Website Newsletter of the Cape Town Gem & Mineral Club

http://ctminsoc.org.za/newsletters.php

JUNE 2023

Gemboree Easter 2023

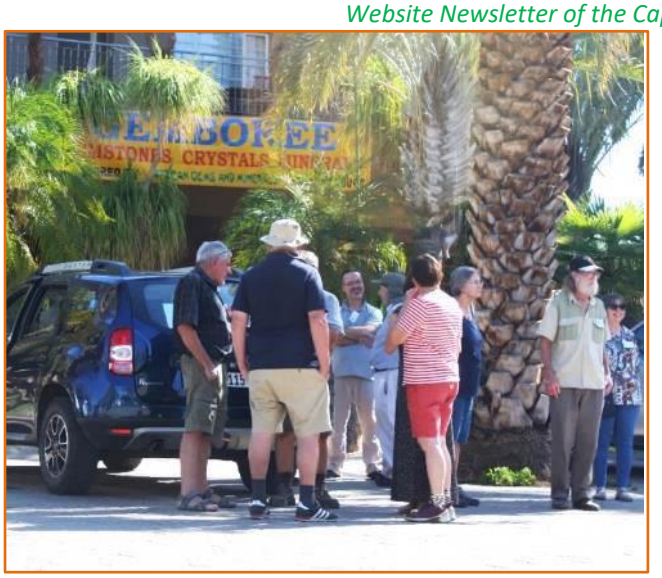
DIARY

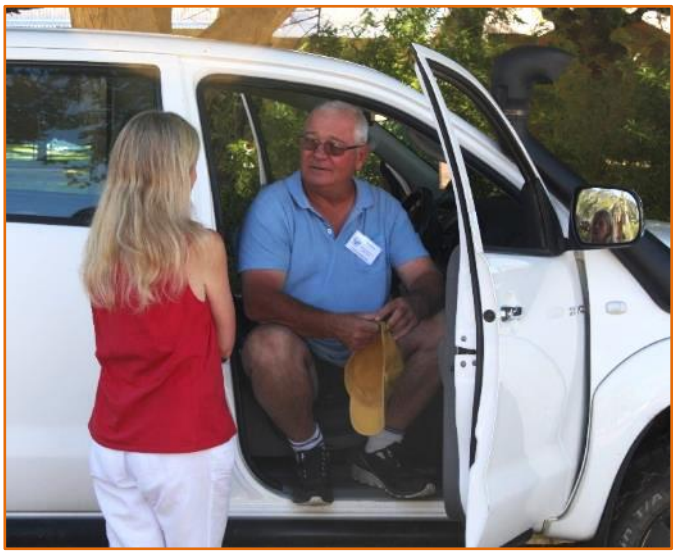
June	***3***	***10:00–14:00***	***Open to the Public Day – Rocks, gems, jewellery, mineral specimens to look at, chat about, swap, sell or buy.***
July	***1***	***10:00–14:00***	***Open to the Public Day – Rocks, gems, jewellery, mineral specimens to look at, chat about, swap, sell or buy.***

GEMBOREE - AUGRABIES – 2023

By JD

The arrow of time, battered and skewed by the Covid pandemic, finally landed in Augrabies as rock hounds from all over the country gathered for the 2023 Gemboree over the Easter weekend. It is hard to comprehend that the last Gemboree was in Uis back in 2019, hosted by our very own club. This year, however, the event was organised by FOSAGAMS itself, under the guidance of the unflappable Linda Stone, and her side-kick, Marietjie van Zyl.
Driving towards Kakamas from Springbok, the flat desolate landscape of the Bushmanland reveals, with its outcrops of rock koppies, why this particular area was chosen for this year's Gemboree, promising all the right ingredients for successful rock and mineral hunts. We arrived late Thursday evening at the Augrabies Lodge and Caravan Park, unsurprised to see that the campsite was already bustling with rock hounds.

