The Northern Virginia Mineral Club Inc

The Mineral Newsletter

Meeting: November 14   Time: 7:30 p.m.

Virtual meeting via Zoom

Euclase

Gachalá, Boyacá, Colombia

Source: Wikipedia.   Photo: Rob Lavinsky.

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November 2022
Explore our website!

November Meeting Program:

2022 Club Show

details on page 7

In this issue …

Mineral of the Month
Euclase

by Sue Marcus

Euclase is our November Mineral of the Month. I chose it because it is attractive and uncommon—and because the name does not end with the usual "ite."

The "clase" ending comes from the Greek word for fracture or break. The renowned early mineralogist and crystallographer René Just Haüy named it in 1792 for those physical characteristics. The material he described was from Brazil, thus making Brazil the type locality. A 2002 peer-reviewed paper states that the material described by Haüy was found by Joseph Dombey in Brazil in 1785.

However, several sources report that the first known specimen of euclase came from Russia's Ural Mountains. I do not understand the basis for the claim that the Russian locality was the first source of euclase since it is not the type locality.

Euclase is a rare mineral found in some beryllium-rich pegmatites. It forms when acidic hydrothermal fluids alter beryl. Euclase can also form in quartz-kaolin environments. Well-formed crystals can be blue, clear, white, or yellow, with each locality usually having a distinctive color or colors. Information on the chromophores (cause of coloration) was graciously provided by Dr. Mike Wise:

> Blue euclase derives its color from Fe^{2+} [iron] and green from Cr^{3+} [chromium], both of which substitute for Al [aluminum] in the euclase structure. Mn^{3+} [manganese] is believed to be responsible for the rare pink color of euclase. It also substitutes for Al."

Vanadium can also be a chromophore, perhaps combining with chromium to form the lovely blue colors of Colombian euclase. Joel Grice, on the International Gem Society website, notes that the hardness of euclase can vary within the same crystal, but I found no other mention of this characteristic. Many euclase crystals have thin striations parallel to the c-axis (long axis).

The United States is not well endowed with euclase localities; even microscopic specimens are unusual. The Fisher Quarry in Topsham, ME, produced a few colorless euclase specimens. One Mindat image shows a

Happy Thanksgiving!

Northern Virginia Mineral Club members,

No in-person meeting in November!

***** Zoom meeting this month *****

See details on page 7.

Euclase, Alto do Giz Pegmatite, Equador, Rio Grande do Norte, Brazil. Source: Mindat; photo: Matteo Chinelatto.

submicroscopic euclase crystal, with the image coming from a scanning electron microscope.

A New Hampshire locality, the Chandler Mine, also produced at least one specimen of euclase microcrystals. Micromounters may also be interested in tiny euclase crystals from Colorado's Boomer Mine; a specimen was also found at Mount Antero, which the caption gives as 0.3 centimeters (0.01 in) in size.

Look carefully, collectors! Some of these images can be found on Mindat by searching the euclase mineral site, then specifying United States in the photo search field. However, some of these images are *not* found on the Mindat locality websites.

Euclase, Alto Santo, Equador, Rio Grande do Norte, Brazil. Source: Mindat; photo: Rock Currier.

Minerals.net shows a single, slightly yellow, transparent euclase crystal from the Mount Brussilof Mine in British Columbia, the only known euclase locality and specimen from Canada. Magnesite was produced at the mine beginning in 1982, but the mine is not currently active.

Brazil has several mines that produced euclase. Minas Gerais is known for beautiful minerals—tourmaline, beryl, the apatite groups, and many more—from the prolific pegmatites there. Euclase has never been abundant at any Brazilian site, with most specimens apparently found intermittently from the 1960s to the 1990s, but specimens have come onto the market occasionally since 2015.

Ouro Prêto—meaning black gold, a name derived from gold nuggets encrusted with black iron oxides—is a city in Minas Gerais. It is the type locality of euclase, where it forms transparent to translucent crystals in colors including lavender, light green, clear, and various shades of blue. A specimen in the Harvard University collection, pictured on Mindat, is described as blue in artificial light and emerald green in daylight—the only instance of this color change I could find.

A huge—by euclase standards—7-centimeter (2.8-in) crystal came from Boa Vista, near Ouro Prêto. Capelinha, possibly more precisely Mãe dos Homens, was a source of water-clear euclase crystals. Santana do Encoberto, in the Safina pegmatite belt, is another euclase crystal source. The crystals found here are usually colorless.

A single, well-terminated euclase crystal, 6.2 centimeters (2.4 in) long, is shown in the Mindat gallery of euclase crystals as coming from Teófilo Otoni, Mucuri Valley, although the species is not shown on the Teófilo Otoni locality site. Mindat also shows a single large (5.4-centimeter (2.2-in)) specimen from Olhos-d'Água, Minas Gerais.

Although Mindat does not list euclase as one of the minerals reported from the Chia Mine in Sao Jose da Safira, Minas Gerais, a major dealer's website offers a 5-centimeter (3.0-in) specimen for sale, tagged with this locality.

