

Cedar Valley Gems



Cedar Valley Rocks & Minerals Society

Cedar Rapids, Iowa

cedarvalleyrockclub.org

CEDAR VALLEY GEMS

MARCH 2018

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

Next CVRMS Meeting Tuesday March 20

Hiawatha Community Center
101 Emmons St., Hiawatha - 7:15 pm

featured speaker:

Dr. Emily Walsh
and Students from
Department of Geology
Cornell College



Cornell Geology students on a New Zealand shore

Students from Cornell College and their professor Dr. Emily Walsh will present a program describing some of the Cornell research and field studies that were supported in part from grants from the Cedar Valley Rocks and Minerals Society. In 2017 those grants to Cornell totaled \$3500.

World's Largest Known Quartz Crystal Cluster



Discovered in 1985 at the Otjua Farm in the Karibb district of Namibia, the giant mass of quartz crystals measures 10 ft wide by 10 feet high and weighs about 16 tons. The crystals are beautiful crystals, and many of them are doubly terminated, identifying them as "floaters" (i.e. they grew while floating in the mineralized fluid, rather than growing onto a surface). The largest single crystal may be the world's largest quartz floater, with a length of 7 feet, a circumference of 6 feet, and an estimated weight of 1 ton. The milky appearance of the quartz indicates the presence of abundant fluid inclusions. This specimen is estimated to be about 520 million years old and took 5 years to excavate. It is displayed in the foyer of Kristall Galerie (Crystal Gallery) in Swakopmund, Namibia.

<http://www.geologypage.com/2016/05/the-largest-known-crystal-cluster-in-the-world.html>

CVRMS Feb. 20 Meeting

Hiawatha Community Center

Called by President Marv Houg at 7:18

Guests included Brad Kirkpatrick and daughter, Rowen Kelley.

The minutes of last club meeting reviewed. Motion to accept made by Jay, second by Sheri. Approved as published.

The treasurer's report was presented by Dale Stout. The current checking account balance is \$27,007.90. This is higher than usual because of show contracts paid. Motion to accept & record balance made by Bill, Seconded by Tom. Report approved.

Door prize was won by Kim Hanna.

Program: Tiffany Adrain, Special Collections Manager, U of IA Paleontology Repository, spoke about the 160 years of collecting. Interesting, entertaining presentation about collecting, cataloguing and history.

Show report: A review (reminder) of the Hawkeye Downs rules regarding bringing in food and drinks.

Raffle items being collected. Goal; 5 -6 nice items & a variety.

Egg cartons need putting together again, and Sharon will host the egg party on February 25 at her house.

Pot luck dinner on Friday, 6:30 p.m., to treat the vendors. All welcome; bring a favorite dish. We expect about 65 people.

Saturday will be the catered meal, \$12 each. Chicken, beef, party potatoes, green beans, 7-layer salad, roll. Marv spoke with Hy Vee regarding our complaints from last year and was assured it would be corrected. Reservations required - let Marv know. The club will supply drinks and dessert.

MSHA training will be held at the Marion Library at 1:30p.m. March 22 and 5:30 p.m. at the Ladd Library Westside. \$10 charge. Notify Marv if interested.

Marv reminded Club that help is needed on Friday for set up and Sunday for clean up. Also, donations for door prizes, pebble pit, and silent auctions always welcome and needed.

Crinoids: The club's campaign for designating a State fossil has faltered temporarily. The bill was written but did not make it out of committee. Our efforts will continue with Ray leading the charge. We need more time and knowledge to make the process successful. The crinoid will be prominent at the show and will hopefully get more support. Floyd the 'Noid as affectionately named by Ray is upset and a humorous depiction of Floyd is available on the club's website.

Projector: Rick Austin has looked into various samples of projectors. Need 5000 lumen range for about \$1000 to \$2000 range. Motion made by Bill Desmarais that the board be allowed to purchase projector not to exceed \$2000. Second by Sheri Milhouse. Discussion regarding disposal of old one. Dean Young volunteered to look into cost price through his employment. Motion passed.

Field trip: Bill has initially lined up a trip to Milwaukee Museum on November 4. More information to follow.

February Club Meeting Minutes (continued on page 9)

CVRMS Board Minutes Jan. 30

Board Minutes – February 27, 2018

Called at 7:15 at the home of Marv Houg

Members present-Marv Houg, Dale Stout, Rick Austin, Jay Vavra, Ray Anderson, Dell James, Bill Desmarais, Sharon Sonnleitner, Bob Roper,

Meeting called to order by pres. Marv Houg 7:30p.m.

Show

Discussion regarding special displays. Beloit College has not responded to requests yet. Ray will prod.

Augustina College has potential of 2 slabs with crinoids.

Marv has crinoid slabs. Bill suggested a crinoid slab that people could touch and feel. Marv will look into it. Maybe both prepped and an unprepared specimens.

Sharon is lining up the display cases and displays that are available. A community case will be set up for members who may not have enough for a whole case but have a special item or two to display. The specimens need to be labeled with identification.

Dealers are mostly paid up. Two still in question.

