



Cedar Valley Gems

Cedar Valley Rocks & Minerals Society
Cedar Rapids, Iowa

[HTTP://WWW.CEDARVALLEYROCKCLUB.ORG/](http://www.cedarvalleyrockclub.org/)

ROCK SHOW APRIL 16-17

(see p-10-11)

CEDAR VALLEY GEMS

APRIL 2016

VOL. 42, ISSUE 04

Ray Anderson, Editor: rockdoc.anderson@gmail.com

Next CVRMS Meeting

7:00 pm

NEW MEETING SITE

Guaranty Bank
300 80th Street Court
Fairfax, IA 52228
(just SW of Cedar Rapids on Hwy 30)

featuring

National Geographic Video

"Sea Monsters: A Prehistoric Adventure"

See how the study of fossil bones leads to the reconstruction of lives of some of the animals that inhabited the seas 80 million years ago, the "most dangerous seas in the Earth's history".



Stunning photo-realistic imagery re-creates the perilous underwater realm. Originally shown in IMAX theaters.



Lizards in 100 Million Year Amber

The trove of Cretaceous reptiles includes an early relative of the chameleon—the oldest yet discovered



Amber often displays unpredictable patterns of preservation. This lizard is just a shadow of the original animal, with no skeleton or other innards remaining

Nearly 100 million years ago, the tropical forests of the mid-Cretaceous period were hopping—winged beasts commanded the skies, large reptiles swaggered on land and insects buzzed around flowering plants that were just starting to flourish. Yet until now, little was known about small tropical lizards, whose fragile bones quickly disappeared when buried in the damp forest floors. Now, scientists sifting through museum collections have described a dozen of these pint-sized reptiles all entombed in amber. The hapless lizards were caught in the sticky resin of ancient coniferous trees and remained suspended until the present day—several in exquisite condition with claws, bones, teeth, toe pads and even scales intact. These spectacular fossils give scientists a peek into life of the diminutive denizens of the mid-Cretaceous.

The fossils were actually discovered decades ago in a Burmese mine but were recently studied by the American Museum of Natural History. Using CT scanners to image the fossils, the researchers could "digitally dissect" the lizards without harming the amber droplets. The set includes creatures similar to modern-day geckos and chameleons, as well as a range of species that sport a mash-up of features from both ancient and modern reptile relatives. One of the reptiles, a dime-sized baby relative of the chameleon, is the oldest discovered representative of that lineage, beating out the previous title-holder by nearly 80 million years.

<http://www.smithsonianmag.com/articles/pint-sized-lizards-trapped-amber-give-clues-life-100-million-years-ago-180958284/?no-ist>

CVRMS March Meeting

March 15, 2016

Call to order: 7:25 p.m. by Marv Houg, President.

Introduction of new members or guests- Welcome to John Lorence, Andrea Stohler

Minutes- Minutes of previous meeting reviewed. Correction regarding the \$22 Hy Vee catering should read \$12.00.

Motion to accept as corrected made by Tom, second by Julie. Motion approved.

Treasurer's report by Dale- Checking balance \$19,631.06. All vendors have paid for the upcoming show. Report filed.

Monthly Program Thomas Weiss spoke to us about his studies and thesis regarding the El Nino effects over millions of years. ENSO stands for El Nino Southern Oscillation. Veronica Reidel gave a quick synopsis of her New Zealand experience. They expressed their gratitude to the club for our continued support of the geological studies at Cornell.

Door Prize Winner- A Johnson. Unfortunately no door prizes available but will be available at next meeting.

Show Recap Sign-up sheet circulating for volunteers. There are always plenty of jobs to get done and even if you are not signed up the crew will put you to work. Friday the set up begins at 8:30 am. Lunch will be provided by the club to the workers. Pot luck that evening for dealers and members. Bring a larger portion since we have on up to 100 plus people for dinner. Past pot lucks have been fabulous. Pot luck will start at 6:00p.m.

Saturday will include the catered dinner from HyVee at \$12 a plate. Let Marv know if you are interested. Club members needed to provide desserts. Let Dell know if you are bringing a dessert. Saturday dinner is at 6:30pm.

Saturday after the dinner, Ray Anderson will give a talk about something intriguing. Programs are being lined up by Ray.

Sunday after the show manpower will be needed for tear down.

Donations needed for pebble pit, door prizes, silent auction. Julie volunteered to ask vendors for donations to door prize fund. We will have an amethyst cathedral for raffle prize.

Field trips- Ray has lined up for Ginsberg jewelers in Iowa City, March 26, 9:30 am. He needs a head count so let him know. Also, be forewarned that there are at least 3 flights of stairs to climb. The last time this was planned we did not get enough interested to attend. Dale will send reminder with directions.

