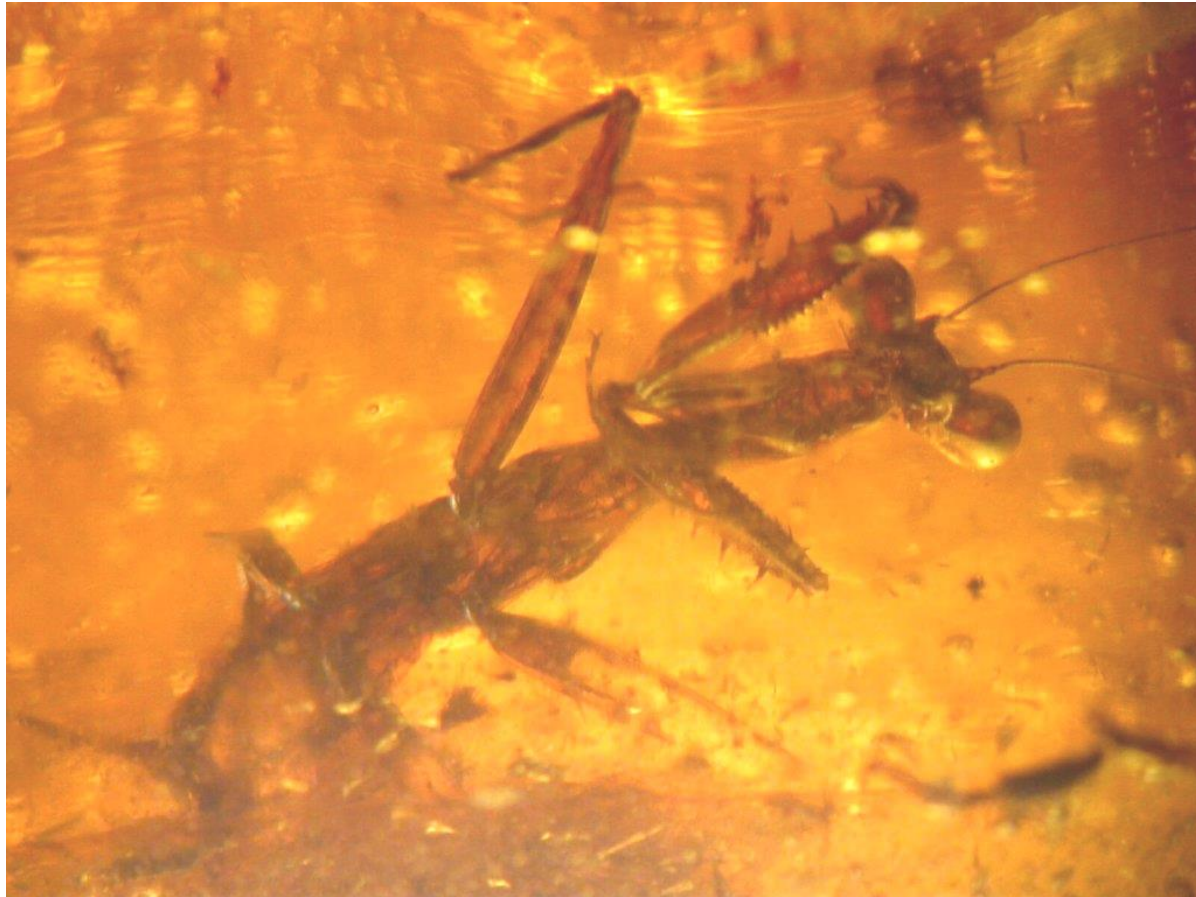


Trace Fossils

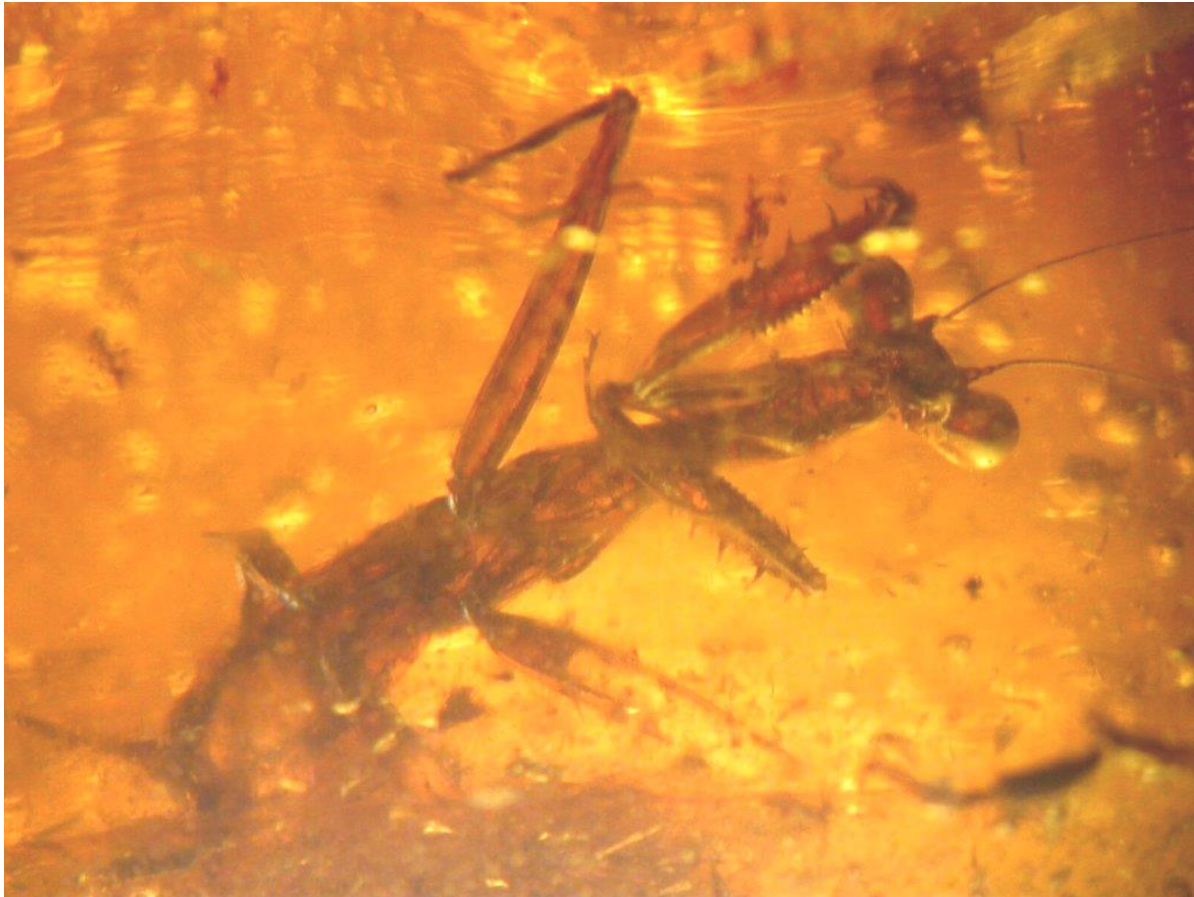
- A group that includes the evidence of an organisms life that is preserved
- Examples are preserved footprints, burrows, holes, scat (animal feces) and stomach contents



What type of fossil is this?



Preserved Remains



What type of fossil is this?



Petrified Fossil



What type of fossil are these?



