GEOLOGICAL SOCIETY OF MINNESOTA

NEWS

WINTER 1998
VOLUME LI NO. 4
www.geolab.geo.umn.edu/orgs/gsm/

CONTENTS

BOARD NEWS

At the annual meeting in September, the membership voted to endorse the revised By-laws. They also elected three new directors: Paul Lemke, David Christianson, and Bruce Goetteman. At the Oct. 13 Board meeting,, the 1998 Board of Directors elected Sylvia Huppler president, David Christianson vice president, Pat Johnson secretary, and Don Mattsson treasurer. Charlie Brennecke notified the Board that he will not continue as a director so Tom Burt was appointed to replace him.

I would like to thank the retiring directors: Doug Zbikowski, Alex Lowe, Don Swensrud and Charlie Brennecke for their work for the society. Of course, I'm happy to say, they will still be active on committees.

New committee members are being sought for all the committees. If you are interested in working on any of the committees, please contact Marlys Lowe or Sylvia Huppler.

Member, Bentley Preece, has been responsible for initiating and developing a Web Page on the internet for the GSM and is looking for members for this new committee. Visit us at http://www.geolab.geo.umn.edu/orgs/gsm/. Many thanks to the University of Minnesota Geology Dept. for sponsoring us in this endeavor.

The School Outreach Program under the leadership of Doug Zbikowski continues to visit schools in the area presenting a program and giving boxes of Minnesota rocks plus a set of slides of thin sections of these rocks to the schools.

As the fall lecture program progresses, we have learned about Minnesota's geological heritage from the solar system up through the Archean Eon. Our lab on the microscopic study of Minnesota's igneous rocks was attended by about 33 enthusiastic members, and on December 1st, James Welsh from Gustavus Adolphus talked on Minnesota's Mineral resources.

Happy New Year to all. Our next lecture will be on January 12 in Room B-75 Amundson Hall at the U of M.

Sincerely,
Marlys Lowe, President

Announcements

The Lecture series will resume on Monday, January 12, in room B-75 in Amundson Hall on the U of M campus. Pencil-in this time and location on your calendar for all January through March Lectures.

Also, on March 16, the LABORATORY on Minnesota's Fossils will be in Room **105** of Pillsbury Hall. Please note the room number.

GSM *News*
Editors
Judy Hamilton
Dwight Robinson
Circulation
Nora Mattson

The purpose of this newsletter is to inform the members and friends of the activities of the Geological Society of Minnesota. GSM*News* is published four times a year: February 15, May 15, August 15, and November 15. Deadline for article submission is the first day of the month of publication. Send all material for GSM*News* to Geological Society of Minnesota c/o Judy Hamilton, 1439 Sargent Ave., St. Paul, MN 55105.

Officers: Sylvia Huppler, *President*; David Christianson, *Vice President*; Don Mattson, *Treasurer*; Pat Johnson, *Secretary*.

Directors: Tom Burt; Bruce Goetteman; Dick Heglund; Paul Lemke; Marlys Lowe.

Send all GSM membership dues, change of address cards, subscriptions, and renewals to the GSM Membership Chair, c/o Bruce Goetteman, 16125 Delarma Drive, Carver, MN 55315. Subscriptions cost $10 for full time Students, $20 for Individuals, or $30 for Families.

MEMBERSHIP REMINDER

Welcome to new members! Thank you for joining us in support of this 'totally-excellent' learning experience. We are well on our way through our lecture series. Attendance is phenomenal.

Another **Thank You** to those who have sent in their renewal dues. Your continued support allows the organization to further develop and enrich its services. Because of your support, GSM can continue offering these fine lectures, provide area schools with an invaluable resource within its Outreach Program and introduce you to the pool of talented professionals in the field of geology. The field trips this past summer were fantastic. And now through its new Web-site, you can enjoy these experiences and more over the Internet.

Take a look at the address label of your Newsletter. In the upper left-hand corner of the label, just above your name and printed in the smallest type the computer could generate, is your membership expiration date. If you have trouble reading it, rest assured you're not alone; changes are in the making.

If the label indicates your membership has expired, please send in your renewal membership today. Mail to:

GSM c/o Bruce Goetteman
16125 Delarma Drive
Carver, MN 55315.

