

DVESScapades

escapades: interesting, stimulating, exciting activities and adventures



Fossil Edition



(bare bones)



DELAWARE VALLEY EARTH SCIENCE SOCIETY NEWSLETTER

Meeting: March 14, 2012

Education Building behind Centenary United Methodist Church
149 South White Horse Pike (Rt. 30), Berlin, NJ

7 pm - Junior Rockhounds Program - Berlin

3 types of Rocks – classifications

8 pm - Family Program - Berlin

Randy Lyons “The Badlands of Western Canada”

Paleontologist and dinosaur hunter Randy Lyons displays actual dinosaur claws and bones and talks about prehistoric wildlife

Friday March 9, 3 pm, Collingswood After-school Program

Hands-on presentation of tools used in Rockhounding

FIELD TRIP - Annual Sterling Hill SuperDigg – Saturday April 28, 2012

Rain or Shine! Sterling Hill Mining Museum in Ogdensburg, NJ.

Registration 8 am, Pit opens 9 am for “DAY-AND-NIGHT” mineral collecting and much, much more!!!

Join us for:

- Tour of the Museum, and 2 million dollar Mineral Display
- Lower Mine Tour AND **private** Tour of the newly restored historic Trotter Tunnel into the mine which was shut down on the last day of operation Oct. 31, 1986
- For this event ONLY, take a Tour of the Upper Mine and Mill where you will receive a “Last day of operation” ore specimen right off the conveyor belt (*certificate included*)
- The ever-popular Blackout Tour of the Mine “Tunnel of Love” (safety glasses required)
- See the nighttime illumination of the famous “Fluorescent Wall” in the Fill Quarry
- Collect minerals in all 3 collection areas on the property - fresh *NEW* rock for your digging pleasure; the collecting areas at Sterling Hill have been freshly excavated, and **tens of tons** of new material has been pulled down from the mountain just for us (*that's what this year's fees help to pay for*)
- See the world's largest and most complete display of the Periodic Table of the Elements - roughly 10' wide by 7' high - each of the 112 cubbyholes in this display contains a sample of the actual element, a representative sample of ore from which that element is obtained, plus an item made from that element
- Possible opportunity to tour a new building which has never been open to the public
- Possible supervised, sign in / sign out “child sitting” Beading Session , 2 hours long per child, between 11 am and 5 pm; fee of \$5.00 fee to cover the cost of materials including carbon paper, patterns, glue, scissors, beads and related materials (details are still being ironed out)
- Check out <http://www.uvworld.org/> for complete details
- Entry fee: \$20/person for members of insurance-carrying clubs (**NOTE: insurance is mandatory!** If you do not have proof of membership in Sterling Mine or an American Federation of Mineralogical Societies club, you will be required to join so that insurance coverage can be extended to you (DVESS membership is \$15 plus \$5 for each additional family member).
- Fee of \$1.50/lb. for minerals collected
- Sterling Hill Mining Museum Gem and Mineral sale begins at 10 am (*No pre-sale peeking at the tables is allowed!*) For complete details, see <http://sterlinghillminingmuseum.org/gemmineral/index.php?gclid=CPv215W40q4CFUIQNAod0XEn-w>

PRE-REGISTRATION is strongly suggested. It will reduce check-in time significantly; see www.uvworld.org for information.

For This Event ONLY - Please note the age requirement at each site:

- **5 to 12 year olds** can dig in the "Mine Run Dump" **with an adult**
- **12 years and older** can dig in the pits (preferably with an adult)

LOCAL LODGING - The Franklin, NJ 40th Annual New Jersey Earth Science Assn. Gem & Mineral Show is this weekend also! You may want to stay over to enjoy both collecting and the Show. Hotels fill up quickly, so if you are staying in the area overnight, be sure to reserve early. Check out the listings on our Area Lodging page for some local accommodation ideas.

PLEASE NOTE: We are currently understaffed for Registration at the Digg; several more people are needed to work peak Registration hours (7:00 - 10 am) and Weigh-out (noon - 1 pm and 4-6 pm); additional volunteers are also needed throughout the day (7 am – midnight).

WORK DETAIL – Any member who goes up to Sterling April 24 - 27 to help prepare for the Digg will have free lodging on the premises; you must provide your own “everything else” (sleeping bag, cot, towels, **food and drinks**, etc.).

