

THE EARTH SCIENCE NEWS

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Number 11

60th Anniversary of ESCONI



EARTH SCIENCE CLUB OF NORTHERN ILLINOIS

-----E S C O N I-----

WWW.ESCONI.ORG

EARTH SCIENCE CLUB OF NORTHERN ILLINOIS 2009

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STUDY GROUP CHAIRS

Archaeology	Bryan Nugent	6621 Westmoreland	Woodridge IL 60517	630 960-5147
Lapidary	Sheila Bergmann	401 S. Lombard Ave.	Lombard, 60148	630-629-5785
Min/Micromt.	Kathy Dedina	11 N. Cumnor Road	Westmont, 60559	630-969-2522
Paleontology	John Good	1891 Windward Lane	Hanover Park, 60133	630-483-2363
Junior	Open			

John Good & Karen Nordquist are delegates to Chicagoland Gems & Minerals Association. Mark Kuntz will serve as the March Show Chairman.

The aim of the **Earth Science Club of Northern Illinois** is to promote an interest in the Earth Sciences. In addition to the regular General Meeting, study group meetings are held monthly. They are held by groups of **ESCONI** members interested in the studies of Archaeology, Mineralogy, Micromounts, Paleontology, and the Lapidary Arts. There are also study sessions for Junior members to help them learn more about the earth sciences. From time to time field trips are arranged. **ESCONI** has a fine library of books on the earth sciences that are available to members.

We welcome the attendance of all interested persons at any or all sessions. The schedule is printed on the back page (date, time and place of meeting). Specific information is published in this bulletin.

Membership is \$20.00 (which includes the Bulletin) for annual family membership, or \$50.00 for three years. Dues are payable either at the monthly meetings or by mailing to the **Membership Chair** listed above.

Deadline for Bulletin articles to the editor is the 2nd weekend of each month.

Articles in this publication may be reprinted if full credit is given the author and **The Earth Science News**. Exchange bulletins may be mailed directly to the Editor.

ESCONI website is www.esconi.org
Web Administrator is Diana Lord

December 2009**President's Message**

I hope that you are all planning on joining us for the festivities this month. It is a special meeting in December when we will be celebrating not only the holiday season but 60 years of ESCONI!! That does not happen often. We will have a nice festive dinner with a Greek flavor and then join together at our usual meeting place for a trip down memory lane. We will see some old photos of ESCONI long ago. Come help us identify some of these people! There are shows and field trips and events covering many years. Come and join us for a fun evening.

As usual there will not be many group meetings during December so that you can spend times with family and friends for the holidays. It is a busy time of year. Keep in mind that our ESCONI plant book makes an interesting Christmas gift for the holidays. And other earth science gifts are always thoughtful.

This year gems are in the spotlight with the exhibits that are being highlighted at the Field Museum. They have just reopened their newly refurbished Grainger Hall of Gems and it is a beauty. Along with it they have a temporary traveling exhibit on sparkly diamonds that tells the story of those hard rocks. Just in time for Christmas.

We are always looking for new people to join our Board so if you are interested in taking on more responsibility and having more fun, let us know. You see a lot of the same names on the first page of this Bulletin because they are the ones who keep coming and doing all the work. We would welcome some new faces and energy to join in help out in 2010 for the 60 years ahead. This is a challenging time but it is a fascinating hobby that we are involved in. It is ever-changing and we are always learning new things about it. There are new fossils to be found and studied, new minerals to be seen and admired, new archaeological sites to be explored and understood, and new jewelry to be created for others to enjoy. Come and be part of it. We shouldn't have all the fun.

Happy Holidays to all! Thank you all for a good year and here's hoping for a great 2010!!

Karen Nordquist, President

Christmas Party is be December 4, 2009
Dinner is at 5:30 P.M. at the Greek Islands Restaurant West
300 East 22nd Street, Lombard IL
General Meeting to follow at COD
ESCONI 60th Anniversary!

Dues are Due

Please send your check payable to ESCONI for \$20.00 to

Eileen Mizerk, Membership
2094 Windward Lane
Hanover Park IL 60133-6183

DECEMBER 2009 ESCONI EVENTS

College of DuPage (COD) Building K, Room #131 for most meetings, but note that the room number is subject to change – there will be a note posted on the entrance door.

**Friday December 4
ESCONI Holiday Dinner
5:30 pm to 7:30 pm**

Dinner will be held at the Greek Islands West Restaurant located at 22nd Street, Lombard, IL from 5:30 pm to 7:30 pm.

If you would like to attend the Holiday Dinner, please RSVP by December 1st to Rob Sula (630) 236-9695 e-mail: sulasaurus@comcast.net.

**General Meeting and the
60th Anniversary Celebration
Party: 8:00pm**

Secret Santa gift exchange. This grab bag is optional. If you do want to participate, please make sure that your gift is earth science related, has a value of \$15.00 and is labeled "male" or "female" if it is a gender specific gift.

The 60th Anniversary Meeting and program will be held at the College of DuPage (Bldg K, Room 131)

**Mineral-Micromount
7:30 PM, Dec 12**

Mineral Identification Contest
Bring three minerals and four labels; Fabulous Prizes for All;
Ice Cream Served

Paleontology

No meeting in December

Archaeology

No meeting in December

Junior

Subject to reorganization.

ESCONI Field Trips

Saturday, January 23, 2010; 10:00 a.m. – 11:00 a.m.
Chicago Academy of Sciences Collections Facility and Office
4001 N. Ravenswood Avenue, Suite 201, Chicago, IL 60613
Contact: Joe Kubal at 630-983-6159 or
SMKubal0712@aol.com.

See Web Site, www.esconi.org, and the notes on a following page details about future field trips in 2010.

**BOARD MEETING
7:30 PM Dec 4**

Note that the Board Meeting is moved to the Anniversary Celebration of December

GROUP	GENERAL	MICRO	PALEO	ARCH	BOARD	JUNIOR
December	4	12	X	X	X	
January	8	9	16	23	22	
February	12	13	20	27	26	
March	Show 20-21	13	NA	27	26	
DAY	2 nd FRI	2 nd SAT	3 rd SAT	4 th SAT	4 th FRI	2 nd FRI
TIME	8:00	7:30	7:30	7:30	7:30	7:00

Behind the Scenes Field Trip of the Chicago Academy of Sciences' Museum Collections

The Chicago Academy of Sciences (CAS) and its Peggy Notebaert Nature Museum would like to offer a behind the scenes tour of its museum collections for ESCONI members as a thank you to members who generously contributed their time to assist our staff this past year with an inventory of our paleontology collection. *Thank you Joan, Elaine, Dianna, and Jack!*

The tour, given by collections manager Dawn Roberts, will focus on the Academy's natural history collection and will last approximately one hour. The Collections Facility and Office houses approximately 11,000 specimens in the geology collection and holds an estimated 14,000 specimens in the paleontology collection. The facility contains an estimated 250,000 objects in the total collection including photos, artwork, a natural history collection, etc.