Farther south, near the city of Equador in the Brazilian State of Rio Grande do Norte, the Alto do Giz pegmatite is mined for tantalum. The pegmatite is rich in other rare metals like beryllium and lithium. Luckily for collectors, that makes the geological environment primed for unusual and beautiful minerals. Some euclase specimens have an aqua stripe parallel to the C-axis (long dimension) of an otherwise colorless euclase crystal. Beauty is subjective, but to me, these are some of the most attractive euclase specimens in the

Euclase with tourmaline, Equador, Rio Grande do Norte, Brazil. Source: Mindat; photo: Matheus Santos.

world. Lovely transparent blue crystals and other combinations of colorless and blue euclase have also come from this locality.

A recent paper informs us about pink euclase from Livramento de Nossa Senhora in Bahia State, Brazil. The euclase here is pleochroic, looking pink when viewed from some angles and orange when viewed from other angles. It formed in a pegmatite vein that cut through schist. The color is caused by manganese (Mn^{3+}).

Another Bahian location, the [Brumado talc or magnesite pit](), has also produced colorless, yellow, pink, and blue euclase. Gems can be heat-treated to stabilize the pink color of euclase, but this results in the loss of the pink-orange pleochroism.

Colombia is the source of what may be the world's finest euclase crystals. Beautiful aquamarine-blue euclase

Euclase, La Marina Mine, Pauna Municipality, Boyacá, Colombia. Source: Mindat; photo: Martin Gruell.

crystals have been found at three of the country's mines: La Marina and Chivor Mines in the Boyacá Department and [Gachalá]() in the Cundinamarca Department. Gachalá euclase specimens portrayed on Mindat are up to 3.8 centimeters (1.5 in) in size. Like their brethren at [La Marina Mine](), these transparent crystals are more attractive when offset with contrasting white albite or calcite. Crystals up to at least 3 centimeters (3.12 in) in size were mined at La Marina beginning in about 2016.

In 2011, a few transparent blue euclase crystals came out of the [Chivor Mine](). This privately owned mine primarily extracts emeralds. The euclase crystals are pseudo-octohedral, possibly indicating twinning.

Chivor and Gachalá are in Colombia's eastern emerald belt; La Marina is in the western emerald belt. At the Gachalá Mine, unusual types of emerald crystals have been extracted, but I will save those details for another column.

Micromounters might consider a few European localities that could add to their collections, although none of the localities are known to be highly productive of euclase. In Sweden, feldspar quarries have exploited a niobium/yttrium/rare earth elements/fluorine pegmatite near Kolsva in Västmanland County. I learned about this specialized form of chemically classified pegmatite when I found an unexplained reference to this Swedish site as an "NYF" pegmatite. At this locality, the pegmatite also hosts beryllium minerals, including euclase. The euclase here forms colorless crystals of 0.2 centimeters or less (> 0.08 in) in small vugs.

Larger but still micromount-size crystals up to 1.2 centimeters (0.5 in) in size have come from the Zurfurt Quarry in Bavaria, Germany. This quarry was active when the Mindat locality was described; the site noted that collecting is "strictly forbidden."

Alpen clefts in Austria's Zell am See District have produced many different minerals, though not in large quantities. Euclase crystals from the Austrian locality are colorless and range up to 1 centimeter (0.4 in) in size. One translucent, doubly terminated crystal shown on Mindat has a rutile inclusion along the center of its C-axis (length); it is a stellar specimen.

A single specimen is shown on the Mindat site for Sargardon in the Chatkal-Kuraminskii Mountain Ranges near Tashkent, Uzbekistan. Colorless, doubly terminated, possibly twinned crystals occur with colorless needles of bavenite, purple fluorite, and clear quartz.

Although I found one image of a bicolored faceted stone from Russia, I could find no references of euclase at the purported original Orenburg locality; nor could I find references to another specimen, also in the Ural Mountains, near the Kamenka River. Mindat reports euclase (without images or descriptions) from the Andreye-Yulyevsky placer mine, Chelyabinsk Oblast, Russia. Russian websites may have more information on euclase localities there.

The Karoi District in Zimbabwe is one of the significant producers of world-class euclase. Most specimens are a shade of blue hard to describe. The color is azure, though with a touch of green. The depth of the color ranges from dark—more like azurite—to lighter, brighter shades that remind me of the colors of the Caribbean Sea.

You think I'm being excessive? These are gorgeous crystals. Some specimens display blue and colorless euclase. Other particularly rare ones show euclase replacing beryl. The largest euclase crystals are about 3 centimeters (1 in) in size.

Euclase, Last Hope Mine, Mwami, Karoi District, Mashonaland West, Zimbabwe. Source: Mindat; photo: Jordan Root.

As with the Brazilian localities, production has been sporadic since the 1950s. The Last Hope Mine has been the most prominent euclase specimen source. The mine explored underground, probably originally for mica (muscovite) and later for beryl (aquamarine) and topaz. Surface workings probed other nearby gem prospects. The host pegmatites, which intruded older schists, are 480 to 680 million years in age.

Madagascar's Soavinandriana District is an unusual geological environment, enriched with radioactive minerals. It has yielded at least one euclase crystal. Mozambique seldom appears in these columns, despite its rich mineral resources. Mozambique's Ribaué District is the source of colorless euclase, forming crystals up to about 1.4 centimeters (~0.6 in) in size.

Yellow or white euclase crystals have come from the Piaotang Mine, Xihuashan ore field, Ganzhou, China. The ore mineral extracted at the mine is scheelite for its tungsten content, with cassiterite also extracted for tin. Most euclase specimens seem to have come onto the market in 2007. Unlike other euclase localities, the Piaotang Mine produced some matrix specimens up to 8.3 centimeters (3.3 in) in the longest dimension, covered in small euclase crystals. The largest euclase crystals are about 2.5 centimeters (~1.0 in) in size.