Dale will send out email to everyone regarding MSHA training and reminder about door prizes, pebble pit, silent auction material and any other information.

Security will be extended until closing of show. Usually, security was ended ½ before completion. Since we have some pricey displays this year, extending the time is necessary.

Raffle prizes were discussed. We have donations of an amethyst cathedral, 2 zeolites, a box of fossil specimens, and a yet-to-be-determined item. In addition, Club will ask for a large geode.

University of Iowa students want to continue their dig and it will be made smaller and dig for sharks teeth or similar. Sharon and Marv working on obtaining specimens.

Auction

General discussion regarding numbers of lots and need for more.

Projector

Marv will call Dean and get comparison prices and info regarding projectors. He will call Bill, Rick etc. to order the final choice.

Library Rocks

Bill and Ray each signed up for a presentation and another request from Hiawatha Library.

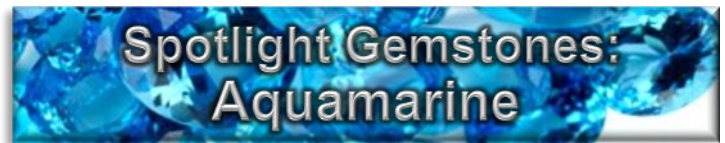
Adjournment

Motion to adjourn by Ray, second by Rick. Meeting adjourned at 9:25.

Respectfully submitted,
Dell James, Secretary



Researchers from the University of Bristol have revealed how a small feathered dinosaur used its color patterning, including a bandit mask-like stripe across its eyes, to avoid being detected by its predators and prey. By reconstructing the likely color patterning of the Chinese dinosaur *Sinosauropteryx*, researchers have shown that it had multiple types of camouflage which likely helped it to avoid being eaten in a world full of larger meat-eating dinosaurs and allowing it to sneak up more easily on its own prey. In work that was published in the journal *Current Biology* they demonstrated that at least some dinosaurs displayed sophisticated color patterns to hide from and confuse predators, just like today's animals. Their work involved mapping out how dark pigmented feathers were distributed across the body to reveal distinctive color patterns. The patterns include a dark stripe around the eye, or 'bandit mask', which helps modern birds to hide the eye from would-be predators, and a striped tail that may have confused both predators and prey. The small dinosaur also showed a "counter-shaded" pattern with a dark back and light belly, a pattern that makes modern animals look flatter and less 3D. This helps animals blend in to their background, making them harder to spot by predators and potential prey. In modern animals that the precise pattern of countershading relates to the specific environments in which they live. Animals living in open habitats, such as savannahs, often have a counter-shaded pattern that goes from dark to light sharply and high on the side of the body, while those living in more closed habitats, like forests, usually change from dark to light much lower and more gradually. This principal was applied to *Sinosauropteryx* to allow for the reconstruction of its habitat 130 million years ago. The countershading on *Sinosauropteryx* went from dark to light high on the body, suggesting that it would be more likely to live in open habitats with minimal vegetation. By reconstructing the color of these long-extinct dinosaurs, we have gained a better understanding of not only how they behaved and possible predator-prey dynamics, but also the environments in which they lived. http://www.spacedaily.com/reports/Bandit_masked_feathered_dinosaur_hid_from_predators_using_multiple_types_of_camouflage_999.html



Aquamarine, the blue variety of the mineral Beryl and birthstone of March, is a rich, medium to dark blue colored stone produced in Brazil, Madagascar, Russia, and the USA, and it has long been a symbol of youth, health and hope. Recently, aquamarine from China and Columbia has come on the market, but they are generally a little bit more yellow. Aquamarine is a highly sought-after semi precious gem, which for centuries has been used in the creation and encrustation of jewelry and everyday items. Sailors of legend believed that mermaids' tails were made of Aquamarine. The lucky stone was thought to ensure sailors a safe return. Aquamarine colors range from very light blue all the way through to a deeply saturated Ocean blue. The best color is often called Santa Maria Blue and recently there has been a new find in Madagascar called Double Blue. The name Aquamarine comes from the Latin words "aqua" (Water) and "marina" (Sea). Legend says that it is treasured by mermaids, and sailors would carry Aquamarine to protect them from drowning. Believed to aid in digestion, Roman physicians would employ Aquamarine to treat overeating and reduction of body fluid retention. It is believed that Aquamarine has the ability to reawaken the love in married couples. Roman legend also tells that it absorbs the atmosphere of young love; "*When blessed and worn, it joins in love, and does great things.*" It is also considered an appropriate gift for a groom to give to his bride following the consummation of their marriage. To the Sumerians, Egyptians, and Hebrews, Aquamarine was the symbol of happiness and everlasting youth. Legend says that you should place your Aquamarine under a full moon, to help restore its look and renew its energy. The largest stone ever found is from Minas Gerais, Brazil; It weighed 242 pounds and measured 19 inches x 17 inches. The largest cut Aquamarine is the **Dom Pedro** which now sits in the Smithsonian Institute. It finished weighing in at 10,363 cts and measured 14 x 4 inches.

