

Pleasant Oaks Gem & Mineral Club of Dallas, TX

Chips and Chatter

December 1, 2011
Vol. 45, Issue 12

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Check our website www.pogmc.org
 for past months issue of the
[Chips and Chatter](#)

Purpose

The Pleasant Oaks Gem and Mineral Club of Dallas is organized for charitable and educational purposes to promote interest in the various earth sciences, in particular those hobbies dealing with the art of cutting and polishing gemstones, the science of gems, minerals and metal crafts, as well as their related fields.

Monthly Meeting

POGM meet the First Thursday each month at 7:30 pm at the Garland Women's Activities Building, 713 Austin, Garland, TX, (Northeast corner of Austin & Glenbrook).

Club Officers for 2011

President: Del Grady
 1st VP: Mark Carter, (972) 680-9223
 Secretary: Lee Elms
 Treasurer: Don Shurtz, (972) 509-2821
 Editor: Anita Dresner
 E-mail: anitadresner@rocketmail.com

Chips and Chatter Deadline:
The 3rd Thursday of each month

December Christmas Meeting.Party.PotLuck,

POGM Treasurer: Don Shurtz

This is just a quick reminder that our next club meeting is on December 1st and will be our annual Christmas Dinner and Party. The meal will be "pot luck" - bring a dish to share; the club will provide the meat dish. We will also be doing a gift exchange which may involve stealing of gifts - all in fun, of course. For the gift exchange, bring a gift that is hobby related and valued at \$10 to \$15. If you are at a lost for finding a gift, a trip to Natures Gallery, the Rock Barrel, or you nearby Half Price books should be productive.

See you there! Don

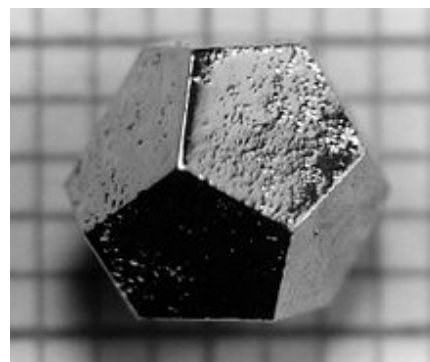
Article of the Month: A Five Sided Crystal?

Don Shurtz: Pleasant Oaks Gem and Mineral Club

When I think about minerals and the crystals they form (crystallography), I think of a six sided quartz crystal for a cubic crystal of Iron Pyrite. But that left me wondering – what are the possible shapes of crystals? It turns out that there are not that many. There are 7 basic crystal systems. They include the Cubic System, the Tetragonal System, the Hexagonal System, the Trigonal System, the Orthorhombic system, the Monoclinic System, and the Triclinic System. Drawings of the basic crystal systems can be found in almost any book on minerals, and a simple Google Search will bring up a truckload of figures. The systems are based on the orientation and length of the axis of the crystal. For instance, the cubic system has three mutually perpendicular axis. Within the Cubic System, you can find minerals shaped like cubes (six sided), octahedron (eight sided), or rhombic dodecahedron (12 sided). When you consider all 7 crystal systems, you are going to find items that have three sided shapes, four sided shapes, or six sided shapes. They can be skewed and twisted, but three, four or six sides are it. Period!

Then again, maybe there is a case for a 5 sided crystal. Actually, the “Crystallographic Restriction Theorem” says that for a discrete, periodic lattice structure with translational symmetry (you can move the point of symmetry around), you cannot have a five sided crystal. But in the 1960s a bunch of mathematicians found that you could have an ordered, aperiodic tiling that uniformly filled space, and were symmetric about a single point. 20 years later the mathematic theory was found to apply to quasicrystals. So what is a quasicrystal or more properly, a quasiperiodic crystal. It is a material that has an ordered, but not periodic structure. The ordered structure can fill all the available space and can be symmetrical about one point, but that point cannot move. The shape of the crystal can be deduced from the diffraction pattern, and between 1982 and 1984 Mr.

Dan Shechtman found a fivefold symmetry diffraction pattern. The pattern was produced from an alloy of Aluminum and Manganese which had been rapidly cooled. In the next year, there were quasicrystals developed with diffraction patterns of eightfold and twelvefold symmetry. Since then, a number of quasicrystals with other symmetries have been found. And as for a crystal with five sides, just look at the picture. It is a quasicrystal formed from Holmium, Magnesium, and Zinc.



