

St. Croix Rockhounds  
Doug Olson, Editor  
211 Interlachen Way  
Stillwater, MN 55082



# December, 2007

**First Class**

Please send exchange bulletins to:

Doug Olson, Editor  
211 Interlachen Way  
Stillwater, MN 55082



**December 4<sup>th</sup> – This is the club's annual X-mas party at the Old Country Buffet in Maplewood, Minnesota.**

St. Croix Rockhound's

## LEAVERITE NEWS

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Member of:



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## ST.CROIX ROCKHOUNDS

**MEETINGS:** Club meetings are held the third TUESDAY of each month, at Stonebridge Elementary School on W. Elm. St. in Stillwater, MN at 7:15 P.M.. Everyone is welcome.

**MEMBERSHIP:** Full membership for a single person over 16 is \$7.50 per year. Family membership is \$10.50 per year.

### OFFICERS:

President	Pete Rodewald	(715) 425-5561
Vice President	Brad Bonse	(651) 439-6832
Secretary	Doug Olson	(651) 430-9035
Treasurer	Lin Rawlings	(651) 735-4691
Program Committee	Mark Rasmussen	(651) 275-0607
	Bill Cordua	(715) 425-9544
	Victor Martinsen	(715) 247-3700
Show Committee	Bill Cordua	(715) 425-9544
Refreshments	Freya Kask	(651) 777-6371
Librarian	June Young	(651) 429-3887
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Sunshine Committee	Marie Newlander MN	(651) 439-7809
Tour Director	Susan Dustin	(651) 430-3933
Liaison Officer	Freya Kask	(651) 777-6371
Newsletter Editor	Doug Olson	(651) 430-9035

The purpose of our organization is to bring together rock and mineral enthusiasts on a regular basis through membership and through pooling of individual knowledge, talents and skills, to improve the lapidary skills of participating members. Affiliation: American Federation of Mineralogical Societies and Midwest Federation of Mineralogical and Geological Societies.

**COMING UP! - December 4<sup>th</sup>:** St. Croix Rockhounds club meeting will be at Old Country Buffet near the Maplewood Mall in Maplewood, MN. The meeting will begin at 6pm and the program is the club's annual x-mas party.

### COMING ATTRACTIONS

**December 4<sup>th</sup>:** St. Croix Rockhounds x-mas party held at the Old Country Buffet near the Maplewood Mall, starting at 6 pm.

**December 8-9<sup>th</sup>:** Glacial Drifters 3<sup>rd</sup> annual show in Sheboygan Falls Municipal bldg in Sheboygan Falls, WI. Contact Kevin Ponzio at 920-980-6413 for info.

**December 8-9<sup>th</sup>:** Anoka Gem & Mineral Club Sales Show at the Faribo West Mall, 200 Western, Faribault, MN. Call Martha Miss, 651-459-0343 for information.

**December 15-16<sup>th</sup>:** Anoka county Gem & Mineral Club show in Faribo West Mall, Faribault, MN

**February 23-24:** Anoka county Gem & Mineral Club show in Har Mar Mall in Rosedale, MN.

**March 15<sup>th</sup>:** St. Croix Rockhounds Annual Club Show; Saturday 9AM – 4 PM (Saturday before Palm Sunday), at the Valley Creek Mall in Woodbury, MN

**June 20-22, 2008:** MWF convention in Lincoln, NE.

**September 23-28<sup>th</sup>, 2008:** AFMS/RFMS show in Humble (Houston), TX.

Rockound **Harold Maine** is selling out. He has slabs, cabs, jewelry stones, rough and equipment. Call him anytime between 9 am and 6 pm (not on Thursdays or Sundays) to set up an appointment. 3507 Yukon Ave No, Minneapolis MN; 763-544-7733



## **Celebrate!!! December now has four birthstones, turquoise, zircon, tanzanite and blue topaz (on some lists).**

The vibrant turquoise was believed to be a defender against bad luck to those that wore it. It has been said that cowboys always carry a blue turquoise on their journey's so that they might be blessed with success. The brilliant blue-green Turquoise commands a booming, billion-dollar market. It has been found among Egyptian artifacts including jewelry and decoration on tombs. The term turquoise is probably derived from the French pierre turquoise (Turkish stone). In the old world, the Egyptians and Persians and Mongols valued turquoise highly. Turquoise is a very popular stone in Tibet. The name "Persian Turquoise" is now applied to these stones as a color grade rather than as an indication of source area. In the New World, the Aztecs and Incas utilized turquoise but the American Indians of the Southwest have probably brought more attention to this stone in recent years than any other culture.

Turquoise is almost always opaque but rare, translucent stones are known to exist.

