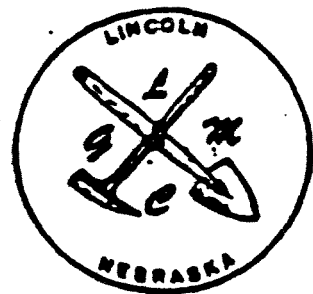


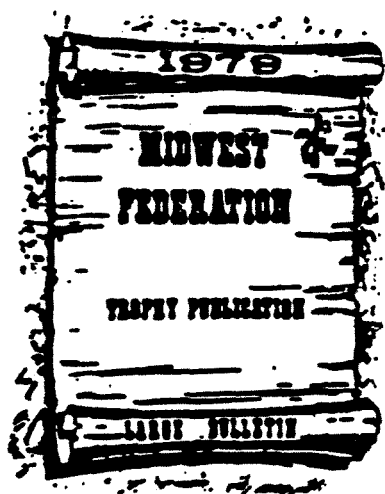
# THE PICK & SHOVEL



*March*  
1987

**In this issue.**

What Went Wrong?  
'Thank You' from Scott Rhen  
Letters From Friends  
GRAND CANYON OF THE COLORADO  
THE MONTEREY AQUARIUM  
SCHOLARSHIP RECIPIENTS  
Letters from Irl & Lois



OFFICIAL PUBLICATION OF

**Lincoln Gem and Mineral Club, Inc.**

P. O. Box 5342

Lincoln, Nebraska 68505

LINCOLN GEM AND MINERAL CLUB, INC.  
P.O. BOX 5342, LINCOLN, NE 68505-0342

The purpose of this corporation shall be to study, promote an interest in, and disseminate knowledge of lapidary and various earth sciences including but not necessarily limited to geology, paleontology, and mineralogy. It shall be a particular purpose of the corporation to provide education in these fields to its members and the general public, particularly youth and student groups.

MEMBER: American Federation of Mineralogical Societies (AFMS)  
Midwest Federation of Mineralogical and Geological Societies (MWF)  
Nebraska Association of Earth Science Clubs, Inc. (NAOESCI)  
Nebraska Academy of Sciences (NAS) (Life Membership)  
Friends of the Museum

Regular Meetings: 4th Saturday of the month, September thru May; 7:30 P.M.  
At Nebraska Center, 33rd & Holdrege

1987 ELECTED OFFICERS:

President.....	Kevin Schwartman	1134 West Avon Ln Lincoln, 68505	464-3059
1st Vice Pres.....	Janet Wright	3715 S. 33rd St. Lincoln, 68506	488-1884
2nd Vice Pres.....	Jim Parks	2435 S. 19th St. Lincoln, 68502	476-6798
Secretary.....	Vera Lyman	420 N. 56th St. Lincoln, 68504	464-6089
Treasurer.....	Phyllis Parks	2435 S. 19th St. Lincoln, 68502	476-6798
Board Member.....	Fred Holbert	2822 S. 13th St. Lincoln, 68502	423-5639
Board Member.....	Shirley Rockel	1134 West Avon Ln Lincoln, 68505	464-3059
Board Member.....	Tom Simmons	2970 South St. Lincoln, 68502	488-1619
Board Member.....	Marie Taylor	910 New Hampshire Lincoln, 68508	476-3707

NOMINATING COMMITTEE -- 3 years: Dave Heffelbower, Wm. Rockel  
2 years: Irl Everett, Claude Scott  
1 year: Vera Lyman, John Lewis  
Linda Parks, Chairperson

LONG RANGE PLANNING AND BY-LAWS COMMITTEE:

1 year - Jim Taylor, Irl Everett      3 years - Bob Wright, Linda Parks  
2 years - Claude Scott, Phyllis Parks      Linda Parks, Chairperson

STANDING COMMITTEE CHAIRPEOPLE:

Calling.....	Phyllis Parks	Membership.....	Shirley Rockel
Education.....	Roger Pabian	MWF Liaison.....	Marie Taylor
Field Trips.....		Programs.....	Janet Wright
Historian.....	John & Lillie Lewis	Scholarships.....	Marie Taylor
Hospitality.....	Ed Ridge	Xmas Party.....	Marie & Susan Taylor
Housing/Property.....	Claude Scott	1987 Rockhound/Yr....	Dave Heffelbower
Jr. Activities.....	Janet Wright	1987 Annual Show.....	Jim Marburger
Librarian.....	Jim Parks	1988 Annual Show.....	Roger Pabian

AUDITING COMMITTEE 1986.....Lois Hunt, Bruce Simon  
Shirley Rockel, Chairperson  
Phyllis Parks, Treasurer

PICK & SHOVEL STAFF:

Editors.....Board of Directors  
Co-ordinator...Vera Lyman, 420 N. 56 st. Lincoln, NE 68504 (NAOESCI Reporter)  
Circulation...Dave Heffelbower  
Rays of Sunshine..Gail Clare Scott  
Reporters....."CLUB MEMBERS"

DEADLINE: 1st of Month of Issue. Original articles may be reprinted if credit is given the author and THE PICK & SHOVEL and a copy of the publication is sent to the Editor.

MARCH						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

CALENDAR PAGE

MARCH MEETING: None!! 29th Annual Show March 28, 29.  
 Show set up - Friday March 27, 8 AM till done.  
 Any displays, help, and encouragement will be appreciated. Coffee and----will be furnished on Friday.

YOUTH: You will be contacted by your leader.

APRIL BOARD MEETING: Monday, April 6, 1987 7:30 P.M.  
 American Charter, 4000 So. 27th St.

APRIL MEETING: Saturday, April 25, 1987 7:30 P.M.  
 NE Center - Beatrice Rm.  
 Interesting Program being planned

MEMBERS: These persons are asking to be reinstated for 1987 so please add their names, addresses and phone numbers to your new Blue Book.

James Null 6515 Fremont St. 68507 467-2763	Mike Smith Rural Route 1, Bennet, NE 68317 782-8708 (no toll)
--	---

SHOWS & SWAPS FOR YOUR NEW CALENDAR

March 28-29 OUR SHOW Lincoln, Nebraska, Agriculture Hall, State Fairpark

April 24-26 SHOW Hastings, Nebraska, Central Nebr.Gem & Mineral Club

April 25-26 SHOW Cincinnati, Ohio, Cincinnati Mineral Society

June 11-14 NATIONAL SHOW Oklahoma City, Oklahoma; Rocky Mt.Federation and AFMS combined show and convention

June 25-28 M W F SHOW Dearborn, Michigan, Midwest Mineralogical & Lapidary Society-Host

July 18-19 SHOW Columbus, Nebr., Loup Valley Gem & Mineral Club

Sept. 19-20 SHOW Kimball, Nebr., Plains Rock & Mineral Club

Sept. 25-27 STATE SHOW Ogallala, Nebr., Prairie Rockhounds Club- Host

Oct. 10-11 SHOW Omaha, Nebr., Nebraska Mineral & Gem Club

Oct. 17-18 SHOW Grand Island, Nebr., G I Earth Science Club

Please refer to your December 1986 Gem Palette for other Nebraska listings

WATCH FOR JAN WRIGHT ON THE MORNING SHOW, MARCH 24TH AFTER 7:30 A.M.

