

A newsletter for Gem and Mineral enthusiasts in and around the Raleigh, North Carolina area.

Special Interest Articles:

- President's Report
- July Door Prize - Chalcopyrite
- Upcoming Events
- NC Kidney Stone Causes

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President's Report

Hello All,

With the better half of summer over most of us have done our summer vacations and, no doubt, picked up a few rocks along the way. The August meeting is the Ice Cream Social. Besides bringing your favorite flavor and best spoon to this meeting it would be a great opportunity to Show and Tell some of the rock treasures you have collected recently.

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July Door Prize - Chalcopyrite

Kelley Gemma – [Handbook of Mineralogy](#)

Chalcopyrite is often confused with pyrite, although the latter has a cubic and not a tetragonal crystal system. Further, chalcopyrite is often massive, rarely crystalline, and less brittle. Chalcopyrite is also a darker yellow in color, with a greenish tinge and diagnostic greasy luster.

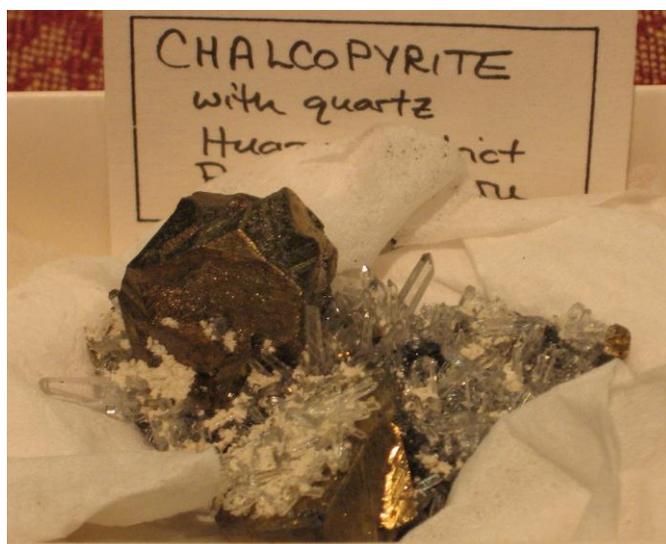
Due to its color and high copper content, chalcopyrite has often been referred to as "yellow copper".

Crystal Data:
Tetragonal. *Point Group:* 42m. Equant, tetrahedral-shaped crystals, may be modified by scalenohedral faces,

to as large as 10 cm. Sphenoidal faces {112} typically large, dull in luster and striated k [110]; {112} faces are small and bright. Commonly massive, compact; can be botryoidal. *Twinning:*

Twin plane {112}, composition surface commonly {112}; twin plane {012}; also by rotation about [001] with composition plane {110}, producing penetration twins.

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We're on the Web!
See us at:
www.tarheelclub.org

Program & Refreshments

REFRESHMENT SCHEDULE:

Coordinator: Jeanette Baugh (919) 522-9044
villagegems@yahoo.com

August	Ice Cream Social
September	Walt Milowic
October	Cyndy and Corinne Hummel
November	Jerry and Deborah Miller

PROGRAM SCHEDULE:

August	Ice Cream Social
September	Jeff Schlotman - Types of Quartz
October	Open
November	Open

The Ice Cream Social is here! I hope each of you has come up with a special treat. We really need everyone to participate and bring something to make 2011 the Ice Cream Social to remember!

Thank you, Jeanette Baugh

June Treasurer's Report

June 2011 Financial Report
May Ending /
June Beginning Balance \$16,483.15

Checks Written (-)	
King Associates taxes	795.00
Newsletter	58.15
Label Supplies	12.92
Container for Show Signs	90.76
Field Trip Supplies	9.45
Drawing	
(2 teen Show helpers)	100.00
SSStorage with discount	46.50

Sub Total	\$1112.81

Deposits (+)	
Members	\$47.50
Members	65.00
Auction	51.00
Auction	463.50

Sub Total	\$627.00
=====	

June Ending /
July Beginning Balance \$15,997.34

August B-Day Members

- Walter Brandenburg
- Robert Dubrock
- Ken Fersch
- Mike Hodges
- Bob Johnson
- Irene LaFortune
- Patricia Schetzina
- Tracey Todaro
- James Tunney
- Rob Whaley
- Kenny Williams



Membership applications may be mailed to:

Tarheel Gem & Mineral Club
Attention: Treasurer
10609 Chelsea Drive
Raleigh, NC 27603

Tar Heel G & M Club July Meeting Minutes

Tuesday, July 19, 2011

The meeting was opened at 7:50 by Joe Moylan.