Field trip to Edelstein's Rocks in Amana Saturday March 19, 1:00 p.m. They have hauled back from a South Dakota farm field the bones of two juvenile Stegosaurus skeletons and are restructuring them in the basement of Catiri's Glass and Art Gallery. They will also show some of their treasures from the Dominican Republic (amber and Larimar). Anyone interested can meet Marv at the Ronneberg restaurant at noon for lunch.

Miscellaneous MAPS will have Dr. Phil Curry as the keynote speaker on April 1st at the Clarion Hotel, Iowa City, at 6:00 p.m./

Tom reminded the club that there is a need for a delegate to the Federation show in August in South Bend, Indiana on August 19-20. Julie talked about the all American Year Book that is published by the Midwest Federation and encouraged the club to get involved.

The 2019 show is a combined Midwest and American Federation show. Is the club interested? Marv will bring up at the board level.

Marv reviewed some of the VAST responses and a thank you letter from VAST thanking us for our donation and support.

No further business. Motion to adjourn made by Tom, second by AJ. Meeting adjourned 9:15 p.m.

Respectfully submitted,
Dell James, Secretary

Rock Calendar

2016

April 16-17 - CVRMS Gem, Mineral, and Fossil Show

Hawkeye Downs, Cedar Rapids

Sat. 8:30 am - 6 pm; Sun. 9:30 am - 5 pm.

Theme: Fossil Plants & Petrified Wood
see details on Pages 10 & 11

April 23-24 - BHGMC Rock & Gem Show

Clarion Hotel, Davenport, IA

Sat. 9 a.m.-5 p.m. Sun. 10 a.m.-4 p.m

April 23 - BHGMS Rock & Mineral Show

Waterloo Center For Arts, Waterloo,

noon.-5 p.m.

April 30 -

May 1 - River Valley Rock Hounds Show

Iowa Central Community College,

Fort Dodge, IA

Sat. 9 a.m.-5 p.m. Sun 11 a.m.- 4 p.m.

Sept. 17-18 - CVRMS Rock and

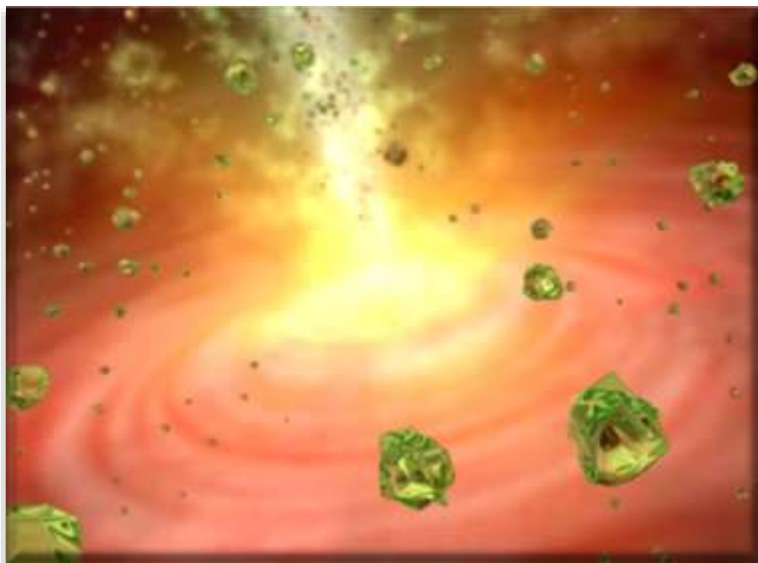
Fossil Auction

Sat. 9 am - 7 pm; Sun. 10 am - 4 pm.

Amana RV Park & Event Center

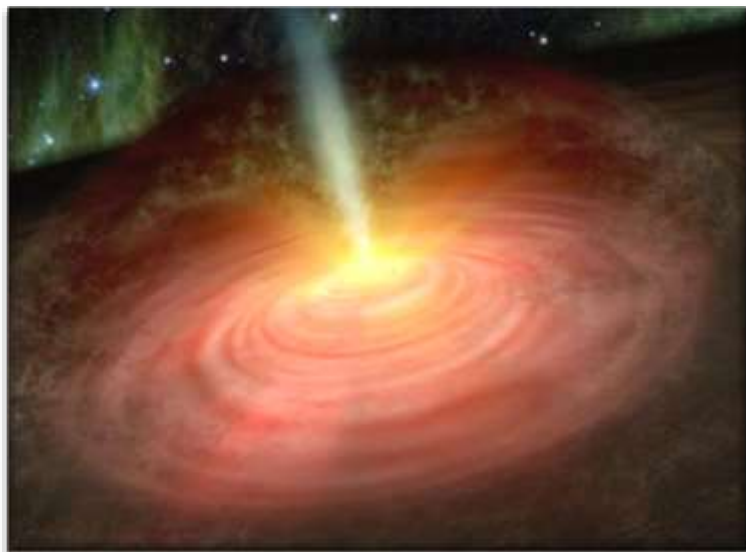
39 - 38th Ave, Amana

Olivine Rain Discovered on Protostar



An artist's illustration of forsterite olivine crystals raining down onto the swirling disk of planet-forming dust of a protostar.