Parking is available in front of the facility and down Ravenswood Avenue on Saturday. If parking in the adjacent neighborhood, check for "permit parking only" signs and parking meters. Also, there are several restaurants nearby, in case you are hungry after the tour.

The tour is restricted to 12 people and you must reserve in advance. Any age is welcome, although the tour is not recommended for children under 10 years of age. In the event that more people are interested, another tour may be added later in the day.

Date: Saturday, January 23, 2010

Time: 10:00 a.m. – 11:00 a.m.

Location: Chicago Academy of Sciences Collections Facility and Office
4001 N. Ravenswood Avenue, Suite 201, Chicago, IL 60613

For more information and to make reservations, please contact: Joe Kubal at 630-983-6159 by telephone or by emailing him at SMKubal0712@aol.com.

Future Field Trips for 2010

As our government passes more laws and insurance stopping the use of BLM land, field trips are becoming harder to find places to collect fossils and minerals. Pay area are becoming more and more popular collecting areas. We need your help to find new or old places to collect for ESCONI. If you know any place please see me or someone on the board including John Good.

I am planning a field trip to War Field Quarry, near Kemmerer, Wyoming in June of 2010, for fossil fish. Grandson Pete and I collected there in June 2007. We were collecting at about 4,000 feet high. Finding fish was a matter of splitting soft limestone to find the fish. We found over fifty and my largest was eight inches long. We split one piece that had five fish all over three inches long. This is a pay area and you can keep 10 species of fish, any size. The National Monument is nearby and worth a couple of hours of time. I will have more on this when I set the dates. Please let me know if you are interested on going on this field trip.

Richard Rock: Field Trip Chairman

ESCONI HISTORY

ESCONI (Earth Science Club of Northern Illinois) was founded in November 11, 1949 with an initial meeting of 13 people interested in Earth Sciences. William Allaway was the 1st President of ESCONI.

The purpose of ESCONI was given as follows:

THE AIM OF THE EARTH SCIENCE CLUB OF NORTHERN ILLINOIS – ESCONI – IS TO PROMOTE AN INTEREST IN THE EARTH SCIENCES, AMONG THESE ARE GEOLOGY, PALEONTOLOGY, MINERALOGY, ARCHAEOLOGY, MICROMOUNTING, AND THE LAPIDARY ARTS.

On November 11, 1949, thirteen people, each interested in some phase of the Earth Sciences, met in the basement of the W.H. Allaway home in Downers Grove, Illinois to discuss their common interest. Participants were: Jay Farr, W.H.Allaway, Helen Allaway, Herb Beck, Bob Beck, Roy Beghtol, LeRoy Beghtol, Steven T. Norvell, Dr. Spiesman, Guy Spiesman, Donald Thayer, Annie Besser and Harry Thayer.

Out of their enthusiasm and discussion, the idea grew that there must be more people in the western suburbs interested in these same subjects in this vicinity. They adjourned for the evening with plans formulated to circulate the idea among friends and acquaintances and to call a special meeting on November 25th for further discussion.

On November 25, 1949, thirty -two people arrived at the home of Dr. Speisman to discuss the idea further. Mr. Allaway acted as temporary chairman and Guy Spiesman as temporary Secretary. Committees were appointed to begin the ground work for a club that would embody geology, paleontology, paleobotany, mineralogy, ancient man and the lapidary arts.

Committees were: Nominating --to appoint a slate of officers
Constitution and By-laws
Meeting place
Membership Chairman - Roy Beghtol

Discussion of a name for the new organization to be present at the next meeting with a prize offered for the winner. It was decided to print a bulletin at regular intervals. Herb Beck agreed to print announcement cards for the next meeting to be held January 6, 1950.

At the first regular meeting 62 were present with 27 becoming regular members.

Officers elected:	Chairman	W.H. Allaway
	Vice-Chairman	Roy Beghtol
	Recording Secretary	Jay Farr
	Treasurer	Steven T. Norvell
	Historian-Curator	Ethel Whitney

The ESCONI Bulletin, Earth Science News, has been published 11 times per year continuously since January 1950.

BOARD MEETING
September 29, 2009

1st Vice President Rob Sula called the meeting to order. The minutes for the August 28 Board Meeting were reviewed and approved, as amended. Rob Sula then announced that the speaker for the October General Meeting will be Jack MacRae, a naturalist at the Willowbrook Wildlife Center, who will talk on the archaeology of Illinois. Our November speaker will be Dave Malone from Illinois State University. He will give a presentation on Alaska geology. Rob then mentioned that the historical history of ESCONI slide show will take the place of the regular General Meeting on December 4. The person who will oversee the slide presentation needs to be determined. Rob will check out possible restaurant locations near the Yorktown area for the dinner that will precede the December meeting. Speakers have not yet been lined up for the January and April General Meetings. Joe Palka will give a presentation on Mayan use of fossils at the February 2 General Meeting; and Lindsay Zanno will give a presentation at the May General Meeting. Rob already has several tentative speaker commitments for next fall.

Treasurer John Good is revising the method he uses to provide the treasurer's report from Excel to Access. John then said that Don Cronauer (Publicity) wanted additional information on the October General Meeting that he can use for the packet of information that he sends to newspapers and other sources of media. Andy Jansen (Librarian) informed the Board that he will be updating the library list for the ESCONI web site. A discussion was then held about writing book reviews for the Bulletin or web site in order to spur use of the library. Andy will be culling a number of the library books (e.g., duplicate copies). These will be sold at the March ESCONI Show.

John and Don put together the 18 page October Bulletin. Howard Svoboda, Circulation, mailed the issue on September 24. John and Don need photographs and articles to make the Bulletin longer and of more interest to club members. Rob reported that the ESCONI membership number now stands at 204. John then mentioned that there will be field trips to Braceville on Saturday and Sunday (September 26 and 27). There is also the possibility of a future field trip to the St. Paul quarry. John suggested that we should no longer put field trip information on the web site. If anything, the web site should only direct people to contact John regarding field trips. A discussion about this suggestion was then held. Field trip information will continue to be provided in the Bulletin.

Under old business, Andy led a discussion on useful items that could be sold to members. Items mentioned included tote bags or tee shirts with the ESCONI logo, whistle/compass combos or loops with the ESCONI name on them, or ESCONI patches that could be sewn on various items. There was also a discussion about redesigning the ESCONI logo. Dianna Lord then talked about the ESCONI web site. She is pleased that more people have become involved in posting to the web site. The web site now receives about 1,000 hits per month with each visitor looking at about three pages. She suggested adding a new banner on the web site to announce ESCONI's 60th anniversary. ESCONI was added to Twitter and is connected to other organizations (e.g., museums) that twitter. She suggested that we may want to add interviews of members on the web site.