Euclase, Last Hope Mine, Mwami, Karoi District, Mashonaland West, Zimbabwe. Source: Mindat; photo: Rob Lavinsky.

Although beryllium is in its chemistry, euclase is insufficiently abundant to form deposits from which beryllium can be economically extracted. Bertrandite and beryl are the most economically important beryllium minerals.

Beryllium is used by the aerospace, defense, automotive, and consumer electronics industries in many electronic products; it is also used in telecommunications equipment. Euclase is not toxic, although beryllium is harmful to human respiratory systems when its dust is inhaled.

Beautiful faceted stones have been crafted from euclase. Deep blue is the most valued color for gems, though colorless and champagne yellow stones are more prevalent. The Smithsonian Institution's National Museum of Natural History is home to an 18.29-carat blue faceted oval stone from Minas Gerais, Brazil.

Euclase gem. Photo: Joel Arem.

Its hardness makes euclase seem like it would be useful as a gemstone for jewelry, but it cleaves easily (remember the meaning of its name), which makes it difficult to cut and fragile to wear. It is also rare, with large, transparent, faceting-quality material even rarer.

Most rough euclase for faceting is from Brazil. Gemdat informs us that irradiating colorless euclase can make it take on more popular (and valuable) blue or green hues.

As of October 22, 2022, a 5.2-centimeter-long (2.0-in-long) euclase crystal from Brazil could be purchased for $4,800. Another website offered a 1-centimeter (0.4-in) thumbnail, also from Brazil, for less than $30.

Technical Details

Chemical formula	$BeAl(SiO_4)(OH)$
Crystal form	Monoclinic
Hardness	7.5
Specific gravity	2.99-3.1
Color	Colorless, light yellow/champagne, blue-green, aqua
Streak	White
Cleavage	1 perfect
Fracture	Conchoidal
Luster	Vitreous

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Mineral Show Coming Up

November 14 Program

For our NVMC meeting on **November 14, 7:30 p.m.**, please join us on Zoom!

[URL]

Meeting ID:
Passcode:

We will discuss the upcoming club show on the following weekend, November 19-20. It has been a few years since the NVMC has joined George Mason University in hosting a mineral show, so we will take some time beforehand to discuss what's involved so things go smoothly. Show Chair Tom Taaffe will lead the discussion; see his article on page 13.

We will need volunteers to play various roles needed for a successful show. You can sign up here. ⛏

President's Collected Thoughts

by Tom Kim

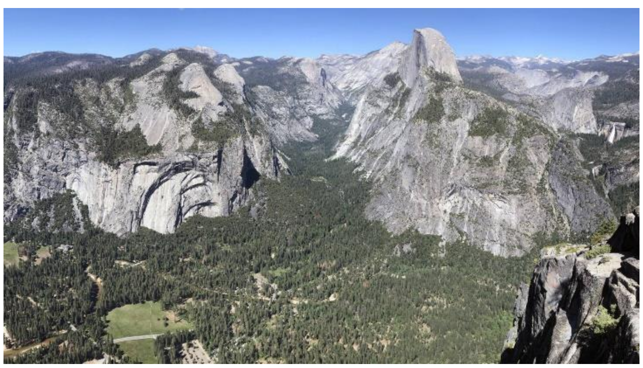
Crucial to the mission of our club is educating and encouraging the next generation of enthusiasts. Many of us began when we were quite young and remember times when our interest was stoked by finds on a field trip, the bounty at a mineral show, donations by an older collector, or even a riveting lecture.

We have a few great opportunities to pay that forward coming soon, not least taking a shift at the Kids' Room at our November show at George Mason University. Even if you don't consider yourself an expert or an educator, you can simply be a fellow enthusiast who shares the delight of rocks, minerals, and fossils with younger folk for an hour or so. And this is certainly an area where the more involved, the lighter the load.

If you do have a certain amount of expertise, you may also want to consider putting together a presentation, perhaps for our club or perhaps for our burgeoning partnership with the Lapidary Club at Annandale High School. Even if your primary interest isn't in lapidary, with a little consideration, you may realize that what you *are* passionate about may very well overlap with the interests of these young enthusiasts. How do you find good deals at a show? How do you organize and inventory a large collection? What's a memorable collecting trip where you found some gemstones? What are the provenance and stories behind the several, say, emeralds you have? It seems to me the Lapidary Club would be an ideal venue to premier many presentations because of its energetic and forgiving audience.

I know our club members to be a generous bunch. There are many different ways to contribute, so I hope you give some of these opportunities a thought. ⛏

Tom

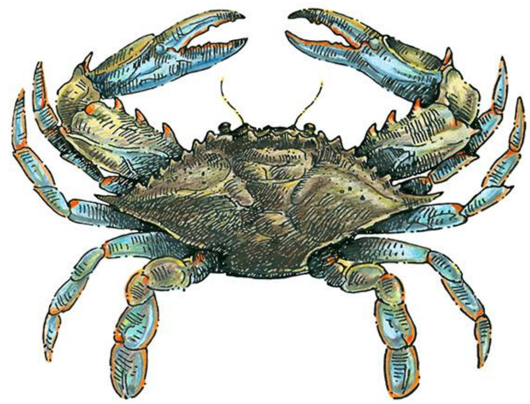


How Old Is Yosemite Valley?

by Robert Sanders

Editor's note: *The piece is from University of California News, 20 October 2022. Thanks to Sue Marcus for the reference!*

Did it all start 50 million years ago, when the granite through which the valley cuts was first exposed to the elements? Was it 30 million years ago, when data suggest canyons in the southern Sierra Nevada began to form? Did the valley only begin to form after the Sierra tilted toward the west some 5 million years ago, or was it mostly due to glaciers that formed in a cooling climate 2 to 3 million years ago? … *Read more*.



