Voice of the Dinosaur

Newsletter of the
Kawartha Rock and Fossil Club

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Last Regular Meeting - October 14, 2014

The meeting was brought to order by the Treasurer, Ken Fox. For various reasons, the President, Robert Montgomery and Vice-President, Steve Wesley could not attend. No business meeting was held, but field trips were discussed. The meeting was adjourned.

Since the Librarian, Bev Fox was out of town, Ken Fox brought a few library books for members to borrow. This practice will be continued in the future to encourage borrowing.

There was no speaker for the evening. However, Tom Jenkins did hold one of his ever welcome Silent Auctions. The President came in about this time and showed some of the amazonite samples he had collected.

Next Regular Meeting

Date: November 11, 2014
Place: Orientation Centre, Peterborough Zoo
Time: 7:00 pm
Agenda: A regular business meeting will be held. Since there was no business meeting in October, regular business will be conducted. This will include a review of the Constitution and Bylaws. If you have any suggestions for changes, this will be the time to do so.
Program: Kevin Kidd will give a presentation on the Paleozoic Era. Kevin's Newsletter articles on fossils are a favourite of many. This presentation is sure to please.

THE FOSSIL CORNER
2014 Fossil Collecting - Trip 5
By Kevin Kidd

Saturday, October 4

My friend Dave from Philadelphia contacted me saying he wanted to make one more trip up north before it became "great white" and had picked Saturday to collect at Hungry Hollow (Arkona). With an iffy weather forecast, it took some convincing but Malcolm bummed a ride with me and off we went. We arrived at the north gate just after 9:00 am and pretty much immediately had to get the rain gear on. I started looking at the exposure there and within two minutes, I had a new species for my collection. It is a small bivalve that none of us could identify (Figure 1).

Figure 1.
Unidentified small bivalve.

Dave showed up about five minutes after us and we had a show and tell at his car of pieces he had found earlier on his trip, as well as some pieces he gave to Malcolm for preparation over the winter. The two of them headed down to the riverbank exposure, and I continued by the gate, but none of us had much luck. Another collector who frequents the site, Darrell, drove in and talked to us for a bit, then headed off to another spot near Rock Glen. Shortly after he left, Jim, yet another regular, showed up to collect with us. I was intent on trying the north high banks, so we went in through the north pit. This is a "gray" area. There is supposed to be no public access, or so I've heard, but there is no "No Trespassing" sign and none of the regulars I've ever talked to have ever had a problem, with some even talking to people working at the site. The clay from the site is used to make bricks and it is an active, although very infrequent, working pit. We went in and looked around a bit in the pit, but it was more flooded than I've ever seen it. Jim found an enrolled trilobite and Dave got an *Arthroacantha* crinoid calyx with attached *Platyceras* snail. I got a couple of small *Platyceras*' on crinoid debris as well (Figure 2). I think I wrote about this before, but these snails fed on the feces of this type of crinoid, so are often found together. Hope that didn't spoil anyone's dinner.

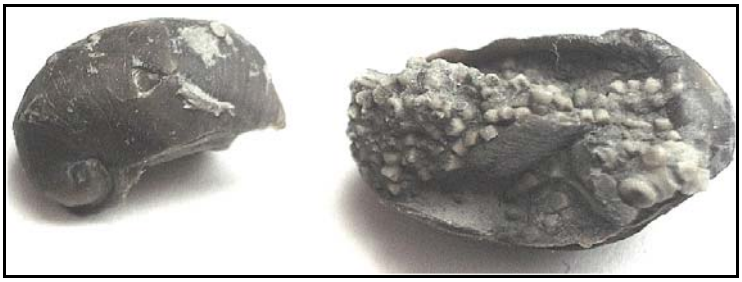

Figure 2.
The smaller specimen, snail side up, has a section of crinoid stem attached underneath.