<https://www.gemrockauctions.com/learn/a-z-of-gemstones/aquamarine-information-the-blue-beryl>

What in the World?



What in the World is this ugly rock ??



University of Wyoming
Geology Students, 1930.

February's Photo



Those of you who recognized last month's *What in the World* image as Shiprock get partial credit. If you know that it was a volcanic neck you get additional credit. But for complete credit you had to know that this was not a run-of-the-mill volcano, it is a maar- diatreme, a volcanic pipe created by a gaseous explosion. As molten magma rose up through the Earth's crust it made contact with shallow ground water. The rapid expansion of the heated water as it flashed to steam, combined with volcanic gases, created a series of explosions, forming a cone-shaped crater filled with fractured volcanic rock and solidified magma.

Rock Calendar 2018 CVRMS EVENTS OF INTEREST

March 20- CVRMS Monthly Meeting
Feature Program
Cornell College Field Students
Hiawatha Community Center 7:15 pm

**March 24-25 - CVRMS Gem, Mineral,
and Fossil Show**
"Crinoids; Iowa's State Fossil?"
Hawkeye Downs, Cedar Rapids
see p. 10 for more information

**April 6-April 8—MAPS National
Fossil Expo 39**
"Permian AND Triassic Periods"
Sharpless Auctions Facility, Iowa City
see p. 11 for more information

April 17 - CVRMS Monthly Meeting
Feature Program
"To Be Announced"
Hiawatha Community Center 7:015 pm

May 15 - CVRMS Monthly Meeting
Feature Program
"To Be Announced"
Hiawatha Community Center 7:15 pm

Sept. 15-16—CVRMS Rock Auction
Amana RV Park and Event Center
Amana, Iowa

Nov. 4—CVRMS Fall Field Trip
Milwaukee Public Museum
Milwaukee, Wisconsin

**YOU
ROCK**

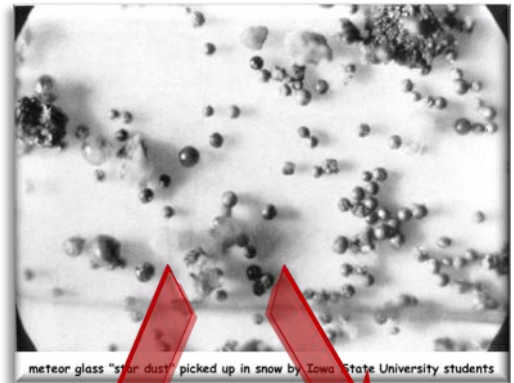
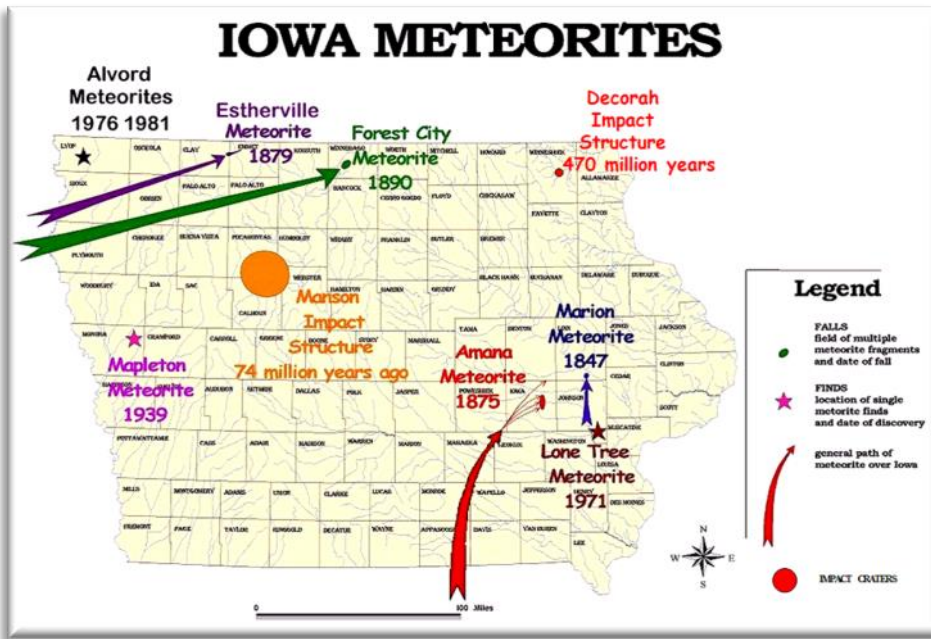
Ask a Geologist *by Ray Anderson aka "Rock Doc", CVRMS Vice President*

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.