Please contact Mel to volunteer (609-458-7763 or 856-889-4564) or email RocksAndBadges@yahoo.com

PRESIDENT'S MESSAGE: March 2012 by AnnLynne Benson

Dorothy said, "There's no place like home" and while I agree with that, I can also add, "***There's no place like WILDACRES.***" For years I've been putting articles into our **DVESScapades** extolling the pleasures of the Eastern Federation's own "private retreat nestled just off the Blue Ridge Parkway near Little Switzerland, NC" where it is possible, twice per year, to spend a week indulging in the scenery, and fellowship of like-minded folks who share our spirit of adventure. Well **my** waiting days are over – I'm happy to announce that – thanks to the Eastern Federation - I won a scholarship to attend WILDACRES in April 2012. I'm as pleased as a Selenite Queen in the Cave of Swords could possibly be. Our club is not known for sending legions of attendees to Wildacres – let this be the beginning of a new trend! At least one other DVESS member is planning to go – how about the rest of you? Wouldn't it be nice to have a week's vacation (April 10 - 15) and take a class or two? Lodging is in modern private rooms; all meals are included. Classes are listed on pgs 7 and 8 of the March EFMLS Newsletter at <http://www.amfed.org/efmls/efjan12web.pdf> and an application form is on page 9. Tuition for the April session is only \$350 per person and for September it will be \$370 per person; the only additional cost is for materials used in the class(es). Come on, admit it – nowhere else are you going to get room, board and this much fun for less than \$400.00 for a week. Register as early as possible since class size is limited. You'll be glad you did!!

WILDACRES

Wildacres is a private retreat nestled just off the Blue Ridge Parkway near Little Switzerland, NC. Organizations such as the Eastern Federation (EFMLS) have the opportunity to utilize this facility for workshops during the year - all at a very, very nominal rate. Lodging is in modern private rooms; all meals are included and because Wildacres is on its own private mountain, we're away from traffic noise, pollution, blaring radio and TV. We do get to hear the sounds of birds chirping and happy voices!

The Spring session of fun and learning is April 10 - 15. World renowned photographer Jeff Scovill will be our keynote speaker. Jeff will share six illustrated programs with us during the week. In addition, all participants will have an opportunity to take one or two classes taught by an outstanding cadre of instructors.

The fall session will be held from September 3 - 9 and will feature Julian Gray, curator at the Tellus Museum in Cartersville, GA as keynote speaker. As in Spring, participants will have an opportunity to take one or two classes during their time together, again taught by outstanding instructors.

A list of class offerings for each session can be found on pages 6 and 7 of the January EFMLS Newsletter at <http://www.amfed.org/efmls/efjan12web.pdf> and an application form is on page 8. Register as early as possible since class size is limited.

AND if you've never been to an EFMLS Wildacres Workshop, you can apply for one of two scholarships being given this year. Information and an application form can be found on the Wildacres web site <www.amfed.org/efmls> Just click on the Wildacres tab. Tuition for the April session is \$350 per person. For September it will be \$370 per person. The only additional cost to participants will be for materials used in the class or classes taken and we make every endeavor to keep these reasonable.

Registration opens for both sessions on January 1. Why not bring a few of your fellow club members with you and perhaps make it a club field trip? I'm looking forward to seeing you at Wildacres in 2012!

MARK YOUR CALENDARS – March 31 – April 1, 2012 - Plymouth Meeting, PA. - The **Philadelphia Mineralogical Society** and the **Delaware Valley Paleontological Society** present a joint show and sale at the LuLu Temple, 5140 Butler Pike in Plymouth Meeting, PA. Saturday (March 31) 10am to 5pm and Sunday (April 1) 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. Admission: \$5.00; \$1.00 kids under 12. All uniformed Scouts are free. Show Chair Karenn Snow 609-953-1987 Check the website at www.philamineralsociety.org

PLEASE

Take a child to a gem/mineral/fossil show.
Open their eyes to a new world of fun and adventure!

March 10 – MICROMOUNT SHOW presented by the Rock and Mineral Club of Lower Bucks County at Northminster Presbyterian Church (140 Trenton Road, Fairless Hills, PA)

WEBSITE OF THE MONTH – www.UVworld.org

CLUB BROCHURES – Please pick up one or two yellow club brochures and have them on hand in your vehicle or handbag to give out to folks. If you see a parent and child, strike up a conversation by asking, “Does your child like rocks or dinosaurs?” Offer them a club brochure; if they’re not from our area, addresses and websites for the American Federation and EFMLS are on the back of the brochure. Your small gesture may make a world of difference to that child, his/her family, and to our club. New folks, especially kids, are the lifeblood of every club! If we want this club to continue providing us with speakers, activities and lots of fun, we **MUST** invest just a little bit of effort to get the word out.

