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## Pleochroism

Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas

Pleochroism is an optical characteristic of some minerals. Wikipedia describes pleochroism as a mineral showing different colors when viewed at different angles, especially when illuminated with a polarized light source. At the Perot Museum of Nature and Science, we kind of twist things around. The minerals are illuminated with a non-polarized LED source. Many transparent specimens are illuminated from the back, so how do you check for pleochroism? You use a piece of polarized plastic sheet to view the mineral. The 3-D glasses from the

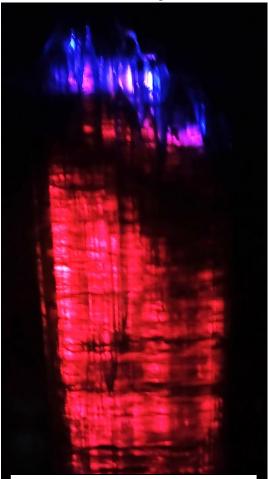


TANZANITE CRYSTAL photographed through a polarizer

theater will work. So will sunglasses that are polarized. But the best view is with a larger sheet of polarized plastic. And this twisted approach works great.

Tanzanite is a variety of Zoisite. Tanzanite is found only in Tanzania. It is generally called the blue variety of zoisite, but in its natural state, it can be brown, red, purple, or blue. The reason that it is called the blue variety is that most crystals are heat treated immediately after being removed from the ground. The heat treatment leaves a blue or dark purple stone that has stable color. It is almost impossible to get non-heattreated tanzanite. Tanzanite, in its unheated-treated state, exhibits very strong pleochroism.

Tanzanite is not the only specimen at the Perot Museum that exhibits



TANZANITE CRYSTAL photographed through a polarizer rotated 90 degrees

pleochroism. A pink Tourmaline specimen appears to have a clear midsection and pink on both ends. When looked at through the polarized sheet, in one direction it appears the same. However, when the polarized sheet is rotated 90 degrees, the middle of the tourmaline turns pink; the whole specimen is pink. There are several Aquamarine specimens on display. When viewed through the polarizer, the blue turns lighter in color – almost

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November 2022

Pleasant Oaks Gem and Mineral Club of Dallas, TX

Page 1

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clear. With the polarizer rotated, it is back to its normal blue. The same thing happens with a Helidor specimen, except with the polarized sheet it is a pale green in one orientation, in the other orientation it is a strong orange. Without the polarized sheet, it is very yellow. There is a crystal cluster of Benitoite, the California state gemstone, that appears as a dark blue mineral. In one of the two polarized sheet orientations, it remains blue, but in the other, it turns very dark – I would call it black. There is also a purple fluorite on quartz specimen that sits just above the tanzanite. When viewed with the polarizer sheet either horizontal or vertical, it looks normal. However, if you turn the polarized sheet to 45 degrees, the specimen looks significantly darker. Strange! There are other examples of oddities if you view the mineral specimen with the polarizer, but I do not believe it is pleochroism. The minerals leave a light or dark shadow on the display stand next to the mineral. If you view it with the polarized sheet, in one orientation you see the same light and dark areas, but if you rotate the sheet 90 degrees the lighted portion of the shadow disappears – the shadow is entirely black. One example of this is the shadows of the Green Alien Eye Fluorites on the Eyes of Africa specimen. Being a volunteer in the Gem and Mineral Hall is fun again – lots of new things to look at. Each time I have used the polarized sheet I find a new mineral that has pleochroism or some other difference in the mineral as you view the various polarized orientation.

#### References:

- International Gem Society, <a href="https://www.gemsociety.org/article/what-is-gemstone-pleochroism/">https://www.gemsociety.org/article/what-is-gemstone-pleochroism/</a>
- Wikipedia, <a href="https://en.wikipedia.org/wiki/Pleochroism">https://en.wikipedia.org/wiki/Pleochroism</a>

Pictures: Pictures by Don Shurtz of a Tanzanite specimen on display at the Perot Museum of Nature and Science. Pictures were taken through a polarized sheet of plastic. The polarized sheet was rotated 90 degrees between picture 1 and picture 2

