

The Petoskey Stone

Some history, lore and facts about the "Petoskey Stone"

Wouldn't it be great if rocks could talk? For example, through legend and facts, a Petoskey Stone could tell you much about Michigan's history and geology.

Legend and history are often intertwined. Such is the case with the Petoskey Stone. The name Petoskey Stone likely came about because it was found and sold as a souvenir from the Petoskey area. The name Petoskey appears to have originated late in the 18th century. Its roots stem from an Ottawa Indian legend. According to legend, a descendant of French nobility named Antoine Carre visited what is now the Petoskey area and became a fur trader with the John Jacob Astor Fur Company. In time, he met and married an Ottawa Indian princess. Carre became known to the Indians as *Neatooshing*. Eventually he was adopted by the tribe and was made chief.

In the spring of 1787, after having spent the winter near what is now Chicago, Chief *Neatooshing* and his royal family started home. Enroute, the party camped on the banks of the Kalamazoo River. During the night, a son was born to the Chief. As the sun rose, its rays fell on the face of the new baby. Noting the glorious sunshine on his son's face, the Chief proclaimed, "His name shall be *Petosegay* (or *Bedosegay*, there are several versions). He shall become an important person." The translation of the name is "rising sun," "rays of dawn," or "sunbeams of promise". True to his father's prediction, *Petosegay* became an important person. He was a fur trader and merchant who acquired much land and wealth. His appearance was outstanding. His skin was smooth, his eyes sharp and deeply set, and he spoke English quite well. Ultimately, he married the young daughter of Chief *Pokozeegun*, a great Ottawa Chief from the northern Lower Peninsula of Michigan. They had two daughters and eight sons.

In the summer of 1873, just a few years before the death of *Petosegay*, a city came into being on his land along the bay at Bear Creek. The site was a field overgrown with June grass. Only a few nondescript buildings existed. The population was no more than 50 or 60. The city was named Petoskey, an English adaptation of *Petosegay*. Thus they honored someone who gave his land, name, and the heritage of "sunbeams of promise".

Today, Petoskey is a growing city with all of the comforts of modern life and an appreciation of the past. This is where Petoskey Stones are found. For those who look, Petoskey Stones are along the beaches, inland in gravel deposits, and sold in gift shops.

The most often asked question is, "What is a Petoskey Stone?" A Petoskey is a fossil colonial coral. These corals lived in warm shallow seas that covered Michigan during Devonian time, some 350 million years ago.

Almost a century after the founding of Petoskey, on June 28, 1965, Governor George Romney signed a bill that made the Petoskey Stone Michigan's official State Stone. It was fitting that Miss Ella Jane Petoskey, the only living grand-child of Chief *Petosegay*, was present at the formal signing. The legislation is very general. The bill simply states that the Petoskey Stone is the State Stone. The designation of *Hexagonaria percarinata* was made by Dr. Edwin C. Stumm in 1969. Dr. Stumm made this distinction based on his extensive knowledge of fossils.

This specific fossil coral is found only in the rock strata known as the Alpena Limestone. The Alpena Limestone is part of the Traverse Group of Devonian age. The Alpena Limestone is a mixture of limestones and shales. The outcrops of these rocks are restricted to the Little Traverse Bay area near Petoskey.

The Alpena Limestone is only part of the Devonian in Michigan. Devonian age rocks form the bedrock for much of the northern Lower Peninsula. Devonian rocks outcrop at less than three percent of the surface of the United States. Michigan's average is much higher. Much of what is known about the Devonian is interpreted from the fossil record.

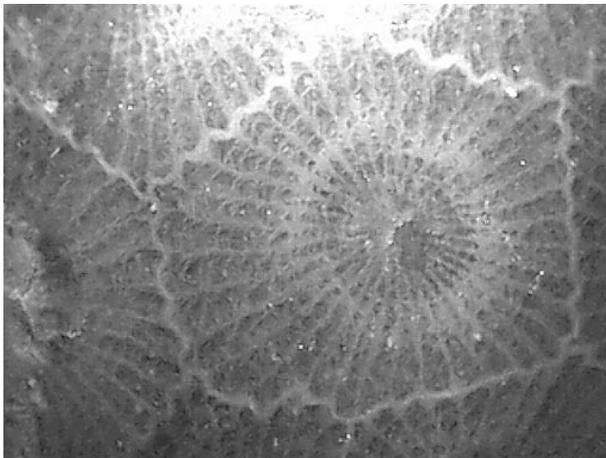
At least seven different species of the genus *Hexagonaria* are found in Devonian rocks in Michigan. The Petoskey Stone genera of corals are found in Iowa, Indiana, Illinois, Ohio, New York, Canada, Germany, England, and even Asia. These corals are difficult to distinguish from each other on casual inspection. In order to tell these corals apart, you must become familiar with coral anatomy and the related terms.



The surface of a natural or rough Petoskey.



A longitudinal or 'on edge' look at a Petoskey stone showing some seldom recognized coral structures.



Surface of a polished Petoskey stone magnified to show the structure of the coral.



Surface of a beach pebble showing the outline of several corals.