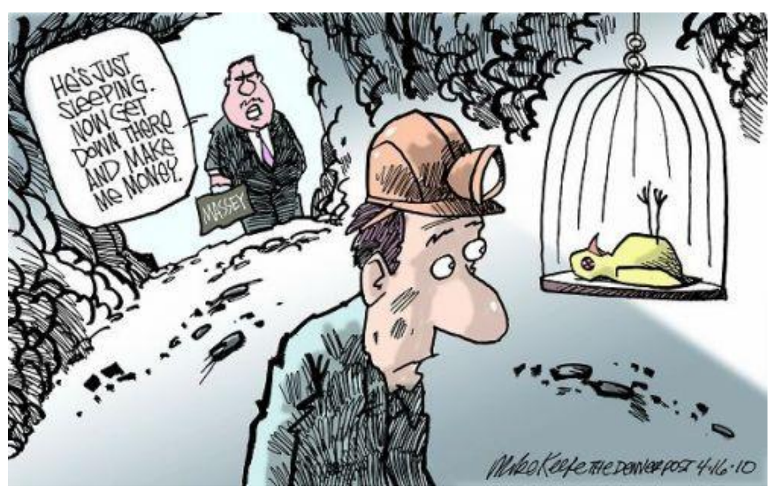
Ancient Blue Crab Fossil Found on Assateague Island

Editor's note: *The article is adapted from a report by the Associated Press on December 6, 2021. Thanks to Sue Marcus for the reference!*

The National Park Service has confirmed the discovery of an ancient crab fossil at Assateague Island National Seashore. Sharon Conn, a visitor, found the fossil in early October on the Virginia portion of Assateague Island.

The agency identified the rare blue crab fossil with the help of the Department of Paleobiology at the Smithsonian. Matthew Miller, museum specialist at the National Museum of Natural History in Washington, DC, concluded that the fossil is likely from the Pleistocene Epoch (2.6 million to 12,000 years ago).

The fossil was found on public land and is therefore protected by the Paleontological Resources Preservation Act of 2009. It is currently at the National Park Service's Toms Cove Visitor Center in Virginia. ⛏



The Rocks Beneath Our Feet

Dragon's Teeth: An Unusual Lava Formation on Maui

by Hutch Brown

Last September, I vacationed on the island of Maui in Hawai'i together with my wife, Kathryn, who grew up there. We took several hikes, including the Kapalua Coastal Trail starting from D.T. Fleming Beach on West Maui. Near the start, off to the right, is an ancient lava flow forming Makaluapuna Point, which juts out about a quarter mile from the beach.

Maui has lots of such ancient flows, but one edge of this particular tongue of lava has a unique formation: the lava curls upward into a jagged line of rock more than 6 feet high in places. Beyond the edge is a 10-foot drop to tidal pools washed by ocean waves that batter the jagged edge and sometimes sweep over it.

The formation is called Dragon's Teeth, and the online description (for tourists) claims that it was formed by the action of wind and waves on molten lava that was relatively light in weight. I found that hard to believe: How could wind and water shape rock (even molten) in any way but erosion over long periods of time?

Hoping to find out what really caused this strange formation, I downloaded a geologic map of Hawai'i, along with the corresponding summary of the science by the U.S. Geological Survey.

Geologic Setting

The Hawaiian Islands are the tops of giant ocean volcanoes—some more than 30,000 feet high—formed by countless lava flows over millions of years. The volcanic peaks are the visible part of an immense submarine ridge with more than 80 volcanoes; it's called the Hawaiian Ridge-Emperor Seamount Chain. The chain stretches for thousands of miles from the island of Hawai'i northwestward to the Aleutian Islands, where the Pacific Plate dives under the North American Plate to form the Aleutian Trench.

Like other tectonic plates, the Pacific Plate moves. The Hawaiian Islands are in a line that shows the plate's northwesterly direction of travel over a "hotspot," a point where magma rising from the Earth's mantle erupts in vast lava flows on the seafloor. The accumulating lava forms huge "shield" volcanoes (relatively flat but rounded upward, like a warrior's shield).