# Regional Show Schedule 1987 AND 1988

1987

CALIFORNIA	EASTERN	MIDWEST	NORTHWEST	ROCKY MOUNTAIN	SOUTH CENTRAL
Turlock, CA June 26-28	Greenville, SC July 31-Aug.2	Dearborn, MI June 25-28	Puyallup, WA Aug. 7-9	Oklahoma Cty, June 11-14	Austin, TX Nov. 20-22

1988

Costa Mesa, CA Aug. 26-28		Macomb, IL July 14-17	Kennewick, WA Sept. 9-11	Bismark, ND June 17-19	Shreveport, LA Aug. 11-14
------------------------------	--	--------------------------	-----------------------------	---------------------------	------------------------------

PRESIDENT'S MESSAGE

Hello again friends and fellow rockhounds,

As all of you know, it's nearly showtime again. This year's theme is "A Circus of Gems", so we expect a lot of very colorful displays at the show. The Show Committee has worked hard to make this show a success. We have lined up both new and old dealers, some very good special displays, demonstrators, and speakers. We will also have a drawing again this year.

One of the most important parts of the show will be the members' private displays. So dig out that special display that you have been hiding all these years and bring it to the 1987-Circus of Gems. We also need people to work during the show, so let Phyllis Parks or Jim Marburger know when you would be able to work.

Pray for good weather and we'll see you at the show!

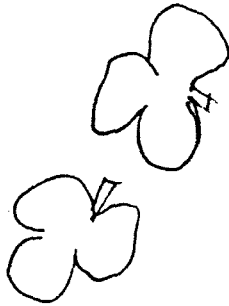
Kevin J. Schwartzman

P.S. Don't forget to reserve a ticket for the club breakfast Saturday morning of the show.

KS

\* \* \* \* \*

The Juniors will run a booth at the Show. We will sell grab-bags and provide a game for youngsters coming to the Show too. Hope to see each of you Juniors there to help at the booth. Each Junior needs to bring a display for our booth. (Call me if you need help) Jan (488-1884)



What Went Wrong?

This is the story of four people. Everybody, Somebody, Anybody and Nobody.

There was an important job to be done and Everybody was sure that Somebody would do it.

Anybody could have done it but Nobody did it.

Somebody got angry because it was Everybody's job.

Everybody thought that Somebody would do it.

But Nobody asked Anybody.

It ended up that the job wasn't done and Everybody blamed Everybody, when actually Nobody asked Anybody.

All Irish and "pseudo" Irish will want to receive their irish blessing.

May the road rise to meet you  
May the wind be always at your back  
May the sun shine warm upon your face  
The rain fall soft upon your fields  
And until we meet again, may God  
Hold you in the palm of His hand.

*JCS*

Myrtle and J.D. Young have been under the weather lately. J.D. still has not recovered from his fall; his mouth has been very slow in healing, and as a result, no new dentures yet. Myrtle has been suffering from a allergy problem which causes redness and severe itching to her hands.

And Florence Lueninghoener is recovering from minor surgery.

We wish you all "speedy - good health"!

\* \* \* \* \*

Mrs. Howard J. Taylor  
Lincoln Gem & Mineral Club  
P.O. Box 5342 Lincoln, NE 68505

Dear Mrs. Taylor,

I would like to thank you and all the Lincoln Gem and Mineral Club members for selecting me as one of the recipients of your scholarship awards. The money will be very useful in helping me to finish my master's thesis by covering the costs of petrographic studies, chemical analysis, and other related work. The financial support is greatly appreciated. Thank you.

Sincerely,

*Scott Rhen*

P.S. I'm looking forward to attending the Gem & Mineral Show again this spring.

LETTERS FROM FRIENDS

Tempe AZ. Jan. 19, 1987

The enclosed check is for membership dues for Ralph and Rosa Lee Ulrich, Year 1987.

Rosa Lee will retire from her job as Senior Secretary for the Transponder section at Motorola on February first, after much urging from me. We then hope to travel and visit much more than in the past.

Weather has been cool here, down to 27° last night. Trouble is when it gets cold here you can not move to a warmer climate. But we enjoy the sunshine. Went to the "ROCKAZONA" yesterday but didn't see many people we knew.

Love and Greetings,  
Ralph

\* \* \* \* \*

January 26, 1987

Dear Fellow Club Members,

Happy New Year! I certainly hope this letter finds everyone in good health and doing what they like best. I hear the weather's been pretty descent in Lincoln so far this winter. We've had our share of snow here in Golden so far this year, but it's finally starting to melt (like it's supposed to).

I haven't had much time for cross country skiing lately since I've been pretty busy with work. I've been doing field work in western Nebraska (drilling and installing ground water monitoring wells).

Today I started a new job with a consulting/engineering firm here in Denver as a hydrogeologist; - so far so good! I hope to be working predominantly in the Denver area.

All for now.

Your friend, Lee

\* \* \* \* \*

1-25-87

Enclosed find a check to cover my 1987 dues. The Pick & Shovel is my link to Lincoln, Wish I could make the show this year. However, thin don't look very promising for getting away. Hope everyone in the club stays well and has a properous 1987.

Sincerely,

Ray Lambert

LINCOLN GEM & MINERAL CLUB, INC. - BOARD OF DIRECTORS - Feb. 3, 1987

Anderson Library, Fremont at Touzalin Ave., 7:00 P.M.

7 Board members present; Janet Wright & Tom Simmons absent.

Minutes of the January Meeting were read. Motion for approval by Marie Taylor, 2nd by Fred Holbert. Carried.

Treasurer's report was read. Motion for approval by Fred Holbert, 2nd by Shirley Rockel. Carried.

New Certificate of Deposit at First Federal (\$ 5,000) renewed for 60 months. (1-8-87 to 1-8-92). Interest will go to Money Market account every 6 months. Motion for approval by Fred Holbert, 2nd by Marie Taylor. Carried.

BILLS: Paid but presented for approval:

- \$ 13.59 Vera Lyman - Copies
- 33.00 Security Storage - Feb.
- 29.45 United Typewriter - Repair of stapler
- 25.00 Vera Lyman - 32nd Anniversary Cake at Jan Meeting
- 104.00 NAOESCI - Gem Palette Subscriptions
- 44.79 UNL - Printing - Jan. P & S
- 10.00 Memorial for Richard Miller
- 13.64 Shirley Rockel - Swap supplies

NEW BUSINESS:

A special Thank You form Nelia Miller and son for Memorial Gift.

SCHOLARSHIP:

Chairperson, Marie Taylor reported recipients had been chosen. They are Glenn G. Stracher and Scott J. Rhen. Awards will be granted at Feb. Gen. Meeting.