Rob then mentioned that the photography session of jellyfish for the upcoming Mazon Creek fauna book went well. Fourteen people brought specimens to be photographed. He and Jack Wittry will decide on which photographs to use for the book. For future animal groups, people should bring no more than two specimens per species. Also, people should now bring in their best specimens. Preparation of the book will probably take two years.

The meeting was adjourned.

Respectfully submitted, William S. Vinikour, Recording Secretary

General Meeting **October 9, 2009**

President Karen Nordquist called the meeting to order and welcomed everyone. She announced that our speaker for the November General Meeting will be Dr. Dave Malone from the Illinois State University who will be speaking on Alaska minerals. The December 4th General Meeting/Holiday Party will feature a 60-year retrospective of ESCONI. Treasurer John Good then mentioned that there would be no more field trips in 2009. The recent field trips to Braceville were very successful. There will probably be another Braceville field trip next May. John then discussed other possible trips for next year. An overview of the upcoming study group meetings was then presented.

The ESCONI Show will be held the 3rd weekend of March, 2010 (March 20 and 21). The show will be held in the Student Resource Center rather than in K Commons. Due to space constraints, it will be a somewhat smaller show than we have had in the past few years. Help will be needed for setting up and running the show.

John Good then introduced the speaker for the evening - Jack MacRae. Jack, a raptor expert, is a naturalist at the Willowbrook Wildlife Center. Being a “Jack of all sciences” he was cordial enough to give a fascinating presentation more in line with the interests of ESCONI:

“Illinois Archaeology”

Jack started his talk by stating that knowledge of the people of the past is gained from a melding of all scientific fields (not just from archaeology), other disciplines, the arts, and so forth. As of about 10 years ago, there have been about 45,000 recorded archaeological sites in Illinois. Most sites are concentrated in three areas: (1) the middle of the Illinois River Valley, (2) the confluence of the Missouri and Mississippi Rivers, and (3) the Chicago region. The river areas had resources that attracted people (e.g., fish, shellfish, big game, trees, and so forth); while the Chicago region has a large population that has resulted in the unveiling of sites due to development and surveys that are often conducted prior to construction.

The material objects found at archaeological sites are important for trying to figure out what the social and ideological cultures of past civilizations were like. Also, the tools found at an archaeological site can give one an idea about what the people were doing at the site (e.g., hunting or farming). Advances in science are always being made. As a result, former ideas about past civilizations are often found to be incorrect.

Human inhabitation of Illinois dates back about 13,000 years. The main focus on Jack’s presentation was on various archaeological sites from Illinois that represent the various periods in man’s history. The following table lists the sites that Jack discussed.

Period (Approximate Time Period)	Representative Illinois Sites (County)
Paleo-Indian Period (20,000 – 8,000 BC)	Hawk’s Nest (Lake) Bostrum and Mueller (St. Clair)

Archaic Period (8,000 – 1,000 BC)	Riverton (Crawford) Modoc (Randolph) Koster (Greene) Napoleon Hollow (Pike)
Woodland Period (1,000 BC – AD 800)	Winfield Mounds (DuPage) Dickson Mounds (Fulton) Mackinaw/Aldrich Cache (Tazewell)
Mississippian Period (AD 800 – AD 1500)	Cahokia Mounds (St. Clair) Hoxie (Cook)
Contact Period (AD 1500 – AD 1750)	Zimmerman (LaSalle) Windrose (Iroquois)
Historic Period (AD 1673 to present)	Illinois and Michigan Canal Packet Boats (Grundy) Joliet Steel Works (Will)

One interesting note about the Paleo-Indian Period in Illinois is that finds in Kenosha, Wisconsin and Kimmswick, Missouri give evidence of mammoth hunters, but no such evidence has been found in Illinois, even though it must have been done. Most stone tools that have been discovered in Illinois come from the Archaic Period.

The following is an overview of most of these sites listed in the table above:

Hawk's Nest: Largest Paleoindian site in the Midwest. Nearly 3,000 items have been found at the site. The chert used for the point came from Fulton and LaSalle Counties.

Bostrum and Mueller: Most of the points discovered from these sites originated from other places (e.g., up to 900 miles away). This indicates that the people were coming from other areas to hunt in the area that is now St. Clair County.

Riverton: Oldest village in Illinois. It lasted for about 200 years. (Jack did point out that there usually is no cut-and-dry evidence among villages and campsites and whether they were permanent or seasonal.)

Modoc: A rock overhang that people used for shelter for about 6,000 years.

Koster: There are 26 different layers of occupation. The site was inhabited from 8,700 to 800 years ago. There must have been a lot of resources in the area to support people for some 8,000 years.

Napoleon Hollow: Evidence of the oldest agriculture in Illinois based on the discovery of seeds of marsh elder (a sunflower-like plant).

Winfield Mounds: The site contained three small mounds that contained evidence of bundle burials – human remains that were burned. The original mounds were destroyed during surveys conducted in the 1930s. The County of DuPage restored the mounds to their original appearance to help protect the integrity of the site. About 90% of the artifacts found from the north end of the site are from the middle Woodland Period; while 90% of those found in the southern end are from the late Woodland Period – a 500 to 1,00 year difference in only 100 yards. Artifacts found between the ends are about evenly split among the middle and late Woodland Period. It is not known if the people kept moving to the south over the years or if a different group came in and lived in the southern area of the site. Winfield Mounds is the only known burial mounds in DuPage County.

General Meeting, Continued,

Dickson Mounds: It is the most famous of the estimated 3,000 mounds in Fulton County. There are 234 known remains and associated burial artifacts at the site. Another 800 remains were removed to museums. Although the site has a museum, the remains are no longer on display. Jack did bring in some photos of the remains (taken during one of the last weekends that the remains were on display) to share with the audience.

Mackinaw/Aldrich Cache: Thirty-three pure white points about 5 inches long, 2.5 inches wide, and only 3/16 inch thick. They are considered among the finest artistic expressions of the time. They were too fragile to be used. It is thought that they were going to be used for the burial of an important person, but were lost on transit. Most of the points are on display at the Dixon Mounds museum.