Top: *Dragon's Teeth, a lava formation on West Maui's Makaluapuna Point.* **Bottom:** *Makaluapuna Point (D.T. Fleming Beach is on the left). Sources: AllTrails (top); Dreamstime (bottom).*

As the Pacific Plate moves over the Hawaiian hotspot, the volcanoes go through phases. They form mainly during the "shield" phase, with the "postshield" phase delivering some of the final lava flows before a volcano moves far enough away from the hotspot to stop

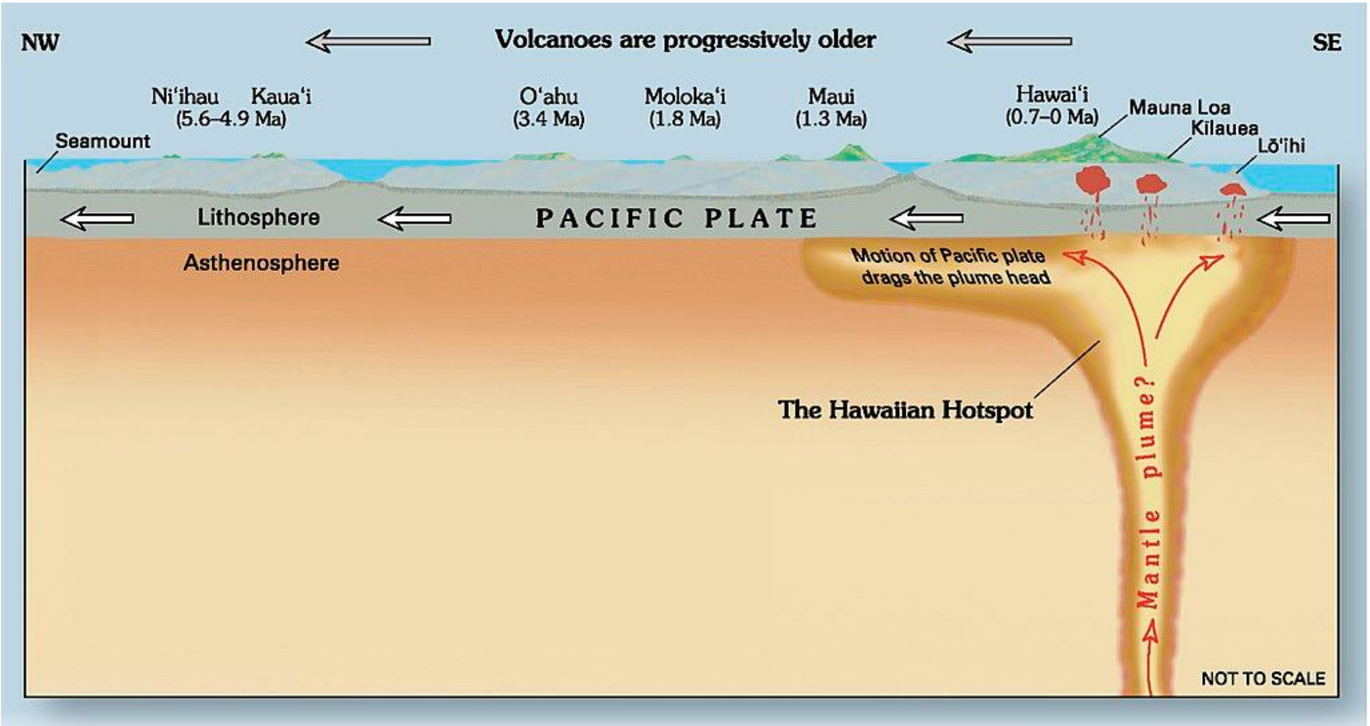


Figure 1—*Six of the eight major Hawaiian Islands, showing the direction of motion of the Pacific Plate over the Hawaiian hotspot and the corresponding formation of the islands, with two active volcanoes on the island of Hawaiʻi. Source: Tilling and others (2010).*

erupting altogether. Meanwhile, a new volcanic seamount emerges behind the last volcano in the chain.

Figure 1 shows the process. Hawaiʻi (the Big Island, as the locals call it) has the most recent volcanoes, with the Lōʻihi seamount coming up behind. After Hawaiʻi, the island of Maui, with its two volcanoes connected by a flat isthmus (fig. 2), has the most recent volcanic activity. As the older volcanoes move away from the hotspot, they subside and weather away into coral atolls and then into underwater seamounts. The smallest of the Hawaiian Islands—Niʻihau, approaching 6 million years in age—is only about 2 percent the size of the Big Island.

West Maui Volcano

Maui is much smaller than the Big Island, and West Maui makes up only about a quarter of it. As figure 2 suggests, Maui is part of the same volcanic seamount as the three smaller islands nearby. Some geologists maintain that the four islands formed a single island with multiple volcanoes as recently as 1.2 million years ago, before subsidence sank "Greater Maui" into the sea and separated its volcanic peaks (except for Haleakalā and the West Maui Volcano). During the Pleistocene Epoch (about 20,000 years ago), global sea levels were so low that all four islands were again joined.

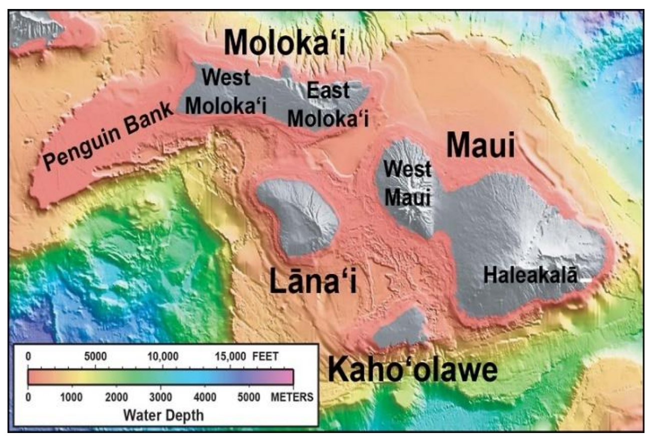


Figure 2—*Maui, with its two volcanoes, is connected across shallow seas to the nearby volcanic islands of Lānaʻi, Molokaʻi, and Kahoʻolawe. Source: Tilling and others (2010).*

Major volcanic activity ended on West Maui about 1.3 million years ago. The West Maui Volcano is much

The West Maui Volcano has eroded into peaks with steep slopes, locally known as the West Maui Mountains. Source: Wikipedia; photo: Forest and Kim Starr.