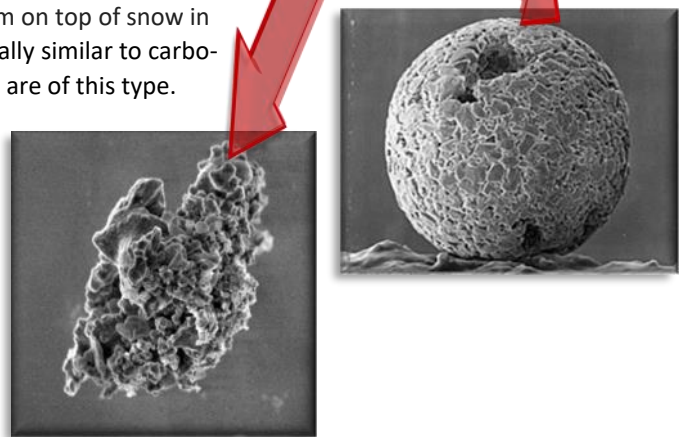
Rona asked: "Have you seen micrometeorites in Iowa like the ones in the White Cliffs that you discussed on page 6??"

Rock Doc replied: I haven't seen Iowa micrometeorites personally, but an Iowa State professor and his students have. As you know we have found pieces of 7 separate meteorites in Iowa (four of them have been observed falling). Additionally (see map below) we have discovered 2 ancient mete-

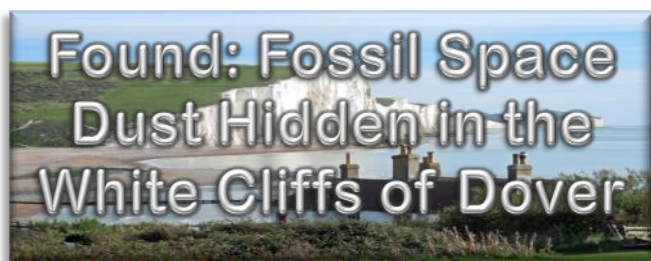
or craters (beneath Manson and Decorah). Additionally, over 100 tons of space dust falls to Earth every day! This is equivalent to about a shoe-box full per acre every year. That's 36,000 tons of meteorite dust world-wide per year. In the 4.6 billion years of Earth history, that's enough to cover the planet with a layer of dust 150 feet thick.



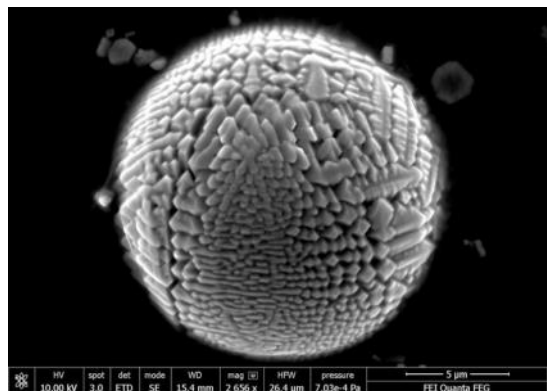
This dust mostly falls as small particles through the Earth's atmosphere at high velocities (at least 25,000 mi/hr) and melts from frictional heating in our atmosphere, arriving on earth as small particles of glass. In the 1950s Iowa State University Professor C.C Wylie and his students collected some of these micrometeorites from on top of snow in Ames (see images on right). Most micrometeorites are compositionally similar to carbonaceous chondrites, whereas approximately 3% of larger meteorites are of this type. The dominance of carbonaceous chondrite-like micrometeorites and their low abundance in meteorite collections suggests that most micrometeorites derive from sources different than those for most meteorites. Since the vast majority of meteorites are probably derived from asteroids, an alternative source for micrometeorites might be comets. Recent dynamical simulations suggest that 85% of cosmic dust could be cometary. Furthermore, analyses of particles returned from the comet, Wild 2, by the *Stardust* spacecraft show that these particles have compositions that are consistent with many micrometeorites. Nonetheless, the parent bodies of some micrometeorites do appear to be asteroids, primarily chondrule-bearing carbonaceous chondrites. So, some of that dust you brush off your car is probably from out of this world, from the Asteroid belt, Kuiper belt, from the Ort cloud, or maybe even deep space.



Top: the greatly magnified micrometeorites collected in Ames by the students of Iowa State University Professor C.C. Wylie in the 1950s, and **Below:** two electron microscope images of micrometeorites.



Here's a wonderful word to add to your vocabulary: *Micrometeorites*. Micrometeorites are teeny particles, less than a millimeter in size, that made it through Earth's atmosphere from space. They are extraterrestrial, cosmic dust, star stuff—or, more precisely, asteroid stuff. As they speed through the atmosphere, micrometeorites melt to form spherical drops, and when they land on Earth, they cool and