Cahokia Mounds: It was a large urban settlement that was inhabited by up to 40,000 people. It was the largest prehistoric city north of Mexico. The site was inhabited for hundreds of years. All homes were laid out in a grid which gives evidence of city planning. The growth of the population from about 1,000 to over 20,000 in a few decades indicates that there must have been a charismatic leader that made attracted people to live there. This person, possibly considered to be “the brother of the sun” may have lived on Monk’s Mound at Cahokia. Monk’s Mound is the largest prehistoric earthwork known. It is 14 acres at the base, has four tiers, and is 102 feet tall. It was constructed of over 22 million cubic feet of earth. It probably took about 10 years to construct Monk’s Mound. This includes a blue clay core that helped to buttress the steep slopes of the mound. An internal gravel and cobble drainage system kept the clay moist. The top of Monk’s mound had 48 bathtub-looking holes arranged in a circle that were 13 feet wide by 70 feet long. They were used to raise 3-foot diameter cedar poles. There was also a similar hole near the circle. These poles served as a giant calendar that could determine the equinox and solstice. Five of these “calendars” were constructed at Cahokia. Mound 72 is a recent discovery at Cahokia that is located about 1,000 yards from Monk’s Mound. Inside the mound were discovered a man on 20,000 shell disks shaped like a giant bird, 54 females that were 15 to 25 years old, and four other males with their heads and hands cut off. The females were assumed to be raised as sacrifices – they all had bad bones due to a poor diet. It is unsure what happened to the inhabitants of Cahokia Mounds. The most plausible explanation is that resources to support 40,000 people ran out. Cahokia Mounds is a World Heritage Site.

Zimmerman: It is one of the first documented sites in Illinois. About 1,200 Illini Indians lived there in 1673. Seven years later the population was about 9,000. People were probably drawn to the site to see Marquette and late LaSalle. Trade goods are among the artifacts found at the site. The community must have been agricultural based in its later years as prey animals would have been depleted.

Windrose: A Potawatomi site of the early 1700s. Lots of trade goods were discovered at the site.

Illinois and Michigan Canal Packet Boats: Seven identical canal boats that were 15 feet wide and 100 feet long were discovered after a dam washed out drained a portion of the DuPage River. The boats were built of white oak and white pine. They were probably used to transport horses or mules.

General Meeting, Continued,

Joliet Steel Works: Starting in 1870, Joliet a steel capital for nearly 60 years. The Joliet Steel Works could produce about 70 tons of steel a week. However, by 1930, other steel mills (e.g., at Gary) could produce steel cheaper because they were located closer to better transportation. The site now has a mile-long path that provides a self-guided walking tour of this modern cultural resource site.

Following the well-received presentation, John Good presented Jack with an honorarium. After a series of questions and answers, the meeting was adjourned with thanks to Jack for a highly entertaining presentation. Refreshments were served. Jack remained to answer further questions. He also brought in a number of books dealing with the various sites he discussed during his presentation.

Respectively Submitted, William S. Vinikour, Recording Secretary



Recommended Web Sites

Illinois Archaeology
Center For American Archaeology
Dupage County Forest Preserve
Events

<http://www.illinoisarchaeology.org/>
<http://www.caa-archeology.org/html/programs.htm>
<http://www.dupageforest.com/calendar.aspx>

Proposed ESCONI Board for 2010

OFFICE	NAME
President	Karen Nordquist
1st Vice-President	Rob Sula
2nd Vice-President	Irene Broede
Recording Secretary	William Vinikour
Corresponding Secretary	Jim Fairchild
Treasurer	John Good
Publicity	Don Cronauer
Librarian	Andy Jansen
Curator	Randall Bultman
Historian	
Field Trip Chairman	Richard Rock
Assistant Field Trip Chairman	John Catalani
Editor	Don Cronauer
Assistant Editor	John Good
Circulation	Howard Svoboda
Past President.	Jim Fairchild
Membership	Eileen Mizerk
Liaison Rep.	John Good
Alternate Liaison	Karen Nordquist
Study Group / Activity	NAME
Mineral-Micromount	Kathy Dedina
Paleontology	John Good
Archaeology	Bryan Nugent
Junior Group	
Web Administrator	Dianna Lord

Paleontology Study Group October 17, 2009



Chairman John Good called the meeting to order. He mentioned that next month work will continue on the new Mazon Creek fauna book with photographs of non-shrimp arthropods. Everyone is encouraged to bring in their best examples of these animals for the book. Next month the program will be the Devonian. John Catalani reported that not many quarries are open on Saturdays any more and we may have to plan Friday trips for some of them in the future.

John Good then offered the slate of officers for Paleontology Study Group for 2010:

Chairman John Good
Hospitality Kathy Dedina
Secretary Karen Nordquist
They were all elected unanimously.

Many members brought their Mazon Creek fossil worms that were photographed by Jack Wittry for the new book. Pictured is John Anderson.

Joan Bledig then returned the library book "Trapped" to Andy Jansen mentioning that there will be celebrations in Cherry in November for the 100 year anniversary of the mine disaster. Joe Kubal mentioned that the Chicago Academy of Science will have tours on January 23 for members to see the Mazon Creek collection that we helped to organize. More details will follow later.

Show & Tell



John Catalani had some fossils from St. Paul and Kentucky that he shared with the group. He had trilobites from St. Paul and a crinoid calyx from Kentucky as well as a rare crinoids hold fast. These are pictured.

Karen Nordquist, Paleontology Secretary

MINERALOGY/MICROMOUNT**November 14, 2009**

The meeting was called to order at 7:30 PM by Kathy Dedina.

John Good spoke of the upcoming ESCONI Christmas Party.

December will be the traditional Identification Contest. Bring 3 specimens and 4 labels on separate pieces of paper.

This month's meeting was on collecting microminerals in the Michigan Copper Country (Keweenaw, Houghton & Ontonagon Counties).

Kathy Dedina showed and distributed a tabulation of the micro vs. macro minerals pictured in recent articles on the Copper Country. The conclusion was that most of the macro specimens pictured were copper, while the micros were much more diverse.

Jim Daly described the minerals that can be found as micros, and which mines, in his experience, yielded the best micros of each species.

Kathy and Jim also led a discussion on micromounting in general, both why and how.

Jeff Anderson showed some of the agates and datolite that he had collected (not micros).

Diane Lord provided refreshments.

Submitted by Jim Daly

Collecting Micros in Michigan's Copper Country by Jim Daly

Today, the chances of finding top-quality cabinet specimens on the dumps in Copper Country are fairly low. Good micro material, however, is still quite plentiful.

At first glance you might think "you've seen one dump, you've seen them all". Nothing could be further from the truth.

There are three different kinds of deposits of copper in the area: fissure deposits, primarily in the northern end of the Keweenaw Peninsula (mainly Keweenaw County), amygdaloid deposits in the lower part of the peninsula (mainly northern Houghton County and Ontonagon County), and conglomerates, which are found in all three counties. There are some mines that have exploited more than one type of deposit.

There is also the White Pine mine at the southern end of Ontonagon County, that doesn't fit with any of these. At the White Pine the ore was chalcocite, rather than native copper.

In addition, there's the Manganese Mine, where there is only minor copper, and the main ore is manganese.

Even among the mines working a given type of deposit, there are subtle differences.

A few generalizations can be made based on the type or deposit or "lode", as they are called in the area.

Copper is everywhere. So are pumpellyite and microcline.

