MICROMOUNTERS OF NEW ENGLAND NEWSLETTER

The MMNE was organized on November 8, 1966 for the purpose of promoting the study of minerals that require a microscope

No. 304

March, 2010

Welcome to the March edition of the Micromounters of New England Newsletter!

If you have not yet paid your dues, then this will be your last issue from last year's membership. If you have paid your dues, I apologize for nagging you and welcome you back for another great year of meetings, giveaways, great conversations and desktop exploration!

2010 May Symposium is just around the corner!

As always, we need donations for the symposium from all of you, our loyal members, as our stocks of both sales and give-away material are running quite low. . Please bring your donations to the March or April meeting for color coding. If each MMNE member would consider donating ten to fifteen specimens for the sales table and a couple of flats or egg cartons of material for giveaways, there would be plenty for everyone. Please remember: **Your registration fee covers only part of our operating expenses – your donations cover the rest.**

We also need items for the silent auction which could include hardware, books, posters, other printed material, and mounting supplies (or anything else to pique the interest of a micromounter).

If you have items for the auction, please tell us what you have at the March or April meetings so tags can be made in advance. If you cannot be at any of these meetings, e-mail me, Joe Mulvey, at bassmeister_2000@yahoo.com or call at 603-880-4018.

Please bring your donations with you to the meeting, or get them to Hal Herard ahead of time. Please put prices on your donation whenever appropriate. If you are bringing mounted material for sale, please color code them with price stickers (dots) as follows:

$1.00 yellow, $2.00 red, $3.00 green, $4.00 silver, $5.00 gold.
Anything above $5.00 needs to have an actual price tag.

If you do not have the colored stickers, group them by price category, and they can be marked at the meeting.

The meeting officially convenes at 9:00AM, but anyone who can come in at 8:00AM to help set up the various venues (sales, silent auction, etc.) will be appreciated.
Please sign up promptly for the meeting so that we can get an accurate count for the caterer. Bring a friend or two if you can. There is plenty of space. All reservations include lunch so they must be in the treasurer's hands before May 9th. Walk-ins can pay at the door, but extra meals may not be available. Please fill out and send in the newsletter as soon as possible.

March Meeting

The March meeting will have an interesting specimen competition consisting of non rare earth beryllium minerals of New England. Yes, I know, can't we be a smidgen more specific? But the attending members for February's meeting were certainly enthusiastic in this choice!

The March meeting will see nominations placed for the club officers for the 2010-2011 season. Official voting takes place at the short business meeting at the May Symposium.

April Meeting

Mark your calendars now! The April meeting will be on Saturday, April 24 instead of the 3rd week in April.

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Current Meeting
Saturday Feb. 20, 2010
Trinity Lutheran Church
Chelmsford, MA
Doors open at 9 am

Next Meeting
Saturday Mar. 20, 2010
Trinity Lutheran Church
Chelmsford, MA

Map and driving directions are on the last page of this newsletter

For information regarding MEETING CANCELLATION due to inclement weather, Joseph Mulvey
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The ***Newsletter*** is the official publication of the Micromounters of New England (MMNE). The last by-laws revision was May 16, 2009. The MMNE is a member of the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) (http://www.amfed.org/efmls) and the American Federation of Mineralogical Societies (AFMS) (http://www.amfed.org). Material from the *Newsletter* may be copied in other rock and mineral publications if credit is given to the author and the *Newsletter* and permission has been obtained from the author. If there are questions regarding copying contact the editor. The club address is c/o the Secretary. Meetings are held monthly, September through May, except for December, and usually on an informal basis in July. Meeting sites may change and will be posted in the *Newsletter* as far in advance as possible. Visitors are welcome to attend all meetings. Bring a microscope and light source if you have one.
DUES are $12/year for a single person and $15/year for a family membership, levied on a calendar basis. The family membership includes two adults and all children under 18 living at the same address. One copy of the *Newsletter* will be sent on a family membership.

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MMNE Website: http://www.micromountersofnewengland.org

Schedule of Upcoming Meetings
Saturday, March 20, 2010…………..Non Rare Earth Beryllium Minerals of New England
Saturday, April 17, 2010……………To be determined at March meeting
Saturday, May 15, 2010…………….The 2010 Micromounters of New England Annual Symposium

Some Minerals Containing Beryllium As An Essential Component

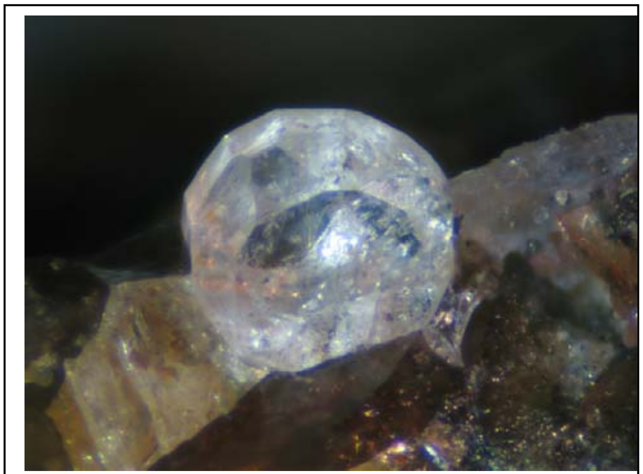
Beryllium was discovered by Louis-Nicolas Vauquelin in 1798 as a component of beryl and in emeralds. Friedrich Wöhler and Antoine Bussy independently isolated the metal in 1828 by reacting potassium and beryllium chloride. Beryllium's chemical similarity to aluminum was probably why beryllium was missed in previous searches.

Beryllium has one of the highest melting points of the light metals. It has exceptional elastic rigidity (Young's modulus 316 GPa). The modulus of elasticity of beryllium is approximately 50% greater than that of steel. The combination of this modulus plus beryllium's relatively low density gives it an unusually fast sound conduction speed at standard conditions (about 12.9 km/s). Other significant properties are the high values for specific heat (1925 J/kg·K) and thermal conductivity (216 W/m·K), which make beryllium the metal with the best heat dissipation characteristics per unit weight. In combination with the relatively low coefficient of linear thermal expansion (11.4 × 10−6 K−1), these characteristics ensure that beryllium demonstrates a unique degree of dimensional stability under conditions of thermal loading.

At standard temperature and pressures beryllium resists oxidation when exposed to air (its ability to scratch glass is due to the formation of a thin layer of the hard oxide BeO). It resists corrosion by concentrated nitric acid.

Beryllium has a large scattering cross section for high energy neutrons, thus effectively slowing the neutrons to the thermal energy range where the cross section is low (0.008 barn). The predominant beryllium isotope 9Be also undergoes a (n,2n) neutron reaction to 8Be, i.e. beryllium is a neutron multiplier, releasing more neutrons than it absorbs. Beryllium is highly permeable to X-rays, and neutrons are liberated when it is hit by alpha particles.

Over 50 beryllium minerals have been identified, even though beryllium is a scarce element in the Earth's crust. The beryllium content of the Earth's surface rocks is ca. 4–6 ppm. The unusual combination of low charge (+2) and small ionic radius (0.035 nanometer) of the beryllium ion accounts for this diverse group of minerals and their occurrence in many natural environments.



Species: PHENAKITE
Beryllium orthosilicate, Be_2SiO_4
Locality: Upper adit pit, Iron Mtn., Bartlett, NH
Specimen Size: 1 mm clear phenakite crystal.
Field Collected: Tom Mortimer
Catalog No.: U1022
Photo Courtesy Tom Mortimer, MindatNH.org

Nearly all beryllium minerals can be included in one of three groups: compositionally simple oxides and silicates with or without aluminum; sodium- and calcium-bearing silicates; and phosphates and borates. The first group is by far the most abundant; it contains beryl, the most common beryllium mineral, plus the common minerals phenakite, bertrandite, chrysoberyl, and euclase.