After a while, I wanted to get to the banks so I had to blaze a trail for the others. The trail that is there is flooded in a lot of spots, so it meant a longer, twisting, back-tracking route through the bush, but eventually we got to our destination (Figure 3, page 3). These are the tallest exposures at the site and have all three formations readily available. The rain had made for some slippery spots, but with careful footholds, we climbed around looking for goodies. The exposure is absolutely littered with fossils, much like the south pit I've written about previously, but the south pit has no Widder formation, where here, there is a good 30 feet of it at least.

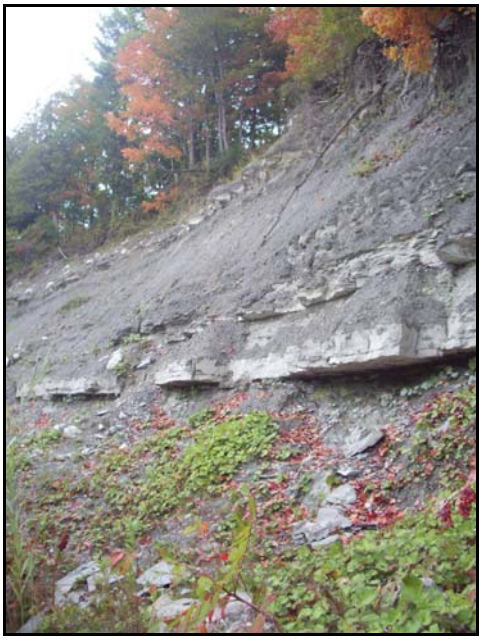

Figure 3.

Figure 4.
***Nucleocrinus* blastoid.**

As usual, I picked up the odd decent brachiopod and soon, found one of my favorite things, a blastoid. It looks to be another small, fully inflated *Nucleocrinus*, the type I find most often although not the most common at the site. Soon after, guess what –another *Nucleocrinus*, but much larger (Figure 4, above right).

The others were jokingly muttering things about my luck and I just told them they had to get (to) where I was going before me. After a bit, we went further down the bank to the next exposure, which is much longer, but no one seemed to have much luck, especially Malcolm who had resorted to picking up the common *Mucrospirifer* brachiopods as giveaways for students.

One thing you can find here is a very compacted and fragile layer of *Eumetabolotoechia* brachiopods (Figure 5). The layer is only about half an inch thick and marks the boundary between the Arkona and Hungry Hollow formations. It is directly under the lower limestone ledge.

Figure 5.
***Eumetabolotoechia* brachiopods.**

Once I made it to the end of this exposure, I told Dave I would try my luck back where I was finding the blastoids. On my way back there, but walking close to the water's edge, I found another new specimen for my collection. It certainly isn't large, but it is my first piece of fish armour (Figure 6). This type of fish, called a placoderm, had a bony "shield" around its head. What's nice about my piece is that it is matrix free, so I can see both surfaces. I looked around but there was no more of it to be found.

Figure 6.
Placoderm armour.

I climbed back up the bank and into the Widder formation where I found a couple of *Tornoceras goniatites* (Figure 7, below left) and a piece of *Thamnoptychia* coral (Figure 8, below right) that somehow managed to survive intact. While it is still only a small part of the colony, these are usually found as much smaller pieces than this.

Figure 7.
***Tornoceras goniatites* ammonite.**

Figure 8.
***Thamnoptychia* coral.**
Another piece about an inch long was found close to this one and it looks like they might fit together at one of the broken ends.

Malcolm called Dave and me over to show us what he described as the find of the day. As we were walking, Malcolm was saying how it had colour and an interesting texture. He was right, but the smartass has us looking at a label that had fallen off someone's clothes or something. Dave still made out OK, as not two feet away from Malcolm, he found a nice *Callipleura* brachiopod, a piece I'd have liked to have added to my collection.

We wrapped it up and headed out to find Darrell splitting rock at the top of the north pit. He and Dave started discussing geology at a level that had Malcolm and me just smiling and nodding. What I did take out of that conversation was interesting, but I'd need to read a lot more to keep up with those two.