The pumpellyite is all $-(Mg)$, although there is also some $-(Fe^{2+})$ found at the Clark Mine. It is in brown flakes, rather than the more typical green blades and nodules.

Just about all the "adularia" is microcline.

Zeolites are more common in the fissure deposits.

The best epidote and quartz is in the amygdaloids.

Copper in the conglomerates isn't usually well crystallized.

Collecting Micros in Michigan's Copper Country by Jim Daly—Continued

There is a lot of information regarding what minerals have been found at each mine in the region, with descriptions and photos. This is very useful information when trying to identify what you've collected, but doesn't tell a lot about what you can reasonably expect to find today at the various mines. I'll attempt here to answer that question, based on my own experience with field collecting and working on "micro bags" of material from mines I haven't visited. These were mainly material collected by Olive Sain.

The best copper crystals are from the Clark and Central mines, and the Ahmeek has dodecahedral crystals. Copper wire can be found at the Mohawk and Iroquois mines.

The best epidote and clear quartz crystals are from the Laurium and La Salle mines.

The best saponite is found at the Knowlton and Seneca #1 mines.

The best adularia (translucent pink to orange) is from the Caledonia, Osceola, Laurium and Iroquois mines.

Prehnite is found in many forms. The most interesting are the thin plates: pink and colorless from the Clark mine, both pink and pale green from the Central mine, and also from the Phoenix, Madison, Seneca, Iroquois and St. Clair mines.

The apophyllite-(KF) from the Clark mine is best.

Thomsonite-Ca is found at the Clark and Copper Falls mines, and at Lookout Point (aka Thomsonite Hill).

Analcime is found as red and colorless trapezohedrons at the Copper Falls mine.

We can't leave the Copper Country without mentioning two localities that aren't copper mines: The Manganese Mine, located near the Clark Mine, is the type locality for macfallite, and the second known occurrence for orientite.

On the banks of the Houghton Canal there is slag dumped from one of the smelters in the vicinity, probably the Houghton Smelter. There you can find an unusual form of melilite- black acicular crystals.

In closing, I have to add this disclaimer: All localities change. I haven't been to Copper Country in 3 years, so some of the spoils piles I've mentioned may even be gone today. Some have been used in road construction by the county road departments. I've also found that the first visit to any locality is never as productive as subsequent visits. I suspect that it takes time for your eyes to get used to what to look for, much like hunting morel mushrooms in the woods.

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Herkimer Diamonds

By Richard Rock

In October I left for my yearly trip to Pennsylvania to visit my oldest son and family. The landscape was lit up better than July 4th. The changing of the trees this year was the best in the last ten years. A bonus this year was the Gold Prospectors Association of America Show at the Expo Center at Carlisle, PA (I've been a life member since 1986). The GPAA show was very good, as usual, my third year as a vendor. Five minutes away is the Army War College, so I stayed two nights on post. It is the second oldest military post.

I visited a few days and then headed for the Herkimer, New York area. This is my first collecting trip to New York State. The drive was 230 miles from Danville, Pa. with five hours of driving. We flatlanders are used to the straight boring driving in the Midwest the mountains, up and down, and around take a lot more driving time than I thought.

I arrived in the late afternoon at the Herkimer Diamond Mines and KOA Kamp Ground. I rented a cabin for the night. That night it rained and all the next day with six inches of rain, and water was everywhere. I next moved to the Herkimer Motel in Herkimer, for two more nights. There are three Motels in Herkimer; America's Best Inn, Herkimer Motel, and Budget Inn.

The Herkimer Mines are located seven miles northwest of Herkimer on Route 28. The camp ground is very well kept and there are many things to do at this KOA. It is across the street from the Herkimer Mines and gift store. Cost is \$10 per day for adults to WORK in any of their three mines, and you get to keep everything you might find. Don't kid yourself, this is HARD ROCK MINING. Some of the rock is so hard using a large chisel and a three pound hammer, when I hit the chisel it bounced off the rock!

If you get close to the ground you can find some so small you almost can't see them. Others I found are about a half inch long. There are piles of rock you can split and find the diamonds, quartz of course! The rock contains pockets, some are very tiny and if you get lucky you can hit it big. I also found several pieces of Dolomite crystals.

The Ace of Diamonds Mine is next to the Herkimer Mines within the city limits of Middleville. It has a camp ground too. It is much larger than the other mines. There are many more rocks to break and good areas to dig. One guy I talked to had a pocket opened up, using hand tools, and he had several clusters of diamonds. It took him two days of hard back breaking work. Collecting here was much better than the other mine.

The gift shop at Ace of Diamonds has reasonable prices. I bought two very nice "Diamonds". One has two diamonds; the other is a cluster of eight diamonds, with a yellow tint. It looks a little like a sea horse.

On the day it rained I made a side trip to Crystal Grove Diamond Mine and Camp Ground, 161 County Highway 114, St. Johnsville, N.Y. 13452, 518-568-2914. The mine was closed until April next year. Signs in town make it easy to find.

I also discovered there is another mine near Stone Arabia, N.Y. It is called Diamond Acres. It is southeast of Johnsville. Next year I will investigate on more locations.

There are many other things to do in this area for fun. Howe Caverns & Secret Caves, The Petrified Creatures Museum of Natural History, Cruise the Erie Canal, Cooperstown, and much more...

Herkimer Diamonds, Continued

The Herkimer Diamonds are found in dolomite limestone. Surface water containing silica seeped down into the earth and was trapped in pockets and cavities in the dolomite rock. Because of tremendous pressure and heat caused these crystals to form. Glaciers, snow, and water have exposed the strata in Middleville, N.Y. The crystals are formed in these pockets. The dolomite rock is about 400,000,000 years old. The Mohawk Indians were known as "the people of the crystals". The quartz crystals are named after Revolutionary War General Nicholas Herkimer. The crystals look like diamonds when you find one.



Collecting Selenite in Oklahoma By Richard Rock

Several years ago Phil and I collected selenite crystals at Jet, Oklahoma. The collecting area had been closed for a few years, because a canister of cyanide was found, probably lost or thrown away during field operations and training, by the Army. The container was found empty.

In June two of my grandchildren, Pete and Nate returned for a few days to collect Jet. It was hot as we expected, the week before was 107 degrees. We were lucky to only have 97 degrees on our hottest days. Nate put up an "easy up" for shade as there are no plants or trees on the salt flats. No bugs with or without a nice breeze, when the wind stopped it was HOT!!! Last trip (2002) we collected many groups of crystals, some as large as a pop flat. This year I dug many holes, down to three feet and more, but NO groups of crystals. At the six inch level you could find as many single crystals as you wanted. Many of the singles were very nice; some even had a second crystal attached.