Walt Milowic read the minutes. Walt made a correction concerning the drawing at the June meeting that Mike Franklin had won added a correction. He chose a red garnet from China. Barbara motioned to accept the minutes as corrected. Kenny Gay seconded.

Tom Todaro spoke about the Pomona quarry field trip near Greensboro. Specimens found there include Calcite chunks, Stilbite, and Fluorite. Our time is 9-12AM. Try and get there by 8:30 to get the preliminaries done. There is also a mineral museum. Tom asked for updated email addresses. The drive should be about an hour and a half to two hours. Bring water, it will be hot.

The slate quarry has to be rescheduled. They're getting busy with work so this might get harder to do.

Joe mentioned the Glendon trip through the MAGMA group. Joe and Tom got in on the lottery but all other slots are now taken.

Joe suggested that after Glendon, we stay overnight. The MAGMA group is going to Lauries??? and then Bowers limonite near Charlotte the next day. There is an old quartz prospect nearby for \$15 a day. Joe suggested making it a weekend trip. There is also Probe's farm nearby, to look for corundum.

A Diamond Hill group trip over a weekend in South Carolina was brought up. Joe mentioned that there is a new owner so we don't know how he is going to run it. They have great quartz finds all the time though.

Grassy creek is coming up. Hopefully someone will make it there.

The Vibratumbler is still available only a few people have shown interest.

John Heinz asked if someone knew how to properly lubricate an electric motor that he has.

Show progress – Joe asked if anyone wanted to help with advertising for next year. We need some feedback on better ways to advertise including with the Federation and Rock and

Gem magazine. The feedback needs to be collected for the person in charge of advertising. The show dates are March 30, 31, and 1st of April for next year. The other area for the show that we need help with is the beginner-education program. Joe said we should be starting much earlier than we have, setting up examples of hardness, texture, color, etc., and building up displays to use from year to year. We will try and put the display case tables in a U shape for a classroom. Mike and Walt volunteered to be co-chairs for this.

Jeanette Baugh mentioned that the Convention Center might have lost our information. So for now, we can't get in until 2012.

A new guest, Sandy Harper, introduced herself. She had some nice quartz specimens to share.

A North Carolina Fossil club pamphlet will be put in with the club library that is stored at the Craft Center. These books can be checked out! We will put the books out at the next few meetings for people to see.

Jeff Schlotman had to cancel at the last minute as our guest speaker but hopefully he will be back in September to speak on quartz and show some video on the largest Emerald ever found.

Joe had some specimens to show at the head table including some very rare purple Adamite! Bendelowite was also present, (but not all that rare as it turns out).

Kelley Gemma won the raffle. She chose a beautiful chalcopyrite with quartz.

Cyndy Hummel made a motion to close the meeting and Marion Broadway seconded.

Mike Franklin gave a talk on "Kidney Stones: The Inside Story." It was a very interesting presentation that showed just how much they are related to minerals found in the Earth, although much more painful.

Respectfully submitted,

Walt Milowic

President's Report

Continued from page 1

I know some of you have been to one or more of the shows in the mountains, Franklin, Grassy Creek, etc, and we would love to see what you "found".

The last club fieldtrip to the Martin-Marietta Pomona Quarry in Greensboro went very well with about a dozen or so members who showed up to brave the heat. If you paced yourself and drank plenty of water it was not bad at all. Unfortunately, not many fantastic

specimens were to be found this trip, but it is always interesting to get a close-up view of more of North Carolina geology and we were allowed to tour the museum on site before leaving. Thanks again Tom for arranging this for us. Where will we be going next?