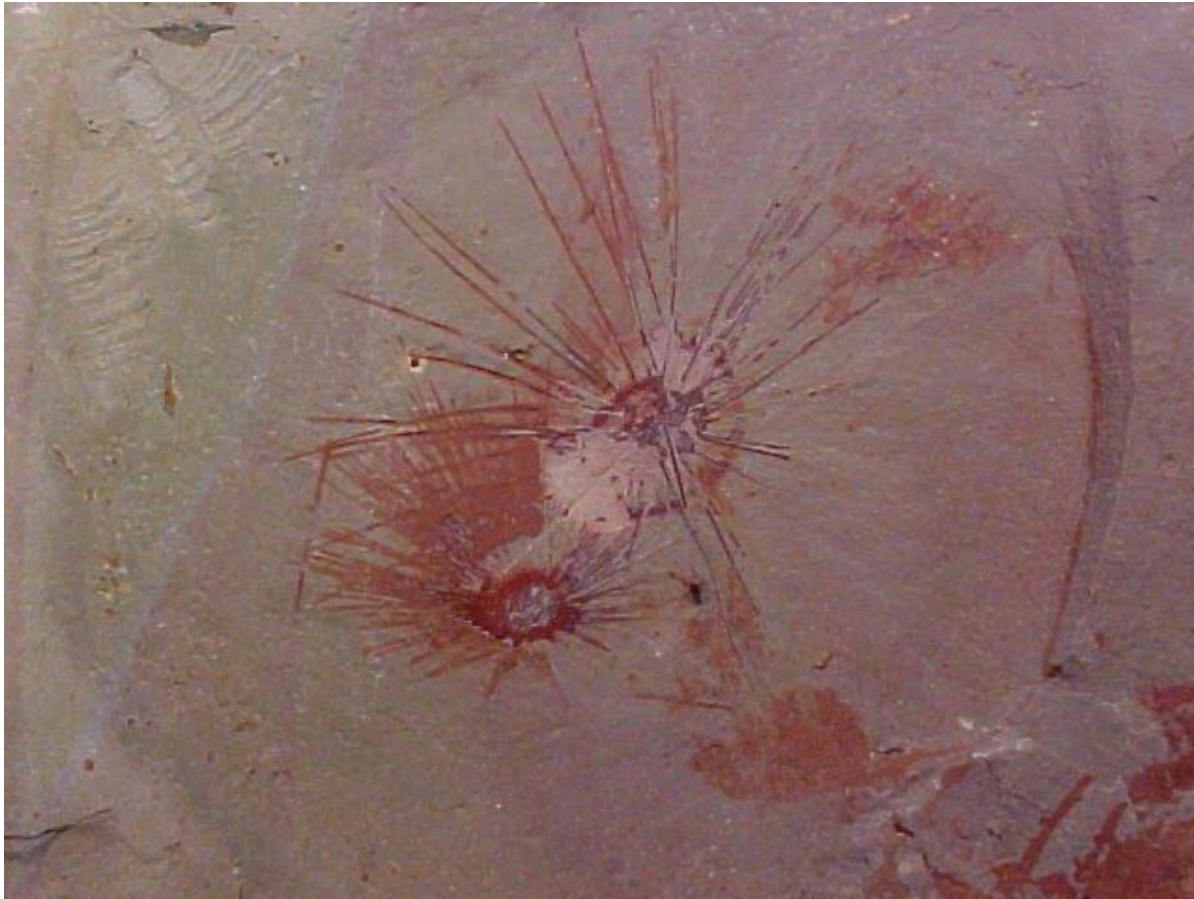
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Molds