Of this group, only beryl shows a wide compositional variation.

The beryllium minerals have many structural characteristics similar to the major rock-forming silicate minerals, but are distinguished by containing large quantities of tetrahedrally coordinated beryllium ion (Be^{2+}) in place of, or in addition to, tetrahedrally coordinated aluminum ion (Al^{3+}) and silicon ion (Si^{4+}). See also Silicate minerals.

Beryllium minerals occur in many geological environments, where they are generally associated with felsic (abundant feldspar ± quartz) igneous rocks and related, metasomatically altered rocks. Beryl and bertrandite, mined from granitic pegmatites and altered volcanic rocks, are the principal ores of beryllium; deposits of chrysoberyl and phenakite may become economically significant in the future. The colored varieties of beryl (emerald, aquamarine, morganite) are valued gemstones; chrysoberyl, phenakite, and a few of the other minerals are less common gemstones.

n. (Symbol Be)
A high-melting, lightweight, corrosion-resistant, rigid, steel-gray metallic element used as an aerospace structural material, as a moderator and reflector in nuclear reactors, and in a copper alloy used for springs, electrical contacts, and nonsparking tools.

Atomic number 4; atomic weight 9.0122; melting point 1,278°C; boiling point 2,970°C; specific gravity 1.848; valence 2.

Symbol Be. A grey metallic element of group 2 (formerly IIA) of the periodic table; a.n. 4; r.a.m. 9.012; r.d. 1.85; m.p. 1278°C; b.p. 2970°C. Beryllium occurs as beryl ($3BeO.Al_2O_3.6SiO_2$) and chrysoberyl ($BeO.Al_2O_3$). The metal is extracted from a fused mixture of BeF_2/NaF by electrolysis or by magnesium reduction of BeF_2. It is used to manufacture Be-Cu alloys, which are used in nuclear reactors as reflectors and moderators because of their low absorption cross section. Beryllium oxide is used in ceramics and in nuclear reactors. Beryllium and its compounds are toxic and can cause serious lung diseases and dermatitis.
The metal is resistant to oxidation by air because of the formation of an oxide layer, but will react with dilute hydrochloric and sulphuric acids. Beryllium compounds show high covalent character.

Applications Because of its low atomic number and very low absorption for X-rays, the oldest and still one of the most important applications of beryllium is in radiation windows for X-ray tubes. Extreme demands are placed on purity and cleanliness of Be to avoid artifacts in the X-ray images. Thin beryllium foils are used as radiation windows for X-ray detectors, and the extremely low absorption minimizes the heating effects caused by high intensity, low energy X-rays typical of synchrotron radiation. Vacuum-tight windows and beam-tubes for radiation experiments on synchrotrons are manufactured exclusively from beryllium. In scientific setups for various X-ray emission studies (e.g., Energy-dispersive X-ray spectroscopy) the sample holder is usually made of beryllium because its emitted X-rays have much lower energies (~100 eV) than X-rays from most studied materials.[10]

Because of its low atomic number beryllium is almost transparent to energetic particles. Therefore it is used to build the beam pipe around the collision region in collider particle physics experiments. Notably all four main detector experiments at the Large Hadron Collider accelerator (ALICE, ATLAS, CMS, LHCb) use a beryllium beam-pipe.

Also many high-energy particle physics collision experiments such as the Large Hadron Collider, the Tevatron, the SLAC and others contain beam pipes made of beryllium. Beryllium's low density allows collision products to reach the surrounding detectors without significant interaction, its stiffness allows a powerful vacuum to be produced within the pipe to minimize interaction with gases, its thermal stability allows it to function correctly at temperatures of only a few degrees above absolute zero, and its diamagnetic nature keeps it from interfering with the complex multipole magnet systems used to steer and focus the particle beams.

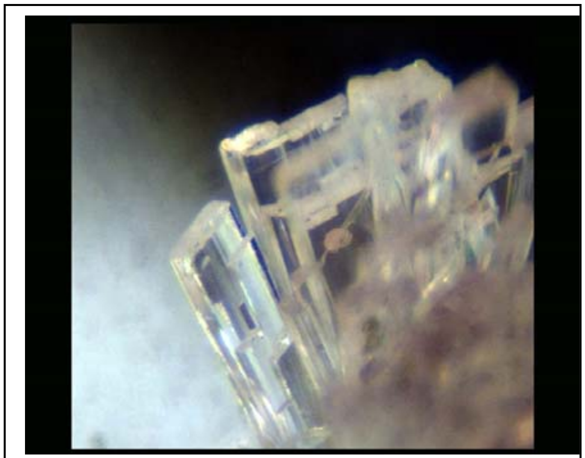
Beryllium is used in nuclear weapon designs as the outer layer of the pit of the primary stage, surrounding the fissile material. It is a good pusher for implosion, and a very good neutron reflector, as in beryllium moderated reactors Beryllium is sometimes used in neutron sources, in which the beryllium is mixed with an alpha emitter such as 210Po, 226Ra, 239Pu or 241Am. The "Urchin" neutron initiator in early nuclear weapons used beryllium-polonium combination. Beryllium is used in the Joint European Torus fusion research facility and will be used in ITER, to condition the plasma facing components. Beryllium has also been proposed as a cladding material for nuclear fuel, due to its combination of mechanical, chemical, and nuclear properties.

Toxicity Beryllium is harmful if inhaled and the effects depend on the duration, intensity, and frequency of exposure. If beryllium concentrations in air are high enough (greater than 100 µg/m3), an acute condition can result, called acute beryllium disease, which resembles pneumonia. Occupational and community air standards are effective in preventing most acute lung damage. Long-term beryllium exposure can increase the risk of developing lung cancer. The more common serious health problem from beryllium today is chronic beryllium disease (CBD), discussed below. It continues to occur in industries as diverse as metal recycling, dental laboratories, alloy manufacturing, nuclear weapons production and metal machine shops that work with alloys containing small amounts of beryllium. A 2008 report from the United States National Research Council said that worker exposure to beryllium should be kept "at the lowest feasible level," as the agency's research could not establish any safe level of exposure.

List of Minerals Containing Beryllium courtesy of Wkipedia

* **Almarudite** Almarudite is an extremely rare alkaline manganese beryllium silicate mineral of the cyclosilicates (ring silicates) class, with formula written as ([],Na)2(Mn2+,Fe2+,Mg)2(Be,Al)3[Si12O30], from the volcanic environment of the Eifel Mountains, Germany.

* **Berborite** Berborite is a borate mineral with the chemical formula Be2(BO3)(OH,F)·(H2O). It is colorless and leaves a white streak. Its crystals are hexagonal to pyramidal. It is transparent and has vitreous luster. It is not radioactive. Berborite is rated 3 on the Mohs Scale.



BERTRANDITE Be4[(OH)2|Si2O7]
Locality: N. Sugarloaf Mtn., Bethlehem, NH
Specimen Size: 1 mm clear, bladed, crystals
Environment: Granite pegmatite
Field collected: Bob Janules
Photo Courtesy Tom Mortimer, MindatNH.org

* **Bertrandite** Bertrandite is a beryllium sorosilicate hydroxide mineral with composition: Be4Si2O7(OH)2. Bertrandite is a colorless to pale yellow orthorhombic mineral with a hardness of 6-7. It is commonly found in beryllium rich pegmatites and is in part an alteration of beryl. Bertrandite often occurs as a pseudomorphic replacement of beryl. It, with beryl, are ores of beryllium. It was discovered near Nantes, France in 1883 and named after French mineralogist, Emile Bertrand (1844-1909).

* **Beryl** The mineral beryl is a beryllium aluminium cyclosilicate with the chemical formula Be3Al2(SiO3)6. The hexagonal crystals of beryl may be very small or range to several meters in size. Terminated crystals are relatively rare. Pure beryl is colorless, but it is frequently tinted by impurities; possible colors are green, blue, yellow, red, and white. The name comes from the Greek beryllos which referred to a precious blue-green color-of-sea-water stone. The term was later adopted for the mineral beryl more exclusively. The name is actually of Indian origin.

