

Tar Heel Tailings

Special Interest Articles:

- Spruce Pine's Ultra-pure Quartz.
- Sand Songs.
- Gemstones; Why Are they worth so much?
- Gem Heist.
- Rotting Fish hold Fossil Clues.

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

Spruce Pine; at the heart of a global billion-dollar industry. *Sue Nelson of the BBC*

The Mitchell County community calls itself the Mineral City, and for good reason, with just 2,000 residents one could dispute the city status. But when it comes to minerals, Spruce Pine has definitely undersold itself.

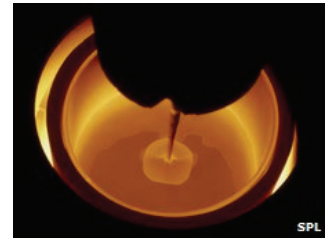
The jewellery shops, highlighting local emeralds, sapphires and amethysts, hint at the riches. The mountains, however, contain something far more precious than gemstones: they are a source of high-purity quartz. This ultra-pure mineral is

essential for building most of the world's silicon chips - without which you wouldn't be reading this article. Geologist Alex Glover, of Active Minerals International, drove me to a disused mine to see this quartz for myself. Our jeep bumped across dried creek beds for miles until we reached two cathedral-like caverns of rock at Hoot Owl mine.

The rocks contain feldspar, silvery flakes of mica, flashes of garnet and veins of smoky quartz. "Fifty years ago men were throwing

away the quartz," explained Mr. Glover.

"But now it's prized and quartz is the high value item. These are the only places that this quartz is found on the planet." Spruce Pine quartz is considered the best in the world and can sell for up to \$50,000 a ton.



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The Sands are Singing Songs

In the year 1295, Marco Polo wrote during his journey through the Desert of Lop; "it is asserted as well known fact that this desert is the abode of many evil spirits, which amuse travelers to their destruction with most extraordinary illusions." These spirits, or djinn, "at times fill the air with sounds of all kinds of musical instruments, and also of drums and the clash of arms."

In Arabic this phenomena is called *za'eeq al raml*, or "the shouting sand."

Mr. Polo was speaking of a phenomenon known for thousands of years that has only in the last few decades come close to being scientifically explained.

To date there are about three-dozen dunes around the world that have this almost magical quality, they "sing". These singing sand dunes are divided into two general categories; singing, and booming. Singing sands tend to emit sound from amphitheatre-shaped dunes that face away from the wind. The sand grains

have to be round with a diameter between 0.004" and 0.02". The sand must contain Silica. And the humidity of the sand for several inches down is critical. As the upper layer of very dry sand begins to slip down a slope, vibrations begin to bounce back and forth between the top surface and the moist layer below. This sets up a resonance that is driven by the area, depth, and duration of the slipping sand.

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Singing Sands Continued from Pg. 1



From 'Travels in Arabia Deserta' by Charles M. Doughty

In the Nefud, toward El-Hyza, are certain booming sand hills ... such as the sand drift of *J. Nagus*, by the sea village of *Tor*, in Sinai: the upper sand sliding down under the foot of the passenger, there arises, of the infinite fretting grains, such a giddy loud swelling sound, as when your wetted finger is drawn about the lip of a glass of water, and like that swooning din after the chime of a great bell — or cup of metal — *Nagus* is the name of the sounding board in the Greek monastery, whereupon as the sacristan plays with his hammer, the timber yields a pleasant musical note, which calls forth the formal *colieros* to their prayers; another such singing sand drift, *el-Howayriah*, is in the cliffs (east of the Mezham) of Medain Salih.

These sand songs occur naturally as the face of a dune triggered by wind, vibrations, or the simple evaporation of moisture loosens the sand and an avalanche of sand grains begins. These songs can be encouraged to sing by one or more individuals; It starts as you walk over the edge of the crest, a swelling hum that picks up with each step. Before long the face of the dune is a single, vast musical instrument made up of millions of tumbling granules. The sand even quakes near your footsteps like the rapids on a river.

A famous singing beach, "Kotoga Beach" is in a town of the same name (Koto means Japanese harp). Legend has it that this beach was named in honor of its beautiful musical sands. Because of this quality, they decided to build a museum there that opened in 1991.

Booming Sand dunes can produce sound emissions that can be heard over 6 miles away. These sounds have often been described as sounding like thunder, foghorns, drums, moans, hums, or the drone of low flying aircraft.

In the U.S. we have three states that have dunes which possess these unique traits, they are; Nevada, California, and Hawaii.

If you would like a very detailed scientific explanation with all the theoretical math of Singing sand go to the following web-site; http://www.pmmh.espci.fr/fr/morphodynamique/papers/A29_PhysRevE_75_016602.pdf January 8, 2007 13pg

If you would like to hear the sounds that Booming sands make go to this web site (http://www-personal.umich.edu/~nori/booming_sand.html)

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We're on the Web!

See us at:

www.tarheelclub.org

In an effort to get the newsletter to all club members sooner, the Deadline for contributions to the March Newsletter is

March 1st

Minutes of the January 19th, 2010 THG&MC Meeting

Head Count approximately 37

Walt Milowic opened the meeting with announcements. We had new members introduce themselves and tell about their interests. Walt provided the munchies for the meeting. Thank you Walt!

Old Business:

Walt asked that the minutes from the November meeting be read. They were. Chris Ennis made a motion that the minutes be accepted as stated. The motion carried. Walt also asked that Corinne Hummel read off the Treasury report. She clarified the information. And the motion to accept the reading was made and carried. The newsletter was addressed as to who was getting it and who was not. Craig Potter addressed the newsletter issues.

New Business:

The Door Prize winner was Barrett Redpath and he chose a Malachite/Chrysocolla specimen from Africa. Congratulations!

Karen Santala turned in her winning of the scholarship to Wildacres because she won last year. Walt stated this year there would now be 3 drawings for volunteers from the upcoming show to go to Wild Acres/William Holland. Chris Ennis seconded the motion. The motion was carried. Joe Moylan commented about the website for the club and Scott LaBorde volunteered to take on the responsibilities of the website. The motion was seconded by Gary McKutchin and Carried. This relieved Cindy Berry of the work entailed. Thank you Cindy!



Walt addressed the committees for Refreshment and Program for the following 10 months. And suggested that people be open to help out. Cyndy Hummel started two separate listings for people to sign up for food and programs. The Pot Luck and the Ice Cream Social was brought up for discussion as to whether people wanted to continue or not. Walt also asked about whether people wanted to continue bringing food to the meetings. Jeanette Baugh volunteered to Chair the Refreshment Committee.

Walt addressed the aspect of making the upcoming Gem & Mineral Show more child-friendly. Corinne suggested that if we get it, the Aurora fossil mixture be stored in bags at the storage location. The idea of how to start a Mineral collection would be approached. Using egg cartons listing the names of the minerals on the inside of the lid so a child would know which mineral is which. A suggestion was made for a "Hands On" table for kids to learn about minerals at the show. And perhaps doing an introduction about a specific mineral and what is unique about it on each hour. Cyndy asked about whether people were ready to make a motion on the above actions for the upcoming show. Craig Potter mentioned conducting a "Treasure Hunt" for kids coming to the show. An award for this could be Rock Candy. Walt asked who would take on being a Chairperson for this new area.

Joe suggested the idea of seeking a good worthwhile storage unit for materials of the club; As in possibly renting a unit. The Executive Board will talk about the Storage Unit issue.

Walt also addressed the issue for people to communicate about various things so others know.

Walt talked about the possibility of re-arranging the floor layout of chairs/tables for members to come in and sit during the monthly meetings.

Cyndy mentioned that we do have a March Program - making the grab bags and preparing the post cards for mailing for the show. George Harris mentioned

a man who does filming of mineral digs as they are occurring and having him do a program about this. Walt also suggested that we start doing at least one Rock Joke per meeting! I can just see them having a Rocking Good Time now!

Bob Bendelow took the floor about the Faceting Machines that are for use. He talked about microscopes for zooming in on minerals, compared to a loop, to see their structure better. This would help people who do micro-minerals. The purchase of a microscope was done for the rock club for \$80 if they vote on it, called an Olympus. Bob talked about the differences between using a camera and seeing the specimen without one. Bob asked to make a motion to purchase two types of these to lend out to members. Walt suggested doing a Demonstration at the next meeting to illustrate one of the microscopes.

There was a mention about having advertisers for the newsletter to make money for members and the club. Craig voiced concern about this process and about the room of additional pages.

Tom Todaro took the floor about Fieldtrips. And updated people about upcoming trips to rock quarries. There was a discussion about what could possibly show up mineral wise at the Reidsville quarry. He also addressed the issue of hard hats, steel-toed shoes and goggles. Tom stated it was better that people showed up at the time of opening. Tom also started a listing for people who do not use e-mail to contact them for updates of trips.

Nancy addressed the club about her being the Refreshment Chairperson for the upcoming show.

For the program people brought in specimens for show and tell while we munched on snacks.

Happy Rock Hounding
Obsidian Harris

Year to Date Figures for Tar Heel Gem Mineral Club 2009

January Treasurers Report

Deposits	
Jan Dealers \$5300.00	
Members 220.00	
Feb Dealers \$1410.00	
Members 915.00	
March Dealers \$750.00	
Members 305.00	
April Dealers \$9660.00	
Members 365.00	
Geodes 4174.50	
Silent Auction 630.60	
Hospitality	
Grab Bags and Candy 1007.00	
May Deposit Members \$110.00	
June Deposit Members \$66.25	
July Deposit Members \$85.00	
August Deposits Dealers \$2360.00	
Members 20.00	
Sept Deposits Dealers \$1655.00	
Members 60.00	
Oct Deposits None	
Nov Deposits Members 35.00	
Auction Herk. \$544.00	
Dec Deposits Dealers \$1150.00	
Members 65.00	
Dealer Deposits totals \$22,285.00	
Member Deposits 2,236.25	
Auctions Deposits 2,390.00	
Geodes Show 4,174.50	
Grab Bags & Rock Can 1,007.00	
Silent Auction Show 630.60	
-	
Total Income	\$32,723.35

Expenses for Tar Heel Gem & Mineral Club for 2009

Meeting Food	\$252.70
Newsletters	\$505.11
Postage	\$945.31
Dues	\$702.25
Insurance & Tax Prep	\$1426.00
Charity and Good Works	\$2374.61
Miscellaneous	\$287.00
Advertising	
Show	\$1816.91
Show Food	\$1434.68
Silent Auction	\$ 117.37
Geodes	\$2000.40
Hospitality	
Grab Bags	
Rock Candy	\$1459.37
Miscellaneous	\$439.71
NC State Fair	\$10,001.00

	\$23,762.21 Total
Expenses Paid Out in 2009	

Beginning Balance

\$24,342.56	
400.00	Dealer Deposits
710.00	Dealer
480.00	Members

\$25,932.56	
1,800.00	Check to NC St Fair Dep for 2010
1790.28	Rock Peddler for NCSU New Machine Our Good Works
136.71	IMP Newsletter
100.00	Petty Cash
292.25	EFMLS Dues for 2010

\$21,813.32	Ending Balance

FEBRUARY B-DAYS

- Barbara Lentz
- Chris Schild
- Dominique Gunkle
- Elle Richardson
- Glenn Branch
- Greg Dillon
- Jim Jin
- Kathy Williams
- Linda Gregg
- Mike Shore
- Richard Turcotte
- Teresa Long
- Tom Gallian

Upcoming Programs

- Feb: Grab Bags & Post Card Preparation
- March: OPEN
- April: Potluck
- May: OPEN
- June: OPEN
- July: OPEN
- Aug: Ice Cream Social
- Sept: OPEN
- Oct: OPEN
- Nov: OPEN

Refreshments

Coordinator; Jeanette Baugh

- Feb: Nancy McLenden & Leslie Booker
- March: Jerry & Debbie Miller
- April: Potluck
- May: Sarah & Barrett Redpath
- June: OPEN
- July: Ken Carlson - need one other volunteer
- Aug: Ice Cream Social
- Sept: OPEN
- Oct: Corrine & Cindy Hummel
- Nov: OPEN

Gemstones – Why are they worth so much?

Lying on the surface of the earth and buried within its depths there are thousands of minerals. In spite of this quantity, only around 90 are considered worthy of the name "gemstone." What are the qualities that make us willing to give several months' salary in order to own one?

Two very basic characteristics would be beauty and wear ability. In considering the beauty of a stone, we look at color, clarity and the manner in which light plays on its surface or within its facets — a quality referred to as

brilliance. Some stones are more likely to bend light and break it up into its spectral colors, two variables known as refraction and dispersion.

There is a continuum of each of these characteristics, and the higher a stone rates in these areas, the greater its rarity, and the higher its value. Let us consider a hypothetical pair of rubies: one is a rather pale or pinkish color; specks of matter or "inclusions" are easily visible within. Examining it under direct light, it seems somewhat lifeless.

Our second stone is a rich scarlet. Despite its depth of rich color, we can clearly see into the gem. No spots mar its interior and light sparkles and dances within its facets. Obviously, this second stone is far more valuable, even though the first may be several times larger. In evaluating our gemstones, then, quality has counted above quantity.

Just because a stone is beautiful, does not mean it is strong enough to be wearable.

Continued on Pg. 7



Princess



Cushion



Radiant

Feds on prowl in gem heist & slay Aid Mad. Ave. hunt

By MURRAY WEISS
Criminal Justice Editor @
NYPOST

Last Updated: 1:38 PM,
February 1, 2010

Posted: 2:42 AM, January
30, 2010

The [FBI](#) major-crimes unit has joined the investigation of a fatal robbery at a Madison Avenue jewelry store in which the thief gunned down an employee and made off with more than \$1.2 million in baubles, sources said yesterday.

As relatives of Henry Menahem laid the slain 71-year-old worker to rest, a squad of 40

NYPD detectives continued canvassing buildings, shops and restaurants around R.S. Durant Jewelers on the Upper East Side in the hope of finding someone who saw the masked gunman flee. The NYPD task force blanketed the neighborhood around the jewelry store, with detectives going to every apartment with a view of the crime scene on Madison between East 75th and 76th streets.

Probers are canvassing restaurants to see if any workers may have seen the getaway. They also

are reviewing receipts in hopes that the crook may have bought a meal before or after the robbery. The stunning, bloody, broad-daylight heist Wednesday left Menahem dead after he balked when the masked thief demanded he hand over jewels. The cold-blooded thug simply shot the elderly man and continued grabbing the loot.

The thief made off with some 700 gems, which had been placed at the store by their owner under consignment. The haul was so heavy that the crook had to toss away a box containing a Fabergé egg. Police released a list of the

Spruce Pine Ultra-Pure Quartz Continued from Pg.1

It is made, like all quartz, of silicon and oxygen but the process of making a computer chip does not rely on its silicon; that can be obtained from common sand.

The clue to why quartz is needed is in the process of making a silicon wafer. These wafers are CD-sized slices of silicon upon which the chips are then etched with electronic circuitry.

Salami slicing

To make wafers, a seed crystal of silicon is heated to high temperatures in a giant mixing bowl until the molten, silvery metal can be stretched slowly upwards.

"It looks like a long cylinder, a bit like a salami," said Bob Carland, director of the Minerals Research Laboratory at North Carolina State University.

"As it comes out of this bowl, it all has one crystal and so everything is aligned the same way. The metal cylinder is then laid down and cut with a diamond saw into slices of salami - in this case it's slices of silicon wafers."

For these wafers to be made into silicon chips, the mixing bowls or crucibles must be as "clean" as possible.

"Any slight defect on the inside of that crucible will be transmitted and get sliced up into the chips," Mr Carland said.

"The amount of impurities in that chip is incredibly important. People producing these wafers will then have

a lot of rejects so it's important that the chemistry of that bowl is near perfect." Spruce Pine's high-purity quartz fits this requirement. It not only gets used for crucibles, but for benches and other instruments that produce the chips.

These chips are essential for today's modern world, but outside the industry, few people are aware of its dependence on quartz.

Unimin, one of the main mining corporations in the area, prefers to remain modest. It politely declines any interview, unwilling to reveal how it extracts quartz from the mountains.

Seen from the air, the scale of the operation reveals itself. The quartz mines are enormous, stretching down mountain faces in tiers of rock ending in pools of white sand.

'Serious commodity'

It's a far cry from how the mountain folk made their living.

Sixty-eight-year-old Ira Thomas is a ninth-generation miner who used to dig up aquamarines and prospect for mica as a child. He now runs the Spruce Pine Gem Mine, a jewellery shop near the scenic Blue Ridge Parkway, and is saddened by the loss of community among those who mine for quartz in industrial quantities.

"We have these huge corporations that have come in and bought out the little mom-and-pop operations," he said.

"These guys were just

people like me that were lucky enough to lease a property that had minimal quantities of whatever was on it."

Native Americans first mined these mountains but it was the arrival of a railroad in 1912 that gave later settlers the chance to exploit mica, feldspar and quartz on a much larger scale.

Today, in Mitchell County, one in 15 people work within the mining industry.

"That quartz plant just two miles down the road," he added, "is guarded like Fort Knox. That's a top-secret process. So we've got a serious commodity here."

He's right. The quartz

Continued on Pg.9



Pear

"It's the most valuable strategic square acreage on the planet"

*Ira Thomas
Spruce Pine Gem Mine*

Gem heist & slay

Continued from Pg. 5

items the bandit took, including a \$105,000 diamond necklace, \$75,000 ruby-and-diamond necklace and a \$65,000 diamond necklace. Many of the other items are encrusted with rubies, diamonds and sapphires, and range in price from \$15,000 to \$35,000. To aid the NYPD, the FBI has dispatched its specialized, Queens-based major-case squad, which has expertise in handling high-end jewelry thefts.

Sources said the federal agents have strong contacts in the jewelry business and also know many of the fences who deal in hot items.

Read more:

http://www.nypost.com/p/news/local/manhattan/feds_on_prowl_in_gem_slay_iw1o8ptI01QrDTe6Jew7YP#ixzz0fk9rINoj

Gemstones Continued from Pg. 5

The second factor, wearability, is mainly determined by hardness. A mineralogist named F. Mohs calculated a method of determining a stone hardness, devising a relative scale of 1 to 10, with 10 being the diamond, the hardest of all gems.

It is interesting to note that this is a logarithmic progression, not equal steps: 10 (diamond) is greater than all the steps

from 1 to 9. Generally any stone with a hardness of less than 5 on the Mohs scale is easily scratched and dulled. Turquoise and lapis, which range from 5 to 6, scuff to some degree, but can be polished and are reasonably durable.

Quartz, which includes amethyst and citrine, wear quite satisfactorily at a hardness of 7, and beryl, which includes emerald and aquamarine, and ranks 7 to

8, fares better still with daily wear.

Keeping these qualities in mind, one need not be a gemologist to make a sensible gemstone purchase. Know what you wish to spend, be willing to ask your gem dealer about the wearability factor, and take time to examine the stone for color and clarity. You too can choose a stone for which will be a joy to wear and admire.



Emerald

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

<http://www.sandcollectors.org/ISCSHomeIndexx.html> The International Sand Collectors Society is as the name implies. If you are interested in collecting sand, this is a very good place to start.

<http://www.meetup.com/raleighjewelry/> Jen Hilton, a club member is the founder and coordinator of the Raleigh Jewelry Meetup Group: If jewelry making is your passion this site should be in a must go to.

<http://fasttex.diaa.utexas.edu/vargas/search/> You will mark this as a "FAVORITE". A new searchable database of information & photographs of over 6300 specimens from the Glenn & Martha Vargas Gem & Mineral Collection.

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://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.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.

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.

Upcoming Local Events

March 6-7, 2010: 47th Annual Gem, Mineral, & Fossil Show; Delaware Mineralogy Society; Sat; 10-6, Sun; 11-5 - \$6-Adults: This years show is being held in conjunction with the 60th EFMLS Annual Convention

March 19-21, 2010; 40th: Hickory, NC; Annual Unifour Gem, Mineral, Fossil & Jewelry Show; Catawba Valley Gem & Mineral Club; Fri & Sat; 9-6, Sun; 10-5- \$4-adults, free parking. Metro Convention Center, Exit 125 @ I-40. (This is the first NC show following the Tucson Show, Dealers have much fresh stock!!!)

March 19-21, 2010: Rome, Georgia—Rome Georgia Mineral Society. 32nd. Annual Valley

and Ridge Gem and Mineral Show, The Forum, 2 Government Plaza (one block from Broad St at the end of 3rd Ave in downtown Rome). Hours: Fri & Sat 10-6 and Sun 11-5). Fee parking & admission. Contact Tim Biggart at (706) 232-7143 or tbiggart@berry.edu

APRIL 9,10,11 – RALEIGH, NC: Annual Tarheel Gem & Mineral Show, Free Admission,

April 17—18, 2010: Dothan, Alabama—Dothan Gem & Mineral Club. 3rd Annual Gem & Mineral Show, Westgate Park (James Grant Rec center, 501 Recreation Road. Free parking & admission. Hours: Sat 9-5 & Sun 10-4. Contact Arnie Lambert (334) 792-7116 or arlambert@comcast.net

*"You realize that it's only
58 days until the Great
Annual Tar Heel Gem &
Mineral Show – Don't
ya?."*

Rotting fish reveal clues about the fossil record

Mark Purnell, Rob Sansom and Sarah Gabbott from NPR

Anyone with a functioning nose probably wants to stay away from rotting fish, but a team of British researchers braved the stench — and turned something gross into scientific gold.

According to a study just published in the journal *Nature*, fish — and other living creatures — don't decompose in a random order. It's the newly evolved parts that go first.

That could have a major impact on the way we read the fossil record. Dr. Rob Sansom is a researcher at the University of Leicester and the leader of the study. He tells NPR's Guy Raz that decomposition plays an important part in the formation of fossils.

Sansom and his team were hoping to find out more about the oldest branches of our family tree. He says fossils from that era — about 500 million years ago — often don't give researchers much information to work with.

"At this part of the fossil record, we don't have any bones or teeth, so the fossil record can be very difficult to interpret," he says. Complex soft structures like tentacles and sensory organs decay too fast to become fossilized, and that means it's hard to tell how evolved an animal really was.

Continued on Pg. 9

AFMS Code of Ethics

A new year brings with it new opportunities. For some people that opportunity is membership in the Tar Heel Gem & Mineral Club. A large measure of the enjoyment of our hobby consists of collecting in the field. For that reason, the members are proud to endorse the following:

- I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.
- I will keep informed on all laws, regulations of rules governing collecting on public lands and will observe them.
- I will to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
- I will use no firearms or blasting material in collecting areas.
- I will cause no willful damage to property of any kind - fences, signs, and buildings.
- I will leave all gates as found.
- I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.
- I will discard no burning material- matches, cigarettes, etc.
- I will fill all excavation holes which may be dangerous to livestock.
- I will not contaminate wells, creeks or other water supply.
- I will cause no willful damage to collecting material and will take home only what I can reasonably use.
- I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
- I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and Will leave all collecting areas devoid of litter, regardless of how found.
- I will cooperate with field trip leaders and those in designated authority in all collecting areas.
- I will report to my club or Federation officers, Bureau of Land management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
- I will appreciate and protect our heritage of natural resources.
- I will observe the "Golden Rule", will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and Public "image" of rockhounds everywhere.

Spruce Pine

Continued from Pg.6

plants are protected by security guards, gates and cameras and no one from the mining companies is allowed to talk to outsiders.

Lowell Presnell, historian and author of *Mines, Miners and Minerals of Western North Carolina*, isn't surprised.

"With the competition in the world today, they have to be really strict," Mr Presnell said, "because if they let their secrets out, somebody else is going to be doing this and they'll undercut their price."

There are also valuable jobs at stake. Since 2000, Mitchell County has lost a third of its manufacturing base and unemployment is at 14%.

North Carolina may be famous for its mountain folk and bluegrass music, but the mines are the only industry it has left.

So far, it is safe. Synthetic quartz is economically too expensive to take the place of Spruce Pine's high-purity mineral.

"It's the most valuable strategic square acreage on the planet," Mr Thomas said.

"Because the world runs on computers, we all know that now. And if we locked the gates to Mitchell County they could not make any more computers."

Sue Nelson of the BBC

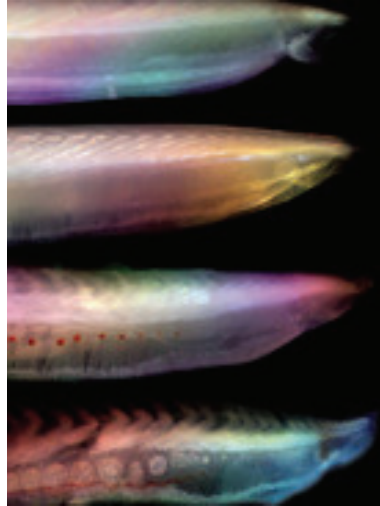
Shiny mica is chipped from rock made of feldspar and grey quartz somewhere in Spruce Pine



Rotting fish reveal clues about the fossil record

Continued from Pg.8

Amphioxus diverged from vertebrates more than 500 million years ago, and is often studied by researchers hoping to learn more about the early history of vertebrates.



"You can end up with an organism, or a fossil, that may look more primitive than it may have been in life," Sansom say.

Sansom says the new research means scientists will begin to get a better picture of our earliest ancestors. "We now have a framework of data with which to interpret these fossils, and place them more correctly in the tree of life," he says.

But that new knowledge came with a price. Sansom says he and his colleagues caught fish in the wild and put them in boxes to watch them decay as part of their research. That made his laboratory one of the least popular places on the University of Leicester campus.

"I've grown used to the smell for now," he says, "but colleagues and visitors are less keen."



Courtesy: Vargis

"Stones are primordial matter. Sand is matter ground by the infinity of time. It makes one mindful of eternity. Sand is matter, which has been transformed and has almost Become liquid and spiritual."

Unknown Author



Park in the Cates Ave. Parking Deck off Jensen Dr. Enter Thompson Building directly across from the parking lot.

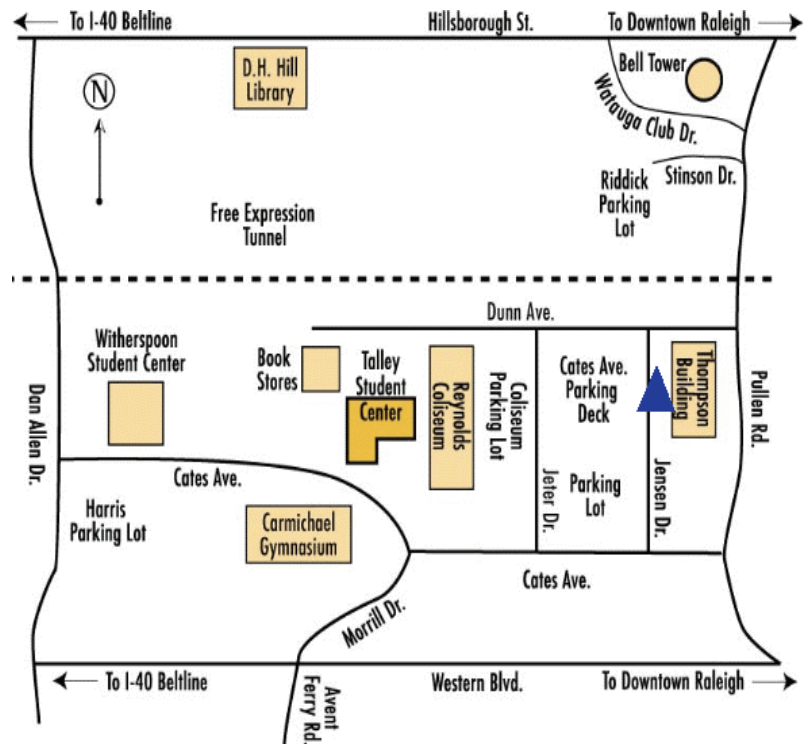
Our Next Meeting is February 16, 2010 @ 7:30PM in the Thompson Building on the NCSU Campus.

About Our Organization...

The Tar Heel Gem and Mineral Club was formed in 1974 as a nonprofit educational organization for people who enjoy the lapidary arts, earth sciences, and related subjects. The main objectives of the club are to investigate, preserve, and share knowledge of rocks, minerals, and precious stones, and to

promote interest in mineralogy, paleontology, earth sciences, and lapidary techniques, among club members and among the general public. The club pursues these goals through publications, meetings, lectures, field trips, exhibits, demonstrations, and other activities.

**Come and be a part of
the Fun!**



**TAR HEEL GEM & MINERAL CLUB
513 CAROLYN CT.
CARY, NC 27511**