The current issue of EFMLS News now available at <http://www.amfed.org/efmls/efmarch12web.pdf>



Earth Science: 20 Things You Didn't Know About...Clouds

Some are visible only after sunset, none are created by seeding, and one chewed on a fighter pilot for half an hour before spitting him out, alive. [by Rebecca Coffey courtesy of Discover Magazine, [January-February special issue](#), published online January 30, 2012]

1. When moist, warm air rises to a cooler elevation, water condenses onto microscopic “seeds” like dust, ash, or bacteria. Water + seeds + updraft = clouds.
2. If there’s more water vapor than places for it to condense, already-formed ice crystals can also serve as seeds. As the crystals take on moisture, they may become too heavy for updrafts to support. Time for the umbrella.
3. It makes sense, then, that adding seeds to thin clouds should make them rain out. Believing the theory, 37,000 Chinese peasants shot rockets filled with silver iodide (a widely used seeding agent) into clouds.
4. So much for People Power. After reviewing 40 years of cloud-seeding efforts in an area north of Israel, researchers at Tel Aviv University have concluded that seeding doesn’t actually produce additional precipitation.
5. Super-seeding: A team led by Stephen Salter of the University of Edinburgh has proposed using 1,500 oceangoing ships to spray saltwater into stratocumulus clouds in order to increase our planet’s cloud cover.
6. They want to accomplish goals set out in 1990 by John Latham of the National Center for Atmospheric Research. He suggested that saturating the air with salt crystal seeds would create a haze of water droplets so small that they would never rain out. The intended result: A permanent, low-hanging cloud cover that would deflect sunlight and, in theory, reverse global warming.
7. But excess cloud cover might actually warm the planet by trapping heat.
8. In fact, a 2009 Stanford University study claims that clouds created by aircraft emissions triggered an overall rise in surface temperatures of 0.03 to 0.06 degree Celsius worldwide. That would account for 4 to 8 percent of the warming that has occurred since record keeping began in 1850.
9. Nacreous clouds, or “mother of pearl” clouds, appear iridescent because of their ultrafine ice crystals, which form 10 to 15 miles up in the stratosphere.
10. Unfortunately, nacreous clouds also support chemical reactions that convert benign chlorine-containing molecules into a form that destroys Earth’s ozone layer.
11. Roll clouds form when updrafts and downdrafts churn clouds into a long, spinning cylinder. They look spectacular, but they often herald an approaching storm front.
12. Highest of them all: 50 miles up, noctilucent, or “night shining” clouds glow an eerie bluish white. They are invisible by day, but after sunset they catch solar rays shining from far below the horizon.
13. Noctilucent clouds seemed to first appear after the 1883 eruption of Krakatoa and are now a common sight.
14. A June 2010 hailstorm in South Dakota dropped the largest hailstone in U.S. history. It was nearly as large as a soccer ball and weighed two pounds.

15. Bad weather likes workdays. An Israeli-American team correlated 15 years of pollution records with the National Weather Service Storm Prediction Center's records on storms. They found that hailstorms over the eastern United States peak in the middle of the week, when summertime air pollution is at its worst.
16. Cumulonimbus clouds are the ones that make your flight late. Their winds are so intense and unpredictable that pilots never go **through** them.
17. In 1959 Lt. Col. William Rankin was flying his F-8 fighter jet **over** a cumulonimbus when the engine failed. He parachuted out and spent the next 30 minutes bounced around inside the storm. Amazingly, he survived.
18. In 2007 German paragliding champion Ewa Wisnierska experienced "**cloud suck.**" While gliding **under** a cumulonimbus, she was pulled upward to 32,000 feet. She blacked out due to lack of oxygen but later regained consciousness at roughly 23,000 feet.
19. Referring to the dark clouds on the horizon, Wisnierska said, "Usually there is no problem."
20. For a photograph of a lenticular cloud, go to <http://discovermagazine.com/2012/jan-feb/20-things-you-didnt-know-about-clouds>

MORE FROM DISCOVER - The Continent Where Climate Went Haywire

[courtesy of Discover online magazine <http://discovermagazine.com/2011/dec/17-continent-where-climate-went-haywire/?searchterm=Climate%20Went%20Haywire>]

From floods to cyclones to fires of unimaginable ferocity, climate change has unleashed a host of plagues on Australia. But catastrophe has spawned a national rebirth.

"The river came up to right where we're sitting, and the waters were more than two feet deep," Peter Goodwin tells me in the driveway of his ranch-style house perched on the banks of the Balonne River in St. George, a village of 3,500 in eastern Australia. It is a drizzly Sunday afternoon in April, three months after a devastating flood that drenched a landmass the size of France and Germany combined and isolated the town after the rain-swollen river rose to a record 45 feet.