# **Shows and Activities – Upcoming Show and Activity Dates**

Check with the show contact to verify the show status

#### **November**

- 5-6 November, Amarillo, TX, Golden Spread GM&TS, Amarillo Civic Center Complex, website: www.amarillotreasure.com
- 11-13 November, Humble, TX, Houston G&MS, Humble Civic Center, website: hgms.org
- 19–20 November, Mesquite, TX, Dallas G&MS, Mesquite Convention Center, website: dallasgemandmineral.org
- 2-4 December, El Paso, TX, El Paso M&GS, El Maida Temple, email ekosturakiis@gmail.com, website: epmgs.com
- 11-12 December Mountain Home, AR, Ozark Earth Science Club, Baxter County Fairgrounds contact Allison (417) 679-0466 **January 2023**
- 1 -31 January (also into February), Quartzite, AZ many shows, Quartzite, AZ, xpopress.com/showcase/profile/5/quartzsite-showcase-swapmeet
- 21-22 January, Fredericksburg, TX, Fredericksburg Rockhounders, Pioneer Pavilion, website Fredericksburgrockhounds.org
- 28-29 January, Tyler, TX, East Texas G&MS, Tyler Rose Garden Center, website: etgms.org
- 28 January 12 February. Tuscon, AZ. Many shows late January through mid-February.

Ref: Rock & Gem Show Dates, https://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=ALL

Ref: January - February 2022 SCFMS Newsletter

#### VISIT AN AREA CLUB

Arlington Gem & Mineral Club, meets the 1st Tuesday of each month at 7:30 pm, 1408 Gibbins, Arlington, TX

Cowtown Gem, Mineral, & Glass Club, meets the 2<sup>nd</sup> Tuesday at 7:00 pm, CERA 3300 Bryant Irvin Rd. Fort Worth

Dallas Bead Society, meets 1<sup>st</sup> Saturday of each month at 10:00 am at The Point at CC Young, 4847 W. Lawther Dr., Dallas, TX

Dallas Gem & Mineral Society meets the 3<sup>rd</sup> Tuesday of each month at 7 pm, American Legion, 10205 Plano Rd, Dallas (next to their shop)

Dallas Paleontological Society, meets the 2<sup>nd</sup> Wed. of each month at 7:00 pm, Brookhaven College, Building H, 3939 Valley View Lane,
75244

Fort Worth Gem & Mineral Club, meets the 4<sup>th</sup> Tuesday of each month at 7:30 pm, 3545 Bryan Avenue, Ft. Worth Oak Cliff Gem & Min Soc., meets the 4<sup>th</sup> Tuesday of each month at 7:30 pm, Unitarian Universalist Church, 3839 W. Keist Blvd, Dallas, Pleasant Oaks Gem & Mineral Club, meets the 1<sup>st</sup> Thur. of each month at 7:15 PM, Bradfield Recreation Center, 1146 Castle Drive,

## **Federation News**

## The AFMS and SCFMS Convention

Don Shurtz, SCFMS Executive Vice President

The 2022 AFMS and SCFMS Conventions were held in Westwego, a New Orleans Suburb. The Convention schedule ran from Thursday, October 13 through Sunday, October 16.

Thursday, October 13<sup>th</sup> was primarily the day for the Uniform Rules Committee (those concerned with the judging of competitive display cases).

Friday, October 14<sup>th</sup> was the AFMS Executive Board meeting. The meeting was well attended with representatives from all of the Regional Federations and many of the committee chairs. The meeting was also broadcast as a Zoom meeting for those wanting to attend but not able to travel. The necessary business was transacted including passing a new budget and electing officers.

A little out of order, but Sunday, October 16, was the last day of the Convention. The Rollin' Rock Club held its yearly "official" meeting in the morning before the show opened. Later in the morning and running through mid-afternoon were the American Lands Access Association (ALAA) Presentation, Meetings, and Auction

Saturday was a busy day with the Editor and Webmaster Breakfast starting the day. Mid-morning was the SCFMS Meeting, and the Awards Banquet was in the evening. At the Editor and Webmaster Breakfast, Susan Burch distributed the AFMS and SCFMS Editor and Author awards. The Chips and Chatter, the Pleasant Oaks Gem and Mineral Club newsletter, won first place in both the SCFMS and AFMS competitions for the Mini-Bulletin category. I passed out the AFMS Website Contest Awards. I would have also passed out the SCFMS Website Contest Awards, but there were no entries. Without any Entries, it's hard to have Winners!

