

# DVESScapades

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



## DELAWARE VALLEY EARTH SCIENCE SOCIETY NEWSLETTER



June/July 2020



All meetings and field trips are cancelled until further notice.

**Meeting location: Education Bldg. behind Centenary United Methodist Church,  
South White Horse Pike, Berlin NJ 08009**

## President's Corner:

I hope everyone is doing well hunkered down fighting the COVID-19 virus. All meetings and field trips continue to be cancelled until further notice. While sheltered-in-place, take a field trip into your basement, closet, garage or secret stash area and look through many of the items you've collected over the years. You might surprise yourself and find something you didn't know you had. Also, if you have duplicates or extras think about bringing them to a future meeting for the junior rock hounds or the give-away table. This is a great time to clean out your collections and even possibly downsize and be more selective in specimens you hold onto. Maybe if you're ambitious, you could research some places you would like the club to go on field trips once we are let free from our shelter-in-place. Feel free to email, text or call myself or any officer with your recommendations. Meanwhile, until we meet again please stay safe, practice social distancing, wash your hands frequently, use hand sanitizer, disinfect surfaces and wear some type of face mask when you go out.

The Super Diggg that was possibly going to be re-scheduled for the Fall of 2020 is not going to happen. There are too many issues up in the air with COVID-19, rebounding, possibly slowing down opening up, new hot spots, upcoming flu season and potentially a vaccine. So, right now we are setting our sights on Super Diggg Spring 2021. This gives us more time to get organized, gather up more volunteers and get the Franklin Mineral Museum promoting this event on their website and social media.

One thing I've been doing besides looking at old specimens, labeling specimens, talking to old members and telling and listening to old stories was to go back and read a lot of our old DVESS newsletters. There is a lot of history, write-ups of field trips, mentioning of guest speakers, the old picking table, and plenty of good old science like geology and paleontology. I started digging out some select articles and sharing them as part of our current newsletter. It's important share some of our club's highlights over the last 64 years.



There is always the possibility of a Zoom type of meeting or an outside socially distanced type of get-together, but we will have to see. Everyone take care and hope to see everyone soon.

**Mark Leipert, President**

## News

### Earthquake Swarm Reveals Complex Structure of a California Fault Line

<https://www.smithsonianmag.com/smart-news/earthquake-swarm-reveals-complex-structure-california-fault-line-180975161/>

### Volcano halfway around the globe altered Rome's history forever

<https://www.accuweather.com/en/weather-news/volcano-halfway-around-the-globe-altered-romes-history-forever/766169>

### Newlywed suing Royal Caribbean describes volcano-eruption horror: 'Could feel my skin burning'

<https://www.foxbusiness.com/lifestyle/royal-caribbean-new-zealand-volcano-eruption>



### INTERNATIONAL ASTEROID DAY, June 30, 2020

<https://spacepolicyonline.com/events/international-asteroid-day-june-30-2020-global/>



MAPLE SHADE FOSSILS

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Some of the most interesting fossils found in southern New Jersey have come from the clay pits near Maple Shade. Here the clay has been dug for the manufacture of bricks for many years. In 1903 to 1904, Stuart Weller made an extensive study of New Jersey Cretaceous fossils for the Geological Survey of New Jersey and found 83 different species of fossils at the clay pit operated by A. Reeves.

Later, the Graham Brick Co. Pits have provided many specimens for museums, students and collectors. Starting in 1933, I have collected nearly a hundred species from this pit and have seen another twenty to thirty additional species in other collections.

Unfortunately these clay pits have been abandoned but the fossiliferous clay lies beneath the surface from Monmouth County to Delaware and new excavations will undoubtedly provide fruitful collecting places. Specimens from this clay formation were found during the excavation of the Cherry Hill Mall and may still be found in the banks of the Chesapeake and Delaware Canal.

This formation is called the Merchantville Clay and consists of a dark gray to black clay which contains abundant particles of mica and glauconite. On exposure, the glauconite weathers away and leaves a chocolate brown colored clay. Almost all the fossils are molds of sea animals that occur either in hard stone nodules or loose in the clay. Since this was a popular collecting place, I found my best specimens by cracking open the nodules which had been overlooked by other collectors.

One common fossil found in the clay is the scallop shell-Pecten quinquecostata. One side of the internal mold of this shell looks like the Shell Gasoline emblem while the other is flat, somewhat concave and lacks the radiating ribs.

