



MONTHLY PUBLICATION OF THE CENTRAL DAKOTA GEM & MINERAL SOCIETY  
P.O. Box 2445, Bismarck, ND 58502-2445

SERVING BISMARCK, MANDAN, AND SURROUNDING AREAS IN  
NORTH DAKOTA

Gen & Bill Buresh, Eds.  
DIGGIN'S FROM DAKOTA  
44 Captain Marsh Dr.  
Mandan, ND 58554-4704

Volume 30, No. 3  
March, 1995

**FIRST CLASS**

SAVE STAMPS FOR

SAVE STAMP FOR

STAMP CHAIRMAN

STAMP CHAIRMAN

RMFMS - 2nd PLACE, SMALL BULLETINS, 1992  
RMFMS - 2nd PLACE, SMALL BULLETINS, 1987  
AFMS -- 2nd PLACE, SMALL BULLETINS, 1985  
RMFMS - 4th PLACE, SMALL BULLETINS, 1985  
RMFMS - 2nd PLACE, SMALL BULLETINS, 1981



# DIGGIN'S FROM DAKOTA

Published by the CENTRAL DAKOTA GEM & MINERAL SOCIETY  
P.O. BOX 2445, BISMARCK, ND 58502

Member of

ROCKY MOUNTAIN FEDERATION OF MINERALOGICAL SOCIETIES and  
AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES



Organized March 1966

- OBJECT: 1. To further the study of mineralogy and geology;  
2. To arrange field trips to collect minerals, gems, and fossils;  
3. To assist its members to improve in the art of cutting, polishing, and mounting gem material;  
4. To provide opportunities for the exchange, purchase, and exhibition of specimens and materials; and  
5. To share knowledge about gems, minerals, and activities of the Society with the general public. --Article II, CDGMS Constitution

MEETINGS: First Sunday of each month at Masonic Bldg., 1810 Schafer Street, Bismarck, ND:  
2:00 p.m., November through March; 7:00 p.m. April-October.

EARLY CLASS: One-half hour before each meeting. VISITORS ARE WELCOME.

ANNUAL DUES: Family - \$10.00; Individual Adult - \$8.00; Individual Jr. - \$4.00

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Ray Oliver - - - - 223-4986  
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HOSP.--CARDS: Gen Buersh - - 663-5397  
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All members are encouraged to submit articles/news items for publication.  
Material for the bulletin should reach the editor by the 10th of each month.  
Advertisements from members will be accepted for the bulletin. (\$2.00 for 1/8 page)  
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Central Dakota Gem & Mineral Society's  
21st Annual  
**GEM & MINERAL SHOW**  
COMMUNITY CENTER -- MANDAN, ND  
**Sept. 23-24, 1995**  
Chr.: Rodney Hickie, HC2, Box 191, Center, ND 58530  
Telephone--701-794-3342

# DIGGIN'S FROM DAKOTA

Vol. 30, No. 3

MARCH 1995

NEXT MEETING: March 3, 1995,  
Masonic Bldg., 1810 Schafer St., Bismarck  
EARLY CLASS: 1:30 p.m.: TBA  
MEETING: 2:00 p.m.  
PROGRAM: Video: "Recent Ice Age"  
LUNCH COMMITTEE: Agnes Berg,  
Edna Mausehund



## PRESIDENT'S MESSAGE

*Because of the weather, a few of you missed the last meeting, but those of us who were there enjoyed a very interesting meeting, thanks to John Hoganson's program on Champsosaurus Gigas, the fossil that was assembled at the Heritage Center by Johnathon Campbell.*

*Remember, our next meeting on April 2 will be in the evening-- 6:30 p.m. for the Early Class and 7:00 p.m. for the regular meeting. I hope to see you all there.*

*Ray Oliger*

## CALENDAR OF EVENTS

Mar 18 & (BISMARCK, ND--ND Paleontological Soc. Meeting, 7:30 p.m. Capital  
Apr 15 ( Electric Bldg., Highway 83 North  
Mar 25 STILLWATER, MN--18TH Annual Show, St.Croix Rockhound Club, St.Croix Mall  
Mar 25-26 LINCOLN, NE--37th Annual Show, Lincoln Gem & Mineral Club Inc.  
Apr 2 BISMARCK, ND--Central Dakota Gem & Mineral Soc. Early Class--6:30;  
Meeting--7:00 p.m., Masonic Building, 1810 Schafer Street  
Apr 22-23 BILLINGS, MT--Annual Show; Billings Gem & Mineral Club

