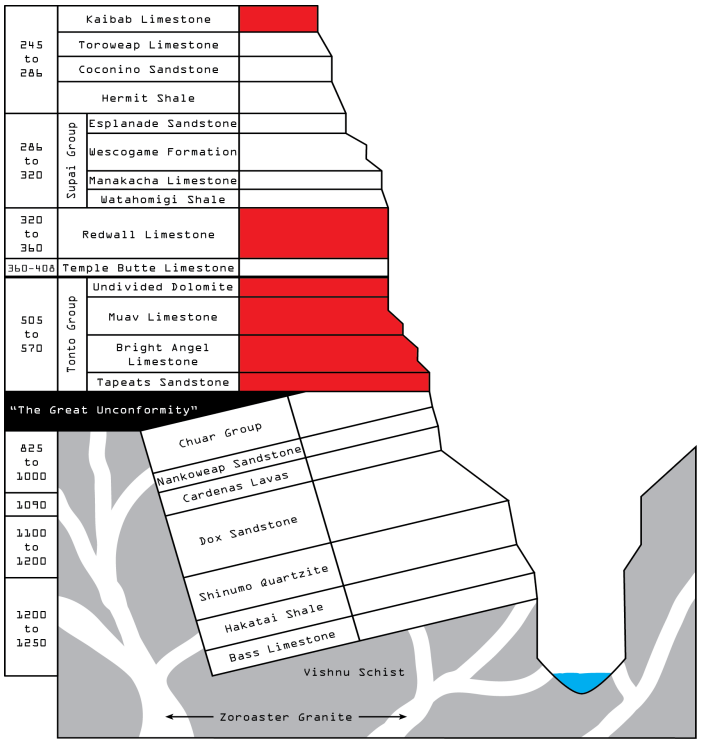
BRACHIOPOD

World Temporal Range: 739 MYA - Present

Marine Animal

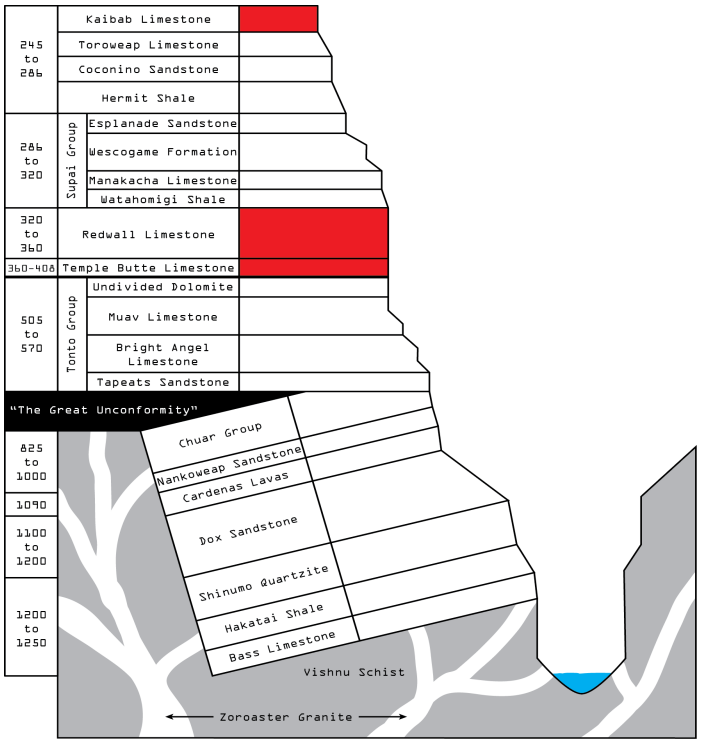


Brachiopods are hard-shelled organisms within the phylum *brachiopoda*. Their shells are hinged on one side, allowing them to be opened for feeding and closed for protection. A wide variety of brachiopods have been found fossilized in the Grand Canyon, deposited in different periods of time where the area was submerged beneath calm seas.