constellation Orion. The crystals, in the form of forsterite (a member of the olivine family of silicate minerals), can be found everywhere from a peridot gemstone to the green sand beaches of Hawaii to remote galaxies. The inside of a protostar's collapsing gas cloud is very dark, but the tiny crystals catch whatever light is present, resulting in a green sparkle against a black, dusty backdrop. Although forsterite crystals have been spotted before in the swirling, planet-



An artist's concept of how the olivine crystals have been transported into the outer cloud around the protostar. Jets shooting away from the protostar, where temperatures are hot enough to cook the crystals, are thought to have transported them to the outer cloud, where they cool then rain back down onto the swirling disk of planet-forming dust.

Tiny crystals of the green mineral olivine are falling down like rain on a burgeoning star, according to observations from NASA's Spitzer Space Telescope. This is the first time such crystals have been observed in the dusty clouds of gas that collapse around forming stars. Astronomers are still debating how the crystals got there, but the most likely culprits are jets of gas blasting away from the embryonic star. "You need temperatures as hot as lava to make these crystals," said Tom Megeath of the University of Toledo in Ohio. "We propose that the crystals were cooked up near the surface of the forming star, then carried up into the surrounding cloud where temperatures are much colder, ultimately falling back towards the star like glitter." Spitzer's infrared detectors spotted the crystal rain around a distant, sun-like embryonic star, or protostar, referred to as HOPS-68, in the discovery of the crystals in the outer collapsing cloud of a proto-star is surprising because of the cloud's colder temperatures, about minus 280 degrees Fahrenheit. This led the team of astronomers to speculate the jets may in fact be transporting the cooked-up crystals to the chilly outer cloud. This might also explain why comets, which form in the frigid outskirts of our solar system, contain the same type of crystals. NASA's Stardust and Deep Impact missions both also detected olivine in their close-up studies of comets. The scientists speculate that similar jets might have lifted crystals into the collapsing cloud of gas surrounding our early sun before raining onto the outer regions of our forming solar system. Eventually, the crystals would have been frozen into comets. The Herschel Space Observatory, a European Space Agency-led mission with important NASA contributions, also participated in the study by characterizing the forming star.

<http://geology.com/nasa/olivine-rain/>

CVRMS Board Meeting

CVRMS BOARD MEETING – FEBRUARY 23, 2016

7:20-9:20 at the home of Marv & Sue Houg

Members Present: Marv Houg, Dell James, Sharon Sonnleitner, Ray Anderson, Jay Vavra, Bill Desmarais, Dave Roush, Dale Stout

Show: Ray displayed his examples of the various posters that will be exhibited at the show. Consensus –Beautiful! Sharon will check with Allegra for the prices of laminating and printing of posters. Since it may exceed the monetary limit, she will get board vote via email.

Tiffany needs a display area for her booster club information. Marv and Ray will find out what she needs.

Dale has received the approval from the state for the raffle. Currently we have 5 very desirable prizes including a carved opal and obsidian carving from a vendor, an amethyst cathedral, two large, uncracked geodes (should we crack?), and an amethyst plate. Discussion regarding adding a 6th prize and what could that be? No decision reached.

Ray is working with Mary Campbell for the sidewalk art project. Petrified logs?

Saturday night dinner -Logistics becoming more challenging since Hy Vee has a new manager. He needs the number by Friday AM. Marv will check with vendors again and if anyone does not have their name and number in, let Marv know before Friday am. Dinner served at 6:30 Saturday night. Members to provide dessert. Let Dell know.

Marv will order sand for bone dig.

Ads: Collector's Journal is done, Sharon has news release ready. An add will be placed in Gazette newspaper. Dell will follow up with Tid Bits and radio stations and library. Ray will check with Daily Iowan.

Friday Pot Luck-Serve at 6:00 p.m. Customary for the members to provide a thank you dinner for vendors. Dell will get drinks and arrange set up. Usually have a large number of people 100 plus so bring larger than average portions if able.

Lunch on Friday for workers provided by the club for volunteers. Lauri and Dell will arrange.

MSHA training is scheduled for Monday April 4 at Guarantee Bank in Fairfax. 30 plus people signed up. Let Marv know. Two classes 2:00 pm and 6:00 pm.

Auction-September 17-18 at Amana: Another contributor contacted Sharon and Marv and has about 100 lots. That would put us at the limit for lots available for auction.

Programs/field trips: Brief discussion regarding the two field trips. One to Ginsberg jewelers and one to Catiris in Amana.

Misc. The possibility of sponsoring the 2019 American Federation and Midwest Federation show discussed. Marv requested that we wait until after this busy month before he can contact people to discuss what the club's involvement and responsibilities would be if we decided to proceed. Tabled for later discussion.