## 1995 REGIONAL FEDERATION SHOWS

Mar 27-29 EASTERN FEDERATION, Hickory, NC Clement Center  
Apr 28-30 SOUTH CENTRAL FEDERATION, Waco, TX  
June 9-11 ROCKY MOUNTAIN FEDERATION, Oklahoma City, OK Fairgrounds  
June 23-25 CALIFORNIA FEDERATION, Santa Clara Valley Expo. Ctr., San Jose, CA  
July 13-16 NORTHWEST FEDERATION & AFMS FEDERATION combined, Boise, ID Convention Center  
Oct 13-15 MIDWEST FEDERATION, Detroit, MI  
Dec 8-10 SOUTHEAST FEDERATION, Fairgrounds, Nashville, TN --AFMS Newsletters, 11/94 and 3/95

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MANDAN, ND--21st ANNUAL SHOW--Central Dakota Gem & Mineral Society

Sept. 23-24, 1995

Chairman: Rodney Hickle

## DR. JOHN HOGANSON DESCRIBES PREPARATION OF "CHAMPSOSAURUS GIGAS" DISPLAY

Dr. John Hoganson, ND Geological Survey, presented a talk/slide program on the removal of the bones of the *Champsosaurus gigas* which were found last year in southwestern North Dakota.

Dr. Hoganson told about removing the bones of the skeleton of this rare ancient fossil piece by piece, protecting each item, and the eventual reconstruction of the skeleton in the North Dakota Heritage Center. He used many slides to describe the activities.

One complete skeleton was found at the site and another about 80% complete. The animals are reported to have lived here at least 55 million years ago.

A story about this find appeared in the *Bismarck Tribune* on Dec. 8, 1994, with photos of Dr. Hoganson and preparator Johnathan Campbell, Heritage Center, showing a close-up of the skull with rows of sharp teeth. The complete specimen was nearly eight feet long. When completed, it is believed that this will be the first mounted specimen of this species.

A number of other interesting fossils were found at the same site.



### EARLY CLASS

At the Early Class, Harold Brady gave an interesting report on his trip to the big show in Quartzsite, Arizona, accompanied by his son Michael.

Harold reported that it was another huge show, and advised all members to try to attend it at least once.

He described the main show area, and the vast number of displays in the area around the Arena. In addition to these areas, there were many camping sites for trailers that set up tables in a central area or beside their campers for what he called flea markets, with wares of all sorts--mostly but not all related to rockhounding. There were many more of these sites set up in the desert around the town of Quartzsite.

Among other items noted, they saw a vast array of colored beads as well as many items made of silver--rings, bracelets, necklaces, watches, and beads.

cont. next column

They traveled by plane, going through Minneapolis to Phoenix. There they rented a car from one of the many rental agencies, and drove on to Quartzsite. You can't miss it--it's the only traffic jam between Phoenix and Blythe, California.

There are no motels in Quartzsite--Blythe has the closest housing. If you plan to see the show, Harold advises, be sure to schedule everything a long time ahead--air travel, rental car, and motel rooms.

## APRIL BIRTHSTONE: Diamond APRIL FLOWER: Sweet Pea

HAPPY APRIL BIRTHDAYS to:

12 Verna Giese  
18 Sharon Schwindt  
29 Karen Atwood  
29 Penny Hanson

(No April wedding anniversaries on record)



### SINGING SANDS

We have all heard songs that talk about the "singing sands." Well, some sand dunes do really sing. Many other types of sand formations can be musically expressive. Wherever sand formations exist, man has throughout time reported unusual sounds. Scientific studies have revealed two types of sounds--singing and booming. "Singing" sands are the most common and occur with well-sorted, highly symmetrical grains of sand.

Sound occurs when the sand is "mechanically sheared" by natural causes like the wind. The frequency of the sound is related to grain size and the volume of sound relates to grain structure and form. "Booming" sand is a desert phenomenon. This rare sound is found in quartz and carbonate sands in which the grains are well sorted. The magnification and compressibility of the grain system itself may be a clue to this unique occurrence. The sand produces a low frequency sound when it avalanches.