Quasicrystal, picture from Wikipedia

Ref:

- Crystallographic Restriction Theorem, http://en.wikipedia.org/wiki/Crystallographic_restriction_theorem
- Crystal Structures, http://en.wikipedia.org/wiki/Crystal_structure
- Crystallography, <http://en.wikipedia.org/wiki/Crystallography>
- Quasicrystal, <http://en.wikipedia.org/wiki/Quasicrystal>

Decembers Birthstone: Blue Topaz

Chips and Chatter Editor, Pleasant Oaks Gem and Mineral Club

The name Topaz; thought to be from Indian Sanskrit word tapos, meaning fire, or from an Island named Topazos, in the Red Sea. "Topaz is known as a "stone of true love and success in all endeavors", promoting individuality and creativity, while providing confidence in trusting ones decisions, releases tension and known as a spiritual rejuvenation gemstone and was given credit for healing and holding death at bay in medieval times. The early lapidaries cite topaz as a stone capable of cooling boiling water, curing eye disease and gall, dispelling night terrors, lessening anger and lechery.



Topaz can hold an electric charge. It is thought to be charged by rubbing it with your fingers or by holding the ends of the crystal between your fingertips. Heating the gem then allowing it to cool slowly builds an electric charge greater than any other stone. It will retain that energy for more than a day after cooling down.

Topaz is an aluminum fluorite silicate containing fluorine and has a chemical formula of $Al_2F_2SiO_4$. It can, under certain conditions, grow into enormous crystals. They typically are found in cavities in rhyolites and granite, and sometimes found in high-temperature veins with cassiterite and [tourmaline](#). Usually clear with a vitreous luster, modern mineralogists think Topaz of today was not known to the ancients and the stone called topazos was the mineral chrysolite or [peridot](#).

Most pure topaz is colorless, but can be found in a broad range of colors: yellow, blue, pink, peach, gold, green, red, and brown, some of the yellow being heat treated to turn pink. As topaz has a hardness of 8, it may scratch your other gems so store them separately. Remember color change in topaz is done through heat, so avoid exposing them to large temperature changes. In 1750, a Parisian jeweler discovered that yellow Brazilian topaz becomes pink on exposure to a moderate heat.

One of the largest Topaz ever found was a 600 pound specimen in Brazil. You can see it today at the Museum of Natural History in New York. A rare, perfect blue gemstone was discovered in the Ural Mountains of Russia in 1965. It weighed 100 kilograms. In Norway, a 137 pound crystal was found in 1901 that was two feet long. Notable sources of topaz are in Russia, Siberia, Brazil, Sri Lanka, Africa and China, Japan, Pakistan, Myanmar, Nigeria, Australia, Mexico, and in the United States (in Maine, New Hampshire, California, Colorado, and Utah). In the United States, the best topaz has been worked near Pikes Peak, Colorado, and in San Diego county, California.

Among the many powers attributed to topaz was its ability to create its own light. St. Hildegard claimed to read prayers in a darkened chapel by the light emanating from a topaz. In a 1907 compendium of mineral lore, The Occult and Curative Powers of Precious Stones, William T. Fernie, M.D. wrote: "[The topaz] possesses a gift of inner radiance which can dispel darkness... Once it was eagerly desired by mariners, if they had no daylight, or moon, to direct their course." I was charmed by the idea of its inner radiance, and so Vita wears both golden and light blue topazes, which are indeed radiant.



Rough brown topaz crystal sections.

Picture from:

<http://geology.com/minerals/topaz.shtml>

References:

<http://www.kacha-stones.com/topaz.htm>

<http://www.all-that-gifts.com/se/topaz.html>

<http://www.ellensteiber.com/thestones.htm>

<http://www.jjkent.com/articles/history-properties-topaz.htm>

In researching Blue Topaz, I mostly found folk lore and its decorative uses. Identification information was very scarce.



Blue faceted topaz. 1.40 carats, 9x6 mm, from Brazil.

<http://geology.com/minerals/topaz.shtml>

The Tasty Corner

Editor POGM Club

Phillips Crab Ceviche

This is great as a salad before an entree or even a luncheon salad. It is also colorful, cheerful and bright for Christmas dining.

Ingredients:

8 oz	Phillips Claw Crab Meat	8 oz	Phillips Special Crab Meat
1½ cups	Fresh Cilantro, chopped	½	White Onion, chopped
2	Tomatoes, diced	1	Seedless Cucumber, diced
3	Limes	½ cup	Clamato, Kermato, or V8 juice
1 tblsp	Ketchup		
3	Serrano Peppers, finely chopped (optional)		



Directions:

In a large bowl, blend the crab meat without breaking it up excessively. Add the juice of two limes, onion, cilantro, tomatoes, cucumber and Serrano peppers. Add salt. Combine the ketchup, Clamato and the juice of the third lime. Add more salt if necessary.