New Members

Mary L. Abby
2346 Western Ave., N.
Roseville, MN 55113-4603

Andrew J. McGrath
542 E. Idaho Ave.
St. Paul, MN 55101-3021

Susan Brink
886 Lakeview Ave.
St. Paul, MN 55117

Mary Dana Korman
2717 W. 28th St.
Minneapolis, MN 55416

William C. Idzorek
3904 Chowen Ave. S.
Minneapolis, MN 55410

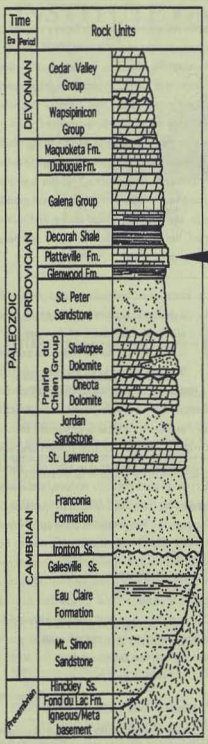
Thomas E. Casey
2854 Cambridge Lane
Mound, MN 55364

James M. Satter
407 - 7th St., SE # 203
Minneapolis, MN 55414

Milissa Hickey
848 Park Place Drive
Mendota Heights, MN 55118

Robert M. Kirk
682 Kenneth Street
St. Paul, MN 55116

Laura Hensel
3580 Highway 371 N.
Brainerd, MN 56401



Generalized Minnesota Paleozoic rock column

PLATTEVILLE LIMESTONE: MANY WERE SPALLED, FEW WERE CHOSEN

From the Lost Twin Cities, Minnesota Historical Society Press (1992).

A major building material in the early age (mid-1800s) was the local Platteville limestone. It was first quarried commercially in St. Paul in 1856 and in Minneapolis in 1864. The stone - generally blue to gray in color - underlay much of the two downtowns, and builders often simply quarried it on or near the construction site. The casual removal of stone eventually became such a problem that the city of St. Paul passed an ordinance forbidding people from quarrying in the streets. Although prized for its easy availability, Platteville limestone - with the exception of blocks taken from a few select quarries - left much to be desired as a building material. It tended to come in rough laminated beds, was seldom of uniform quality, and had a crumbly texture that made it "extremely difficult to dress and virtually impossible to detail in any but the crudest way."

Still it was the about the only stone readily available in the cities until the early 1870s. It was used for early public buildings, such as the U.S. Customs House (1873) in St. Paul and the first Minneapolis City Hall (1873), for large commercial and industrial structures, for schools and churches, and for many houses.

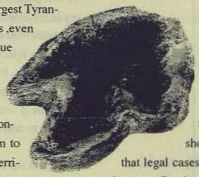
Now found mainly in foundations and retaining walls, Platteville limestone - for better or for worse - lent a distinctive look to Twin Cities architecture. Among the best remaining buildings constructed of this stone are Assumption Church and School and the Alexander Ramsey House in St. Paul and the F.C. Hayer Company Building and the Nicollet Island Inn in Minneapolis.

Submitted by *Dwight Robinson*

TRUE BLUE SUE IS GETTING SET TO DEBUT

"Wanted: Loving home for Sue," 10 tons of Tyrannosaurus rex. Good with children. Spent the last five years crated at the Rapid City, Black Hills Institute of Geological Research, S.D. after FBI agents seized her from the scientist who dug her up. Call Sotheby's for details." (Cox News Service, Dallas).

Dateline: October 4, 1997. Sue sells for 8 million in just 8 minutes. Bankrolled by McDonald's Corporation, the Walt Disney World and other supporters, the Chicago Field Museum made the winning bid which topped out at $8,362,500. From a sandstone bluff in South Dakota to center stage as the world's most complete and perhaps largest Tyrannosaur yet uncovered, there are indications ,even without the all the controversy, that Sue might not have been just any dinosaur.



Was she the grand matron of a small family grouping that fell afoul of a rival and stronger clan of T. Rexes who had prior claim to the area? Or was she defending her own territory against a pack of interlopers? That creatures the size and voracious capacity of tyrannosaurs would establish and defend territories was not only likely but probably necessary. There is scant evidence for the kind of maternal instincts displayed by that big mother in "The Lost World: Jurassic Park" but that doesn't mean mama T. Rex didn't care. We have much to learn about the social life of these great beasts. Sue's heavily scarred bones suggest she fought with and may have succumbed under the attack of another or others of her kind. Did they protect their young? The youngsters may well have needed some protection since they were ill equipped to climb trees and had to share their living space with the large and dangerous adults.

