



THE AMMONITE



Newsletter of The Western Dakota Gem & Mineral Society – April 2009



FROM THE PRESIDENT by Deb R.

If you read your Ammonite, you will notice a few changes with this addition. Extra pages and content have been added so that more informational and fun articles can be shared with the members. Again, this is YOUR newsletter – be sure to support it with articles and suggestions for articles that you would like to see in print or shared with your fellow members!

CLUB CALENDAR:

MONTH	REFRESHMENTS	DOOR PRIZES	PROGRAM
APRIL	Rita H.	Karen B.	Sign-ups
MAY	Deb R.	Jamie B.	Alaskan Rockhounding
JUNE	Bonnie N.	Steve S.	Show – last minute prep
JULY	Juliet W.	Mickey S.	??
AUGUST	Picnic	Picnic	Picnic
SEPTEMBER	Don & Annette R.	Don & Annette R.	??
OCTOBER	Melanie B.	Deb R.	??
NOVEMBER	Paula H.	Rita H.	??
DECEMBER	Dinner	Dinner	Dinner

FEATURE STORIES:



The Rheanna's Star

(Abbreviated story from the Montana Tech Publication)

Named for his 3-year old middle child Rheanna, Zach Johnson found the largest smoky quartz crystal cluster ever found in Southwest Montana. Weighing in at over 130 pounds, the cluster was found in a pocket that ran straight down about 4ft x 4ft x 6ft deep and had to be removed in 2 sections. Along with this large smoky quartz Zach also pulled out about 200 tourmaline crystals and 60 smoky quartz crystals. The actual removal of the stone from the dig site took about two years of meticulous digging with a screwdriver and “incredible patience” to finally release it from the earth. The crystal is destined to be housed in the Montana Tech’s Mineral Museum, where it will be on display for the public.

TYPES OF FOSSIL PRESERVATION

From the Mar09 Rocky Review, via Del Air Bulletin 6/08

Actual Preservation: This is the rarest form of preservation, but possible when bacterial action and decay have been arrested. Animals have been preserved without any chemical or mineral alteration in bogs, tar pits or seeps, in tree sap (amber), or frozen in ice.

Permineralization: The porous, bone matter of skeletons becomes filled in the soft tissue spaces with mineral matter that has been carried to it while dissolved in the water that percolates through the earth. This mineral material, precipitated out of solution, fills up such bone tissue without changing the original shape or substance.

Replacement: This is the most common form of fossilization. In this method the original animal substance, that is the shell or skeleton, is dissolved and replaced by a different type of mineral matter. Silica usually replaces wood in this manner (petrified or opalized). In corals and shells the actual specimens, other than their soft parts, can be replaced in their entirety by quartz, calcium carbonate or various iron minerals. Such fossils are called pseudomorphs of the original animal.

Distillation or Carbonization: Volatile elements or organic materials are distilled away, leaving only a residue of carbon to record the actual animal or plant. This is the most common preservation method for plant leaves.

Molds, Casts and Imprinting: Each type is closely related, and their difference in some cases is a matter of semantics. For example, shells embedded in sandstone, or limestone can be dissolved by percolating ground water leaving a perfect cast by the original specimen. Later, percolating ground waters may deposit mineral substances in the mold creating an exact cast of the original animal.



Lapidary

From Wikipedia, the free encyclopedia

A **lapidary** (the word means "concerned with stones") is an artisan who forms stone, mineral, gemstones, and other suitably durable materials (amber, shell, jet, pearl, copal, coral, horn and bone, glass and other synthetics) into decorative items (e.g. cameos, cabochons, and faceted designs). Diamond cutters are generally *not* referred to as lapidaries, due to the specialized techniques which are required to work diamond.

The arts of a sculptor or stonemason do not generally fall within the definition, though chiseling inscriptions in stone, and preparing laboratory 'thin sections' may be considered lapidary arts. The term is most commonly associated with jewelry and decorative household items (e.g. bookends, clock faces, ornaments, etc.) A specialized form of lapidary work is the inlaying of marble and gemstones into a marble matrix, known in English as "pietra dura" for the hard stones like onyx, jasper and carnelian that are used, but called in Florence and Naples, where the technique was developed in the 16th century, *opere di commessi*. The Medici Chapel at San Lorenzo in Florence is completely veneered with inlaid hard stones. A lapidary specialty developed from the late 18th century in Naples and Rome are the "micro-mosaics" assembled out of many minute slivers of stone to create still life, cityscape views and the like.