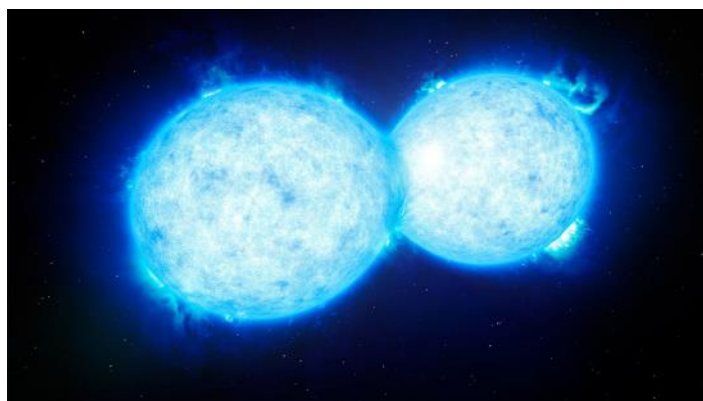


An SEM photo of a cosmic dust particle with branching crystals

form dendritic crystals that branch from their surface like trees. In their pristine form, they're quite beautiful. But it's rare for scientists to find unaltered micrometeorites. Long years on Earth change and corrode those original spheres into unrecognizable shapes. In a new study, though, published in *Earth and Planetary Science Letters*, researchers report that they have developed a technique for recognizing fossil cosmic dust, even when it's less than perfect. The scientists identified micrometeorites in the White Cliffs of Dover, the dramatic English coastline made of Late Cretaceous chalk. They reported recovering the space dust particles both through chemical dissolution and by grinding down the samples. Some of the tiny spheres they found could be relatively easily identified as ancient micrometeorites based on their features. Others were identified by their unique geochemical characteristics. Before this analysis, no one knew that the famous White Cliffs contain space dust, which is rarely discovered on Earth. What this means, though, is that micrometeorites may be much more common on this planet than anyone knew. Now that scientists have a better idea of what the particles look like, they can look for more of these tiny clues to the past of our planet and the vast unexplored reaches of space. <https://www.atlasobscura.com/articles/fossilized-space-dust-white-cliffs-dover-micrometeorites>



A team of astronomers is making a bold prediction: In 2022, give or take a year, a pair of stars will merge and explode, becoming one of the brightest objects in the sky for a short period. It's notoriously hard to predict when such stellar catastrophes will occur, but this binary pair is engaged in a well-documented dance of death that will inevitably come to a head in the next few years, they say. The researchers began studying the pair, known as **KIC 9832227**, in 2013 before they were certain whether it was actually a binary or a pulsating star. They found that the speed of the orbit was gradually getting faster and faster, implying the stars are getting closer



Artist's conception two stars merging.

together. The pair is so close, in fact, they share an atmosphere (as in this artist's conception of an unrelated stellar merger). KIC 9832227's behavior reminded the researchers of another binary pair, V1309 Scorpii, which also had a merged atmosphere, was spinning faster and faster, and exploded unexpectedly in 2008. Now, after 2 years of careful study to confirm the accelerating spin and eliminate alternative explanations, the team reported here today at the American Astronomical Society's annual meeting that **the pair will explode as a "red nova"**—an explosion caused by a binary merging—in about 5 years' time. The scientists will continue to monitor KIC 9832227 over the coming years to both firm up their prediction and learn more about how such a death spiral ends in a red nova. Amateur astronomers can study it too, measuring how it fluctuates in brightness at an ever-increasing rate. And when it blows, we'll all be able to enjoy the show. So, mark your calendars. <http://www.sciencemag.org/news/2017/01/colliding-stars-will-light-night-sky-2022>

Geologists Discover Origin of Earth's Mysterious Black Diamonds

Although most *black diamonds* on the market today are either superheated or irradiated to an almost black color, natural black diamonds do exist, though they are extremely rare. Whether color treated or natural, however, what defines a diamond is its chemical composition (carbon with minor impurities) and its crystalline atomic structure, cubic or isometric. **Carbonado** is a curious mineral that is often referred to as "*black diamond*" but is more accurately described as a *polycrystalline or aggregate material of amorphous carbon, graphite, and diamond*. This aggregate material has a **greater hardness than diamond** and is used primarily in industry. Carbonado resembles charcoal, and its name means "burned" in Portuguese, but what burned it may



Diamond and graphite carbonado rock that contains black diamonds

be truly extraordinary. Carbonado might have an extraterrestrial origin. Unlike diamonds, carbonados are never found in igneous kimberlite rock formed deep within the Earth, but in alluvial sedimentary deposits instead. The micro-diamonds present in carbonado (typically smaller than 20 microns) lack traces of minerals found deep in the Earth's mantle (typical of other diamonds) but do possess traces of nitrogen, hydrogen, and **osbornite** (a mineral otherwise found only in meteors) which suggests they originated in outer space. Carbonados have been dated from 2.6 to 3.8 billion years old, and have only been found in Brazil and in the Central African Republic. During that span of the Earth's history, what is now Brazil may have been joined to the western coast of Africa. It is possible that a diamond meteorite struck the Earth at that time, accounting for carbonado's current distribution. In other types of diamonds with meteoric origins, such as **lonsdaleite**, the physical impact with the Earth may have played a role in diamond formation and may account for some unusual properties. Most naturally colored black diamonds get their color from large quantities or clouds of minute mineral inclusions such as graphite, pyrite or hematite that extend throughout the stone.