The Awards Banquet was well attended and was a good time. There was some great food. For the SCFMS, we viewed a short video prepared by Dr. George Maxey, the SCFMS Scholarship Honoree. Dr. Maxey was unable to attend the Banquet, but his video explained the circumstance that led to his selection as the Honoree – an interesting story about a fulgurite in Denton, TX. He also described the work of the two Scholarship winners, Savannah Thomas from UNT and Jordan K. Wright from SMU.

Now on to **THE JOKE**, or more properly, **THE EMBARRASSMENT** – the **SCFMS DELEGATE MEETING**. The SCFMS President, Executive Vice President, and Secretary were present. No Regional Vice Presidents were present, and only a few clubs (less than 4) were represented by delegates. There were more AFMS representatives than SCFMS representatives in the room! We did not have a quorum; we were unable to conduct any business. The election of officers was not an issue as the current officers are just completing the first year of a two-year term. However, we were unable to pass a budget. We were also unable to approve or disapprove of the actions (reports) of the SCFMS Committees. The committee approval votes and the budget will now have to be voted on by mail or email.

This is the second year in a row that we have not had a quorum at our meeting. What is going on? Do the clubs not want a Federation? Do the clubs not want the protection offered by Liability Insurance the Federation procures to cover Federation and Club Activities? Do the clubs not want the display case competition, the newsletter and website contests, and the information in the Federation Newsletter and the Federation Website? Do the clubs not want to participate in the AMFS Scholarship Foundation which gives two \$4,000 scholarships in the SCFMS region? If that is the case, then let's dissolve the Federation. I am sure the Southern Federation or the Midwest Federation would be willing to accept the clubs that do want to continue.

It is time to wake up and PARTICIPATE, or time to just quit.

# **Bench Tip from Brad Smith**

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#### TWISTING WIRE

Twisting wire can be done with an old hand drill but goes much faster with a power tool. My preference is to use a screw gun, although a Foredom should do well. Just make a little hook out of coat hanger wire (or use a screw-in cup hook) and chuck it up in your screw gun. Grip the free ends of the wire in a vice and slip the looped end onto your hook. Keep a little tension on the wires as you twist.

Note that a power drill is too fast a tool for this unless you have one with variable speed.



#### **SOLDERING PRONGS**

I often use prongs to hold an irregular cab or other object on rings and pendants. But prongs can be a little tricky to solder. You have to find some way to hold them all upright while soldering, and the simple butt joint that looks strong sometimes breaks when you start to bend the prong over the stone. There's nothing worse than having a prong break off when you're setting the stone.

I solved both problems with one little trick. It keeps the prongs in position for soldering, and it gives you a stronger joint at the same time. Locate and center punch the position for each prong. Then drill holes a little smaller than your prong wire. Sand a small taper on the ends of your prong wires and stand them up in the holes. The wires support themselves, soldering is easy, and the joint is stronger because of the increased soldering area.

#### **DEBURRING A HOLE**

When you drill a hole, there's always a burr produced on the underside of the metal. We all have our ways of removing them - typically by filing or sanding the area smooth. But doing it this way will put scratches on your piece that will have to be polished off.

A quick way to remove the burr is to grab a drill that's two or three times larger than your hole. Simply twist it in the hole to cut off the burr. I usually do this twisting by hand, but if you have many holes to do, it's easier on your fingers to put the drill into a holder like a pin vice.



Learn New Jewelry Tricks and Techniques
with Brad's Jewelry-Making Books
Amazon.com/author/bradfordsmith
Smart Solutions for Your Jewelry Making Problems



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#### **CLUB OFFICERS FOR 2022**

President: Joe Vulk

1st VP, Programs: Carolyn Grady

2<sup>nd</sup> VP, Field Trips: Julie Wilson

Secretary: Amy Vulk

Treasurer Ling Shurtz

Editor Don Shurtz

Contact us by e-mail: don.shurtz@gmail.com or

L.SHURTZ@gmail.com

## Minutes of the October 6, 2022 Meeting

POGMC President Don Shurtz called the October 2022 club meeting to order at 7:20 pm.

**Quorum**: We have a quorum.

**Visitors:** Susan Powell, a prior member of Pleasant Oaks Gem and Mineral Club, attended this evening's meeting. She came to drop off a donation of Amethyst specimens, petrified wood pieces, and quite a few tumbled rocks. THANK YOU, SUSAN!

**Minutes:** We reviewed the September 2022 Minutes as published in the October 2022 Chips and Chatter. Cheryl made a motion to accept the minutes as published. Hatt seconded the motion. The motion passed

**Treasurer's Report:** Ling presented the treasure report covering June through September. Hatt made a motion to accept the minutes. Joe seconded the motion. The motion passed.