CRINOID

World Temporal Range: 485 MYA - Present

Marine Animal

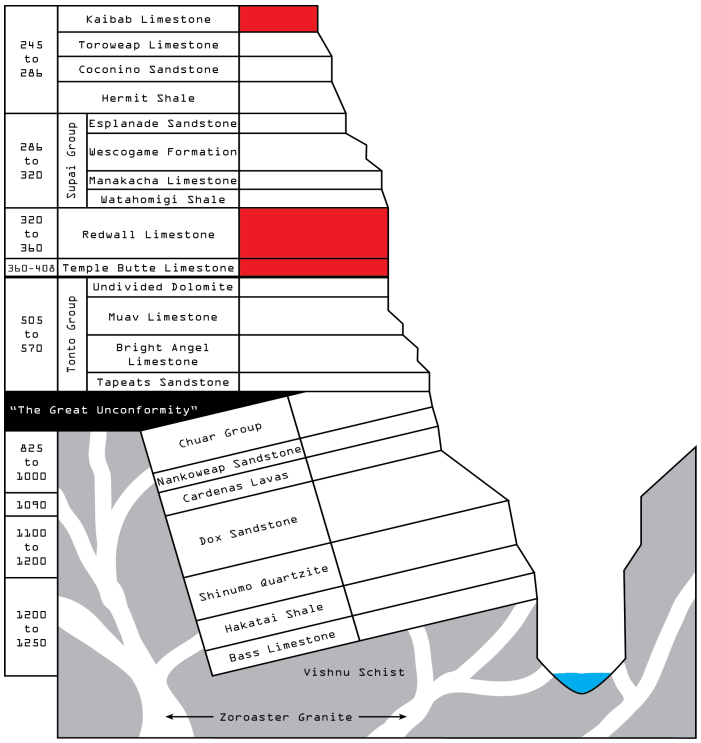


Crinoids have a rough, spiny surface like other echinoderms (sea urchins, sea stars, sea cucumbers). They are sorted within the class *crinoidea* within the phylum *echinodermata*. Crinoids are sometimes referred to as sea lilies because these animals had wavy arms on top of a long stem. Fossilized crinoid stem segments can be found throughout in the Grand Canyon, coming from select marine layers.

SPONGE

World Temporal Range: 635 MYA - Present

Marine Animal

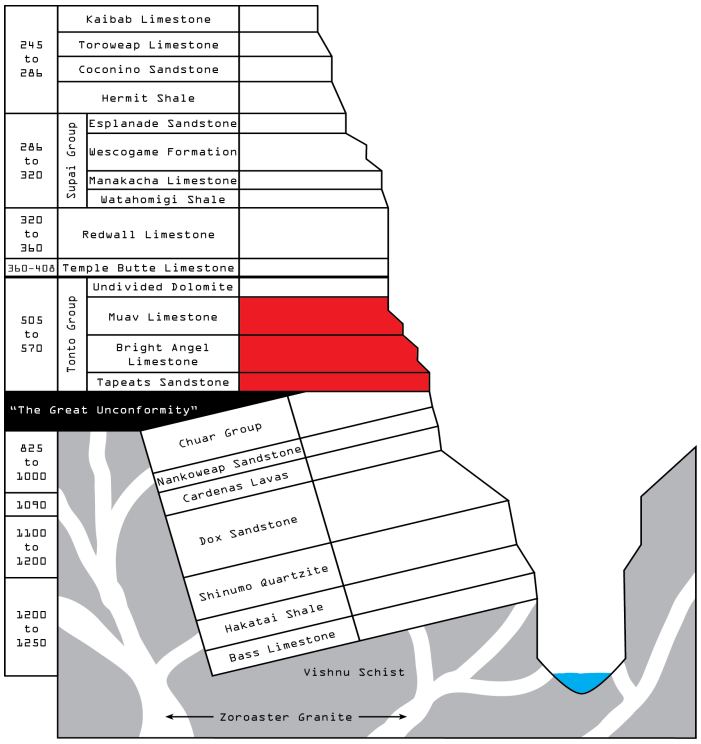


Sponges are soft organisms within the phylum *porifera*. They are simple, multicellular animals with no tissues, organs, or body systems. Instead, they have specialized cells which perform different functions. Sponge fossils are rare due to the sponge's delicate structures, but they can be found in some layers within the Grand Canyon.