Sue's size alone suggests she must have been old and wise in the ways of her kind but the bones also tell a tale of disease. Researchers from the Arthritis Center of Northeast Ohio, Youngstown found scars that suggest Sue suffered from gout! Gout is a metabolic disorder that results from a surplus of uric acid in the body and the result is arthritis. Latter day causes include excessive boozing, kidney malfunction and/or the consumption of too much protein rich food such as red meat. Were gouty carnivores such as Sue who managed to survive past their prime a regular fixture in the Mesozoic landscapes - limping painfully along snarling and snapping at anything unfortunate enough to cross their paths - even other tyrannosaurs? Was Sue a solicitous mother or just a very crotchety old great, great grandmother? Perhaps she was all of the above and more. Whatever her past, her "present" has certainly not been that of a routine fossil.

Her rocky "renaissance" complete with a dramatic seizure by FBI agents and all those questions of "ownership" smack of territorial imperatives that Sue just might have understood. But that understanding would likely stop well short of lawyers who make better snacks that legal cases - at least in big buck cinematic blockbusters. But it wasn't Sue that ate that lawyer and it's finally looking like she will get her due after all. Field Museum officials plan to have her fully restored and ready for her waiting public by the year 2,000. The question is will she be as she was: a dino gimp with a limp? Never far from the "cutting edge," her remains are due to be "cloned" into at least three life size replicas - one to reside in a Disney theme park in Florida and the other two will travel the U.S. and world compliments of MacDonald's Corporation. Not half bad for a gout-ridden, old, dinosaur whose last gig some 65 million years ago may have had a much less happy ending.

Dwight Robinson

Thanks to Doug Zbikowski for providing helpful background information on Sue from the St. Paul Pioneer Press. Her health report appeared in Scientific American, August 1997.

Announcing— *Please Post*

INSTITUTE ON LAKE SUPERIOR GEOLOGY

44th ANNUAL MEETING

Minneapolis, Minnesota
May 6-10, 1998

LOCATION Holiday Inn—Metrodome, 1500 Washington Avenue south (U of M west bank)

HOST Minnesota Geological Survey Meeting co-chairs: Jim Miller and Mark Jirsa, Field trip chair: Terry Boerboom

TECHNICAL SESSIONS

Two days of concurrent oral and poster sessions, Thursday and Friday, **May 7 and 8**. A special half-day session entitled *"Geological overview of the Lake Superior region—Archean to Quaternary"* kicks off the meeting on Thursday morning, **May 7**. This session is geared toward participants having a basic understanding of geologic processes, but is designed to provide a concise summary to non-specialists. A separate, reduced-rate registration will be available for the overview session.

FIELD TRIPS Five trips are tentatively planned for **May 6, 9, and 10**:

1. *Early Proterozoic geology of east-central Minnesota—quarries and more!*
2. *Keweenawan (Middle Proterozoic) geology of the Taylors Falls area*
3. *Glacial exotica of the Twin Cities area*
4. *Paleozoic stratigraphy of SE Minnesota—groundwater applications*
5. *Archean and Quaternary geology of the Minnesota River Valley*

STUDENT AWARDS

Travel and Best Student Paper Awards will be granted to qualified participants. For information on award guidelines, consult the most recent Program and Abstracts Volume of ILSG, or contact the secretary-treasurer, Mark Jirsa, at the address below.

REGISTRATION INFORMATION

The first meeting circular, which contains registration information, will be mailed in December. To get on the mailing list, contact us by e-mail *(jirsa001@maroon.tc.umn.edu* or *mille066@maroon.tc.umn.edu)*, by phone *(612-627-4780)*, by fax *(612-627-4778)*, or by mail*(Minnesota Geological Survey, 2642 University Avenue, St. Paul, MN, 55114-1057)*.