The varieties of Beryl are given names based on their color. All the variety names are accepted by all, except for Bixbite, which is not recognized by most authorities.

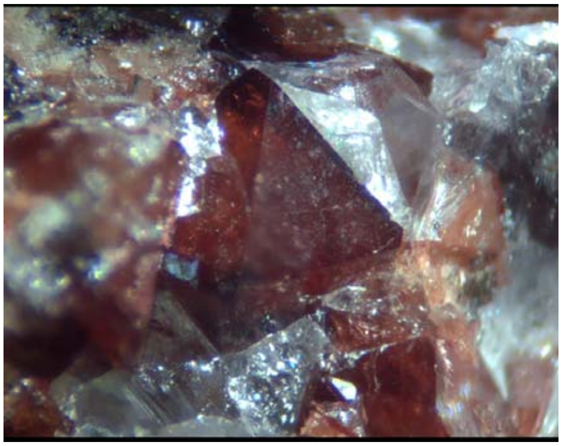
Emerald - Green to dark green
Aquamarine - Light to dark blue, blue-green
Morganite - Pink to light purple
Golden Beryl -Golden yellow
Heliodor - Yellow, yellow-green, brown
Goshenite - Colorless to white
Red Beryl - Deep red (only comes from one locality in Utah)
Peach Beryl - Orange-pink
Green Beryl - Pale green
Bixbite - Strawberry red

* **Beryllonite** Beryllonite is a rare sodium beryllium phosphate mineral with formula NaBePO4. The tabular to prismatic monoclinic crystals vary from colorless to white or pale yellowish, and are transparent with a vitreous lustre. Twinning is common and occurs in several forms. It exhibits perfect cleavage in one direction. The Hardness is 5.5 to 6 and the specific gravity is 2.8. Refractive indices are nα = 1.552, nβ = 1.558 and nγ = 1.561. A few crystals have been cut and faceted, but, as the refractive index is no higher than that of quartz, they do not make very brilliant gemstones. It occurs as a secondary beryllium mineral in granitic and alkalic pegmatites. It was first described from complex crystals and as broken fragments in the disintegrated material of a granitic vein at Stoneham, Maine, where it is associated with feldspar, smoky quartz, beryl and columbite. It was discovered by James Dwight Dana in 1888, and named beryllonite for its beryllium content.

* **Bromellite** Bromellite, whose name derives from the Swedish chemist Magnus von Bromell (1670-1731), is a white oxide mineral, found in complex pegmatitic manganese-iron deposits, but is more frequently made synthetically. This is a rare mineral to encounter in its natural state, but it has been made synthetically for over 40 years.

* **Chrysoberyl** The mineral or gemstone chrysoberyl, not to be confused with beryl, is an aluminate of beryllium with the formula BeAl2O4. The name chrysoberyl is derived from the Greek words χρυσός chrysos and beryllos, meaning "a gold-white spar". Despite the similarity of their names, chrysoberyl and beryl are two completely different gemstones. Chrysoberyl is the third-hardest frequently encountered natural gemstone and lies at 8.5 on the hardness scale, between corundum (9) and topaz (8).
An interesting feature of its crystals are the cyclic twins called trillings. These twinned crystals have a hexagonal appearance, but are the result of a triplet of twins with each "twin" oriented at 120° to its neighbors and taking up 120° of the cyclic trilling. If only two of the three possible twin orientations are present, a "V"-shaped twin results. Ordinary chrysoberyl is yellowish-green and transparent to translucent. When the mineral exhibits good pale green to yellow color and is transparent, then it is used as a gemstone. There are three main varieties of chrysoberyl: ordinary yellow-to-green chrysoberyl, cat's eye or cymophane, and alexandrite. Yellow-green chrysoberyl was referred to as "chrysolite" during the Victorian and Edwardian eras, which caused confusion since that name has also been used for the mineral olivine ("peridot" as a gemstone); that name is no longer used in gemological nomenclature. Ordinary chrysoberyl is yellowish-green and transparent to translucent. When the mineral exhibits good pale green to yellow color and is transparent, then it is used as a gemstone. Two unusual varieties of chrysoberyl have their own names as gemstones: cat's eye or cymophane, and alexandrite.

* **Danalite** Danalite is an iron beryllium silicate sulfide mineral with formula: Fe2+4Be3(SiO4)3S. It is a rare mineral which occurs in granites, tin bearing pegmatites, contact metamorphic skarns, gneisses and in hydrothermal deposits. It occurs in association with magnetite, garnet, fluorite, albite, cassiterite, pyrite, muscovite, arsenopyrite, quartz, and chlorite.



DANALITE Fe2+4Be3[S|(SiO4)3]
Locality: Iron Mtn., Upper Adit Pit, Bartlett, NH
Specimen Size: 2 mm red octahedral crystal
Environment: Iron ore deposit in Conway Granite
Field collected: Tom Mortimer
Photo Courtesy Tom Mortimer, MindatNH.org

Danalite was first described in 1866 from a deposit in Essex County, Massachusetts and named for American mineralogist James Dwight Dana (1813-1895). It has been found in Massachusetts, New Hampshire, Sierra County, New Mexico; Yavapai County, Arizona; Needlepoint Mountain, British Columbia; Walrus Island, James Bay, Quebec; Sweden; Cornwall, England; Imalka and Transbaikal, Russia; Kazakhstan; Somalia; Tasmania; Western Australia and Hiroshima Prefecture, Japan.

* **Emerald** Emeralds are a variety of the mineral beryl (Be3Al2(SiO3)6,) colored green by trace amounts of chromium and sometimes vanadium. Beryl has a hardness of 7.5–8 on the 10 point Mohs scale of mineral hardness. Most emeralds are highly included, so their toughness (resistance to breakage) is classified as generally poor. The word "emerald" comes (via Middle English: Emeraude, imported from Old French: Ésmeraude, and Medieval Latin: Esmaraldus) from Latin smaragdus, via Greek smaragdos – ("green gem"), its original source being a Semitic word izmargad (אזמרגד) or the Sanskrit word, markan, meaning "emerald" or "green".

* **Euclase** Euclase is a beryllium aluminium hydroxide silicate mineral (BeAlSiO4(OH)). It crystallizes in the monoclinic crystal system and is typically massive to fibrous as well as in slender prismatic crystals. It is related to beryl (Be3Al2Si6O18) and other beryllium minerals. It is a product of the decomposition of beryl in pegmatites. It was first reported in 1792 from the Orenburg district in the southern Urals, Russia. Its type locality is Ouro Prêto, Minas Gerais, Southeast Region, Brazil.

* **Gadolinite** Gadolinite is a mineral of a nearly black color and vitreous luster, and consisting principally of the silicates of cerium, lanthanum, neodymium, yttrium, beryllium, and iron with formula: (Ce,La,Nd,Y)2FeBe2Si2O10. Called gadolinite-(Ce) or gadolinite-(Y) depending on the prominence of the variable element composition (namely, Y if it has more yttrium, and Ce if it has more cerium).

Gadolinite is fairly rare, but it forms attractive crystals that some collectors desire. Its hardness is between 6.5 and 7, and its specific gravity is between 4.0 and 4.7. It fractures in a conchoidal pattern. The mineral's streak is grayish-green. It is also Pyrognomic, which means that it becomes incandescent at a relatively low temperature.

Gadolinite was named in 1800 for Johan Gadolin, the Finnish mineralogist-chemist who first isolated an oxide of the rare earth element yttrium from the mineral in 1792. The rare earth gadolinium was also named for him. However, gadolinite does not contain more than trace amounts of gadolinium. When Gadolin analyzed this mineral, he missed an opportunity to discover a second element: what he thought was aluminium (alumina) was in fact an element that would not be officially discovered until 1798: beryllium (beryllia).