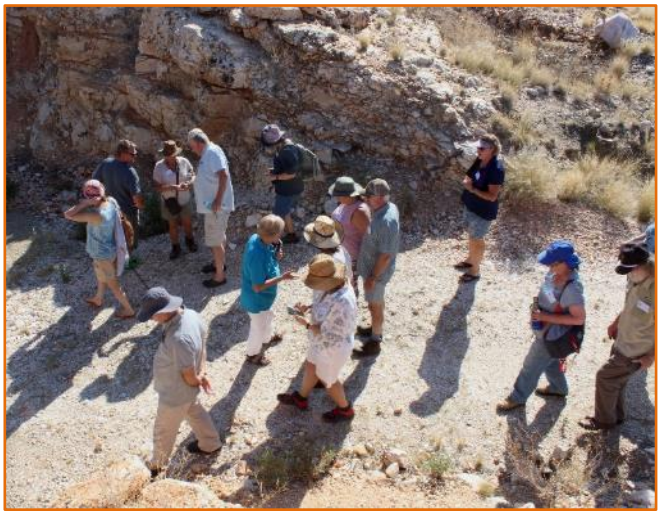




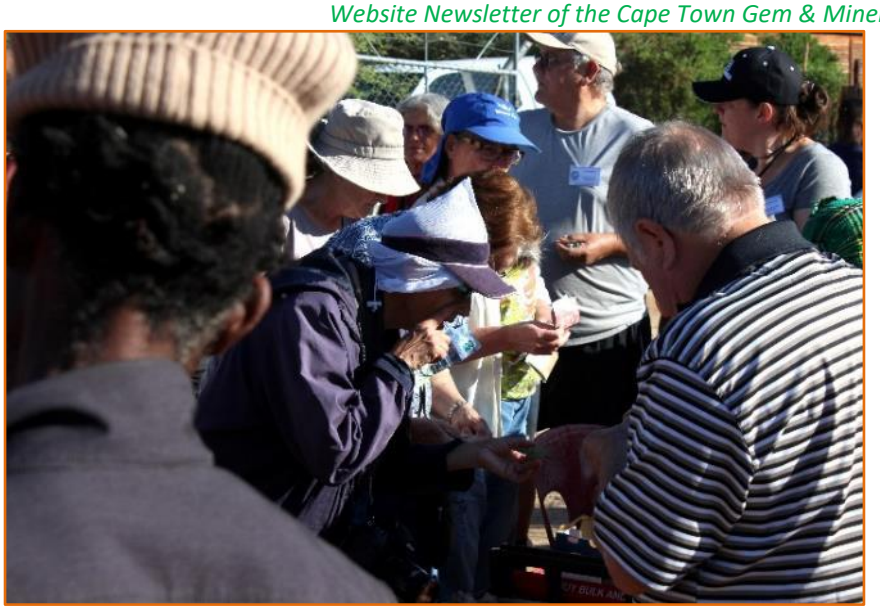
The venue turned out to be ideal for the 70-odd attendees, and we basically had the place to ourselves, other than a few local punters who frequented the ornate bar. The stunning art-deco building also contained a perfectly serviceable restaurant, with a scattering of hotel rooms, and various sized chalets making up the compound.
We had barely registered and unpacked when the first excursion was underway on Friday afternoon, a short drive in the Kakamas area to a local amethyst outcrop, where the *bobbejaanspieël* turned out to be the main attraction as the quality and authenticity of the amethyst already had the fastidious tongues of the rockhounds wagging.

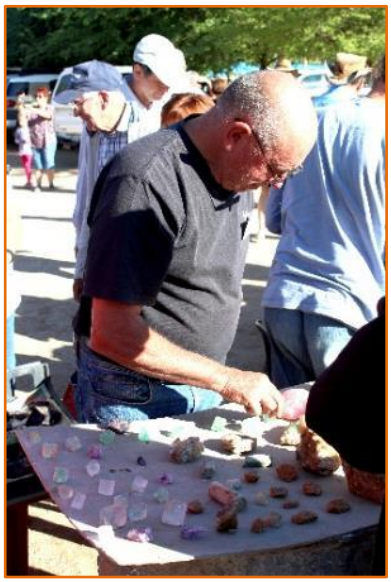
But this being a Gemboree, this short excursion would prove to be a blip on the radar as our convoys started to explore every corner of the area, literally leaving no stone unturned. Personal highlights were the trip through the near-hallowed territory of Riemvasmaak, the visit to the Gert Niemöller workshop in Pofadder, and a peaceful drive amongst the quiver trees beyond Pella. The weekend's menu boasted amazonite, calcite, feldspar, fluorite, fuchsite, quartz, beryl and plenty more.
As per usual, our own Mr. Jackson had to show off and unearth the largest and most beautiful quartz find of the weekend on Sunday's excursion, all in a day's work.

Rose quartz outcrop Riemvasmaak

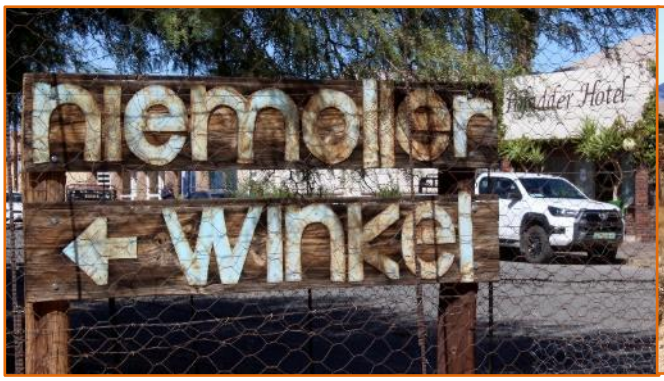


Amethyst outcrop visited on the Friday





Riemvasmaak

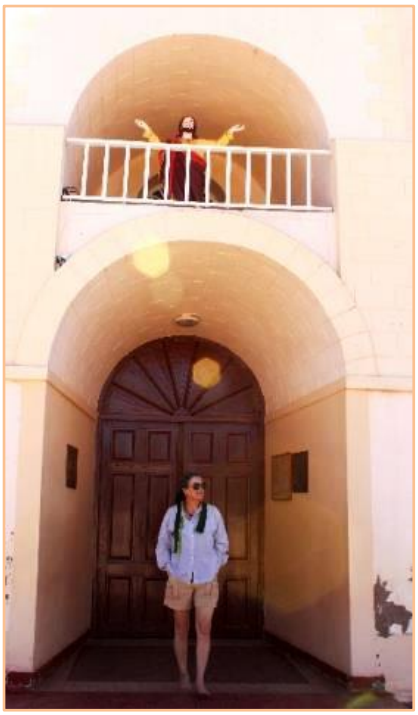


Gert Niemöller workshop

Quiver trees beyond Pella.

Gert Niemöller workshop

And it was not only about finding rocks. There was knowledge to be shared, and fun and socialising to be had. Each evening there were talks arranged on a variety of subjects. Then there was the Gala Dinner on Saturday night, a wonderful affair hosted at the Augrabies Falls National Park. And even Easter didn't get left unnoticed thanks to an Easter "egg" hunt kindly sponsored by our own Rob Smith. But obviously there were no eggs, only gems and minerals to be hunted. And there were various dealers who set up shop on site. Quite the eventful weekend. Never a dull moment.

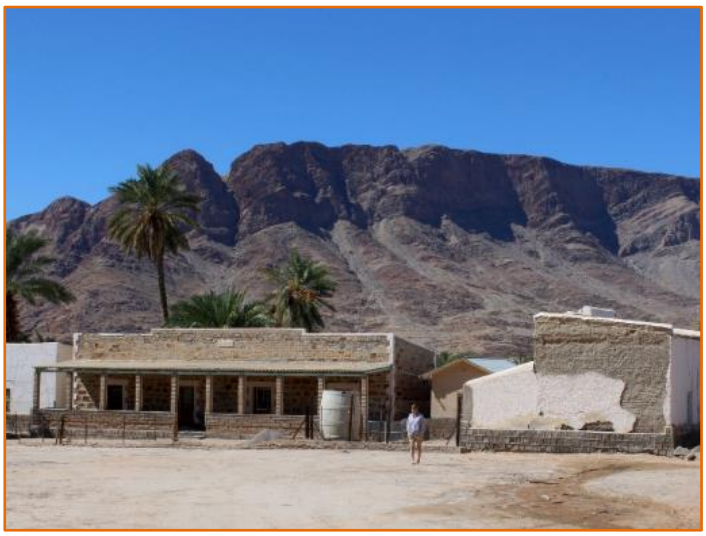


Speaking of Malcolm, our outgoing chairman, he was the leader of our Monday trip to Pofadder and Pella. After that morning's briefing, Linda Stone stepped in to say a few heart-felt words about this perhaps being his last Gemboree. It did not go unnoticed that at this very moment a speck of dust blew into Malcolm's eye, and we gave him a moment to tend to it. Perhaps a moment here to thank him for his unwavering work these last few decades both at our own local club, and as part of FOSAGAMS. Malcolm, you will always be missed on any rock hunt, but we all heard the murmurings of yearly visits, and we are quite sure that this was not our last adventure together.

On that note The Cape Town Gem and Mineral Club would also like to thank Linda and her team for their wonderful organisation of the Gemboree, and especially pay homage to Linda as outgoing president of FOSAGAMS. Thank you for your dedication these last few years, and all the best to Marietjie van Zyl who has recently stepped in to steer things for the coming year.

< Pella Catholic Church

The Gemboree has become a highlight on our calendar. It is a wonderful experience of people from different backgrounds brought together by a passion for gems and minerals. While it is not a cheap exercise to get to these far-flung places, once there the camaraderie, generosity and collective knowledge on display is priceless. As the embers of the fires were dying down on Monday night, our bellies full, last beer in hand, we celebrated another successful Gemboree, but were also already aiming the arrow of time at future adventures and excursions to come, filled with gems, minerals and fellowship.



Pella

ooOoo

The Most Famous Mineral Finds of All Time: Part 2

by Peter Rosewarne

Introduction

This is the second part of this article. The first appeared in the May Mineral Chatter.

Elbaite, Keke's Pocket, Pederneira Mine, Brazil, 1999

The Pederneira Mine was started in the 1940s but sat dormant until the 1980s when a local miner purchased it and started looking for tourmaline specimens. Since being run by a consortium of professional miners and mineral dealers, intermittently it has been producing World-class tourmaline specimens since the late 1990s. Numerous pockets have been discovered, each with their own characteristics and colour of tourmaline and with supporting lovely matrix minerals, such as cleavelandite, lepidolite and smoky quartz. I've chosen Keke's Pocket to feature here because of the stunning combination of deep green, gem quality elbaite with shocking pink lepidolite crystals. Unfortunately, this pocket was cleared out unscientifically and there is no record of exactly what was found and their positions. However, the specimens that are known to have come from this pocket are right up there with 'best of', both for elbaite and lepidolite. Feast your eyes on **Figures 16** and **17** to see what I mean.

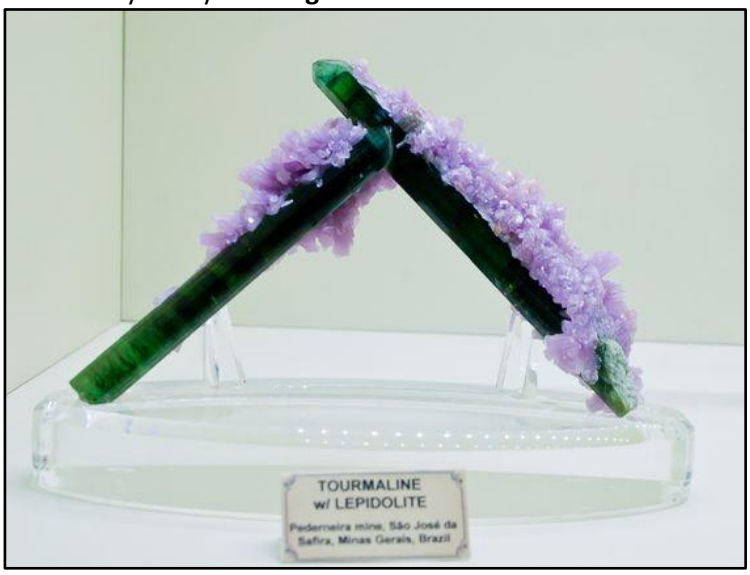


Figure 16: Elbaite with Lepidolite (courtesy of Stewart Wilensky)

Figure 17: Green Elbaite with Pink Lepidolite (courtesy of Will Johnson Collection, Tom Spann photograph)

Heliodor, Pegmatite #521, Ukraine, 2017

The pegmatite bodies discovered in the Volodarsk-Volynski area have massive crystal pockets with a structure that had never been seen before. Consequently, a new term was coined to describe them, "*Volynian chamber pegmatites*". The largest of these chambers measured between 5 000 and 8 000 m^3. That's some pocket! The pegmatites were reworked by UK Mining Ventures, a company co-set-up by Ian and Diana Bruce of Crystal Classics, during the period 2015 to 2019.

The pegmatite field consists of hundreds of pegmatites and they, or their associated chambers, are known by numbers, the most productive one being pegmatite #521. About 2 500 kg of beryl was recovered from this chamber. The most common mineral was quartz in massive crystals up to 10 t in weight. Only 2% of the pegmatites contained gem *beryl*, while about 10% contained gem *topaz*. Associated minerals were *feldspar* and *muscovite*. About 3.5 t or more of gemmy beryl were collected with individual crystals up to 1.2 m and *c*.66 kg, although this one was recovered in six pieces. Thousands of crystals were collected. Apparently, beryl and topaz are *antipodal* in these pegmatites and did not form together, i.e. if one was forming the other was being dissolved. A very large pocket in Pegmatite #521 is shown in **Figure 18** and a World-class 17 cm crystal in **Figure 19a**. The crystal in **Figure 19b** is definitely not 17 cm!

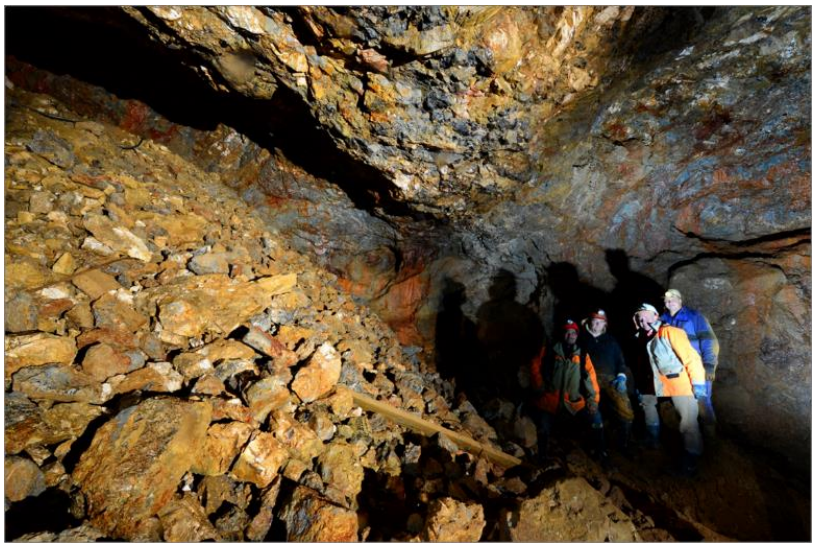
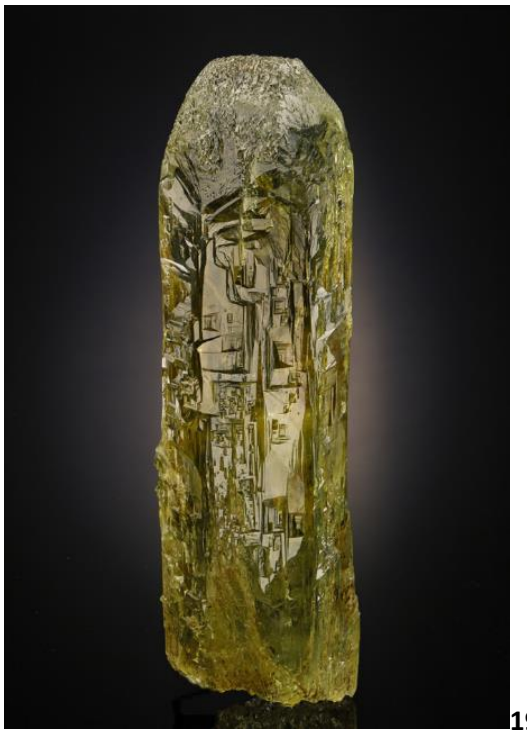


Figure 18: New Heliodor Discovery in Pegmatite #521 (courtesy of UK Mining Ventures)



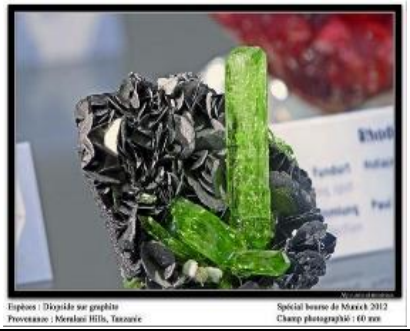
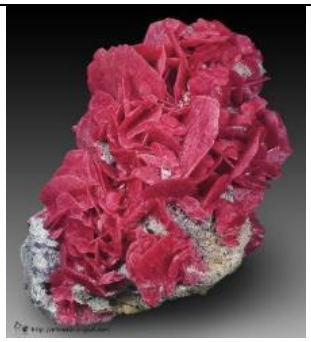
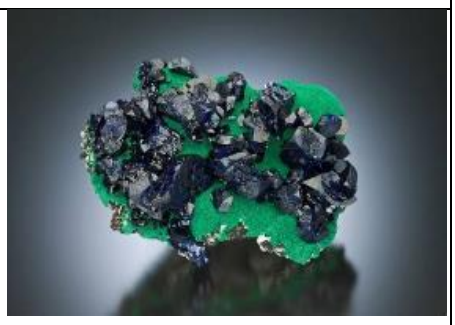
19a

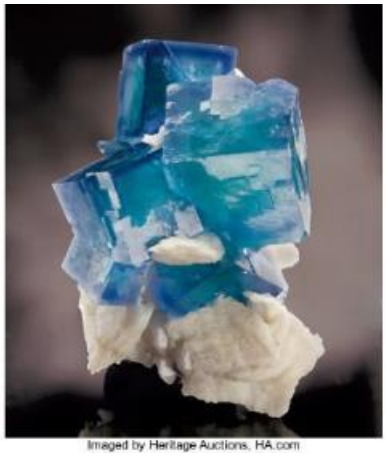
19b

Figure 19: Heliodor Crystals, 19a) 17 cm (courtesy of UK Mining Ventures); **19b** (Rosey Collection)

Honourable Mentions

Browsing through 50 Years of *What's New in Minerals* to see what I might have missed in the 21st century, I came up with the following six finds as 'honourable mentions' (photographs reduced in size for space reasons):

		
Beautiful yellow/golden orange crystal groups of *mimetite* from the Pingtouling Mine in China, 2004	**Apple-green translucent crystals of *chromium*-rich *diopside* to 6 cm on a bed of thin hexagonal *graphite* crystals, Tanzania, 2008**	***Andradite* garnet (green and brown – var. *topazolite*), Antetezambato, Madagascar, 2009**
		
Spheres of pale peach-orange to salmon pink *olmiite* from specimen-mining by Paul Balayer at N'Chwaning II Mine, South Africa, 2008 (and 2016)	**Huge rhodochrosite crystal clusters on matrix from the Wouton Mine, China, 2010**	**Azurite/malachite and the World's best *brochantite* from the Milpillas Mine, Mexico, 2011**




Rosey Collection


Rosey Collection

A final mention for fluorite (examples above) from China (numerous mines) and the Rogerley and Diana Maria mines in England, which have both produced World-class specimens to grace our mineral collections.

NB: The King of Kashmir find has been left out as it was basically a one-off find, albeit with multiple World-class *aquamarine* crystals. (Read about it in the Mineralogical Record of **Vol.51, No.6,** November - December 2020. It's in our library.)

Concluding Remarks

The next time you see or handle a beautiful mineral specimen spare a thought for the effort that might have gone into winning it from the depths of the Earth, where it may have resided for millions of years, in darkness. Firstly, unless it was recovered as a by-product of normal ore mining, there had to be knowledgeable people to assess the prospect or old mine and have the belief that it was worth investing large sums of money to go tunneling for specimens. Once found, after perhaps months or years of sweat, dust, cold, altitude, danger, discomfort, debt and deafening sound, specimens had to be carefully prised from their resting places, transported out of the mine, cleaned, reassembled, if necessary, transported from often remote sites to a dealership/laboratory, trimmed and made ready for the market and then sold.

How many of you have opened-up a pocket of crystals whilst out collecting and had an "Oh my god" moment? Being mainly a *silver-pick* collector myself, I haven't, and my nearest experience was seeing veins of glistening light-green *tarbuttite* crystals *in situ* in a freshly blasted face at the Skorpion Zinc Mine in southern Namibia in 2008. I was there to advise on groundwater control but I had to show extreme personal control in front of the client when all I wanted to do was get down on my hands and knees and get myself a specimen and to hell with the groundwater!

As always, anyone aggrieved at my selections or omission of their favourite find is welcome to write to the Chairman and demand a written apology from the author.

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From the Cabinet of Curiosities

This month's Curiosity involves banded tiger's eye stromatolite from the Ord Ranges, Western Australia and stromatolites in general. The red is jasper, the black is hematite and the yellow is tiger's eye. One theory is that this represents a stromatolite that has undergone replacement with iron oxide and another is that microbes formed the banded iron directly while the stromatolite was being formed. Either way it is a very attractive rock, as shown in the 20 × 9 x 0.5 cm slab in **Figure 1**, and it is also a bit over 3 billion years old. Another example from Pilbara, Australia is shown in **Figure 2**.

Figure 1: Banded Tiger's Eye Stromatolite, Ord Ranges, Australia

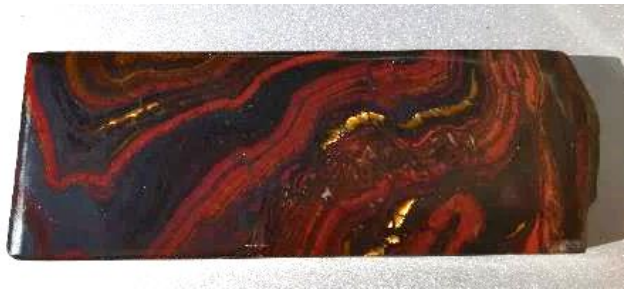


Figure 2: Banded Tiger's Eye Slab, Pilbara, Australia

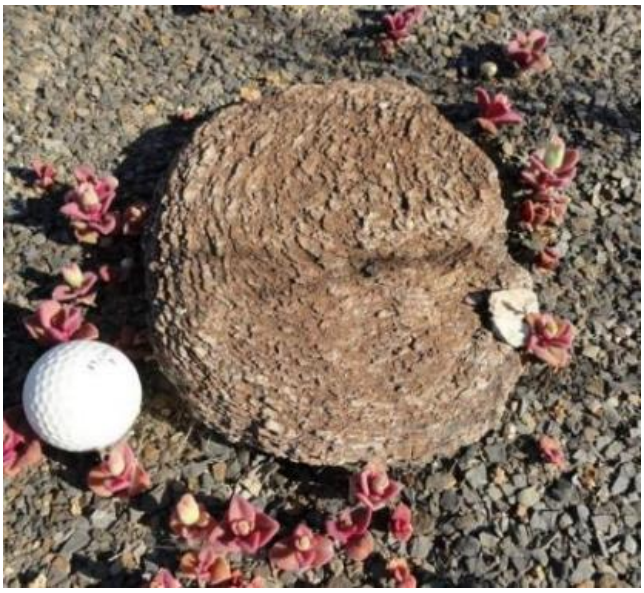


Figure 3: Stromatolite, BI Turn-off to Ai Ais

Figure 3 shows a stromatolite fossil from near the turn-off from the B1 to Ai Ais, photographed by Jo Wicht.

Stromatolites are the fossilised products of the metabolism of slime-secreting, photosynthesising bacteria and formed in dense matts on the bottom of shallow oceans. They were responsible for removing carbon dioxide from the water and giving off oxygen, which eventually reached the atmosphere and raised the concentration from about 1% to the present 21% over a period of about 2 000 million years. Without them, you wouldn't be around to read this curiosity.

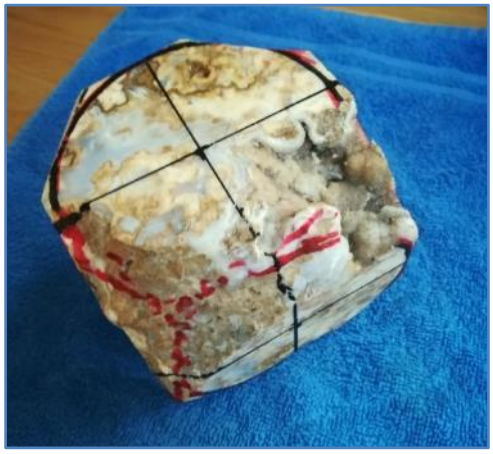
Some useful references on stromatolites are given below. **PR & JW**

Grunert, N. (2015), ***Namibia: Geological Wonderland: A Geological Journey: p100-105.*** **Padlangs. Windhoek.**
McCarthy, T. and Rubidge, B. (2005), ***The Story of Earth & Life: p114-116*****. Struik. Cape Town**
http://www.fossilmall.com/Science/About_Stromatolite.htm#

LAPIDARY

There are several ways to make a medium-sized stone sphere:

WITHOUT A SPHERE MACHINE:



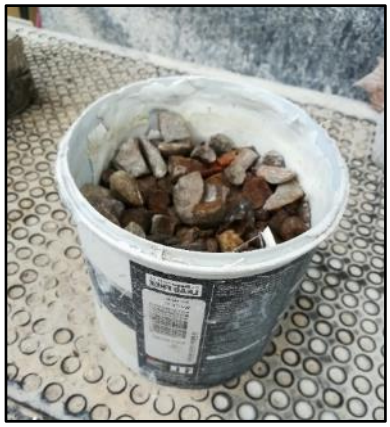
First find a suitable block of stone, ideally cut into a reasonably precise cube. Note its maximum usable measurements and make yourself a slightly smaller circular template from the lid of a big yoghurt pot or 1 litre plastic paint pot.

