

MONTHLY MEETINGS

These are the regular occasions when members meet to socialise, borrow from the library, identify minerals and support the raffle, but chiefly, to listen to the guest speaker. Films were frequently shown in the early days, but these have long been superseded by illustrated talks with Power Point presentations, many of which have been given by our own members. The range of subjects has been enormous, ranging from palaeontology, crystallography, vulcanology, meteorites, gemmology, mineral locations, mineral properties and, in Ken Fitch's time, many lapidary subjects.

Topics have ranged from Melting Minerals and Volcanic Disasters, Mining the Ocean, Arsenic in Ground Waters, Minerals of the Deep Earth, Zeolites, A Day in the Life of a Flint Knapper, Minerals in Greenland, Meteorites, Gems and Spectroscopy, Formation of Secondary Minerals, Avoiding the Pitfalls of Raw Gem Purchasing, Geology of Pigments, Curating Your Collection, Mineral Associations, Fossil Fakes, Silicates, Glimpses of the Crown Jewels, the Crystal Hunters, Organic Gemstones, Bolivian Minerals and Fossils, Opals, Gideon Mantell. Fluorescent Minerals, Mineralogy of Wales, Minerals in 3D,

Chrysoprase in Queensland, Across the Sahara in a Landrover, Rare Metals and Minerals from the Kola Peninsula, Dinosaurs and Dragonflies, Wealden Iron, Flint... and many more

The first notable speaker was Professor Howie from Kings College, London, who gave a lecture on **Gemstones** in November 1973, and he has been succeeded by well over 300 other presenters, some returning a number of times. Perhaps the bravest speaker was one Sally Williams who gave a talk on the **Power of Crystals**. John Pearce reported an 'audience fairly to extremely sceptical ---- with a diversity of reactions ranging from devotion to utter disbelief '. Asked about scientific validation, the speaker replied that scientific verification would be inappropriate. Enough said.

The Society can be justly proud of long term member Jolyon Ralph, who designed the Mindat website. Jolyon gave a talk to the Society in 2004, where he related the genesis of **Mindat**, when an idea germinated out of boredom on Christmas 1993, progressed via his first mineral database **Mineral Explorer** in 1997, and emerged fully working in 2000 to shortly conquer the world.



Jolyon promoting MINDAT

We have been particularly lucky in having regular talks by the curator of the Booth Museum of Natural History in Hove, Dr Smout and later by his successor John Cooper. We are also most fortunate in having a range of speakers from the Mineralogy department of the Natural History Museum in London including Bob Symes, Chris Stanley, Peter Tandy, Richard Herrington, Alan Hart and Mike Rumsey. In recent times this has been

facilitated by our member Austin Woodbridge working in the Mineralogy department as a volunteer.

Our other regular speakers have included Chris Duffin who has given several very well researched talks on topics covering palaeontology, geology and minerals. His latest talk was on **Geology and Medicine**, but perhaps his most memorable one was on **William Buckland**.

LAPIDARY



Lapidary began as an equal partner with mineralogy in the early years. A survey reported in Journal No.25, 1977, that 15 members were very interested in mineralogy, 12 in lapidary, but only 5 in fossils. The interest in lapidary was reflected in the many articles on the subject written in the SMLS Journal by Ken Fitch, who was the undoubted



driving force behind the craft in the Society, and who was instrumental in establishing a Society workshop, firstly in Roy

Hodgkinson's basement and later in a garage at Marle Place in Burgess Hill. 23 members attended the Marle Place opening in September 1978 and the Society diary records 2 workshop evenings being held each month.

The photo above shows Cyril Merritt working in the Marle Place workshop. This interest in lapidary continued into the early 1980s but eventually the increasing cost of the facility coupled with

falling usage forced the Committee to close it down in September 1986. A list of the 22 lots of equipment auctioned off is recorded in Journal No.82.

As SMLS members no longer had access to a workshop, Derek Underdown very kindly allowed members to use his workshop at his home in Partridge Green and this arrangement has continued until the present day.

Two of our members, Don Ford and Pat Moulton were very focused on collecting and fashioning our local Sussex stone, flint. Don and Pat worked together for many years maintaining lifts around Sussex and, perhaps, this allowed them time to moonlight and collect flints from Newhaven beach. Not any flints but ones they could be identified as containing fossil corals and/or colour. And you could often see them stalking flints along the incoming or retreating tides. Not only did they cut, polish and section these flints but they made butterfly wings and even a small flint jar. Pat established the Groombridge Flint Workshop which the Society visited in early 1987 and was fully described in Journal 89.

Lapidary has continued to the present day as a minority interest in the Society, maintained by a determined group of members such as Derek Underdown, Terry Denney, Don Ford, Peter Wates and Peter Martin and they regularly enter and usually win the various lapidary classes in the Annual Competition with stunning displays. Some examples can be seen on the following page (photos by John Hall):

Top Row		Flints (Don Ford)	
	Left:	Flint agate 8 x 7 cm	
	Right:	Carved flint butterfly on quartz	
Middle Row		Cabochons (Terry Denney)	
	Left	centre: glass slag from Gun Hill, Sussex	
		clockwise from top left: orbicular jasper, puddingstone, agate, rhodonite, fossil palm wood and agate.	
	Right	Faceted Gemstones (Derek Underdown)	
	top row, left to right	aquamarine	6.75 carats
		zincite	6.58 carats
		sapphire	9mm x 9mm.
	middle row, left to right	green YAG	14.8mm dia
		cubic zirconia	22.5 x 19mm
		yellow sapphire(syn)	17 carats
	bottom row, left to right	pink sapphire (syn)	13.28 carats
		ruby (syn)	11mm x 11mm

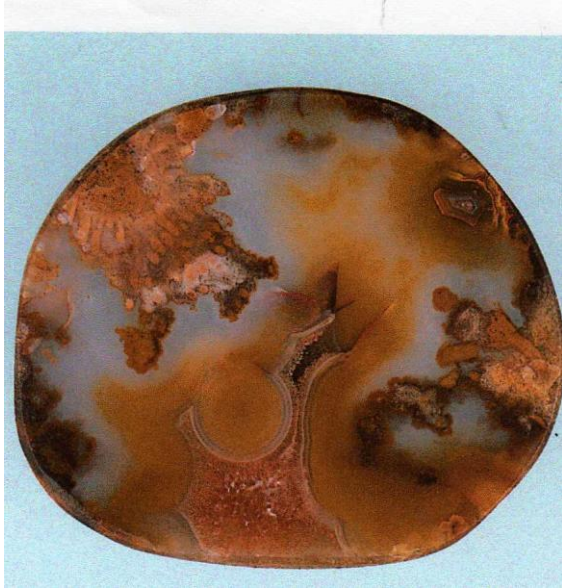
spinel (syn)

15mm x 13mm

Bottom Row

Terry Denney's "Best in Show" entry in 2005 competition
semi-precious gemstone "Sweets"

Lapidary Examples





VISITS AND FIELD TRIPS

A Ge-Ode

This year has been heralded by some
 As the year of the beaver or the pendulum
 But we who seek the rocks of ages
 With frequent reference to Rutley's pages
 Note that we are one year nearer
 The end of the Caenozoic era
 Led by Messrs Hodgkinson and Fitch
 To many a mine and quarry and ditch
 We pursue our quest in some distant field
 The Rockhounds and Lap-dogs of the Weald.

The constitution of a learned Society
 Leaves little scope for light variety
 But at this party we might do worse
 Then indulge in fantasy – set to verse
 "I say, I say!" As I was walking round the block
 I thought I met a morphic rock
 I turned it over and underneath
 Was native copper from Haywards Heath
 "Hullo!" he said, from his constabulary knees
 "May I see your mineral licence please?"

His cooper glance was a chalcocite
 Enough to give a rock hound fright
 Instead of declaring my crystal habit
 I took to my heels and ran like a rabbit
 I got away but the outlook is bleak
 He noted the colour of my retreating streak
 He will doubtless refer to the Octopus Guide
 My lustre and hardness will help him decide
 He'll check on my form, have my density tested
 And in some future nightmare he will have me arrested.

But enough of this nonsense, let's finish this ode
 And return to a sober and challenging mode
 Pick up our kit and take to the road
 Go forward armed with our Field Trip Code
 To explore the exposure, the vug or the lode
 Where according to our field trip notes, are bestowed
 Gangue rocks from which good specimens have flowed
 Or bedding rocks from which sound fossils erode
 To return each one to his own abode
 Each specimen identified, labelled and stowed.

Eric Snelling 1979

THE ROCK COLLECTOR

*I don't know what to do with him, I fear there is no cure,
 I no longer can control him, of that I'm pretty sure.
 He will insist on carrying a two ton bulging sack,.
 I'm waiting for disaster, a badly damaged back!!!*

Are the rocks collected really worth the risk?

*You may not know, years ago he went and slipped a disc.
Why his knees aren't shattered with the heavy weights they bear,
I'm saying almost daily, "For goodness sake take care".*

*My warnings - rarely heeded, he won't accept he's old!!,
I don't know why occasionally he won't do as he's told
I know he's gearing up for trips in the years ahead,
But I'm not taking care of him if he ends up on his bed!*

*I'm protecting my identity or I would get some strife,
Cos naturally, of course, I'm a loyal, loving wife!!!,
No! No! I never nag him! I've learn't it does no good,
I wish he had some sense though, inside that lump of wood!!!*

ANON from NORFOLK

A.SMLS UK TRIPS

SMLS members over the years have visited many mineral collections, for example: in the Natural History (and Geology) Museum in London, Oxford University Museum (photo page 22), Royal Institution of Cornwall (Truro museum) Camborne School of Mines, National Museum of Wales, Chatsworth house and the Williams Collection in Caerhayes Castle. We also visited Warren Taylor's museum of African minerals and gemstones in Sevenoaks and even nearer home; Nick Hawes' Mineral Museum which he had built as a Sussex Barn in his garden and filled with a range of magnificent minerals contained in beautifully constructed cabinets (and the fossils are not half-bad!) - - see photos on page 22

We have also visited dealers including Hilary Corke, Richard Tayler, Keith Sykes (Mineral Warehouse), John and Rob Lawson, Nick Carruth and Stuart Baldwin at Fossil Hall (secondhand books)

A geological walk in Brighton (photo page 22) was organised in which we studied the different rocks used in the buildings, the walls and kerb stones. The tour was led by Stewart Ulllyott who wrote the very interesting book **Brighton Rocks**.