GADOLINITE-(Y,Ce) Gadolinite-(Y): Y2Fe2+Be2[O|SiO4]2
Locality: N. Sugarloaf Mtn., Bethlehem, NH
Specimen Size: 2 cm field of view, 3 cm specimen
Environment: Granite pegmatite
Field collected: Tom Mortimer
Photo Courtesy Tom Mortimer, MindatNH.org

* **Herderite** Herderite is a mineral belonging to the apatite, phosphate group, with formula CaBe(PO4)(F,OH). It forms monoclinic crystals, often twinned and variable in colour from colourless through yellow, green or purple. It is found in many parts of the world, often in pegmatites and associated with other apatite minerals. It is named after Sigmund August Wolfgang von Herder, a mining official from Saxony.

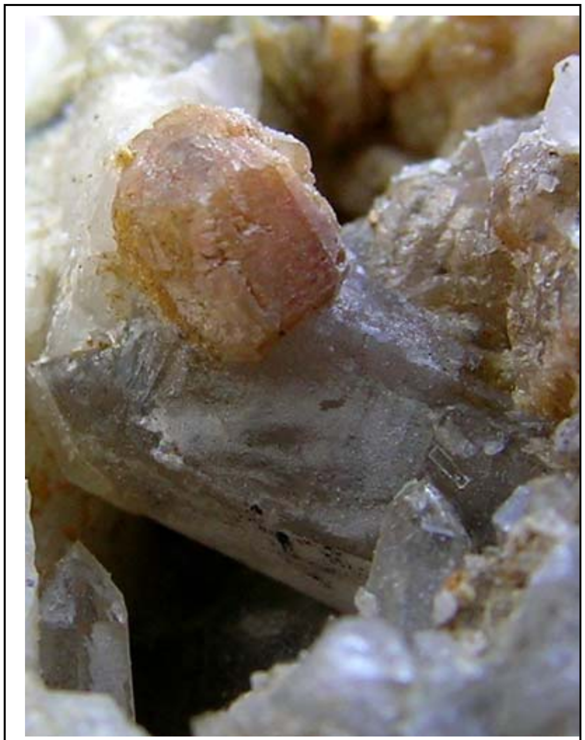
* **Leucophanite** Leucophanite is a sorosilicate mineral with a complex composition, (Na,Ca)2BeSi2(O.OH.F)7. It may contain cerium substituting in the calcium position. It occurs in pegmatites and alkali igneous complexes as yellow, greenish or white triclinic crystals and has been found in Norway, Quebec and Russia. It was first described from the Langesundfiord district of southern Norway in 1840. The name is from the Greek leucos for "white" and phanein for "to appear" in allusion to the common white color.

*** Nabesite** Nabesite is a rare silicate mineral of the zeolite group with the chemical formula $Na_2BeSi_4O_{10}\cdot4(H_2O)$. It occurs as colorless to white orthorhombic crystals in thin platy mica like sheets. It has the zeolite structure. Its Mohs hardness is 5 to 6 and its specific gravity is 2.16. The reported refractive index values are nα=1.499, nβ=1.507, and nγ=1.511.It was discovered in the Ilimaussaq intrusive complex, of soutwest Greenland, and first recognized in 2000. It occurs in tugtupite-bearing albitite, a rare highly alkaline igneous rock.

*** Pezzottaite** Pezzottaite, marketed under the name raspberyl or raspberry beryl, is a newly identified mineral species, first recognized by the International Mineralogical Association in September 2003. Pezzottaite is a caesium analogue of beryl, a silicate of caesium, beryllium, lithium and aluminium, with the chemical formula $Cs(Be_2Li)Al_2Si_6O_{18}$. Named after Italian geologist and mineralogist Federico Pezzotta, pezzottaite was first thought to be either bixbite (red beryl) or a new variety of beryl ("caesium beryl"); unlike other beryls, however, pezzottaite contains lithium and crystallizes in the trigonal crystal system rather than the hexagonal system.

Colours include shades of raspberry red to orange-red and pink. Recovered from miarolitic cavities in the granitic pegmatite fields of Fianarantsoa province, southern Madagascar, the pezzottaite crystals were small—no more than about 7 cm in their widest dimension—and tabular or equant in habit, and few in number, most being heavily included with growth tubes and liquid feathers. Approximately 10 per cent of the rough material would also exhibit chatoyancy when polished. Most cut pezzottaite gems are under one carat (200 mg) in weight and rarely exceed two carats (400 mg).

With the exception of hardness (8 on Mohs scale), the physical and optical properties of pezzottaite—i.e., specific gravity 3.10 (average), refractive index 1.601 to 1.620, birefringence 0.008 to 0.011 (uniaxial negative)—are all higher than typical beryl.


HYDROXYLHERDERITE : $CaBe[(OH,F)|PO_4]$
Photo Copyright © 2005 Peter cRISTOFONO
Locality: Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA
4 mm tan rounded crystal on quartz. P. Cristofono specimen and photo. Field collected 2005.
http://www.mindat.org/photo-35502.html

Pezzottiate is brittle with a conchoidal to irregular fracture, and streaks white. Like beryl, it has an imperfect to fair basal cleavage. Pleochroism is moderate, from pink-orange or purplish pink to pinkish purple. Pezzottaite's absorption spectrum, as seen by a hand-held (direct vision) spectroscope, features a band at 485–500 nm with some specimens showing additional weak lines at 465 and 477 nm and a weak band at 550 to 580 nm.

Most (if not all) of the Madagascan deposits have since been exhausted. Pezzottaite has been found in at least one other locality, Afghanistan: this material was first thought to be caesium-rich morganite (pink beryl). Like morganite and bixbite, pezzottaite is believed to owe its colour to radiation-induced colour centres involving trivalent manganese. Pezzottaite will lose its colour if heated to 450°C for two hours, but the colour can be restored with gamma irradiation.

*** Phenakite** Phenacite or phenakite is a fairly rare nesosilicate mineral consisting of beryllium orthosilicate, Be_2SiO_4. Occasionally used as a gemstone, phenacite occurs as isolated crystals, which are rhombohedral with parallel-faced hemihedrism, and are either lenticular or prismatic in habit: the lenticular habit is determined by the development of faces of several obtuse rhombohedra and the absence of prism faces. There is no cleavage, and the fracture is conchoidal. The Mohs hardness is high, being 7.5 - 8; the specific gravity is 2.96. The crystals are sometimes perfectly colorless and transparent, but more often they are greyish or yellowish and only translucent; occasionally they are pale rose-red. In general appearance the mineral is not unlike quartz, for which indeed it has been mistaken. Phenacite is found in high-temperature pegmatite veins and in mica-schists associated with quartz, chrysoberyl, apatite and topaz. It has long been known from the emerald and chrysoberyl mine on the Takovaya stream, near Yekaterinburg in the Urals of Russia, where large crystals occur in micaschist. It is also found with topaz and amazon-stone in the granite of the Ilmen mountains in the southern Urals and of the Pikes Peak region in Colorado (USA). Large crystals of prismatic habit have more recently been found in a feldspar quarry at Kragero in Norway. Framont near Schirmeck in Alsace is another well-known locality. Still larger crystals, measuring 1 to 2 in. in diameter and weighing 28 lb (13 kg). have been found at Greenwood in Maine, but these are pseudomorphs of quartz after phenacite.

For gem purposes the stone is cut in the brilliant form, of which there are two fine examples, weighing 34 and 43 carats (6.8 and 8.6 g), in the British Museum. The indices of refraction are higher than those of quartz, beryl or topaz; a faceted phenacite is consequently rather brilliant and may sometimes be mistaken for diamond.