In Afghanistan, a sand dune reportedly booms a dozen times a year. In the Sinai Desert, a dune is said to boom like a pipe organ bass note--so low it can be felt. At the Sands of Yadila, a foghorn-like sound occurs that lasts up to two minutes. In Beirut, a sand drift sound resembles tambourine beating. Near the well of Birel-Abbas, the dunes sound like trumpets.

--Condensed from SHOWMISH ROKTAWK via OSAGE HILLS GEMS 2/95

AT THE MEETING, MARCH 5, 1994

The regular meeting of the CDGMS was held on March 5, 1995, at the Masonic Temple in Bismarck. President Ray Olinger presided. The meeting began after the Pledge of Allegiance.

Minutes from the Feb. meeting were approved as read. Bob Randall gave a treasurer's report in Neill Burnett's absence.

Hospitality Chairman Carol Hickle reported that Agnes Berg and Edna Musehund will be servers at the April meeting.

Show Chr. Rodney Hickle reported that seven dealers have signed contracts for our show in September.

Librarian/Historian Sue Randall mentioned that the club scrap book was at the meeting for all who wanted to look through it.

Ray Olinger read communications. He also mentioned that Gen Sibley Park Shelter #2 has been reserved for the club picnic on Aug. 6.

Pius Fischer is reported to be at Med Center One Rehab Center and would welcome visitors.

President Olinger announced the program for the April 6 meeting will be a video titled *The Recent Ice Age*.

The door count showed 21 adults and one junior present.

Names were drawn for door prizes.

Carol Hickle won a pin with an agate cabochon and Zach Nevland won some arrowheads for the junior door prize, (Congratulations. Eds.

The meeting adjourned.

The program was provided by John Hoganson, State Paleontologist, who presented a talk/slide show on the recent find and reconstruction of a *Champsosaurus gigas* skeleton.

After the program, lunch was served by Carol Hickle and Terry Ringland. --From notes

from Doug Hanson, Secretary □□

TUMBLING SOFTER STONES by Bill Horton  
From SCFMS NEWSLETTER via THE ROCK RATTLER 3/95

When tumbling softer, hard to polish material, don't start with the coarse grit. Start with the second grit, and go one grit finer than the #3 grit used on agates. In polishing, fill the tumbler 3/4 to 7/8 full so the stones will roll and not fall. This way you will not have the stones beating the polish off the eds. Also, cerium oxide will polish better than regular tumbler polishing agents. It does not take very much cerium to do this job, about half as much as the regular tumbler polish. □□

HELPFUL HINT

Trumming is an ancient method for bobbing and polishing delicate or intricate areas too small for hand polishing. A small nylon cord is held in a vise, and the other end is held in the hand, pulled tight and rubbed with an abrasive. The cord is then pulled through the opening in the design and pulled tight. Polishing is done by moving the work back and forth with pressure. Using tripoli on the cord does a fine job of polishing. --From CHIPS & TIPS

(n.d.) via WG&MS NEWSLETTER Feb/Mar 1995 □□

**FOR SALE**

**ROCK EQUIPMENT**  
**Saws, Polishers, Tumblers, etc.**

Clara Muggli - (701) 348-3897

Box 27, Glen Ullin, ND 58631

◆ A gentleman rockhound holds the door open for his wife while she carries in the rocks.

◆ CENTRAL PARK WILDERNESS AREA? Should New York's Central Park become an official U.S. Wilderness area? A California Congressman has, tongue in cheek, introduced a bill to do so. The Central Park area Congressman first introduced a bill to make 9,000,000 acres of Idaho a wilderness. --From Frank Monez, PLAC Chm., THE GEMROCK via OSAGE HILLS GEMS 2/95

From A.F.M.S. NEWSLETTER, March 1995:

## Save Our Fossils & Our Fossil Collectors

Support the *Paleontological Resources Preservation Act of 1995*

### FICTION and FACT

**Falsehood:** Fossils are rare.

**Fact:** Fossils, even vertebrate fossils, are abundant. Dr. Charles Love, geologist from Western Wyoming College says that "just one-half mile layer [of the Green River Formation] ... contained 12 billion fish [vertebrate fossils]. "That's enough" he said, "to give two [fossil fish] to every person on the planet." Or consider the 3,000 elephant (mammoth) skeletons per square mile estimated to lie under the State of Nebraska's soil by Dr. Michael Voorhies of the University of Nebraska's Department of Vertebrate Paleontology as quoted in a recent Cairo, Nebraska newspaper.

