

# DVESScapades

*escapades: interesting, stimulating, exciting activities and adventures*



## Delaware Valley Earth Science Society Newsletter



### Meeting, 2011 Program: interactive experimentation with fossils and fun for all

I have had a computer "THING" again. Lost all my work twice.  
Any one want to become Editor?????? Carol

**President's Message** - The weather is finally turning to spring, which means it's time to get outside and dig around. We have some nice field trips in the planning stages; our group brainstorming is working out. Look forward to Echo Caverns (PA), fossil hunting, Virginia fossils (VA), Ringing Rocks, Big Brook (NJ), Poland Mine Camps (MA), St. Clair (PA), local streams, star parties, and who knows what else. At the meeting we'll throw around some dates.

**Sterling Hill is coming up on April 30**, so if you've never been, you really must make the trip. It's a one of a kind collecting location with a very unusual mine tour. If they take us on a museum tour, that's yet another special treat.

We'll do a 50/50 drawing this month, and if anyone brings specimens to show, you can talk for a few minutes about them. Last month we discovered that the Berlin Diner is closing at 10, so we had to go to the Palace Diner, just around the corner. Feel free to join your fellow members afterwards for coffee, dessert, breakfast, dinner or whatever. See you in a week or so. --Terry Wilson

Delaware Valley Earth Science Society,  
Inc. ( DVESS )  
P.O. Box 372  
Maple Shade, N.J. 08052  
DVESS Website : <http://www.dvess.org>



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A last minute addition from Elliott Grant today when I am having all kinds of computer problems and lost most of the newsletter to the gremlins inside. Check this website out

<http://www.npr.org/blogs/krulwich/2011/03/01/134138005/cactus-walking-on-20-legs-found-in-china?sc=fb&cc=fp>

Go to the web site and watch the YouTube video and see all the links. VERRY INTERESTING There was a wild period — roughly 520 million years ago — when life, for no obvious reason, burst into a crazy display of weird new fantastic forms — producing creatures in shapes never seen before or since. Consider this animal, the newest fossil discovery from Gianni Liu in China. She calls it "the walking cactus."

This is not a plant, not a sculpture. It was a live animal, with no eyes, what may or may not be a head, mostly a gaggle of limbs, armor-plated, covered in thorns, attached to a stomach. What is it? Taxonomically, Gianni Liu thinks it's a lobopodian, a group of animals described as "worms with legs." Lobopodians are about the craziest looking critters that ever lived. A whole zoo of them appear in the rocks around Chengjiang, China. Here's what the walking cactus looks like in a rock...

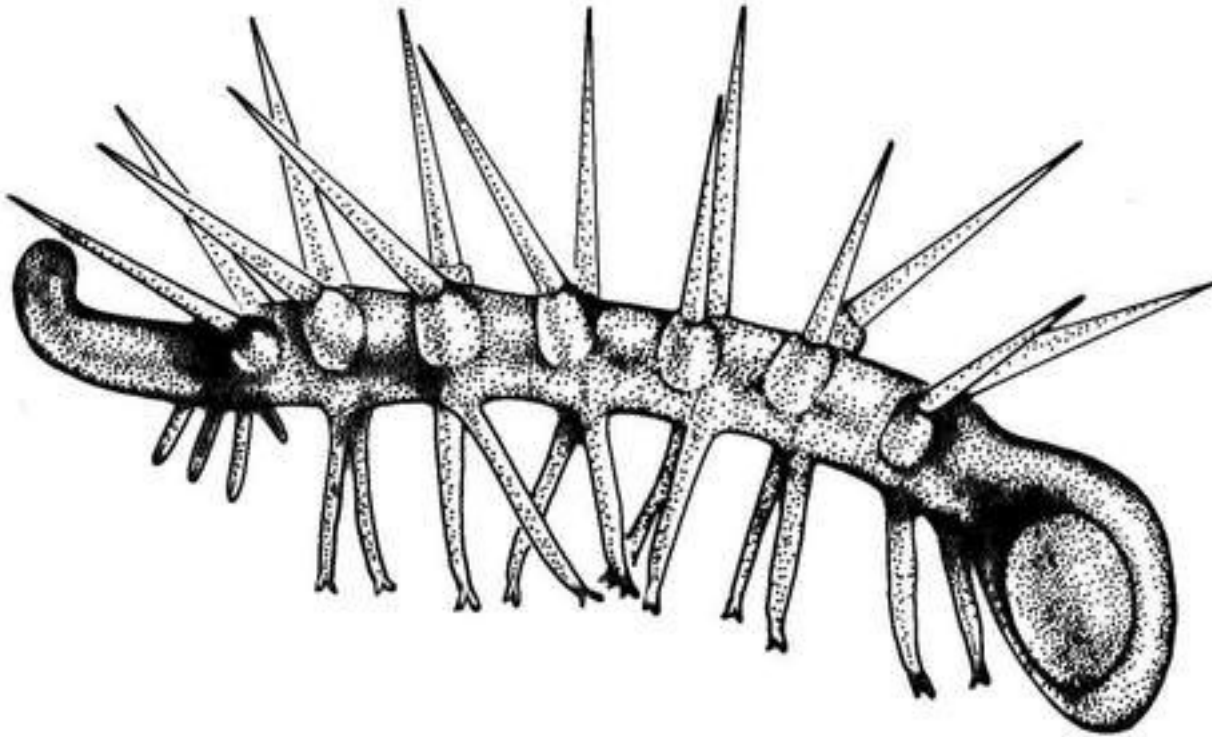
A fossil of *Dianiacactiformis*.