In China, lapidary work specializing in jade carving has been continuous since the Shang dynasty.

Categories

There are three broad categories of lapidary arts. These are the procedures of tumbling, cabochon cutting, and faceting. The distinction is somewhat loose, and leaves a broad range within the term cabochon.

Most lapidary work is done using motorized equipment and resin or metal bonded diamond tooling in successively decreasing particle sizes until a polish is achieved. Often, the final polish will use a different medium, such as tin oxide, glasitite or cerium(IV) oxide. Older techniques, still popular with hobbyists, used bonded grinding wheels of silicon carbide, with only using a diamond tipped saw. Diamond cutting, because of the extreme hardness of diamonds, cannot be done with silicon carbide, and requires the use of diamond tools.

There are also many other forms of lapidary, not just cutting and polishing stones and gemstones. These include: casting, faceting, carving, jewellery, mosaics (eg. little slices of opal on potch, obsidian or another black stone and with a clear dome (glass or crystal quartz) on top. There are lapidary clubs throughout the world. In Australia there are numerous gemshows including an annual gemshow, the Gemborree which is a nation-wide lapidary competition. There is a collection of gem and mineral shows held in Tucson, Arizona, USA, at the beginning of February each year. This group of shows constitutes the largest gem and mineral event in the world. The event was originally started with the Tucson Gem and Mineral Society Show and has now grown to include dozens of other independent shows.

ZODIAC STONES (part 4 of 12):

From Wikipedia, the free encyclopedia

Early civilizations such as India and Babylon have attributed gemstones with magical properties. Over time, astrologers assigned gems of certain colors to the twelve signs of the zodiac to help people influence the planets in their favor.

Sign	Dates	Stone	Sign	Dates	Stone
Aquarius	January 21 - February 18	Garnet	Leo	July 23 - August 23	Onyx
Pisces	February 19 - March 20	Amethyst	Virgo	August 24 - September 22	Carnelian
Aries	March 21 - April 20	Bloodstone	Libra	September 23 - October 23	Peridot
Taurus	April 21 - May 21	Sapphire	Scorpio	October 24 - November 22	Beryl
Gemini	May 22 - June 21	Agate	Sagittarius	November 23 - December 21	Topaz
Cancer	June 22 - July 22	Emerald	Capricorn	December 22 - January 20	Ruby



The 422.99 carats (84.60 g) blue Logan sapphire



Pink sapphire



Padparadscha



The 182 carats (36 g) Star of Bombay star sapphire



Sapphire from Madagascar



Synthetic sapphire

Sapphire (Greek: *sappheiros*) refers to gem varieties of the mineral corundum, an aluminium oxide (Al_2O_3), when it is a color other than red, in which case the gem would instead be a ruby. Trace amounts of other elements such as iron, titanium, or chromium can give corundum blue, yellow, pink, purple, orange, or greenish color. Pink-orange corundum are also sapphires, but are instead called *padparadscha*. Because it is a gemstone, sapphire is commonly worn as jewelry. Sapphire can be found naturally, or manufactured in large crystal boules. Because of its remarkable hardness, sapphire is used in many applications, including infrared optical components, watch crystals, high-durability windows, and wafers for the deposition of semiconductors, such as GaN nanorods and blue LEDs. Sapphire is one of the two gem varieties of corundum, the other being the red ruby. Although blue is the most well known hue, sapphire is any color of corundum except red; red corundum is known as ruby. Sapphire may also be colorless, and it also occurs in the non-spectral shades gray and black. Pinkish-orange sapphire is known as *padparadscha*.

The cost of natural sapphire varies depending on their color, clarity, size, cut, and overall quality as well as geographic origin. Significant sapphire deposits are found in Eastern Australia, Thailand, Sri Lanka, Madagascar, East Africa and in the United States at various locations (Gem Mountain) and in the Missouri River near Helena, Montana. Sapphire and rubies are often found together in the same area, but one gem is usually more abundant.