**Falsehood:** Public lands are "raped", "pillaged", "plundered" or "poached" of fossils by "greedy" amateur and commercial collectors.

**Fact:** Nearly all fossils once exposed are destroyed by the same forces of weathering (wind, rain, ice & sun) that expose them in the first place. Literally billions of fossils are destroyed by these forces every year. Any possible damage to or loss of fossils and collecting sites by careless, negligent or greedy collectors is miniscule compared to that done by mother nature herself.

**Falsehood:** Fossils can be protected for future generations by leaving them in the ground.

**Fact:** Fossils are only preserved for posterity if they are discovered and collected. Every possible eye and hand is needed to find and collect fossils if even a small percentage are to be saved for research and display.

**Falsehood:** If we limit the number of fossils collected then there will be more fossils available and museums will be able to afford them.

(cont., p.5)



**GIGANTOCERAS**—often found with a long living chamber intact. A large Nautiloid; some specimens measuring 40 cm/ across. From *MAAPS DIGEST* Volume 16, Number 78.

## Tribute to Beautiful Gems

by O'Neal & Mae Sanders  
*Rocket City Rocks & Gems, 4/88*

April's birthstone, the *diamond*, is the most coveted of all gems. This beautiful stone has many legends but the best known is *love*. Almost every woman wants the diamond for her engagement ring.

The diamond (*yahalo n*) was the sixth stone in Aaron's breastplate (Exodus 28:19). Aaron was the High Priest of Israel and he was instructed by God to wear the breastplate before the Lord. The 12 stones on the breastplate represented the 12 tribes of Israel.

The colorless transparent varieties of the diamond were known to the Greeks as *krystallos*, meaning "clear ice." It is from this word that our word, "crystal", is derived.

The composition of the diamond is pure carbon. It is a crystalline mass found as isometric crystals sometimes with tints of yellow, pink, brown, or black. Diamonds not of gem quality have important industrial uses as abrasives because they are tough. Their hardness is 10 on the Mohs scale - the greatest of all gems. The diamond does not cleave, it fractures in the conchoidal form, and it ranges from transparent to opaque. Its luster is vitreous both as a polished stone and as a broken fractured stone. The diamond crystal is a mineral composition of exquisite beauty and radiance.

As the American Beauty stands out among all other roses, so the diamond stands out among all other gemstones. Sometimes it is used in jewelry to complement other gemstones. Whether alone or with other stones, the radiance of the diamond commands attention and respect. It challenges the gem cutter to the highest level of professionalism. The structure and quality of this fine gemstone is unequalled. . . .

### Resources:

Gemstones of the Bible, Perkins  
The Holy Bible  
Edison's Encyclopedia  
Webster's Dictionary



(From EFMLS 1989 Trophy Award for best adult article.)





From A.F.M.S. NEWSLETTER, March 1995

### FOSSILS, cont'd 5

**Fact:** The recent proliferation of private, earth science supply houses is the direct result of the current demand for teaching, research and display specimens by high schools, universities and museums.

**Falsehood:** Only academic paleontologists in certain acceptable institutions can be trusted to "do" paleontology correctly.

**Fact:** Of the 18 skeletons of *Tyrannosaurus rex* collected to date, all but one were discovered by amateur or professional collectors. According to eminent paleontologist, Dr. Robert (Bob) Bakker, over 80% of all major paleontological discoveries are made by amateurs. Add the major discoveries made by private, professional paleontologists and the percentage of major paleontological discoveries by academic scientists becomes very small.

**Falsehood:** Paleontological resources (fossils) must be regulated the same way we regulate archeological resources.

**Fact:** Fossils (paleontological resources) are infinitely more abundant than the remains of human beings and their culture (archeological resources) because archeology is the study of the remains of only one specie (humans) and paleontology encompasses the study of the remains of all the billions of other animal and plant species that ever lived on earth.

A National Academy of Science three year study is the most comprehensive look at this issue and the conflicting views within the paleontological community to date, and the only one that involved virtually every affected group in gathering its data and arriving at its conclusions. The NAS 1987 committee report concluded that: "we

challenge the archeology-paleontology link and urge a different approach to the 'regulation' of fossil collecting... that would benefit the science", that "the role of the land manager should be to facilitate exploration for and collection of, paleontological materials," and that "paleontology is best served by unimpeded access to fossil(s)" on public lands.