Motion made by Bill, seconded by Dave to adjourn. Meeting adjourned at 9:15 p.m.

Respectfully submitted,
Dell James, Secretary

Fossil News Magazine Returns

Between 1998 and 2010, the little magazine, *Fossil News: The Journal of Avocational Paleontology*, was published monthly for a diverse and enthusiastic base of international subscribers, including amateur and paraprofessional fossil collectors, fossil preparators and dealers, and paleontologists and other scientists, many of whom also contributed articles, photographs, art work, and fossil tips to the magazine. After a long hiatus, *Fossil News* magazine returns this Spring under new editorship! We're convinced there's never been a greater need for well-written, reliable, high-quality information for amateur and paraprofessional fossil enthusiasts – and that's where *Fossil News* comes in. Each 52-56-page, full-color quarterly issue is chock full of national and international news from the world of vertebrate and invertebrate paleontology, advice for amateur and paraprofessional fossil collectors, paleoart & fossil photography, original book reviews, updates on important issues in paleontology and related fields, and more.

The Spring 2016 issue (on sale March 21) includes a photo-essay on fossil radiolarians and other microfossils from a master photomicrographer, an account of the discovery of the world's first fossil ambergris in Italy, a review/discussion of the Emmy-award-winning TV mini-series, "*Your Inner Fish*," a field trip report on that (and other rare fossils) from the Green River Formation of Wyoming, Dean Lomax's exciting account of identifying a new species of ichthyosaur — in the storeroom of his hometown museum, reviews of new books and literature, and much more.

Subscribe! Annual subscriptions currently cost \$48/year (domestic), and that price remains good through March 21. After that, subscriptions will increase to \$50/year. Subscribers to *Fossil News* receive an automatic 10% discount off our already low display advertising rates. And classified ads are always free to subscribers.

For complete subscription and discount information, please see <http://fourcatspress.com/fossilnews>

-- or write us with any questions.

Wendell Ricketts
Editor & Publisher

Spotlight Gemstone: Diamond

April's Birth Stone



diamond
crystal

A **diamond** is a metastable form of carbon, in which the carbon atoms are arranged in a variation of the face-centered cubic crystal structure called a diamond lattice. Diamond is less stable than graphite, but the conversion rate from diamond to graphite is negligible at standard conditions. Diamond is renowned as a material with superlative physical qualities, most of which originate from the strong covalent bonding between its atoms. In particular, diamond has the highest hardness and thermal conductivity of any bulk material. Diamond is the hardest known natural material. Diamond's hardness has been known since antiquity, and is the source of its name (from the Greek word for "unbreakable").

Diamond hardness depends on its purity, crystalline perfection and orientation: hardness is higher for flawless, pure crystals oriented to the $\langle 111 \rangle$ direction (along the longest diagonal of the cubic diamond lattice). Therefore, whereas it might be possible to scratch some diamonds with other materials, such as boron nitride, the hardest diamonds can only be scratched by other diamonds and nanocrystalline diamond aggregates. Diamonds also possess an extremely high refractive index and fairly high dispersion. Taken together, these factors affect the overall appearance of a polished diamond and most diamantaires still rely upon skilled use of a loupe (magnifying glass) to identify diamonds 'by eye'.

Although over \$72 billion in diamond jewelry was sold in 2012 (including \$24 billion in diamonds) diamonds are far from the rarest mineral on Earth. Most diamonds are produced and sold by only a few companies who strongly promote the stone for wedding and engagement rings and keep the price artificially high. But large colored stones are rare and have sold for high prices. In 2008, the Wittelsbach Diamond, a 35.56-carat blue diamond that once belonging to the King of Spain, fetched over \$24 million at a Christie's auction. In May 2009, a 7.03-carat blue diamond sold for the highest price per carat ever paid for a diamond when it was sold at auction for \$9.5 million. That record was however broken the same year when a 5-carat vivid pink diamond was sold for \$ 10.8 million in Hong Kong on December 1, 2009, \$2.16 million per carat.

2016 Eastern Iowa Science & Engineering Fair Winners

The Cedar Valley Rocks and Minerals Society continued its support of area science education by participating as a prize and donor sponsor of the 2016 Eastern Iowa Science & Engineering Fair. Cash awards, along with certificates of accomplishment, were presented to the following participants on behalf of the Society:

Ty Bellfy from Waterloo West (under the supervision of Nathan Nebbe) received \$50.00 and a certificate for his first

place Senior Physical entry "**Analysis of the Physical Properties of Metal via an Electric Arc.**"

Ty designed and built his own electric arc and spectrograph apparatuses using parts from an old microwave oven.

By energizing conducting materials (pure metals, in this case) between the poles of the arc and directing a portion of the resulting stream of photons through a homemade spectroscope, he was able to obtain spectrums of these pure metals. By comparing the spectrum from a questionable material, (for example, a metallic looking rock) with his pure metal spectrums, he can determine the metallic composition of the material.