Agricultural areas like St. George were hardest hit by the relentless rains and overflowing rivers that swamped roads, cut off power lines, washed away vineyards and fruit orchards, drowned thousands of head of cattle and other livestock, and covered homes and everything inside them in thick layers of sediment and mud. Shell-shocked residents are still digging out from under the debris.

That's the hard part of the flood — the aftermath," says Goodwin, 60, a crusty, compactly built man with piercing blue eyes and calloused hands who works as an operations manager for the local municipality and has been staying with his grown daughter while he makes his home habitable again. "You get a lot of help during the flood, but then everyone settles back into their routine. There are a lot of houses down there that are still empty," he adds, gesturing toward the riverbank. "And they will be for a long time to come"...

The full text of this article is only available to DISCOVER subscribers (see https://secure.discovermagazine.com/pubs/AG/DSD/DSDDCR_Zinio_Subscription.jsp?cds_page_id=101641&cds_mag_code=DSD&id=1331055334766&lsid=20661135347020480&vid=1&cds_response_key=IF23R)

DUES – You get Eastern Federation insurance for field trips!!!

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Sponsoring Membership (+\$5.00 for each additional family member):

"Silver" \$50.00 for 1st family member – receive a Geode Specimen

"Gold" \$75.00 for 1st family member – receive Native Gold Specimen

"Platinum" \$100.00 for 1st family member – receive Premium Specimen

The surprising strength



of spider silk has fascinated scientists (and everyone else) for years: it's stronger than steel, yet incredibly flexible. A new paper gives some delicious details that explain how, exactly, spider silk has such superpowers.

Go With the Flow, Then Stay Strong: The strand of silk that a spider hangs from can stretch to double its usual length. But then, after that virtuosic show of elasticity, it turns rigid. The reason for that, this team found previously, is that on the molecular level, spider silk is made of scrunched-up proteins that are pulled straight as the silk stretches. But once they've been fully unfurled, the proteins lock into a new, stiff pattern called a beta-sheet nanocrystal. For a spider, having the molecules snap to stiffness after stretching is probably analogous to a rock climber arresting a rappel by clipping the end of her rope in place.

Breezy Bulkheads: In their current study using real-life spider webs and computer models, the team found that when a gentle force like a breeze is broadly applied to a spider web, the whole thing stretches and elongates. But yank or push more forcefully on one part of it, and the silk turns stiff (those beta-sheets again) and snaps. Why? Well, webs have to be flexible enough to handle winds, of course. But if the individual strands didn't turn stiff at sharp proddings and were consistently elastic instead, they would destroy whole sections of the web when they finally broke. Making each individual thread turn brittle with the application of force minimizes the damage, a strategy similar to the use of bulkheads on ships, which can be sealed off to prevent the spread of a fire or contain a leak.

Stronger in Adversity: In fact, the team found, spider webs as a whole are actually stronger with some of their strands broken. No joke! Breaking a tenth of the strands in a web increased the whole thing's maximum weight bearing by 3 to 10 percent, the researchers report.

References: Cranford, et al. Nonlinear material behavior of spider silk yields robust webs. *Nature*, 482, 72–76 (02 February 2012) doi:10.1038/nature10739 [via Wired and ScienceNOW] Image courtesy of scoobygirl / flickr

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>)

DV ESS 2012 Officers & Positions

<p>President Newsletter Editor Special Events Coordinator <i>Ann Lynne Benson</i> (856) 783-0969 (h) (856-418-6121 (c) SeleniteQueen@gmail.com</p>	<p>1st Vice President <i>Mark Leiptert</i> 609-567-7551 (h) mark.leiptert@yahoo.com</p>	<p>Treasurer Program Chair Membership Chair <i>Gary Weinstein</i> (856) 234-0708 – h (856) 795-5077 – work garyskyrock@comcast.net</p>
<p>2nd Vice President <i>Lou Detofsky</i> “Doc Rock”</p>	<p>Recording Secretary <i>Grant Elliott</i> (856) 728-1731 gle@verizon.net</p>	<p>Website Coordinator <i>Terry Wilson</i> terry@dvess.org</p>
<p>Junior Rockhounds Teacher ages 8-13 <i>Mel LeCompte</i> (856) 783-0969 RocksandBadges@yahoo.com</p>	<p>Backup Secretary <i>Val Korszniak</i> KNVN32F@Yahoo.com</p>	<p>Junior Rockhounds Teacher ages 14-18 <i>Gerald Feigin</i> gfeigin@co.gloucester.nj.us</p>