The snail, Laxispira lumbricalis, can be readily recognized. Unlike most snails which are coiled in a tight spiral, this snail is drawn out into a loose coil which resembles a corkscrew. The external molds in the nodules might be mistaken for worm burrows but they are more evenly spiraled. However the molds of worm burrows are also common. They are shaped like small elephant tusks, about an inch in length.

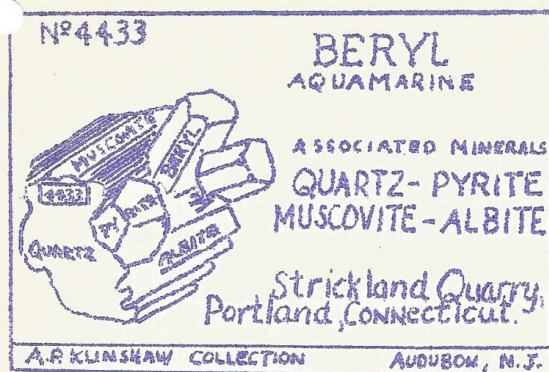
One of the most interesting fossil snails is Endothyra umbilicata. This snail cemented fragments of shells, pebbles and other debris to its surface for camouflage. These adornments produced rounded dents in the surface of the internal casts which are quite characteristic and make this little fellow easy to recognize.

Here is an example of camouflage dating back over 60 million years and if you ask me how I know that it was a camouflage, I can only refer you to the scientist, ER. Bales who said that it was inconceivable that a female snail would call over the fence "Come and see the perfect dream of a shell I picked up today and tell me if I have it on straight".

Art Rocker



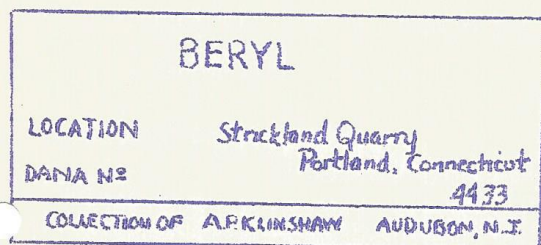
## LABELLING SPECIMENS



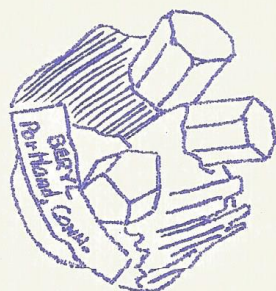
*This is a rather artistic and professional method of labelling a specimen, very seldom used, but enhances the value of the specimen.*

*The reverse side is used to denote how it was acquired, date and approx. value.*

*The number on the label corresponds with number of specimen. The label is put into a transparent envelope and placed in the tray with the specimen.*



*The common method of labelling the same specimen. The amateur very seldom uses a Dana number. Where multiple species are involved, this is a poor labelling method.*



*Some collectors make an all out effort. No specimen number. Sticks a piece of adhesive, paper on the specimen and you very often can not read the label.*

*This is O.K. for a collector who is living and has a good memory. The value of the specimen is greatly depreciated upon death of the owner.*

*A good collector and student of minerals will endeavor to have his specimens numbered, nicely labelled and in individual trays when in cabinets. Display cabinets do not use trays but should have an identification label nearby to inform the viewer. If your collection is large and has potential value, you should have a master card file and inventory book. You might know what you have—does anyone else know? A buyer of a good collection appraises the collection in accordance to the quality of the specimens and the information given. Paying a lot of money for a good specimen improperly labelled is the difference between a collector and a student collector.*

## 1968 President's Message

Delaware Valley Earth Science Society  
Woodbury, New Jersey

Letter From The President —69

1968

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As I look back over the past year at the personal activities of our D V E S S hobbyist members, I do not mind admitting that I do so with pleasant amazement and wonder. When I recall those members who have expanded their hobby interests in a vast variety of ways -- from the ones who purchased short wave lamps to add to their fluorescent collections; to those who felt that they were graduating from the total use of Frederick Pough's Book -- to the Red Dana Textbook; by Ford. There were those who added the expensive John Sinha's books on the Lapidary Arts, and on Mineralogy. Those of our people who purchased additional showcases to expand their home museums. Those who participated in Shows last year. Those who went on week long collecting fieldtrips last summer -- to Canada, across the Nation; and even across the ocean. Those who are now being called upon by other organizations to lecture on our hobbies.

Do you realize, excepting for Dr. Kemble Widmer in November, every one of our Speakers since last March; through next June (no repeats either) will have been our own Member Speakers!

