



# Voice of the Dinosaur

Newsletter of the  
Kawartha Rock and Fossil Club

January 2013 ~ Volume 25 ~ Issue 1

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**LAST MEETING**

December 11, 2012

The meeting was chaired by the President, Mark Stanley and began with the regular business meeting. Minutes of the November meeting had been distributed to members earlier so were accepted without being read at the meeting.

Committee reports were given as applicable and approved.

Feature Presentation: Don Doel, Jr., using visual aids and samples, gave a rivetting presentation on "Collecting in Nova Scotia".

After the meeting was concluded, the members enjoyed our annual Christmas party, partaking of the good food, good company and another of Tom's popular silent auctions.

**NEXT MEETING**

👉 Annual General Meeting 👈

January 8, 2013

**Place** - Orientation Centre, Peterborough Zoo

**Time** - 7:00 pm.

**Agenda** - AGM and elections of Executive members to be followed by the regular January meeting.

All Executive positions will be open so seriously consider making a contribution to the Club by standing for election as President, Vice-President, Secretary or Treasurer. As well, the positions for Recording Secretary, Newsletter Editor, Archivist and Librarian will be open.

If you wish to stand for a position or nominate someone for a position, first request that the person grant permission in writing, if not attending the meeting, and then notify the President. All nominators and persons standing for election must be paid up members.

If you have not yet renewed, the renewal form is on the Web site, and a form is included with this Newsletter.

**THE FOSSIL CORNER**  
**2012 Fossil Collecting - Trip 8**  
By Kevin Kidd

With the cold and snow here, the season for fossil collecting has likely come to an end. I did still manage one brief trip to my favorite spot.

Saturday, November 17

Despite ridiculous fog, I made my way back to the quarry for one last kick at the can. Having to be home by noon left me with a decision to make on where my time would be best spent. I decided that one level down from ground level may have the best potential, as I'd like to see what has been knocked out of the walls from all the work they've been doing above. Somewhere in the quarry with me was KRFC member David D'Andrea, but the fog was so thick, I couldn't see him. I was busy doing my thing, without any luck, when I heard the unmistakable sound of hammer and chisel against rock. With the echoes in the quarry, I couldn't place where it was coming from, but I could barely make out that in the bottom pit, there was a large blast pile. I continued where I was, heard more hammering, and eventually saw some movement down there. Since I was getting skunked where I was, (never did make it as far along as I wanted to though) I went down to join David.

The pile that was there likely represented the last blast in the bottom pit for quite a while. They've used up all the available space and now have to expand, they can't go any deeper. The blast pile was pretty fresh and was still quite dirty, making it hard to find much. Still, I got lucky and found another trilobite. It's not the best as far as condition, but what it lacks there, it more than makes up for in rarity. It's an *Isotelus iowensis* (Figure 1), not the very common *Isotelus gigas*.

The main difference is that *I. iowensis* has large genal spines (coming off the side of the head) and *I. gigas* does not, except as juveniles. At over 3" long, mine is much too large to be a juvenile. The spines are broken, but clearly they were there. Other than a couple of snails, I didn't find anything else worth mentioning, but this last trilobite of the year still made my day. A friend reported to me that by the following weekend, the pile was gone. Once again, timing is everything.



Figure 1.  
*Isotelus iowensis*

I have a few more pics of pieces that were found, by others and myself, that were prepared after I had written the articles about the trips they were found on (Figures 2-9, page 3).

All in all, I had a decent year collecting. I managed to add several new species to my collection, and upgraded a few others. I also got to visit a couple of sites I'd never been to before. Many thanks to those I collected with, as they made for a much more enjoyable experience.

Next month, I'll resume with fossil of the month type articles, beginning with a request for stromatolites. If you have any fossil types you'd like to learn more about, let Bev know and she can forward that info to me. I have a few ideas left, but not many.



Figure 2.

*Eldredgeops (Phacops) rana* before & after. Found by KRFC member Beth Kummeling at Arkona and prepped by yours truly.



Figure 3.

*Ceraurus matraseris* from Bowmanville. Found and prepped by Markus Martin.



Figure 4.

Rare *Ceraurinus marginatus* also from Bowmanville. Found and prepped by Malcolm Thornley.