MEMBERSHIP:

- Francis Belohlavy, 813 E. Benton O'neill NE 68763 (308) 346-5393
- Gerald Moore, 2305 S. 35th St. Lincoln, NE 68506 489-4184
- & Sons - Matthew & Kenneth

Motion for approval by Phyllis Parks, 2nd by Shirey Rockel. Carried.

Next Board Meeting will be held on March 3, at 7:30 P.M. Location to be announced.

Respectfully submitted,

*Vera Lyman*  
Vera Lyman, Secretary

LGMC Treasurer's Report for January 1987

NBC Checking 12-31-86 \$ 250.13  
 new checks per 86 closing 12.72  
 NBC Checking 1-1-87 237.41

Receipts: 1987 Membership Dues 154.00  
 '87 Show Dealer Space 225.00  
 Junior Fund-Grab Bags 9.75  
 Swapper Bucks (10%) 6.38  
 Silent Auctions 66.60 (plus 5.00 to come)  
461.73

Accounts Paid: Page Trophy-Pres.& Rockhound plaques 85.07  
 M.W.Federation Membership Dues 47.50  
 Nebr.Assn.Earth Science Clubs Dues 31.85  
 United Typewriter-repair stapler 29.45  
 Memorial for Richard Miller 10.00  
 Swap Expense for January 13.64  
 Anniversary cake for January meeting 25.00  
 Storage warehouse February 33.00  
 U.N.L. Printing/Dupl. Jan.P & S 44.79  
320.30

LINCOLN GEM & MINERAL CLUB, INC. - GENERAL MEETING - Feb. 28, 1987

NE Center - Norfolk Rm. - 7:30 P.M. "SCHOLARSHIP AWARDS NIGHT"

Minutes of the Jan. Meeting approved as printed with motion by Adeline Nolde, 2nd by Marie Taylor. Carried.

Treasurer's report was read. Motion for approval by Fred Holbert; 2nd by Tom Simmons. Carried.

31 Members, 2 Juniors, and 13 guests were present.

OLD BUSINESS:

Request all material for P & S to Vera by Tues. evening Board Meeting.

NEW BUSINESS:

WHO'S WHO for 1987 are available for members.

SHOW REPORT: Jim Marburger, Chairman - Theme "Circus of Gems"

Dates: March 28 & 29 Set-up on March 27

Sign-up sheets available for numerous jobs.

Breakfast - Sat. March 28, 8:00 A.M. \$ 5.46 per person. If you have not signed up, please call Phyllis (before Thur. March 26).

Dealer Chairman: Jim Parks - 12 dealers - numerous demonstrators.

Special Feature: Kevin Schwartman - Award-winning Scrimshaw - Connie McCartney NAOESCI State Case, Munn Family Sapphires, Fossil Prep by UNL student, Artifacts display - Jim Grapes, Museum dredging project.

Floor Chairman: John Harrison - Change in Floor Plan, lots of jobs, need lots of helpers. Begin at 8:00 A.M. on Fri. Asked each about footage for display.

Raffle: Claude Scott - Details to be worked out.

Publicity: Jan Wright - Color posters & deliver to stores.

Shop: Roger Pabian - Saws, grinders, facetors, genies, tumblers etc.

Sales: Phyllis Parks - Needs help selling & taking tickets.

ANNOUNCEMENTS:

Marie Wells reported for Friends of Museum. Asked each to support Bill #218 for Legislature; needs to be passed for Climate Control Project at Morrill Hall - to preserve displays in museum which are deteriorating.

Meeting adjourned.

SCHOLARSHIPS:

Chairperson Marie Taylor presented the \$ 150.00 awards to Scott Rhen and Glenn Stracher. They are 2 students from U.N. studying in the Geology field.

(See detailed report of their studies on p. 10 of this issue)

Respectfully submitted,

Vera Lyman, Secretary

LGMC Treasurer's Report February 1987

NBC Checking 1-31-87 \$ 378.84

Receipts:	1987 Membership Dues (1 Jr.)	1.00	
	'87 Show Dealer Space	<u>225.00</u>	226.00

Accounts Paid:

Friends of the Museum	50.00	
NAOESCI Gem Palette Subs (52)	104.00	
Nebr.Center-Jan.Swap & Meeting	116.74	
Postmaster-500 precancelled stamp	62.50	
'87 Show Flier/Invitation-NAOESCI	30.86	
Printing Feb. P & S	46.79	
Misc. copies/secretary	13.59	
Storage rent March	<u>33.00</u>	457.48

NBC Checking 2-28-87

\$ 147.36

## GRAND CANYON OF THE COLORADO

The Colorado River and its tributaries have many canyons. The one called "Grand" is the last before it finishes its dramatic course and empties into the long Gulf of California. That narrow gulf separates the nearly 1,000 mile stretch of rather desolate, sparsely peopled land, - Baja (lower) California, from Mexico's mainland.

The Grand Canyon is "One of the most formidable barriers on Earth"! Even small birds hesitate to fly over its mile deep layer of air. They make the journey in brief flights, down one side of the canyon walls, after which they cross the river and continue up the other side by short flights.

Indian Grand Canyon dwellers told the early white travelers attempting to "run the canyon": "Water heap much catch 'em", but the white men kept on trying.

The earliest Europeans to visit the Canyon were Spaniards, in 1540. From the time of these Conquistadors until 1869, the Grand Canyon had been given little attention by gold seekers and other pioneers. Even the faithful Padres had neglected to save the Native American souls still hardy enough to survive the meager existence of the Canyon. Adventurers had passed it by as "bad medicine".

In May, 1869, Major John Wesley Powell, veteran of the Civil War - (in which he lost his right arm at the shoulder) led a party of less than a dozen men, in four strong, open boats, down the Green River, and the Colorado, and through the Grand Canyon.

The lack of modern instruments, coupled with the ability of the men to negotiate the many rapids, and rough stream places, makes a thrilling true story. For example: Altitudes and air pressures, and weather, generally, were quite accurately determined with bulky, mercury barometers; some of which were lost or broken when the boats capsized. (Aneroid barometers were not yet common equipment.)

Regular carpenters tools helped in making boat repairs. Chronometers measured accurate time. The equipment was well distributed among the four boats in case of individual loss. It was a well planned exploration. Two of the four boats were 21 feet long and had watertight cabins, fore and aft, to protect valuable equipment and the party's observation data and their travel journals.

the one-armed Major Powell rode high in the leading boat, for, despite of his Civil War injury, he was no weakling. I am quoting some facts from a 1957 reprint (abridged edition) of the first voyage in 1869, published by the University of Chicago Press.