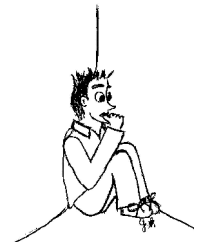
Serves 4-6: Serve with tostadas or crackers. Recipe courtesy of Alexa Boshardt, Culinary Nutritionist for Phillips Foods

Editor's Corner

Chips and Chatter Editor, Pleasant Oaks Gem and Mineral Club

Greetings and Merry Christmas to one and all;

It is hard to believe another year has almost come and gone. Did your year fly by also? Think I am going to prop my feet up and watch out the window all night Christmas eve just to get a glimpse of Santa and those sprightly, bell clanging reindeer pulling his sleigh. With the eggnog in hand and eyes wide alert, I want to begin to reflect upon Christmas memories past and all those yet to be made this season. Memories are one of, if not the most important, immeasurable, and mind boggling resources we can share with family and friends. I so hope you slow down and build precious memories with your loved ones this Christmas season.



Recalling all the mischief actually brings smiles and hugs that built memories for the golden season of life. So this season, build many new memories with the ones you love and love the ones you build each memory with; those built of warmth, fun, and giddy laughter will get you through many a day, making them all the better. I pray for safe travel and glorious memories for each and every one of you. My hopes and wishes are for each and everyone to have a prosperous and memory filled 2011 as you start building new memories in 2012.

As I keep Christ in Christmas, I also celebrate with you, your Holy and High Holidays of your religion, and I pray for peace on earth and good will to all peoples, Amen

Bench Tips

Brad Smith: <http://groups.yahoo.com/group/BenchTips/>

DEPTH GAUGE FOR DRILLING:

Sometimes you need to drill a number of holes to the same depth. A quick and easy way to do so is by winding tape around the drill bit so that the tape just touches the surface when the hole is deep enough. You can do this by measuring from the tip of the drill to the tape or by drilling one hole correctly, leaving the bit in the hole, and wrapping tape around the bit at the surface level.

More BenchTips by Brad Smith: groups.yahoo.com/group/BenchTips/ or facebook.com/BenchTips

CHIPS AND CHATTER

Pleasant Oaks Gem & Mineral Club
PO Box 831934
Richardson, TX 75083-1934

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To:

5th Place AFMS 2007 small bulletins
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3rd place, AFMS 2005 small bulletins
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HM AFMS 2004 small bulletins
2nd place SCFMS 2003 small bulletins

Area Clubs

Arlington G&M Club, 1st Tuesday of each month at 7:30 pm, 1408 Gibbins, Arlington, TX
Pleasant Oaks Gem & Mineral Club, Garland Women's Bldg., 713 Austin, Garland, meets the 1st Thur. of each month at 7:30 pm
Lockheed-Martin Stone Steppers, 3400 Bryant-Irving Road, Fort Worth, meets the 2nd Tuesday at 7:30 pm
Dallas Gem & Mineral Society, 10205 Plano Rd, off of Plano Rd, Dallas, TX, meets the 3rd Tue. of each month at 7 pm
Oak Cliff Gem & Min Soc., South Hampton Community Hospital, 2929 S. Hampton Rd, Dls, TX, 4th Tue. each month at 7 pm
Fort Worth Gem & Mineral Club, 3545 Bryan Avenue, Ft Worth, TX, meets the 4th Tuesday of each month at 7:30 pm
Dallas Paleontological Society, EMGI (Bldg. H, Brookhaven College, 3939 Valley View Lane, 75244), 2nd Wed. ea. month at 7:30 pm

PLEASANT OAKS GEM and MINERAL CLUB

First Thursday of each month, 7:30 PM
Garland Women's Activities Building
713 Austin, Garland, TX
(Northeast corner of Austin & Glenbrook)

MEMBERSHIP

Single Adult: \$16.50,
Junior: \$5.00; Family: \$27.50
(Plus badge fee for new members)

Program Presentation

**It is always a great time at our POGM meeting.
Please come join in the fun and learning about
Rocks, Gems and Minerals and Fossils.**

Member of

South Central Federation of Mineral Societies

Affiliated with

American Federation of Mineral Societies