Figure 5.

*Eldredgeops (Phacops) rana* from the Penn-Dixie site in NY. Found by KRFC member David D'Andrea and prepped by Malcolm Thornley.

The following Figures 6 to 9 are another Bowmanville piece, an enrolled *Flexicalymene croneisi*, found and prepped by me. The entire head was buried and had to be dug out.



Figure 6.





Figure 7.



Figure 8.

Until next month – Happy Hunting!



Figure 9.

## THE MINERAL CORNER

### Molybdenite

Compiled by Sue Kehoe

#### Nomenclature

The Greeks named this mineral “molybdos” believing this to be lead. It was recognized as a distinct mineral in 1778 by Swedish chemist Carl Scheele. It was extracted as a distinct metallic ore by Jacob Hjelm in 1782.



Figure 1.

Euhedral molybdenite on quartz, Molly Hill Mine, Quebec, Canada. The large crystal is 15 mm. across.

## Chemical Formula

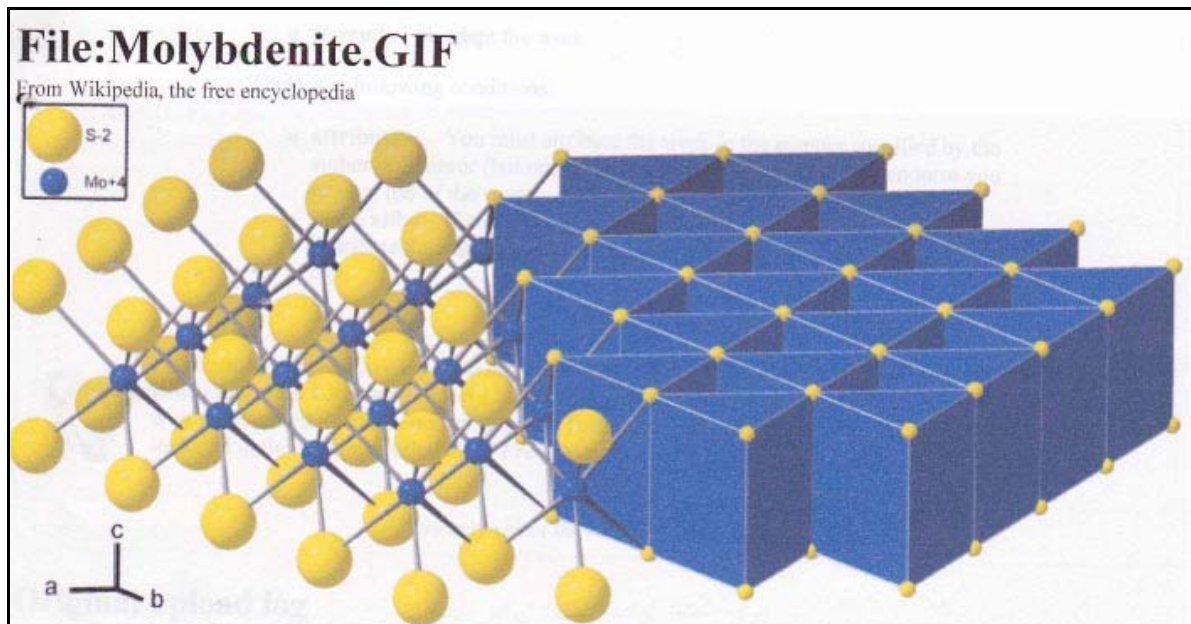


Figure 2.  
Atomic structure

The chemical composition of Molybdenite is  $\text{MoS}_2$  or molybdenum sulphide. Structurally the Molybdenum atoms are sandwiched between two layers of sulphide atoms. There are several polytypes depending upon the valence in the outer electron ring (3, 4 or 6 with the latter being the most stable). The bonds between each sandwich are weak allowing slippage.

### Crystal Structure

Molybdenite forms a series of thin platy hexagonal crystals terminated by pinacoid faces with tapering 6-sided pyramids. It can also occur as small grains in sulfide ore deposits, or in a massive form. The structure is considered hexagonal/trigonal.