Nature

A fossil of *Diania cactiformis*. Gianni Liu has found three well-preserved walking cactus fossils, but previously discovered lobopodians are even weirder. *Hallucigeni*, so named because of its "bizarre and dreamlike quality" (said the scientist who described it) is another walking worm that has what looks like a head-like blob on one side, but with no mouth, no eyes, no sensory organs, so it probably isn't a head.

The next is an Illustration of *Hallucigenia*.



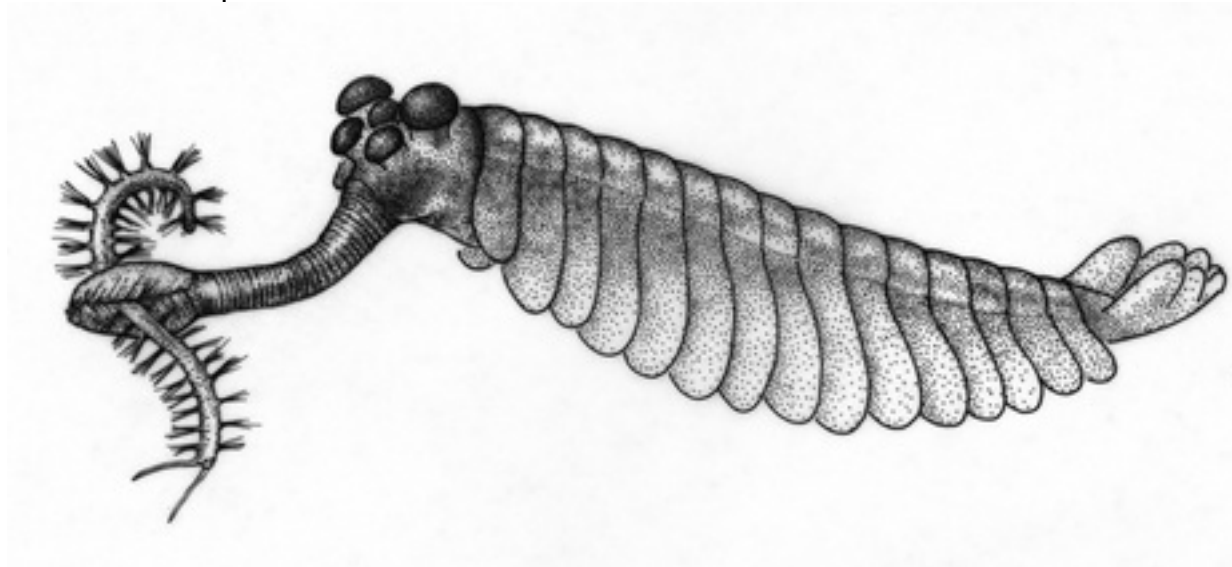
Mary Parrish Smithsonian Institution

No one can quite figure out if those projections are walking legs or feeding tentacles. We're not sure which side is up, which is down, but we know it lived in shallow seas and so the folks at the Field Museum in Chicago have imagined it taking a walk on a sunny day...moving something like this... Check out the movie on YouTube

Source: YouTube

Then there's *Opabinia*, a horse-shoe crab, knob-eyed (are those eyes?) looking animal, totally armored, unlike any modern worm or sponge or anything we have around today...