Nicole Schilling from Beckman Catholic HS (under the supervision of Cheryl Kluesner) received \$40.00 and a second

place Senior Physical certificate for her entry "**Longitudinal Evaluation of Sink-hole Attributes.**"

Nicole studied numerous limestone sinkholes occurring near her hometown of Dyersville in Northeastern Iowa (Silurian bedrock). Although she had several hypotheses related to sinkhole expansion rates, including the pH level of the soil due to agricultural fertilizations, it turned out that the main factor causing the growth of the sinkholes was the amount of rainfall on the sinkholes.

In addition to these cash prizes, the Society donated \$40.00 for general use by the Eastern Iowa Science & Engineering Fair organization.

— Bill Sonnleitner

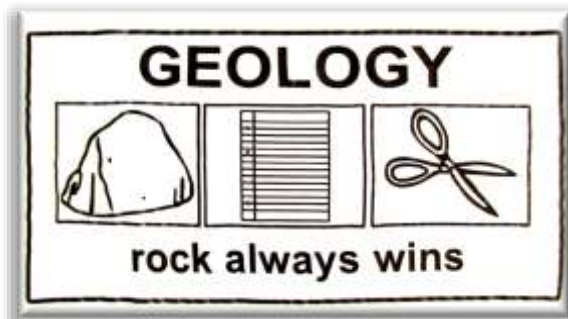


What in the World?

March Photo



What in the World is this?? Where is it??
Recognize anyone??



The "What in the World?" photo for March is a rock found near Gunflint Lake in northern Minnesota, and it is loaded with mysterious spherules. It turns out that the spherules were originally tectites, solidified droplets of rock melted by the energy from the impact of a large meteorite and ejected from the crater by its explosive energy. But where was the crater that launched these tectites?? Geologists have traced the tectites to the >150 mile diameter Sudbury Crater in Ontario, Canada, 480 miles east of the location of these rocks. This crater (the second largest known on Earth) was formed by the impact of a large asteroid about 2 billion years ago. Similar spherule-rich rocks have been found in several areas around Lake Superior (red dots on the map). In some locations the spherule bearing rocks are underlain by severely brecciated rocks, interpreted as the product of the giant earthquake produced by the hypersonic impact of the 6 to 9 mile diameter asteroid. The Sudbury Crater contains the world's largest known nickel deposit.



New Natural -Color Bluish Green Chalcedony



For those of us who already have trouble differentiating between the many bluish-green minerals in this world, our life just got more difficult. A new type of chalcedony was recently reported by the GIA's Carlsbad laboratory. This material originated in Africa, although a more precise location has not been made available. The translucent material displays a vibrant bluish green color and is currently marketed under the trade name "Aquaprase." Although chalcedony varieties such as chrysoprase and Gem Silica are well known and occur in yellowish green and greenish blue colors, the color of this material was distinctly different from any African chalcedony examined by GIA to date. This new type of African chalcedony is easily recognized by its unique composition and absorption spectrum, which is significantly different from the chrysoprase and Gem Silica varieties. The attractive bluish green color of

Aquaprase, which may be caused by chromium and nickel, should prove to be a popular and welcome addition to the gem trade.

[HTTP://WWW.GIA.EDU/GEMS-GEMOLOGY/WINTER-2015-GEMNEWS-NEW-NATURAL-COLOR-BLUIISH-GREEN-CHALCEDONY](http://www.gia.edu/gems-gemology/winter-2015-gemnews-new-natural-color-bluish-green-chalcedony)

Ask a Geologist

by Ray Anderson aka "Rock Doc", CVRMS Vice President

Ask a Geologist is a monthly column that gives CVRMS members an opportunity to learn more about a geologic topic. If you have a question that you would like addressed, please send it to rockdoc.anderson@gmail.com, and every month I will answer one in this column. Please let me know if you would like me to identify you with the question. I will also try to respond to all email requests with answers to your questions, regardless of if it is chosen.

Dell James asked, "What would be the rarest mineral that a collector could find in Iowa?"

Boy, Dell, what a tough question. "Rarest" is a difficult topic because some minerals are extremely rare in Iowa, but they might be too small to be of value. So what valuable mineral can be found in Iowa?? We have fresh water pearls (aragonite), gold from the glacial drift, a pea-sized green diamond was reportedly found in glacial drift, agates (quartz-including Lake Superior, Keswick, and others), Keokuk geodes (which include any of about 25 different minerals), and I have seen sand grains of ruby, sapphire, topaz, and other minerals while studying Missouri River sands under the microscope. Millerite crystals can be found in the Iowa City area and I have seen microscopic amber in Iowa coals. The USGS keep track of Iowa's "Industrial Mineral Production", including Portland cement, clay, gemstones (?), construction sand & gravel, crushed stone, and a combined group including masonry cement, gypsum, lime, peat, and industrial sand and gravel. Portland cement and crushed stone are always the most valuable, with about \$200 million produced every year. But I don't expect that you are interested in them. Many valuable fossils (most are calcite or dolomite) have been found in Iowa, and many nice calcite, quartz, fluorite, pyrite, celestite, barite, and other crystals have been discovered. Paul Garvin did a great job of describing these and many others in his book *Iowa's Minerals, their Occurrence, Origins, Industries, and Lore*. But I think what I would like to find is a sample of the mineral **lowaite**.