See You at the Meeting,

Joe Moylan

July Door Prize - Chalcopyrite

Continued from page 1

Physical Properties: *Cleavage:* Poor on {011} and {111}. Hardness = 3.5–4 VHN = 187–203 (basal section); 181–192 (vertical section) (100 g load). *D(meas.)* = 4.1–4.3 *D(calc.)* = 4.283

Optical Properties: Opaque. *Color:* Brass-yellow, may be tarnished and iridescent. *Streak:* Greenish black. *Luster:* Metallic. *Anisotropism:* Weak. *R1–R2:* (400) 16.0–17.3, (420) 20.0–21.3, (440) 24.8–26.1, (460) 30.2–31.4, (480) 34.9–35.9, (500) 38.9–39.9, (520) 41.9–42.7, (540) 44.0–44.9, (560) 45.4–46.4, (580) 46.6–47.6, (600) 47.1–48.3, (620) 47.5–48.6, (640) 47.6–48.7, (660) 47.6–48.7, (680) 47.6–48.6, (700) 47.6–48.6

Cell Data: *Space Group:* I42d. *a* = 5.281 *c* = 10.401 *Z* = 4

X-ray Powder Pattern: Merkur mine, Ems, Hesse, Germany. 3.038 (100), 1.8570 (35), 1.5927 (27), 1.8697 (22), 1.5753 (14), 2.644 (5), 1.2025 (5)

Chemistry:	(1)	(2)
Cu	35.03	34.63
Fe	31.00	30.43
S	34.96	34.94
Total	100.99	100.00

(1) Western mines, Vancouver Island, British Columbia, Canada; by electron microprobe, leading to $\text{Cu}_{1.01}\text{Fe}_{1.01}\text{S}_{2.00}$. (2) CuFeS_2 .

Polymorphism & Series: Forms a series with eskebornite.

Mineral Group: Chalcopyrite group.

Occurrence: A primary mineral in hydrothermal veins, stockworks, disseminations, and massive replacements; an

exsolution product in mafic igneous rocks; of sedimentary origin controlled by redox conditions.

Association: Sphalerite, galena, tetrahedrite, pyrite, many copper sulfides.

Distribution: A very common copper mineral, so only a few outstanding localities can be mentioned. In the USA an important ore mineral at many of the copper mines of Arizona, as at Bisbee, Cochise Co.; large crystals from the Groundhog mine, Vanadium, Grant Co., New Mexico; in crystals from New York, at the Rossie lead mines, St. Lawrence Co.; at French Creek, Chester Co., Pennsylvania; in Missouri, at Joplin, Jasper Co. From Cananea, Sonora, Mexico. At Huaron, Peru. In Canada, in the Rouyn district, Quebec, at the Noranda mine; from Ontario, in the Kidd Creek mine, near Timmins, and at Sudbury. In Slovakia, at Baňská Štiavnica (Schemnitz). In the Czech Republic, at Horní Slavkov (Schlaggenwald). From Freiberg, Saxony; Dillenburg, Hesse; in the Georg mine, near Horhausen, Westerwald; and a number of mines in North Rhine-Westphalia, Germany. At Vinsknoes, Karmoen, Norway. From the Ani and Arakawa mines, Akita Prefecture, Japan. Large crystals in the Nababiep mine, Cape Province, South Africa.

Name: From the Greek for brass and pyrite.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 219–224. (2) Hall, S.R. and J.M. Stewart (1973) The crystal structure refinement of chalcopyrite, CuFeS_2 . *Acta Cryst.*, 29, 579–585. (3) (1985) NBS Mono. 25, 21, 69. (4) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 84.

NC Kidney Stone Causes

By Mike Franklin

NC Kidney Stone Causes

1. hot climate causes increased amounts of perspiration & low hydration (need to drink >1/2 gallon of water per day)

2. southern diet high in green vegetables, brewed tea, etc.

* foods high in oxalates: soy milk, collards, spinach, broccoli, rhubarb, goose berries, and chocolate

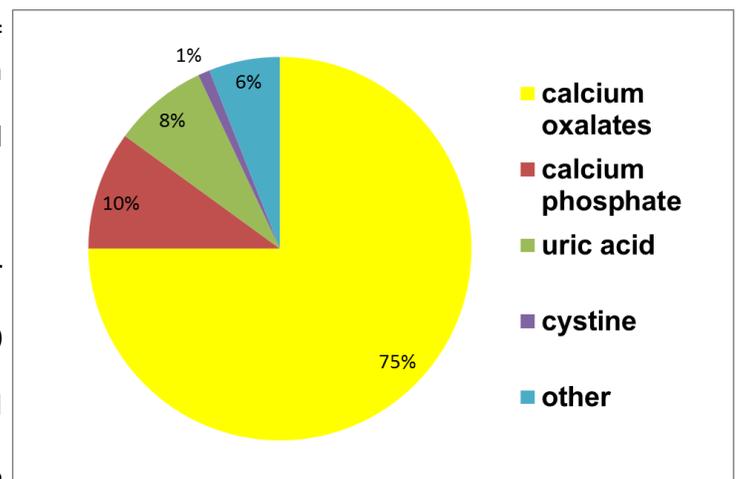
* cola/phosphate drinks: Coke, Pepsi, & Doctor Pepper