A present day addition is the Zircon, whose naturally found brown clear crystals are heated to turn into the beautiful blue gemstone

### **December birthdays:**

Eloise Kimball - 1<sup>st</sup>  
Robert Olson – 8<sup>th</sup>  
Brad Bonse – 31<sup>st</sup>  
Sandy Dustin - 31<sup>st</sup>

### **December Anniversaries:**

Avis & David Klinkhammer – 28<sup>th</sup>  
Dave & Wendy Flynn anniversary - 29<sup>th</sup>

## **ZIRCON – The December Birthstone**

*Compiled 2003 from many articles by Al Pennington, CLGMS*

Zircon comes from the word zargoon, meaning vermilion in Arabic or zargun meaning golden-colored in Persian. Zircon is Zirconium silicate  $ZrSiO_4$ , often with some hafnium and occasionally with some uranium, thorium, and yttrium. It can contain up to 20 percent of hafnium in its structure; if it exceeds that, it is scientifically a different mineral. Zircon is found in most igneous rocks and some metamorphic rocks as small crystals or grains, mostly widely distributed and rarely more than 1% of the total mass of the rock. It is also found as alluvial grains in some sedimentary rocks due to its high hardness. Zircon has a high index of refraction and, where crystals are large enough, is often used as a gemstone.

Hindu poets tell of the Kalpa Tree, the ultimate gift to the gods, which was a glowing tree covered with gemstone fruit with leaves of zircon. Zircon has long had a supporting role to more well-known gemstones, often stepping in as an understudy when they were unavailable. In the middle ages, zircon was said to aid sleep, bring prosperity, and promote honor and wisdom in its owner.

Natural zircon today suffers for the similarity of its name to cubic zirconium, the laboratory-grown diamond imitation. Some don't realize that there is a beautiful natural gemstone called zircon.

Zircon occurs in a wide range of colors but for many years, the most popular was the colorless variety which looks more like diamond than any other natural stone due to its brilliance and dispersion. Today the most popular color is blue zircon. Most blue zircon, which is considered an alternate birthstone for December, is a pastel blue, but some exceptional gems have a bright blue color. Zircon is also available in green, dark red, yellow, brown, and orange.

The wide variety of colors of zircon, its rarity, and its relatively low cost make it a popular collector's stone. Collectors enjoy the search for all possible colors and variations. Almost all Zircon gems are artificially colored by heat-treatment. Many of its gem colors are rarely found naturally in such color. An interesting and strange habit exhibited in only few zircons is that their color darkens and their luster dulls upon prolonged exposure to sunlight. This effect can be reversed by giving the stones a second heat-treatment.

Zircon is one of the heaviest gemstones, which means that it will look smaller than other varieties of the same weight.

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*ZIRCON continued from previous page...*

Zircon jewelry should be stored carefully because although zircon is relatively hard, it can abrade and facets can chip. Dealers often wrap zircons in individual twists of paper so that they will not knock against each other in a parcel. Zircon is somewhat soft so avoid scratches and sharp blows. Avoid hot water and household chemicals.

The typical simple crystal of zircon is a tetragonal prism terminated with four sided pyramids at each end. The prism may be lacking and the crystal can look octahedral. More complex crystals have faces of a less steeply inclined prism that taper the terminations. Also a secondary prism may truncate the primary prism by cutting off its edges and producing an octagonal cross-section through the crystal. There is even an eight sided pyramid (actually a ditetragonal dipyramid) that may modify the four sided pyramids.

### **PHYSICAL CHARACTERISTICS:**

**Color** - Colorless, white, gray, black, brown, brownish-red, orange, pink, yellow, light blue, light green, light purple.

**Luster** - Greasy to adamantine. Radioactive Zircon has a pitchy luster.

**Transparency** - crystals are transparent to translucent.

**Crystal System** - tetragonal; 4/m 2/m 2/m

**Crystal Habits:** - dipyramidal and prismatic. Most often as short, stubby, prismatic crystals, which are almost always terminated. Crystals also occur in elongated, terminated prisms. Doubly terminated crystals are not uncommon. Radioactive zircon is characterized by rounded crystal faces. Zircon also occurs as grains, as fibrous aggregates, and as rounded, water worn pebbles. Twinned Zircon crystals are uncommon

**Cleavage** - indistinct in two directions, prismatic. 3,2

**Fracture** - Conchoidal to uneven

**Hardness** - 7.5

**Specific Gravity** is 4.6-4.8

**Streak** - colorless

**Tenacity** - Brittle

**Other Characteristics:** is sometimes orange-yellow fluorescent and darker crystals may be radioactive due to impurities of rare earth elements.

**Index of refraction** is 1.92 - 2.01

### **Varieties:**

**Cyrtolite** - unstable variety of Zircon with traces of radioactive elements in its chemical structure

**Hyacinth** or **Jacinth** - yellow, orange, brown, or red variety of Zircon

**Jargon** or **Jargoon** - colorless to pale gray or pale yellow variety of Zircon

**Starlite** - blue variety of Zircon

**Matarua** or **Matara** - colorless Zircon used to resemble Diamond

**Zircon is mined** in Cambodia, Sri Lanka, Thailand, Myanmar, Australia, Seiland, Norway; Pakistan; Russia; Bancroft and Sudbury, Ontario, Canada and New Jersey and Colorado, USA.