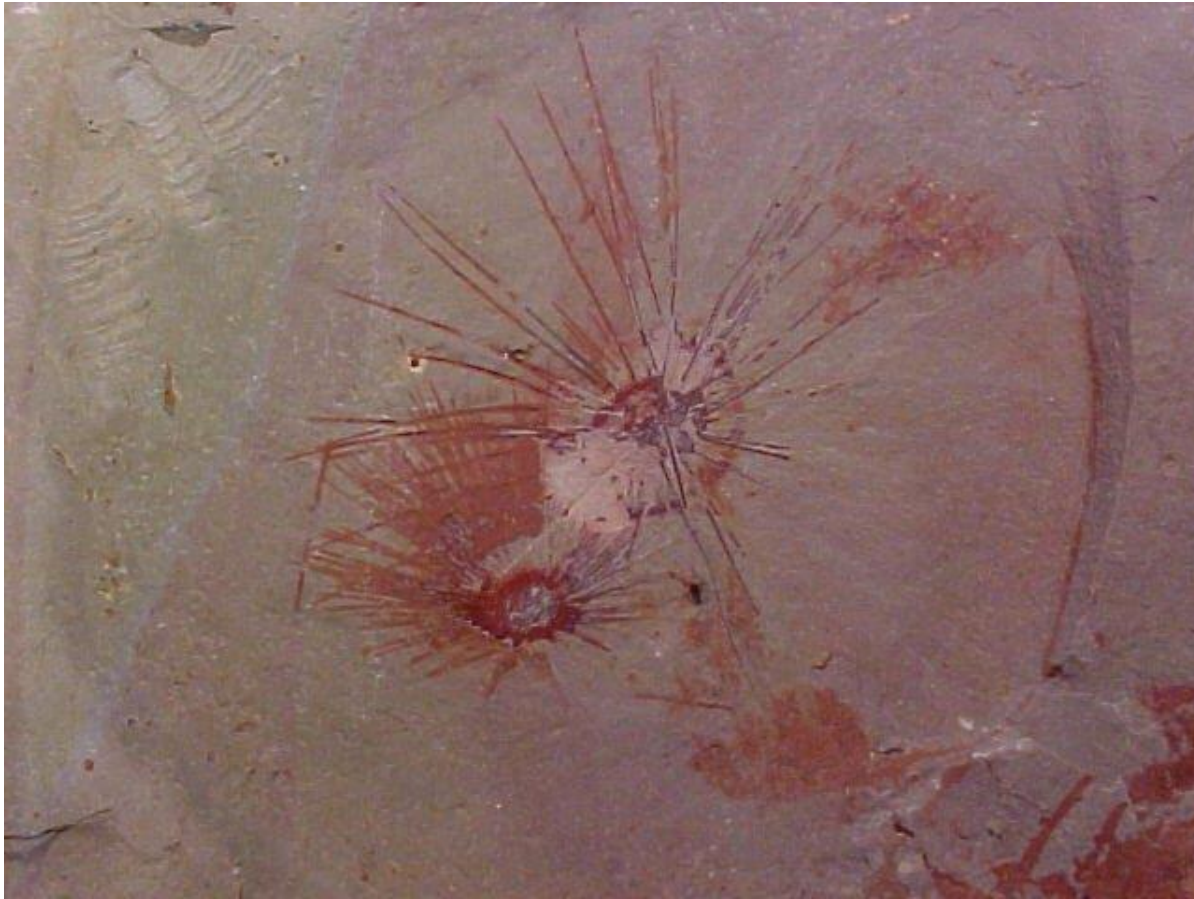


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What type of fossil is this?



Carbon Film



What type of fossil is this?



Trace Fossil (burrows)



What type of fossils are these?