### Physical Characteristics

Colour:	a blue-lead gray with a greasy feel which distinguishes it from graphite
Cleavage:	perfect basal on {0001}
Fracture:	uneven, flaky
Lustre:	metallic
Hardness:	1.0 - 1.5
Tenacity:	flexible but not elastic
Pleochroism:	strong
Streak:	greenish or bluish gray
Specific Gravity:	4.73
Transparency:	opaque; may be translucent in thin flakes
Fusibility:	Infusible - decomposes at 1185° C.

### Occurrence

Is an accessory mineral found in some granites and pegmatites and in high temperature hydrothermal veins. Is also found in disseminated porphyry type deposits such as copper and in igneous rock and metamorphic pyroxenites.

### Associated Minerals

Can be found with pyrite, chalcopyrite, quartz, anhydrite, fluorite and scheelite. It always contains a small amount of the radioactive element Rhenium which substitutes for molybdenum ranging from parts per million up to 1-2%. This substitution may cause some variation in the crystal structure of molybdenite but it is only discernable by x-ray diffraction techniques. Molybdenite is the only known source of Rhenium. The presence of Rhenium 187 and the daughter isotope Osmium-187 can be used in geochronological dating.

### Uses

Molybdenite is used as an alloying agent in iron, steel and nickel production to increase the hardness and strength, and to increase the corrosive resistance. It is used to make heating elements in high temperature electrical furnaces and in some electronics. It is used as a high temperature lubricant (capitalizing on the slippage factor) where oils would simply decompose. Flakes of molybdenum are used in direct bandgap semiconductors with good charge mobility and to create low-voltage transistors.

Ferro-molybdenum is used in the manufacture of gun barrels, boiler plates, tools and armour plate. Ultra high strength steel contains from 0.25%-8% molybdenum. It also has applications in the nuclear energy uses and for missile and air craft parts where high temperatures are an issue.

Molybdenum compounds are used to colour pottery and fabrics. They are also used as filament supports in incandescent light bulbs and other electrical devices and for electrodes in electrically heated glass furnaces. Molybdenum is used as a catalyst in refining petroleum. Molybdenum is also a trace mineral requirement in plant nutrition.

### References

Figures 1 and 2: [www.en.wikipedia.org](http://www.en.wikipedia.org)

Permission for use under GNU Free documentation Lic. Version 1.2 at the NIMSoffice at en. Wikipedia.

*Smithsonian Rock & Gem*, p. 140, Ronald Louis Bonewitz, DK Publishing, New York, 2005

*Gems & Minerals, Earth treasures from the ROM*, p. 49; Dr. Kimberly Tate, Firefly Books, Toronto, 2011.

[www.chemistry.about.com/od/element\\_facts/Molybdenum](http://www.chemistry.about.com/od/element_facts/Molybdenum)

*Mineralogy for Amateurs*, pp.312-313, John Sinkankas, Van Nostrand Company, New York, 1964.

## **2013 PETERBOROUGH GEM, MINERAL & FOSSIL SHOW**

**Saturday, March 2 and Sunday, March 3**

**10:00 am to 5:00 pm each day**

This will be our club's 20<sup>th</sup> Annual Show. It will be held at the Evinrude Centre, 911 Monaghan Road in Peterborough, and will feature 25 dealers offering Minerals, Fossils, Rocks, Crystals, Faceted stones, Gemstone Jewellery, Stone Beads and much more.

### **[We need your help to make this Show a success!](#)**

Our ever popular **[Children's Sand Box](#)** will be open both days of the Show. We need a very large volume of simple mineral & fossil samples. For those extra specimens that are too good to throw away, but are not good enough to put into your collection, this is a great way to put them into the hands of kids with the hope of sparking an interest in nature. The sand box is a very important part of the show because for many of the

kids, this is their first exposure to collecting rocks. Please give your donations to Fred Hall before the show or bring them to the show on Saturday.

The **Club Table** is located in the Display area. Its purpose is to serve as somewhere people can go to learn about the show and our club. This is our greatest opportunity to tell the public who we are and what we do. We need club members to man this during the show. All you have to do is answer any questions the public may have. If everyone could volunteer for one or two hours each day we can all help. Ken Fox will have the sign up sheet at the Club meeting.

