SLABS & CABS
OFFICIAL BULLETIN OF THE
GULF COAST GEM & MINERAL SOCIETY

P.O. Box 60781
Corpus Christi, TX 78466
Art Worley Editor
361-345-4425
2561 Raintree Trail
Ingleside, Texas 78362
artleew@agates123.com

Volume 49 **Number 6** **June 2010**

Next Meetings

Board Meeting
6 Jul 2010
Downtown Library
6:00 PM– 9:00 PM

General meeting
15 Jun 2010
Lapidary Shop
3933 Timon Blvd.,
Corpus Christi TX
6:30 PM

Membership Fees for 2010

Membership dues for 2010 are due in January 2010
We have 4 types of memberships and they are as follows:
Single $ 15.00
Spousal $ 20.00
Junior $ 5.00
This is for any member from the age of 6-17 years Of age
Honorary
Sandra Hinkle , Membership Chairlady

Gold Plume Agate
Walker Ranch
Brewster County Texas

INSIDE

We are on-line
www.gcgms.org
Thanks to Chris Davis of Spurfire and Owen Hopkins
For getting us back up and running! Take a look.

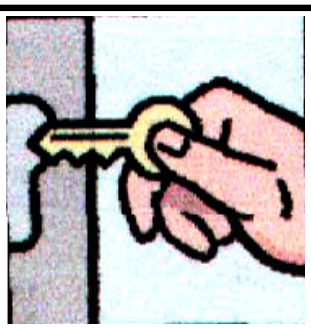
There was no Meeting So No Minutes of the June Board Meeting of the Gulf Coast Gem & Mineral Society

Mexican Coconut
Chihuahua Mexico

GCGMS Lapidary Shop Rules

1. The lapidary shop equipment may not be used by anyone who has not signed a liability waiver.
2. Shop equipment use flat fee is $2.00 per hour. Sign in on arrival.
Pay Supervisor and sign out before leaving the shop.
3. "Open shop" hours are to be used only by those who have taken the cabochon class or have shown proficiency on the equipment.
4. All children under the age of 17 must be accom panied by an adult trained on the use of the equipment.
5. Supervisor must inspect rock "set-up" prior to anyone starting slab saw.
6. Long hair should be tied back, loose sleeve should be secured, and safety procedures followed.
7. Safety glasses are recommended and are the responsibility of the individual. Some are furnished by the GCGMS, or you may bring your own.
8. The last person to use a piece of equipment before the shop closes is responsible for cleaning that piece of equipment and the work area. This may include tabletop, sponges, aprons, catch trays, etc.
9. Shop Supervisor is the final authority on shop rules and usage.

Revised May 2009



Those with keys to the Lapidary Shop are

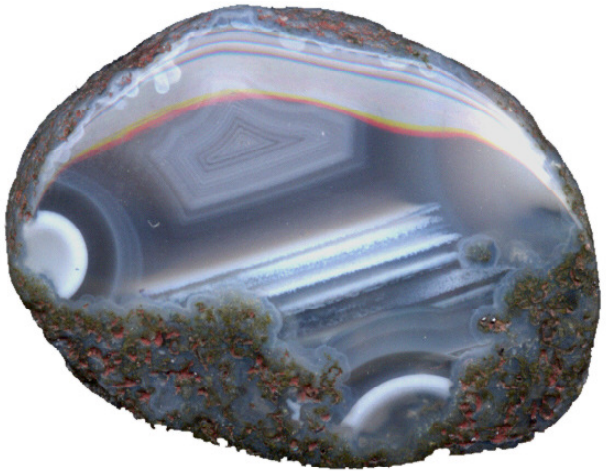
Mark Walbrink 361-991-2495 Shop Supervisor
Jerrold Simpson—361-851-8788
Cell - 361-877-3073
Hank Swan—361-993-9861/361-857-2405

Please call one of these when you would like to use the shop. They will not all be available at the same time, and once in a while none of them will be available Most of the time at least one of them should be able to work out a time and date the shop could be open for you. Remember the club has a lot of good equipment to use. Several different classes are being conducted on Monday evening from 6:00 PM to 9:00 PM. The shop is open during these times for use of the equipment even if you are not involved in a class. Shop is also open Saturday 9:00 Until Noon.