Casts

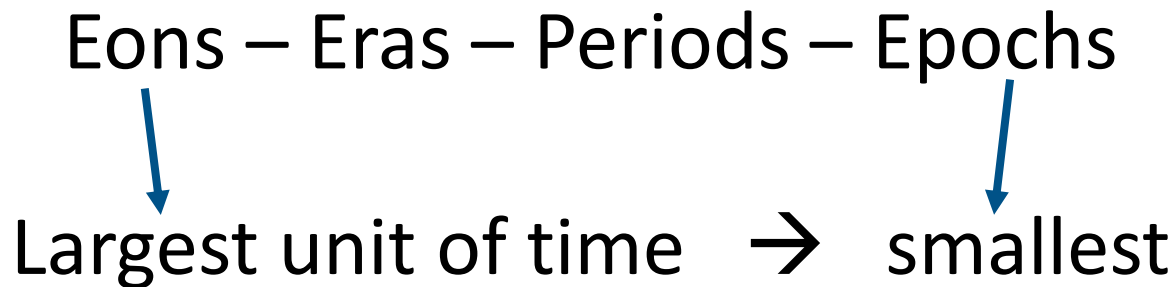


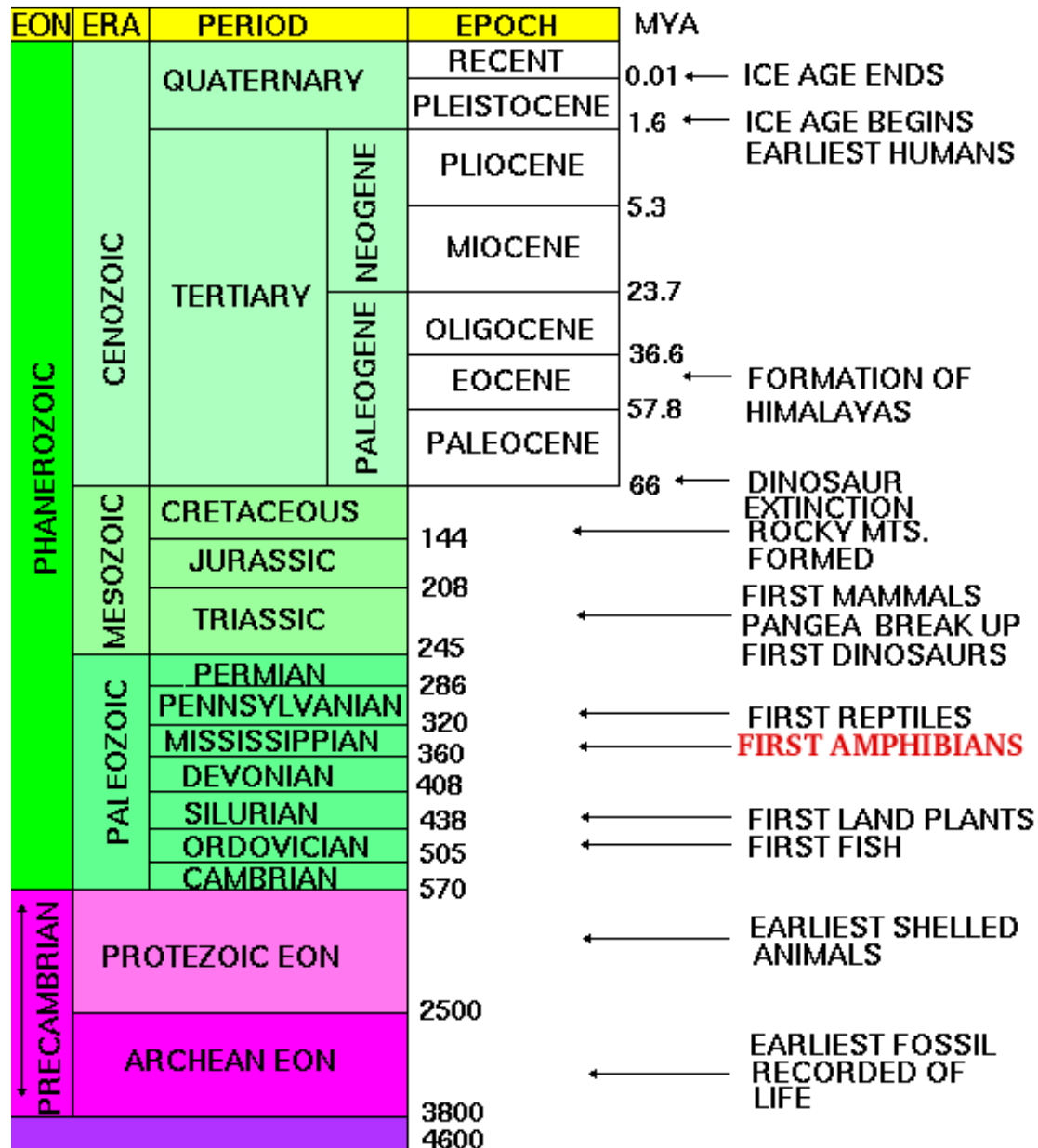
Paleontology

- The study of what fossils tell us about the past
- Has helped us understand more about the origins of organisms
- We continue to learn more as new fossils are discovered
- There are many fields of study with paleontology (this is not a complete list)
 - > **Micropaleontology** – study of microscopic fossils
 - > **Ichnology** – study of fossil tracks and trails
 - > **Paleoecology** – study of ecology and climate of the past

Geologic Time Scale

- A timeline that puts Earth's history into units of time
- Created by geologic events as well as fossil records
- Gives relative age of the fossil





Earth's Geologic Time Scale

Relative and Absolute Age

Relative Age

- Age of a fossil in comparison to something else
- Determined by looking at order of events
- Written as epoch, period, era, eon

Absolute Age

- Age of a fossil in millions of years
- Determined by using radiometric methods
- Method looks at the decay of elements such as uranium and potassium to get age



Relative Age

Devonian Period in
the Paleozoic Era of
the Phanerozoic Eon

Absolute Age

385 million years ago