3.2 billion year old black diamonds (Carbonado diamondites) from the Bangui Region of the Central African Republic

These diamonds may also have numerous cleavages or fractures that are stained black or have become black because of graphitization. It is the concentrations of these internal features that are responsible for the coloration. In fact, the actual body color of a natural black diamond may range from near-colorless to brown or "olive" green. Only a few famous black diamonds are known, such as the 67.50 ct **Black Orloff**, also called the *Eye of Brahman*, which was reputed to be stolen from an idol in India in the early 1800s. So cursed that several of its owners committed suicide, it was ultimately recut to break the hex. Researchers have argued that the diamonds in carbonado may have been formed in supernovae explosions, which sent chunks of the material into space and ultimately on a collision course with Earth. The impact of these asteroid-sized diamond bodies with the unique geology and oxygen-poor atmosphere of the Earth 2.6 to 3.8 billion years ago may have formed the polycrystalline material we now call carbonado "black diamonds."



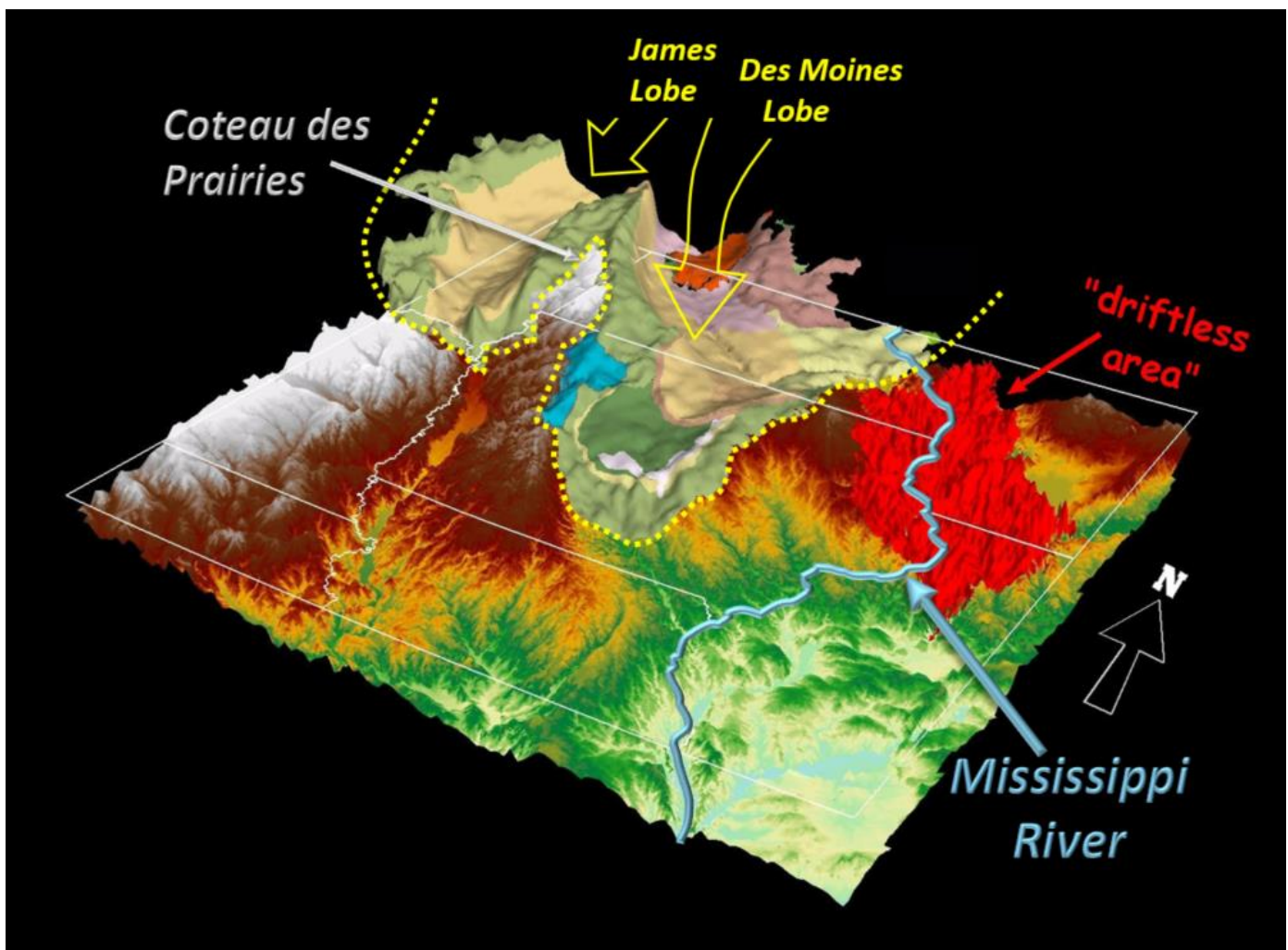
The famous 67.50 ct **Black Orloff** black diamond, is also called the "*Eye of Brahman*".

<https://www.gemsociety.org/article/black-diamonds/>

What's New In Iowa Geology ??

