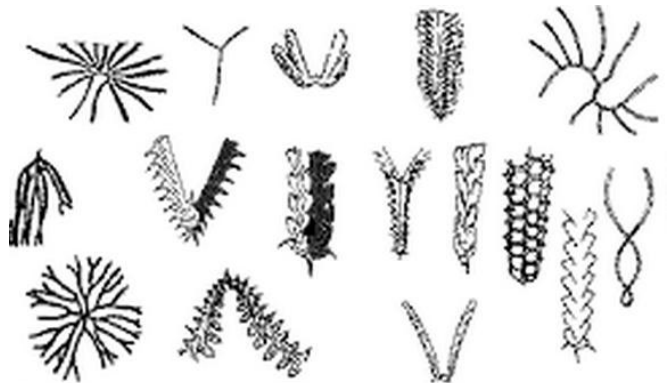
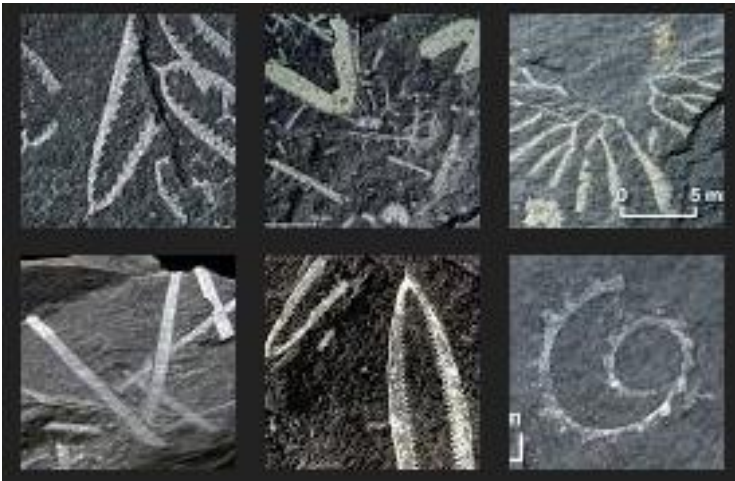


# Phylum – Hemichordata

## 7. Class Graptolithina (Graptolites)

- Paleozoic Era colonial animals from Cambrian to Mississippian
- Graptolite from the Greek *graptos* meaning “written” and *lithos* meaning “rock”, as many resemble hieroglyphs
- Their continual and well known evolutionary form through the Paleozoic make individual species excellent index fossils for dating rocks
- Extinction event at end of Ordovician eliminated many species
- Colonial, with branching form distinguishing species
- Individuals are microscopic
- Often look like random pencil marks on rock
- Usually preserved by **carbonization** within a mudrock or shale
- Most species were pelagic and planktonic, floating or attaching to seaweed. As such they live far out to sea and once dead, tests sunk to the sea floor there were few scavengers and little oxygen. Hence preservation by burial was common although often fossils are flattened during burial/lithification.



## Phylum – Cnidaria

### Class Anthozoa (Horn and Colonial Coral)

- 8) Genus *Favosites*
- 9) Genus *Halysites*
- 10) Genus *Heliophyllum*
- 11) Genus *Hexagonaria*
- 12) Genus *Septastrea*

Note: Coral and Jellyfish used to be grouped into the phylum Coelenterata, but differences led to the split. Coelenterata is now an obsolete term.

- The Cnidarian Phylum contains jellyfish, sea anemones, and corals.
- All use stinging cells known as **nematocysts** to capture prey, which is usually plankton.
- Corals are benthic, sessile, and shallow marine, and require warm water and sunlight. Also sensitive to turbidity and wave action
- Jellyfish are planktonic.
- Corals are useful in defining past water temperature, continental drift location, past ocean chemistry, etc.
- Most corals are colonial, but some are solitary
- Modern corals have a symbiotic relationship with algae.