Illustration of *Opabinia*.



Mary Parrish Smithsonian Institution

All these animals are extinct now, but Gianni Liu thinks they may be the great, great grandparents of

insects and crabs and shrimps and lobsters. They may have introduced the notion of jointed legs — the ones you have to pry off when eating at the Red Lobster. There are some animals from that time, like *Anomalocaris*, who do have shrimp-like joints...

Illustration of *Anomalocaris*.



Gaetan Lee/[Wikimedia Commons](#)

But no one is sure, because the lobopodians are so ancient and in many ways so peculiar they may not be directly related to anything we meet or eat today.

All we know, says Richard Fortey in his classic history *Life*, is that a long time ago, the first of these strange animals popped into view and for a short while "there was a chain reaction, unstoppable once it started, a bacchanalia of zoological inventiveness, which has never been matched again." Every living thing on earth today is what's left over from that amazing burst of forms. It's true we now live on land and in the air, not just in the sea. We have grasses and flowers and beetles in more varieties than you can imagine, and yet, in some deep architectural way, the developmental paths were set way back then, 500 million years ago. The Walking Cactus is just another souvenir of that crazy moment.

Thanks to Ed Yong and his blog, "[Not Exactly Rocket Science](#)," for exploring the connections between the Walking Cactus and modern arthropods. Richard Fortey, in turn, explores why life forms suddenly blossomed back in the Cambrian in his classic book, *Life, A Natural History of the First Four Billion Years of Life on Earth* (Vintage, 1997) .

## **NEW WEB SITE**

**Past President DVPS - Don Miller**

I have started a forum called Fossil Free-for-All <http://fossilfree-for-all.lefora.com> that is open to anyone from total newbies and up. I would like to encourage DVPSers to join and post. I envision it as open and freewheeling. So while it is free for all, at times it may be a free-for-all. Happy Healthy and Prosperous New Year to all and may it be a fossilicious one too.

### **Weekends in March at the NJ State Museum** (Exterior below )

Spring is around the corner and it's the perfect time to bring your whole family to the New Jersey State Museum. There is something exciting for everyone! Take part in our [Sunday Explorers](#) workshops and create your own clay oil pot or basket. Enjoy a **FREE** live performance on [Second Saturdays](#). See our brand new [Planetarium](#) show narrated by Tom Hanks - *Passport to the Universe*, or learn about endangered animals during the [Saturday Science Lecture](#).

Stroll through our many [galleries](#) and discover amazing and sometimes little-known facts about New Jersey and America. Have you taken part in our museum scavenger hunt? [Click here to print your check-list!](#)

Visit our website or view our [March calendar](#) here for a complete list of this month's exhibitions and programs.



### March

**5-6 – Newark (Staunton), DE** - 48th Annual Earth Science Gem & Mineral Show sponsored by the Delaware Mineralogical Society. Delaware Technical & Community College, Churchmans Road (Rt. 58), Exit 4B, Saturday 10:00 AM to 6:00 PM, Sunday 11:00 AM to 5:00 PM.

**12 – Levittown, PA** – The Rock & Mineral Club of Lower Bucks County, PA Mineral, Fossil and 35<sup>th</sup> Annual Micromount Show. Faith Reformed Church, Levittown Parkway and Sexton Lane, just south of Mill Creek Parkway. Saturday 10:00 AM to 3:00 PM.

**12-13 – Wayne, NJ** – The 22<sup>nd</sup> Annual North Jersey Gem and Mineral Show (formerly the Clifton Show). The Benway School, 970 Rt. US 202 (Black Oak Ridge Road) Wayne, NJ 07470. This is our 2nd year at this location. Our show website: [www.nojms.webs.com](http://www.nojms.webs.com). Saturday 10:00 AM to 5:00 PM, Sunday 10:00 AM to 5:00 PM.

**17 – Fairless Hills, PA** – Leidy Microscopical Society Regular Meeting at the Northminster Presbyterian Church 7:30 PM. The program will be the “The Ien Morgan Micromount Collection” by Chuck O’Loughlin. Please bring macro size green minerals for display and green food if you have any. Everyone is welcome.

