A monthly publication of the Clear Lake Gem & Mineral Society

VOLUME 49 March 2023 NUMBER 3

STONEY STATEMENTS

St. Patrick's Day

NEXT MEETING: **Tuesday, March 21, 2023**

TIME: **7:00 p.m.**

LOCATION: Helen Hall Library
100 W Walker St.
League City, Tx 77573

INSIDE THIS ISSUE

March MONTHLY MEETING – 3/21/2023 7:00 PM

We will be discussing the show reports, financials and improvements for the next show.

Please also bring something for a 5 minutes show and tell or any other short presentation to share with the group.

http://www.clgms.org/

Our next show will be Feb 24-25, 2024.

Please check out our Facebook page:
Clear Lake Gem and Mineral Society

https://www.facebook.com/clgms/

Minutes Of The February CLGMS General Meeting

Clear Lake Gem and Mineral Society General Meeting at League City Library on 2/21.

17 Members attended this meeting.

Jim#2 has the new vendors names, so that he can make new signs for the show.

40 vendors have paid and 4 are waiting to see if they can be added for the show.

210 tables 18 waiting $20,315.00 collected $1,7153 waiting $2,562.00 outstanding.

Houston Chronicle and Bay Area Printing are running our ad for the show.

New bead and jewelry supply in Friendswood-Perry's Jewelry Store.

David-postcards have been mailed out and he has gotten the U-Haul.

He also will get the petty cash for the Cashier's.

Sandy-will have the outline of how the show tables will go for Friday.

We have new smaller bags and they are better for the customers.

We still need volunteer's for the show, please sign up if you can.

Minutes Of The March CLGMS Board Meeting

Clear Lake Gem and Mineral Society Board Meeting at Panera Bread on 3/7/23.

Six members attended this meeting.

Two swipes were just bought and Mike will make sure they are charged and they are working.

Now we have two new squares and two new tablets.

Petty cash will be picked up later this week for the show.

We have a 17-ft. U-Haul to load at our storage area for Thursday and if you can help load up we will pay for dinner at Kelly's.

Security will be the same way has it was for the last show.

The Gem Mine and Scout Room has been settled Georgette will do one time on Saturday and Allen will do three on Saturday and Sunday.

There will be no Vendor Bingo, but the Silent Auction will still be a go.

Two more tables rolls will be ordered for the show and the extra we will keep for next time.

Our ads have been great on the internet, 9k likes on Facebook and 20k on Instagram.

Meet at the Storage area at 6pm and 8am on Friday to set up at the show.

James Brittenham passed away a scholarship will be established in his honor and a bucket for donations will be on our table. His service will be on Saturday March 18th at 11am. Hayesfuneralhome.com is the site to watch if you are unable to go.

Field Trips Announcement

Currently – no field trips are scheduled. Several field trip sites are being considered in the fall.

If you have a good location for our club field trip – please contact:
annabel.brownfield@gmail.com or call/text: 281-486-1866.

Taken from "The Northern Virginia Mineral Club" newsletter dated March 2022.

Legrandite – Ojuela Mine, Durango, MX

Legrandite is an attractive, relatively rare, sunny yellow zinc arsenate mineral. It is our March Mineral of the Month. The original specimen was collected by a Belgian mining engineer, Louis C.A. Legrand, who died in 1920. The mineral was first described in print and named for him in 1932 by Julian Drugman and Max Hey.

Photo: Gery Parent

Hey had merely two bachelor's degrees when he worked on this mineral. He later earned a doctorate degree and became a famous mineralogist. I wonder where the type specimen was between the year it was collected (1920) and when it was described (1932), but here's a clue: in their initial description, Drugman and Hey note that Drugman acquired the specimen from Legrand's widow.

That makes me think of all the no-longer-wanted mineral collections and the interesting specimens that may be discovered in them. What if Widow Legrand had just dumped her husband's minerals in the garden?

Legrandite with adamite and limonite, Ojuela Mine, Durango, Mexico. Source: Wikimedia; photo: Parent Géry.

The describing authors, Drugman and Hey, graciously inform us that the type specimen came from the Flor de Peña Mine in Nuevo Leon, Mexico. This means that there is more information available about the type specimen than for many other minerals. Accurate location information helps professional and amateur geologists understand the environment that formed the mineral and therefore where to look for it in geologically similar locations.

The chemical formula deduced by Drugman and Hey was Zn14(AsO4)9OH·12H2O. That has since been modified to Zn2(AsO4)(OH)·(H2O). The type specimen was small, and the early analytical techniques were

destructive, which probably accounts for later, better specimens being used to refine the earlier data. Apparently, the amount of water — or, more precisely, the H_2O molecule — was difficult to determine due to the weakness or strength of the hydrogen bonds.