PLACES AND FACES:

Fossil Collecting Sites in North America – South Dakota

(<http://members.fortunecity.com/michaelp2/fossil1.html>)

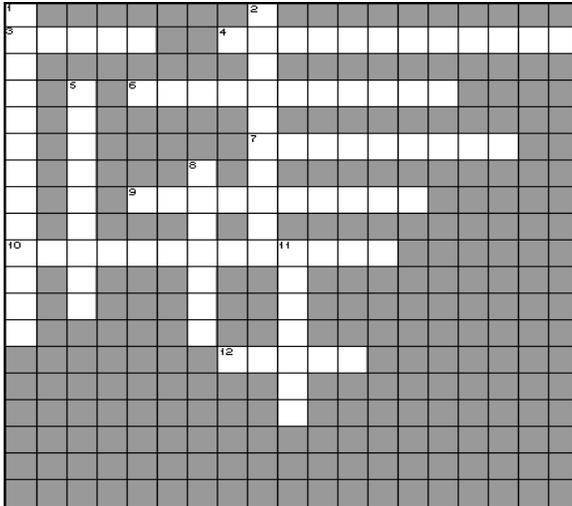
SW South Dakota - Invertebrates are quite common in the Cretaceous rocks which in the Pierre Shale. If you are between City and the Badlands, highway 44 crosses the White River, and there is a good roadcut nearby. Around the Badlands and the adjacent Indian reservation, fossils are fairly easy to find in the ditches by the road.

In the Black Hills, almost any thick white limestone outcrop has the potential for holding invertebrate marine fossils. The thickest is the Madison limestone. As you hike around the margins of the Hill, near Rapid City, you may come across the valley where the last scene of *Dances with Wolves* was filmed. Nice corals are found in this area.

After entering South Dakota at North Sioux City, take 1-29 north to the junction with State Route 50, 7 miles north of Elk Point. Follow Highway 50 for about 8 miles to a narrow ridge that cuts across Route 50. In the Greenhorn Limestone at this locality is found good pelecypod collecting (better exposures are on the other side of the Big Sioux River in Iowa). Continue west along Route 50 to Yankton. Near Ciavins Point Dam, 3 miles west of Yankton, along Highway 50, the Niobrara Chalk and the Pierre Shale are exposed in quarries along the north bluff of the Missouri River. The chalk contains remains of shells, fishes, and marine reptiles as does the Pierre Shale above the chalk. Continue westward on Routes 52, 50 and U.S. Highway 18 and cross Fort Randall Dam where, on the west side of the Missouri River, you will ascend through the complete section of the Pierre Shale, and find many zones that contain vertebrate and invertebrate fossils.

The Badlands of the Little White River are accessible in Mellette and Bennett Counties. Vertebrate fossils sometimes occur in these Badlands. Continuing West on Highway 18, just inside Fall River County, the Tepee Buttes (which actually resemble teepees) of the Pierre Shale are fossiliferous with poorly preserved pelecypods. Continuing westward to the Wyoming State line on Highway 18, the Sundance crops out and contains numerous fossil cephalopods. Near Kadoka you begin to enter the area of well exposed White River beds in and around Badlands National Park. These beds occasionally contain fossil bones, but collecting is not allowed within or near the Park. You may wish to take Star Route 44 through Scenic to Rapid City to take advantage of numerous collecting areas along the way. Below the base of the White River beds, in the upper part of the Pierre Shale, are large concretions. When these are broken open you may find cephalopods and other invertebrates. The same type of collecting can be done on I-90 near Wasta. The Fox Hills sandstone near Eagle Butte contains pelecypods and gastropods in the concretionary zones in some of the less cemented parts of the sandstone. (Tribal permission to collect is required in Dewey and Ziebach Counties.)

FUN AND MISC:



Across

- 3. One of Tennessee's state rocks.
- 4. A scientist who studies the origins and mineral components of rocks.
- 6. Rock formed by layers of silt, pieces of other rocks and sometimes fossils.
- 7. A person who collects and studies rocks and minerals.
- 9. A scientist who uses chemical processes to study the Earth.
- 10. A scientist who studies matter and energy and how they interact.
- 12. Cavemen used rocks as _ _ _ _ _.