Those natural forces have been slowly at work for multimillions of years. Internal pressures from earth have caused rising strata which are then eroded by the running water of the Colorado. This

- continued

## GRAND CANYON OF THE COLORADO - continued

has been able to prevent the river from damming up and forming a lake. There is geological evidence that the stream may have temporarily diverted from emptying into the Pacific Ocean or the Atlantic. Geologists have made careful studies of all of the pertaining facts. The river has cut down through part of the Pre-Cambrian rocks, which apparently had been elevated by internal force.

Modern tourists are provided with all necessary needs; no matter which Rim they visit in summertime, but North Rim is closed in winter. Its altitude is about 1,000 feet higher than the South Rim. Many tourists never get to the North Rim; and they do not stay long enough to see many features. One attraction we did not indulge in was the mule ride to the bottom of the canyon and back. There is a weight limit to "do this one" and I am sure that I would have been too heavy then! People should not attempt to hike it either, unless fit for it in every way. Son Don and I were content with our cameras, both motion and still life. (Take a long range telephoto lens along). The scenery is beautiful, and the river looks "puny" from the more than a mile distance, most of which is vertical.

The canyon impresses visitors in various ways. Some feel its grandeur, some fear its vastness. Perhaps it speaks to us in terms of our own experience. And so it was with the cowboy who peered over the rim and saw the labyrinth of jagged pinnacles far, far below, and exclaimed; "What a 'hell of a' place to lose a cow!"

Pardon the use of that old one, but I could not resist the opportunity!

- Submitted by J.D. Young

\* \* \* \* \*

If Dogmatic refers to someone who is rigid and unyielding, then Catamatic should denote one who pussy foots around.

from Chip & Lick, Jan. '87

WEDDING VOW FOR ROCKHOUNDS - by Evelyn Adams in Chip & Lick, 1/87

I hereby promise to face sunburn, broken nails, aching back, wear ill-fitting clothes, get wet, brave the cold, damp, snakes, bugs, mosquitoes, carry a heavy sack full of rocks long distances, eat mashed sandwiches, drink cold coffee and smile at the end of the day and say "Gee! wasn't that fun, I can't wait until our next rock hunt!".

HOW DID THEY DO IT?

The Chinese had eyeglasses 2500 years ago. They ground the lenses from quartz, topaz, amethyst or smoked glass. The later were worn by judges who reasoned that dark glasses consealed their thoughts from defendents.

from Mineral Memo's

## THE MONTEREY AQUARIUM

Off the coast of Monterey, California, lies a submarine canyon so large and deep that it rivals the Grand Canyon of Arizona. It is not so long as the Grand Canyon, but sixty miles out to sea the bottom of its trough is nearly two miles deep. Probably some ancient river flowing into the Pacific twenty to thirty million years ago carved the Monterey Canyon when the land was higher or the sea deeper, or both. In the last three to five million years, this undersea gorge has been filled several times with sand and silt and then re-excavated by underwater rivers. For all these millions of years cold, nutrient-rich water has been welling up from the chasm, nourishing the plankton that is the basic source of food for all the other animals of the sea.

The topography of its ocean floor, together with its latitude, give Monterey Bay a unique advantage. The plants and animals to which it is home include the northernmost of the southern species and the southernmost of the northern species. No other location along the entire shoreline has access to such wide diversification as is available to the Monterey Aquarium.

The Monterey Aquarium is the nation's largest aquarium. It was opened October 20, 1984, at the site of the Hovden Cannery, the largest fish cannery in Cannery Row. Cannery Row itself, immortalized by John Steinbeck in his 1945 novel by that name, has had an interesting history. As settlers came to the West Coast, fishermen of many nationalities hunted for whales, otters, abalone, and squid. Then the Sicilian fishermen came with a new type of net, and the "silver harvest" of the sardine years began. In 1916 three canneries canned 3,000 tons of sardines. In the peak year of 1945, 235,000 tons were processed. Then the harvest of the tiny pilchard failed to virtually nothing by 1952. The Hovden Cannery, opened in 1914, canned its last fish in 1972. Now, because of the efforts of several biologists at Stanford University's Hopkins Marine Station next door, the oldest cannery in Cannery Row has become the nation's finest aquarium. One of the characters in Steinbeck's novel, Doc, was reportedly modeled on the marine biologist, Edward F. Ricketts (1896-1948), who unsuccessfully warned of the dangers of overfishing and to whom prominent tribute is paid in the Aquarium.

Any description of the Monterey Aquarium will be totally inadequate. An afternoon spent there only whets one's appetite for more. The galleries and exhibits explore the facts, myths, and mysteries of the bay on which it is situated. More than 5,000 marine creatures, representing nearly 375 species, live and thrive in the fresh sea water continuously pumped in from the bay.

The diversity of form, color, and locomotion of the many sea animals is amazing--from the flower-shaped sea anemones to the varied shellfish, the snake-like eels, the cucumber-shaped sea cucumbers, the prehistoric-looking wolf-eel, and the brilliantly colored fishes. The exhibits are grouped according to their habitats: inside the kelp forest, along the deep reefs, on the sandy seafloor, in the shale reefs, through the open sea, under the wharf, from slough to sandy shore, on the rocky shores, seals on land and sea, whales in the bay, sea otters along the coast.

The kelp forest exhibit is the most spectacular and is the inspiration for the Monterey Aquarium logo. The giant kelp of the Pacific West Coast grows as much as a foot a day, usually in depths of water 20 to 60 feet. The food and shelter it provides is vital to the rich marine life that inhabits it. It needs no roots to take in nutrients, as its fronds are continuously bathed in nutrient-rich waters. A tangled growth known as a holdfast anchors each kelp plant to the rocky ocean bottom. The fronds are held upright by air-filled bladders. Through the transparent sides of the 40-or-so foot high kelp forest tank in the Aquarium visitors can watch the fish and other sea animals conducting their daily routine of living at the various depths to which they are adapted. The warmer Atlantic coastal areas produce no such great kelp beds as these. A persistent rise in ocean temperature of only a few degrees could cause the loss of these highly productive ocean communities.

Smaller exhibits, each mimicking the natural habitat, display the smaller animals. It was a surprise to see a bubble-housed seabed populated by hundreds of sand dollars standing on edge, their usual position in gentle currents. Another display of breath-taking beauty was filled with almost transparent pink Aurelia jellyfish gently pulsing through the water at eye level. Aurelia jellyfish are usually colorless, but these were a delicate pink. Those I had seen off the shores of Okinawa were clear with blue body parts.

One of the most eye-catching tanks held a huge school of shimmering, silvery mackerel, swimming rapidly and wheeling almost as a single unit to reverse direction. In the sea they swim together to provide protection. In the aquarium tank the sharks that would normally prey on them are too well fed to bother, but the mackerel still swim as a school.

The open sea is represented by a ninety-foot long hourglass-shaped tank with turnarounds at each end, because research has shown that sharks in circular tanks expend too much energy navigating the curves. Here were seven-gill sharks with a single dorsal fin (a remnant of the past. Less primitive sharks have two dorsal fins and five gills), thresher sharks, leopard sharks, and others. Sharks have had a bad press. Only five of the 350 species of sharks are truly dangerous.