Measure and draw the two "*equators*" on to the stone, so as to find the centre point of all sides, and ensure that their lines meet accurately all around the cube. Using your circular template draw a circle on all 6 sides, again ensuring that the centre point is accurate and the marked circles correspond perfectly with one another.

Put the cube on a rubber mat, pick up your angle grinder with a continuous diamond blade, and start carefully grinding off the corners in a circular action from the equator up towards the centre points, ideally using a small amount of water to dampen dust. Stop often and check the template against your work. Re mark the full *equators*, ensuring that the centre points on all 6 sides are retained. If you take off too much rock, you can't put it back!

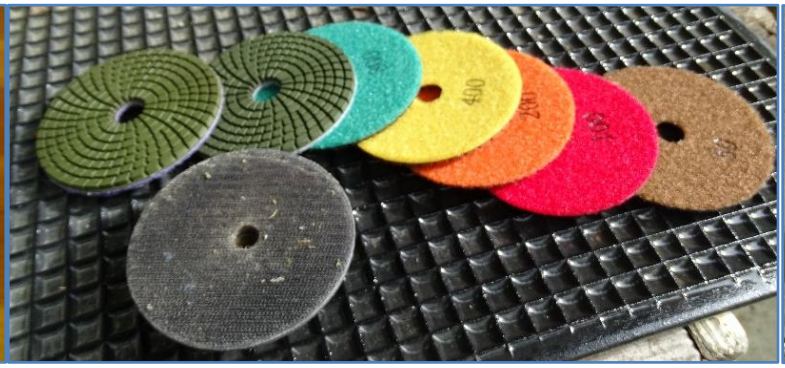
When the flat surfaces start to become more rounded, find an empty 1 litre paint pot and fill it almost to the top with gravel chippings to bed the stone in securely.

Fill the pot with water, and put in your sphere with a marked centre point uppermost and an *equator* horizontally parallel to the sides of the pot. Then again with your angle grinder work from the top pole centre point down to the *equator* in a stroking manner to ensure a nicely rounded surface. Work slowly turning the stone often, but keeping the *equator* parallel with the sides of the paint pot.



Turn the stone the other way up and do the same. Work the two other sides in the same way. Don't erase the centre points, and redraw the equators where necessary.

Stop often, feel the stone to find the high spots and mark them with a wax crayon, so you know where to grind away. Check with the template for overall roundness as well.



By the time you get this far, you are ready to start polishing with diamond pads. Mark any high spots, start at 50#, and take your time to get the sphere as round as you possibly can. This is critical, as the higher up the grits you go, the less abrasive power you have. Now is the time to erase the marked centre points and get them as rounded as possible. After 400#, you are really only polishing. **Rotate the sphere constantly to avoid flat surfaces,** feel with a thumb where the high spots are, and work them a bit more than the rest of the stone. Use all available grits: 50, 100, 200, 400, 800, 1200, 3000 to ensure that the finish is the best it can be. Don't leave any scratches behind! There is nothing worse than having to go back down 2 or 3 grit sizes to remove a missed scratch.

Et voila! Completed. 9cm diameter.

400#

3000#

Too complicated? Okay, try this method:
https://www.youtube.com/watch?v=-gEcRCu_B7g

This finished glass sphere is 11 inches in diameter and costs R21 774,71!

Or these old classic methods:
https://www.youtube.com/watch?v=-MH5bq8f_fI
Das Herz der Steine: Kugelschleifer Heinz Schubert aus Pfronten | Schwaben & Altbayern | BR

But definitely not this!
https://www.youtube.com/watch?v=vjbCcU3dM-I
How We Make Showpiece Rose Quartz Spheres in Madagascar!
JW

FACETIPS

"FACETIPS – A Gem Cutter's Notebook" by Duncan Miller. The faceting articles published over the past few years in the Mineral Chatter have now been compiled into a single 128-page document. The pdf file is available for download from http://ctminsoc.org.za/articles.php for those interested in having all the articles together.

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