#### **Old Business:**

• Nominating Committee Report

President Joe Vulk
 1st VP Carolyn Grady
 2nd VP Julie Wilson

Secretary Amy VulkTreasurer Ling ShurtzEditor Don Shurtz

 The AFMS/SCFMS Convention is 14 – 16 in Westwego, LA. Don will be attending as an AFMS Officer and the POGMC Delegate.

#### **New Business:**

- **Nominations from the floor**: There were no nominations from the floor.
- Election of Officer. Don requested a motion to accept the nominations as proposed by Nominating Committee by Acclimation. Cheryl made the motion. Hatt seconded the motion. By unanimous voice vote, the new officers were accepted. The new officers will preside at the November meeting.
- There was no new business from the floor.

**Presentation:** Tonight was Pizza and talk. There was a lot of pizza and a lot of informal talk. As there was not a formal presentation, there will not be any additional presentation review. I would again like to thank the Powells for their

donations. They donated a large number of geodes earlier this year. At the October meeting, they donated some very nice amethyst specimens, some very nice petrified wood including palmwood, and bags of tumbled material. An amethyst and a piece of petrified palmwood were added to the door prizes. It changed a typical Raffle into one of the best Raffles ever.

**Raffle:** We held the raffle for door prizes

**Adjourn:** Don adjourned the meeting at 8:30 PM

# **Presidents Newsletter Message**

Hello fellow gem and mineral enthusiasts. I'd like to thank you for giving me the opportunity to serve as your president for the upcoming term. Thanks also to our board of directors, Carolyn, Julie, Ling, Amy, and Don, for continuing in their positions for another year. I grew up in Carrollton/Farmers Branch, TX, graduated from Carrollton High School in 1959, and graduated from UT Arlington in 1966 with a mathematics degree. While there, I met and married the love of my life, Brenda and we have spent 57 wonderful years of marriage together. I retired from Raytheon Technologies in 2010 after 50 years as an engineer - primarily a software engineer. The majority of my career was spent in Garland but I was on assignment to Australia for 17 years. We lived in a mineral-rich area, and it was then that Brenda, Amy, three sons, and I developed an interest in gems and minerals.

The agenda for our upcoming meeting on Nov. 3<sup>rd</sup>: After cookies and drinks, I'll ask for reports and Don's trip to Louisiana. The new business will include discussions of the agenda for the upcoming year and plans for our December Christmas dinner and gift exchange. Please bring your ideas.

## VISITORS ARE ALWAYS WELCOME

# NOVEMBER MEETING Our November 3rd meeting will start at

7:15 at the Bradfield Recreation Center.

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## PLEASANT OAKS GEM and MINERAL CLUB of DALLAS



### Meetings First Thursday of each month. The next meeting will be at the Bradfield Recreation

Center, 1146 Castle Drive, Garland, TX

Single Adult: \$16.50, Junior: \$5.00, Family: \$27.50 (Plus badge fee for new members)

Membership

## **PURPOSE**

The Pleasant Oaks Gem and Mineral Club of Dallas is organized for charitable and educational purposes to promote interest in the various earth sciences, particularly those hobbies dealing with the art of cutting and polishing gemstones, the science of gems, minerals, and metal crafts, as well as their related fields. Pleasant Oaks Gem and Mineral Club of Dallas is a Section 501(c)(3) not-for-profit organization

CHIPS AND CHATTER
Pleasant Oaks Gem & Mineral Club
c/o 4004 Dublin Rd.
Allen, TX 75002-6526

To

## VISITORS ARE ALWAYS WELCOME

Our next meeting will be Thursday, November 3, 2022, starting at 7:15 Roundtable: What Programs and/or Videos, Projects, and Potlucks for 2023

Features	Notices	
Pleochroism1 - 2	Shows and Activities	2
Bench Tips from Brad Smith4	Visit an Area Club	2
•	Copyright Notice	5
<b>Monthly Columns</b>		
Club and Meeting Information	<b>Federation News</b>	
Minutes of the October Meeting5	AFMS and SCFMS Convention	3
President's Newsletter Message		

Chips and Chatter

See the Chips and Chatter online for color!

November 2022

Pleasant Oaks Gem and Mineral Club of Dallas, TX

Page 6

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