Figure 3—*Detail from geologic maps of Maui showing lava flows from the West Maui Volcano (left) and part of Haleakalā (right); the circle shows the approximate location of the Dragon's Teeth formation. Green = Wailuku Volcanics (lava flows during the shield phase); brown = Honolua Volcanics (lava overlying the Wailuku Volcanics from flows during the postshield phase). Source: Tilling and others (2010).*

older, more weathered, and smaller than Maui's Haleakalā Volcano, which is about 10,000 feet in elevation (West Maui is about 5,800 feet). Haleakalā had major eruptions up to about 800,000 years ago and minor eruptions within the past 500 years, so scientists are unsure whether Haleakalā is extinct, though (unlike the Big Island volcanoes) it is certainly dormant.

Similarly, the West Maui Volcano had late eruptions in its postshield phase (fig. 3, brown), layering newer lava over older shield-phase flows (fig. 3, green). The postshield lava flows took place up to about 1.1 million years ago. They are known as the Honolua Volcanics because some of the heaviest flows occurred near Honolua Bay on the north side of West Maui. Accordingly, the Dragon's Teeth formation at Makaluapuna Point came from some of the latest lava flows on the West Maui Volcano.

Lava Curled by Ocean Winds?

I tend to associate lava with dark and heavy basalt—and much of it on Maui is exactly that (dense and dark reddish brown). The shield flows that formed the bulk of the West Maui Volcano—the Wailuku Volcanics (fig. 3, green)—are a type of basalt called tholeiitic. Tholeiitic basalt is "mafic"—rich in magnesium and iron (Fe) and relatively low in less dense "felsic" minerals such as feldspar and silica.

But the West Maui Volcano produced different types of lava in its postshield phase. Called benmoreite and trachyte, these lavas have less iron and magnesium and more silica and feldspar. Making up the entire Honolua Volcanics (fig. 3, brown), they are up to 75 percent felsic by weight; that makes them lighter in color, density, and weight than the Wailuku Volcanics, which are only about 50 to 55 percent felsic by weight. As flowing lava, the Honolua Volcanics were therefore less viscous (more fluid). Bottom line: during a postshield eruption of the West Maui Volcano, relatively liquid benmoreite or trachyte lavas poured from a lateral vent downhill into the sea, creating Makaluapuna Point.

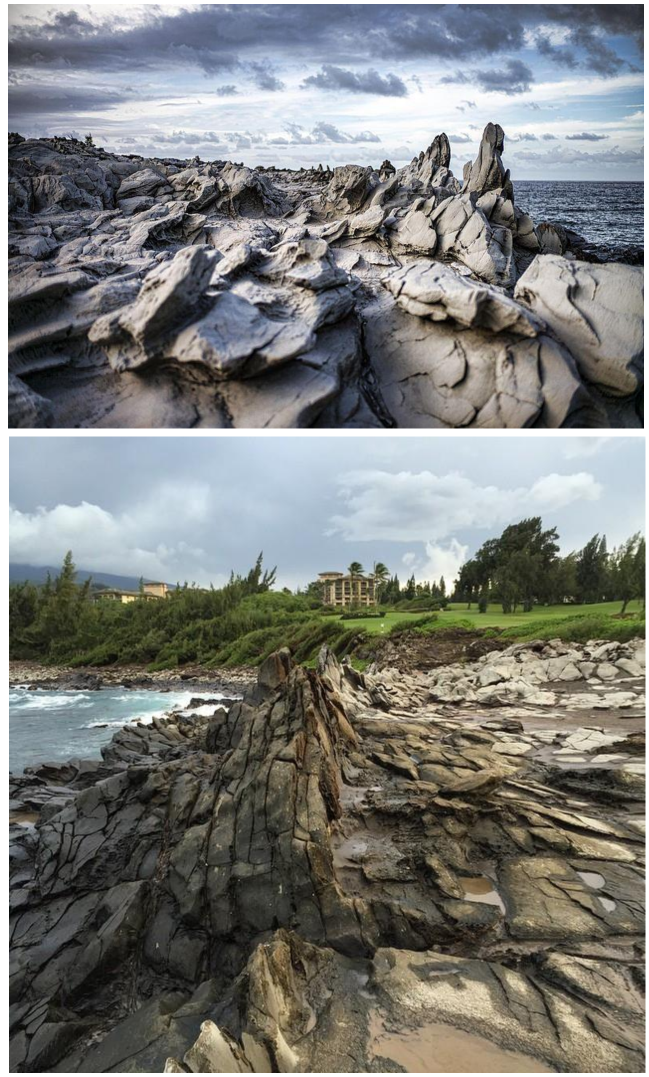
The prevailing winds in the Hawaiian Islands come from the northeast, and they can be seasonally heavy on West Maui's north coast. Winter waves are so high off Honolua Bay, for example, that they are used for surfing competitions. Awe-inspired surfers call the point "Jaws" for its huge waves, and they often need rescue from folks on jetskis when they wipe out.