Every year we hold our **Competitions** for the **Best Self Collected Minerals & Fossils** by a Club Member. These two separate competitions are limited to specimens that were collected in the previous calendar year. The specimen must have been self-collected and you had to have been a member when it was collected. Entries are limited to a single mineral specimen and/or a single fossil specimen per member. Your entries must be placed in the display case on the Club Table in the display area by 10:00 am Saturday morning and picked up at 5:00 pm Sunday afternoon. All members are invited to cast your votes for your favourite entries on Saturday morning. If you have collected something in 2012, then you are eligible to enter your favourite piece from 2012.

We will again be hosting our **Display Cases** for minerals, fossils and lapidary. Displays should be attractive and labeled. These are not competitive displays so everyone should feel free to enter a display. Everyone is encouraged to fill a display case. If you feel that you only want to show one or two specimens, you are welcome too. Our displays are greatly appreciated and enjoyed by the public and your fellow collectors. From the feedback we have received, the displays have become a major attraction to other collectors who attend our show.

The Club has a limited number of display cases available for our members to use. **Please contact George Thompson to reserve a display case – phone: 613-395-5896 or email: [truenorthminer@aol.com](mailto:truenorthminer@aol.com).**

There will be **Silent Auctions** each day, auctions with specimens suitable for children, and auctions with higher grade specimens for adults. We always need mineral and fossil samples suitable for both age groups, but especially for the adult auctions. While the auctions for this year's show are already organized and prepared, we still need donations for future years.

Our Club's annual **Live Auction** will be held Saturday at 4:00 pm. This is open to everyone who would like to sell rocks, lapidary equipment, books and anything else that is involved in our hobby. Please deliver your items to Tom Jenkins on Friday afternoon or Saturday morning **before 9:30am**. The Club charges a small commission to sell your items.

While our **Promotion Campaign** is well underway, we need your help with the placement of our small wire framed signs around the city. Steve Wesley will have the signs at the February meeting so PLEASE come to the meeting prepared to take a few of the signs home with you to be posted in your community one week before the show. They are simple, light weight, easy to erect and very effective. We will have a city map at the meeting to make sure we are organized and that all parts of the city are

covered. In the past these signs have been one of our more successful methods used to promote the show. If everyone takes a few signs it will make it very easy to cover the entire city and neighbouring communities.

Basically, we need everyone to be involved with our Show. If you receive this Newsletter, attend meetings or take part in our field trips, you are already benefitting from the success of the show. By taking part and helping with the Show, you will be giving something back to the Club.

### **FOR SALE**

- Display Cabinet with glass top and front, storage in bottom.  
Approximately 60" wide x 21" deep x 40" high.
- Magnifier lamp with regular light bulb.

If you are interested call Tom Jenkins: phone - 705-745-1189 or  
email: [tomjenkins@sympatico.ca](mailto:tomjenkins@sympatico.ca)

### **THE EDITOR'S CORNER**

This may be the January 2013 issue, but I'm editing it in December 2012, just before Christmas. I want every reader to know how much I have appreciated the articles Kevin Kidd and Sue Kehoe have unflinchingly sent me every month, and I look forward to their continuing participation in 2013. My thanks also to everyone who has contributed to the newsletters during 2012. To those tentative authors who might be considering writing an article, give it a try. The comments from many readers make it very clear that the newsletters are read and appreciated.

My thanks to my patient husband, Ken who has had the task of reading each newsletter before it is sent out, searching for all those little mistakes that occur whenever ink is put to page.

To everyone

**Merry Christmas  
and  
Happy New Year**

**The World did not end after all!**



**KAWARTHA ROCK & FOSSIL CLUB INC.**

**2013**

**MEMBERSHIP APPLICATION \_\_\_\_\_ or RENEWAL \_\_\_\_\_**

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Club memberships are due by December 31, 2012 . Members who do not renew before the Annual General Meeting in January are dropped from the membership list so will not be able to participate in KRFC or CCFMS field trips or other Club activities and will not receive the newsletter.

**If you want your information kept confidential, please do not complete the following section.**

I hereby give my permission to release my name, telephone number and email address for inclusion in a KRFC Contact List to be issued only to KRFC members in good standing.

Signed: ..... Date: .....