The trip was still fun, as there are many other things to do in the area, and I always enjoy taking the grandchildren on a trip. If you are going that way check the Great Salt Plains State Park at 580-626- 4794. See if they have moved to a different area than this year. There are 11,000 acres of salt plains. There are several motels and lots of camping in the area. Check which camping areas have showers.

Selenite is a crystallized form of gypsum, hydrous calcium sulfate. Selenite is a common mineral with several forms and shapes. Iron oxide in the soil gives the crystals their chocolate brown color. They form in the wet soil with clay particles and sand in them. Some I have found have attached bones, small rocks, tiny sticks, and even cockleburrs. The crystals are unique because of the "hourglass" shape. The Jet area is the only location in the world where these hourglass selenite crystals are found. Some singles grow up to several inches long. The largest ones get up to almost forty pounds.

December – Turquoise

Alternate gem: Zircon

By LaVergne R. Novak



Turquoise is believed to be the oldest known gemstone to be worn as jewelry. In 1900 four turquoise bracelets were found on the mummified arm of Queen Zer of Egypt, who lived about 5500 B.C. Turquoise is perhaps the most widely worn gemstone in the United States, thanks to the superb craftsmanship of the Native Americans in the Southwest. Its name is derived from *turquesa*, meaning the “Turkish stone,” because turquoise arrived in Europe via Turkey. Today we use the French version, *pierre turquoise*, “stone of Turkey.”

Turquoise is a soft, porous opaque stone composed of copper and aluminum when blue and copper and iron when green. A pure blue color without matrix (veins) is most rare. Today, Persian turquoise found in northeast Iran is considered the highest quality. Other important deposits are



found in Afghanistan, Tibet, and the southwestern United States. Most turquoise contains matrix of brown, dark grey, or black and can often be found with malachite and chrysocolla. Because of its porosity, turquoise must be handled and work very carefully. It absorbs perspiration and oil from the skin, causing a change in color.

Superstitions have arisen because of the tendency of turquoise to change color. It would darken in impure air, in bad weather, or in the presence of illness, poison, or infidelity. It is almost alone among gemstones as a protector of animals. Ancient Persians tied turquoise amulets onto their valuable work animals – camels, mules, and horses – to keep them from harm. On the other side of the world Native Americans believed a turquoise stone attached to their horse’s bridle would ensure surefootedness.

Turquoise enjoys recurrent waves of popularity. It is a favorite of men and women alike and can truly be called a stone without gender.

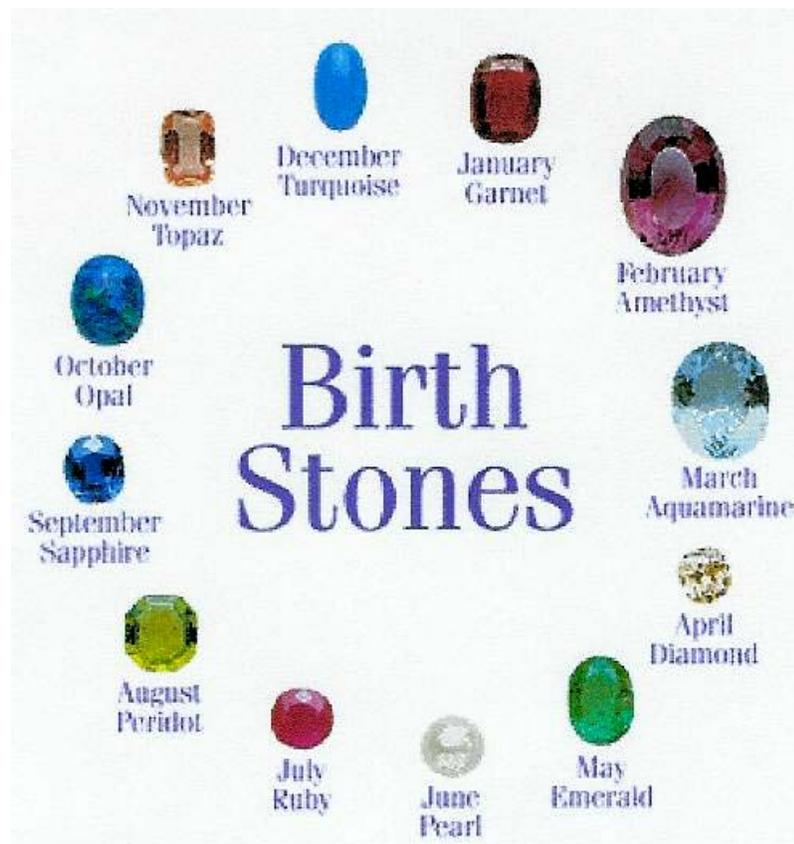
We have seen that each birthstone has its own long and interesting history. Before we laugh at the beliefs and superstitions that people through the ages have ascribed to gemstones – beliefs and superstitions that we might feel are a little simplistic or downright ridiculous – let us stop and put them into the proper perspective.

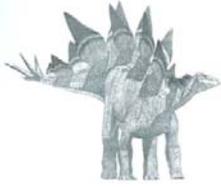
December – Turquoise, Continued

Long before science brought us into the age of advanced technology, people pondered the mysteries of the world and the universe. There is so much that we take for granted which they did not understand. Who can criticize them for looking for answers in these brilliantly colored stones that cast their glow on sickness and despair? Who can blame them for thinking that these stones, which came from the bosom of earth, held the keys to the mysteries of life and death? Long before X-rays and penicillin, vaccines and CAT-scans, people were afflicted with a full range of ailments and diseases whose causes were unknown and for which they had no scientific cures. If they chose to believe that a gem they wore was responsible for their recovery – well, why not?

We in the modern world no longer share those ancient beliefs and superstitions. We have no need of them. But who among us can deny that wearing our own birthstone gives us a very special feeling? It is a tangible link between us and the stars under which we were born. If this link gives us even a vague feeling of belonging, an inexplicable sense of well-being, maybe those ancients were not entirely wrong. Perhaps, there is more to the ancient beliefs that we, with all our science and technology, are willing to admit.

This is the last of the birthstone series. Text was first printed by Lizzadro Museum. Photos are from birthstonejewelrystore.com; vintageturquoisejewelry.com and dhyeonbeads.files.wordpress.com. Thank you to LaVergne for this series.)