PHENAKITE Be2[SiO4]
Locality: N. Sugarloaf Mtn. Bethlehem, NH
Specimen Size: 2.5 mm Phenakite crystal
Environment: Conway granite pegmatite
Field collected: Tom Mortimer
Photo Courtesy Tom Mortimer, MindatNH.org

* **Tugtupite** Tugtupite is a rare beryllium aluminium tectosilicate. It also contains sodium and chlorine and has the formula Na4AlBeSi4O12Cl. Tugtupite is a member of the silica deficient feldspathoid mineral group. It occurs in high alkali intrusive igneous rocks. Tugtupite is tenebrescent, sharing much of its crystal structure with sodalite, and the two minerals are occasionally found together in the same sample.

Tugtupite occurs as vitreous, transparent to translucent masses of tetragonal crystals and is commonly found in white, pink, to crimson, and even blue and green. It has a Mohs hardness of 4 and a specific gravity of 2.36. Tugtupite is also a non-radioactive substance. It fluoresces crimson under ultraviolet radiation.

It was first found in 1962 at Tugtup agtakôrfia Ilimaussaq intrusive complex of southwest Greenland. It has also been found at Mont-Saint-Hilaire in Quebec and in the Lovozero Massif of the Kola Peninsula in Russia The name is derived from the Greenlandic Inuit word for reindeer (tuttu), and means "reindeer blood." The U.S. Geological Survey reports that in Nepal, tugtupite (as well as jasper and nephrite) were found extensively in most of the rivers from the Bardia to the Dang.

* **Zanazziite** Zanazziite is a mineral, a complex phosphate with the formula Ca2(Mg,Fe)(Mg,Fe,Mn,Al)4Be4(OH)4(PO4)6·6H2O. Discovered in 1990 in Brazil, it is named after PF Zanazzi, Professor of Mineralogy, Perugia, Italy. Its color is pale to dark olive-green.

James Dwight Dana (1813-1895)

James Dwight Dana

Danalite was named after **James Dwight Dana** (1813-1895)

Dana, an American geologist, mineralogist, and naturalist, b. Utica, N.Y., grad. Yale, 1833. His studies of the S Pacific, NW United States, Europe, and elsewhere led to changes in ideas on mountain building, volcanism, and the origin of the continents and oceans. In 1837, Dana published A System of Minerology, which is still a standard.

Dana was the geologist and mineralogist on the U.S. expedition to the Antarctic regions and the South Seas commanded by Charles Wilkes (1838-42).

Dana's reports, published in large volumes with elaborate plates and an atlas, included Zoophytes (1846), Geology (1849), and Crustacea (1852-55).

One of his most important positions was as coeditor with Benjamin Silliman of the American Journal of Science, where his ideas greatly influenced the development of American geology.

For several generations of geologists the name of J. D. Dana was associated with the concept of the geosyncline, an elongated downwarp in the Earth's crust in which a great volume of sediments accumulated. (In his 1873 paper, Dana in fact used the term ‘geosynclinal’ rather than ‘geosyncline’.) He regarded the accumulation of the sediments as a consequence rather than as a cause of the downwarp, which he ascribed to contraction of the Earth's crust as a result of cooling. Geosynclinal interpretations prevailed until the 1960s, but have since been replaced by the concepts of plate tectonics.

In 1846, Dana succeeded Silliman at Yale as professor of natural history and geology. His other writings include Manual of Geology (1862), Manual of Mineralogy (1843), Corals and Coral Islands (1872), and Characteristics of Volcanoes (1890).

Friedrich Wöhler

Friedrich Wöhler was born in what is nowadays a district of Frankfurt am Main. In 1823 Wöhler finished his study of medicine in Heidelberg at the laboratory of Leopold Gmelin, who arranged for him to work under Jöns Jakob Berzelius in Stockholm. He taught chemistry from 1826 to 1831 at the Polytechnic School in Berlin until 1839 when he was stationed at the Higher Polytechnic School at Kassel. Afterwards, he became Ordinary Professor of Chemistry in the University of Göttingen, where he remained until his death in 1882. In 1834, he was elected a foreign member of the Royal Swedish Academy of Sciences.

Wöhler is regarded as a pioneer in organic chemistry when heaccidentally synthesized urea in the Wöhler synthesis in 1828. This was a landmark in the history of Science which disproved and undermined the Vital Force Theory which was believed for centuries, by showing that organic compounds could be synthesized from inorganic materials.

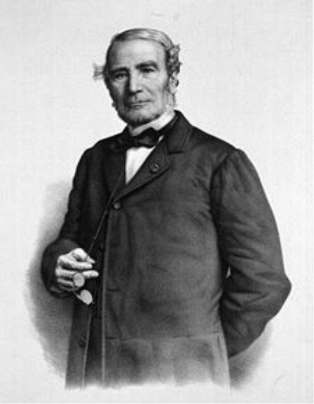
Wöhler was also known for being a co-discoverer of beryllium, silicon and silicon nitride, as well as the synthesis of calcium carbide, among others. In 1834, Wöhler and Justus Liebig published an investigation of the oil of bitter almonds. They proved by their experiments that a group of carbon, hydrogen, and oxygen atoms can behave like an element, take the place of an element, and can be exchanged for elements in chemical compounds. Thus the foundation was laid of the doctrine of compound radicals, a doctrine which had a profound influence on the development of chemistry.

Friedrich Wöhler
(1800-1882)

Since the discovery of potassium by Humphry Davy, it had been assumed that alumina, the basis of clay, contained a metal in combination with oxygen. Davy, Oerstedt, and Berzelius attempted the extraction of this metal, but failed. Wöhler then worked on the same subject, and discovered the metal aluminiumin 1827. To him also is due the isolation of the elements yttrium, beryllium, and titanium, the observation that "silicium" (silicon) can be obtained in crystals, and that some meteoric stones contain organic matter. He analyzed a number of meteorites, and for many years wrote the digest on the literature of meteorites in the Jahresbericht der Chemie; he possessed the best private collection of meteoric stones and irons existing. Wöhler and Sainte Claire Deville discovered the crystalline form of boron, and Wöhler and Buff the hydrogen compounds of silicon (the silanes) and a lower oxide of the same element. Wohler also prepared urea, a constituent of urine, from ammonium cyanate in the laboratory without the help of a living cell.

While sojourning at Cassel, Wöhler made, among other chemical discoveries, one for obtaining the metal nickel in a state of purity, and with two friends he founded a factory there for the preparation of the metal.

Wöhler had several students who became notable chemists. Among them were Georg Ludwig Carius, Heinrich Limpricht, Rudolph Fittig, Adolph Wilhelm Hermann Kolbe, Albert Niemann, and Vojtěch Šafařík.



Antoine Alexandre Brutus Bussy
(1794 - 1882)

Antoine Alexandre Brutus Bussy

Antoine Alexandre Brutus Bussy (1794-1882) French chemist, physician and pharmacist, born at Marseilles. In 1828, independently of Wohler, Bussy isolated the element beryllium.

Nicolas-Louis Vauquelin

Nicolas-Louis Vauquelin
(1763-1829)

French chemist, was born at Saint-André-d'Hébertot in Normandy on the 16th of May 1763. His first acquaintance with chemistry was gained as laboratory boy to an apothecary in Rouen (1777-79), and after various vicissitudes he obtained an introduction to Antoine François Fourcroy, in whose laboratory he was an assistant from 1783-91. At first his work appeared as that of his master and patron, then in their joint names; but in 1790 he began to publish on his own authority, and between that year and 1833 his name is associated with 376 papers. Most of these were simple records of patient and laborious analytical operations, and it is perhaps surprising that among all the substances he analysed he only detected two new elements -- beryllium (1798) in beryl and chromium (1797) in a red lead ore from Siberia. Either together or successively he held the offices of inspector of mines, professor at the School of Mines and at the Polytechnic School, assayer of gold and silver articles, professor of chemistry in the Collège de France and at the Jardin des Plantes, member of the Council of Industry and Commerce, commissioner on the pharmacy laws, and finally professor of chemistry to the Medical Faculty, to which he succeeded on Fourcroy's death in 1809. His lectures, which were supplemented with practical laboratory teaching, were attended by many chemists who subsequently attained distinction. He died at his birthplace on the 14th of November 1829.