lowaite is a hydrotalcite mineral ($Mg_4Fe^{3+}(OH)_8OCl \cdot 3(H_2O)$) that was discovered in an exploration drill core of mineralized Precambrian rocks in northeast Sioux, County, Iowa. The mineral was first reported in a 1967 *American Mineralogist* (v. 52 (9-10). P. 1261-1271) by Kohls and Rodda. Allmann and Donnay wrote "About the Structure of lowaite" in a 1969 *American Mineralogist* (v. 54 p.296-299). lowaite is bluish green, becoming pale green with a rusty red tint on exposure to air (as it alters to pyroaurite). It has also been found in an asbestos mine in Quebec, a gold mine in South Africa, massive nickel sulfide mines in Australia, a mine in western Siberia, and a diamond mine in eastern Siberia. But my favorite story about the appearance of lowaite was in a 1993 deep sea drill core (DSDP hole 778) drilled in the Pacific Ocean northeast of the island of Agrihan in the North Mariana Islands. This story was related to me by Karl Seifert, who was a geology professor at Iowa State University at the time. He was participating on a National Science Foundation Deep See Drilling Project cruise, logging drill core collected from the floor of the Pacific Ocean. After logging many hundreds of feet of altered basalt, it occurred to him one day that the alteration product that they were all logging as serpentinite was more blue than green. So they x-rayed the mineral and to everyone's surprise it turned out to be lowaite. He said "imagine, an Iowa geologist in the middle of the Pacific, identifying a mineral called lowaite".

1.2mm perfect gemmy blue lowaite crystal (EDX confirmed) from the Palabora mine, Loolekop, Phalaborwa, Limpopo Province, South Africa



Chromian lowaite from the Kaznakhtinskii massif, Ust'-Koksa district, Altai Republic, Western-Siberian Region, Russia

5mm cross-fibre vein of lowaite in dunite, the lowaite is altering to pyroaurite



Sabertoothed “Cats” Battled in Dakota Badlands

A skull, exhumed from the badlands of Nebraska, had once belonged to a cat-like animal called *Nimravus brachyops*. It was beautiful and nearly intact, but its jaws told a terrible story. The mammal’s elongated right canine tooth pierced the upper arm bone of another *Nimravus*. Paleontologist Loren Toohy, who described the poor beast in a 1959 paper, wasn’t sure how this had happened. Perhaps, he wrote, “the piercing may be due to the weight of the overlying sediments,” which pushed the tooth through an under-

lying bone over time.

But there was another possibility: The punctured bone might have been an accidental injury in a fight between two pseudo-cats, Toohy speculated. He avoided mentioning the inescapable conclusion if this were true—the two carnivores would have been locked together in a deadly configuration, with one unable to eat and the other unable to walk. Research has revealed that these pseudo-cats, collectively called nimravids, lived between 40.4 and 7.2 million years ago, and were among the most fractious creatures of all time. Paleontologists often refer to nimravids as “false sabercats,” although this appellation isn’t quite fair. It makes nimravids sound like imitators or impostors when they were sporting elongated fangs long before true cats, like the iconic sabertoothed *Smilodon*, which lived from 2.5 million to about 10,000 years ago.

Nimravids were so slinky and cat-like that the main differences between them and true cats can only be seen in the anatomy at the

back of the skull, with nimravids lacking a complete bony closure around the middle ear that true cats have.

In places like the White River Badlands, a rich stomping ground for mammalian paleontologists, up to five different genera of nimravids were present together between 33.3 and 30.8 million years ago. But these pseudo-cats were not always good neighbors. Working from fossils discovered over a century, North Dakota Geological Survey paleontologist Clint Boyd and his collaborators have found that nimravids were frequently at each others’ throats. Two lucky breaks inspired the research, Boyd says. In 2010, a seven-year-old visitor to Badlands National Park happened upon a skull of the nimavid *Hoplophoneus primaevus* right next to a park visitor center. “That specimen preserves an excellent series of bite marks on the skull from another nimavid,” Boyd says. Fighting nimravids stuck in his mind when he set about designing a new exhibit about the ancient predators for the Museum of Geology at the South Dakota School of Mines and Technology a few years later. Boyd already knew that one of the nimavid skulls being used for the exhibit, described in 1936, also showed bite marks from one of its own kind, but other skulls he pulled for display surprised him. As they were being cleaned many of the specimens revealed new bite marks that had been covered over with sediment and plaster. At least six specimens representing three nimavid species that carry signs of combat with other pseudo-sabercats.