**19-20 - Gaithersburg, MD** - 47th Annual Gem, Mineral & Fossil Show sponsored by the Gem, Lapidary & Mineral Society of Montgomery Co., MD. Montgomery Co. Fairgrounds, 16 Chestnut St.

**26-27 - Sayre, PA** - 42nd Annual Gem & Mineral Show sponsored by the Che-Hanna Rock & Mineral Club. Athens Township Volunteer Fire Hall.

**26-27** - Chambersburg, PA - 33rd Annual Gem-Mineral & Jewelry Show sponsored by the Franklin County Rock and Mineral Club. Shalom Christian Academy.

**April 1-3 - Elkridge, MD** - Annual Atlantic Micromounters Conference sponsored by the Micromineralogists of the National Capital Area. MHA Conference Center. Registration: S. Weinberger <[cscrytals2@verizon.net](mailto:cscrytals2@verizon.net)>.

**2-3 - Plymouth Meeting, PA** - Mineral Treasures and Fossil Fair - 2011 Annual Show and Sale, The Philadelphia Mineralogical Society and the Delaware Valley Paleontological Society present a Joint show and sale at the Lulu Temple, 5140 Butler Pike, Plymouth Meeting, PA., Saturday, April 2; 10am to 5pm., Sunday, April 3; 10am to 4pm. Fossils, Minerals, Gems, Speakers, and Exhibits. Learning activities include a Fossil Dig and a Kid's Mineral Corner. Also, Food, Door prizes and Scouting Merit Badge information. Adults, \$5.00; Children \$1.00. Uniformed Scouts are free. Information: show Chair at 609-953-1987

April 30 our Big Digg at Sterling Hill Mine!!!!

This is the time of the year to support your club. We have a lot of things going on and upcoming events that the club will be needing your help. Don't be just a user, be a helper. If there is just a little thing that you can do or if you only have a little time that you can give then, give it. It takes all our members to make the club a great place to be. **If you have not renewed your membership, now is the time to do so.** Thanks Carol De Cuzzi, Editor

An article from one of our sister clubs **Tampa Bay Mineral & Science Club, Inc.**

**Called the CORAL GEODE.** This one described one of the trips they have planned for **FOSSIL CLAMS AND CALCITE CRYSTALS-- FEBRUARY 26, 2011**

A joint field trip between the Tampa Bay Fossil Club and the Tampa Bay Mineral and Science Club has been organized to visit the FORT DRUM CRYSTAL MINE, also known as RUCK'S PIT. This is the only place in the world where you can find calcite crystals formed inside fossil clam shells, see photo below.

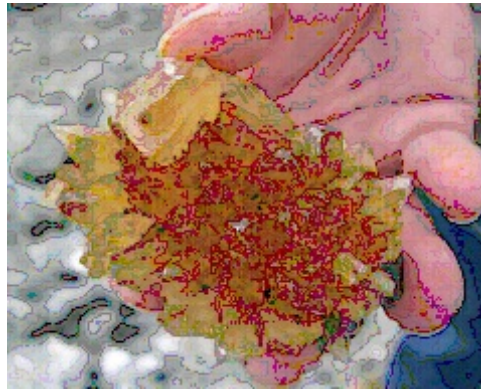
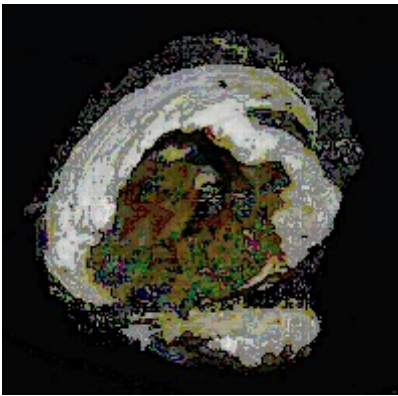
We had a great time last year. A special price of \$20.00 per person will apply for this trip, (normal is \$30.00), providing we have over 20 attending, which shouldn't be a problem. Children 6 to 12 are \$10.00.

The mine is in Fort Drum, Florida, about 120 miles from Brandon, Florida. Driving time is around 2 hours from Brandon. There is a campground at the mine, Turkey Creek Campground. The phone number is 863-634-0691 and the official address is 6645 NE 304th St. Okeechobee, FL 34972. Listed price is \$25.00 per night.