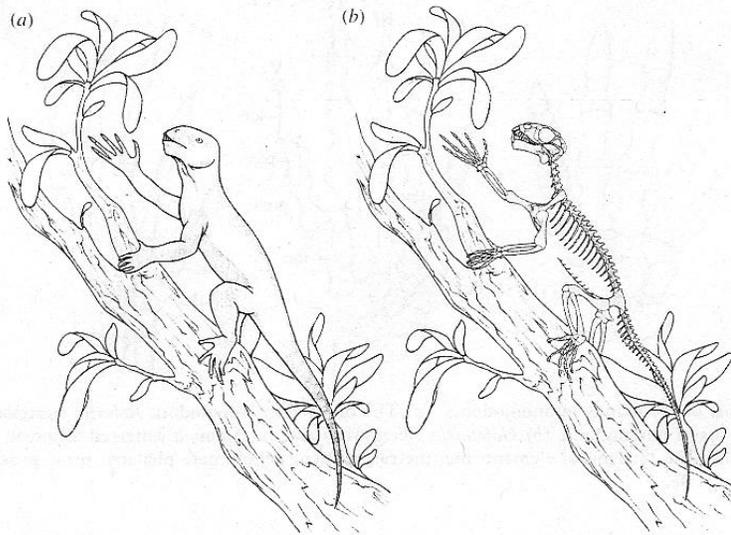


Karen's Komments



Early Arboreality of Terrestrial Vertebrates and *Suminia*

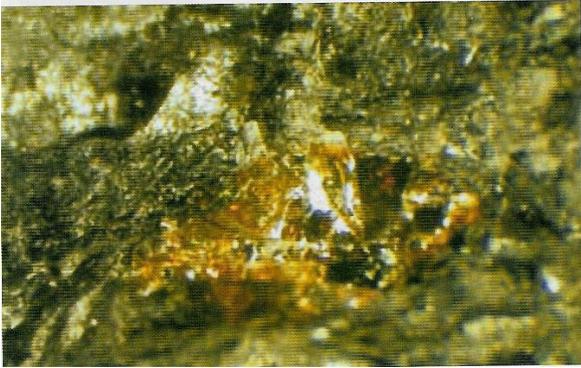
Jorg Frobisch at the Field Museum researched this little critter that lived in the Late Permian about 260 MYA. It was a small herbivorous synapsid that showed evidence of prehensile abilities and arboreality. It had elongate limbs and phalangeal proportions that indicated this characteristic as well as a divergent first digit and a potentially prehensile tail.



This study was facilitated by the discovery of a recently excavated block in the Kirov region of Russia with more than a dozen almost complete and articulated skeletons of the basal anomodont *Suminia getmanovi*. Anomodonts were a cosmopolitan group and in terms of body forms and number of taxa are one of the most diverse groups of terrestrial tetrapods of their time. They were around from the Per-

mian through the Triassic and possibly into the Cretaceous. This group of fossils includes mostly subadults to adults with little signs of weathering or scavenging indicating that it may have been the result of a catastrophic event that buried the bones very quickly. The average length of an adult would be about 50 cm or 1.6 feet long. The manus is long measuring about 40% of the length of the entire forelimb. The pentultimate phalangeal element is also elongated in the manus with a robust proximal end and more slender distal end, allowing greater mobility of the terminal phalanx. The terminal phalanx is more curved and almost clawlike. The overall skeleton is slender with a flexible vertebral column indicated by the lack of fusion between the vertebral centra and neural arches in the dorsal region even in the adults. The first digits of the manus and pes appear to be opposable and are more robust. The first part of the long tail has prominent transverse processes on the caudal vertebrae and long caudal ribs. These are probably features that provide better balancing and prehensile abilities in the trees. It is only seen in *Suminia* among anomodonts. The drawing above from the article shows a skeletal and flesh reconstruction of the animal. When the long pentultimate phange is found in other animals it is most often associated with clinging including marsupials, and rodents and lemurs and lizards and birds. There are several coprolites of the right size for these animals on the block but they have not been analyzed yet. It appears that there was food portioning with *Suminia* eating in the trees and other larger herbivores eating below with a few top predators. (Frobisch & Reisz in **Proc of Roy Soc B** Vol. 276 2009)

Karens Komments, Continued

320 MY Old Amber Found in Illinois

Amber is the fossilized remains of tree resin and is well known from such areas as Lebanon dated to 130 MYA with insects trapped within it. Some forms of it were believed to have evolved and first formed with the flowering plants of the Early Cretaceous but this new discovery pushes that way back to the Carboniferous fern forests of Illinois some 320 MYA. Plant resins are complex and are analyzed by gas chromatography-mass spectrometry to identify them. They found waxy droplets or blebs when lycopods and ferns dominated the swamps. Later conifers developed

and later evolved into the pines, spruces and firs of today.

When they were analyzed they were not similar to ambers from conifers but were like those of angiosperms. The blebs were not near plant matter so could not be associated with it. The chemicals involved are terpenoids and are used by the plants to make hormones. Some volatile elements in some ambers impart fragrance such as pine and some many contain other fractions that can be used to identify their source. These new ambers are Class Ic ambers that contain ozol and ozic acid as building blocks and lack succinic acid. The average size of the blebs is 5 mm. They were found in the Lower Desmoinesian Series, Tradewater formation. This does not mean that angiosperms were around in the Carboniferous. It just means that some plants were using the same biosynthetic process to produce a similar resin back then. (Bray & Anderson in **Science** Vol. 326 10/2/09)

Archaeopteryx is really a flying Dinosaur

When the first fossil was found it was identified as a dinosaur and it was not until feathers were seen on the slab that it was determined to be the "first bird". It still has the long bony tail and teeth with in its long beak like its dinosaur relatives but was accepted as a bird. But now an intense study of the bones of many of the specimens of Archaeopteryx and other fossil birds and dinosaurs tell another story. The study found that the long bones have avascular parallel-fibered bone which is slow growing bone tissue like that found in slow growing reptiles.

They found growth lines absent in the young specimens and found no fibro-lamellar bone. The growth rates suggest that maturity was reached during the second or third year of life which is consistent with expectations for non-avian dinosaurs of comparable size. This adds one more attribute to birds from their dinosaur ancestors. Although modern birds of the same size were flying within 3-6 weeks *Archaeopteryx* was probably not flying until about 18 weeks based upon this study. (Erickson, Rauhut, Norell et al in **PLoSOne** Vol 4/10 Oct 2009)

Local Calendar of Events

LIZZADRO MUSEUM OF LAPIDARY ART

December 19 "Nature's Doll House Miniatures

Miniaturist, Edie Rodriguez teaches participants how to create accessory items for a doll house. Create unique arrangements including plants, fruit bowls, flower vases and more using stone, shell, wire and other materials. Take home 4 miniature creations. All materials are provided.

Activity – Ages 10 years to Adult – 1 p.m. to 3 p.m.

Fee: \$20.00 per person, Museum Members \$15.00

Reservations Required: (630) 833-1616

DUPAGE COUNTY FOREST PRESERVE EVENTS

DuPage County Rocks!

Fullersburg Woods

Dec. 8, 2009 | 4:00 pm - 5:30 pm

Spend the evening learning about rocks and fossils through hands-on activities; then, take home some samples to begin your own collection. Ages 8 – 11. \$10 per person. To register, call (630) 850-8110.