Things R Looking Up ↑

Reports of a bolide sighting over Scott County flooded both the internet wires and the State and Local police dispatchers. Here's and example of the internet excitement:

<bolide alert !>

>Anyone else see the bolide over Scott County @ approx. 7:56 PM tonight (12/12)?

>No, but I did see a pretty bright fireball just south of Spica at about 4:35 this morning (12/13), looking from south Minneapolis. Had a pale greenish tint...

>A co-worker just came over and said she spotted it to the SW from Big Lake, MN.

"What's a bolide? What's a fireball?" you might ask. Well, they fall in the same category with meteors, meteoroids, and meteorites. A **meteor** is a flash of light in the sky produced my a fragment of rock or metal from space as it hurtles into our atmosphere, at a speed of about 25 miles per second, and is heated to incandescence by friction. Such fragments while in space are called **meteoroids**. One that has not disintegrated or vaporized during its plunge, but has landed on the ground is a **meteorite**. On the average clear, dark night, 5 to 10 meteors per hour can be seen.

Most visible meteors are caused by meteoroids about the size of a grain of sand. Brighter ones may be the size of a pea. Occasionally larger ones enter the atmosphere and become very bright; these are called **fireballs**. Fireballs that explode with an audible pop or bang are called **bolides**. A good animated example of one appears on the Internet Netscape Navigator Icon, if it is your server, whenever you log onto the internet.

In spite of the cloudy skies and hazy conditions, more that one of these critters were spotted by the public at large. They're very bright —bolides.

A while ago, Dr. Sloan offered copies of a Hypercard Stack on Bolides to anyone interested. Although Hypercard appears somewhat clumsy by today's computer standards, it has a place in the classroom. Some Middleschool Earth Science students have found it is just the ticket for their class projects. Copies of this stack are still available to anyone interested—that's a hint for the teachers out there. Contact this guy below by e-mail for more information:

bjgoetteman@worldnet.att.net.

Star Party

If you care to expand you horizons in this branch of the Earth Sciences, attend a star party. At these events, you have the opportunity to use a real telescope to look deep into the heavens. Knowledgeable people are on hand to guide you through the wonders of a starry, starry night.

There is a party scheduled for the next new moon in January starting at sundown. It's sponsored by the Minnesota Astronomical Society and is usually held at Baylor Regional Park. This is where the New Onan Observatory is being constructed. The Park is roughly 45 miles W of the SW corner of 494. Head west on highway 5, through Waconia, to Young America. Turn right onto county road 33 and follow it about 2 miles to the park, a right turn. The observing site is through the gate, again on the right, and roughly 100 yards beyond.

Star parties are held on Friday, if weather permits, otherwise on Saturday. Call (612) 649-4861 after 6:00 PM to hear whether it will be held. If so, the message will include directions to the site. Let's hope this mild weather holds until then.

Nevertheless, dress warm for these outings, and it wouldn't hurt to bring along some hot cocoa or cider. Find out more about Star Parties and their exact location at the MAS Web site: www.geom.umn.edu/~slevy/mas/

Magic and the Moon

References to the moon appear in notes about mistletoe, which one must harvest only on the night of the full moon that follows the winter solstice. The time to harvest is rapidly approaching.

LAKE SUPERIOR GEOLOGISTS TACKLE SOME DEEP SUBJECTS MAY 1998

... the need to focus beyond the traditional topics of precambrian geology is apparent.

Fans and admirers of Lake Superior mark your calendars! Our friends at the Minnesota Geological Survey are hosting the 44th Annual Meeting of the Institute of Lake Superior Geology (ILSG), May 6 - 10, 1998. Before things get too deep, ILSG is offering a special half day session for the nonspecialist, "Geological overview of the Lake Superior region - Archean to Quaternary," May 7, 1998. During this session, speakers will give 30 minute talks that summarize our current understanding of the major geologic provinces of the Lake Superior region.

The intended audience is environmental geoscientists, geohydrologists, geoengineers, geology students and earth science teachers. Basically, anyone with a sound understanding of geological processes can attend. It is an opportunity GSMers will not want to miss! To make it even more appealing, there will be half day only, reduced rate registration for the special session ($). For an idea of the subjects to be covered, look for the meeting flyer enclosed with this newsletter. These field trips cover the same broad time geological time ranges as those of the special session.