Dopping Hints

If you follow these steps, you should not have problems with your stone adhering to the dop wax. First, the stone must be completely clean and oil free. Use soap and water or acetone or lacquer thinner to remove oil from the stone. Your cleaning method will depend on the type of cutting fluid, type of stone, and the stone's porosity. After cleaning, water should not bead up on the stone, indicating the stone is completely oil-free.
Choose a dop stick that is as large as possible to use with your stone. The dop stick diameter should be at least 50 percent of the diameter of the stone. 75 percent is better. This gives more area for adhesion and also minimizes bending forces on the dop wax. Next, the stone must be heated for wax to stick. Are you heating the stone before putting it on the hot wax? That is a critical step. Put the stone on the flat surface of the wax heater; face down, with a small bit of wax on the backside of the stone. When the small bit of wax starts to melt, the stone is hot enough to dop properly.
—Gem Cutters News 5/10, via Ore-Cutts 1/10, via Stoney Statements 5/10

Any Articles, Minutes are other items not received by Thursday Morning 9:00 am After the Board Meeting. Will Not Be Published in That Months Newsletter The Editor

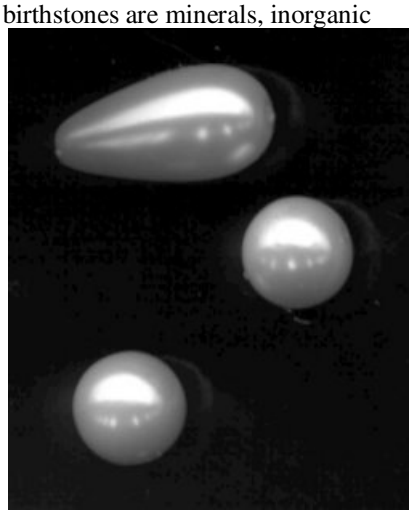


Scurdie Ness Scotland
This Is A Very Small Agate
About 1 in X 3/4 in
With Very Sharp Detail

June Birthstone, Pearl

Compiled by Roger K. Pabian, Research Geologist, Emeritus
School of Natural Resources, UNL

Pearl is unique among the birthstones inasmuch as it is of organic origin. All other birthstones are minerals, inorganic solid substances with crystalline structures and fixed chemical compositions that vary only within rigid limits. Pearl are made up of little overlapping platelets of the mineral aragonite, a calcium carbonate that crystallizes in the orthorhombic system. Although the pearl itself is made up of a mineral, its organic origin excludes it from being included with minerals. Pearls have a fairly long geologic history---the oldest examples have been recorded from rocks of Triassic age in Hungary and the Cretaceous age in California but all had lost their luster. The oldest pearls with luster have been recorded from rocks of Eocene age in southern England.



Pearl is also unique inasmuch as it is probably the only gem material that can be utilized in jewelry immediately upon finding one. All other gems need to be fashioned and polished, however crudely, before they are set in jewelry. Pearls were exceedingly popular in Roman times and were cherished by Byzantine royalty. Robes and cloaks of the royalty may have been studded with thousands of pearls.

Pearls form in either salt or fresh water environments in several species of bivalves (clams) that are members of the Phylum Mollusca. The mollusk body plan involves a head, a foot, a visceral mass and mantle lobes that are carried about in a hard, calcium carbonate (calcite or aragonite) shell. Historically most of the pearls that were used in the jewelry trade came from the marine bivalves *Pinctada vulgaris* and *P. margaratifera* that were abundant in the Persian Gulf. The environmental conditions for these bivalves were ideal---the basin is about 15 - 20 m deep except for in its center. Divers who worked with small crews from small boats recovered the clams. When the pearl was recovered it was cleaned of mud and any organic matter. The pearl divers sold their harvest to dealers who delivered them to brokers in India who then bleached them of any stains with hydrogen peroxide. The pearls were size-sorted and graded and most were sold to dealers in Western Europe, mostly in Paris.