Calendar of Events

The Field
Museum

The Nature of Diamonds October 23, 2009—March 28, 2010

From its geological origins to its place in art, history and literature, no other gem has captured the world's imagination quite like diamonds. Born from billions of years of crushing force, diamonds have served as both an emblem of romance and strength. Examine the unique properties of diamonds and explore the gem in its natural state as you journey along from mine to dealer. Through ancient manuscripts, compelling multimedia and evocative exhibitory, explore the many facets of diamonds and be dazzled by these breathtaking pieces. Highlights will include pieces by Fulco di Vedula, Cartier, Boucheron, and works from Tiffany & Co. designed by Frank Gehry and Elsa Peretti. Discover the gem that has stimulated scientists, inspired writers and influenced artisans for thousands of years in The Field Museum's exhibition, The Nature of Diamonds, opening October 23, 2009.

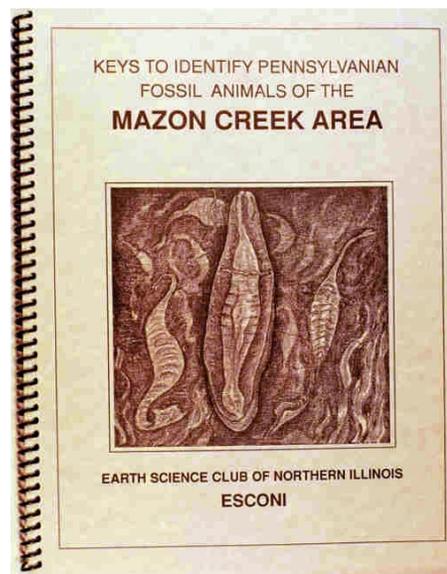
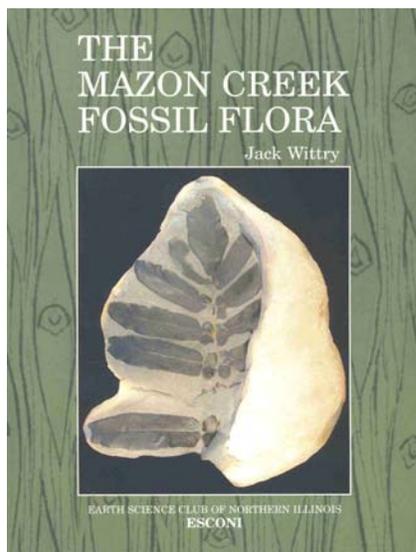
Renovated Grainger Hall of Gems

Explore the human fascination with the natural beauty of Earth's gems when the renovated Grainger Hall of Gems reopens in October 2009. Behold unusual natural formations, dazzling cut gemstones, and incomparable jewelry settings both ancient and modern. Discover beautiful Tiffany pieces from the 1893 World's Columbian Exposition, exquisite rare stones and gold objects from around the world, and never before seen creations from top jewelry designers.

ESCONI'S Next Book Undertaking!

ESCONI first published *Keys to Identify Pennsylvanian Fossil Animals of the Mazon Creek Area* in 1989. With the success of the publication of *The Mazon Creek Fossil Flora*, it is time to consider updating our twenty-year-old publication of *Keys to Identify Pennsylvanian Fossil Animals of the Mazon Creek Area*. Jim Fairchild, Jack Wittry, Rob Sula, Chris Cozart, and John Catalani have come together with a goal to produce a quality publication that could complement *The Mazon Creek Fossil Flora*. In this updated version, the publication will not only utilize existing illustrations, but will also include photos to represent this diverse fauna. One difference is that the flora book presents major revisions to the classification of Mazon Creek plants, requiring museum specimens to be pictured. The new fauna book, will not present major revisions to species which will allow us to picture specimens from private collections. This provides all Mazon collecting ESCONI members with an opportunity to be a part of this new publication. We envision that each species will be represented by photos of one exceptional specimen and two typical specimens. By doing this we hope to show the reader examples of fossils that are representative of those they are attempting to identify.

On September 19th, we began by examining Mazon jelly fish fossils at the first paleo meeting. Then, on October 17th, we will cover the worms. We'll keep updates in the bulletin as the book evolves so examine your Mazon Creek collections over the next few months and consider any possibilities you may have to contribute to the new book. Any questions? Contact Jim Fairchild at 630-497-6278



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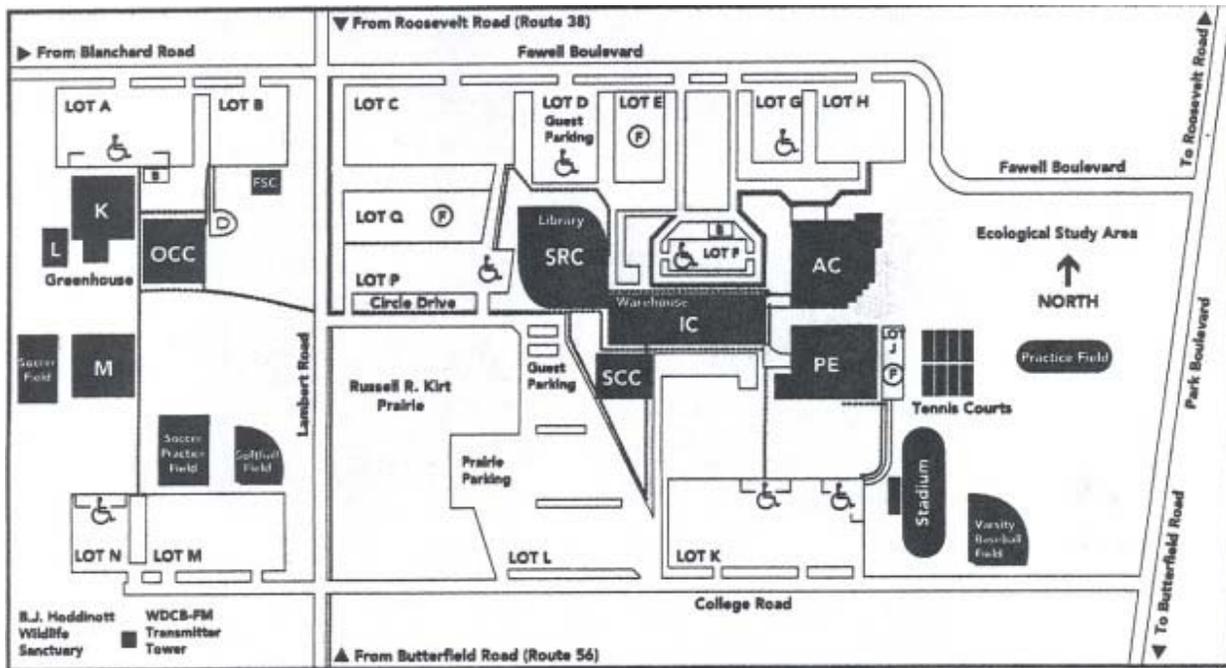
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