AGATIZED CORALS are fossils formed when ***silica*** (SiO_2) from groundwater replaces ancient buried corals (as opposed to typical *calcite*-replaced fossil corals). They consist of void fossils that have been filled with various forms of quartz, primarily one called ***chalcedony***, and, in some cases, both chalcedony and ***rock crystal quartz*** (quartz that is clear with large visible crystals terminated by crystal faces). The term "**agatized**" refers to the variety of translucent chalcedony called "**agate**," which has very small crystals (micro- or cryptocrystalline), and is characterized by banding and rich coloration, properties that are common to agates worldwide. Of interest to mineral collectors since the 19th century, agatized coral was chosen by the 1979 legislature as Florida's official state stone.

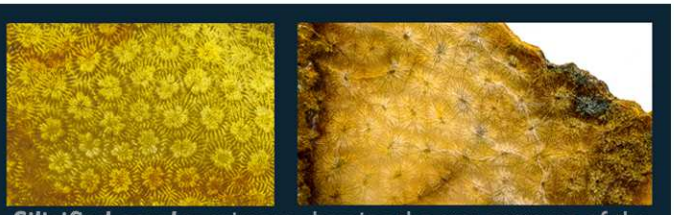
THE SPECIMENS

All of the fossils in this exhibit fall under the technical term **"silicified"** because their original forms, and even sometimes their internal structures, have been replaced by **"silica"** (SiO_2)—either in the form of coarsely crystalline, ***granular quartz***, or a translucent variety of cryptocrystalline quartz and moganite called ***chalcedony***. Within this broader category there are some other historical distinctions, though, which have been used by geologists and collectors over the years. Our exhibit uses this historical nomenclature because it helps illuminate some of the important differences between the specimens.

For the fossil corals:

When silica has replaced the physical form of the coral ***cell-by-cell,*** preserving the organisms' original internal skeletal structures, including the walls and septa (radiating wall ridges) of individual corallites, we use the term ***silicified coral.***

When the coral's internal structure was dissolved away over time leaving a "mold" fossil, and the silica has simply in-filled all or part of this resulting ***void*** of the coral's external shape, we use the term ***agatized coral,*** named for the type of banded, often colorful, chalcedony called "**agate**" which results.



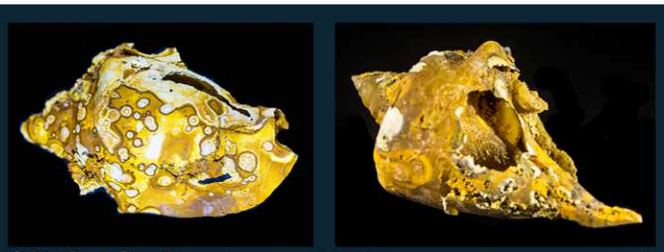
Silicified coral specimens showing the star patterns of the *internal corallite structures* with visible septa

Agatized coral specimens showing the colorful banding patterns of these *agate-filled, void,* or "mold" fossils

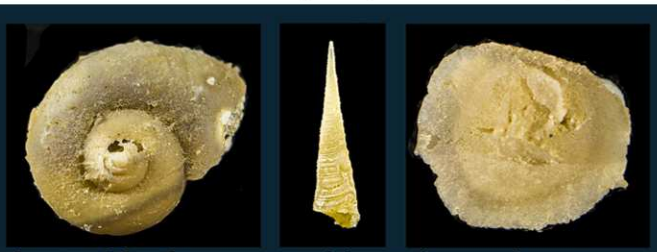
For the other fossils:

When these (non-coral) organisms' original physical forms have been replaced by ***granular quartz***, they are called ***silicified.*** This granular quartz usually renders the fossils ***opaque,*** with white or light tan surfaces that sometimes display iron oxide staining.

When the original forms have been replaced by ***translucent chalcedony*** they are termed ***agatized.***



Silicified fossil specimens with the *opaque* appearance and surface staining characteristic of *granular quartz*



Agatized fossil specimens exhibiting the *translucent* appearance characteristic of replacement with *chalcedony*