Down

- 1. A person who studies fossils of prehistoric creatures.
- 2. Rock changed by heat or pressure.
- 5. One of Tennessee's state rocks.
- 8. Remains or imprints of plant or animal life preserved in the Earth's crust.
- 11. Rock started as molten magma or lava.

Word List

Agate, Fossils, Geochemist, Geophysicists, Igneous, Limestone, Metamorphic, Palentologist, Petrologist, Rock hound, Sedimentary, Tools



March 13, 2009 Minutes, by Hazel W.:

The 13 March 2009 meeting was called to order at 7:30 by club president, Deb R. . The February minutes were accepted as published by Kathy A. and 2nd by Mickey S. . **NEW MEMBERS:** We are glad to have a new member to the club, John Anderson. This gives us a membership of 26 families and 41 singles. The members welcomed John to the club. **TREASURE'S REPORT:** Rita H. read the treasure's report of \$10,513.10 with a deposit of \$205. Subtracting bills of \$504.89 gave a new balance of \$10,213.21. **LICENSING OF DEALERS:** Don R. gave a brief to the members on the vendor/dealer proposal which says vendors needed to be fingerprinted and a background check conducted. He stated this proposal was not passed. Good news to hear! **CLUB INSURANCE:** Don R. stated he received a notice that the club insurance had been cancelled. He visited the insurance company and they stated they would refund any monies to clubs that did have insurance. The insurance company did state to him that they could have us insurance by the date of our show in June. **SHOW:** Mickey S. handed out a sample flyer for the show scheduled on 27 June. The flyer was passed around for all members to review. Some edits and changes were suggested. He will make the changes and get the flyer back for approval. **FIELD TRIP:** A field trip to the geology museum at the School of Mines has been set up by Steve S. . A signup sheet was passed around for those interested in going. The tour is scheduled for 21 March at 10:00. Dale J. has invited the club members to his home as a field trip. A signup sheet is also being passed around for those interested in going to Dale's.

OLD BUSINESS: Donations for refreshments at meetings were discussed. Deb stated there was still a slot open in Nov for a volunteer to bring the refreshments. Paula H. signed up for Nov. Deb noted to the members that names are listed on the back of the Ammonite when it is their turn for refreshments and door prizes. **MAY'S PROGRAM:** The program for May will be Rock hounding in Alaska. Should be interesting. **AUGUST PICNIC:** The members discussed a new location for the August picnic. The picnic is normally at Story Book Island but they have raised their rates. Several options were mentioned but a vote was not

taken at this time. **HOLIDAY PARTY:** New locations are being looked into for the Holiday party. One option is to have it in Deadwood. Some stated they enjoyed the Elks and would like to keep it there. No final decision was made.

NEW BUSINESS: SHOW CO-CHAIR: A co-chair is needed for the upcoming show in June to help Jamie. Don R stated he would be glad to help again as he has done so in the past. The show is scheduled for 27 and 28 June with set up on 26 June, which usually takes about 8 hours. A dealer's dinner will be held in the evening with a field trip following the show on Monday. A sign-up sheet for the silent auction will be passed around next month meeting. It was noted that volunteers are needed to sign up for ticket sales, information booth, and the silent auction.

NEWSLETTER: Deb stated she receives numerous copies of newsletters from other clubs and, when compared to ours, they cover so much more than our newsletter. She suggested at least 2 more pages to make it standard with the other ones she receives. The printing will cost a little bit more for the extra sheets. The club voted to go ahead and make it larger and if needed, included some stories from members they would like to share. **RAILROAD BUTTES:** A meeting is scheduled for 24 March to discuss which roads to leave open and which to close at Railroad Buttes. If you have rocks or specimens of any kind that you are not for sure what they are, the School of Mines will gladly identify them for you. A sympathy card was passed around for members to sign for Bev's family. The club would like to have a memorial in memory of Bev at the June show if family members are in agreement.