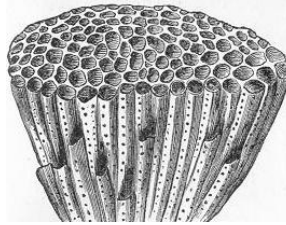


Heliophyllum  
“Horn Coral”

## Phylum – Cnidaria, Class - Anthozoa

### 8) Genus *Favosites*

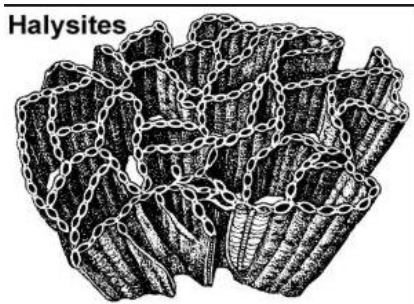
- Extinct genus of tabulate coral characterized by polygonal closely packed corallites (giving it the common name "**honeycomb** coral")
- Ordovician to Permian



## Phylum – Cnidaria, Class - Anthozoa

### 9) Genus *Halysites*

- known as the "**chain** coral" due to growth pattern, could also be thought of as brain coral
- Tabulate coral
- Ordovician to Late Silurian
- Index fossil for Silurian





## Phylum – Cnidaria, Class - Anthozoa

### 10) Genus *Heliophyllum*

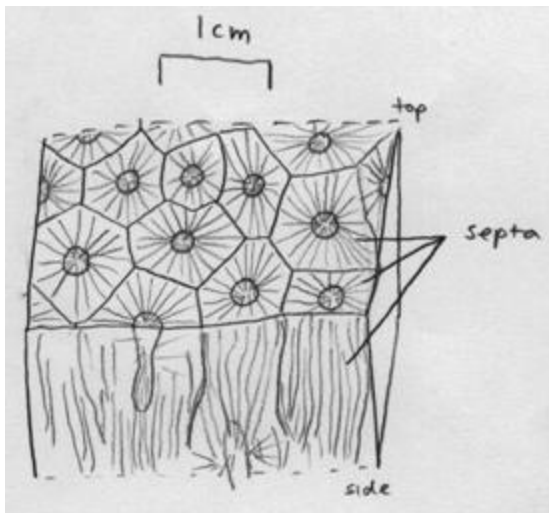
- Solitary Horn Coral (also known as Rugose coral)
- Classic Devonian fossil of NY state
- Elongated, horizontal **corallites**
- Strong calcite shell promotes preservation



## Phylum – Cnidaria, Class - Anthozoa

### 11) Genus *Hexagonaria*

- Named for hexagonal corallites
- Worldwide distribution, but state fossil of Michigan (Petoskey stone)
- Prevalent in Devonian
- Colonial **rugose coral**



Polished "Petoskey" stone

## Phylum – Cnidaria, Class - Anthozoa

### 12) Genus *Septastrea*

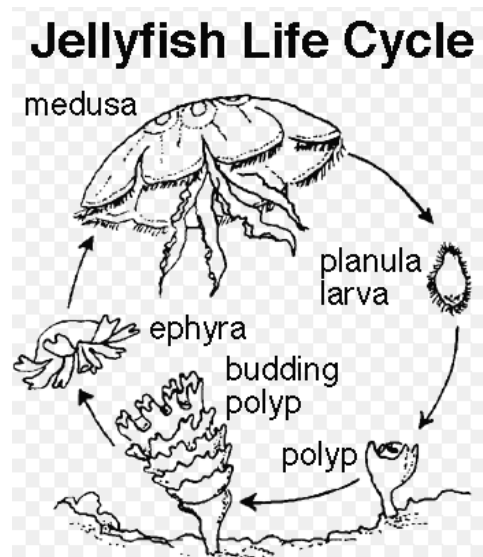
- Only recent coral on your list, from Miocene to Pleistocene (went extinct during recent ice ages)
- Can grow in many shapes
- A colonial coral, also a stony coral (meaning that each polyp has a calcium carbonate skeleton)



---

## Phylum – Cnidaria, 13) Class – Scyphozoa (True Jellyfish)

- Rare as fossils as body is soft and mostly water (98%)
- Oldest Cnidaria (known to 580 MY)
- Two life stages
  - 1<sup>st</sup> sessile (as **polyps**)
  - 2<sup>nd</sup> planktonic (as **medusa**)



Cambrian sandstone with jellyfish fossil (rare)