In the Aquarium lifesized models of whales and dolphins hang overhead, representing the marine animals that pass through the bay. The most beautiful of these are the black and white orcas, the so-called killer whales, the largest member of the dolphin family. Harbor seals and sea lions do not live in the Aquarium itself but swim in the bay just outside or sun themselves on the rocks nearby.

I could happily have spent the entire afternoon watching the sea otters in their two-story-high tank as they roll and somersault, dive, romp, tumble, chase, and wrestle. Living in cold water as they do, they must eat nearly a quarter of their weight in shellfish, sea urchins and such every day. Their soft, dense fur, averaging 300,000 hairs per square inch, helps to keep them warm; but it must be constantly groomed to keep it clean and fluffy so that it will be waterproof. One shudders at the toll an oil slick off the coast would take of the sea otters in the wild. In the tank they flash back and forth within inches of your nose and look at you as inquisitively as you look at them. Of all the creatures in the Aquarium, the sea otters undoubtedly elicit the most affection.

Children and grownups alike enjoy the Touch Pool, a sort of aquatic Encounter Center where starfish, clams and other shellfish, all manner of the more rugged species of tide pool life, can actually be experienced firsthand. floating magnifiers reveal feather-duster worms and others of the more delicate species. Specimens that are both harmless and unlikely to be harmed have been selected for stocking the pool. The inhabitants are rotated to preserve their health.

An aquarium like this one could only be developed in a high technology age. The vast network of pumps, pipes, and valves is run from a control room. The fresh sea water from the bay, pumped in at more than two thousand gallons per minute, runs through huge pressure sand filters during the day to clarify the bay's cloudy waters for the visitors' viewing. Then for a few hours each night unfiltered water is pumped in to feed those creatures that filter food from it. Other sea animals--the otters, the kelp forest dwellers, the Monterey Bay inhabitants--are fed on regular schedules, to the delight of the viewers.

Monterey Bay has long been special to me. A dozen years ago, when the space between Cannery Row and the Hopkins Marine Station was largely open shore and wharf, I was privileged to experience one of those magic moments that last a lifetime. Walking along toward some seals sunning themselves farther on, I happened to glance down through some broken boards on the wharf. There, amidst the dark, murky, debris-laden waters between the pilings under the wharf, was a glorious sight such as I had never seen before: a delicate, pristine white dome shape with an artistic pattern of purple segments and spots. It was about the size of a small bushel basket. I was later to learn that it was a Pelagiatic jellyfish, the kind that drifts with the current through the open sea. The contrast between its serene beauty and its unlikely surroundings has provided many a moment of contemplation.

Our wonderful experience at the Monterey Aquarium was fittingly climaxed by a visit to the Lone Cypress, one of the most famous trees in the world, about midway along the 17-Mile Drive around the Monterey Peninsula. Unfortunately this symbol of persistence, pride, and courage has been badly attacked by vandals in recent years. Guy wires now steady it against the fierce Pacific storms. It seems to be growing older like the rest of us. But as we watched the brilliant sunset fading behind its black silhouette, it brought to mind the closing lines of Tennyson's Ulysses:

"Old age hath yet his honor and his toil;  
Death closes all. But something ere the end,  
Some work of noble note, may yet be done,  
Not unbecoming men that strove with gods.  
The light begins to twinkle from the rocks;  
The long day wanes; the slow moon climbs; the deep  
Moans round with many voices. Come, my friends,  
'Tis not too late to seek a newer world.  
Push off, and sitting well in order smite  
The sounding furrows; for my purpose holds  
To sail beyond the sunset, and the baths  
Of all the western stars, until I die.  
It may be that the gulfs will wash us down.  
It may be we shall touch the Happy Isles,  
And see the great Achilles, whom we knew.

Though much is taken, much abides; and though  
 We are not now that strength which in old days  
 Moved earth and heaven, that which we are, we are;  
 One equal temper of heroic hearts,  
 Made weak by time and fate, but strong in will  
 To strive, to seek, to find, and not to yield."

--Florence (Boring) Lueninghoener

\* \* \* \* \*

SCHOLARSHIPS

Scott and Glenn are our new scholarship recipients.

Scott Rhen is working on the mineralogy of an igneous intrusive body in Nevada near the UNL field camp area. Scott is a masters student. His slides showed pictures of rock thin sections as well as his study area.

Glenn Stracher is working on metamorphic mineralogies and structures in New York State. He says that one of the predominate structural styles in his study area is slicing which then causes folding of the rock.

Jim and Don received our scholarships last year. They came to our meeting to report on their progress.

Jim Borovich has looked for crinoids from Nebraska, Kansas and Oklahoma to study evolution. He also studied the growth of juvenile trilobites and showed some nice scanning electromicroscope pictures of these trilobites.

Don Shields has looked for fossils in Nebraska and Kansas limestone and shale units in the eastern portions of both states. He has found only a few fossils at this time but he has looked at the rock layers and described and compared them to cyclothems proposed by previous workers.

\* \* \* \* \*

FALSE IVORY

Use beef bones for ivory. Don't cook the bone; clean them off as best you can. Take a large measure of laundry borax and dissolve it in water. Heat it to a warm temperature, but do not boil it. Put the bones in the borax and soak for three weeks or longer. Wash them thoroughly; let them dry in the sun for several days. Then you can carve, shape or drill and polish the bone as you would stone for a cabachon. The material can be worked much more easily than stone can. Cut round leg bones into squares, drill holes in the sides, and you will have links for a bracelet.

you don't need expensive tools. Any household tool will do the job. Files can be used. A hacksaw and pocket knife can be used. Sandpaper can be used to smooth the surfaces and steel wool to finish. With a Dremel tool, you can carve flowers or animals in the material. Soak it in strong coffee and you will have "Mastodon" ivory. The carved area turns darker than the rest and stands out beautifully.

via Arc Chatter/The boondocker 1/87 from Mineral Memo's



# Everett Lapidary Shop

THE CAPITOL CITY'S FIRST ROCK SHOP

2941 North 65th • Lincoln, Nebraska 68507 • Phone: (402) 466-6204

2/17/87

HI L.G.&M.C.I.:

I THOUGHT I HAD BETTER DROP YOU ALL A NOTE AND LET YOU KNOW WE ARE DOING O.K. DOWN HERE. WE CAN'T USE THE EXCUSE OF THE WEATHER FOR LEAVING LINCOLN. WE WATCH THEIR WEATHER REPORT AND FIND THAT IT HAS BEEN A MILD WINTER UP NORTH, SO F.R. ANYWAY.

WE DID OUR GEM SHOW HERE IN JANUARY AND SINCE THEN WE HAVE DONE TWO OR THREE FLEA MARKET TYPE SHOWS. THERE IS A REAL ACTIVE CLUB CLOSE BY AND THEY GO OUT ROCK HUNTING EVERY WEEK OR SO.