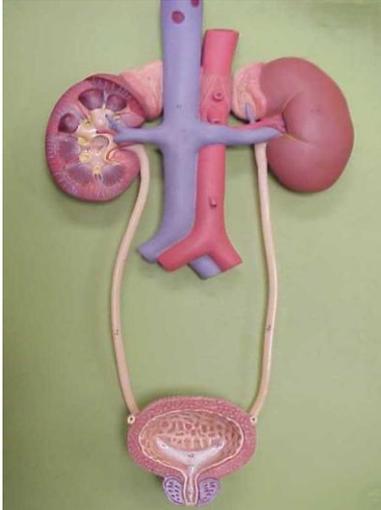
* too much salt (sodium) or vitamin C (< 2 > 0.060 gr/day) in the diet

3. modern sedentary life styles of reduced physical activity, being obese, and having diabetes or gout

Males 35-50 most at risk (testosterone link), 80% had by males, there is also an 80% chance of recurrence

<http://rogerbaxter.com/KidneyStone>





Human Urinary System
Kidney

Ureters (high pain when stone moves in this region)

Bladder

Urethra

Kidney Stone Chemical Composition

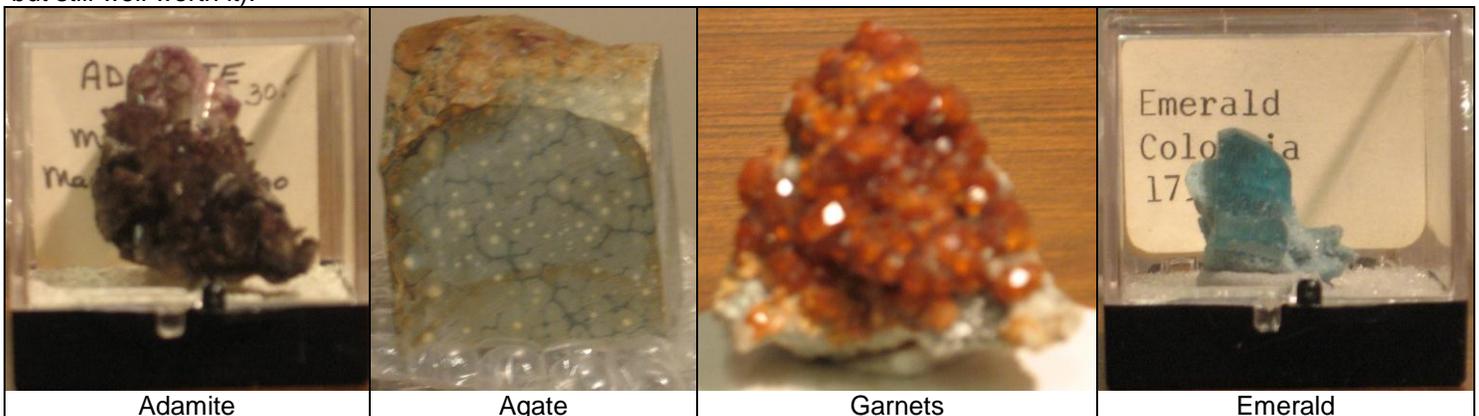
- Calcium Oxalate Monohydrate (Whewellite); $CaC_2O_4 \cdot H_2O$
- Calcium Oxalate Dihydrate (Weddellite); $CaC_2O_4 \cdot 2H_2O$
- Calcium Phosphate, Carbonate Form (Carbonate Apatite); $Ca_{10}(PO_4 - CO_3OH)_6(OH)_2$
- Calcium Phosphate, Hydroxyl Form (Hydroxyl Apatite); $Ca_{10}(PO_4)_6(OH)_2$
- Calcium Hydrogen Phosphate Dihydrate (Brushite); $CaHPO_4 \cdot 2H_2O$
- Tricalcium Phosphate (Whitlockite); $Ca_3(PO_4)_2$
- Magnesium Ammonium Phosphate Hexahydrate (Struvite); $MgNH_4PO_4 \cdot 2H_2O$
- Magnesium Hydrogen Phosphate Trihydrate (Newberyite); $MgHPO_4 \cdot 3H_2O$
- Uric Acid; $C_5H_4N_4O_3$
- Sodium Acid Urate; $NaH-C_5H_2O_3N_4 \cdot H_2O$
- Ammonium Acid Urate; $NH_4H-C_5H_2O_3N_4 \cdot H_2O$
- Cystine; $(SCH_2CH(NH_2)-COOH)_2$