You will need heavy rock tools, sledge hammer, chisels, rock hammer, metal rake, pry bar, and anything else you can find for heavy digging as some rocks are very large, see photo. I also suggest you bring your garden hose with pistol type nozzle. For the handicapped, there will be crystals you can find on the surface to make your day fun so come along.

Bring your own lunch and drinks, we park where we hunt so everything will be close. They do have restrooms and water. Bring boots or old shoes, it can be muddy. I suggest long pants to protect

your knees, and gloves would be advisable. Don't forget a hat and sunscreen. This is a commercial hunting location and you can bring non club members. There may be other clubs there as well.



## **DIG THIS!**

### **Colossal Fossil: Museum's New Whale Skeleton Represents Decades of Research** *ScienceDaily* Dec. 16, 2010

There's a whale of a new display at the University of Michigan Exhibit Museum of Natural History. A complete, 50-foot-long skeleton of the extinct whale *Basilosaurus isis*, which lived 37 million years ago, now is suspended from the ceiling of the museum's second floor gallery and will reign over an updated whale evolution exhibit scheduled to open in April 2011. "It's a spectacular fossil," said Exhibit Museum director Amy Harris. "Basilosaurus looks ferocious with its big teeth, and we hope people will spend a lot of time looking at it, studying it and reading about it. The Exhibit Museum tells the story of life on Earth, and when museum visitors see Basilosaurus, they'll be able to see evidence for whale evolution, which is one of the more interesting stories in evolution."

Basilosaurus and its companions also represent decades of paleontological detective work by a team led by Philip Gingerich, director of the U-M Museum of Paleontology and the Ermine Cowles Case Collegiate Professor of Paleontology. Since the 1980s, Gingerich and colleagues have located and mapped the remains of more than a thousand whales in an area of the Egyptian desert known as Wadi Hitan ("valley of the whales"), a UNESCO World Heritage site. Their work

there was the subject of an article in the August 2010 issue of National Geographic. In addition, Gingerich and colleagues have made significant fossil whale discoveries in Pakistan. The finds have helped piece together the story of how whales evolved from typical land-dwelling mammals to creatures that spend their whole lives in the sea -- a story that will be showcased in the new exhibit, "Back to the Sea: The Evolution of Whales."

The Basilosaurus skeleton was discovered in 1987, when a member of Gingerich's team found a bit of the whale's shoulder blade protruding from the sand. As he swept the sand away, he revealed the whale's lower jaws, but the field season was almost over, so the team simply noted the fossil's location and covered it back up. Two years later, they returned to excavate the skull and lower jaws, casts of which have been on display at UM since 1997.

On that same return trip, Gingerich made an astonishing discovery when he stopped to pick up what he thought was a piece of Basilosaurus rib. The "rib" turned out to be a small femur (thigh bone) of a mammal with a well formed knee joint. Suspecting that the diminutive leg belonged to Basilosaurus, Gingerich returned to a skeleton that was well exposed in the desert sand and, surprisingly quickly, recognized another small leg, this one in its rightful place far down the lengthy

vertebral column. Gingerich's team re-examined and excavated other Basilosaurus skeletons whose locations they had mapped, and ended up finding a complete pelvis, leg bones, ankles and even toe bones. The giant whale's legs and feet were small and useless for walking, but they represented an important link to its terrestrial ancestors.

Gingerich kept busy with other fossil whales through the 1990s, working mainly in Pakistan, where his team found complete skeletons of early whales that could walk on land. Then, in 2005, the team returned to Wadi Hiton to see if they could find the rest of the Basilosaurus skeleton they'd partially excavated in 1987. After more than two weeks of work, they had exposed the remaining bones, which they encased in plaster jackets for shipping. Two and a half years passed, as Gingerich negotiated for permission to ship the bones back to Michigan. When the bones finally arrived, it took another year or more of work to expose

, clean and stabilize the fossils. "We're talking about four tons of sediment, with the whale encased in the sediment," said William Sanders, supervisor of the vertebrate fossil preparation laboratory. "We had to get these immense crates into the museum, break open the heavy plaster jackets, and then start separating the sediment away from the fossils.

Next came the work of making replicas of the skeleton for study, display and exchange with other institutions – a process that took even longer than cleaning the bones, Sanders said. A single fossilized Basilosaurus vertebra weighs 35 pounds, while the fiberglass version weighs only two pounds -- but because the display skeleton was to be hung from the ceiling, the Exhibit Museum wanted it even lighter. So Exhibit Museum preparators came up with a way of making foam-filled fiberglass replicas of the bones.