The eruption that created Makaluapuna Point apparently coincided with high winds and waves. As a river of relatively light red-hot lava poured into the ocean, the northeasterly winds whipped up one side of it and forced it into the air, even curling it back on itself in places. The huge waves washing over the molten rock then cooled it and froze it in place, forming an uptilted edge that weathered over time into jagged "teeth."

The Popular Description Was Right

Popular descriptions of geologic phenomena sometimes miss the mark in explaining the origins of rock formations. For example, explanations for Natural Bridge in southwestern Virginia are sometimes rooted in whimsical notions about the biblical Great Flood.

In this case, the explanation was correct: a volcanic flow of relatively light and fluid lava, one of the last on West Maui, poured into the sea to create Makaluapuna Point. The flow coincided with high winds and waves that drove the lava back and froze it into an upright position, creating the light-colored Dragon's Teeth formation that visitors marvel over today.



Dragon's Teeth on Makaluapuna Point, West Maui. Note the light gray color of the lava. Source: Wikipedia; photos: Christopher Michel.

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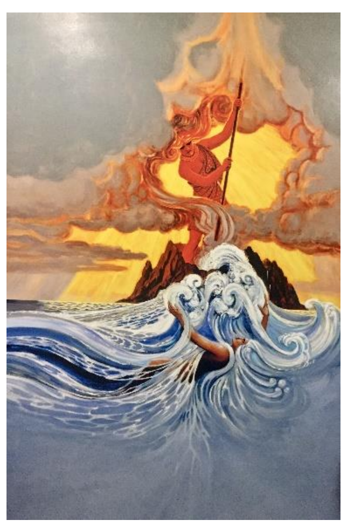
Pele's Legendary Battle

Editor's note: *Adapted from Tilling and others (2010).*

Hawaiian legends tell of Pele, the tempestuous Goddess of Fire, whose stamping on the ground caused earthquakes and who used her *päoa* (firestick) to cause volcanic eruptions. She started out on the island of Kaua'i, then quarreled with her older sister Namakaokaha'i, Goddess of the Sea, who attacked Pele and left her for dead. Recovering, she fled down what is now the island chain, leaving more angry "firepits" on the islands of Oah'u, Moloka'i, and Maui.



Realizing that Pele was still alive, Namakaokaha'i went to Maui to do battle with her again. After a terrific fight, Namakaokaha'i believed that she had killed her younger sister, only to discover later that Pele was still very much alive and busily creating the Mauna Loa Volcano on the island of Hawai'i. Namakaokaha'i then conceded that she could never crush her sister's indomitable spirit and gave up the struggle. Pele dug her final firepit on the Big Island at the summit of the Kïlauea Volcano, where her spirit is said to reside to this day.

Club Show Almost Here!

November 19-20, 2022

by Tom Taaffe, Show Chair

After missing a couple of years due to the coronavirus pandemic, the NVMC is bringing back our annual gem, mineral, and fossil show. The show will be on November 19-20, 2022, in Dewberry Hall, Johnson Center Building, George Mason University (GMU), Fairfax, VA. After setup on November 18, show hours will be from 10 a.m. to 6 p.m. on Saturday, November 19, and from 10 a.m. to 4 p.m. on Sunday, November 20.

Here are various suggestions for ways that NVMC members can help with this year's show.

Staffing the Show

You can volunteer to help during actual show hours on Saturday and Sunday. For example, we need volunteers for the **Kids' Activity Room**. This job entails administering quizzes, helping with puzzles, and awarding free specimens to kids who earn them. It also includes fielding any questions the kids have as well as helping with mineral and fossil identification. The Kids' Activity Room can get a little crazy at times, but it's lots of fun and very worthwhile.

Show volunteers needed!!

We also need volunteers to help with **setting things up** on Friday, November 18. That includes bringing items from the club's storage unit to GMU, helping to set up the Kids' Activity Room, and helping dealers at the unloading dock so that process goes smoothly.

We need volunteer help at the **admissions table**. If several club members take a shift or two, it will make the process less chaotic and more efficient.

When the show ends at 4 p.m. on Sunday, we need volunteers to help **teardown**. We will need volunteers to help pack up the Kids' Activity Room and gather all the club equipment and gear. We will need additional help with bringing it all back to our storage unit as well.

Display at the annual club show in November 2015. Photo: Sheryl Sims.

Donating Specimens for Kids

You can volunteer by donating mineral and fossil specimens for our kids' mines in the Kids' Activity Room. These should be suitable specimens for children, not too big or small (about 1 to 3 inches in size or weighing about 1 to 4 ounces). The specimens should be somewhat interesting and somewhat attractive and hopefully have some educational value.

Donated specimens should not be toxic, sharp, splintery, or otherwise dangerous. They would also be best in their natural unpolished state. Specimens from nearby localities are great choices, such as prehnite, amazonite, amethyst, and garnet. For this year's show, for example, I recently acquired a large quantity of less-than-perfect Herkimer diamonds and a lesser quantity of green muscovite mica books from New Hampshire.

Devising New Quizzes for Kids

You can volunteer to design or create a new mineral challenge, puzzle, or identification quiz for the Kids' Activity Room. Your new mineral quiz should not be too easy or too difficult; you want children to get some of the answers correct while still feeling challenged, and you want them to have learned something. If you have an idea and want feedback, please email me (Tom Taaffe) at rockcllctr@gmail.com.