And above all -- these four more of our youngsters who entered College last September, to major in the Sciences! I like to entertain the idea that our Society has been a strong influence upon the future life's decisions of these young folks. Like the others before them most of these Girls and Boys have been members of D V E S S ever since they were (tub age).

Yes, I do look back with amazement and wonder, because when I first began this Hobby of mine I only wanted to accumulate a few pretty Specimens and learn a little about identifications -- And now at the end of still another year, with all the above list, as your President-I feel there has been so little done: with so much to do --

My personal sincere wishes are that the New 1968 Year will be a Blessed Happy one for each member and Friend of our Society!

Edwin S. Terres  
Jan 1st 1968



## From the April 1966 newsletter

### INTERESTING PHENOMENA EXHIBITED BY MINERALS

By Anthony J. DiDonato

Several non-mineral collecting friends visited me one evening and I proudly showed them my mineral collection. They showed enthusiasm and were very much impressed. Knowing very little about minerals, one of them said to me, "They are very nice, but whar can you do with them besides placing them on the shelf under glass?" Well, after they had left and I had time to think, I began to wonder, what else could I have told my friends regarding my specimens? I quickly realized that those minerals had many more interesting facets besides setting on a shelf. All minerals are busy little worlds of energy and some react to external sources of energy in many interesting ways. First let me list a few of the interesting things exhibited by minerals.

- |                  |                      |                       |
|------------------|----------------------|-----------------------|
| 1. Radioactivity | 3. Phosphorescence   | 5. Thermoluminescence |
| 2. Fluorescence  | 4. Triboluminescence | 6. Labradorescence    |
|                  | 7. Adularescence     | 9. Piezoelectric      |
|                  | 8. Pyroelectric      | 10. Optical effects   |

This list of ten electro-physical properties is not complete by any means and perhaps in a future article I will go into other phenomemon. Now let us examine these listed interesting properties, one by one, along with some of the facinating minerals that exhibit them.

#### 1. Radioactivity

This property is known to most of us and nearly all mineral collectors has or has handled a radioactive specimen at one time. It does not require fancy equipment to detect this phenomenon. A sheet of photographic film and a light tight box will do nicely. In a dark room, place a sheet of film into a light tight box, then place the radioactive specimen on the paper. Keep the film and box undisturbed for twelve to thirty-six hours after which the film can be removed and developed. If specimen is radioactive, the radioactive areas will show up as dark areas on the film. A more advanced technique is to cut and polish a slab of the specimen and place same on the bare film. After development, you will note a beautiful pattern of streaks, not unlike that of a fern. This negative will make a beautiful enlargement for your mineral room. These pictures are called "Radioautograms". It was by this method that radioactivity was discovered in 1896 by Henri Becquerel, while doing studies on fluorescence.

#### 2. Fluorescence

Fluorescences is that property of changing invisible Ultra-violet light and X-rays to visible light. This property is superbly exhibited by the minerals of Franklin, New Jersey. For those who wish to see an example of fluorescences but who do not have a UV lamp, place several drops of Mercurochrome in a glass of water and note how the water assumes a bright yellow-green glow. This finest example of fluorescences is exhibited by the mineral Willemite, under a short-wave UV lamp this mineral transforms itself from a drab looking mineral to a thing of sublime beauty, exhibiting a brilliant green glow. UV light can be devided into two groups, one a short wave of 2650 angstroms units and one of long wave of about 3650 angstrom units. Some minerals will fluoresce under short wave and others will fluoresce under long wave, many fluoresce under both. It is a wonder-

2. Fluorescence - Cont'd.

ful experience to examine one's collection for the first time with a UV lamp, and behold the hidden beauty of otherwise drab looking "rocks". After the lamp is removed you will note that a few specimens keep on glowing. This is called phosphorescence.

3. Phosphorescence

Many minerals that exhibit fluorescence also exhibit phosphorescence, however there are a few minerals that phosphoresce but do not fluoresce. The rare variety of Willemite in the fibrous form from Franklin, New Jersey will continue to glow for many hours, if not days, after being charged with UV light. Indeed some specimens have been known to phosphoresce for weeks, on only one charge of UV light.

4. Triboluminescence

An interesting phenomenon best observed after the eyes have been accustomed to the dark for ten or fifteen minutes. Strike two pieces of quartz or corundum together and note the cold sparks. This phenomenon is also observed when a specimen is cut with a diamond saw.

5. Thermoluminescence

This is the luminescence resulting from the mild heating of a mineral specimen well below the point of incandescence.