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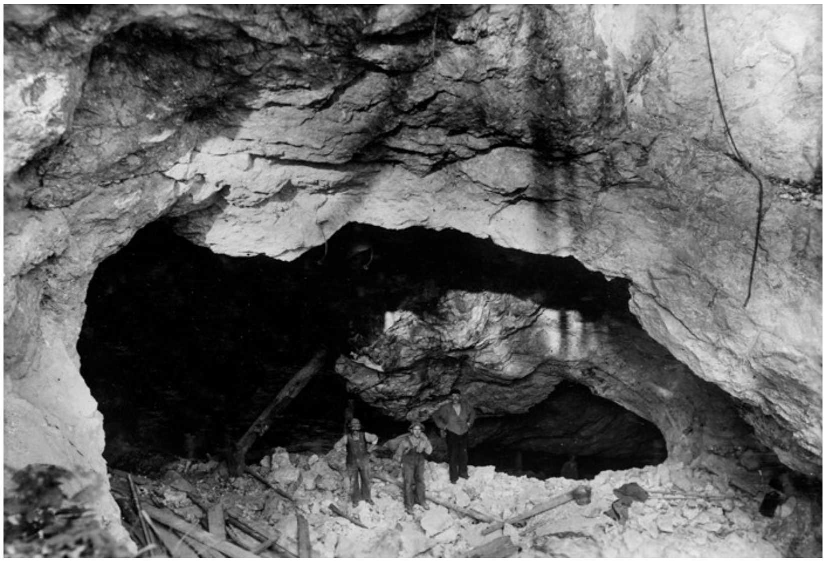


Palermo Mine, Pre-1923 Locality: Palermo No. 1 Mine (Palermo #1 pegmatite), Groton, Grafton Co., New Hampshire, USA Photo from: Sterrett, D. (1923): Mica deposits of the United States (USGS Bulletin 740), plate 17-B. Public Domain photo, courtesy of the USGS.

Rocks and Minerals Along the Via Porphyry

by Andrew A. Sicree, Ph.D.

Imperial porphyry in Rome

Porphyry. Imperial porphyry. The name evokes images of gladiators, temples, togas, and emperors. And indeed, the emperors of ancient Rome loved it: a stone of deep purple flecked with stars of white. Purple was the color reserved for royalty and nobility and here was an immutable stone that displayed royal purple, shot through with white crystalline "stars." Imperial desire for the stone drove masters and slaves deep into the most forbidding desert in the Roman Empire to quarry it from a mountainside in the Egyptian desert under the harshest of conditions.

Romans adorned the Pantheon with imperial porphyry, carved the robes of their statues and stone portraits from it, and built palaces and temples with pillars hewn from huge blocks of the precious stone. No stranger to excess, the Emperor Nero bathed in a huge, monolithic bathtub cut from a single block of imperial porphyry; the bathtub is today preserved in the Vatican Museums – the cost in silver and in the lives of slaves of dragging this huge block from its source is unrecorded, but tour guides tell you that it was worth more than its weight in gold.

Imperial porphyry in the East

Love of porphyry extended both east and west. In the Byzantine Empire, the Emperor Constantine erected a huge 100-foot (30 m) pillar in Constantinople consisting of nine porphyry drums, stacked one on top of the next. The importance of this pillar can be deduced from historical records that report that Constantine included a shrine at its base containing relics from the life of Christ, including baskets used in the miracle of the loaves and fishes and an alabaster ointment jar attributed to Mary Magdalene. Also included was the Palladium of ancient Rome, a legendary object – reputedly an image of the goddess Pallas (Athena or Minerva) removed from Troy during the Trojan War – upon which the safety of the city was thought to depend. This pillar, minus its top three segments, still stands in Constantinople, the modern-day city of Istanbul. Today, it is called the "Burnt Pillar" because it survived a major fire that blackened the exterior of the ancient monument.

The importance of imperial porphyry is further emphasized by the fact that women of the imperial family gave birth in porphyry-veneered room called the *porphyra,* which guaranteed that royal children were, quite literally, *porphyrogenitos* or "born to the purple." Other uses of porphyry in Istanbul can been seen in the eight monolithic columns of porphyry that support Hagia Sophia's *exedrae,* or semicircular niches. (Hagia Sophia is one of the world's largest churches – it was turned into a mosque after the fall of Constantinople.

The source

Treasured in ancient Rome, source of the remarkably unique imperial porphyry is reported by Pliny to have been discovered by a Roman legionnaire, Caius Cominius Leugas, in AD 18. The source was an exceptionally bleak and isolated deposit in the eastern desert of Egypt. A single quarry on the Mons Porphyry ("Porphyry Mountain" in Latin; it is now called *Gebel Dokhan* in Arabic) appears to be the source of all of the purple porphyry used in ancient Rome. The long desert road from the quarry to the Nile River is called the "Via Porphyrites" or Porphyry Road to this day. Wells necessary for watering the oxen that pulled carts loaded with huge rough-hewn blocks of porphyry mark the ancient track. The quarry was worked on and off from AD 29 through about AD 335, after which it was abandoned and its location lost.

With the loss of the supply, reuse became the watchword for imperial porphyry. When Roman palaces and temples were torn down, their porphyry pillars were reused in later palaces and churches throughout Europe. For instance, the Cathedral of Magdeburg contains a baptismal font carved from imperial porphyry and recycled Roman columns were used in the Cathedral of Aachen.

The allure of imperial porhyry persists. When his body was exhumed from its original grave on the island of St. Helena in 1840, plans called for Napoleon to be reinterred in Paris in a tomb built of imperial porphyry. An earlier, Napoleonic effort to locate the Roman quarry had failed, and, even though the quarry had been finally redicovered in 1823, the French Emperor was entombed in a lesser rock from Russian Finland – one that was close in appearance to imperial porphyry (some reports call the rock "porphyry" but other say it is a reddish purple sandstone – I favor the latter).

The Mons Porphyry remained lost until 1823, when the Egyptologists James Burton and John Gardner Wilkinson rediscovered it near Hurghada, Egypt, an extremely remote site. Harsh conditions at the site have defeated attempts to reopen the Roman era quarry commercially, but archaeological investigations conducted at the site have yielded valuable insights into the lives of the Roman slaves and workers who lived and died quarrying imperial porphyry. Close-up images of imperial porphyry samples can be seen on the web at:

http://www.eeescience.utoledo.edu/faculty/harrell/egypt/quarries/gd-nw-1.jpg

What is a porphyry?

Geologically, a porphyry (pronounced POR-fer-ee) is an igneous rock with two textures. Porphyry has large crystal grains, called phenocrysts, imbedded in a relatively finer-grained matrix or groundmass. Typically, the phenocrysts are feldspar or quartz, although amphiboles, pyroxenes, and micas are among the possible phenocrysts. The groundmass is typically largely composed of feldspar with varying amounts of quartz, mica and other minerals.

It is important to note that the grains in the groundmass may be so fine that they cannot be distinguished with the unaided eye, or they may be larger – more than a centimeter or so. The key element that makes a rock a porphyry is the presence of some crystal grains, the phenocrysts, which are significantly larger than the grains of the groundmass. For igneous rocks, geologists use the term *aphanitic* for fine-grained "microscopic" textures and *phaneritic* to denote coarser-grained textures. A typical granite is phaneritic while basalts are aphanitic.