The above article came from page 7 of the DVPS Newsletter V34 16

### What famous North American geological landmark is constantly moving backward?

See page 10 for answer.



## **DVESS MEETING LOCATION :**

### **DIRECTIONS:**

**From Atco (west-bound)**, after the traffic light at Taunton Ave. (Rite Aid drugstore on the left), the church is about the 3rd building on the right; turn into the first driveway. If you miss it, pass by the church and turn Right onto Broad St. (at the Berlin Diner) then turn Right into the parking lot of the Baptist Church and go straight all the way - the parking lots of

both churches connect.

**From Rt. 73 in Marlton:** head East (South) on Rt. 73. As you enter Berlin, you will pass Wal-Mart (on the left) and a shopping center (on the right) with Shop Rite and Staples. **Get into the Right "Exit Only" lane and follow the signs for Cross Keys Rd. At the intersection of Cross Keys Rd. and the White Horse Pike (Rt. 30) turn LEFT. At the next intersection (Broad St.) continue straight past the Berlin Diner and SPEEDY MART on your left; pass by 2 or 3 white storefronts on the left then see the big white church with red front doors on your left. Pass in front of the church and turn into the driveway on the far side. Education Building is behind the church.**

**From Lindenwold or Clementon on the White Horse Pike (east-bound):**

As you enter Berlin business district, you will pass through the traffic light at Cross Keys Rd. (CVS Pharmacy on right corner). Follow highlighted directions above.

## **MEMBERSHIP INFORMATION**

Regular members are entitled to participate in all DVESS activities. Sponsoring members are entitled to the same plus a specially chosen mineral specimen. Dues are renewable each year in January. Membership rates for the Society:

### **Regular Membership:**

\$15.00 for the 1<sup>st</sup> family member + \$5.00 for each additional family member

\$10.00 for the 1<sup>st</sup> Senior ( 65+ ) member + \$5.00 for each additional family member

### **Sponsoring Memberships ( each additional family member - \$5.00 ):**

"Silver" \$50.00 for 1<sup>st</sup> family member - receive a Geode Specimen

"Gold" \$75.00 for 1<sup>st</sup> family member - receive a Native Gold Specimen

"Platinum" \$100 for 1<sup>st</sup> family member - receive a Premium Specimen

## **SOCIETY INFORMATION**

The **Delaware Valley Earth Science Society, Inc.**, ( DVESS ), a non-profit organization, was founded in 1956 and incorporated in the state of New Jersey in 1957.

The Society:

- \* promotes interest , knowledge and the development of skills in the "earth sciences". These interests include mineralogy, paleontology, lapidary arts, archeology and local preservation.
- \* supports the conservation of natural resources, advocates the availability of collecting sites and maintains close contact with those in the academic field.
- \* is a member club of the Eastern Federation of Mineralogical and Lapidary Societies  
( <http://www.AmFed.org/EFMLS> )

## **MEETINGS**

The Society meets the 2<sup>nd</sup> Wednesday of each month throughout the year at Centenary United Methodist Church, 151 South White Horse Pike, (route 30) in Berlin. Junior Rockhounds meet at 7:30pm with the regular meeting beginning around 8 pm.

Anyone with info for the newsletter please share with me. You can be published!

Stuff you did in school, on a trip etc., see my info below ( next page ).

Editor's Notes: Editor is not responsible for authenticity of information in any articles submitted for publication. Nor are the opinions expressed in the "DVESScapades" necessarily those of the officers of the Delaware Valley Earth Science Society, Inc., and/or the editor.

**AFMS CODE OF ETHICS (American Federation of Mineralogical Societies)**

- I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.
- I will keep informed on all laws, regulations of rules governing collecting on public lands and will observe them.
- I will to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
- I will use no firearms or blasting material in collecting areas.
- I will cause no willful damage to property of any kind - fences, signs, buildings.
- I will leave all gates as found.
- I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.
- I will discard no burning material - matches, cigarettes, etc.
- I will fill all excavation holes which may be dangerous to livestock.
- I will not contaminate wells, creeks or other water supply.
- I will cause no willful damage to collecting material and will take home only what I can reasonably use.
- I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
- I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.
- I will cooperate with field trip leaders and those in designated authority in all collecting areas.
- I will report to my club or Federation officers, Bureau of Land management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
- I will appreciate and protect our heritage of natural resources.
- I will observe the "Golden Rule", will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and Public "image" of rockhounds everywhere.