More specimens from a second locality in Mexico provided better material to analyze. Some of us remember Paul Desautels and possibly Roy Clarke of the Smithsonian Institution. They came up with the currently accepted formula of $Zn_2(AsO_4)(OH)\cdot(H_2O)$ and published their results in 1963. Other scientists throughout the world continued to examine the chemical composition of legrandite, deriving formulas with varying amounts of H_2O.

Legrandite on gossan matrix, Ojuela Mine, Durango, Mexico. Source: Wikimedia; photo: Rob Lavinsky.

Köttigite and adamite, both arsenate minerals, are associated with legrandite. Different mineral localities, having roughly similar geological environments and histories, may sometimes be identified by the mineral associations specific to, or at least most common in, that location. These association, sometimes along with other physical characteristics, can help collectors give a probable location for a specimen. Experiencing many specimens of the same mineral, whether at a museum, a mineral show, or online - even by looking at minerals for sale, without buying - can help us learn how to know our minerals and localities. Thanks for letting me learn by writing these columns.

Legrandite, Ojuela Mine, Durango, Mexico. Source: Wikidata; photo: Didier Descouens.

Legrandite occurs at the Sterling Mine, Sterling Hill, New Jersey. The mineral, more of a novelty than a fine mineral from this locality, is the result of the diverse chemistry of the deposits there. The legrandite crystals are flattened, very rare, and mostly of interest to those who want a collection of all minerals found here. Although the deposits at Sterling Hill and Franklin are famous for their fluorescent minerals, legrandite does not fluoresce.

Mexico hosts the most renowned and probably the best localities for legrandite. When Louis Legrand examined the Flor de Peña property, he realized that arsenic in the deposit would make it difficult or impossible to exploit despite its ore-grade lead and zinc mineralization. During his probe of the location, he brought samples back to Europe. One of them, when described after his death, became the type specimen of the mineral that bears his name.

Although Legrand collected only one sample that contained this new material, collectors since then have found many more. Canary yellow legrandite forms lustrous, radiating sheafs and terminated individual crystals. The best of these have transparent areas within them but are mostly translucent. Crystals from this mine grow to at least 2.1 centimeters (0.79 in). Some images on Mindat show legrandite crystals of a more orange hue, though this may be due to the photographic conditions rather than the specimens.

Specimens are more common in gossan than those without matrix. Gossan forms from the oxidation and weathering of mineralized areas. The process of decomposing the original rock and forming the gossan also leads to mobilization of the chemicals that form secondary minerals like legrandite. The last reported specimen extraction that I found dates to the 1960s.

Legrandite, Ojuela Mine, Durango, Mexico. Source: Wikimedia; photo: Rob Lavinsky.

Legrandite (the Aztec Club), Ojuela Mine, Durango, Mexico. Source: Mindat; photo: Jake Harper.

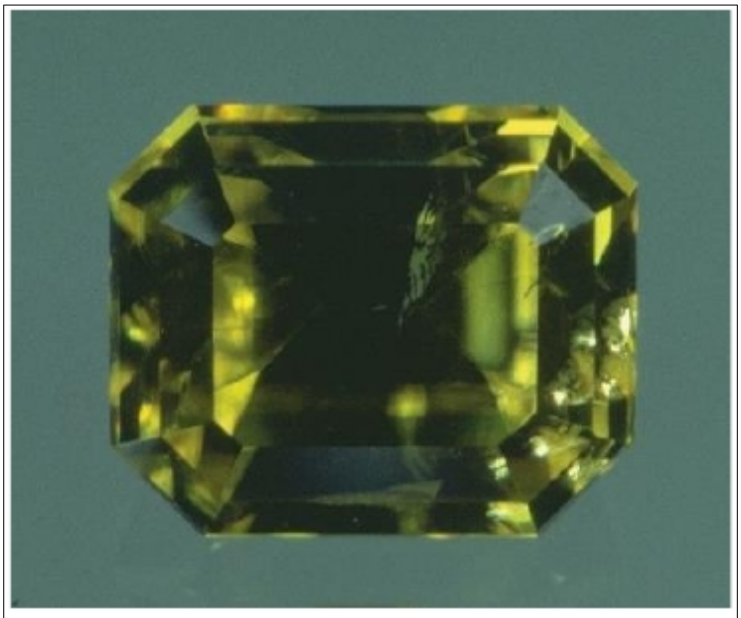
The most prolific legrandite locality is the Ojuela Mine near Mapimi in Durango, Mexico. Crystals up to 6.0 centimeters (2.4 in) in size have been reported. The crystals formed in vugs, often together with adamite, another zinc arsenate mineral. Hydrothermal fluids bearing lead, zinc, and arsenic replaced the limestone host rock. The primary ore minerals were oxidized, resulting in the formation of legrandite and other secondary minerals of interest to collectors, like scorodite, rosasite, and more.