BOARD MEETING: The first board meeting of 2009 took place following the club meeting on 13 March. **GEOLOGY MAPS/DINOSAUR BROCHURES:** Deb suggested we order some to sell at the upcoming show. A vote was held and it was decided to order 150 geology flyers and 50 dinosaur flyers. **SILENT AUCTION:** Linda and Steve S. are in charge of contacts for the silent auction. Email address is shivers@rushmore.com. Don R. mentioned he has the sign-up for display cases for those that need one.

Western Dakota Gem & Mineral Society 2008-2009 Officers and Chairpersons (area code 605)

President:	Deb R. , 430 E. Idaho St., Rapid City, SD 57701.....	343-7850
Vice President:	Roger V. , 4800 Summerset Dr., Rapid City, SD 57701.....	341-6299
Secretary:	Hazel W. , 2415 Judy Ave., Rapid City, SD 57702.....	399-2670
Treasurer:	Rita H. , 2569 Ambush Ranch Rd., Rapid City, SD 57703.....	348-3916
Show Co-Chair:	Jamie B. , 1701 5 th St., Rapid City, SD 57701.....	415-6283
Show Support:	Donald R., 2701 Mystic Mt. Rd., Rapid City, SD 57702.....	348-8948
Silent Auction Chair:	Linda S. , 11809 Eastridge Hill Dr, Black Hawk, SD 57718.....	716-4047
Silent Auction Asst-Chair:	Mickey S. , 201 Patton St., Rapid City, SD 57701.....	791-1953
BRC SD Rep:	Donald R., 2701 Mystic Mt. Rd., Rapid City, SD 57702.....	348-8948
BHRMUC Rep:	Donald R., 2701 Mystic Mt. Rd., Rapid City, SD 57702.....	348-8948
RMFS SD Dir.:	Donald R., 2701 Mystic Mt. Rd., Rapid City, SD 57702.....	348-8948
RMFMS SD Reps:	Donald R., 2701 Mystic Mt. Rd., Rapid City, SD 57702.....	348-8948
Field Trip Chair:	Steve S. , 11809 Eastridge Hill Dr, Black Hawk, SD 57718.....	716-4047
Field Trip Asst-Chairs:	Jan B. and Calvin L.	
1 yr. Board Member:	Jamie B. , 1701 5 th St., Rapid City, SD 57701.....	415-6283
2 yr. Board Member:	Ellen T. , 21653 Piedmont Meadows Rd., Piedmont, SD 57769.....	787-4659
3 yr. Board Member:	Dale J., 14974 Back Country Trail, Rapid City, SD 57703.....	393-2011
Newsletter Editor:	Deb R. , 430 E. Idaho St., Rapid City, SD 57701.....	343-7850
Historian	Donald R., 2701 Mystic Mt. Rd., Rapid City, SD 57702.....	348-8948
Publicity Co-Chair:	Mickey S. , 201 Patton St., Rapid City, SD 57701.....	791-1953
Publicity Co-Chair:	Calvin L. , 220 E. St. Joseph #2., Rapid City, SD 57701.....	593-1711
Librarian:	Steven E. , P.O. Box 1123, Rapid City, SD 57709.....	484-5712

Club Address: 2701 Mystic Mt. Rd., Rapid City, SD 57702

Meetings: Second Friday of each month, 7:30 p.m., Minneluzahan Senior Center, 315 N. 4th St., Rapid City

Dues: Family - \$15, Single - \$10, Payable by cash, check, or money order. Senior Citizens free membership (does not include bulletin)

The purpose of our club is to promote interest and education in geology, mineralogy, paleontology, archaeology, and lapidary, to sponsor and provide means of coordination the work efforts of groups and individuals interested in these science fields.

**THE 29TH ANNUAL GEM & MINERAL SHOW IS JUNE 27TH AND 28TH
(Set-up Friday, June 26th)**

THE AMMONITE

Official Publication of the
Western Dakota Gem & Mineral Society

Editor: Deb R.
430 E. Idaho St.
Rapid City, SD 57701
sashaNren@peoplepc.com

Affiliated with AFMS and RMFMS

Club Mailing Address:
2701 Mystic Mt. Rd., Rapid City, SD 57702

**Material in this newsletter may be used if proper credit is given.
Material for this newsletter must be given to the editor by the
25th of the month preceding that issue.**