To observe this, in a dark room gently heat a piece of fluorite and note the pale-yellow-green or green-blue glow. This property is exhibited by many fluorites but most especially with the Fluorite from Franklin, New Jersey.

6. Labradorescence

All of us have seen the beautiful rainbow glow of the mineral Labradorite, it reminds us of the rainbow effect of a thin film of oil on water. There are many forms of this property and they generally take the name of the mineral that exhibits it.

7. Adularescence

A variety of labradorescence seen to best advantage in the feldspars namely Adularia. This is a bluish reflection coming from a definite plane in a mineral.

8. and 9. Pyroelectricity and Piezoelectricity

These phenomena are shown by some minerals, notably tourmaline and quartz. Temperature and pressure changes cause the minerals to acquire an electrical charge, positive and negative poles, as they are warmed, cooled or pressed. This may be demonstrated by dusting the cool or warm crystal with dust of red lead and sulphur which has come through a silk screen. A simple bellows and screen can be made by placing two layers of a silk stocking over the end of a rubber bulb filled with a mixture of about two parts of red lead and one of sulphur. The dust particles receive electrical charges as they pass



8. and 9. Pyroelectricity and Piezoelectricity - Cont'd.

through the screen and settle on the appropriate ends or faces of the charged crystals. The sulphur getting a negative charge settling on the positive end of the crystal, and the red lead getting a positive charge goes to the negative end of the crystal. Though rarely made by amateur collectors, the demonstration is so spectacular that it should be tried. The apparatus described above cost almost nothing and is simple to make.

10. Optical Effects

Interesting optical effects are exhibited by many minerals, among them calcite and ulexite are the best known. A transparent cleavage of calcite (iceland spar) placed on a printed page exhibits double print, this is called "double refraction".

Ulexite, sometimes called "television stone" exhibits a very interesting optical property. A transparent to translucent specimen free of inclusions and having parallel fibrous alignment, should be cut and polished on two faces parallel to the long axis or "C" axis. The prepared specimen is then placed on a printed page so that one polish face rests on the page. The printing will appear on the upper or top polished face. Several minerals such as "Satin Spar" Gypson and Trona will also exhibit is optical effect.

These then are some of the interesting things that minerals do. A whole new world can open up to he who wishes to persue the study of this interesting phenonenon. There are many minerals that show these properties and no doubt many more will be discovered, perhaps in a future article I will list a few more interesting phenomena that are exhibited by the minerals sitting on our shelves in a glass case.



## Quote of the Month:

“The key point of the Tunguska Event is that there was a tremendous explosion, a great shock wave, an enormous forest fire, and yet there is no impact crater at the site. There seems to be only one explanation consistent with all the facts: In 1908 a piece of a comet hit the Earth.”

— Carl Sagan, *Cosmos*





## *DVESS Directory for 2020*

<u><b>Officers</b></u>	<u><b>Committee Chairs</b></u>
<p>President: Mark Leipert 856-524-2103  <a href="mailto:mark.leipert@yahoo.com">mark.leipert@yahoo.com</a></p> <p>Vice President: Amy Simpson 856-821-2083  <a href="mailto:simpsonamyj77@gmail.com">simpsonamyj77@gmail.com</a></p> <p>Secretary: Phyllisann Grieco 609-556-9154  <a href="mailto:safesite2013@gmail.com">safesite2013@gmail.com</a></p> <p>Treasurer: James Brennan 610-322-1540  <a href="mailto:brenimage@hotmail.com">brenimage@hotmail.com</a></p>	<p>Junior Rockhounds Chair:</p> <p>Millard LeCompte 609-458-7763  <a href="mailto:WorksInFaith08009@gmail.com">WorksInFaith08009@gmail.com</a></p> <p>Field Trips: Mark Leipert</p> <p>Co-Field Trips: Ed &amp; Alice Houseal  <a href="mailto:alicehouseal@verizon.net">alicehouseal@verizon.net</a></p> <p>Membership: James Brennan</p>
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## Membership Information

*Regular memberships* are entitled to participate in all DVESS activities.

### *Regular Membership:*

\$20.00 for the 1st family member + \$5.00 for each family member

\$10.00 for the 1st Senior (65+ ) member + \$5.00 for each family member

## Delaware Valley Earth Science 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 in, knowledge of, 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>)

### **Delaware Valley Earth Science Society Inc. (DVESS)**

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To submit an article or photos for publication in the DVESScapades, contact the Newsletter Editor at [aquamarinepaisleyorchid@yahoo.com](mailto:aquamarinepaisleyorchid@yahoo.com).

