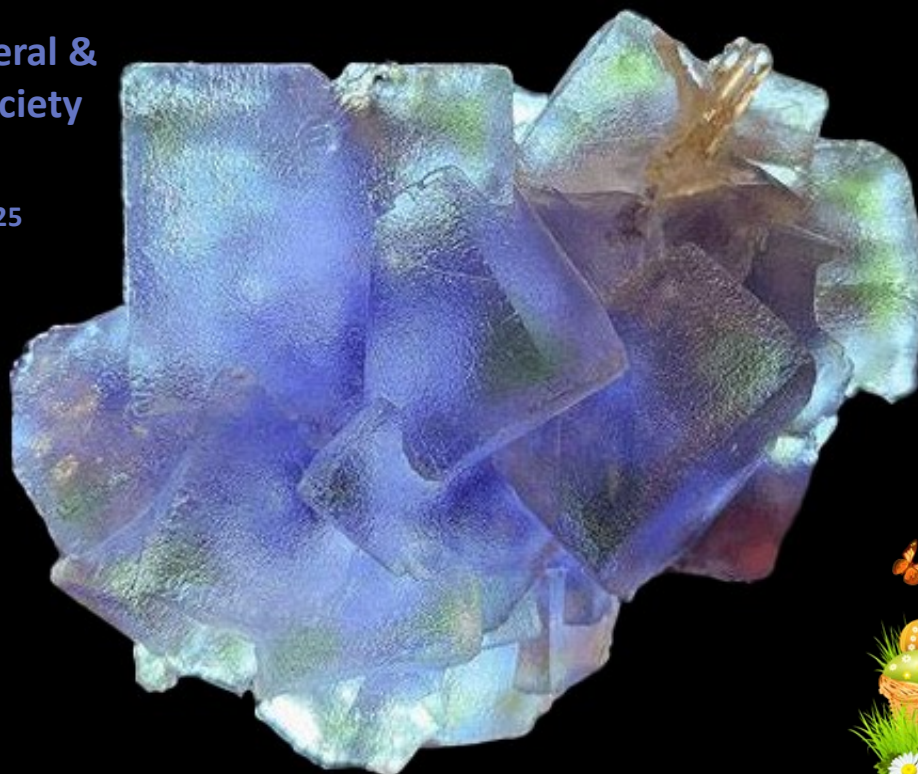


Newsletter

Sussex Mineral &
Lapidary Society

Issue 10 April 2025



*Fluorite, Judkins Quarry, Ireland
Photo Credit Reddit*

From the Editor

Welcome to the tenth edition of the SMLS Newsletter. Thank you to all this month's contributors, I hope you enjoy the selection. Spring is finally here and we can get out to look for treasure, please share your finds with us! Personally I am hoping to find that very rare type of easter egg that combines chocolate and crystals! A choccode perhaps?!

Samantha



Inside this issue

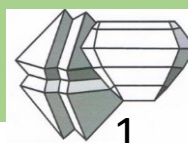
Pg2 – From the Chair

Pg3 – Events, a roundup of what's on over the next couple of months

Pg4-5 – News, a selection of articles covering, minerals, fossils, gemstones and more

Pg6-10 - Articles, topical selection for your interest

Pg11 – Sales



From the Chair



Dear Members,

I am sure everybody is now enjoying the spring weather and that you have enjoyed the SMLS winter program. Excellent talks from Frank Ince and from Phil Taylor. The March talk was also special with accounts of collecting in the Congo from Tomek Praszkiel, not for the faint hearted or the inexperienced and makes you realise what goes in to obtaining some of the best specimens. We have had our own excitement collecting from around the world but generally we do not expose ourselves to such high levels of risk. With that said, we did have field trips to Sheppey and Shakespear Cliff and it was nice to see many new members attending. The weather was kind and the mud was reasonable. This year we will try and get back to both sites later in the autumn. We can also look forward to a trip to Skye in May and hopefully other sites during the summer.

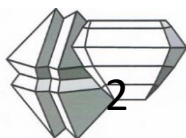
You will have read the request to members regarding replacing the position of chair and vice chair at the July AGM. This is still a challenge and we will be writing to members again in the coming weeks. If we want SMLS to continue then this issue needs to be resolved.

Next meeting is this Friday at the Church Hall and I look forward to saying hello after what seems a very long break.

Colin



Deccan Traps, India, Photo Credit Pinterest



Events

4th April – Club Meeting “Northern Ireland Field Trip” by Nick Hawes Zoom [here](#)

19th April - Yorkshire Mineral and Fossil Fair, Hawes North [Yorkshire](#)

2nd May – Quiz Night & Social Evening

10-17th May – Skye Field Trip

11th May - Oxford Mineral and Fossil [Show](#)

6th June – Club meeting “Indian Carnelian: Bronze Age to New Age” By Rob Tripp, Zoom [here](#)

Next Club Meeting – Friday 4th April



Zoom link [here](#)

In case you missed club talks

There are two sets of links, one through Dropbox and the other through Google. You may need to download the videos to view them all the way through. Any access problems please let Colin know.

Mining Adventures in the Congo: [Spirifer Congo.mp4](#) Alternate link [here](#)

Minerals of Leicestershire: [Frank Ince Talk.mp4](#) Alternate link [here](#)

Charles Rashleigh and his mineral collection: [video1899504370.mp4](#)

Phil Taylor Charles Rashleigh and his Mineral Collection, alternate link [here](#)

OXFORD MINERAL & FOSSIL SHOW
Gems * Crystals * Fossils * Minerals *
Ancient artefacts * Books
EXETER HALL, OXFORD RD,
KIDLINGTON OX5 1AB

16 March 2025
11 May 2025
20 July 2025
23 Nov 2025

Sundays 10.00 - 4.00pm

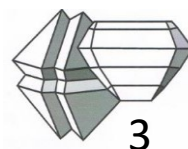
* Free Entrance & parking * Refreshments

Further information: www.oxfordshows.co.uk
facebook.com/oxfordmineralandfossilshow

UK Mineral & Fossil Events Co. proudly hosts the Oxford Shows

Something to share with others?

We love getting contributions from our members so if you read something of interest or even see a fantastic picture please send a link to the Editor @ smlsnews72@gmail.com





Vegavis iaai lived in Antarctica at the time the asteroid hit Earth and wiped out the nonavian dinosaurs. (Image credit: Mark Witton).

Fossils

Dinosaur fossil found in 1973 finally extracted from Skye [cliff](#)

1.4 million yo “weird homo” turns out to be never before seen [ancestor](#)

Ancient duck-like creature discovered in Antarctica may be the oldest modern bird ever [discovered](#)

Refuge from the worst mass extinction in Earth's history discovered fossilized in [China](#)

Leicester palaeontologist discovers 444 million year-old fossil and names it after her [mum](#)

Fossil of ancient crustacean gathering reveals new insights into their [lives](#)

Fossilized fish up to 16 million years old found in Australia, with last meal still [intact](#)

How weird fossils created by human garbage may baffle future [civilisations](#)

Sand-sized fossils hold secrets to the history of climate [change](#)

Minerals & Rocks

Scientists find magma reservoirs hidden beneath volcanoes in the [Cascades](#)

How Antarctica's missing meteorites were discovered using a block of ice, a freezer and a [lamp](#)

Fluorescent rocks may show how life could exist on one of Jupiter's [moons](#)

Saltshack – if you are not yet following the UK's most energetic new mineral dealer, you are missing out – trust me! Check out his empire [here](#) (You will need to go to Facebook)

[Jolyon Ralph - Tucson Shows, 2025](#)

Tucson Videos

From the Crystal [Collector](#)

From Krieger [Tucson](#)

From Krieger [Tucson](#)

From Krieger [Tucson](#)

From Krieger [Tucson](#)

From Frank [Zhu](#)

From Frank [Zhu](#)

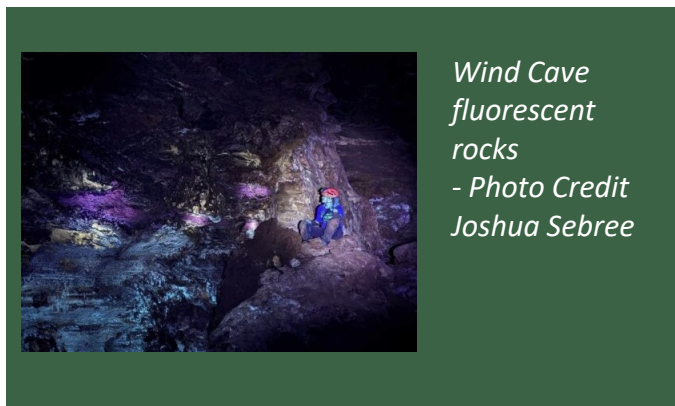
From Lapidary [Dave](#)

From Shop [LC](#)

From Utah [Rockhound](#)



Malachite DRC – photo credit Frank Zhu.



Wind Cave
fluorescent
rocks
- Photo Credit
Joshua Sebree

Gems & Lapidary

Love them and weave them – textile inspired [jewellery](#)

Diamond dealer pleads guilty to swapping synthetics for [naturals](#)

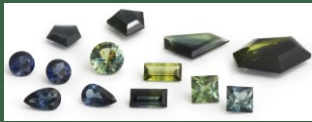
A Hard Time for Gemfields in [Mozambique](#)

The 2024 Diamond Crisis: An Industry at Its Breaking [Point](#)

The hottest gem sizes and [cuts](#)

Mocha Mousse – the Pantone colour of [2025](#)

GIA Awards Prize for Excellence in Jewellery [Design](#)



Rubies from Mozambique- Photo credit Rapaport/Gemfields

Unconventional fancy cuts – photo credit Columbia Gem House

Quote of the month

"Crystals grew inside rock like arithmetic flowers. They lengthened and spread, added plane to plane in an awed and perfect obedience to an absolute geometry that even stones - maybe only the stones - understood."



Annie [Dillard](#)

Use Ctrl + Click on the underlined text to link straight to the articles.

Home accessory of the month

Very rare red amethyst, available from Temu for £7.67, also available in other unnatural colours such as orange and green (eek).

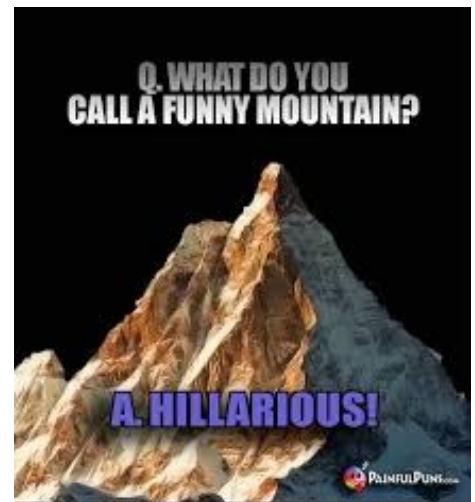


Ring of the month



Rare gem-set bishops medieval ring heads to [auction](#)
Photo credit – Noonans

Chuckle Corner



Spinel: The Underrated Gemstone with a Royal Legacy

Introduction

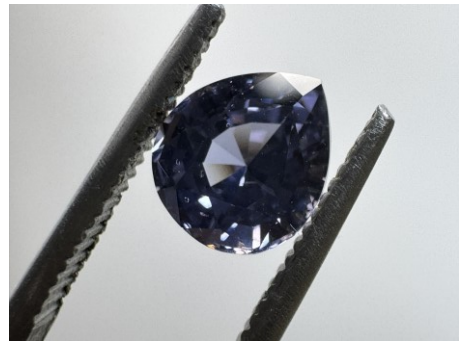
Spinel, a gemstone long overshadowed by sapphires and rubies, is finally getting the recognition it deserves in the world of fine jewellery. With its captivating array of colours, exceptional durability, and fascinating history, spinel is becoming a favourite among collectors and jewellery enthusiasts alike. But what makes this gemstone so special? Let's dive into its chemical composition, history, properties, and why you should consider adding it to your collection.



Spinel crystals in matrix - Photo credit Geminological

Chemical Composition

Spinel is composed of magnesium aluminium oxide ($MgAl_2O_4$) and crystallizes in the cubic system. This structure gives spinel its remarkable clarity and vibrant colours. Trace elements like chromium, iron, and cobalt influence its colour palette, which ranges from vivid reds to blues, purples, pinks, and even black.



Sri Lankan faceted spinel - Photo credit Geminological

Derivation of the Name

The name 'spinel' is thought to derive from the Latin word *spina*, meaning 'thorn', due to its pointed crystal formations. Alternatively, it might come from the Greek *spinther*, meaning 'spark', a nod to the gemstone's dazzling brilliance.

Similarity to Sapphire

Spinel is often confused with sapphire due to its similar appearance, especially in blue hues. Historically, many famous sapphires turned out to be spinel's. Both belong to different mineral families—sapphires are corundum (aluminium oxide) while spinel's are magnesium aluminium oxide. The difference is subtle but significant.

Colours and Variety

Spinel comes in virtually every colour. Reds rival rubies, blues echo sapphires, and pinks are as delicate as morganites. The presence of chromium gives red spinel its vibrancy, while iron imparts darker tones. The image on the left shows blue spinel crystals in a marble matrix.



Tajikistan faceted spinel - Photo credit Geminological

Spinel: The Underrated Gemstone with a Royal Legacy (continued)

Durability and Suitability for Jewellery

Spinel ranks 7.5 to 8 on the Mohs hardness scale, making it durable enough for everyday wear. Its resistance to scratching, combined with high lustre and clarity, makes it an excellent choice for rings, necklaces, earrings, and bracelets.



Custom spinel and diamond pendant by Geminological

Geographical Sources

Spinel is found worldwide, with notable sources including:

- Myanmar (Burma) – known for vivid red spinels.
- Sri Lanka – yields a rainbow of colours.
- Tajikistan – famous for pinkish-red hues.
- Vietnam – produces mesmerizing cobalt-blue spinels.
- Tanzania – known for vibrant pinks and purples.



Vietnamese spinel crystal - Photo credit Geminological

Crystal Shapes and Forms

Spinel crystals commonly form as octahedrons—eight-sided structures that resemble two pyramids joined at their bases. This natural geometry contributes to the gemstone's natural sparkle. The image above shows a spinel crystal exhibiting the classic octahedral shape. The image below shows more of a cluster of crystals together but the triangle shape is still visible. Both are from Vietnam.

Why Spinel Was Confused with Sapphires and Rubies

Before modern gemmological techniques, gemstones were identified by colour alone. Red spinels were considered rubies, while blue ones were assumed to be sapphires. The distinction wasn't clarified until the 18th century, explaining why historical records frequently mention 'rubies' that were, in fact, spinels.



Vietnamese spinel crystal - Photo credit Geminological

Spinel: The Underrated Gemstone with a Royal Legacy (continued)

Distinguishing Spinel from Sapphire

Gemmologists use advanced tools to differentiate spinel's from sapphires. Key distinctions include:

Refractive Index (RI): Spinel has a single RI (1.71) compared to sapphire's double RI (1.76-1.78).

Pleochroism: Spinel lacks pleochroism, while sapphires often show two colours when viewed from different angles.

Hardness Test: Spinel is slightly softer than sapphire.

That said, I am a gemmologist and it is not easy to identify a spinel from visual appearance alone. It is not uncommon to find spinels and sapphires mixed up in parcels of gemstones. Can you guess which is which from the photo?!



Historical and Cultural Significance

Spinel has adorned royal collections for centuries. The most famous example is the "Black Prince's Ruby" in the British Imperial State Crown. This striking red gem, set above the Cullinan II diamond, was believed to be a ruby for centuries until it was identified as spinel.



Global Popularity

United States: Spinel is increasingly popular among millennials seeking colourful, unique engagement rings. Typically the US market is much bolder than the UK when it comes to colourful jewellery.

China: Chinese consumers are incredibly savvy and collectors are paying exceptionally high prices for large stones with great colour and clarity. Certainly when I was at the gem market in Sri Lanka the Chinese buyers were snapping up all the large spinels for eye watering prices.

The UK Market: An Underrated Treasure

Despite its royal connections, spinel remains underappreciated in the UK. However, discerning collectors are quietly acquiring these gems, recognising their rarity and historical significance. With rising demand globally, especially in Asia and the US, the time to invest in spinel is now.

Vivianite: The Enigmatic Deep Green Mineral

Vivianite is a fascinating and dynamic mineral known for its striking blue-green hues and its ability to darken upon exposure to light. This remarkable mineral has intrigued mineralogists, collectors, and metaphysical enthusiasts alike, and its growing popularity makes it a topic worth exploring. From its chemical composition to its rare occurrences in nature, this blog delves into the many aspects of vivianite, including its history, suitability for jewellery, and even its connection to ancient fossils.

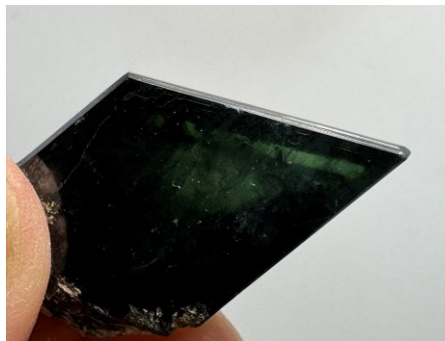


Vivianite cluster from Bolivia - Photo credit Geminological

Chemical Composition and Crystal Forms

Vivianite is a hydrated iron phosphate, with the chemical formula $\text{Fe}_3(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$. It typically forms in environments rich in iron and organic material, often in sedimentary deposits, fossilized shells, and peat bogs. The mineral crystallizes in the monoclinic system, forming elongated prismatic crystals (above) or tabular crystals (below right). It can also appear as fibrous aggregates or earthy masses, depending on the conditions in which it forms.

One of vivianite's most distinctive features is its colour transformation—freshly unearthed specimens are often colourless or pale green but quickly deepen into rich blue-green or deep indigo as they oxidize.



Vivianite crystal from Bolivia - Photo credit Geminological

Vivianite undergoes photo-oxidation, meaning that exposure to light causes its iron (Fe^{2+}) to oxidize to Fe^{3+} , leading to a darkening of the mineral. Over time, this transformation can reduce the vibrancy of the crystal's colour and make it appear almost black. To maintain its striking blue-green hues, vivianite specimens should be stored in dark, stable environments with minimal exposure to direct light.

Where is Vivianite Found?

Vivianite is found in a variety of geological settings across the globe. Some of the most notable localities include:

Bolivia – Produces some of the finest and largest deep blue crystal specimens.

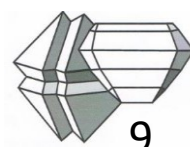
Russia – Well-known for its beautiful vivianite crystals found in fossilized shells in Crimea.

Germany – One of the earliest discovery sites for vivianite.

United States – Found in states such as Colorado, Alaska, and Virginia, often in iron-rich clay deposits.

Australia – Occurs in phosphate-rich sedimentary formations.

In many cases, vivianite is associated with decomposing organic material, including bones, shells, and even buried wood, where it forms as a secondary mineral.



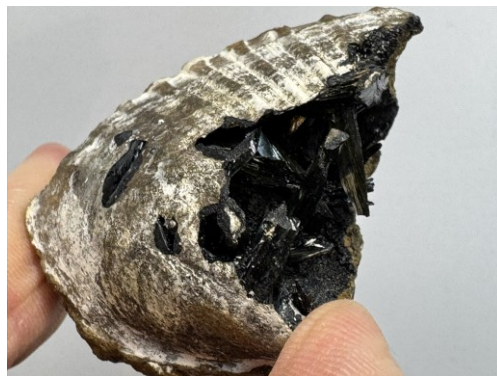
Vivianite: The Enigmatic Deep Green Mineral (continued)

History and Interesting Facts

Vivianite was first described in 1817 and named after John Henry Vivian, a British mineralogist and politician who discovered the mineral in Cornwall, England. Since then, it has fascinated collectors due to its vibrant colour changes and association with fossilized remains.

Unlike minerals such as quartz or feldspar, vivianite has no significant industrial applications. However, it has been used in scientific research to study oxidation processes and phosphate mineralization. Occasionally, vivianite is also studied in archaeological contexts, as it can form in human burial sites and help researchers understand ancient preservation conditions.

One of the most intriguing occurrences of vivianite is in Crimean shell fossils, where the mineral has completely replaced ancient mollusc shells. These fossils are an extraordinary example of how minerals can preserve biological structures over time. The two excellent examples below and top right are from Kerch and Halbinsel, Crimea.



Suitability for Jewellery

Despite its stunning colour, vivianite is not suitable for jewellery. Several factors make it impractical as a gemstone:

Softness – With a Mohs hardness of only 1.5–2, vivianite is extremely fragile and scratches easily.

Cleavage – The mineral has perfect cleavage, making it prone to breaking.

Light Sensitivity – As discussed, vivianite darkens when exposed to light, making it unsuitable for daily wear.

For these reasons, vivianite is almost never faceted, and when it is, the stones are primarily for collection purposes rather than jewellery use. Despite these facts sellers are offering vivianite set into jewellery on Etsy, owners may be disappointed when their crystals break or turn black, buyers beware.

How Common is Vivianite?

Vivianite is considered uncommon, but it is not exceptionally rare. High-quality crystals are still difficult to find, particularly those with deep blue coloration and good transparency. The best specimens are typically sourced from Bolivia and Russia, making them highly prized among collectors.

Vivianite: The Enigmatic Deep Green Mineral (continued)

Its increased popularity in recent years is due to a growing appreciation for aesthetic and unique minerals, as well as rising interest in rare phosphate minerals in general. Additionally, the discovery of exceptional vivianite specimens, particularly from regions like Bolivia, has captivated the mineral-collecting community. These high-quality finds have further fuelled interest and demand among collectors.

Is Vivianite expensive?

That depends on a number of factors, including size, colour and crystal formation. Crystals that have turned black are less desirable unless they are in fossil shells and then then the colour matters less. Large well formed specimens can command high prices, particularly as collector quality specimens are really hard to find. Often the crystals are black, damaged or ill formed. The photo (top right) shows a large crystal group from Bolivia, the colour is good but the piece formed in a vug where there was insufficient space and as a result many of the crystals are not terminated well as they grew against the side of the vug. The example below from Kerch is very black but has a very unique crystal formation, like pom poms. Finding all of the desirable attributes in a single example is very difficult!

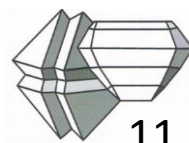


Final Thoughts

Vivianite is a mineral of deep beauty, scientific intrigue, and historical significance. Whether admired for its colour-changing properties, its association with ancient fossils, or its purported metaphysical benefits, it remains a mineral that captures the imagination. While unsuitable for jewellery, its unique qualities make it a must-have for serious collectors.

As interest in unusual and rare minerals grows, vivianite is likely to become even more popular in the years to come. If you're lucky enough to own a vivianite crystals, remember—keep it in the dark to preserve its brilliance!

All of the vivianite pieces shown in this article are for sale from Geminological.



South of England Mineral Show - review

The South of England Mineral Show, held on March 15-16, 2025, at the South of England Event Centre in Ardingly, West Sussex, was a great success. Hosted by Kerr and Charlotte of Nature Unearthed, this second instalment built upon the achievements of their inaugural October 2024 event, offering attendees a weekend rich with geological wonders and engaging activities.



The event featured a diverse array of 28 exhibitors, presenting an impressive selection of minerals, crystals, fossils, gems, and jewellery. The indoor venue provided a spacious and heated environment, a welcome comfort given the chilly 2-degree weather outside. Culinary needs were well catered for by the Scandilicious catering company, ensuring that visitors had access to delightful refreshments throughout the event.



Exhibitor Highlights:

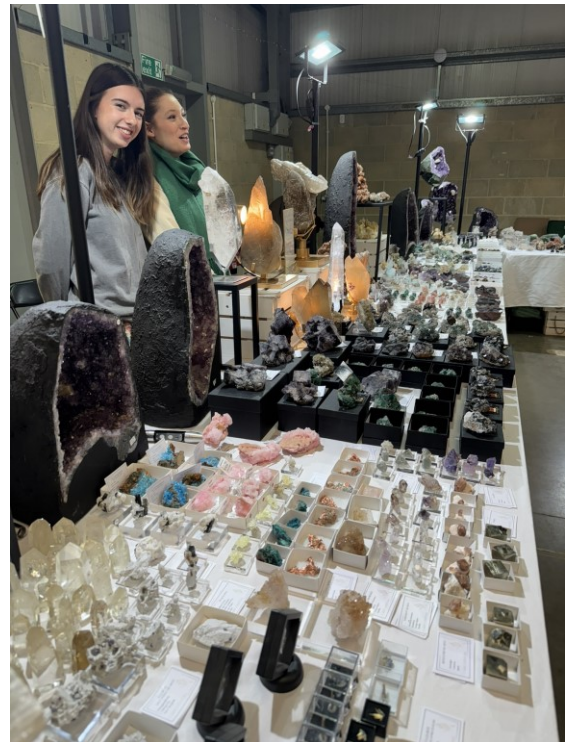
- **Geminological:** Specialists in fine and rare minerals, crystals and unique fine jewellery. Geminological is led by Samantha, a passionate gemmologist who handpicks each piece. Their display featured exceptional pieces, including a remarkable multi-sea urchin fossil from France and a stunning vivianite cluster.
- **Underground Fossils:** Offering high-quality fossils, Underground Fossils showcased an impressive selection of specimens, including mammoth bones and an exceptional *Crotalocephalus trilobite*.
- **Agate Bands:** This small family-run business specializes in mid to premium range polished and rough mineral specimens, fossils, crystal clusters, and gifts. Their offerings cater to both collectors and those seeking unique home décor pieces.
- **Laura Miles Ltd:** Featuring gemstone jewellery set in sterling silver and gold, Laura Miles Ltd collaborates with designers worldwide to present a diverse range of elegant pieces. Their collection caters to various tastes, ensuring something for everyone.
- **By Becca:** Specializing in exquisite gemstone crystal artwork, By Becca's creations are designed to bring serenity and inspiration to any living space. Her handmade pieces, available in a spectrum of colours and forms, promote a peaceful and tranquil environment.
- **Carpe Crystals:** Led by Maz and Ricky, Carpe Crystals offered an incredible selection of fluorite in every colour, including the latest Swiss pink pieces. Their passion for crystals is evident in the quality and variety of their collection.

South of England Mineral Show - continued

Beyond the exhibits, the show offered interactive activities that were particularly popular among younger attendees. Children had the opportunity to engage in gold panning, geode cracking, and educational quizzes, making the event both educational and entertaining for families.

The pleasant weather, characterized by beautiful sunny skies, further enhanced the overall experience, allowing attendees to fully enjoy all aspects of the show.

For those who missed this event or are eager for more, mark your calendars for the next South of England Mineral Show, scheduled for October 18-19, 2025, at the same venue. It's an event not to be missed by enthusiasts and curious minds alike.



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