Fresh water pearls have been found in several species of clams that inhabit rivers in the United States. Most of these have been related to species of *Unio* and these are now becoming the basis of a fresh water cultured pearl industry in parts of the United States. Pearls form when an irritant becomes lodged between the mantle lobe and shell of the bivalve. The bivalve secretes layers of aragonite platelets around the irritant and this forms the pearl. If everything goes perfectly, the pearl nucleus will become separated from the shell and become completely surrounded by the mantle and the resultant growth will be a loose and spherical pearl. In some cases the nucleus does not become separated from the shell and the result is pearly blister on the inside of the shell. In cross section a pearl will appear to have concentric, smooth layers, but magnification will show these layers have an imbricate (brick wall-like) structure. These tiny plates are held together by an organic cementing agent called conchiolin. Magnification of the surface will show irregular lines that resemble topographic contours. The pearl derives its iridescence from the diffraction and interference of white light that is caused by the tiny overlapping platelets of calcium carbonate. The iridescence or orient of the pearl is a function of the numbers and thickness of these platelets. Mother of pearl or nacre forms on the inner walls or inner surfaces of the mollusk shell. Mother of pearl differs from pearl inasmuch as it is part of the mollusk shell whereas the pearl has become a separate entity from the shell.

Several factors influence the value of pearl and these include color, luster, iridescence, shape, and size.

Large, spherical pearls are the most desired and fine examples can command very high prices. Popularity of pearl colors varies from place to place and culture to culture. Cream rose' and light rose colors are almost universally liked and pure white or pure yellow pearls are almost universally disliked but the many shades in between enjoy higher or lower status in various places in the world. Oblong, tear drop or flat pearls usually command lower premiums. Semi-translucent pearls with high luster are more desired than

Continued on Next Page

Birthstone Continued from Previous Page

opaque pearls with low luster. Orient or iridescence are also very important in grading pearls. Strings of pearls are graded not only on the above criteria but also how well the colors and luster of the individual pearls match in the total piece.

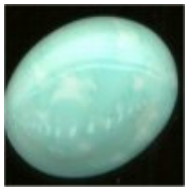
Pearl substitutes have been made from various resins and plastics and some are quite attractive though nearly valueless. These usually have a much lower specific gravity than the natural or cultured pearl. The gemologist's problem is usually that of determining whether a pearl or strand of pearls is natural or cultured.

A cultured pearl is made by inserting a rounded bead of clam shell between the shell and mantle of the oyster. These beads were formerly manufactured in Muscatine, Iowa, where a large pearl button industry once flourished. The pearl culturing industry was pioneered in Japan where oysters of the species *Pinctada martensii* serve as hosts. The bead is inserted in oysters that are about three years old. The oysters are harvested in one to two years and the pearls are removed. The oyster secretes calcium carbonate around the bead at a rate ranging from about 0.1 to 0.2 mm per year. Although pearl farming began in Japan, the industry has spread to parts of Australia and American companies are working with culturing fresh water pearls.

The only sure way to separate a natural from a cultured pearl is by X-ray. Rubbing the pearls across the teeth, by candling them, or using tests such as specific gravity can not make such separations.

Care of pearls is very important. Pearls can be easily discolored from skin oils. Properly strung pearls will have a knot between each pearl to keep them from rubbing together. The cultured pearl can be damaged by excessive wear that exposes the non-gem nucleus.