Storage Unit

If someone needs a storage unit, and they rent one from the Raleigh SecurCare Self Storage, and they say the TG&MC referred them, the club gets a free month's rents. This place has 24 hour access with a locked gate, there are inside as well as outside with garage type door units of various sizes available. They sometimes have deals such as: first month for half price (currently) or what I got: first month for \$1.00 (lock, insurance and fees actually made that first month \$37 but still well worth it).

Raleigh SecurCare Self Storage
6501 Hillsborough Street
Raleigh NC 27606
919-679-0009

<http://www.securcareselfstorage.com/self-storage-locations/self-storage-raleigh-nc-2/#!#units>



Specimens brought to the last meeting to view.

Upcoming Events

2011 SFMS WORKSHOP CLASS SCHEDULE

One of the unique facets of the Southeast Federation of Mineralogical Societies is the Workshop Program, which offers members the opportunity to gather for week-long, hands-on seminars taught by experienced instructors. Whether you are a newcomer to the lapidary arts and want to learn the basics, or whether you're an old hand who wants to learn something new or move on to the next level, the Workshop Program has something for you. We look forward to seeing you in 2011.

The Southeast Federation of Mineralogical Societies, Inc. sponsors four Gem, Jewelry and Mineral workshops each year. These are held at Wildacres, near Little Switzerland in North Carolina, and at the William Holland Retreat near the small town of Young Harris in northeast Georgia. Both facilities offer double accommodations with a private bath. Twin bed rooms and a number of rooms with a double bed and a twin bed arrangement are available.

A broad range of courses related to the lapidary arts are taught by qualified instructors from throughout the Federation. All instructors are volunteers who are not paid for the highly skilled and professional experience that they bring to the workshops.

The workshops are well equipped for common lapidary activities such as cabochon cutting, faceting, and silversmithing. Additional equipment is brought in when new or special courses are taught.

The intermediate and advanced classes listed with an asterisk (*) require some prior experience by the student. Experience in a class provided by your local club, Workshop class, or self-study may be enough. If you're interested in one of these classes, please do not exclude yourself without contacting the instructor first.

SESSION TWO - WILDACRES MONDAY, August 22 - 28, 2011

Beading, Seed	Barbara Green
Cabochons	Pat Davis
Cold Connections	Kathy Morris
Faceting	Steve Hillenbrand
*Fused Glass, Advanced	Rich Dillon
Gem ID	Mary Lou Kick
*Metalsmithing - Advanced	Jeff Shears
Silver I	Shannon Stafford & Annette Gibney
*Stone Setting	Don Roberts
Wire, Beginning	Velima Lawson

SESSION THREE - WILDACRES MONDAY, September 12 - 18, 2011

Cabochons	Anita Westlake
Casting	John Iacullo
Chain, Beginning	Kathy Morris
Lampwork	Linda White
Mineral ID	Scott Forward
Silver Cold Connection	Charlotte Caughman
*Silver, Filigree	Shannon Stafford & Annette Gibney
Wire, Beginning	Bonita Harris

SESSION FOUR - WILLIAM HOLLAND SUNDAY, October 9-16, 2011

Bead Weaving	Ron Midkiff
Cabochons	Anita Westlake
Chain Making	Dee & Bill Conybear
Enameling	Lynda Williams
Faceting	Mary Lou Kick
Fused Glass	Addy DePietro
Jadeite Bas-Relief Carving	Bill Smith
Lampworking	Cindy Reed
Opals	Joe DePietro
*Silver Filigree	Stafford/Warrick
*Southwest Silver	Dan Haga
*Silver II	Vicki Prillaman
Wire I	Judy Peppers

The SFMS workshop classes are ONLY open to current members of SFMS clubs. Members of other AFMS federation clubs are only eligible on a space available basis.

THE GENERAL PUBLIC CANNOT ATTEND THESE CLASSES!

For more information on rates and registration, go to: http://www.amfed.org/sfms/education_committee.html

UPCOMING SHOWS

Sep 2-5, 2011: Raleigh, NC. Treasures of the Earth Gem, Mineral & Jewelry Show. NC State Fairgrounds, Scott Building. Show includes 14K gold and sterling silver jewelry, loose gems, pearls, beads and findings, minerals, crystals, fossils, remounts and wire wrapping by jewelers on site. Jewelers and wire wrappers on site that can do remounts, design or repair jewelry. Admission: Adults \$4 - under 16 admitted free. Show hours: Friday: noon - 7, Saturday: 10 a.m. - 6 p.m.; Sunday: 11 a.m. - 6 p.m.; Monday: 10 a.m. - 5 p.m. (804) 746-7663 tote1523@treasuresoftheearth.net

Sep 3-6, 2011. Hendersonville, NC—Henderson County Gem & Mineral Society. 29th Annual Gem, Mineral, Jewelry Show & Sale, Whitmire Activity Building, Lily Pond Road, Hendersonville.

Sept 9-11, 2011: Winston-Salem, NC. Forsyth Gem and Mineral Club. 40th Annual Gem and Mineral Show, Educational Building, Dixie Classic Fairgrounds, Winston-Salem#9 from 27th Street only. Hours: Fri & Sat 10-7, Sun 12-5. Contact W. A. Marion, Show Chair at 1163 Bear Creek Rd, Mocksville, NC 27028 or via e-mail at MarionA1@yadtel.net

Sept 30—Oct 2, 2011: Dallas, NC. Gaston Gem, Mineral & Faceters Club. Show & Swap, Resource Center, 1006 Biggerstaff Park, Dallas/Cherryville Highway, Dallas. Free admission. Hours: 9-6 each day. Contact Showchair Jackay McDaniel at (704) 865-6748

Dec 10-11, 2011: Franklin, TN. Mid-Tennessee Gem & Mineral Society. Gem, Jewelry, Mineral, Fossil Show and Sale, Williamson County AgExpo Park, 4215 Long Lane, Franklin, TN 37064. Hours: Sat 9-6, Sun 10-5. Admission \$4 (2-Day Pass \$6.00), students 18 and under \$1, children under 12 free with adult. Show contacts: John Stanley, Show Chair, (615) 885-5704 or Steve Henegar, Dealer Chair, (615) 714-3194. Email contact: show@mtgms.org <http://www.MTGMS.org/Show.htm>

Pictures from Last Year's Ice Cream Social



Vugsites

The following are some links to Web-Sites that may interest some of our members:

<http://www.amfed.org/> / <http://www.amfed.org/sfms> These are the official sites for the organizing body that the Tar Heel Gem & Mineral Club is founded under. I would strongly urge all members to check them out on a regular basis.

http://www.amfed.org/sfms/lodestar_newsletter.html The SFMS Lodestar Newsletter

<http://www.carolinageologicalsociety.org/CGS/Home.html> This site provides numerous downloadable field-trip guide books, maps, and charts of the Carolinas. It will prove to keep any avid rock hound busy for years. Great Site!

http://www.ncminerals.com/ncmineralswebsite_files/page0011.htm And while we are on the subject, try this link. Its titled: Links of Interest to Rock hounds in NC; It will take you to a list of links for North Carolina gems and minerals.

<http://www.rocksforkids.com/> Just like the name says, A nice place to steer the younger members.

information & photographs of over 6300 specimens from the Glenn & Martha Vargas Gem & Mineral Collection.

<http://www.rockhoundlounge.com> Scott Laborde, a club member maintains his own web site that might be of interest to people collecting in and around Wake County.

http://www.msnbc.msn.com/id/29726500/ns/technology_and_science-science This site highlights a half dozen of the most recent significant fossil finds.

<http://appmodo.com/13971/mole-quest-for-the-terracore-gem-app-review-for-the-iphone-and-ipod-touch/> If you have an iphone or an ipod touch, this rock-hounding may be the game for you.

I would like to encourage all members of the THG&MC that maintain their own presence on the internet to send me a link to their site to be published in future Vugsites so that other club members may learn and enjoy the craft, the art, the interests that many of us have in common.