The most productive period of specimen mining at the Ojuela Mine was in the 1960s–80s, although legrandite specimens were probably found later in smaller quantities. Crystals range from acicular micromounts to large, terminated crystals 3.2 centimeters (1.3 in) in size. Unique, doubly terminated legrandite crystals were found at this locality. If, like me, you don't have one of these rarities, you can view them on Mindat's legrandite or Ojuela Mine websites. Smaller crystals are transparent and larger crystals translucent. Micromount collectors should be able to acquire excellent specimens.

The world's most iconic mineral specimens have names, possibly for marketing, although the names also help collectors refer these beauties in relatable ways. The Ojuela Mine produced two named legrandite specimens, the Aztec Sun and the Aztec Club. The Sun consists of crossed legrandite sprays measuring 18.7 centimeters (7.4 in) across. It was probably found by miners who, lacking regularly paying work in the 1970s when mines were closed or dormant, took to mining and selling mineral specimens to collectors. One of these men, Felix Esquevil, discovered the Sun in 1977.

Legrandite (the Aztec Club), Ojuela Mine, Durango, Mexico. Source: Mindat; photo: Jake Harper.

The Sun and Club came to light in the United States when Jack Amesbury brought them to Tucson, where the Sun was offered to others before being purchased by Miguel Romero. The specimen is in now in the MIM Museum in Beirut, Lebanon. The Club, on display in the American Museum of Natural History in New York City, is a parallel group of crystals that reach 22 centimeters (9 in) long. Most of us have wished that we'd purchased a specimen rather than missing out on having it. Imagine the regret of professional mineral dealers on having declined to purchase what became an iconic mineral specimen. Romero liked specimens from the Ojuela Mine and had several stunning legrandites in his famous collection. Legrandite is reported by Mindat from two other localities in Mexico, both near the Ojuela Mine and probably related to it.



Rectangular step-cut legrandite in the Smithsonian gem collection.

The Tsumeb Mine in Namibia is one of the world's most famous mines for beautiful mineral specimens and for the variety of minerals found there. The richly mineralized oxide zone of the orebodies contain legrandite. Tsumeb legrandite is not as abundant as in the Mexican mines, and most Tsumeb specimens are microcrystalline, though larger crystals were found in the Zinc Pocket in 1992. The specimens with larger crystals seem to be more orange than the usual canary - or lemon - colored crystals, with one Tsumeb specimen described as having a cherry-red streak. Mindat lists legrandite among the minerals found at the Sanyati Mine in Zimbabwe, though with no other information about its occurrence and no photos.

Anthony and others (2000) and Mindat note legrandite at a few other localities though nothing like the ones mentioned previously. The list of minerals from the Marie Mine near Willendorf, Germany, includes this mineral, though with no further information or photos. The Silbereckle Mine near Reichenbach, Germany, has köttigite and adamite along with legrandite. Since these minerals often occur together, perhaps more legrandite will be found there.

In the Boa Vista Pegmatite, Minas Geris, Brazil, legrandite was probably in the alteration zones associated with the pegmatite or in oxidized rocks related the pegmatite; it is quite unlikely to be a primary mineral formed with the pegmatite. Micromount-size crystals were found at the Toroku Mine in the Miyazaki Prefecture of Japan. The Ogibira Mine, in Japan's Okayama Prefecture, was reported to have minor legrandite as well.

Some people like a challenge, and apparently that includes faceters. I expected that no one would attempt to cut legrandite; after all, who wants to wear an arsenic mineral? I'm proven wrong again by a faceted 3.4-carat legrandite in the Smithsonian's gem collection.

Another, smaller faceted legrandite is shown on the Gemdat website; and the Gemsociety.org website mentions a possible 10-carat stone without further information. An attractive rectangular yellow faceted legrandite is shown on the Classicgems.net website. In late February 2022, while looking for legrandite mineral specimens for sale, I was surprised to find several faceted legrandites for sale on Etsy.com. Prices for the faceted stones ranged from about $170 down to $33. All faceted stones known to this author were cut from Ojuela Mine material.

Legrandite is relatively expensive because crystals are rare and nice crystals are even rarer. I found relatively cheap ($10–$25) splinters of legrandite for sale on Etsy.com, though I would not recommend them for any collector because they show nothing about the mineral. They don't have crystal faces, associated minerals, or matrix—they literally look like someone beat legrandite specimens to make chips. I found specimens for collectors beginning at $20, though most were more than $80 and prices can quickly climb to several hundred dollars. This is a mineral that you should buy if you see a nice one for a low price before someone else snaps it up.