"The very first underground visit occurred as far back as 1975, when a group visited the local Brightling Gypsum Mine. "We were greeted courteously by two young mining engineers – they loaned us smart white boiler suits – the Manager's cloakroom was our changing room – we looked like a party of astronauts going through the air lock" Those were the days!

However there is nothing like collecting your own specimens and from the very first issue the Journal has recorded field collecting trips for both minerals and fossils, and sometimes with fascinating insights into a past age, for example:

- plenty of smaller pieces ranging from pale to brilliant green. Of course there

was the inevitable bag of unidentified but irresistible miscellanea which one felt compelled to bring back – Wheal Gorland.

- On a trip to Meldon and Belstone in August 1975 the party left Haywards Heath at 5.15 a.m., reached Meldon at 10.00 a.m. We collected all day and arrived back home at 11.30 p.m.
- In May 1979 a list of 20 sites in the Tamar Valley was provided by Richard Barstow. It was on this trip that Daphne Hall found over 35 minerals in a small area in Hingston Down Consols– Heaven! Only later was a dealer's dump surmised.

Up to the end of 1980, field trips had never ventured further than Cornwall, Mid-Wales and the Lake District, no doubt reflecting the distances and expense involved in travel from Sussex. There were however rumbles of discontent at this situation. In October 1980, Don Barratt wrote to the journal editor, ***"amazed that virtually nobody in the Society – considers going abroad – or even to Scotland for their mineral collecting. Just what are people's hang-ups? Is it sheer inertia? If it is then for God's sake snap out of it and start to live"***. Phew!

Possibly as a result of this blast the Society nipped over the border into Scotland for a one-day visit to Wanlockhead whilst on a 6 day trip to the Lake District in 1981. The exciting outcome of this foray was announced in Journal No 57, June 1982 when Pam Pearce wrote about Elyite " first dug up in the UK at 1.15 pm on Thursday 27th August 1981 at Meadowfoot Smelter, Wanlockhead. (see page 23) A British first! Peter Embrey mineral curator at the NHM said: "It is a very rare find. What is also interesting is Mrs Pearce's sharp eyesight and the fact that one of our staff had to painstakingly identify it using optics It was the first time it had been discovered in this country".

SMLS Visits



Natural History Museum, London



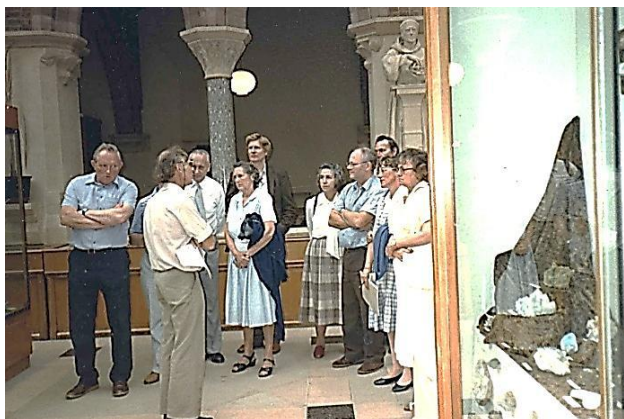
Behind the scenes at the NHM London
Photo: Daphne Hall



Stibnite 13cm Xikuangshan Mine, China
in Nick Hawes Museum



Ammonite multiblock 20 cm Arnioceras, Yorks.
in Nick Hawes Museum



Brian Atkins showing us around the Oxford
University Museum



Looking at Brighton Rocks with Stewart Ulyott



Meadowfoot smelter tips, Wanockhead, Scotland

After this initial visit the Scottish floodgates opened with many trips to N.W. Scotland and to the Isle of Skye in particular. These collecting trips to Skye were summarised in a special Skye issue of the journal No 192 in November 2004. It details the now well known SMLS re-discovery in 1984 of Heddle's zeolite locality on the beach of Sgurr nam Boc (see contents page also pages 34/35) and recalls later visits to many other Skye zeolite localities such as the coastal sites of Oisgill, Talisker and Moonen Bays and the inland cliffs at the Quiraing and Storr

In 1985 six members of the Society went underground at Ecton on the Spring Bank holiday. This appears to be the first instance of a Society underground collecting trip; azurite and malachite being collected. The 100th Journal details a memorable underground scramble into the Pentire Mine in Cornwall led by Nigel Hoppé at Easter 1989. Many more underground trips have since been reported, chiefly to Derbyshire, Nenthead (see photos of an adit, the hydraulic shaft, and the famous "ballroom" in the Smallcleugh mine on page 31), Weardale, Mid-Wales, Cornwall and Devon.

It is great to recall some of these trips but within this publication only a few locations in England, Wales and Scotland and some of the key finds, can be covered.

Fossils

Fossil collecting trips were made almost as frequently as mineral trips in the early years. Sometimes the two were combined, as in trips



Purple elyite 2mm crystals

to various South Coast beach sites. David Nunn led the early trips, and he also wrote and illustrated many articles in the journals describing the fossils that could be found at local sites. John and Daphne Hall later took over David's role, and Daphne submitted many beautifully illustrated fossils to accompany the field trip notes. Sites visited by the fossil collectors included the coastal sites of: Sheppey, Reculver, Copt Point at Folkestone, Samphire Hoe, Dover, Eastbourne, Cuckmere Haven, Peacehaven, Bracklesham Bay, the Isle of Wight, Seaford, Barton and Highcliffe on Sea, Lulworth Cove, Eype Mouth and Lyme Regis. Also inland sites included local sites at Philpots quarry, Freshfields and Small Dole. This last site is famous as a Gault Clay exposure with well preserved fossils including ammonites with beautiful iridescent shells.

A notable discovery of sandstone casts of iguanodon footprints was made by Clive Deacon at Bexhill in 1994, and subsequently reported in the local press. Pam and John Pearce, Joan Dale and Janet Wade found iguanodon bones (somewhat arthritic in appearance) in Philpots quarry, near Ardingly, while Geoff Tøye found a partial skeleton of a juvenile iguanodon in the Smokejacks clay pit in 2001, which is now resting in Maidstone Museum. Harry Woolgar went one step further by having a new Lower Cretaceous fly wing named after him in 1992. Since the 1980s fossil collecting has declined, but as with lapidary, a small hardcore of members has kept the flag flying. These have included Kath Hassall, Nick Hawes, Bill Gordon and sons and Richard Symonds.



1995 David Nunn leading a field trip to the Isle of Wight

Minerals in the South:

(Photos on page 25)

- **Folkestone, Samphire Hoe, Dover, Kent and Climping, Littlehampton, West Sussex** for pyrite and marcasite. Marcasite has always been the preferred mineral of these two dimorphs and it took Brian Prowse to measure the interfacial angles to differentiate the two from Climping.
- **Isle of Sheppey, Kent** for Septarian nodules containing white baryte stars on yellow calcite (see photo on page 74) and selenite gypsum, not to mention the sharks' teeth, crabs, nautiloids, pyritised fossil seeds and shells and fossil wood bored by the teredo bivalve (ship worm). Probably the most visited of all sites by SMLS, you can guarantee that everyone will find good minerals and fossils. The London Clay cliffs have little strength and are eroding fast – bad news for the island, but good news for collectors. The clay can become very sticky and makes walking along the beach very strenuous.
- **Mendips, Somerset** for potato stones. During the 1980s there was great

interest in potato stones but also considerable secrecy about their location in the red marl on the north facing slopes of the Mendips. SMLS made many trips to the area, collecting in hollows in the woods, foundations of some new bungalows and even digging trenches in a ploughed field (with the permission of the farmer). The cut and polished specimens are outstanding.

- **Newhaven, East Sussex** for aluminite. A fairly rare Sussex mineral found in the cliffs at Newhaven. Sadly it is soft, white, botryoidal and amorphous and to the uninitiated looks a lot like chalk!
- **Plumpton Plain, East Sussex** on the South Downs for columnar calcite. This must be the nearest collecting location for SMLS and we are still surprised how ploughing the fields brings the lumps of flint and calcite to the surface. The mineral sometimes occurs as fine needles and was thought to be aragonite, but the cleavage, interfacial angles and infra-red analysis by NHM confirmed it as calcite. Specimens fluoresce and phosphoresce in LW UV light.

Minerals from the South of England



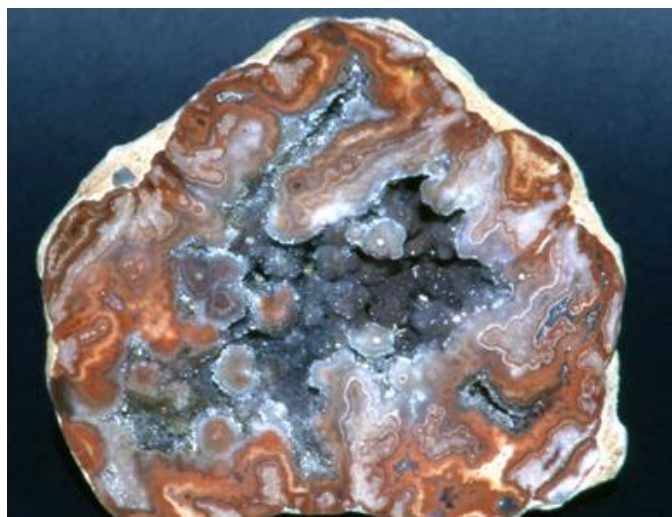
London Clay, Isle of Sheppey, Warden Kent



White baryte 5cm xtals Sheppey



Marcasite, FOV 8cm Folkestone, Kent



Potato Stone 15cm Sandford, Mendips



Newhaven Cliffs, East Sussex



Aluminite 14 cm high Newhaven Cliffs, Sussex
Photo ; John Hall

Minerals in the South West:

(Photos on page 27)

One of the delights of collecting in the south-west is the opportunity to stay at Chichester House in Newquay where Sheila Harper and Steve Hebidge not only run a superb B & B, but they have a minibus to transport collectors, have lots of local knowledge on sites and can obtain permissions to visit them. And best of all they have a rock room equipped with microscopes where you can retire after dinner to identify and discuss your finds of the day. Magic!

- **Bedford United, Tavistock, Devon** for langite, also the blue radiating crystals of the basic copper arsenate, clinoclase
- **China Clay Pits near St. Austell** for crystalline turquoise, pigs eggs, cyrilovite, dufrenite, cacoxenite, libethenite... Maurice Grigg had permission to take us into these quarries to collect. Not only did he lead us to specific minerals in the quarries, but we went back to his home on many occasions to investigate his mineral collection which was a teaching museum.
- **Dean quarry, St Keverne, Lizard Peninsula, Cornwall** for analcime, natrolite and prehnite.
- **Filleigh, High Down** near Barnstable for balls of radiating wavellite crystals.
- **Greystones quarry, Lezant, Cornwall** has been a source of many fine specimens over the years including: aurichalcite, cerussite, dundasite, hemimorphite, leadhillite, linarite and malachite also superb groups of clear quartz crystals
- **Hemerdon, Plympton near Plymouth, Devon** for clear blue crystals of scorodite, green-brown crystals of pharmocosiderite, wolframite and
- **Mearhead Quarry Old Torr Works)**

Famous for its oxychlorides such as mendipite
- **Whatley Quarry**
Calcite, which fluoresces and goethite

cassiterite. The site is currently being prepared for the commercial extraction of tungsten.

- **Hingston Down, Calstock, Cornwall.**
A very large quarry which we have visited many times. A variety of different minerals have been found including: small blue balls of scorodite, soft, greasy silvery molybdenite, small pale yellow crystals of jeanbandyite, langite, iridescent coloured chalcophyllite and green crystals of arthurite. The latter mineral named for the two Arthurs: Russell and Kingsbury.
- **Pentire, Wadebridge, Cornwall** for jack straw cerussite. Not for the faint-hearted. Access was down a very steep cliff slope followed by abseiling to the beach and a climb to the mine entrance. The jack-straw cerussite is very fragile so candle wax was dripped very gently onto the crystals and after getting them home they were heated in an oven to remove the wax. The crystals were fine, the ovens...
We also found some very attractive quartz pseudomorphs after calcite and some clear hexagonal pyromorphite crystals.
- **Ting Tang, St Day, Cornwall** for lironite, olivenite, chalcophyllite, scorodite, pharmocosiderite and torbernite A classic Cornish site where you can still find small specimens of some of the famous Cornish arsenates as well as radioactive minerals.
- **Wheal Edward, Botallack, Cornwall** for cassiterite, metallic silvery sprays of bismuthinite, intense blue balls of connellite and fragile golden needles of goethite.
- **Wheal Josiah, Devon Great Consols** for beautiful brown lustrous siderite crystals

Minerals from S.W. England



Group getting ready to descend Pentire cliffs



Jack straw cerussite Xtals 5mm
Pentire mine Wadebridge, Cornwall



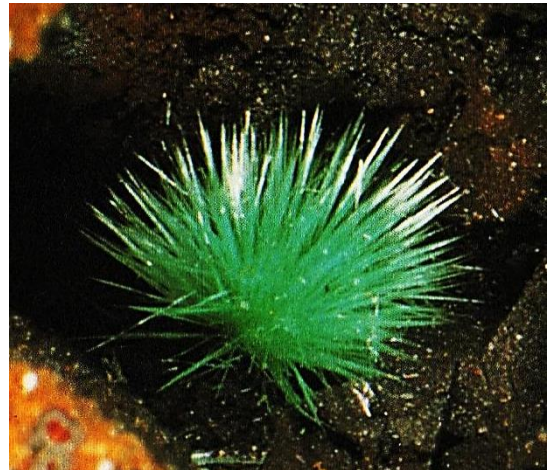
Monitor spraying the kaolin cliffs in a China Clay Pit



Group with Maurice Grigg in his museum



About to go underground at Cligga Head
Perranzabuloe, Cornwall



Agardite -(Y) 1.6mm spray
Marke Valley Mine, Linkinhorne, Cornwall.

Minerals from Wales (Photos page 29)

Our visits subdivide into South Wales, Mid Wales and North Wales

SOUTH WALES

South Wales is the most easily accessible and most visited area by SMLS over the years

- **Taffs Well** and **Ton Mawr** are limestone quarries which contain vugs and caves in which superb crystals of calcite grow. The crystals are very distinctive having serrated edges, but because the supply of such calcite is so great, it is unfortunately greatly undervalued. The caves can create problems for the quarry as it can result in a miscalculation of the amount of explosive needed to blast the rock and can result in material being thrown outside the quarry's boundaries. But the same caves can produce amazing specimens for collectors. Baryte and goethite are also found
- **Blaengynlais**
A very large quarry with wonderful calcite crystals, but it is best known for its goethite pseudomorphs after pyrite.
- **Machan Quarry**
- Not only can you collect calcite, baryte and goethite here, but hemimorphite, anglesite and linarite indicating the presence of copper, zinc and lead.

- **South Wales Coal Fields**
Many quarries contain nodules containing siderite with single filaments or sprays of brown or green millerite also beautiful clear double terminated quartz "Merthyr Diamonds".

MID-WALES

In the early days we collected around the Aberswyth area and one mine stands out, Nanty Cagel or Eaglebrook mine. There were lots of copper and lead ore minerals to find, but the deep blue crystals of linarite were outstanding.

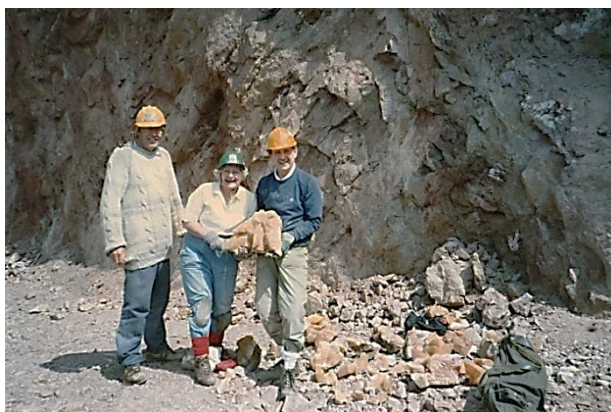
NORTH WALES

The titanium minerals sphene and brookite occur in the hard rock near Prenteg. But gold is found in the flowing streams near Dolgellau. SMLS has panned for gold with pumps and sluices and dug into the river banks, but although everyone found gold, nuggets were elusive.

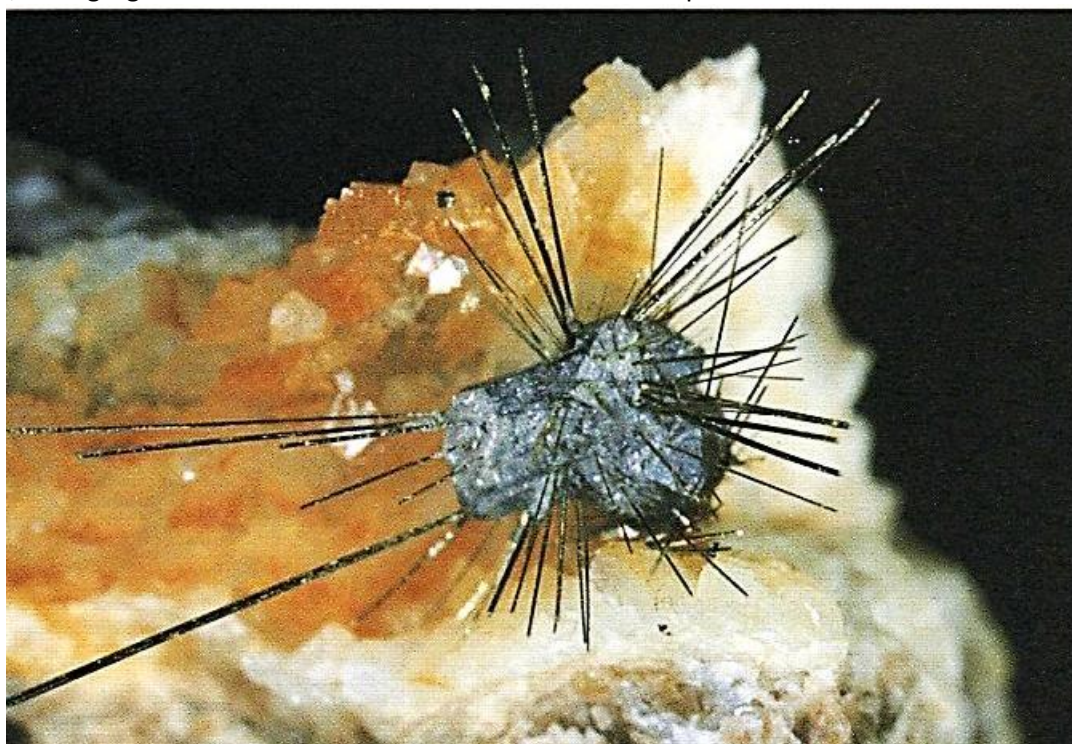
Welsh Minerals



Cave in Taffs Well Limestone Quarry
Cardiff, Glamorgan



L to R: John Pearce, Dorothy Merritt and Mike
Edwards with specimens of calcite collected



Millerite & galena 10 x 8mm Senghenydd Pitt, Abertridwr, Mid Glamorgan. Photo: John Hall



Gold panning in Wales



Linarite, Eaglebrook 1mm spray Photo: Steve Rust

North England: including Derbyshire (Photos on page 31)

In the early days we often stayed near Ullswater in the Lake District and drove across the Pennines to Weardale. More recently we have stayed in Nenthead at the Miners Arms or Cherry Tree cottage which are in easy walking distance of Smallcleugh and the Brownley Hill mines.

- **Smallcleugh, Nenthead, Cumbria**

SMLS has probably been underground more often in the Smallcleugh mine than any other. Typically we would have been staying in the Miners Arms in the village, then walked across the road to the cow-gate entrance into the adit. The adits are extensive and water always collects at the entrance at a height just above one's wellies. So first stop is in Wellington Chamber to decide what clothing and footwear to change into. Then it is a walk with bent head to avoid the roof, the occasional climb over or a scramble under a collapsed section. We are now in Wheel Flats and starting to collect. We can then progress to the hydraulic shaft which has a helpful railway line across it to help you, or a visit to the ballroom which was used in the past by the Mining company for their annual dinner, or fitted with knee pads to go through Hetherington's crawl. Good sphalerite crystals can still be found – a British classic, but so much has been collected over the years that it is greatly undervalued

Wet Grooves Yorkshire This is an interesting mine which you access down a near vertical spiral. Superb barytes can be collected also fluorite.

- **Weardale, County Durham** This is the home of the classic British fluorites with their high lustre, deep and varied colours, interpenetrating twinning and some fluorites almost fluorescing in sunlight. There are many well known mines and quarries in this area, for example: Blackdene, Heights quarry, Cambokeels, Frazer's Hush, Greenlaws, West Pasture, Burtree Pasture and the Rogerley mine. The Rogerley mine near Frosterley produced and is still producing some of the best green fluorite in the world. It is currently worked by a small team of Americans led by Jesse Fisher and Cal Graeber who come over each summer for a few months to work the mine for mineral specimens.

- Probably our best specimens were collected over the years from the Heights quarry and West Pastures mine. The typical apple-green fluorite from West Pastures could be found among the deads. Fluorite was just another gangue mineral to the lead miners. Amazingly undamaged museum quality specimens could be recovered.

- Sadly access to these mines and quarries is getting increasingly difficult.

- **Derbyshire**

SMLS made frequent trips to Derbyshire in the early days, collecting, for example: Blue John in the Castleton area, a very distinctive quartz from Carlton Hill quarry and purple fluorite from the Ball Eye mine, fluorite and baryte from the Glory mine in Criche. but collecting has become very limited in Derbyshire and SMLS has not collected there for 15 to 20 years.:

North of England Minerals



Adit in Smallcleugh Mine with dry walling and ore shute



John Pearce going down the Hydraulic Shaft
Smallcleugh mine, Nenthead



The Ballroom, Smallcleugh Mine



Sphalerite 5mm Xtals Smallcleugh



Fluorite Xtals 1cm on edge Rogerley Mine
Frosterley Weardale
Specimen Jesse Fisher, Photo: John Hall



Baryte Wet Grooves 20 cm across Askrigg, N. Yorkshire
Photo: Jolyon Ralph

Minerals from the North West England:

(Photos on page 33)

SMLS had many field trips where we were based on a campsite near Ullswater. Some were camping, others were in camper vans or in rented cottages.

This was before the days where collecting permits were required and we were free to explore and collect in the Caldbeck Fells and in West Cumbria:

CALDBECK FELLS

- **Roughton Gill, Dry Gill and Driggith**

Beautiful pyromorphite specimens could be found and in Dry Gill one could collect the English classic mineral campyllite, the toffee coloured barrel-shaped variety of mimetite and sometimes blue plumbogummite.

- **Deer Hills**

Not easy to find in the rugged fell country and of main interest to micro collectors, Superb red micro crystals of the lead iron arsenate carminite were collected.

- **Carrock Mine**

An old tungsten mine where you could find scheelite $\text{Ca}(\text{WO}_4)$ which fluoresced blue in SW ultraviolet light, also soft silvery crystals of molybdenite in quartz. Not far away at Poddy Gill yellow micro crystals of wulfenite were found.

WEST CUMBRIA

Famous for its iron mines

- **Florence Mine and Beckermets Tips**

For some years the Florence mine was a show mine where you could go on an underground tour. There were masses of hematite in this mine. The miners laid out mineral specimens in the changing rooms which visitors could purchase, the most sought-after being the blue fluorite crystals. There was a small boulder of hematite near the entrance to the mine and the guides would challenge you with "If you can lift it, you can take it!".

The Beckermets tips nearby were good for collecting, particularly specularite - black lustrous crystals of hematite - an English classic mineral - on quartz and iridescent pyrite.

- **Kirkland Quarry**

This old disused quarry was used as a clay pigeon shooting, but it also had vugs of superb aragonite in vugs in the quarry walls

- **Hilton Mine, Scordale**

Further to the south was the Hilton mine, the land being owned by the Army who also controlled access through their firing range. However it was possible to obtain permission on certain days. The most attractive mineral to collect was yellow fluorite, sometimes with baryte. We never managed to collect underground here, but still managed to collect good yellow fluorite from the scree slopes.

- **Silverbands**

A very isolated site with magnificent large transparent barite crystals

- **Kirby Thore**

A gypsum mine which produces its characteristic daisy gypsum crystals.

Minerals from North-West England



Collecting in Dry Gill, Caldbeck Fells in 1980s



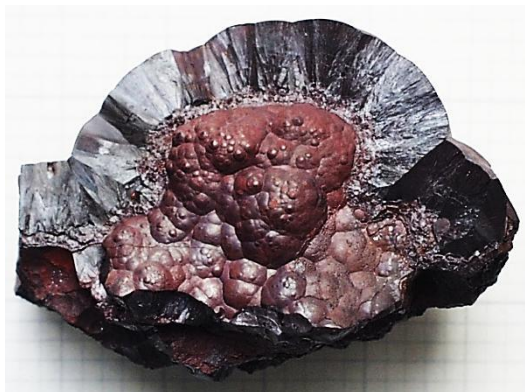
Campyllite, Dry Gill 8mm Xtals



Yellow Fluorite 8cm Hilton mine, Scordale, Cumbria
Photo: Jolyon Ralph



Blue fluorite xtal 25mm on dolomite Florence mine
Egremont. Photo: Ian Jones



Botryoidal hematite 10cm Egremont, Cumbria
Photo: Peter Nancarrow



Pyromorphite, partly pseudomorphed after cerussite FOV 20mm
Swaledale, Yorkshire Photo: Peter Briscoe

Minerals from Scotland

(Photos on page 34)

Our field trips to Scotland centred on the south and north-west of Scotland.

SOUTHERN SCOTLAND

- **Leadhills and Wanlockhead**

Collecting in Wanlockhead and Leadhills produced some good specimens of pyromorphite, mimetite and hemimorphite, but it was the Meadowfoot Smelter where Pam Pearce found elyite (see pages 21/23) which created most interest. Not only was elyite found but also a range of beautiful microminerals including langite and wroewolfeite (see opposite).

- **The Knipe, Hare Hill, New Cumnock**

It is quite a climb up to the site, but some magnificent specimens could be collected on the surface including free standing crystals of stibnite, “bent crystals” and white, yellow and red secondary antimony microminerals.

- **Bail Hill, Loanhead and Coatsgate Quarries**

We found black augite crystals at Bail Hill, green botryoidal prehnite and fans of columnar thomsonite, distinctive from this region, from Loanhead quarry near Beith and lustrous garnets from Coatsgate.

NORTH-WEST SCOTLAND

- **Strontian**

The main attraction to this area was to collect the two barium rich zeolites harmotome and brewsterite.

- **Isles of Mull and Skye**

It was only in recent times that an SMLS field trip included the Isle of Mull, but the group was rewarded with some good finds of sapphires.

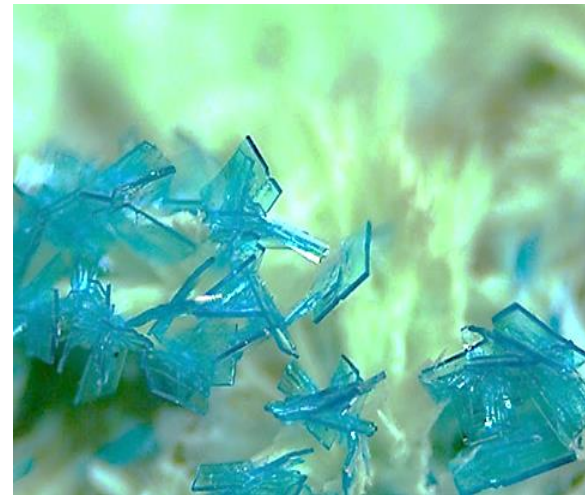
The Isle of Skye has attracted visits from SMLS over many years. The scenery is magnificent and the zeolites collected were varied and of

exceptional quality and size. The main collecting areas were the inland cliffs of the Storr and Quiraing and the coastal sites on the north west coast: Oisgill, Talisker and Moonen Bays, Sgurr nam Fiadh and, of course, the unforgettable Sgurr nam Boc beach. We made many determined efforts to reach this inaccessible beach (see frontispiece) by climbing down the 800foot cliffs and landing by boat, but it took attempts over three years before we succeeded. We were aided in the latter through two good friends, Lowry Cherry and Robert De Vliet who lived in Loch Eynort and both owned a boat, which they agreed at different times to use to ferry us around to Sgurr nam Boc and land us on many occasions.. We are also one of the few mineral societies to own their own inflatable dinghy. It could be very frustrating, on one of our two weeks visits we phoned Lowry Cherry each day to see whether a landing was possible only to be told that the wind was coming from the sea which made a landing impossible. We collected the most magnificent zeolites – the best in the UK – on over 15 occasions. The minerals collected included stilbite, pink heulandite, mesolite, levyne, apophyllite, epistilbite, chabazite laumontite, thomsonite analcime and brown calcite, and these adventures are recorded not only in our SMLS journals but also in the UKJMM (Issues 10 and 21 in 1991 and 2001). One of the breakthroughs was finding Mike Wood who is both a climber and collector and he guided us down the cliffs on several occasions.

Minerals from Scotland



Langite 2mm Meadowfoot smelter Wanlockhead



Wroewolfeite 2mm Meadowfoot smelter



Looking down on Sgurr nam Boc (SNB) beach



Descending the cliffs to SNB beach



Preparing the "mother ship" in Loch Eynort



Stilbite on heulandite (SNB) FOV 10cm, SNB

B OVERSEAS VISITS AND FIELD TRIPS

SMLS members have visited the Munich, Ste Maire-aux-Mines, Millau and Stella Plage Mineral Shows over the years, also the mineral museums of Paris including the Collection de Minéraux Paris University Pierre and Marie Curie (Sorbonne) – perhaps the best mineral display in the world – the Royal Ontario Museum (ROM); the Gargoti (Zeolite) Museum, the vision of K.C. Pandey, in India and the American Museum of Natural History in New York. There was an amusing incident when we visited the museum in New York. At the end of an excellent session with the curator Jamie Newman, Austin Woodbridge was in the process of giving Jamie a present of one of Daphne Hall's beautifully hand painted agate slices contained in a jewellery box. Jamie was very amused saying "I thought you were going to propose and I have only known you for such a short time!"

As well as visiting overseas we have received visitors from abroad and the group that we remember most was from the Millau Geological Society in 1999. We had been hosted by Alain Marchal, president of the Society, when we visited Millau in the Central massif. They had guided us on field trips, hosted us at their Mineral Show and given us a reception in their Mineral Museum.

37 members of the Millau Club came on this visit to the UK. The tourist aspects of the trip to such locations as Stonehenge, the Royal Pavilion in Brighton and London, including the NHM, were comparatively easy to organise, but what collecting sites in the UK can accommodate 37 collectors? Peter Moore, who was organising the trip selected three locations: the Isle of Sheppey, Blaengynlais in South Wales and Radstock in Somerset and all three worked well. However the most memorable event occurred when the group visited Buckingham Palace. On passing their bags through the X-ray security system, three elderly ladies had their large clasp knives with 3 inch blades confiscated. Later a 75 year old, the oldest member of the group who was carrying a two-handled flick knife with a 5 inch blade, was spoken to, very severely by the police and had his knife confiscated. Peter Moore tried to explain that the group came from a rural part of France where a knife was essential to cut slices of salami for one's lunch.!

We have been very lucky in having around eight members who have been prepared to organise Geotours for SMLS members. So far 26 visits and field trips have been successfully organised ranging from visits to the Paris Show and its museums in 1991 to a zeolite collecting trip to the Faroe Islands in 2011. A list of all our overseas visits and field trips showing the SMLS organiser and the local guide is given as appendix 4.

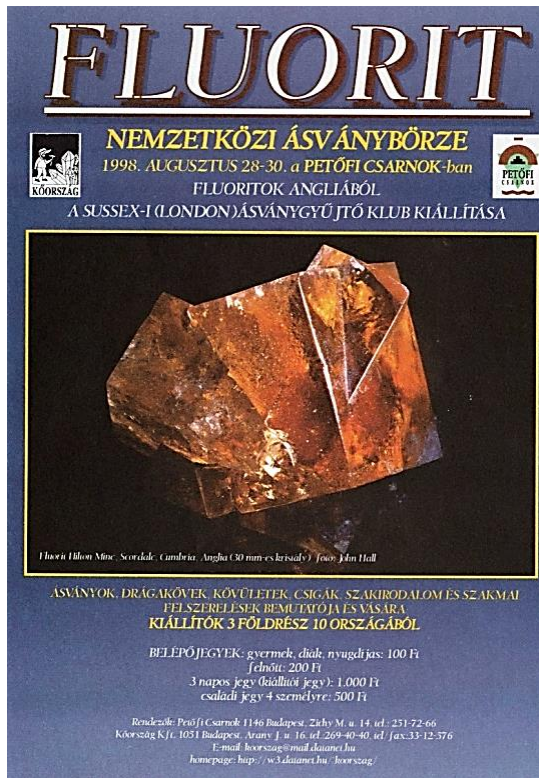
Some geotourism occurred as an integrated experience with the field collecting and the tourism going hand in hand. For example in Namibia we visited cave paintings, the Etosha Game Park and the Hoba meteorite as we travelled around the country collecting in the Aris quarry, near Windhoek, Tsumeb and the Berg Aukas mines in the north. Other times the tourism and collecting were discrete e.g. in India we flew in to Delhi and had 3 days of tourism including the Taj Mahal, then caught an overnight train to Mumbai before collecting zeolites in the Deccan Plateau's basaltic quarries. In 2012 we combined a visit to a French Show at Ste Maire-aux-Mines with a mineral collecting trip in the German Eifel Mountains.

We usually fly directly to our destination but sometimes, for example, when we visited Budapest in Hungary, we flew into Vienna in Austria and cruised down the Danube to Budapest. Also when we visited Irkutsk in Siberia in 1992 we fly to Moscow, visited some of the museums, then flew all the way over to Khabarovsk in the far east before catching the Trans-Siberian railway back to Irkutsk – this allowed us to travel along the more interesting and picturesque section of the Trans-Siberian railway. We also stopped off to visit the Hermitage in St. Petersburg on the way home

The Society has taken the lead in Geotourism by organising trips, among others, to Lanzarote, Northern Spain, Hungary, Slovakia, Bulgaria, India (twice), Namibia (twice), France (many times), and to the USA and Canada. All these visits are well documented in our journals, but space will only allow a few to be described here and we have selected: Irkutsk, Siberia; Namibia; India; Sterling Hill, New Jersey/ Canada; Lanzarote and the Faroe Islands. However the

poster below and the page of photos on page 39 capture some magic moments from some of our other overseas trips

The poster of the Mineral Show in Budapest in 1998 is special as John Hall produced the photo



of a Hilton mine yellow fluorite for it and everywhere we walked around Budapest we saw “John’s Poster” stuck in windows, on walls and lamp posts.

Visits to France have been frequent partly because of its nearness to Sussex, but more particularly because of our energetic and enthusiastic member resident in France, Peter Moore. We have made trips to Millau in the Central Massif both for collecting and their Show, the Cote d’Azur, the Auvergne, the Paris museums, Cap Blanc Nez near Calais, the Stella Plage Show near Le Touquet and the Ste Maire-aux-Mines Show in Alsace. The first photo captures a glimpse of the Ste Maire-aux-Mines Show, while the second two capture one of the gites we stayed in when visiting the Auvergne and the group typically enjoying the French cuisine. The final photo captures a impromptu SMLS committee meeting held in a swimming pool with a floating bar in our villa in the Cap d’Azur.



Ste Maire-aux-Mines Show, Alsace, France



One of our gites in the Auvergne



Enjoying the French cuisine



An impromptu committee meeting in a swimming pool with a floating bar during a field trip to the Cap d'Azur
Photo: Weng Lim

Some other memorable moments are captured by the photos below (see page 39)

The first photograph below is of botallackite crystals collected on the beach at Cunmahon on the Copper coast in Southern Ireland, while the second photo is gold in situ collected on the side of the very cold and windy sacred mountain of Croagh Patrick.

Photo 3 is a magnificent marcasite from Cap Blanc Nez, near Calais. It was fascinating to compare finds of marcasite and pyrite with material we had collected in Dover and Folkestone in Kent.

Photo 4 shows the group collecting in the Vechec-lom quarry in Slovakia in 2008 where we found tridymite and cristobalite (two of quartz's polymorphs) also ferranodolomite. We

were very lucky to have two excellent guides on this trip: Dr Rudolf Dudà and Marek Patúš.

Photo 5 is a spinel twinned galena from Madan in Bulgaria in 2006. It was only after our guide Petko Petrov from the Sofia museum introduced us to the subtle differences in the structures of galena from the classic site of Madan that we fully began to appreciate this mineral.

Hauyne in photo 6 was one of the few microminerals from the Eifel in Germany, visited in 2012 that we instantly recognised from its intense, translucent blue colour. We had the leading Eifel expert Willi Schuller to help us, but identifications were not easy and several of us have drawers of Eifel material with unknown identities.



1 Botallackite 3mm Copper coast, Eire
Photo: John Hall



2 Gold on quartz FOV 5mm Croagh Patrick, Eire



3 Marcasite FOV 5cm Cap Blanc Nez, Calais
Photo: Pam Pearce



4 Vechec Quarry in Slovakia



5 Spinel twinned galena FOV 30mm Madan, Bulgaria



6 Hauyne Eifel, Germany Photo: Martin Stolworthy

Returning to the six special overseas locations, a brief account is given for each followed by a page of photographs:

Irkutsk, Siberia. (photos on page 41)

Lubov and Galina's visit to the UK and mounting an exhibit at our 1991 Show is described in the Sussex Mineral Show section. Before returning to Russia they invited us to visit them in Irkutsk and 10 of our members went on this trip in 1992. We greatly enjoyed their museum, which contained a British section made up of minerals and mineral books we had donated to them the previous year and we had a superb field trip to Sludyanka where we collected fine double terminated apatites also book mica. We were royally entertained to a banquet in our honour, a 4 piece classic orchestral recital in their museum and we had a talk in Russian (with simultaneous translation) on charoite by its discoverer Vera Rogova. We stayed in their country dacha, enjoyed (suffered) a traditional thrashing with birch twigs in their steam bath and went on an overnight sail on Lake Baikal in a couple of their cousins' yachts. (Communism took on a whole new meaning!) It's amazing what one can cover in 5 days. When we returned to the UK someone commented on how brave we had been as normally tourists keep to the east of the Ural mountains. Nobody had told us that; we just thought we were going to Russia.

Tsumeb, Namibia (photos on page 42/43)

The first visit in 2001 resulted from an invitation from Ian Bruce of Crystal Classics. His company (with David Lloyd very much involved) had obtained the mineral rights for the Tsumeb mine and they were busy de-watering it. Ian invited a group from SMLS to visit the Tsumeb mine, probably the single most famous metal mine in the world which mineral collectors dream about. We were told we would be able to go underground but not to collect. However we took a few tools, just in case!

We were driven down in a spiral in the back of a truck to level 5. We were on our best behaviour and asked the mine captain Kieviet Rust's permission before doing any hammering. After a short time Kieviet got fed up with that and said "I will be back in 5 hours" and left us to it. There were fissures in the rocks containing white clay and we soon extracted some beautiful azurite nodules

While we were in Namibia we collected at several other nearby sites including Abenab and Berg Aukas (good descloizite) with Arno Gunzel, former chief geologist at the Tsumeb mine, acting as our guide. We then drove down to Karibib and collected in the Brandberg. We also went to Aris quarry just south of Windhoek where we collected tuperussuatsiaite, villiaumite and makatite, Vicki Niku-Paavola, a geochemist from the Ministry of Mines and Minerals was our guide on this occasion. Not only was she extremely useful but she introduced us to Andreas Palfi who runs **Namibia Geotours** and he organised our return trip in 2003.

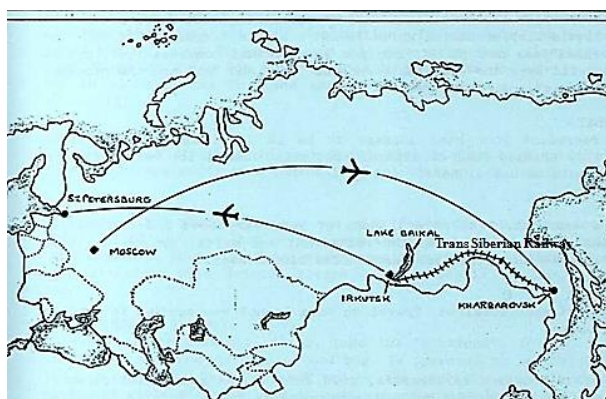
Bureaucracy in getting minerals out of the country was not helpful. You have to obtain 2 certificates. One from the Ministry of Mines and Minerals which lists the identity of the specimens and another from the Ministry of Trade which records their value. The two ministries are on totally different sides of the capital Windhoek and do not communicate or exchange information with each other. On our first visit we drove anxiously and hastily on our last morning across Windhoek in order to obtain these certificates to present to Customs before catching our flight at midday. We made it but only just!

On our second trip we were led by Andreas Palfi, who owns the mineral rights of several of the mineral sites. We had 3 jeeps, also a driver/cook Wilf and we were allowed to drive one of the jeeps. We had a fridge in one vehicle and a freezer in another so we were well taken care of with plenty of food and cold beer on tap. We were introduced to "wild camping" where we camped in scrub desert miles from anywhere. but almost on top of the mineral site we were aiming for. When we got up in the morning we only had to walk 100 yards to the mineral site. On this second trip we headed east from Windhoek through the Gamsberg Pass, up through Swakopmond, through the Mesum Crater and Mesopotamia, dropped into the famous fluorite mine at Okorusu and circled around to Tsumeb and Berg Aukas, then back to the Orongo Mountains, Windhoek and re-visited the Aris Quarry. Quite a journey, wonderful scenery, good collecting and great company.



Lubov and Galina with Bob Symes in the Mineral Gallery NHM in 1991, the year before our visit to Russia

Irkutsk, Siberia, Russia



Our flight plan to Irkutsk



Field trip to Slyudyanka

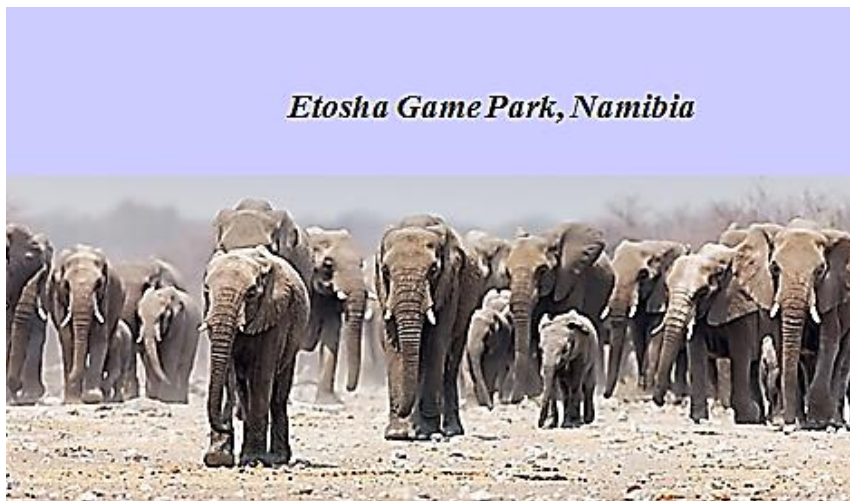


Vera Rogova's talk on charoite



Slab of charoite 12cm

Namibia 1



Etosha Game Park, Namibia

Elephants in Etosha Game Park



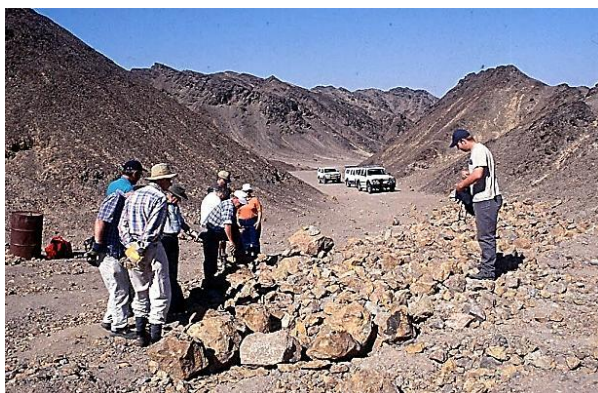
Tsumeb Mine headframe



Collecting in the Tsumeb mine



Azurite 6cm Tsumeb mine, level 5



Goanikontes, Namibia (Our 3 jeeps in background)

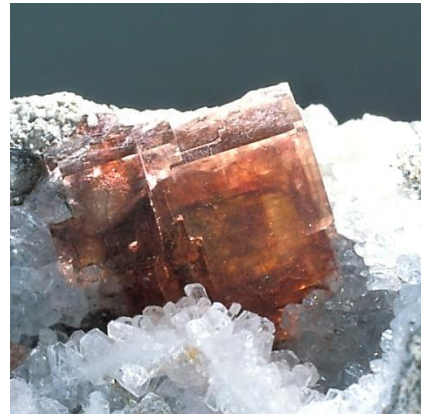


Boldwoodite 5mm crystals Goanikontes

Namibia 2 (All mineral photos: John Hall)



Tuperssuatsiaite 2mm Xtals Aris quarry, Windhoek



Villiaumite 8mm Xtals Aris quarry



Shattuckite 3mm Xtals, Mesopotamia



Scepted amethyst and crazy quartz 5cm Brandberg



Reticulated rutile 1 cm xtals Gamsberg Pass



Hoba meteorite, Grootfontein

India (photos on page 45)

Allan Mortimer was brought up in India and speaks Hindi, so when he came to live in Croydon and asked me (JP) whether he and Elvire could join SMLS, I replied "Yes of course... but there is one condition....you have to lead a field trip to India", to which Allan replied "I should be honoured", and in fact he led two excellent trips in 2000 and 2004.

After some exotic sight seeing in Delhi including the Taj Mahal, we opted for an overnight train journey to Mumbai (Bombay) where we started to collect zeolites in the Deccan plateau. The most powerful mineral dealers such as the Pandey and Makki families, control the situation rather nicely. They invite you to visit their home and warehouse where you have an opportunity to purchase some of their exquisite zeolites. They then take you to various quarries in which they have influence and allow you to collect. Their hospitality has tremendous, we were taken out to lunch on one occasion and very young Indian boys ran around the quarries offering us tea and samosas as we collected.

Ted Ratcliffe nearly instigated an international incident. While collecting zeolites in one of the quarries, a little boy offered Ted a nice pink stilbite with clear apophyllite and stuck 5 fingers in the air. Unfortunately Ted thought he meant 5 dollars rather than 5 rupees!

The Pandeys arranged a visit for us to the Gargoti Mineral Museum which they were building and the following year the Mortimers and Woodbridges were invited to the opening with Allan delivering one of the speeches, partly in Hindi to the delight of the India crowds attending. We got to know Mohammed Makki and his son Sami and for several years they have very generously donated some Indian zeolites for raffle prizes to raise funds for SMLS.

On the second trip, the group followed a similar route, but were looking for smaller and less common specimens. Levyne and cowlesite were found, which had not been recorded previously.

Sterling Hill, New Jersey and Canada (photos page 46)

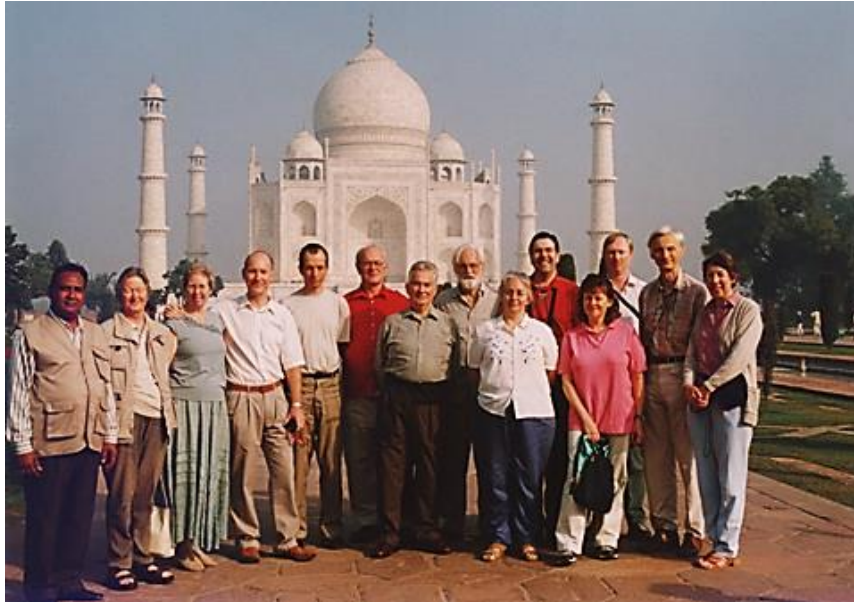
Sterling Hill and Franklin, New Jersey, USA – the Fluorescent Centre of the World – had always been a place we wanted to visit and having Gavin Malcolm and Richard Belson, two SMLS members well known and connected UV specialists, made it all possible.

The Sterling Hill Mining museum has a great deal to offer visitors; world wide mineral classics, mining artefacts, an underground tour and, of course, magnificent UV mineral displays. However the real treat for us was a collecting trip at night in the Sterling Hill mine quarries. We spent several daylight hours checking out the best collecting areas (the photo captures Peter Hay watching Austin Woodbridge in a black bag with a portable UV lamp checking the fluorescence of various specimens) Once it became dark we proceeded with hammers, torches, portable UV lamps into the quarry which lit up under UV light in an array of magic colours. Fantastic.

After this amazing experience we flew up to Toronto and picked up a couple more vehicles. We collected in the famous Bancroft area – Mineral Capital of the World- collecting some nice apatites, hornblende and mica before driving across the State border into Montreal in Quebec. Here we were hosted by Tony Gordian who acts as the gatekeeper to the famous Mont St Hilaire quarries. We joined the queue of trucks on one of their official open days and spent a happy day collecting. We recognised and collected sodalite, rhodochrosite, and astrophyllite, but it was not easy to identify many of the other minerals. The locals collected large quantities of material, using power saws, which they said they would be breaking up and examining over the winter.

We had to fly from Montreal to Newark before crossing the Atlantic back to the UK and on this internal flight we were embarrassed to hear the announcement: "The plane is overweight and we are offering \$200 to anyone who is prepared to catch the next plane to Newark which leaves in 3 hours time". I am sure it had nothing to do with us.

India



The group with the Taj Mahal in background

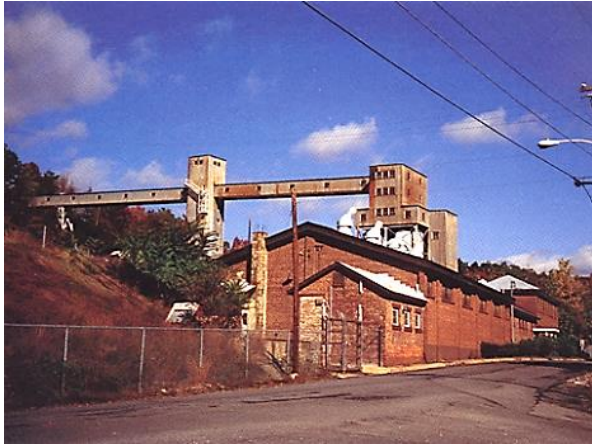


Cavansite 15mm xtals on stilbite from Wagholi quarry Photo: John Hall



Green apophyllite 4cm Xtals Nilwandi Dam quarry, Maharashtra Photo: John Hall

Sterling Hill, USA



Sterling Hill Mining Museum



End of underground tour



Austin Woodbridge in the black bag



UV fluorescent display

Bancroft, Canada



Collecting at Tory Hill, Bancroft, Ontario



Apatite crystal 4cm from Bancroft

Lanzarote

Pam and John Pearce have been visiting Lanzarote for over 30 years and in 2002 they planned 2 weeks geotourism in the island for SMLS. The tourism included BBQs around the pools in our 2 villas, a banquet at Jamie and Doris Nelson's villa, visits to many of the local artist César Manrique's monuments such as Campesino, the Cactus gardens, Jameos d'Agua, Cesar Manrique's Foundation built around 7 large volcanic bubbles, with a climax of a concert in the Green Caves lava tube. A concert in a lava tube, that must be a first!

The "geo" took in a tour around the volcanoes in Timanfaya (Fire Mountain); collecting olivine in the recent lava flows of 1730-6 from inside and around the Pearce/Nelson volcano (aka Le Cuerva volcano) in Le Geria and zeolites, dolomite and spherical calcite in the 15m year old outcrops in Famara Risco in the north-west and Punta del Aguila in the south of the island. Some of the zeolites in the south are particularly interesting being iron stained. The suite of zeolites includes spherical thomsonite, small but lustrous phillipsite crystals often associated with pseudo-cubic chabazites and plates of levyne with growths of erionite and offretite.

The Faroe Islands

There had been interest in a collecting trip to the Faroes for some time. Don and Joy Barratt had been there in 1987 and the well known German mineralogist, Volker Betz had produced an excellent article on zeolites in Iceland and the Faroe islands in 1981 in Mineralogical Record.



The Faroes are an amazing set of islands, several joined by tunnels under the sea and bridges while others are accessible by fast moving ferries. We flew into the capital Tórshavn and picked up 3 hired cars. The group was involved in very little tourism, every day we were exploring and collecting in quarries. We were only there for a week so we did not get further than the islands of Vágar, Streymoy, Esturoy and Bordoy. We really needed about 6 weeks to do justice to our collecting and visit the other islands, but prices were comparable to Scandinavia!

There are few collectors so it was good to go to sites and open up fresh vugs collecting a range of superb zeolites. We had a very useful contact in Bartal Højgaard who works for the Faroes Earth and Energy Directorate. He knew all the quarries and their owners and obtained permission for us to collect in two of the larger working quarries.

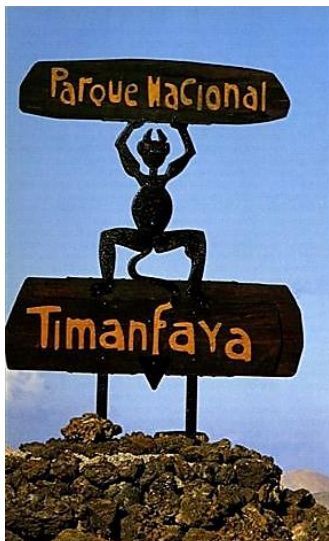
We collected some fine specimens of faröelite spheres, (a variety of thomsonite), cubes of chabazite with very attractive pink inclusions, also some zeolites were enhanced by association with green crystals of celadonite.

One of our best finds was a vug we opened up in the Old Sund quarry just north of Tórshavn where we extracted over 20 excellent hand sized specimens of mesolite needles. The quarry looks totally barren and has been turned over for recreation and used for paint-balling. We had to negotiate with the warriors so we could gain access to their quarry and avoid the mesolite being covered with blue paint.

As we had flown to the Faroes, we managed, through Allan Mortimer, to pack 218 kg of zeolites and send them back to the UK by sea. The specimens survived their sea journey and arrived in the UK two weeks later.

We were delighted to have our expedition published in the UKJMM Number 33 (2012).

Lanzarote



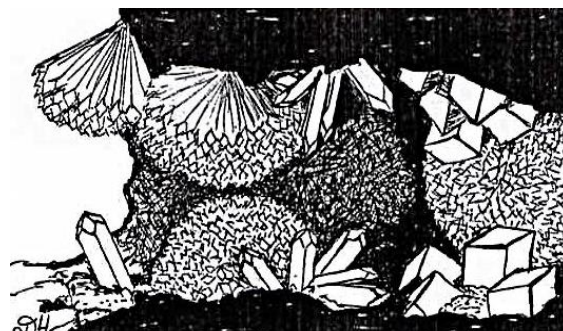
Entrance to the National Park



Group relaxing in one of our villas



Collecting on the cliffs at Famara



Single and spherules of phillipsite with chabazite, Famara cliffs Idealised drawing by Daphne Hall



Olivine in basalt 20cm Le Cuerva volcano, Le Geria



Iron stained mesolite FOV 3cm
Punta del Aquila, near Playa Blanca

The Faroes



The Group. (left to right): David Roe, Harry Critchley, Allan Mortimer, Nick Hawes, John Burgess, John White, Clive Minker, Tony Lee, John Pearce, Christine Critchley, Peter Nancarrow and Colin Brough



Orange chabazite xtals to 20mm Hvitasteinar Quarry, Eysturoy Photo: John Hall



Mesolite FOV 65mm Old Sund Quarry, Streymoy. Photo: John Hall



Thomsonite FOV 7cm Hustoft Quarry, Eysturoy Photo: David Green



Allan Mortimer receiving 218 kg of Faroe specimens on our return to UK

C. VISITS AND FIELD TRIPS BY INDIVIDUAL MEMBERS

A number of Journals record pioneering private field trips by members with their families. Dorothy and Cyril Merritt made an early trip to Laurion in Greece in 1983, and collected both "normal minerals" at Kamariza and Plaka as well as slag minerals from Laurion. This was a really enterprising adventure, having no Greek to communicate with, they managed to work with bus inspectors, taxi drivers and local miners and returned with a very impressive range of good and interesting mineral specimens.

Donald and Joy Barratt visited the Faroe Islands in July 1987 to collect zeolites (and this proved useful when SMLS organised a trip there in 2011), they also made family visits to Norway and a 2000 mile trip (with detours) round Iceland.

Betty and Brian Prowse visited the Trepca Mining Museum in Yugoslavia in 1988. This is not on the tourist trail and involved a six hour drive in a hired car over 200 miles through some very wild and spectacular mountainous regions. The Yugoslavian economy was in a bad state, the condition of the motels in this remote place was very poor and the museum, although containing many world class mineral specimens was somewhat chaotic. Despite this, Brian and Betty's persistence and good humour resulted in them obtaining 3 mineral specimens from Trepca with a certificate indicating they had obtained them lawfully.

John and Daphne Hall with John and Pam Pearce collected in Arizona. This trip to the USA took in a behind the scenes trip to the Smithsonian museum in Washington with curator John White as our guide, a visit to the Natural History Museum in New York, collecting at sites in Arizona described in past Mineralogical Record journals such as copper secondaries from the Silver Bill mine and glauconite from Camp Verde. And to complete the trip they descended into the Grand Canyon.

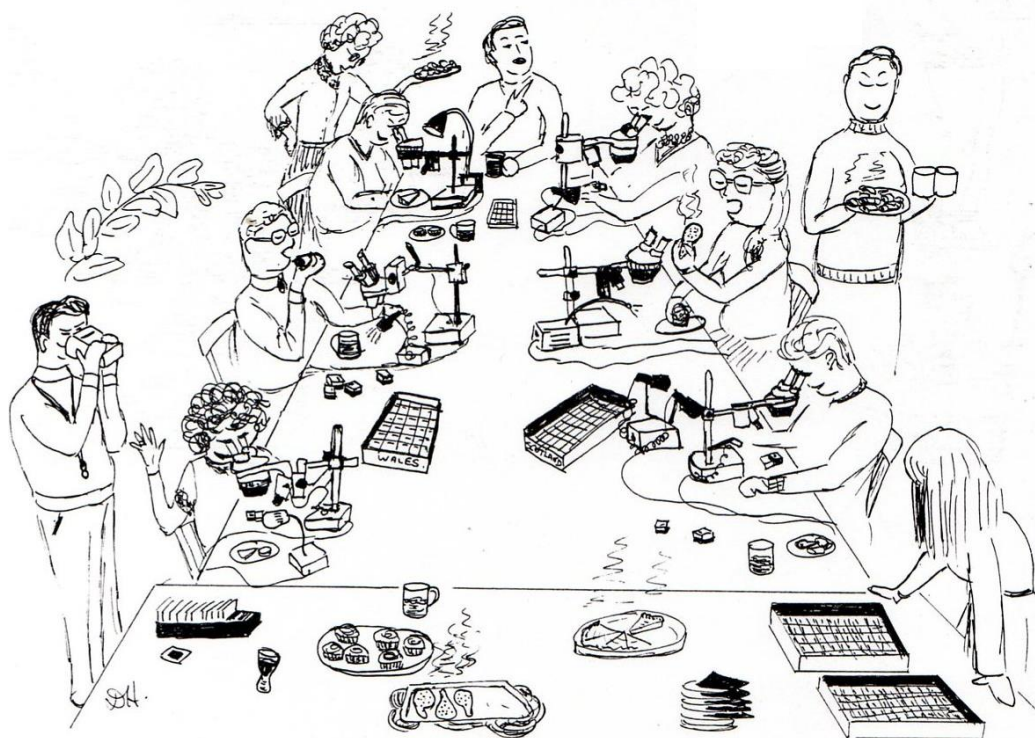
John and Pam Pearce spent 6 weeks in Australia staying with Brian and Elaine Axford

in Sidney (Brian was the SMLS treasurer before emigrating to Australia) They did the tourist things like visiting (and climbing) Ayres Rock and Kings Canyon in the centre of Australia and Kakadu Park in the north. On the mineral side they went to a mineral sale in the mining museum underneath the Sydney harbour bridge, collected agates from Agate Creek, collected thunder eggs and prehnite at Mount Hay in Queensland and took an overnight train from Sidney to Broken Hill in New South Wales. It was on an underground tour in Broken Hill that they met Terry Readman who over the years presented SMLS with our Best-in-Show competition trophy (see page 73) and donated 2 black Yowah opals from his Lady Luck Opal mine for SMLS to raffle. Each special raffle raised £300. Terry was made an honorary SMLS member in 1988 (see page 4).

Tony Lee recalled a trip to Munster in March 1996, and other mixed sightseeing/collecting trips have been recounted by Peter Moore – Corsica and Sardinia, Roger Kempen, Death Valley, California, USA, Bob Maurer, Bolivia, Caroline Mildenhall, Sri Lanka, Peter Hay – Iceland and John Stevens – Nova Scotia and Bancroft in Canada. The most memorable aspect of the Bancroft trip was John Stevens getting lost while on a field trip. You can imagine the terrain; dense forest and lakes with no land marks plus the possibility of bears and wild boars. After 2 hours the organisers were ready to break into John's truck and get sniffer dogs to track him, but fortunately John stumbled onto a nearby homestead and all was well. But Canadian mineral collectors still remember the "Englishman who got lost".

Mentioning ice (land) earlier recalls a fascinating article in Journal No. 118 entitled "All you need to know about glaciers! This records the exploits of Eric and Rita Snelling on a 1991 trip to Canada and Alaska, but the article is chiefly concerned with the properties of ice. The most pertinent fact to emerge from this is that after the end of the last 100,000 year Ice Age the Northern Hemisphere's temperature rose by 7 degrees in 50 years. There is nothing new on Earth!

MICROMOUNT STUDY EVENINGS SUSSEX BMS BRANCH



Daphne Hall's illustration of a micromount meeting held at the Merritt's home

SMLS hold two micromount study meetings a year originally organised and hosted by Dorothy Merritt (see Daphne Hall's cartoon above) and more recently by John and Daphne Hall. Members have the opportunity to view micromounts from the BMS reference collection and those from the Halls' extensive collection and more recently from the Merritt micromount collection donated to SMLS, as well as bringing along their own material. In 2007 the group became an official Sussex branch of the British Micromount Society (BMS).

John Hall has organised these evenings for some years and unlike most of the other BMS

branches around the UK, our sessions are highly structured based on a theme with John Hall obtaining micros from the BMS Reference Collection and writing detailed notes for each specimen to guide us. Themes have included minerals of one metal e.g.: copper and lead minerals, minerals from a chemical class such as carbonates; phosphates, arsenates and molybdates and zeolites and minerals from a particular locality: Cornish Minerals or minerals from the North of England. In 2012 John Hall prepared a very ambitious evening on the topic of **Getting to Grips with Crystallography** and some of his detailed notes are given below:

Species	Description
MAGNETITE	Shiny black octahedrons typical of this species. An octahedron is an eight-sided solid, with each face being an equilateral triangle. As is common in minerals a couple of crystals show asymmetric growth, with each group of four faces failing to meet in a point. But however much the crystal appears distorted the angle between adjacent faces remains the same.
PYRITE	Nice specimen of pyritohedral crystals, a common habit of pyrite, each crystal having twelve, five sided (pentagonal), faces. Like most isometric minerals they can easily be seen to belong to that system, as they appear much the same when viewed from any direction.
BOLEITE Sealed box	The lid on this box is sealed, as the specimen is rather vulnerable. This perfect cube seemingly proves that some specimens do occur as near-perfect crystals.

Details of just 3 of the 50 microminerals John described for the study evening

The meetings moved to the Redwood Centre (see photo below) and there are two meetings each year in March and October that are normally attended by around 12 members who arrive with their

stereomicroscopes and lights., They chat enthusiastically as they peer down their microscopes and compare notes. It provides a great learning opportunity.



Typical scene in the Redwood Centre Photo: John Hall

A real feel of our micromount study evenings was reflected by Helena Carter on her first attendance at such a meeting in October, 2112.

FIRST IMPRESSIONS

'Turn this knob to focus, this one to increase the magnification, shunt this light about so it shines on the specimen, and you're ready.' Mark Oddy's instructions gave me no idea of what I was about to see. I looked down the microscope, to a diminutive sample of aragonite, and gasped – a cluster of totally clear, fanned-out rays of crystal shone and lured me into the centre of the little mineral. I spent a good five to ten minutes revelling in the beauty of this one specimen, before moving on to the next, azurite.

This time, it was blue – royal blue crystals set in a cream matrix – again, colour, form, perfect beauty – was I going to be able to stand a whole evening of these wonderful sights?

I have been coming to Sussex Mineral meetings for about five years now – why did no-one ever say – **Come to the Micro-mount evenings – see what minerals are really like?** For several years I have been trying to make sense of all the information about minerals – fascinating talks, lovely displays (please do not touch), field trips, wrapping minerals for the tombola at the Show – all these things have given me an acquaintance with minerals – but not this exposure to a pirate's

treasure. Specimen after specimen I looked at – each as lovely as the last – each different, each fascinating, each reminding me of the stories of Indian emeralds, South African diamonds, the Crown Jewels, rubies from the eyes of Hindu gods, Treasure Island – for these tiny specimens, so carefully selected by John Hall, are actually jewels. Never having owned much in the way of gems, I was overwhelmed by what I saw on that Friday evening.

John has made a wonderful collection of micro-minerals, with details of each one, dividing them into families, giving locality where found, chemical composition, crystal form, and often the origin of the name. Quite a few I had never heard of – surprise, surprise. bayldonite, for example, consisting of small deep green balls, was named after John Bayldon, an English physicist, who collected the original specimens from Penberthy Croft Mine, St Hilary, Cornwall.

It is a lead copper arsenate hydroxide. This is just one example of the detailed effort that John Hall has gone to, making information interesting and available to members who take part.

I nearly panicked at the name of one specimen – cacoxenite – of course I had never heard of it. Through the magic microscope, I could see a rich collection of golden balls, opened up so they resembled tiny flowers – with a deep orange centre, surrounded by radiating acicular (needle-like) crystals.

Its descriptive name was – hydrated aluminium iron oxy-phosphate hydroxide. Really!

John has organised all the meetings with themed minerals. This time it was Iron, although as a complete beginner I was given introductory trays, six specimens in each, and details of each mineral typed neatly on a separate sheet to go with each of the trays. This was so for the trays of iron minerals used by the other, more experienced members. Were they there to improve their knowledge, or purely for the joy of seeing such lovely specimens? I must remember to ask, next time.

It's a lot of work to set up such an evening – John brings all the specimens, and everyone who owns one brings a microscope – large,

handsome stereo-scopes, and heavy! There are also all the electrics – lamps, adaptors, plugs, whatever else is necessary – the usual moving about of furniture – but once set up – off you go. So hopefully, after this last amazing Friday night, I may be able to remember a little, and the pleasure of seeing minerals looking like those fabulous photos in the Mineralogical Record will stay with me indefinitely. Many thanks for everyone's help and input. I'm only sorry that there are six months to wait for the next meeting.

Helena Carter

After that we cannot finish without a few photos of some microminerals. These photos (plus the chalcotrichite on the inner cover), were all taken, by John Hall



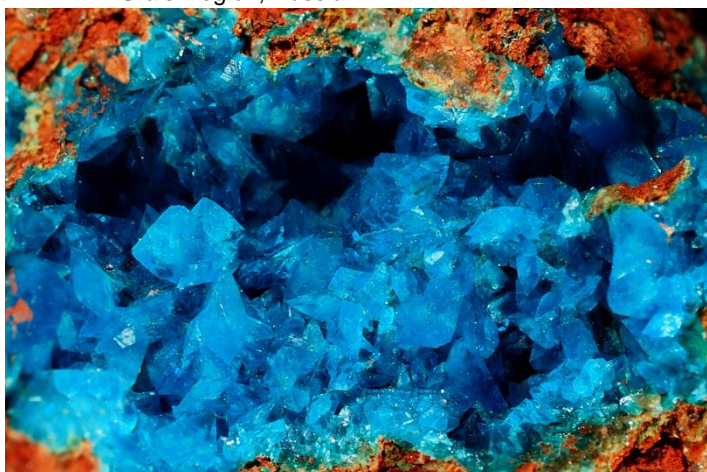
Boltwoodite 13mm FOV Goanikontes Claim, Arandis, Swakopmund District, Erongo, Namibia



Uvarovite 5mm FOV Saranovskii Mine Urals Region, Russia

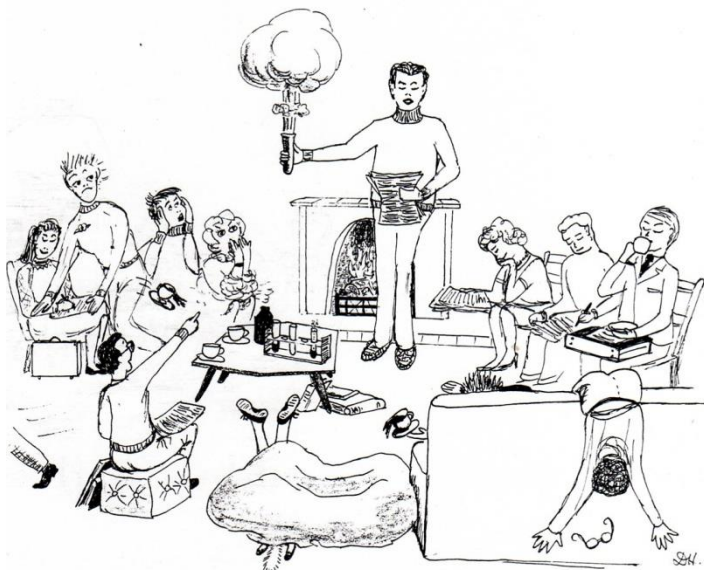


Torbernite 5mm FOV Blackpool CLP Trewoon, St. Austell, Cornwall



Liroconite 11mm Wheal Gorland, Gwennap, Cornwall

EDUCATION AND TRAINING



First chemistry course held in a member's home compounds, valency, chemical formulae, acids, bases and salts and, by the end of the course, recognised many minerals as simple chemical salts.

The Society has organised a number of internal workshops and training sessions for members over the years. The subjects have included Mineral Identification, Crystallography, Lapidary techniques and Chemistry for the mineralogist, all taught by various members. On the first of the chemistry courses (run on three Friday evenings), 22 members enrolled and at the second session this had grown to 25 members (that has to be a record!). It was clear that many of our members recognised the importance of chemistry to a mineral collector, but had received little or no formal training in the subject. The second chemistry course was led by three of our chemical members Roger Kemplen, Austin Woodbridge and John Pearce, based around a BMS Occasional Paper, ***Minerals Are Chemicals.***

Participants struggled valiantly with elements,



3 chemical leaders of the second course (left to right) Roger Kemplen, Austin Woodbridge and John Pearce



SMLS as students at the Royal Holloway College



David Alderton demonstrates how XRD works



Analysing our results

The Society has been fortunate to benefit from the expertise in mineral identification techniques of David Alderton at the Royal Holloway College. He has twice invited members to bring unknown minerals to the College to be identified by E.M. (Electron Microscopy) and XRD (X-ray Diffraction) techniques.