In 1992, Senator Baucus (MT) introduced legislation that would ban all fossil collecting on public lands except by degreed academics and amateurs under their immediate supervision. Massive public protest killed the bill in committee.

As a direct result of the fears created by the introduction of the Baucus Bill, the American Lands Access Association (ALAA) was formed by the country's two largest amateur, fossil and mineral associations. In consultation with academic and private paleontologists, they authored *The Paleontological Resources Preservation Act*. This bill is faithful to the guidelines established by the NAS Committee on Paleontological Collecting. This legislation is now ready for simultaneous introduction in the U. S. House and Senate soon after the 104th Congress convenes.

CONTACT YOUR MEMBERS OF CONGRESS IMMEDIATELY WITH YOUR REQUEST THAT THEY SPONSOR AND SUPPORT THIS LEGISLATION and urge friends, family and colleagues to do the same. For copies of the bill, background material on this issue, and names of congressional sponsors contact Marion Zenker, ALAA Legislative Coordinator, c/o Black Hills Institute of Geological Research, Inc., P. O. Box 643, Hill City, South Dakota 57745. ♦



### HUMOR

An optimist is one who builds castles in the sky, a dreamer is one who lives in those castles, and a realist is one who collects rent from both of them.  
--From the TUMBLER via THE ROCK VEIN 3/95

## Life in the Cambrian

The Cambrian period of Paleozoic time saw the first significant diversification of life. Most life was in the ocean, as the fossil record does not show that it had evolved onto the land. Freshwater algae probably existed, but again the fossil record provides no clear evidence to this effect. What makes the diversification significant indeed even identifiable is that animals evolved hard parts, such as shells. Hard parts make the preservation of ancient life in the rock record possible. Certainly soft bodied, jellyfish-like animals existed even before Cambrian time, but their bodies were rarely preserved.

The first group of animals to appear with hard parts was named the Tommotian Fauna. This community of animals evolved in the first 15 million years of the period. Some of these animals were early mollusks and sponges, animals that today still live in the ocean. However, many of the fossils cannot be associated with any living group of animals. Tommotian animals were very small, usually no more than a few millimeters in length.

After the Tommotian Fauna, the community of animals known as the Cambrian Fauna appeared. Among these animals were trilobites. These animals were arthropods, having segmented bodies and appendages. They were bottom feeders, digesting the nutrient rich sediment on the sea floor. The Tommotian animals might also have been in their diet, during the early Cambrian. Along with the trilobites appeared double-valved brachiopods. These animals fed on nutrients suspended in the water. True mollusks also appeared now feeding on the sea floor. Both the mollusks and brachiopods had few representatives early in the Cambrian, but it was just the beginning.

Echinoderms appeared on the sea floor during this period as well. Today the echinoderms include such animals as the starfish, the sea cucumber, and the sea urchin.

None of the Cambrian echinoderms closely resembled their modern counterparts. Echinoderms are easily identified. Their bodies have five radially symmetrical parts, just like the five arms of a typical starfish. Some Cambrian forms fed on suspended nutrients while others burrowed into the sea floor.

Of special interest is the Middle Cambrian Burgess Shale. This unique formation lies in the Rocky Mountains of British Columbia. The environment the rock formed in is special in that there was no oxygen or predators to destroy soft tissues. Therefore, there are many animals preserved there. Many of these animals had soft bodies. Among them are six families of annelid worms which still live today, burrowing through sediment as they did well over 500 million years ago. Also in this formation is an impressive assortment of non-trilobite arthropods.

There were few predators present in Cambrian time. Some arthropods in the Burgess Shale formation were equipped with small pincers. Some trilobites had mouth parts specialized for killing and chewing small animals. Late in the period the nautiloid cephalopod appeared. Probably the most feared predator of the time. Even though they were only about 6 centimeters long they still must have been dangerous. These creatures are squid-like. They had tentacles to grab hold of prey and a beak to tear it to pieces. Entirely missing from the scene were large predators such as crabs or jawed fishes. They were a step in evolution that was yet to come.

Written by Christopher Peychal

References taken from: Exploring Earth and Life Through Time, by Steven M. Stanley