<http://www.smithsonianmag.com/science-nature/dakota-badlands-used-host-wild-sabertoothed-pseudo-cat-battles-18095784/>

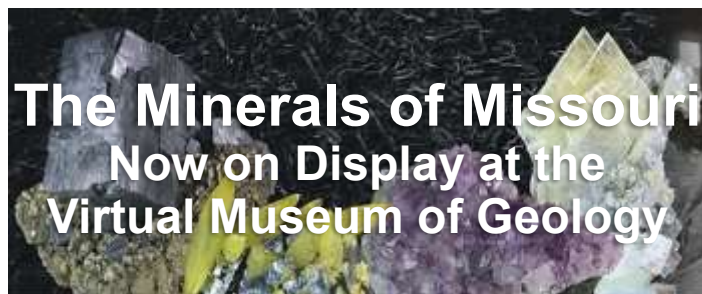


Illustration of *Nimravus brachyops*

\$\$ Dues Time \$\$

No Doo-Doo, your Dues are Due.

Time to pay your club dues for 2016. At \$15 per year for a family membership, it's a bargain!! Get your payment into Dale Stout as soon as you can.



The Minerals of Missouri Now on Display at the Virtual Museum of Geology

The mines, quarries, road cuts and streams in Missouri offer mineral enthusiasts the potential to add fine specimens to their collections. Despite its relatively simple geology, Missouri has large mineral resources, typically ranking among the top six States in the production of lead, zinc, silver, copper, lime, tripoli, fire clay and sand & gravel. The **Virtual Museum of Geology** has posted an on-line exhibit compiled from the collection of Kevin Conroy. It can view it at <http://www.virtualmuseumofgeology.com/>.



Rocks and Fossils needed for the
2016 CVRMS Rock Show

Your club needs you to donate rocks and
fossils for use in the

- • Pebble Pit • • Silent Auction
- • Door Prizes

If you can help please contact
Marv Houg at 364-2868

Ginsberg Field Trip

On the morning of March 26 M.C. Ginsberg Objects of Art in Iowa City opened their doors for a CVRMS indoor field trip. Twelve club members were treated to a guided tour of the shop's ground floor jewelry and art store including a close look at some spectacular jewelry pieces. One of particular interest was a spectacular 6.26 carat flawless yellow diamond ring valued at ~\$700,000 !

Ginsberg utilizes 3d scanning, printing, and milling extensively for design and manufacturing, and our group was especially interested in their use of this equipment.

Tour guide Ji Young Yoon did an excellent job of explaining and discussing the equipment on all three floors of their shop. One line of jewelry that M.C. Ginsberg produces using this equipment is their "Infectious Art" series of pins, cuff links, rings, and pendants that include gold and silver reproductions of viruses (such as ebola, influenza, and HIV) and giardia parasites. We wish to thank Mark Ginsburg and his staff for their extremely interesting and informative tour.



6.26 carat yellow diamond ring



Tour guide Ji Young Yoon, designer and manufacturing engineer at M.C. Ginsburg, explains the 3D printer.

Cedar Valley Rocks & Minerals Society
Presents its
2016

GEM, MINERAL & FOSSIL SHOW

Iowa's Largest & Among Midwest's Largest

New Month,
Same Venue

Saturday April 16 - 8:30 a.m. to 6:00 p.m.
Sunday, April 17 - 9:30 a.m. to 5:00 p.m.

Hawkeye Downs Expo Center
4400 6th Street SW
Cedar Rapids, Iowa



OUR 52ND SHOW: PETRIFIED WOOD AND FOSSIL PLANTS

PROGRAMS

Programs on
Theme-Related Topics
Call ahead or check our
web site for Speakers & Times.

DEMONSTRATIONS

- Tumbling
- Glass Bead Making
- Cabbing, Beading
- Silversmithing
- Flint Knapping
- Geode Cracking

PEBBLE PIT FOR KIDS

1¢, 5¢, 10¢, 25¢, & 50¢ Items
\$1 Rock & Mineral Kits

SILENT AUCTION

Geodes, Minerals, Crystals, etc.

HOT FOOD

**PROFITS GO TO
SCHOLARSHIPS**



DISPLAYS

- Agates
- Minerals
- Crystals
- Fossils
- Amethyst
- Petrified Wood
- Polished Stones
- Artifacts
- Spheres, Geodes

**NOT RESPONSIBLE
FOR ACCIDENTS**

DONATIONS REQUESTED

Adults.....\$3.00
Students\$1.00
(12-18)
Children Free
(Under 12)
Youth Groups Free
(w/adult)

SLUICE FOR GEMS

MANY ITEMS FOR SALE, INCLUDING:

- | | | | | |
|-------|---------|----------|------------|------------------|
| Books | Fossils | Jewelry | Minerals | Book Ends |
| Opal | Agates | Carvings | Seashells | Petrified Wood |
| Slabs | Geodes | Crystals | Tumblers | Lapidary Equip. |
| Gems | Beads | Spheres | Meteorites | Jewelry Findings |

**CHILDREN MUST BE
ACCOMPANIED BY AN ADULT**

For Additional Information. Contact:

Marvin Houg (319-364-2868, m_houg@yahoo.com);

Sharon Sonnleitner (319-396-4016, sonnbn@aol.com); Tom Whitlatch (319-362-0684, whitlatcht@gmail.com)

For program, dealer, and show updates, check: www.cedarvalleyrockclub.org

Rock Show Talks

Speakers' Programs & Times

Saturday, April 16

- 10:30 am** "Professor T. H. Macbride's
Cycadeoids: a One Hundred- Year
History Helps Solve a Mystery"
– Dr. Tiffany Adrain
- 12:00 pm** "Iowa Coal: The Story in
the Rocks" – Dr. Ray Anderson
- 2:00 pm** "Cretaceous Plants of Iowa"
– Dr. Brian Witzke
- 3:30 pm** "Petrified Wood: Some
Questions and Some Answers"
-- Dr. Jeff Shabilion

Sunday, April 17

- 11:30 pm** "Professor T. H. Macbride's
Cycadeoids: a One Hundred-Year
History Helps Solve a Mystery"
– Dr. Tiffany Adrain
- 12:30 am** "The History of Coal Mining
in Iowa" – Dr. Ray Anderson
- 2:30 pm** "Iowa Coal: The Story in
the Rocks" – Dr. Ray Anderson

CVRMS REMINDER

We needed to supply desserts for the
Saturday dinner at the rock show.
Please contact Dell if you
can help.



Field Trips

APRIL 3 - 4

INDOOR FIELD TRIP
Catiri's Teenage Triceratops Adventures

Sunday, April 3rd & Monday, April 4th 2016

Meeting at: **Edelstein Treasures**
4510 220th Trail, Main Amana

Times & Sign Up Sheets will be available at the MAPS show.

Patty the Teenage Triceratops is in Amana, Iowa! You will get a unique tour of the Juvenile Triceratops that Ithiel & Jenise Catiri have been excavating for 2 years in South Dakota. This late cretaceous creature is beautifully preserved and comes with a great adventure story. This is a great field trip for all ages. (There are stairs)

www.edelsteintreasure.com

Find us on facebook.

MAY JUNE

2016 Fossil, Mineral and Agate Collecting Tours: to Morocco & Australia

ZRS Fossils and Gifts in Minneapolis is offering three fossil, mineral, and agate collecting tours next year -- two to Morocco (April & May) and a new tour to Australia in June. You can learn more about participating in these tours, "Rockin' in Morocco" and "Rockin' in Australia" by visiting https://www.facebook.com/ZRS-Fossils-and-Gifts-127956357265401/events?ref=page_internal or calling ZRS Fossils at (612) 210-9711.

ZRS  **FOSSILS**
and GIFTS



Officers, Directors, and Committee Chairs

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Hospitality	Jeff Kahl	455-2201
Webmaster	Sharon Sonnleitner (sonnb@aol.com)	396-4016

Club meetings are held the 3rd Tuesday of each month from September through November and from January through May at 7:00 p.m. at the Rockwell Collins 35th Street Plant Cafeteria, 855 35th St NE, Cedar Rapids, Iowa. The December meeting is a Christmas dinner held on the usual meeting night. June, July, and August meetings are potlucks held at 6:30 p.m. at area parks on the 3rd Tuesday of each month.

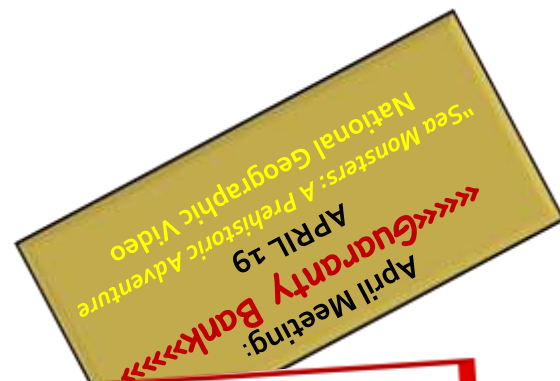
CEDAR VALLEY ROCKS & MINERAL SOCIETY

CVRMS was organized for the purpose of studying the sciences of mineralogy, geology, and paleontology and the arts of lapidary and gemology. We are members of the Midwest (MWF) and American (AFMS) Federations. Membership is open to anyone who professes an interest in rocks and minerals.

Annual dues are \$15.00 per family per calendar year. Dues can be sent to:

**Dale Stout
2237 Meadowbrook Dr. SE
Cedar Rapids, IA 52403**

CVRMS website:
cedarvalleyrockclub.org



Ray Anderson, Editor
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