References: Web sites - Amethyst Galleries, International Colored Gemstones, The Mineral and Gemstone Kingdom. 12/03 newsletter

## The Dinosaurs may have been Wiped Out in a Gas-Fueled Firestorm

A "hell on Earth" may have been triggered by vast quantities of trapped methane released from under the ground by a comet. A massive impact in the Gulf of Mexico 65 million years ago is thought to have changed the Earth's climate and driven the dinosaurs to extinction.

But a team of American oceanographers believe this is only half the story. They say the dinosaurs' end may have been even more dramatic, as shock waves from the explosion released highly flammable methane from within the Earth. At the end of the Cretaceous period huge amounts of the gas, generated by rotting vegetation, lay trapped in sediments 500 metres below sea level. Bubbling up to the surface, the methane would have escaped into the air and been ignited by lightning bursts in the disturbed atmosphere, say the scientists.

Burton Hurdle, of the Naval Research Laboratory in Washington DC, told *New Scientist* magazine: "The atmosphere itself would have been on fire. This could have contributed to the demise of the dinosaurs."

**Periodic escapes of gas:** As evidence, the researchers point to an earlier discovery of disruption in late Cretaceous sediments at Black Ridge, off the coast of Florida, which may have been due to methane release. A smaller "blow-out" is thought to have occurred in the Gulf of Mexico during the late Pleistocene epoch,

More recent activity on the ocean floor suggests trapped methane periodically escapes even without asteroid strikes. Some scientists believe the Bermuda Triangle phenomenon could be explained by methane escaping and overwhelming passing ships or planes.

Dinosaur expert Dr Angela Milner, from the Natural History Museum in London, said many dinosaurs appear to have been in serious decline even before the impact. But she agreed huge methane fires "could have been the final straw" for some species. *from Stoney Statements 1/05*

## Monster's Eyes from the Deep

Ichthyosaurs, the reptiles that swam in the seas during the time of the dinosaurs, had monster-sized eyeballs. The latest research suggests that some of the marine creatures could have had eyeballs that measured more than 30 centimeters (12 inches) across. This is far larger than any known vertebrate, and bigger even than the eyes of giant squids which are about 25 cm across.

A team of scientists, led by Ryosuke Montani, from the University of California Museum of Paleontology, Berkeley, US, examined the fossil remains of ichthyosaur specimens to estimate their eyeball diameters. The largest eye aperture was 25.3 cm across and belonged to a species called *Temnodontosaurus*, which had a body length of nine meters.

Absolute size is a very important property of eyes, the team say in their report to the science journal *Nature*. Larger eyes can house more light-sensitive cells and let in more light. Eye size, therefore, usually reflects the importance of vision to an animal.

**Deep diver:** The clear suggestion here, of course, is that ichthyosaurs were able to dive to great depths where sunlight hardly penetrates. Montani's group looked for evidence that ichthyosaurs were deep divers and found one type, *Ophthalmosaurus*, whose bones bore evidence of "the bends" (Caisson disease). This indicates that some of these creatures which lived between 250 and 90 million years ago could dive to depths of 500 metres (1,640 ft) or more.

Of all the ichthyosaurs, *Ophthalmosaurus* probably had the biggest eyeballs for its size (four meters) at 22 cm in diameter. But *Ophthalmosaurus* was by no means the biggest ichthyosaur to have swum in the oceans. And the researchers make the observation that eye size generally tends to scale  
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with body size -they quote the example of the blue whale which has the biggest eyes of any living vertebrate at 15 cm in diameter. "There is a poorly known parvipelvian ichthyosaur that may have been 15 m long," the researchers point out, "so the largest ichthyosaurian eye was probably more than 30 cm in diameter."

But "the jaws are 100 percent adult," armed with "massive bone-crushing teeth." That suggests it ate an adult diet, even though it didn't appear strong enough to wrestle large prey to the ground, he said So apparently Mom or Dad hunted the meals, and Junior showed up later to munch, he said. Holtz said that's a possibility, but not the only one. *from Stoney Statements 1/05*

## Pachyrhachis: Snake with Hind Legs

**The quarries of 'Ein Yabrud:** Researchers from the United States and Israel have reopened a limestone quarry near Jerusalem to search for fossils that will provide clues to life on Earth 95 million years ago. The quarry was closed in 1985 but yielded a treasure trove of fossils while in operation. The area is now slated for development and, in a race against time, special arrangements have been made with the owners to reopen the quarry for 21 days to allow researchers to excavate for fossils.