I KNOW SOME OF YOU FOLKS KNOW DON & MAUDIE GLESS BUT ALSO WE HAVE ANOTHER COUPLE IN OUR COURT THAT ARE FROM EREMONT TO. THEIR NAME IS RALPH & RUTH KNUDSEN. WELL THEY & THE GLESS'S HAVE BEEN OUT A FEW TIMES ROCK HUNTING AND SO FAR THEY HAVE FOUND SOME REAL NICE "RIO GRANDE" AGATES. IN FACT BOTH DON & RALPH HAVE FOUND A FEW "FAIRBURN" TYPE AGATES. ALSO RIGHT HERE IN OUR COURT WE HAVE ALL # FOUND SOME SMALL BUT PRETTY LITTLE AGATES, JUD, PALM & JASPER STONES. WE ARE ALL BRINGING BACK SOME THAT WE WANT TO TUMBLE POLISH AS THEY ARE VERY PRETTY LOOKING. THERE IS A BIG GRAVEL PIT THAT THE CLUB GOES TO. I HAVE NOT BEEN THERE AS MY OLE LEGS WILL NOT DO A LOT OF WALKING FOR ME.

WHEN WE CAME DOWN HERE THE RATE OF EXCHANGE ON THE PESO WAS 850 TO \$1.00 ITS NOW 1000 TO \$1.00. ALSO THE INFLATION RATE IS 100% AND UNEMPLOYMENT IS 40 to 60 %. THERE IS NO WELFARE, NOW UNEMPLOYMENT INSURENCE...NO FOOD STAMPS. SO EVERY ONE HAS TO TRY AND DO SOMETHING TO MAKE A FEW PESO'S. ITS A SAD STATE OF AFFAIR'S FOR SURE.

WELL GOT TO CLOSE AS MY TWO INDEX FINGER'S ARE GETTING SORE FRO THIS TYPING. WE WILL SEE YOU ALL IN THE SPRING. THE STATE SWAP I SEE IS JUNE 13 & 14 AT SCHUZLER SO WE SHOULD ALL TRY AND GET UP THERE FOR THIS, AS THE LOUP VALLEY GEM & MINERAL CLUB IS SPONSORING IT AND WE SHOULD SHOW THEM SOME SUPPORT ON THIS...

ROCKSPECTFULLY  
EV & LOIS.



# Everett Lapidary Shop

THE CAPITOL CITY'S FIRST ROCK SHOP

2941 North 65th • Lincoln, Nebraska 68507 • Phone: (402) 466-6204

2/17187

HI JIM:::

WELL AFTER A LOT OF THOUGHT I HAVE DECIDED TO DO ONE MORE SHOW BEFORE IT IS ALL OVER SO I AM WRITING TO APPLY FOR SPACE AT THE 1988 L.G.&.M.C.I. SHOW.

I REALIZE YOU MIGHT NOT OR YOU MIGHT BE THE DEALER CHAIRMAN SO EITHER WAY I WANT TO LET YOU OR WHO EVER OF MY DESIRES.

AS THIS 1988 SHOW WILL BE THE 30th FOR THE CLUB I FEEL THIS WOULD BE A REAL NICE WAY TO REALLY OIUT THE SHOW SIRCUIT.

SO IF YOU WILL FILE THIS LETTER FOR THE NEXT DEALER CHAIRMAN WHO EVER IT MIGHT BE, SO THAT I WILL BE CONSIDERED.

WHEN THE DATES OF THE 1988 SHOW ARE SET AND READY I WOULD LIKE TO KNOW SO I CAN BE PLAN ON COMING BACK TO DO IT.

THANK YOU IN ADVANCE, AND I KNOW THAT YOU WILL HAVE A GOOD SHOW THIS YEAR.

ROCKSPECTFULLY

"EV"

A large, stylized handwritten signature in black ink, appearing to read 'L. Everett'.

## MORE ON BABY TRILOBITES

At the February meeting, LG&MC members and guests got a chance to see for the first time outside of a geology seminar, slides of scanning electron microscope photographs of larval trilobites of late Pennsylvanian age. These are quite rare little fossils. Most of the specimens were collected from Texas and Oklahoma by Royal Mapes of Ohio University, Athens, Ohio. I have collected a few such specimens from Kansas and Nebraska. Larval trilobites are not unique to Pennsylvanian age rocks. Many have been reported from much older rocks. If you see slabs of the middle Cambrian trilobite Elrathia kingi at gem and mineral shows or in shops, you will often observe small black specks on the slab of host rock. Magnification will often show that these are indeed baby trilobites.

Trilobites are a Subphylum in the Phylum Arthropoda, the joint legged animals. Arthropods are characterized by moulting their exoskeletons (shells) as they grow. The arthropod simply sheds its outer body, grows some, and then secretes itself a new exoskeleton. Most arthropods begin life by being hatched from an egg; modern marine arthropods often carry clutches of eggs on their undersides or lay clutches of eggs in sheltered places. There have been found little clumps of spherulitic bodies in the fossil record that have been hypothesized to be trilobite eggs. They may or may not be.

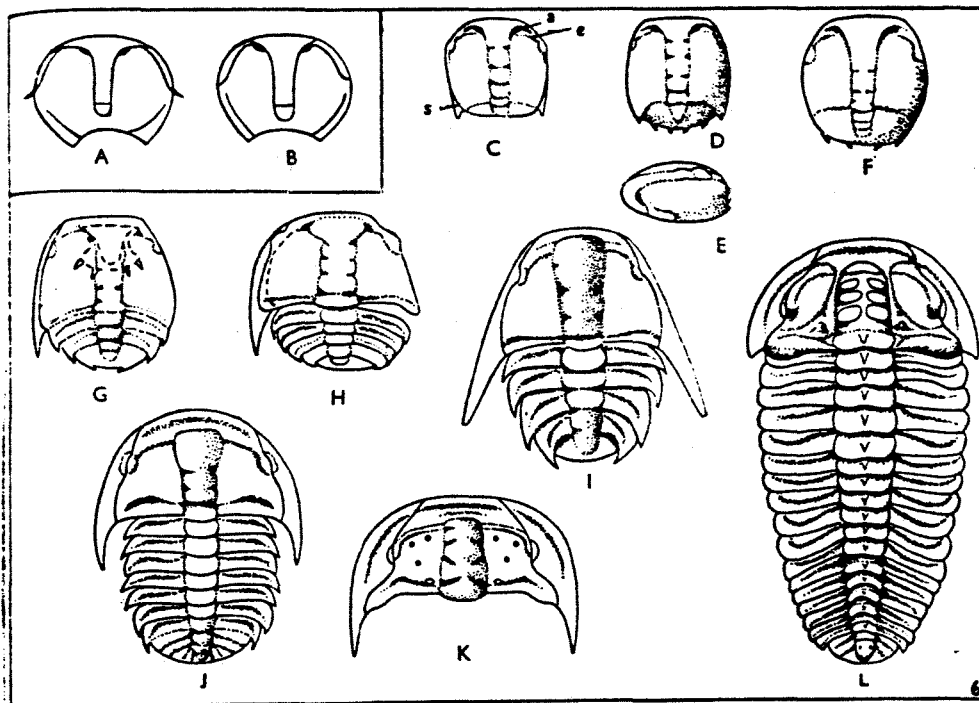
What is known, however, is that there are baby trilobites that appear to be newly hatched from an egg; they are very tiny and may require 30 or 40 magnifications to be seen. In addition to having three lobes, the trilobite has three main structural elements which are, from anterior to posterior, the cephalon (head) made up of several fused segments; a movable thorax made up of one or more moveable segments; and a pygidium (tail) made up of a few to 40 or more fused segments.