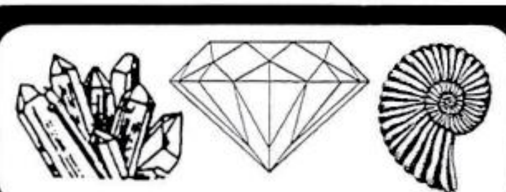
For your newly designed quiz, you might want to use photos, line art, or even actual specimens. All of these ideas can work. Just remember that you want your quiz to be relatively uncomplicated and straightforward so that it is easy enough to take and easy to grade. It's been a long time since anyone other than me designed a new quiz for the Kids' Activity Room, so please give it a try!

Getting the Word Out

You can volunteer to help promote our annual show and really get the word out. We always need help with show advertising and promotion. After years with no show, getting out the word will be more important than ever—one or two people taking it on won't be enough. We mail postcards to previous attendees, and we post our show on some rockhound show calendars; but we really could use much more help.

As you might know, myriad social media options and opportunities exist, including Facebook, neighborhood websites, the Patch, websites of regional mineral clubs, and so on. I am sure that several NVMC members are much more fluent in and comfortable with navigating and posting on the web than I am. So please volunteer to get the word out.

When you are ready, please send me (Tom Taaffe) an email at rockcllctr@gmail.com, and I will give you all the specifics you will need to post our show on your selected spots on the web (show dates, place, hours of operation, admission fees, and so on).



30th Annual

GEM, MINERAL AND FOSSIL SHOW

Presented by The Northern Virginia Mineral Club, Inc. **www.novamineralclub.org**
Sponsored by the Dept. of Atmospheric, Oceanic and Earth Sciences at GMU

Date:	**November 19 & 20, 2022**
Place:	**Dewberry Hall, Johnson Center** **George Mason University Campus** **GPS: 4400 University Dr, Fairfax, VA 22030**
Hours:	**Saturday 10am-6pm, Sunday 10am-4pm**
Admission:	**Adults: $6, Seniors: $4, Teens (13-17): $3** **Children 12 & under & Scouts in uniform are FREE** **GMU Students & Faculty w/valid ID are FREE.**

$1 OFF
Adult admission with this card (applies to all adults + seniors in your group)

Demonstrations, Exhibits, Kids Activities, and Door Prizes.
Mini-mines for children to dig in and get free fossils and minerals.
Approximately 20 Dealers with Gems, Minerals and Fossils for sale.

Use parking Lot A, enter Lot A where adjacent to the Johnson Center
Look for our Courtesy Shuttle & Designated Walking Path to Mineral Show

November 2022—Upcoming Meetings/Show in Our Area (see details below)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2 MSDC mtg, Washington, DC	3	4	5
6	7	8 **Election Day**	9	10	11 **Veterans Day**	12
13	14 **NVMC mtg** GLMSMC mtg, Rock-ville, MD	15	16	17	18 **NVMC Show, GMU (setup)**	19 **NVMC Show, GMU**
20 **NVMC Show, GMU**	21	22	23 MNCA mtg, Burke, VA	24 **Thanks-giving**	25	26
27	28	29	30			

Event Details

2: Washington, DC—Mineralogical Society of the District of Columbia; meetings via Zoom until further notice; http://www.mineralogicalsocietyofdc.org/.

14: Rockville, MD—Gem, Lapidary, and Mineral Society of Montgomery County; meetings via Zoom until further notice; https://www.glmsmc.com/.

14: Burke, VA—Micromineralogists of the National Capital Area; 3-5:30 pm; Kings Park Library, 9000 Burke Lake Rd, Burke, VA; http://www.dcmicrominerals.org/.

18-20: Fairfax, VA—NVMC/GMU Club Show (details on page 13).

28: Arlington, VA—Northern Virginia Mineral Club; meetings via Zoom until further notice; https://www.novamineralclub.org/.

The Northern Virginia Mineral Club

Visitors are always welcome at our club meetings!

PLEASE VISIT OUR WEBSITE AT:
http://www.novamineralclub

Please send your newsletter articles to:
Hutch Brown, editor
4814 3rd Street North
Arlington, VA 22203
hutchbrown41@gmail.com

RENEW YOUR MEMBERSHIP!

SEND YOUR DUES TO:

Roger Haskins, Treasurer, NVMC
4411 Marsala Glen Way, Fairfax, VA 22033-3136

OR

Bring your dues to the next meeting.

Dues: Due by January 1 of each year; $20 individual, $25 family, $6 junior (under 16, sponsored by an adult member).

THE NORTHERN VIRGINIA MINERAL CLUB INC
Crystals are the flowers of the Mineral Kingdom

2022 Club Officers

President: Tom Kim
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Secretary: David MacLean
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Greeter/Door Prizes: Vacant
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Tech Support: Tom Burke
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Webmaster: Casper Voogt
webmaster@novamineral.club

Club purpose: To encourage interest in and learning about geology, mineralogy, lapidary arts, and related sciences. The club is a member of the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS—at http://www.amfed.org/efmls) and the American Federation of Mineralogical Societies (AFMS—at http://www.amfed.org).

Meetings: At 7:45 p.m. on the fourth Monday of each month (except May and December)* at **Long Branch Nature Center**, 625 Carlin Springs Road, Arlington, VA. (No meeting in July or August.)

**Changes are announced in the newsletter; we follow the snow schedule of Arlington County schools.*