Before the 'Ein Yabrud quarry, located 12 miles (20 kilometers) north of Jerusalem, was closed in 1985, quarry workers brought several hundred fossil specimens to the late George Haas of Hebrew University. The fossils include plants, bony fish, a shark with the outline of its skin preserved, turtles, lizards, a pterosaur foot, snakes with legs, and others.

"The fossils here are astonishingly well preserved," says Louis Jacobs, a vertebrate paleontologist at Southern Methodist University in Texas and principal investigator on the current excavation project. "They can be dated to about 95 million years ago. What we have here is a window into the past of the Middle East, an opportunity to document the fauna with a quality of fossils difficult to surpass."

For years scientists have debated whether snakes originated on land or in the sea and the most tantalizing find at 'Ein Yabrud - a fossil of a snake with legs - has fueled the discussion

"The question has been what was the stimulus that causes snakes to evolve into a limbless condition - was it the result of a burrowing existence on land or a movement into the oceans," says Thomas LaDuke, a paleontologist at East Stroudsburg University. "What's causing the excitement now is a more detailed analysis of fossils that we've known about. And as more fossils come to light, the better able we'll be to reconstruct the past.

"The Pachyrhachis - snake with legs -found at 'Ein Yabrud represents the first time we know of that snakes invaded the marine environment," says Jacobs. "This area was once covered by the ancient Tethys Ocean. The snake's undigested stomach contents show that it ate marine fish, and 'Ein Yabrud is the only place where such a fossil has been found."

The fossil also shows that snakes lived in the Jerusalem area 100 million years ago, establishing an earlier origin than had previously been thought, says Jacobs.

The researchers conclude *Pachyrhachis* is not related to primitive mosasaurs. Dr Rieppel says he believes the ancestors of modern snakes were burrowing lizards that lived on land. However, he acknowledges that the West Bank fossils do not provide clear answers to the question. *from Stoney Statements 1/05*

# Stolen Gems *St Croix Rockhounds Leaverite News*

**Storing a piece of blackboard** chalk with your silver jewelry will help prevent the silver from tarnishing. *from Golden Spike (date unknown) via Dusty Rocks 3/02 via Rock Rattler 8/02*

**TIGEREYE:** If you want to bleach that specimen of Tigereye, dissolve 1 heaping tablespoon of oxalic acid per cup of water, Clean the specimen of all oil and dirt and immerse it in the acid bath. Place this in a 200 degree F oven for 12 to 14 hours or until the desired colour has been reached. After removing the tigereye from the acid bath, soak it in warm water to clean off excess acid. *from Calgary Lapidary Journal 10/06*

**MALACHITE:** Malachite is really copper ore and can be poisonous if ingested. **NEVER** lick it to see the color, nor put your finger to your mouth after touching it. Always work wet and wear a face mask. When using a slab saw, do not get contaminated oil on your skin. And if you smoke, stop immediately if you get a sweet taste in your mouth while working with the stone. *from Calgary Lapidary Journal 10/06*

**HOLES OR FRACTURES:** A good way to tell how solid a slab is, is to heat it in hot water. The surface will dry immediately. If there are holes or fractures in the slab, every one will soon be lined with water. These can then be marked with a pencil and used to orient the cab you want to cut.. *from Calgary Lapidary Journal 10/06*

**TOOTHPASTE:** Toothpaste with fluoride formula has the unique characteristic of penetrating stone, ceramics, brick or terra cotta and flushing dirt to the surface where it can be flushed away with water. It was used to restore Etruscan vases by New York's most famous art and antique restorer. *from Calgary Lapidary Journal 10/06*

**PETRIFIED WOOD:** Many pieces of petrified wood, especially from the northwest, have a center that looks like wood, but with layers of chalcedony or pumice between the center and the outside. This indicated that the tree was green when it was buried in hot ash. The water in the green wood evaporated, making the wood shrink. The outside was made into a cast by the heat, so the areas left between the wood and the cast were filled with chalcedony, making beautiful pieces of petrified wood. *from Calgary Lapidary Journal 10/06*

## **A Rockhound's New Year's Resolutions**

1. For every new specimen I bring home, I'll weed out five.
2. To hold more tightly to the wheel, and keep on going past that rock shop
3. To eliminate at least 2 gem shows from my travels – or if you don't attend many shows, add two to your list.
4. Not to go to every sale I see advertised next year.
5. Not to call everything I can't identify as Jasper
6. To minimize my large collection; to maximize my choice specimens
7. To weed out (high-grade) my many magazines about rocks.
8. To complete two unfinished projects before starting ten more.
9. Bring an item for show and tell.
10. Not to let my wife see this list!

*from Tulip City Conglomerate 1/05 via Agate Explorer 2/05*

**You can't have everything** – where would you put it? *from Gems of the Rogue 5/07*