Properly, the word porphyry can be used as an adjective. Thus, for example, one can describe a rock as a "porphyritic rhyolite" meaning that it is a rhyolite (which is fine-grained) with larger phenocrysts. More specifically, a "porphyritic plagioclase rhyolite" or a "plagioclase rhyolite porphyry" is a fine-grained volcanic rock, rhyolite, with larger phenocrysts of plagioclase feldspar crystals. A "porphyry granite" is a granite with some crystals (often feldspars) that are significantly larger than the already coarsely-crystalline groundmass. Imperial porphyry has been described as both a "purplish-red dacite porphyry" and a "purplish-red andesite porphyry." Andesite is a volcanic rock intermediate in silica composition between rhyolite and basalt. Dacite is a volcanic rock that falls between rhyolite and andesite on the rhyolite-andesite-basalt continuum.

Scientific importance

For the petrologist (a scientist who studies rocks), porphyritic textures indicate that an igneous rock underwent a two-stage cooling process. Initially, the parent magma cooled slowly – this typically occurs far underground – and the slow cooling rate gave some crystals the time needed to grow to a large size. The bulk of the magma remained molten and these phenocryst crystals floated in the molten magma. The second stage began when this phenocryst-bearing magma was pushed upward toward the Earth's surface. The magma might erupt onto the surface at a volcano, or it might cool and solidify in the shallow sub-surface. In both scenarios, the cooling rate is significantly accelerated and the magma solidifies completely into a solid, a porphyry. The early, larger crystals form the porphyry's phenocrysts, which are imbedded within the later-stage solid (the groundmass).

Decorative building stones

Today, porphyries find use in sculpture, tombstones, kitchen countertops, and facing stones for bank lobbies. They remain popular as decorative stones because of their attractive textures – but those same textures tell a scientific story as well.

*Dr. Andrew A. Sicree is a professional mineralogist and geochemist residing in Boalsburg, PA. This **Popular Mineralogy** newsletter supplement may not be copied in part or full without express permission of Andrew Sicree. **Popular Mineralogy** newsletter supplements are available on a subscription basis to help mineral clubs produce better newsletters. Write to Andrew A. Sicree, Ph.D., P. O. Box 10664, State College PA 16805, or call (814) 867-6263 or email sicree@verizon.net for more info.*

Sherlock Holmes and the "Blue Carbuncle"

Its Christmastime and Sherlock Holmes, in Sir Arthur Conan Doyle's "The Adventure of the Blue Carbuncle," sets out to track down the origin of a valuable gemstone, a "blue carbuncle," found in the crop of a Christmas goose. The master-sleuth Holmes discovers that one James Ryder stole the gemstone from the Countess of Morcar with help from the countess's maid, Catherine Cusack, and framed the plumber, John Hormer, for the theft. Holmes solves the case, and somewhat uncharacteristically lets the thief escape to the Continent – just because its Christmas. The case against Hormer collapses, and all's well that ends well, but the reader is left wondering "exactly what is a blue carbuncle?"

An archaic term, the word "carbuncle" formerly applied to any cabachon-cut red gemstone. Often a red garnet was the stone in question, typically almandine garnet ($Fe_3Al_2(SiO_4)_3$, cubic). But the difficulty with a garnet being Holmes' "Blue Carbuncle" lies in the fact that garnets, although they occur in just about any possible color, rarely occur as strongly blue gemstones. Thus, a blue carbuncle would be quite a rare stone indeed – if it were a garnet. If one overlooks the illogical name (if a carbuncle is a red stone how can it be blue?), one can apply a bit of Holmesian logic to solving this mystery:

If a carbuncle is defined as any strongly red gemstone that is cut into a cabachon, then other, non-garnet, gemstones should also be considered. What is another red gem that is typically cut into a cabachon? The first and natural suspect is ruby – the red variety of corundum (hexagonal Al_2O_3) – which is often cabachon-cut. If we accept this possibility, then it quite logically follows that Holmes' "Blue Carbuncle" was a sapphire – the blue variety of corundum – a much more likely gemstone than a large blue garnet.

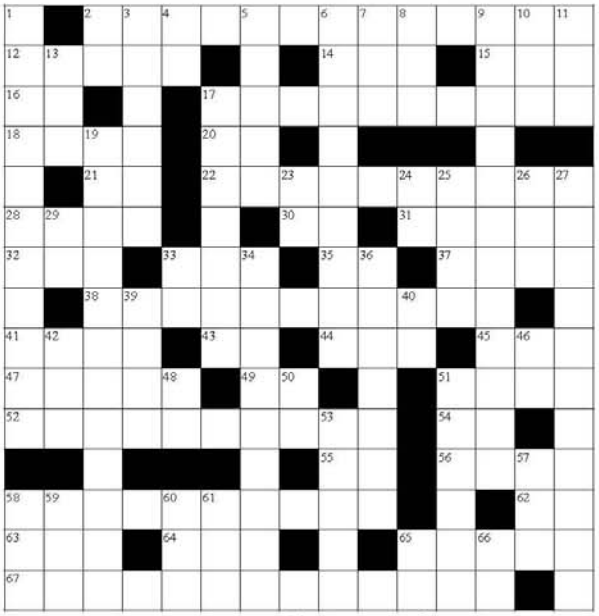
Incidently, the carbuncle is featured several places in the *Bible* as well. The word originates from St. Jerome's *Vulgate* translation of the *Bible* where it was derived from the *Septuagint* (the Greek translation of the Hebrew scriptures). The Greek word was *anthrax*, meaning "coal" – its use referred to not to the black color of coal but rather to the red flame of a burning coal.

37th Rochester Mineralogical Symposium

Thursday, April 15 – Sunday, April 18 2010
P.O. Box 85, Manlius, NY 13104-0085
Steve Chamberlain - Chairman <sccham2@yahoo.com>
Helen Chamberlain - Registrar (315) 682-0387 <contactrms@hotmail.com>
Bruce Gaber - Exhibits (301) 654-7479 sun@visionrising.com

The Micromounter's Playroom continues (contact Quintin Wight <qwight@sympatico.ca>). Additional registration forms can be downloaded at <www.rasny.org> or <www.amfed.org/efmls> by following the link to the RMS. All in all, it looks like another year that will show why the Rochester Mineralogical Symposium is a highlight of the mineral calendar.

Crystal Matrix Crossword



Iridium and Friends

ACROSS

2 a copper and iridium mineral
12 a favorite collecting site
14 American Geophysical Union
15 a spicule-like crystal
16 where selenite roses are found
17 an iridium iron mineral
18 town in Texas
20 smallest state
21 half a laugh
22 weapon made of cryptocrystalline quartz
28 academic (ab)
30 mouth noise when thinking
31 when collecting you go on _ _____
32 girl's nickname
33 to dump out ore
35 iridium
37 American Society of Agricultural Engineers (ab)
38 minerals collectors want
41 Greek for Chloe
43 365 days
44 near the Earth's surface
45 near infrared
47 to say it obliquely
49 used in rare earth magnet
51 feel of petroleum
52 study motion, time, space
54 extra tall
55 extra period of play
56 big hairy snowman
58 variety of osmium
62 where its __
63 the boy king
64 Radio-Keith-Orpheum
65 ex-volcanic gas bubble
67 stone in the creek

DOWN

1 important for mineral display at mineral show
2 copper
3 eroding a mountain
4 platinum
5 Biblical gold source
6 sky-blue Cu iron sulfate
7 nickname for Ignatius
8 bad bomb
9 has iridium & ruthenium
10 tit for ___
11 ___ for eye
13 also known as (ab)
17 how Crazy Lace Agate's appear to move
19 copper iron sulfide
23 ruthenium
24 a snort
25 and others
26 diamond (ab)
27 platinum arsenides
29 found in cerianite
33 found in avicennite
34 fruit of the gods
36 to strike back verbally
39 lubricates
40 in Pepto-Bismol
42 flux (liter/meter/hr)
46 big fluorite area
48 an exclamation
50 not amiss
51 not found in Ir minerals
53 hammer and _____
57 a little bit
58 ___ a matter of faith
59 get out of your ___
60 a drowning person says
61 49'ers were fastest at this
65 ancient Chinese game
66 Old English (ab)