Technical Details

Chemical formula .....$Zn_2(AsO_4)(OH)\cdot(H_2O)$
Crystal form ..... Monoclinic
Hardness 4.5–5
Specific gravity 3.98–4.01
Color..... Shades of yellow, colorless in transmitted light*
Streak..... White
Cleavage ..... 1 fair to poor
Fracture ..... Conchoidal
Luster..... Vitreous, resinous, waxy

* Transmitted light is the light used in microscopy, when light passes though the mineral. The light is not reflected back into the microscope eyepiece; it is transmitted through the mineral.

References

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Rahn, T. 2018. Exploring Mexico's new classics: adamite and legrandite. RocknGem. 4 August.

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We are sorry to report that beloved member James Brittenham passed away 2/8/2023. We will miss him dearly.

SCFMS and USA GEM SHOWS

Clear Lake Gem & Mineral Show
Start Date: 03/18/2023
End Date: 03/19/2023
Hours: Sat 10:00-6:00
Sun 10:00-5:00
Venue: Pasadena Conv Center
Address: 7902 Fairmont Pkwy
Pasadena, TX 77507
Website: https://www.clgms.org

Truth or Consequences Rock and Gem Show
Start Date: 03/25/2023
End Date: 03/26/2023
Hours: Sat 9:00-5:00
Sun 10:00-4:00
Venue: Sierra County Fair Barn
Address: 1321 Hyde Ave
Truth or Consequences, NM 87901
Website: http://scrags.org

Tar Heel Gem & Mineral Show
Start Date: 03/31/2023
End Date: 04/02/2023
Hours: Fri 3:00-7:00
Sat 10:00-6:00
Sun 10:00-5:00
Venue: NC State Fairgrounds, Kerr Scott Building
Address: 1025 Blue Ridge Rd
Raleigh, NC 27607
Website: http://tarheelclub.org

The Crystal Festival
Start Date: 04/01/2023
End Date: 04/02/2023
Hours: 10am to 8pm
Venue: Grace Event Center
Address: 1024 US-40
Roosevelt, UT 84066
http://www.crystalfestival.org

Texas Mineral and Fossil Show
Start Date: 04/21/2023
End Date: 04/23/2023
Venue: Lone Star Convention Center & Expo
Address: 9055 Airport Rd
Conroe, TX
https://www.rmgmpromotions.com/

https://www.facebook.com/RMGMmineralandfossilshows

Georgia Mineral Society's Gem & Mineral Show
Start Date: 05/12/2023
End Date: 05/14/2023
Venue: Cobb Civic Center
548 South Marietta Pkwy
Marietta, GA 30060
http://www.gamineral.org

The Franklin Gem & Mineral Show
Start Date: 05/19/2023
End Date: 05/21/2023
Venue: The Robert C. Carpenter Community Building
Address: 1288 Georgia Rd. Franklin, NC 28734 http://www.visitfranklinnc.com

Texas Mineral and Fossil Dallas/Plano
Start Date: 05/19/2023
End Date: 05/21/2023
Venue: Plano Event Center
2000 E Spring Creek Pkwy
Plano , TX 75074
https://www.rmgmpromotions.com

Tulsa Rock Gem Mineral & Jewelry Show
Start Date: 07/15/2023
End Date: 07/16/2023
Hours: Sat 9:00-6:00
Sun 10:00-5:00
Exchange Center at Expo Square
Address: 4145 E. 21st St.
Tulsa, OK 74114
http://www.tulsarockandmineralsociety.org

STONEY STATEMENTS
Clear Lake Gem and Mineral Society, Inc

PO BOX 891533
Houston, Texas 77289

Meeting 3rd Tuesday of the Month
7:00 P.M.
League City Library
100 W Walker St, League City, TX 77573

Member of

American Federation of Mineral Societies

South Central Federation of Mineral Societies

Next Annual Show
Feb 24-25, 2024
Pasadena Convention Center

CLGMS is on the Web:
http://www.clgms.org

FACEBOOK: CLEAR LAKE GEM AND MINERAL SOCIETY.

Clear Lake Gem and Mineral Society, Inc

MEMBER: American Federation of Mineralogical Societies and South Central Federation of Mineral Societies

PURPOSE: To promote education and popular interest in the various earth sciences; in particular in those hobbies dealing with the art of lapidaries and the earth sciences of minerals, fossils and their associated fields.

2023 OFFICERS:	President	Cynthia McGowan	281-546-2662
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Education/Field Trips…….Annabel Brownfield/ James Brittenham

Membership Dues Jan. to Dec. 2023: Adult $15:00, Family Dues $20.00 (4+) at same address. Send Dues to CLGMS, PO BOX 891533, Houston, TX, 77289