TRILOBITE

World Temporal Range: 521 MYA – 252 MYA

Marine Animal

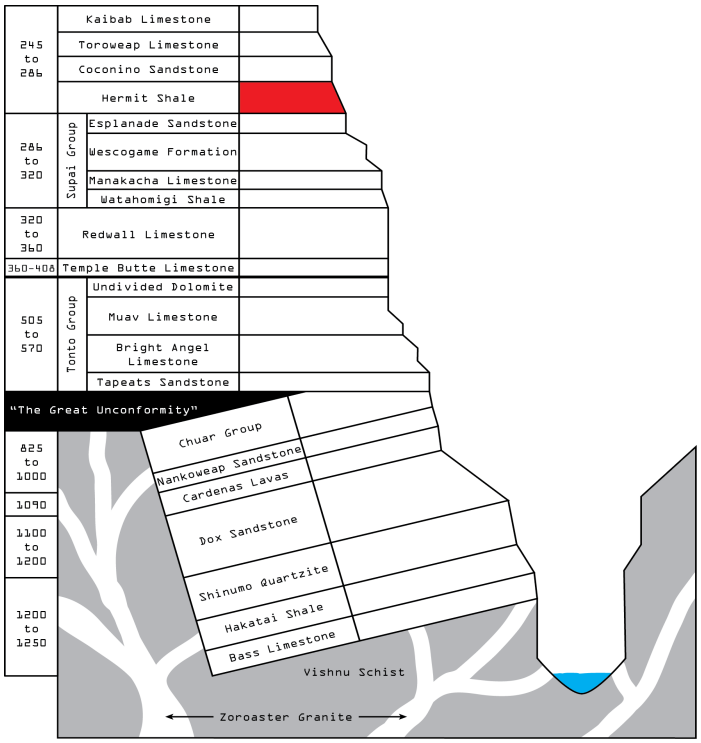


Trilobites are an extinct form of arthropod in phylum *arthropoda* and class *trilobita*. (Modern arthropods include spiders, centipedes, crabs, and insects.) Each of these has a strong exoskeleton. These creatures moved about and collected nutrients from seafloor sediments in what is now the Grand Canyon.