To make attendance even easier, the meeting location is the Holiday Inn - Metrodome 'in the heart of the "happenin" West Bank of the University of Minnesota Campus' according to the Survey's Jim Miller and Mark Jirsa. Although ILSG's focus has been and continues to be Precambrian geology, this meeting is specifically geared to appeal to a much wider cross section of the geoscience community. That's us! To get on the info mailing list, go to phone, fax or computer and start punching those keys. For the right words and/or numbers to punch, see the bottom of your meeting flyer enclosed with this newsletter.

Drifting Continents/Expanding Oceans: An Introduction to the Dynamic Earth

Although geology is truly an ancient science, our understanding of the forces and processes that have shaped the earth over its 4.5-billion-year history is a recent revelation. Learn about milestones in geologic thought that ultimately led to the breakthrough theory of plate tectonics just 30 years ago, and how this unifying theory explains the ever-changing landscape of the Earth's surface and the diversity of life that inhabits it. (Limit 30)

CSch 0550, $75 (age 62, $67.50) Sec. 1, Th, 6:30-8:30, Jan 15-Feb 5 (4 meetings), Minnesota Geological Survey, 2642 University Ave., Stf. Jim Miller, Ph.D., senior geologist, Minnesota Geological Survey.

Moments of Field Trip #4 - Wabasha, MN

(above) Members of the entourage examine a geological map in an attempt to locate an ancient meteorite impact crater.

(Right) Deb and Lee (Ben) Preece discuss trip with Judy Hamilton.

Tom Burt says, "These are shelf fungi, also known as conks, and they are the spore-producing structures of fungi. Most belong to the division of the plant kingdom called *Eumycota* and the subdivision *Basidiomycotina*.

The spores are the seeds of the fungi and are dispersed by wind, rain, animals, and insects. Mushrooms and other fungi have traditionally been considered part of the plant kingdom; however, unlike green plants, fungi do not contain chlorophyll and cannot manufacture their own food. Instead, they live out their lives as saprophytes (living on dead organic matter such as leaves, twigs, logs, and animal dung), or as parasites (living on or in living organisms and obtaining food from them)."

(above) The final destination: The Arrowhead Bluffs Museum, in Wabasha, MN.

This was a self-directed field trip, as you can see.

Geological Society
of Minnesota c/o
Nora & Don Mattsson
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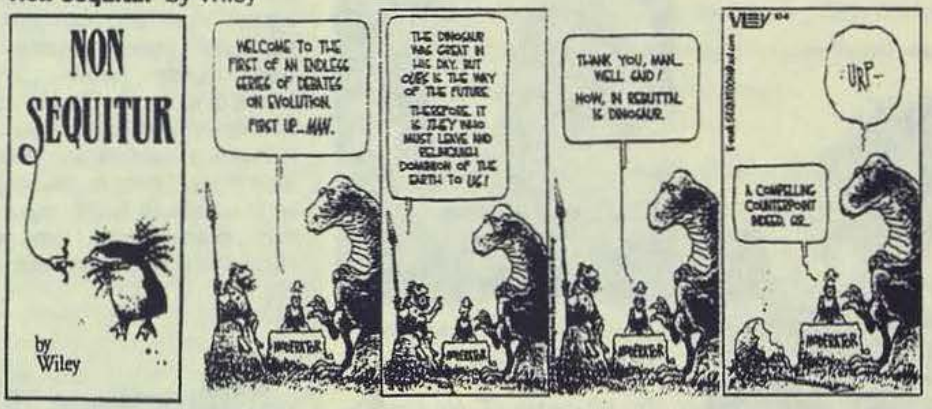

VID WATCH

Video Library of GSM

We ask our GSM Members to join our GSM Video Library. We have 120 videos to widen your interest in geology. We ask you to join for a fee of only $15 dollars . You may then check out a video at one dollar or a CD at 2 dollars per CD (we have 5 of them). Videos or CD's can be rented the night of our GSM lectures (before the meeting or at break time). Other arrangements could be made by phoning me or my substitute. You can check out the video or CD for two weeks (depending on the lecture schedule or on special arrangements made). The latest video purchased was called "Rockin Geology", videos suitable as a basic review of geology (at high school to college level).

See you next year at lecture time. *Alex Lowe* (451-6853)