References

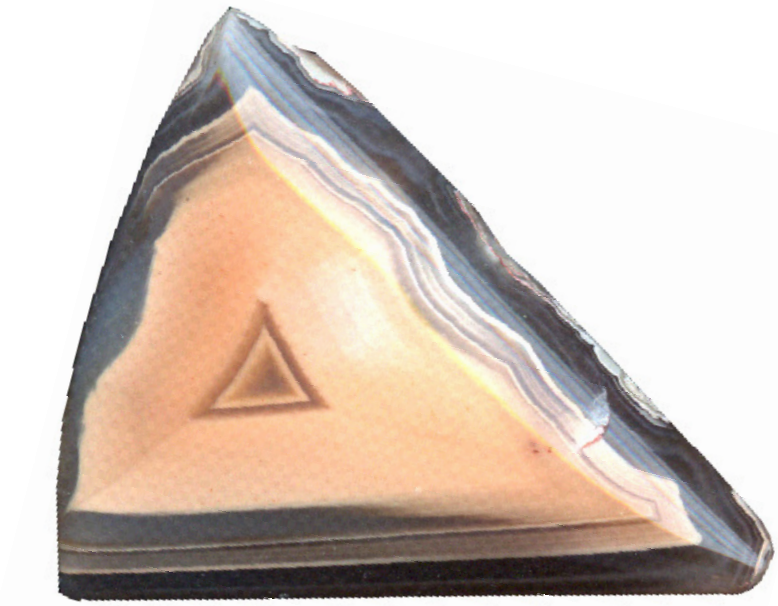


- Moore, R. C., 1969. [Editor] Treatise on Invertebrate Paleontology. Part N, v. 1 (of 3) MOLLUSCA 6 Bivalvia, p. 78.
- Peach, J. L., Sr., 1999. Freshwater Pearls: New Millenium-New Pearl Order. [Abstract] International Gemological Symposium, Symposium Program, San Diego, June 21-24, 1999, p. 15, 16.
- Schumann, W., 1977. Gemstones of the World. Sterling Publishing Company, New York, 226 p.
- Shipley, R. M., 1971. Dictionary of Gems and Gemology. Sixth Edition. Gemological Institute of America, Los Angeles, California, 230 p.
- Sinkankas, J., 1959. Gemstones of North America. Van Nostrand Reinhold Company, New York, 675 p.

Just had to put these pics in To Precious not to. Art

No Minutes of the May Regular meeting of the CCGMS

Usan Angus Scotland
Matching Pieces
Cut From The Same Agate



The Rise And Fall of The Ammonites

Ammonite Fossils

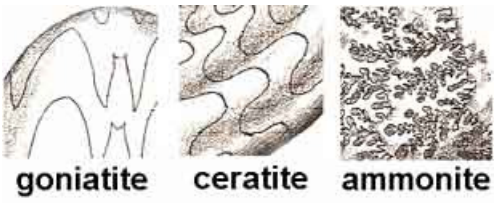
Beautiful fossilized ammonites from
the Stones & Bones Collection
www.stonesbones.com

Ammonites have intrigued mankind for thousands of years. This fossil has created enough interest to inspire dozens of stories, legends and myths.

The name comes from its appearance: it resembles a ram's horn. In Egyptian mythology, the God Ammon looked like a man with horns like a ram. The ancient fossil was considered Ammon's stone, thus inheriting the name, ammonite.

Ammonites first appeared in the lower **Devonian Period**. It is thought by some that they evolved from the older nautiloids.

Septa
The septa are the walls that devide the chambers within the shell. Nautiloids had simple **septa** with a single arc. The ammonites developed septa that had intricate folds called **lobes and saddles**. They also developed delicate lacey patterns on the outer shell.



There are three basic patterns for ammonite septa.

- irregular zigzags-this is called **goniatite**
- regular wavy-called **ceratite**
- intricate feathery or fern like patterns-**ammonite**

The pattern of the septa can be reflected on the outside of the shell. These are called **sutures**.

These patterns along with the shape of the shell and the structure of the septa are how this cephalopod is classified.

The goniatites are older ranging from the mid Devonian Period to the end of the Permian Period. They are easily recognized by the zigzag suture patterns. Goniatites are fairly common in Devonian age fossil beds in Morocco. You can see examples of these goniatites here.