Bill Bunker's Continuing Digital Geologic Graphics

Retired Iowa Geological Survey geologist Bill Bunker continues to scan the internet for digital geological information that he can merge with data from the Iowa Natural Resources Geographic Information System using ArcMap software. The maps that he produces help us refine our understanding of Iowa Geology. He recently premiered one of his latest digital masterpieces, a map showing the geologic materials deposited by two Wisconsin glacial ice sheets, the James Lobe and the Des Moines Lobe, draped over a map of the surface elevation of Iowa and the surrounding region. The change in surface elevation is portrayed in colors from blue lows in the southeast, up thru tones of green, yellow, and final white capping the highest elevations (like snow-capped mountains). The red colored area in the northeast is supposed to represent an old coverage of the till-free "driftless area." However, we now know that the land west of the Mississippi River in Iowa and Minnesota was glaciated (so mentally



remove the red color from that area in your mind.) The colored units on the Des Moines Lobe include blue (Sheldon Creek, the oldest till) and, from the south, the light green Bemis lobe till and James Lobe equivalent, light yellow Altamont moraine and dark green Altamont till, the light brown Algona moraine and tan Altamont till sheet and related till on the James Lobe, the pink Alexandrian moraine, the light yellow Superior Lobe, the brownish-red Rainy Lake Lobe, and the red-orange Itaska lobe. The shaded relief shows the lower elevation troughs followed by the flowing ice sheets and the higher elevation ridge known as the *Coteau des Prairies* that separates the James and Des Moines Lobe. Good work, Billy, keep it up!!

Help Needed From CVRMS Members (and other reminders)

MSHA quarry safety training, Thursday March 22

- Thursday **afternoon** at 1:30 at **Marion Library**
 - Thursday **evening** at 5:30 at Ladd Library in CR
- Make Reservations with Marv (see below)**

Rock Fossil & Mineral Show March 24-25

- » Rocks Still Needed for Rock Show
 - Silent Auction**—rocks and fossils to be auctioned
 - Door Prizes**—rocks and fossils to be door prizes
 - Pebble Pit**—rocks and fossil specimens for kids to find
- » Need workers to help with **Show setup** (March 23) pop, rolls, coffee & free lunch for workers). Starts at 8:30 am; come whenever you can! Cover and skirt tables. Bring scissors or box cutter if helping cover tables. Set chairs in the booths. Clean display-case glass inside and outside with Windex. Spray inside of display cases with Fabreze if needed. Straighten out cloth for case liners. Help carry material to Pebble Pit & Silent Auction areas. Help set up Dig area. Help Dealers move in.
- » Need workers to help with **Show tear down**, 4:00 pm (March 25)
- » Potluck dinner Friday night, 6:30 pm (March 23). Dealers are our guests. Plan to bring a large dish or two to share and your own table service. Drinks will be provided. *Our members and dealers always rave about our great pot lucks, so we have a reputation to uphold every year.*
- » Catered dinner after show on Saturday (March 24) \$12.00. The menu will include beef, chicken, party potatoes, green bean casserole, seven-layer salad plus dessert and drinks, which are furnished by the club. Reservations are required. Following dinner, John McArdle & Kelly Lund will present a program on their collecting trips to Australia. **Make Reservations with Marv (see below)**
- » Deserts for Catered Dinner: To hold down the cost of the catered dinner, we are looking for a few members who can't help in other ways during the show or who just like to cook to bring desserts. We expect 80-100 for the dinner, so 6-8 people bringing a dessert should cover it. **Contact Dell James (cycladelics@msn.com; 319-446-7591)** if you can help.

PICK UP YOUR 2018 CVRMS MEMBERSHIP DIRECTORY AT THE SHOW!

You can help us to present another excellent show.

below:

For questions about any of the above, please contact Marv Houg at **319-364-2868** or at m_houg@yahoo.com.

Mammals switched to Daytime Activity After Dinosaur Extinction

A new study affirms that mammals only started being active in the daytime after non-avian dinosaurs were wiped out about 66 million years ago (mya). The study analyzed data of 2415 species of mammals alive today using computer algorithms to reconstruct the likely activity patterns of their ancient ancestors who lived millions of years ago. Two different mammalian family trees portraying alternative timelines for the evolution of mammals were used in the analysis. The results from both show that mammals switched to daytime activity shortly after the dinosaurs had disappeared. This change did not happen in an instant - it involved an intermediate stage of mixed day and night activity over millions of years, which coincided with the events that decimated the dinosaurs.



The team found that the ancestors of simian primates - such as gorillas, gibbons and tamarins - were among the first to give up nocturnal activity altogether. This discovery fits well with the fact that simian primates are the only mammals that have evolved adaptations to seeing well in daylight. They

analyzed data on the behavior and ancestry of living animals for two reasons - firstly, because the fossil record from that era is very limited and secondly, behavior as a trait is very hard to infer from fossils. Fossil evidence from mammals often suggest that they were nocturnal even if they were not. Many subsequent adaptations that allow us to live in daylight are in our soft tissues. The team says further research is needed to better populate the mammalian family tree to give more accurate information on when the behavior of species changed from night time to day time activity. http://www.spacedaily.com/reports/Mammals_switched_to_daytime_activity_after_dinosaur_extinction_999.html

February Club Meeting Minutes (continued from page 2)

Other Business

Next month's hosts will be Karen and Dolores. Karen Desmarais volunteered to take over the host duties and man the door prize. The box of miscellaneous stuff and coffee pot is now in her hands.