GINKGO

World Temporal Range: 270 MYA - Present

Terrestrial Plant

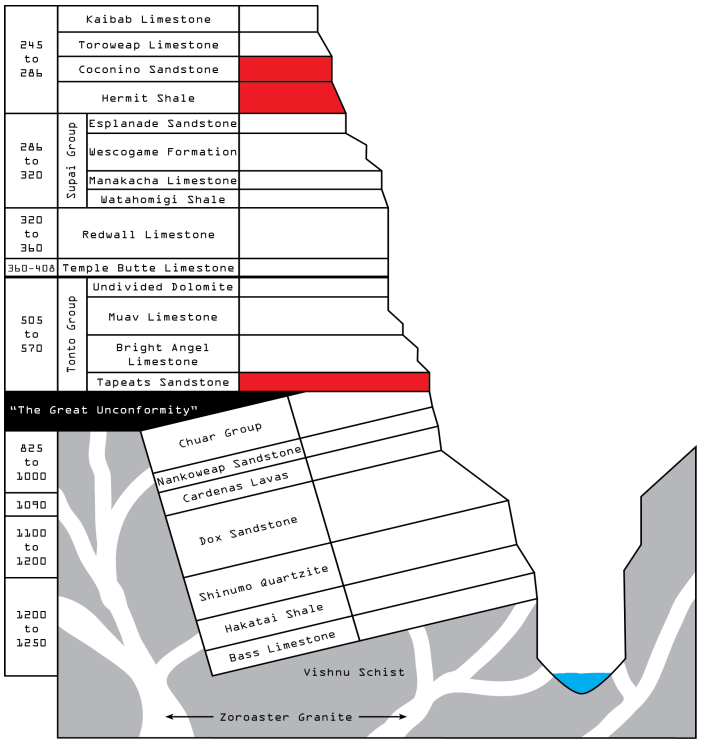


Ginkgo trees have distinctive fan-shaped leaves which are sometimes preserved as delicate fossils. There were several species of Ginkgo trees (genus *Ginkgo*) which thrived in the Grand Canyon's history, but today only one species of ginkgo survives (*ginkgo biloba*).

BURROWS

World Temporal Range: n/a

Invertebrate Trace Fossil

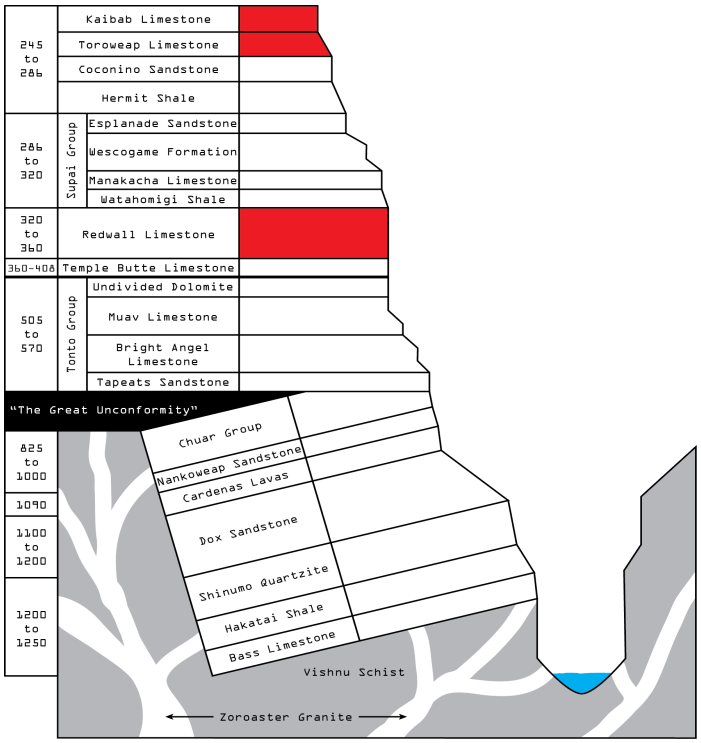


Not all fossils are those organisms. Some fossils, called trace fossils, are what organisms left behind. Burrows are the markings, paths, or trails of invertebrate animals. Burrows and other trace fossils can be found in a number of areas within the Grand Canyon.