Goniatites For Sale

While little is known for sure about the lifestyle of these extinct mollusks, we can make some educated guesses. Since all living cephalopods are predators we can assume that ammonites were as well.

Continued on next page

Continued from previous page

The only living cephalopod with an external shell is the **chambered nautilus**. It can swim and control its depth. It does this by using the **siphuncle**.

The siphuncle is a tube that connects all the chambers in the shell with the living animal. The nautilus can add or subtract gas in these chambers to control buoyancy. It can also jet propel itself by squirting water out of a funnel like organ.

Size
Ammonites have a wide range of size. Specimens have been found ranging from less than a centimeter to 2 meters in diameter. Early ammonites, until the middle Jurassic, were smaller, usually less than 9 inches or 23 centimeters.

During the upper **Jurassic** and lower **Cretaceous** larger varieties can be found. **Titanites** found in the south of England can be over 50 centimeters, 2 feet in diameter. Female shells of ammonites, like their modern counterpart, the nautilus, tends to be larger than the males.

Biostratigraphy
The hard shell of the ammonite was easily fossilized. This, combined with the sheer abundance of the species and its evolutionary duration through several geologic periods, make it a good **index fossil**.

Index fossils
Index fossils help paleontologists and geologists to determine the age of rock layers. This is called **biostratigraphy**. It works like this. If you find an ammonite from a genus known to be from the Triassic Period, then the rock layer it came from must be Triassic.

To be a good index fossil:
1. It must have wide distribution.
2. There must be a lot of them.
3. It must belong to a group that evolves rapidly.
4. They must be easy to recognize.

Extinction
The ammonites as a class survived several mass extinctions during their long tenure among the living. However the end of the Cretaceous Period was also the end for this class of cephalopods.

It is believed that a huge meteor collided with earth about 65 million years ago. This event caused a tremendous amount of dust to be thrown into the atmosphere, blocking out the sun for years. Rapid climatic changes were the result. It has been estimated that 80% of the earth's inhabitants, including all of the dinosaurs, became extinct during this event.

Ammonites structure and classification
The mythology of the ammonite fossil

Continued on next page

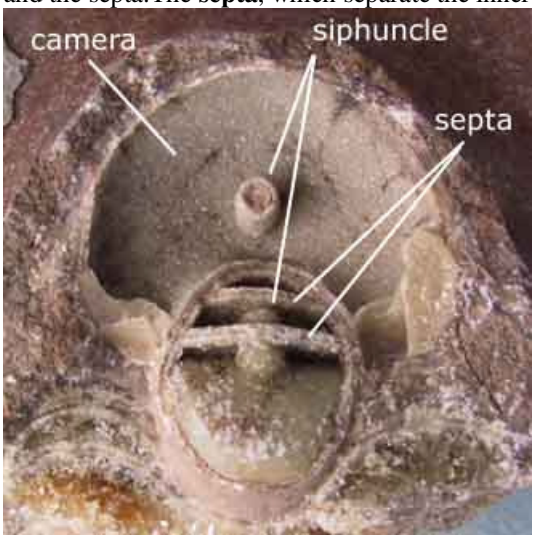
Continued from previous page

Ammonite Shell Structure:
The Basis For Classification

Ammonite shell structure is similar to the chambered nautilus.

The chambered part of the shell is called the **phragmocone**, of which each chamber is called a **camera**. The outside of the shell is often ornamented with ridges, spines, or a pattern of lines called **lirae**. This ornamentation, along with shell shape, is also considered in classification.

Siphuncle and Septa
Inside the shell there is a **siphuncle**, a tube used for propulsion and buoyancy.The location of the siphuncle is not like the nautilus. Instead of going through the middle of the animal, it runs along the inside of the outermost spiral. The picture below shows a fossil ammonite that has been broken. This allows viewing it's inner parts. You can clearly see the siphuncle and the septa.The **septa**, which separate the inner chambers of the ammonite, show folds instead of smooth arcs. It is the pattern created by the folds, along with the position of the siphuncle that is the basis of classification.



Aptychi - The Front Door
Ammonites were probably able to pull their bodies inside the shell for protection. Some speices from the Mesozoic era developed hard plates called **Aptychi** that covered the opening.

Classification
Ammonites are, of course, members of the animal kingdom. Since they are without backbones, they are **invertebrates**. They belong to the phylum **Mollusca** because of their soft body and ability to create shells. Modern day varieties include snails, clams, and oysters, but the octopus and squid have a small internal shell or no shell at all. They are mollusks that belong to the class **cephalopoda** as does the ammonite. The tentacled head is the primary feature of the members of this class, so the modern chambered nautilus also belongs to this class. For our ancient fossil, the subclass is **Ammonoidea**.

These are the orders. There are also several suborders:
• **Goniatitida**- The goniatites ranged from the Devonian to the upper Permian Period. They are characterized by septa with round saddles and pointed lobes.
• **Ceratida**- This order existed from the Carboniferous Period to the Triassic Period. They are characterized by septa with round saddles and serrated lobes.
• **Ammonitida**- They first show up during the Permian Period and lasted through the Cretaceous Period. Their septa have folded saddles and lobes. The shells are decorated with a complex pattern of lines called lirae.

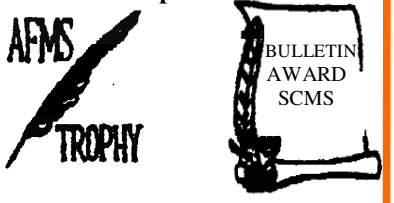
The Heteromorphs - A Breed Apart
Most ammonites have flat spiral shells, (**planispiral**). Some species had partial spirals, and then uncurled to a straight cone. Still others had a spiral section, then a straight section and then a curved hook so that the animal faced its spiral section. A few varieties did not follow the typical planispiral form at all. Some were helical and some curved wildly about apparently at random. All these non-planispiral forms were called **heteromorphs**.

GULF COAST GEM & MINERAL SOCIETY, INC.
P.O. Box 60781 Corpus Christi, TX 78466

MEMBER of	**American Federation of Mineralogical Societies**  **South Central Federation of Mineral Societies, Inc** 
Meeting	**Held the third Tuesday of each month at 6:30 pm at the museum of Science & History 1900 North Chaparral September through May, and at the Lapidary Shop 3933 Timon Blvd., Corpus Christi TX for June through August.**
Membership Fees	**Individual $15.00 Couples $20.00 Junior (under 17) $5.00**
2010 Officers	President: Kevin Schleicher Vice President: Kyle Hinkle Past President: Suzy Nick Secretary: Suzy Nick Treasurer: Gene Schade gene@casadeoro.net
Board Appointees	Membership: Sandra Hinkle Education: Owen Hopkins Librarian: Linda Simpson Treasurer Gene Schade Show Chair: Jerrold Simpson Show Publicity: Donna Grimes Shop coordinator: Mark Wolbrink Field Trip Coordinator: Mike McCraw Dealer Chair: Jerrold Simpson
Standing Committies	Shop coordinator: Mark Wolbrink Field Trip Coordinator: Mike McCraw Federation Liaison: Linda Simpson Historiorn: Frances Marten Librarian Linda Simpson Communications: Suzy Nick Refreshment Hostess; Letty Rodriguez Bulletin Editor; Art Worley Webmaster: Art Worley E-mail artleew@agates123.com Door Prizes; Gilbert Rodriguez

Slabs & Cabs
Art Worley
2561 Rainttree Trail
Ingleside, TX 78362

Slabs & Cabs Awards
Small Bulletins
2003 4th place SCFMS



PUBLICATION
2nd 2002 **2001 1st**
2001-4th place AFMS
2000 9th place SCFMS
1999-8th place SCFMS
1999– 9th place (new editor) AFMS