Brief update from Marv regarding auction. About 600 items so far.

Libraries Rock is the theme for the summer reading program. Bill and Ray have volunteered for two programs on rocks and minerals. Anyone else interested should let Marv know as there may be more requests.

T shirts. Dell reported that she has ordered 30 T-shirt's of various sizes.

Ray and Tiffany announced that on Friday 2/23 and Saturday there will be a celebration of Darwin Days at Mc Bride Hall, Iowa City. More info on internet.

Motion to adjourn by Lisa Blunt, second by Joy. Meeting adjourned at 9:45p.m.

Respectfully submitted,
Dell James, Secretary

Cedar Valley Rocks & Minerals Society
Presents its

2018 GEM, MINERAL & FOSSIL SHOW

Iowa's Largest & Among Midwest's Largest

54th
Annual
Show

Saturday March 24 - 8:30 a.m. to 6:00 p.m.
Sunday, March 25 - 9:30 a.m. to 4:00 p.m.

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



CRINOIDS Iowa's State Fossil?

Also Featuring 6' Eurypterid, Courtesy of IA Geological Survey

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

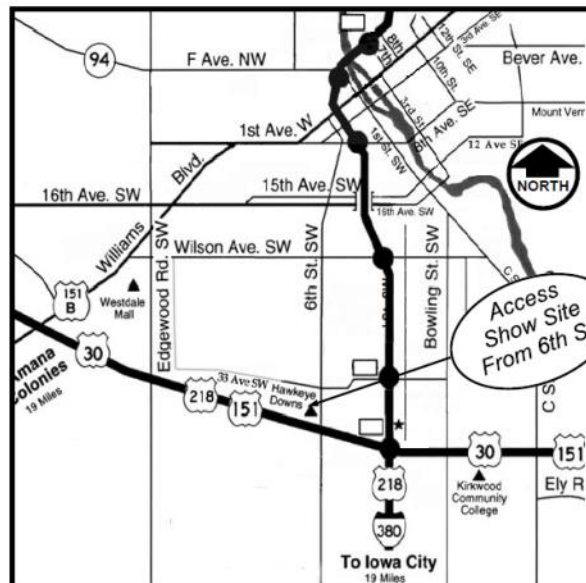
1¢, 5¢, 10¢, 25¢, & 50¢ Items
\$1 Rock & Mineral Kits

HOT FOOD

Hawkeye Downs Concessions

**PROFITS GO TO
SCHOLARSHIPS**

**NOT RESPONSIBLE
FOR ACCIDENTS**



DISPLAYS

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

SILENT AUCTION

Geodes, Minerals, Crystals, etc.

DONATIONS

REQUESTED

Adults\$3.00
Students\$1.00
(12-18)
ChildrenFree
(Under 12)
Youth GroupsFree
(w/adult)

SLUICE FOR MINERALS (Kids & Adults)

MANY ITEMS FOR SALE, INCLUDING:

Books	Fossils	Jewelry	Minerals	Book Ends
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Slabs	Geodes	Crystals	Tumblers	Lapidary Equip.
Gems	Beads	Spheres	Meteorites	Jewelry Findings

**CHILDREN MUST BE
ACCOMPANIED BY AN ADULT
ONLY SERVICE DOGS
ALLOWED**

For Additional Information, Contact:

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

Sharon Sonneleitner (319-396-4016, sonnb@aol.com); Ray Anderson (rockdoc.anderson@gmail.com)

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

Permian AND Triassic Periods.

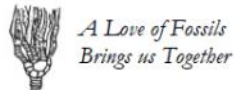
Mid-America Paleontology Society (MAPS)

WORLD'S LARGEST FOSSIL-ONLY SHOW Expo XL

**Free Admission
Donations Welcome**

April 6-8, 2018
8:00 - 5:00 Friday & Saturday; 8:00 - 3:00 Sunday
(Sunday's show has limited dealers)
Sharpless Auctions Facility, I-80 Exit 249, Iowa City, IA

Mid-America Paleontology Society



CONTACT:
TOM WILLIAMS
Tables
815-223-9638
cell: 815-228-5083
Paleotom234@comcast.net

www.midamericapaleo.org

**BUY, SELL, SWAP & DISPLAY
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**Children's Activities, Silent Auctions,
Programs/Workshops**

Keynote Address: TBA

Fri., April 6, TBA pm
Live Auction: Sat., April 7, 5:15 pm



Venue is Sharpless Auctions
5049 Herbert Hoover Hwy NE, I-80 Exit 249, Iowa City, IA

**PERMIAN AND
TRIASSIC PERIODS.**

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Hospitality	Jeff Kahl (jczskahl2012@yahoo.com)	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 Hiawatha Community Center in the Hiawatha City Hall, [101 Emmons St., Hiawatha IA](#). The December meeting is a potluck dinner held the 2nd Tuesday. 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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