BRYOZOAN

World Temporal Range: 470 MYA - Present

Marine Animal

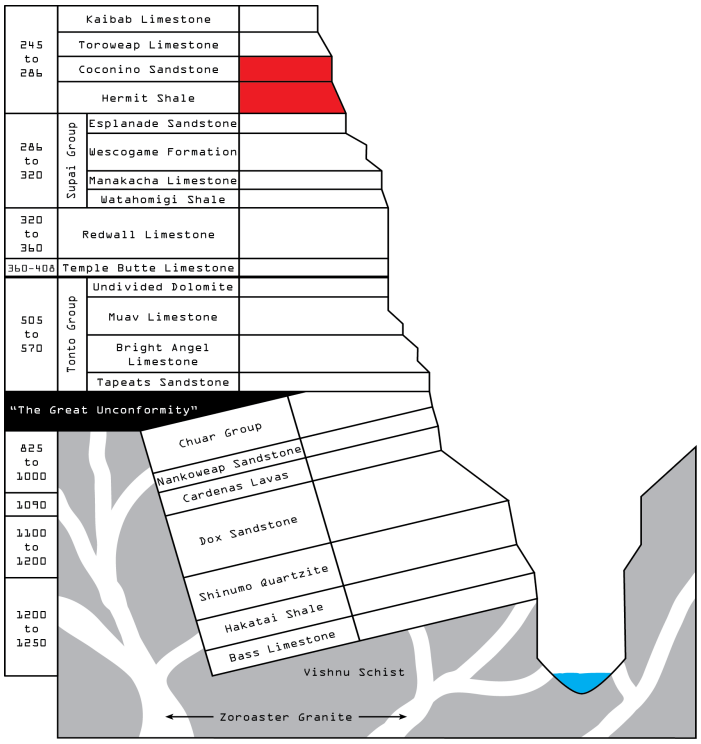


Bryozoans (phylum *bryozoa*) are a type of marine animals sometimes referred to as “moss animals.” They live in colonies in warm, shallow seas, much like coral. In fact, bryozoans have a skeletal structure similar to coral and like coral they are filter feeders. Bryozoans can be found in several marine layers of the Grand Canyon.

DRAGONFLY

World Temporal Range: 286 MYA - Present

Insect

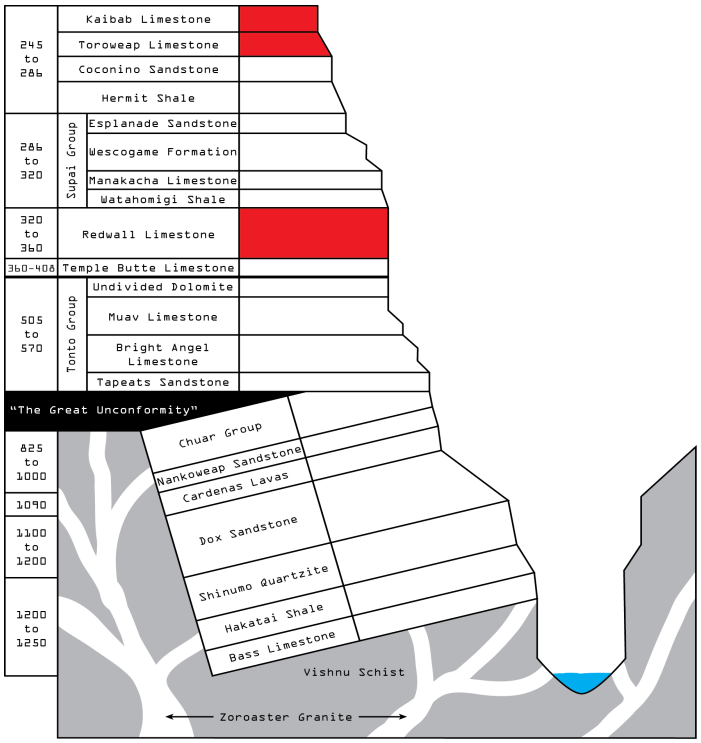


Dragonflies are insects with four wings, two large eyes, and a long, thin abdomen. Dragonflies are a part of the order *odonata*, which includes carnivorous insects like the damselfly. Dragonfly fossils in the Grand Canyon vary dramatically in size, but they are found in only two layers: the Coconino Sandstone and Hermit Shale.