The newly hatched trilobite is called a protaspis. This form simply has a cephalon and protopygidium that make up a fused single shield. The trilobite may moult one or more times during the protaspis stage. What is important is that although the shield may change size and shape, the cephalon and protopygidium remain fused.

After one or more protaspis stages, the trilobite will develop a movable joint between the cephalon and pygidium. At this stage the trilobite is referred to as a zero degree meraspid. During this stage, the trilobite can moult and add one new, movable segment in the thorax each time it moults. A meraspid with one thoracic segment is called a first degree meraspid; two, a second degree meraspid,.....six, a sixth degree meraspid, and so on. The size and shape of the trilobite can change considerably during its meraspid stage.

Each species of trilobite is characterized by having a fixed number of segments in the movable thorax. When this number is reached, the trilobite is said to have reached its holaspid stage. The trilobite may moult during its holaspid stage; it may grow, and it may make some minor changes in its form but it will never add any more thoracic segments. The highest degree of meraspid of any species of trilobite will have one fewer thoracic segments than does the holaspid.

A classic paper on the ontogeny (growth stages) of trilobites is The ontogeny of trilobites by H. B. Whittington. It appeared in Biological Reviews, v. 32, pp. 421-469, and is in the Life Sciences Library on the UN-L campus. One of Whittington's figures is reproduced here; it shows protaspis, meraspis, and holaspis forms. I will leave it to the reader to decide which are the protaspis, meraspis, and holaspis forms.



After Whittington (1957)

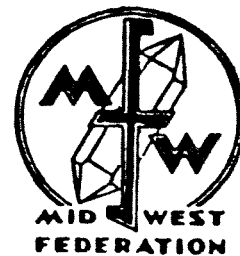
Trilobites are a fascinating area of study. What the collector needs to keep in mind is that a complete representation of a single species calls for all of its protaspis moults, all of its meraspis, and all of its holaspis moults. That could be a big order.

Roger Fabian

# Midwest Federation NEWSLETTER

Member of The American Federation of Mineralogical Societies

OFFICERS 1986-1987



President  
Mrs. Esther Mullyaly  
30018 Dawson  
Garden City, MI 48135  
313-427-6790

First Vice-President  
Mr. Paul Clifford  
2955 Berkshire  
Cleveland Hts., OH 44118  
216-371-2749

Second Vice-President  
Dr. Benjamin Moulton  
R.R. 21 Box 103  
Terre Haute, IN 47802

Secretary  
Miss Jean Reynolds  
107 Tuttle Ave.  
Clarendon Hills, IL 60514  
312-323-1682

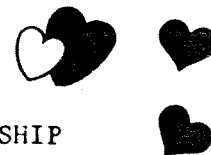
Treasurer  
Mrs. Kitty Starbuck  
7636 V Avenue East  
Vicksburg, MI 49097  
616-649-1991

Published monthly  
Except June, July, August

FEBRUARY 1987 - Issue No. 269

Mrs. Lois McMahon, Editor  
28621 Gray, Lombard, IL 60148

## ATTENTION CLUB PRESIDENTS



### PRESIDENT'S MESSAGE

PLEASE BRING TO THE ATTENTION OF YOUR MEMBERSHIP

As I travel from club to club, one question I hear more often than any other is, "What is the Federation doing with our dues?" Before we go into that, let me remind you that the present dues of 50¢ per adult member were established in 1975, at a time when the AFMS dues were 15¢ per member. Several years later, the AFMS raised their dues to 25¢. The MWF absorbed the increase instead of passing it on to the membership. This resulted in the dues retained by the MWF going from 35¢ to 25¢ where it remains today. What the AFMS is doing with their half of your per capita dues and what benefits you receive could well be the subject of some future communication.

At the Fall Executive Committee Meeting in Lansing, a budget was passed based on the requests of the various chairmen, past experience and the expected income. In the case of income, we are trying to guess what will happen in the year to come. We have guessed that the dues income for this year will be \$6,100 of which the MWF will retain \$3,050. Under present conditions, we are unable to depend on interest earned or income from conventions. On the graph we show the nine offices and committees with budget expenses over \$100. Supply and Program Requests are not included since these committees are expected to generate sufficient income to pay for their expenses. The amount shown in each heading is the estimated amount budgeted for 1987. The percent figure represents the relationship that that amount has to the \$3050 estimated dues income. The figure for judges fees was arrived at by averaging the costs for hiring judges in the four years prior to 1986.

continued on next page

PRESIDENT	\$ 700	23%
1ST VICE PRESIDENT	\$ 400	13%
SECRETARY	\$ 1500	49%
TREASURER	\$ 700	23%
STATE DIRECTORS	\$ 500	16.3%
BULLETIN AIDS	\$150	5%
DIRECTORY	\$ 1200	40%
NEWSLETTER	\$ 1500	49%
UNIFORM RULES	\$ 650 expenses 21%	\$ 1068 judges fees 35%
ALL OTHERS	\$ 1115	36½%

### Thought for the Day:

Let Us Live Each Day to the Fullest, With Wisdom and Sincerity. Seeking Only That Which is Good in Others, and Speaking Only That Which is Kind



Now, just where does this money go? The President and 1st Vice President are required to attend the AFMS convention meeting and receive round trip coach airfare, except when the convention is hosted by the MWF every 6th year. Postage and phone calls use the remainder of their budget. The Secretary has a large printing bill along with postage and phone. The Treasurer incurs bank charges, printing, postage and telephone. Our ten state directors divide the \$500, which will only partly cover duplicating, postage and telephone expenses. Bulletin Aids must provide trophies and certificates as well as pay postage to mail the bulletins to the judges. The Directory costs are mostly printing and mailing, as are the Newsletter's. The Uniform Rules chairman attends the AFMS uniform rules meeting with airfare provided as in the case of the President and 1st Vice President. In addition, there are the expenses for trophies, printing and correspondence. The amount listed for judges is given them for judging the convention show. The ALL OTHERS listing covers the 2nd Vice President and all the other committees and is used mostly for postage, printing and phone calls. I would like to point out that in almost every case the people in these positions spend far more than they are ever compensated for. No one in the Federation receives expenses for attending the Convention, Spring or Fall Meetings. If you add the money amounts or the percentages you will see we have a problem.