As we were getting cleaned up and making dinner plans by the cars, Malcolm looked up and said "Is that an eagle?" and sure enough, it was low enough to make out that it was indeed a bald eagle, the first I'd ever seen in the wild. It must be nesting in one of the nearby trees. I asked Dave if he should be saluting it and he went off about how

his national symbol is majestic and ours is just a pesky rodent that dams rivers. To his credit though, he did say that ours does make some nice hats.

Not much of a report, compared to past ones, but I also have a presentation to get ready for. Hopefully we'll have a decent crowd at the November meeting where you can hear me babble on about life in the Paleozoic.

Until next month –Happy Hunting!

All photos thanks to Kevin Kidd.

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THE MEMBER'S CORNER
Stratigraphy and Time
By Bev Fox

As Kevin Kidd's presentation at the next meeting in November will be on the Paleozoic Era, and as he will, no doubt, be discussing some rock Formations (rock layers) in the Paleozoic, it seems appropriate to place that Era in time.

Geologic Time is divided into units. The largest units are called *Eons* and consist of the Precambrian (or Cryptozoic) Eon which began with the formation of Earth some 4.55 billion years ago and ended about 570 million years ago, and the Phanerozoic Eon which covers from about 570 million years ago to the present. It is this latter Eon which will concern us for now.

The Phanerozoic Eon contains three *Eras*. These are:
Cenozoic Era approximately 66 million years ago to the present.
Mesozoic Era approximately 245 million years ago to 66 million years ago
Paleozoic Era approximately 570 million years ago to 245 million years ago. It is this Era which will be of interest in the presentation.

The Paleozoic Era consists of six *Periods* and two *Subperiods*:
Cambrian Period
Ordovician Period
Silurian Period
Devonian Period
Carboniferous Period with two subperiods
Mississipian and Pennsylvanian
Permian Period

The Periods are further broken down into *Epochs* and the Epochs are divided into *Ages*.

The length of time a unit occupies is now determined by the International Commission on Stratigraphy (ICS). "The primary objective of the ICS is to precisely define global units (systems, series and stages) of the International Chronostratigraphic Chart that in turn, are the basis for the units, Periods, Epochs and Age of the International Time

Scale; thus setting global standards for the fundamental scale for expressing the history of the Earth."[1]

Originally, stratigraphy of an area could only provide approximate dating. It was not possible to give a layer of rock an age in terms of number of years before the present, but it was possible to develop a relative time scale in relation to layers in a chronological order, top layers being generally considered youngest in a series. In other cases, the same type of fossils might be found in two or more different areas in the same kind of matrix suggesting the layers were from the same time period. Now, radiometric dating of rocks, Carbon 14 dating of fossils under 50,000 years old, and stratigraphy, combine to make dating more precise, but these dates are constantly under revision and might be changed as more information becomes available.[2] However, for our purposes, the division and dating of the above units may be accepted for now.

Anyone that might be interested in the stratigraphy of Southern Ontario would do well to have a look at : *The Subsurface Paleozoic Stratigraphy of Southern Ontario* in our KRFC library. If anyone is interested, just let me know and I can bring it to the next meeting. This book contains excellent photos of Formations, discussions of same and charts of Formations.

I do urge the readers to visit the Web sites given in the References. They contain interesting information and charts.

References:
#1. www.stratigraphy.org
#2. http://geomaps.wr.usgs.gov/parks/gtime/

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THE EDITOR'S CORNER

Many thanks to Kevin Kidd for another interesting article and to my husband, Ken for sharing the preparation and circulation of the Newsletter.

All memberships for this year expire on December 31, 2014. A renewal form is included with this issue of the Newsletter.

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COMING EVENTS

Courtesy of the CCFMS Website

Nov 8 **Canadian Micro Mineral Association Fall Workshop**
Burlington Arts & Cultural Center, 1333 Lakeshore Road, Burlington, ON.
Contact: Frank Ruehlicke at 519-880-2716, or ruehlicke@rogers.com
Website: http://canadianmicrominerals.ca/

Nov 13-24 **Robert Hall Originals - Annual Fall Open House 12 Days of Christmas**
Canadian made pewter gifts & jewellery for Christmas gift giving.
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