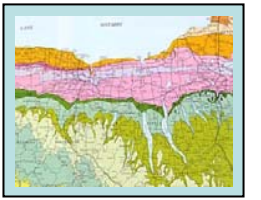
Geology of The Finger Lakes



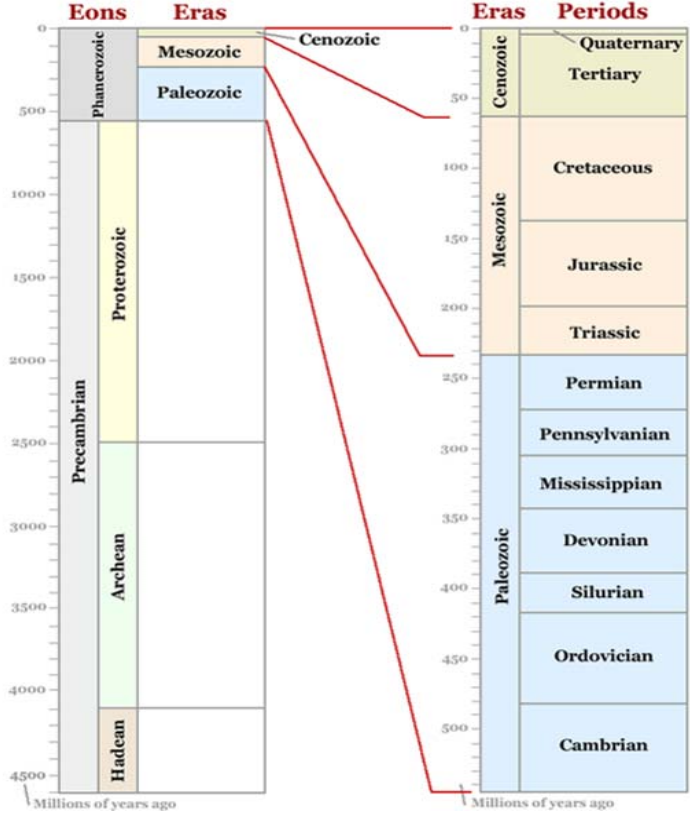
Identification Cards of Fossils Common to the Northeastern United States

References:

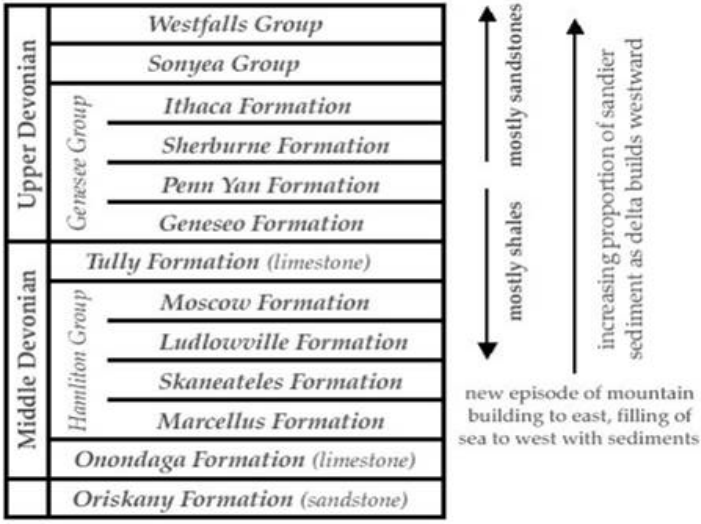
Allmon, W. D. and R.M. Ross. 2002. ***Ithaca is Gorges: A Guide to the Geology of the Ithaca Area.*** The Paleontological Research Institution: Ithaca, New York.

Edelstein, Karen. 1999. ***Lasting Impression: A Guide to Understanding Fossils in the Northeastern United States.*** Cornell Cooperative Extension in collaboration with the Paleontological Research Institution: Ithaca, New York.

Geologic Time Scale



Rocks of the Finger Lakes



Brachiopod

Type of rock it is found in:
shale, limestone, sandstone

Distinguishing feature:
plane of symmetry across valves, not between valves

Approximate size: 3-100mm

When it lived:

Early Cambrian

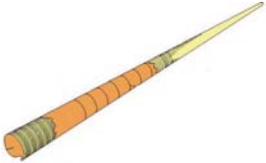
Habitat: shallow sea

Interesting Facts:

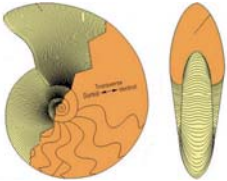
Brachiopods have two shells, and look superficially like clams, but the internal anatomy of brachiopods reveals that they are actually very different.

Brachiopods are still alive in oceans today but are much less common.

Shelled Cephalopods



Straight-shell nautiloid



Ammonoid

Type of rock it is found in:

shale, limestone

Distinguishing feature:

either spiral or straight, internal molds show suture lines

Approximate size: 3-60+ cm, nautiloids up to 4+ m, 1m common

When it lived:

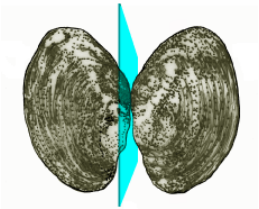
Middle Ordovician- Recent (nautiloids), Devonian- Cretaceous (ammonoids)

Habitat: shallow sea

Interesting Fact:

Cephalopods are mollusks and today include squids, octopus and the chambered nautilus.

Clams (bivalves)



Type of rock it is found in: shale, limestone, sandstone

Distinguishing feature: each valve asymmetrical, top and bottom symmetrical

Approximate size: 1-10 cm

When it lived:

Middle Ordovician-Late Devonian

Habitat: shallow sea

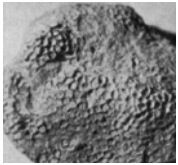
Interesting Facts:

Clams are mollusks with two shells.

Class are common in the Devonian, but not as abundant or diverse as they are now on ocean beaches.

Corals

Rugose (horn) corals



Honeycomb coral

Type of rock it is found in: shale, limestone

Distinguishing feature: often cone shaped, septa or tabulae often visible

When it lived: Middle Ordovician-Recent

Approximate size: 1-10 cm, but colonial corals get much larger

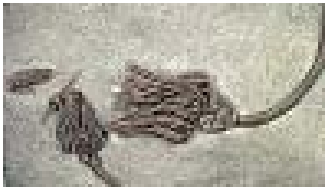
Habitat: shallow sea

Interesting Facts:

Come in two kinds among Finger Lakes fossils: rugose or "horn" corals, and tabulate or "honeycomb" corals.

Both of these kinds of corals are extinct, but resemble modern corals in some ways.

Crinoids



Type of rock it is found in:
shale, limestone

Distinguishing feature:
individual stem plates often found separately, stems

Approximate size: stem segments up to 1 cm across, stems up to 1m long

When it lived:
Cambrian -Recent

Habitat: shallow sea

Interesting Facts:

Crinoids have a multi-armed head on a long, flexible stalk made of many discs. The discs are often preserved as fossils.

Crinoids are not plants but are related to starfish and sea urchins.

Snails

Type of rock it is found in:
shale, limestone

Distinguishing feature:
spiral shell, pointed tip or flat

When it lived:
Ordovician-Recent

Approximate size: 1-30 cm

Habitat: shallow sea

Interesting Facts:

Fossil snails, like their modern cousins, crawled around the bottom scraping algae and other small food particles from rocks and plants.

Trilobite

Type of rock it is found in:
shale, limestone

Distinguishing feature:
Head or tail sections often found separately, compound eyes often visible, three-lobed body with horizontal ribbing, sometimes enrolled

Approximate size: 1-50 cm, most under 10 cm

When it lived: Cambrian -Recent

Habitat: shallow sea

Interesting Facts:

Trilobites are an extinct group of animals related to living horseshoe crabs and lobsters.