There will be more on this in March. In the mean time, discuss it in your clubs and please let me know how you feel about possible solutions to this problem.

*Escher*



PLEASE NOTE  
To all new Directors & Chairpeople  
Please send requests for Federation  
supplies to: Gordon Boone, 180 Brook  
Lane Ave., Holland, MI 49423  
616-396-7885



## JUST A REMINDER THAT...

**ALL CANDIDATE PAPERS FOR THE 1987 MWF EDUCATION THRU SHARING  
RECOGNITION PROGRAM MUST BE POST-MARKED NO LATER THAN  
MIDNIGHT OF APRIL 1, 1987.**

The 1987 EDUCATION THRU SHARING rules were published in an earlier issue of the Midwest Federation Newsletter. Please consult them for the information to provide on your candidate as there have been some changes in the rules from last year. You can also write to Margaret M. Pearson, Chairperson, 9034 - 24 West Lisbon Avenue, Milwaukee, WI 53222 for a copy.

Again this year there will be some special recognitions and we hope some pleasant surprises. Of course we will again be looking for an appropriate candidate to be "Field-Tripper of the Year" and receive the prestigious flying sneaker trophy. Forward your candidate recommendations for these honors programs and say thanks to someone who has shared their knowledge and time with you.

Margaret M. Pearson, Chairperson  
MWF Education Thru Sharing

# ROCKY REPORTING



As of January 15, 1987, our Midwest Federation Endowment Fund has grown to a total of \$4,537.77.

To date, the following clubs are 100%:

- ★ Blackhawk Gem and Mineral Club
- Central Missouri Rock and Lapidary Club
- Chicqua Rockhound Society, Inc.
- Copper Country Rock and Mineral Club
- Des Moines Valley Rocks and Relics Club
- Driftless Area Rock Club
- Edwards River Earth Science Club
- Gem City Rock Club
- Grand Traverse Area Rock and Mineral Club
- Illinois Valley Gem and Mineral Society
- Ishpeming Rock and Mineral Club
- Lake Shore Mineral and Lapidary Club
- Lincoln Orbit Earth Science Club
- Micro Mineral Society of Cleveland
- Mineralogical Society of Cleveland
- Parma Lapidary Club
- Randall Rockhounds
- Siloam Springs Earth Science Society
- Southern Illinois Earth Science
- West Central Illinois Rock and Mineral Club
- Worthen Earth Searchers of Hancock County

The following club is 200%:



Tulip City Rock Club

The following clubs are 300%:



Rock Exchange Club  
Wonderland Rock Club

Rocky looks forward to your continued support, and wishes to thank everyone for their generous contributions so far.

Respectfully submitted,

Marve Starbuck, Chairman  
Endowment Fund



ATTENTION: PROGRAM CHAIRPERSONS ♥♥♥♥♥

A NUMBER OF YOU HAVE WRITTEN, ASKING FOR A CURRENT LIST OF PROGRAMS IN THE LIBRARY. EVERY CLUB SHOULD HAVE A COPY OF PROGRAM SUMMARIES, PUBLISHED IN 1985. ONLY A FEW ADDITIONS HAVE BEEN MADE SINCE THAT TIME, AND THOSE HAVE BEEN WRITTEN UP IN THE NEWSLETTER. (THE MOST RECENT WERE IN THE OCT. '86 AND JAN. '87 NEWSLETTER.) IF YOU DO NOT HAVE THIS BOOKLET IN YOUR POSSESSION, PERHAPS YOUR PREDECESSOR HAS IT. ASK AROUND! ARE YOU ALSO AWARE THAT THERE IS A LIST OF PROGRAMS IN THE FEDERATION DIRECTORY? EVERY CLUB HAS AT LEAST ONE COPY AND ADDITIONAL COPIES CAN BE ORDERED.

CLUB PRESIDENTS -- BE SURE YOUR PROGRAM CHAIRPERSON GETS THIS INFORMATION!

ORDER YOUR PROGRAMS FROM: MARGE COLLINS, 3490 S. HANNAN RD., CANTON, MI 48188 (313) 722-6043

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505

Invites you to attend its  
**Big 29<sup>th</sup> ANNUAL  
GEM & MINERAL SHOW**

**MARCH 28 - 29, 1987**

**Agricultural Hall  
Nebraska State Fairgrounds**



- JEWELRY CRAFT ITEMS
- TOOLS & EQUIPMENT
- LAPIDARY SUPPLIES
- WORKING EXHIBITS
- SLIDE SHOWS
- DOOR PRIZES
- GRAB BAGS
- DEALERS
- DISPLAYS
- MINERALS
- FOSSILS
- SWAP

**SHOW HOURS:**

**Saturday 10:00-8:00**

**Sunday 10:00-5:00**

PATRONIZE YOUR ADVERTISING DEALERS

MEXICAN MINERALS - SLABS - TUMBLER STONES

# Everett Lapidary Shop

THE CAPITOL CITY'S FIRST ROCK SHOP

2941 North 65th

PHONE 466-6204



AUTHORIZED DEALER FOR ALL LAPIDARY EQUIPMENT

"Satisfied Customers Are Our Best Advertisement"

## J J & L ROCKS & MINERALS

"Supplies for the novice to the discriminating Rock Hound"

(402) 792-2337

Shop at 330 Locust, Hickman, Ne.

Mail order & Free Catalog, Box 68, Hickman, Ne. 68372

Jim Marburger

John Harrison

CUSTOM CUTTING  
FOSSILS

ROUGH  
MINERALS  
SPECIMENS

CABACHONS  
FINDINGS  
SLABS

FINISHED JEWELRY  
SUPPLIES

Read your bulletin to spot *new materials* or *specials* of the above advertisers.

Advertising by a rock-hobby business or interest is permitted with approval of the Board, at a rate now set at \$10.50 per full page per insertion, paid in advance. 1/2 page \$5.25, 1/3 page \$3.50, 1/4 page \$2.75 (min). These ads will be placed throughout the bulletin as space permits.

Subscriptions to THE PICK & SHOVEL are \$3.00 per year mailed.

Dues to LINCOLN GEM & MINERAL CLUB are as follows:

Adult membership fee \$5.00 (age 16 and over)

Junior membership fee \$1.00 (age 12-16)

Family membership fee \$11.00 (husband, wife and all children under 16 - permanent residents of household)

New membership must be approved by the Board, after applicant attends at least one (1) regular meeting of the club, and pay the above dues plus \$1.00 registration fee.

SEE "u" at the SHOW!  
march 28 and 29



**h.e.l.p.**

HELP ELIMINATE LITTER PLEASE!

MAIL ALL EXCHANGE BULLETINS TO:

Lincoln Gem & Mineral Club  
BOX 5342  
Lincoln, Nebraska 68505-0342



Edward Ridge  
2507 A St.  
Lincoln, NE 68502