HORN CORAL

World Temporal Range: 460 MYA - 250MYA

Marine Animal

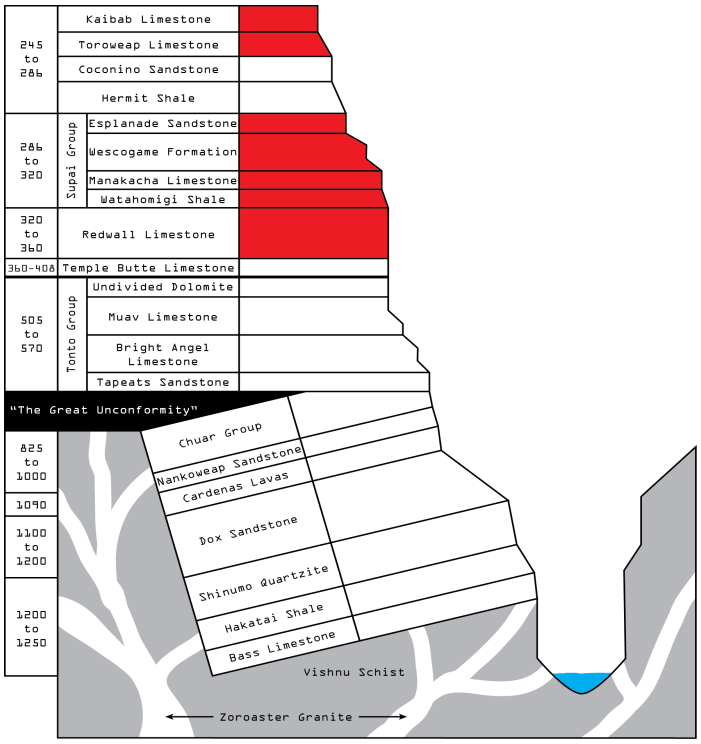


Corals (order *rugosa*) are creatures which live on the sea floor and are equipped with hard skeletons composed of the mineral calcite. Horn coral are an extinct form of coral which ranged in size from a few millimeters to a full meter in length. Different types of coral are found in different Grand Canyon formations when waters were shallow and clear.

GASTROPOD

World Temporal Range: 320 MYA - Present

Marine Animal

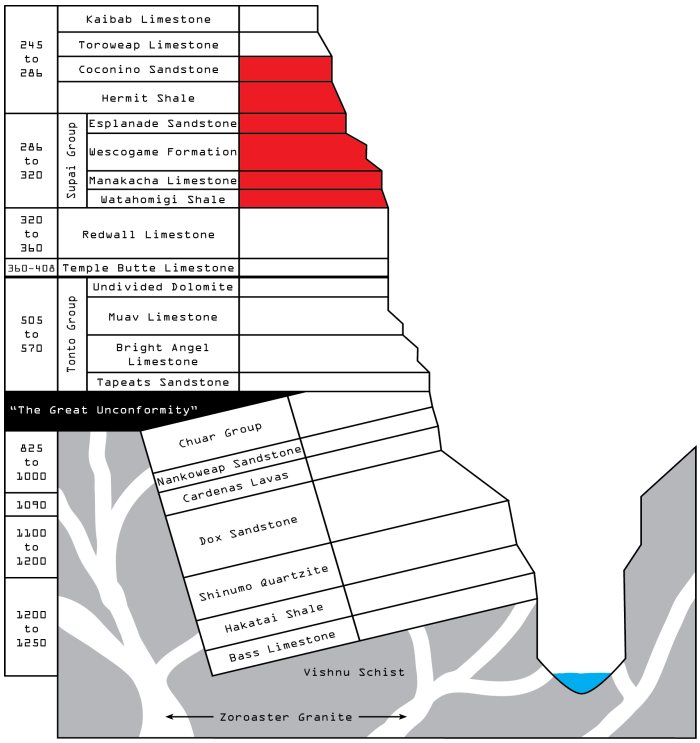


Gastropods (class *gastropoda*) include organisms which you might call snails or slugs. (Their name actually means stomachfoot because their stomach and foot are essentially the same structure.) These adaptable creatures vary in size, color, and eating habits. Many have shells, and those shells are what are preserved in many of the Grand Canyon's marine layers.

HORSETAIL

World Temporal Range: 323 MYA - Present

Terrestrial Plant



The horsetail (order *equisetales*) is a spore-producing fern with stiff, cone-shaped leaves. Horsetail plants can be a wide variety of sizes, and horsetails both large and small have been found fossilized in the Grand Canyon.