<i>DVESS Directory 2008</i>		<b>President</b> <a href="mailto:terry@terryfic.com">terry@terryfic.com</a>	<b>Terry Wilson</b> or <a href="mailto:terry@dveess.org">terry@dveess.org</a>
<b>1<sup>st</sup> Vice President</b> 856-783-0969	<b>Ann Lynne Benson</b> <a href="mailto:SeleniteQueen@gmail.com">SeleniteQueen@gmail.com</a>	<b>2<sup>nd</sup> Vice President</b>	
<b>Jr. Rockhound Coordinator</b> 856-783-0969	<b>Mel LeCompte</b> <a href="mailto:works-in-faith@comcast.net">works-in-faith@comcast.net</a>	<b>Recording Secretary</b> 856-728-1731	<b>Grant Elliott</b> <a href="mailto:gle@verizon.net">gle@verizon.net</a>
<b>Website Coordinator</b> 609-714-1309	<b>Terry Wilson</b> <a href="mailto:terry@dveess.org">terry@dveess.org</a>	<b>Special Events Coordinator</b> 856-783-0969	<b>Ann Lynne Benson</b> <a href="mailto:SeleniteQueen@gmail.com">SeleniteQueen@gmail.com</a>
<b>Treasurer and Program Chair</b> Gary Weinstein 856-795-5077 - wk	<b>856-234-0708 - home</b> <a href="mailto:garyskyrock@hotmail.com">garyskyrock@hotmail.com</a>	<b>DVESS Newsletter Editor, Membership Chair</b> Carol De Cuzzi 856-428-0621 - home <a href="mailto:decuzzic@comcast.net">decuzzic@comcast.net</a> or <a href="mailto:DVESS@int-pro.com">DVESS@int-pro.com</a>	

This space left blank, waiting for your article, PLEASE!!!

Niagara Falls. The rim is worn down about two and a half feet each year because of the millions of gallons of water that rush over it every minute.

Membership Form

start w/ first family member (**designated as head of family**) Juniors must have an adult head of family with the Junior as the additional family member for insurance purposes.

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_
Address: \_\_\_\_\_ City: \_\_\_\_\_
State: \_\_\_\_\_ ZIP+4 \_\_\_\_\_
Phone: \_\_\_\_\_ Email: \_\_\_\_\_
Cell Phone: \_\_\_\_\_ Profession, School or Major Work \_\_\_\_\_

Okay to let other members of the Club see your email and other orange-starred information (on website)?

Okay to share \_\_\_\_\_
Do NOT share \_\_\_\_\_

Newsletter Delivery ONLY via e-mail

additional family members to be registered w/ above member

Type of membership Regular Membership:
\$15.00 for the 1st family member + \$5.00 for each additional family member
\$10.00 for the 1st Senior ( 65+ ) member + \$5.00 for each additional family member
Dues are collected on a calendar year Jan to Dec, no pro-rata rates
additional members on another paper if needed

First Name: \_\_\_\_\_
Last Name (only if different from above) \_\_\_\_\_
First Name: \_\_\_\_\_
Last Name (only if different from above) \_\_\_\_\_
First Name: \_\_\_\_\_
Last Name (only if different from above) \_\_\_\_\_

Sponsoring Memberships ( each additional family member - \$5.00 ):

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"Platinum" \$100 for 1st family member - receive a Premium Specimen

Interests: Minerals \_\_\_ Fossils \_\_\_ Lapidary \_\_\_ Collecting \_\_\_ Museum Trips \_\_\_
Trotter \_\_\_ Sterling Hill \_\_\_ other, please list \_\_\_\_\_

How did you learn of DVESS? \_\_\_\_\_

Other clubs you belong to \_\_\_\_\_

Comments \_\_\_\_\_

What NON-DVESS interests or hobbies do you have? Would you be willing to share with our members? \_\_\_\_\_

What would you like the club to do or provide for you? \_\_\_\_\_

Delaware Valley Earth Science Society, Inc. ( DVESS )  
P.O. Box 372  
Maple Shade, N.J. 08052  
DVESS Website : <http://www.dvess.org>

**RETURN SERVICE REQUESTED**