LAST MONTH'S SOLUTION: Places

M	C	■	M	I	C	R	O	S	O	M	M	I	T	E
E	O	L	I	C	■	H	■	T	R	I	■	N	E	O
T	A	R	N	■	H	Y	D	R	O	X	I	D	E	S
A	L	■	E	■	A	M	■	I	■	■	■	E	■	■
M	■	F	R	■	D	E	C	A	H	E	D	R	O	N
O	P	U	S	■	R	■	F	T	■	T	I	B	I	A
R	U	R	■	D	I	U	■	I	T	■	E	O	N	S
P	■	T	Y	R	A	N	N	O	S	A	U	R	■	T
H	A	H	A	■	N	I	■	N	U	T	■	I	R	R
I	N	E	R	T	■	P	T	■	N	■	A	T	M	O
C	O	R	D	I	L	L	E	R	A	■	G	E	■	P
■	■	A	■	■	■	A	■	A	M	■	A	■	P	H
C	I	N	C	I	N	N	A	T	I	■	T	H	A	I
S	L	C	■	R	U	E	■	I	■	R	E	A	C	T
A	L	E	X	A	N	D	R	I	T	E	S	■	T	E

MMNE Secretarial Report for February 20, 2010

President Joe Mulvey began the February meeting with a thank you to Gene Bearss, Pat Barker and Inge and Dana Jewell for their contributions to the sales table for the upcoming May Symposium.

Joe said he would check with the Chester P Tuttle Post 279 in Auburn to make sure everything is in order regarding payment and the catering. Otherwise, he said everything else was "under control". He announced that the Rocks and Minerals events calendar would include the Symposium in the upcoming issue. He also said he was looking into listing the event on Mindat. There still was no firm commitment from Jim Ross of Absolute Clarity. Tom Mortimer stated that he would place the order for the May grand door prize (rock trimmer) with Excalibur on the following Monday.

A brief discussion followed regarding the order and timing of the two speakers. It was decided that Tom Mortimer would give his presentation starting at 10:30 AM and that Gene Bearss would present in the 1:00 to 2:00 PM time period. Lunch is served at noon. Joe said that he would include these specifics in the club brochure and then would print them for distribution and publicity.

Treasurer Tom Mortimer said membership "was dribbling in" with five or six more renewals. He felt that approximately sixty percent of the previous year's membership had sent in their 2010 dues. The President commented that following the March newsletter, subsequent newsletters would be terminated to those in arrears and that he would change the password for the "Members" only area on the club website.

Tom Mortimer questioned whether members should consider rescheduling the MMNE normal meeting date (April 17) due to a conflict with the Rochester Symposium. After some discussion it was decided to **change the April MMNE meeting date to April 24th.**

At the close of the meeting Joe announced that the monthly specimen competition resulted in a tie: Pat Barker submitted a Broken Hill, Australia Copper and Malachite specimen and Dana Jewell, a Copper and Analcime specimen from Michigan. Gene Bearss wanted to know what the March competition would be. Joe asked for suggestions. The result was: Non-Rare Earth Beryllium Minerals from New England.

Respectfully submitted,
Bob Wilken, Secretary

Mott Community College geology museum robbed of $12,000 in minerals

By Beata Mostafavi | Flint Journal , March 11, 2010, 5:29PM

FLINT, Michigan — Nearly $12,000 in minerals have been stolen from one of Mott Community College's greatest gems. Among the 50 items that went missing this month from MCC's geology museum are a small chunk of gold worth $2,000, a small Colombian emerald and a rare Phosphophyllite gem more than 2 centimeters long worth $1,000.

Isaias Casanova of the Arizona-based IC Minerals said the stolen phosphophyllite is a telltale sign that the thief is a minerals lover.

"Those are very rare and very expensive," Casanova said. "The thing about minerals is they are worth a lot of money to me but to the average guy down the street, it's just a bunch of rocks. This was someone who knew their rocks."

Officials believe the minerals were stolen around 6 p.m. March 1 right before closing at the Chester H. Wilson Geology Museum, in an open, public area on the first floor of the campus' Gorman Science Center.

"This museum is one of the college's diamonds," said MCC's Public Safety Director Theresa Stephens-Lock. "It's something the community can enjoy, so it's a tragedy for the community as well as Mott.

"Some of the (minerals) were of small value, but they were very valuable to us."

The stolen minerals were part of a collection that started in 1959 with just a few hallway displays and grew over the years with contributions from such organizations as the Flint Rock & Gem Club, the Michigan Geology & Gem Craft Society and the Student Geology Club. The museum is for public use but is also used by MCC classes.

"Minerals are worth more than people would think," Casanova said. "They're like mini artworks from nature."

The thief was choosy, targeting specific display cases and particular items, many of which were in excellent condition.

According to mineral forum mindat.org, which posted news of the theft, the thief may also be a smoky quartz collector because he or she tried to break into a sealed quartz case and only took smoky quartz crystals.

A custodian noticed the missing minerals the next morning at the museum, which has been temporarily closed.

MCC officials have put out a list of stolen specimens to gem collectors and are tracking online sites such as Craigslist and eBay.

Anyone with any information about the MCC theft is asked to call MCC's Public Safety Department at (810) 762-0222

2010 MMNE SYMPOSIUM

REGISTRATION FORM

REGISTRATION FEE: Members $20, Non-members $25
Make checks payable to: Micromounters of New England (MMNE)
Return to: Tom Mortimer
3 Roberts Rd., Amherst, NH 03031

Member Name ____@ $20 each______

Member Name ____@ $20 each_______

Non-Member Name ____@ $25 each______

Non-Member Name ____@ $25 each______

Address: ____

E-mail Address:____

Please return by May 8, 2010, the closing date for ordering a meal.
48 hours notice is required for cancellation with refund.

The Annual first Sunday of March hike up to Palermo #1 was a beautiful day for hiking and sightseeing! While water levels were twenty feet higher than last year, I great time was enjoyed by the small crowd. Pictured is the mine entrance. The small opening on the right is the very large cavern whose ceiling is usually 25 – 30 feet above our heads!

DIRECTIONS TO TRINITY LUTHERAN CHURCH, CHELMSFORD MA

170 Old Westford Rd., Chelmsford, MA.
From Rt. 3, take Exit 32, (The "Drum Hill Rotary").
From Rotary, Take Old Westford Rd. towards Westford for about .85 miles to Grandview Rd.
Entrance for Trinity Lutheran Church on left.
Proceed up rather long driveway to parking area.
Our meeting room is at the far end of the low building.

Those coming from the south may want to try an alternate route, exiting from Rt. 495 at Exit 33, then taking Rt. 4 north to a left onto Davis Rd. See map below.

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MEMBERSHIP FORM, NEW AND RENEWAL IT IS THAT TIME!!!!

Membership in the MMNE runs from January 1st to December 31st. Dues are payable on or before January 1st for the upcoming year. Failure to renew on time will result in cancellation of membership including the subscription to the Newsletter. Please fill out this form and return it with your payment.

Name: ____

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Membership type: Individual $ 12.00 Family $ 16.00
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Newsletter: The Newsletter is available as hard copy sent through the mail, or via email, which may have color photographs included. Please indicate choice of format. The Newsletter is published in January, February, March, April, May, Summer Issue (June), September, October and November (no December issue), and is send out approximately two weeks prior to the next scheduled meeting.

Please remit payment to Treasurer Tom Mortimer, 3 Roberts Rd., Amherst, NH 03031

Joe Mulvey, Newsletter Editor
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Nashua, NH 03062

TO: