Voice of the Dinosaur

Newsletter of the Kawartha Rock and Fossil Club

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CLUB ADDRESS:
1211 Kenneth Ave.
Peterborough, ON
K9J 5P8

PRESIDENT
Mark Stanley
705-639-2406
Email: markstanley@bellnet.ca

VICE-PRESIDENT
Steve Wesley
705-743-9175
Email: swesley@i-zoom.net

TREASURER
Brenda Beckett
705-748-0178
Email:
brendabeckett@hotmail.com

SECRETARY
Steve Wesley

FIELD TRIP CO-ORDINATOR
Open

SHOW CO-ORDINATOR
Bob Beckett
705-748-0178
Email: rbeckett@cogeco.ca

NEWSLETTER EDITOR
Bev Fox
Email: kfox71@cogeco.ca
705-742-6440

PAST PRESIDENT
Bob Beckett

WEB SITE:
www.rockandfossil.com

Member of the CCFMS

LAST MEETING April 12, 2011

The meeting began with the regular business meeting and reports.

1. Treasurer's Report - Unavailable as Treasurer had another commitment.

2. Show Report - Unavailable as Show Co-Ordinator had another commitment.

3. A card of sympathy will be sent to Betty Jenkins expressing our condolences for the recent death of her mother.

4. Field Trips - Some discussion was held re: tentative trips.

a. It was noted that Princess Sodalite Mine has instituted a charge of $10 per person.

b. It was reported that "lots" of fossils have turned up on the construction site of the speed skating oval in Lakefield. The possibility that a donation to this project might get us permission to collect on the site is being looked into.

5. Website - Bob Moore is requesting that members send him their KRFC related photos for the Members' page.

Our speaker for the evening was Dave Joyce who spoke on "Collecting Native Copper at Mamainse Point". He illustrated his talk with interesting photos, many that he had taken.

After the presentation, members showed their own samples of copper and copper minerals. Unfortunately, no one had brought cephalopod fossils.

The meeting was well attended by both older and newer members.

A silent auction was held during the coffee break.

NEXT MEETING - May 10, 2011

Place - Orientation Centre, Peterborough Zoo
Time - 7:00 pm.
Program - Mineral Fluorite and Fossil Crinoids Night
Agenda - There will be a short monthly business meeting followed by a presentation given by our speaker of the evening,
Feature Presentation - Graham Wilson will speak on chromium and chromium minerals.

Following the presentation, members will have an opportunity to show and discuss their fluorite and fossil crinoid finds.

CONGRATULATIONS

Our Treasurer, Brenda Beckett had a very good reason for not attending the April meeting. That evening, she was presented with the "Volunteer of the Year" award for her tireless volunteering with the Diabetic Society of Peterborough.

FIELD TRIPS and SAFETY

Our field trip season will soon be here. New members may not be aware of requirements for their safety while collecting, either in quarries or at other sites and of other information that they might find useful.

An approved hard hat, orange fluorescent vest, CSA approved steel-toed boots showing the green triangular patch and safety glasses are required to be worn at all times while in a working quarry. The requirements are not frivolous but are meant to make you more visible and to protect your eyes, head and feet from serious injury as well as, possibly, saving your life.

Since private vehicles are not usually allowed into working quarries, it can be a long walk into the collecting site. It is wise to take in a lunch and drinking water. Depending upon the conditions, light rain gear might be useful. A simple first aid kit can take care of the odd cut.

Depending upon the location, working equipment can include a rock hammer, small and large sledgehammers, prying bars, various sizes of chisels, a whiskbroom, tooth brushes, knapsack and bucket(s), and a pair or two of sturdy leather work gloves. Old clothes or overalls are a given and a change of clothes might be welcome at times.

Before breaking up rock, check to make sure none of your fellow rockhounds is below you or close enough to be injured by a swinging hammer or flying or falling rock.

When rockhounding around abandoned sites, watch out for hidden holes in the ground. In earlier times a mine operator, on closing a mine, would often cover the shaft with a timber bulkhead to keep people out, but eventually this would rot leaving a trap waiting to be sprung. The Ontario Department of Mines and later the Ministry of Labour have made great efforts to get abandoned mine shafts filled but there is no guarantee that they have found them all. Also watch for pieces of metal, concrete or glass that could be covered with vegetation. And do keep an eye open for poison ivy!

Always try to be aware of what is above and around you Some choice sites are old mine workings where the mine was simply a trench in the ground. The miners of the time blocked up the trench walls with timber where they thought it was necessary, but by now this timber is rotten and the wall it supported can easily fall if you start hacking at its base or walking on top of it.

The group leader of the day always has the final say and has the right to expel a person from a site if he or she believes that person has violated safety rules, has damaged equipment, etc.

Don't be left at a site. Times are given for entering and leaving a site, particularly a working quarry, and are strictly enforced. When leaving a site, tell one of the other rockhounds or tell the leader.

For transporting finds, packing materials such as plastic bags, old newspapers, egg cartons and small boxes are very handy. Remember to label your finds as soon as wrapped.

Below are two articles which have appeared in earlier Newsletters, but contain vital information.

Personal Safety in Working Quarries

Submitted by Ken Fox

The KRFC and other clubs often go into working quarries with permission of the quarry management to look for fossils or minerals. We are required to sign a legal document called a "release" to protect the quarry operator from responsibility in cases of personal injury or death and this is all very well as far as it goes, but an accidental death will have much further reaching consequences than many realize.

The quarry manager continually stresses keeping a safe distance from the walls and this "safe" distance, as a rule of thumb is a distance equal to the wall height. The quarry walls have been shaken and fractured and put into a very unstable condition by the blasting and even though they may be sitting there doing nothing, collapses can occur at any time without warning, either a few chunks of rock falling or a major fall of many hundreds of tons. Any one caught in such a fall will almost certainly be killed.

Legal release or not, such a death is a major disruption for the quarry operator. First there is an immediate stop in production as quarry employees try to find out what happened and if any rescue can

be attempted. Very quickly either the police or a Ministry of Labour inspector will be called and the investigation will become the job of the MOL inspector. He will require work to be stopped in the area and will also need quarry equipment to move rock to recover the body. The cost of this recovery operation comes down on the quarry operator as they are on the spot with the equipment.

It is very likely that an inquest will be held which will require attendance by other club members on the field trip and by the directly involved quarry personnel, all at their own expense. While an inquest cannot attribute guilt or innocence, a great effort may be made to find someone to blame and it is difficult to predict the outcome. It could be the club, the club executive, the field trip leader or the quarry operator.

The jury at the inquest may or may not consist of people knowledgeable in quarry operation or rock club objectives, but they will be expected to come up with recommendations to prevent this type of accident in the future. The recommendation could very well be that the public (that's us) be completely banned from quarries, working or not, which would be a disaster to club operations if implemented. Even failing this, the quarry operator would not be likely to give permission for trips into his quarry in the future. Considering all the above it would be far simpler to stay away from quarry walls.

From time to time while searching through rocks at a working quarry you may come across unexploded explosives. Ammonium nitrate and fuel oil are often used for blasting and this will look like white granular material probably with an oily smell. It is relatively insensitive and is not a great danger but it should be treated with respect.

Dynamite, either as sticks or large cartridges is used for some blasting or as a detonator for ammonium nitrate. The sticks or cartridges which I've met up with are covered with heavy brown waxed paper. If the cartridge is broken it may look like brown mud and if you get your hands into it or rub any on your face you will get a terrific headache. Dynamite is not extremely sensitive but it can be detonated with a sledge hammer and anvil so it deserves a lot of respect. If you come across any keep well away from it and warn others.

Explosives can also be in a rope form called primacord (or possibly other names) and looks like a piece of braided rope with a soft core. It is pretty much the same as dynamite and should be given the same respect.

The blasting caps used to detonate the dynamite look like a silvery metal tube 2 or 3 inches long and may have either wires, a fuse or plastic tube coming out one end. These are extremely sensitive and could be detonated by stomping on them with a hard boot or by a relatively light hammer blow. For their size they are very powerful and can easily remove a few fingers or toes. Keep away from them and warn others if you find any.

Safety While Mineral Collecting

Submitted by George Thompson

Work place safety rules in mines and quarries require that all people in work areas be adequately protected from the hazards associated with the site. This includes visitors. Most field trips to operating mines or quarries require " the big three" safety gear. These are an approved hard hat, approved steel toed work boots (with the green triangle), and safety glasses. (Editor's note: Now a fourth requirement is an orange fluorescent vest, which makes us more visible to equipment operators, etc.)

Hard hats protect us from falling rocks and other accidents. Even a fist sized rock can be fatal if it were to strike us on the head after falling from a height of only 3 meters. When choosing a hard hat, make sure it fits comfortably. After all, you will be wearing it all day. Hard hats are a good idea along some road cuts as well because steep walls that have been blasted, then worked by frost tend to be unstable. They also present a good public image of the mineral collecting community.

Whenever you are striking rocks with hammers, you and those around you should be wearing a good pair of impact resistant safety glasses. Pieces of rock in the eyes are extremely painful and can be difficult to remove even by the doctor. I like to have a pair that I can wear comfortably all day so I don't have to worry about digging them out every time I hit a rock. They don't tend to get scratched up as much if they are always on your face.

A good pair of sturdy steel toed work boots are a must for all collecting trips. Regular shoes just don't stand up to the abuse of mineral collecting. Neither do your toes within them when a large rock is dropped or rolled on them. When you buy these boots make sure they fit well. They must be comfortable enough to hike into and out of a site while loaded with equipment and specimens.

Collecting tools should be maintained in good condition. Sharp chisels work much better than dull ones and require much less effort to use. Ever wonder why some people can move more rocks than others? One of the secrets is the condition of their tools. A chisel with a mushroomed head should

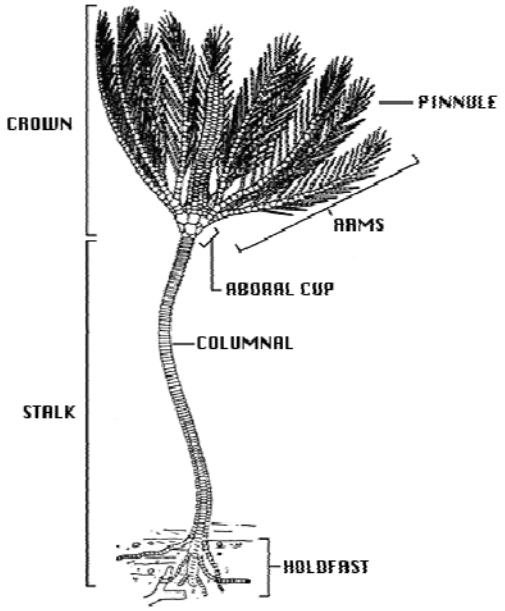
never be used. Pieces of the head can fly off when struck with a hammer and cause injury. Sharp chisels penetrate rock more easily and are less strenuous to use. I recommend that all collectors get access to a bench grinder so that they can maintain their tools regularly.

Have a good and safe mineral filled summer.

THE FOSSIL CORNER

Crinoids

By Kevin Kidd



Crinoids, despite looking like plants, are animals that make up the class Crinoidea within the phylum Echinodermata, and as such, are related to starfish and sea urchins. Crinoidea comes from the Greek *Krinon*- "a lily" and *Edios* –"form". They are uncommon to find as intact fossils, as they tend to disarticulate shortly after death, but when they are found complete, they are among the most beautiful and collectible fossils around. There are dozens of species to be found in the Paleozoic rocks of Ontario. Most species are not too big, a few inches long or less, depending how much of the stem remains. The largest fossil crinoid known had a stem 40m (130 feet) long. As commonly found, the individual columnal segments have historically been used as beads. In England, they were threaded into necklaces and rosaries and became known as St. Cuthbert's beads. In the U.S. Midwest, they can be known as Indian beads. The crinoid is the state fossil of Missouri.

Crinoids are characterized by a mouth on the top surface, surrounded by feeding arms (picture an upside down starfish). They have a u-shaped gut, and the anus is located next to the mouth. They are filter feeders who use their arms to draw plankton and other microscopic organisms toward the mouth, and then use fine, hair-like cilia and mucus to transport the meal the rest of the way. Although the basic Echinoderm pattern of 5-fold symmetry can be recognized, most crinoids have more than 5 arms. These arms often also have branches as well, increasing food gathering capability. Crinoids usually have a stem and attach themselves to a substrate by means of a holdfast (Fig.1). These holdfasts have varied shapes with some looking like tree roots and others resembling a volcano. Some crinoids are free swimmers, having stems only as juveniles. Those without stems are commonly referred to as "feather stars"

Figure 1
Holdfast

There are only a few hundred known modern forms, but crinoids were much more numerous, both in numbers and species, in the past. Some thick Paleozoic limestone beds are almost entirely made up from disarticulated crinoid fragments.

The earliest known true crinoids date back to the Ordovician period. There are 2 main hypotheses regarding their origins; the first, and most accepted, is that they evolved from the Cambrian Blastozoans (Eocrinoids and Cystoids) (Fig.2). The most popular alternative is that they split early from the Edrioasteroids ("seated stars"). There are many common characteristics between the 3 candidate ancestors, so settling the origin debate has proven difficult.

Some crinoids survived the mass extinction at the end of the Permian period about 251 million years ago that wiped out approximately 96% of all marine species, but they never regained the morphological diversity they had in the Paleozoic.

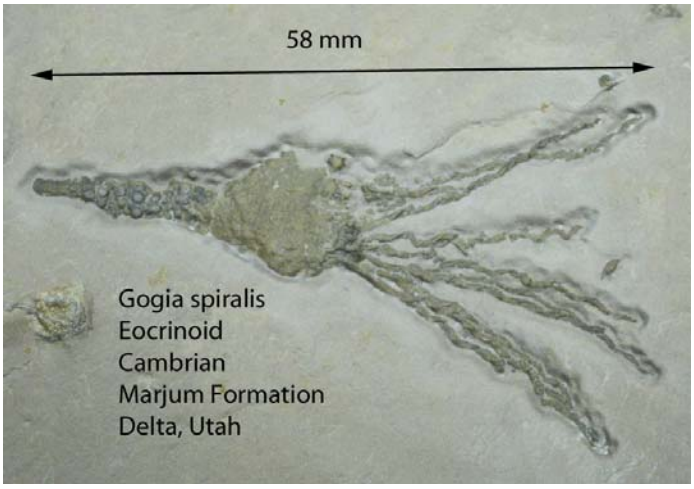


Figure 2

Figure 3- *Cupulocrinus humilis* from the Ordovician Bobcaygeon Formation, Brechin, Ontario. This crinoid suffered predation/scavenger damage

Figure 3

Figure 4- *Sarocrinus varsovensis* from one of the "Meccas" for crinoids, Crawfordsville, Indiana

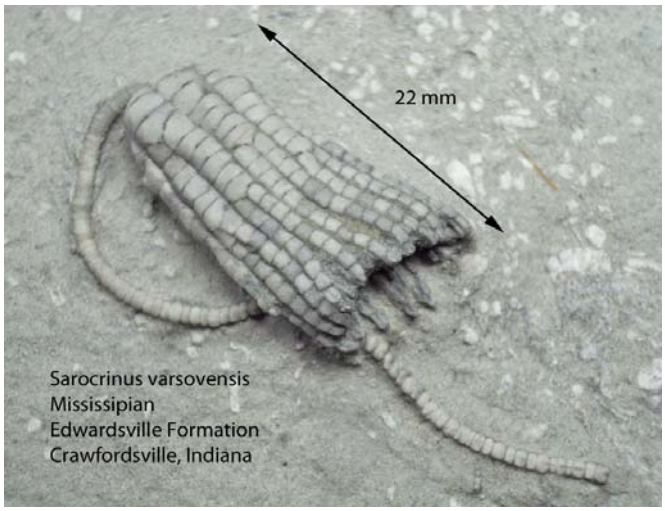


Figure 4

Figure 5- Arguably the most beautiful *Arthroacantha carpenteri* to come out of the pits at Arkona, Ontario. Devonian age, it measures 14.5 cm long including stem

Figure 5

Figure 6- *Reteocrinus alveolatus*. Ordovician. Bobcaygeon Formation. Brechin, Ontario

Figure 6

Figure 7- A great multi species plate from the Mississippian age Hampton Formation in LeGrand, Iowa featuring *Rhodocrinites kirbyi*, *Platycrinites symmetricus*, *Strimplecrinus inornatus* and *Goniocrinus sculptilis*.

Figure 7

Photo credits- Crinoid Anatomy- Flamingtales.blogspot.com
Figure 1, 2, 3, 4 - personal collection
Figure 5, 6, 7 - friend's collection at crinus.info

MICROMINERALS

Peter Lee has sent along a couple of his pictures of microminerals that he collected and photographed. Have a look at his page on the KRFC website http://www.kawartharockandfossilclub.com/Member1.htm It would be great if other members would send Bob some photos of their finds to post online.

Some interesting crystals of iron rich selenite/gypsum in layers of rusty black Shale that is part of the Kettle Point formation. Kettle Point is located on the shores of Lake Huron and is 30 min drive NW of Rock Glen Conservation Area

THE EDITOR'S CORNER

Many thanks to Kevin Kidd, Peter Lee, George Thompson and Ken Fox for their contributions to this issue.

For the June meeting the mineral will be barite and the fossils, bivalves.

For those of you with access to the Internet, type in "crinoid swimming video" on the Google search line and watch the modern crinoids move. They're really quite fascinating and beautiful.

☞ FIELD TRIPS ☜

We have permission to collect in the Marmoraton Quarry on the following dates:
SUNDAY, MAY 15th 2011
SUNDAY, JUNE 26th 2011
SUNDAY, SEPT 18th 2011
SUNDAY, OCT 9th 2011

Meet at the quarry gate at 9:00AM for the Safety Talk and Sign In. We enter the Quarry at 9:15AM

Late comers will not be permitted to enter.

NOTE: In accordance with the AECON rules of access, you must at all times while on the site wear certified Safety Boots, Safety Glasses, Hard Hat and a Safety Vest.

Photo identification, such as a drivers license, and a valid Club membership card may be required to be shown to the AECON representative when you "Sign In" and sign the Liability Release Waiver.

Persons under the age of 16 years ARE NOT permitted on the site

We are to be off the site by 4:00pm

To be eligible to attend this trip YOU MUST contact me by email or phone and advise that you are wanting to attend. If you have not spoken with me directly or sent an email before noon on the Friday prior to the trip you may not be able to attend this trip.

I'm still working on the Talc Mine I should have final details early next week.
Bob Beckett, Past President
Kawartha Rock and Fossil Club Inc.
Phone: 705-748-0178 Email: rbeckett@cogeco.ca

MAY 14, 2010 - Saturday Field Trip to Beamsville Nelson Aggregates arranged by CCFMS

NOTE: This is a working quarry so fluorescent safety vests, safety boots, safety glasses, hard hats and long pants are required for admittance to the Quarry

Children under 16 years of age ARE NOT permitted.

Plan to meet at the gate of the quarry of Beamsville by 8:30 am for sign in and vehicle tag in. We will enter the quarry about 9:00 am after our safety talk. You do not need a confirmation # for this field trip.

Beamsville map at following link: http://www.ccfms.ca/Events/Beamsville.html

If you plan on going, contact Jim Glen Email: jrglen@sympatico.ca

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Bob Beckett has arranged the following collecting trip for our Club. If you are interested in going on this trip please let Bob know by Email: rbeckett@cogeco.ca or phone (705) 748 0178 no later than noon on the Friday prior to the trip. Number of attendees on the trips is limited so let him know as soon as possible.

JUNE 12th 2011 - Sunday trip to Princess Sodalite Mine - Bancroft

Meet at 10:00 am at the Princess Sodalite Mine Shop entrance

Children are welcome on this trip. Safety boots or sturdy durable work boots, safety glasses etc are strongly recommended at this site.

Minerals possible to find: Sodalite, Cancrinite, Magnetite, Feldspar, Nepheline, Norstrandite (micro) etc. from the old dump area. Plus a host of other minerals from the rock farm …. Rose Quartz, Garnets, Amazonite, Pyrite and a host of other specimens.

There is a $10 per person fee for this site. The fee includes 1 bucket (supplied by owner of the Mine) of any material collected in the old mine dumps. Other material will be at $1.50/lb for material from the old dumps or the rock pile.

COMING EVENTS

MAY 6-8, 2011 Canadian Micro Mineral Association 48th Annual Symposium
Brock University, St. Catharines, Ontario
Contact: Bill Lechner at 416-438-8908 or bill.lechner@rogers.com
*** Registration form available by request to the above. ***
Website: http://www.canadianmicrominerals.ca

MAY 6 - 8, 2011 Fri., Sat. & Sun 10 am-5pm Robert Hall Originals - Annual Spring Open House & demonstration weekend. Free admission
138 Sugar Maple Road, St. George Ontario
Contact: inquiry@roberthalloriginals.com (519) 448-1236 or 1-800-360-2813
Website: http://www.roberthalloriginals.com

MAY 14, 2011 Saturday 10 am-4 pm K-W Gem & Mineral Club Show - Free admission
Waterloo Community Arts Centre, 25 Regina Street South in Uptown Waterloo
Rocks, minerals, fossils, meteorites. Hands on activities and free samples for children.
Gem dig, local dealers, displays.

JUNE 18, 2011 Saturday 10 am-5 pm Niagara Peninsula Annual Gem & Mineral Show and Sale in conjunction with Berries & Blossoms-Lincoln Family Festival
New Location: Beamsville High School, 4317 Central Ave., Beamsville
Features: Rocks, minerals, fossils and gems; kid's exhibits; lapidary demonstration
Mega door prize; gem & mineral identification and inspection
Admission: Donation at the door. Free Parking
Directions: QEW to Beamsville Ontario St. Exit; travel south. One block after John St. turn left on May St. high school is straight ahead.
Contacts: Bill Plavac 905-354-2409; Jim Glen Email: jrglen@sympatico.ca