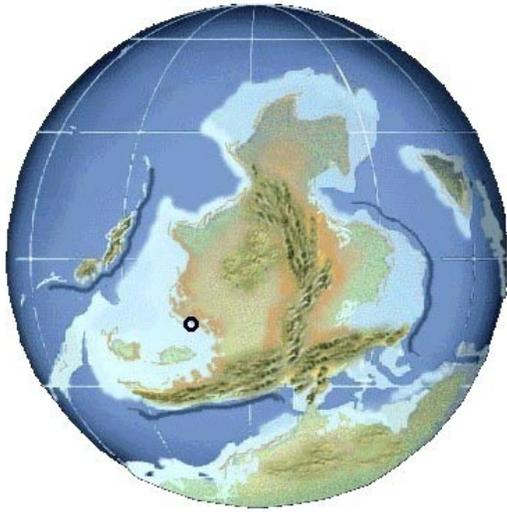
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Pleistocene glaciers (about two million years ago) plucked Petoskeys (and many other rocks) from the bedrock and spread them over Michigan and surrounding areas. This is why Petoskeys can be found in gravel pits and along our beautiful beaches far from the Petoskey area.

During Devonian time, Michigan was quite different. Geographically, what is now Michigan was near the equator. A warm shallow sea covered the State. This warm, sunny sea was an ideal habitat for marine life. Life forms were abundant and varied. Some would be easily recognized, others would not.

If you were to visit a tropical reef today, you would see a wide range of life forms. Some you would recognize; many would appear strange and unknown. A Devonian reef would have sheltered clams, cephalopods, corals, crinoids, trilobites, fish, and many other even stranger critters. During the Devonian, land plants were taking hold and primitive amphibians were also getting their start.

The process of plate tectonics explains that since Devonian time the continents have moved to new locations. The shape, size, and climate of the land masses have also changed. Related to this movement is the subsequent uplifting of Michigan. This caused the



What the Earth might have looked like in Devonian time - the circle is where what is now Michigan would have been - under water south of the equator.

Many people see their first Petoskey Stone in a polished form. Petoskeys are primarily calcite. However, quartz, pyrite, and other minerals could be present. The corals are found in limestone which can have a sizable amount of clay in it. Due to differences in hardness and ability to take a polish, impurities affect the final product. The possibilities of what can be created with Petoskeys are limited only by the imagination.

Not all specimens are suited for polishing. Some are too porous or have too many impurities. Others may show features that would be eliminated by grinding and polishing. Along the beaches and in most gravels, the stones have already been rounded by glacial and water action. Most of these are well suited for lapidary and the results are worth the effort.

Hand Polishing Petoskey Stones

Adult Supervision Needed

The Petoskey Stone is a good choice for polishing because it can be polished by hand. Petoskeys are made up mostly of calcite (although there usually is some clay, quartz and/or pyrite included within the rock making up

sea to vanish and dry land to form. The migration of the continent to the north resulted in a cooler climate as well.



What a Devonian sea might have looked like.

the specimen). Calcite is soft enough so it can be easily worked yet dense enough to take a nice polish.

Observe all safety precautions and be sure that an adult (as needed) knows what you are doing so they can help as questions and/or problems arise.



Using lapidary equipment to grind, shape and polish.

Materials Needed for Hand Polishing Petoskeys

- Petoskey Stone - If the stone has been rounded by running water from the glaciers or waves on the beach, much of your initial shaping may have already been done. Polishing will go rather quickly.
- Silicon carbide wet or dry sandpaper - 220, 400, and 600 grit. Grit refers to the size of the grains on a sandpaper. The higher the number, the finer the grain or grit. Sandpaper and most of the supplies you will need are available at hardware stores. Sandpaper that can be washed, or at least get wet, tends to last longer and work better, but it can be messy.
- A thick towel or layers of newspaper.
- A piece of cotton corduroy or velvet.
- Polishing powder.
- Container of water.

To polish a Petoskey stone by hand, start with a file to smooth the stone or do any other rough shaping. When you have the shape you want, sand with a 220 grit. Hold the dampened stone firmly in one hand and rub the area of the stone to be polished on the sandpaper with a steady, rotating motion. After rubbing, rinse the stone and dry it. If you are using a bowl of water, replace with clean water often. Examine for scratch marks which should be removed with more rubbing. This first sanding is very important and should be done with care.

Repeat the process using the 400 grit paper. This step should remove the scratches from the coarser paper and any white spots. Rinse, dry, and check.

Complete the sanding with 600 grit paper. When you think you have all of the sanding marks out and it looks smooth and beautiful, sand for another five to ten minutes. Rinse and dry the stone.

Examine the stone very carefully for any scratches or abrasions. If there are any, go back to a coarser paper and repeat the process. *ALL SCRATCHES MUST BE REMOVED BEFORE POLISHING.*

You are now ready to polish your stone. Use a piece of corduroy, velvet, or any other smooth, hard-surfaced polishing base and either a polishing powder or polishing compound. Many car-finish rubbing compounds are suitable for this task.

Sprinkle a very small amount of polishing powder or compound on a lightly dampened corduroy or velvet square.

A short, rotating rubbing does the polishing. If scratches show after polishing, go back to the 400 grit and work through the steps again.

You can also use various clear finishes (sprays are better than brush-ons) to help bring out the pattern in specimens that you may not want to grind. These require special precautions and supervision is needed.

When you have finished polishing, wipe off the stone with a clean, dry cloth. You now have a smooth, highly polished Petoskey Stone to add to your collection.



A well polished Petoskey



Michigan Department of Environmental Quality
(MI DEQ), Geological Survey Division (GSD)

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Steven E. Wilson,
MI DEQ GSD,
P O Box 30256,
[Lansing, Michigan 48933](mailto:wilsonse@state.mi.us)
[email wilsonse@state.mi.us.](mailto:wilsonse@state.mi.us)

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