



**The newsletter of Malvern USA Geology Group
November 2016**

The Leader

Well it was lovely to see so many of you at our first monthly meeting of the year. The attendance was enormous and hopefully will continue throughout the winter series. I'm afraid that our talk by Rosemary Dartnall was much too technical for most of us and I count myself in there! This is particularly problematic for me as the one valiantly trying to do the write up! Never the less, our thanks go to Rosemary for giving of her time; she has been a wonderful trip leader for us in the past, so it was such a shame that she pitched her talk at too higher a level. Please don't let it put you off attending our remaining talks, it really was an anomaly.

Many thanks to all of you who completed our group survey. We have had over 70 responses and they have provided very useful feedback on our programme as well as identifying a number of you who would be prepared to help in the running of the group. The Steering Committee will be considering the results at our meeting next week and I hope to be able to provide some initial feedback at the November meeting.

A number of new members have asked me about the activities of our sub-groups, of which we currently have four – see contact details at the end of the newsletter. The activities of the sub-groups are not managed centrally; they are very much left to their own devices as to how they organise and construct their programmes. Everyone in the group is welcome to join any of the sub-groups. If you want to know more about any of them and/or attend a meeting, please get in touch with the respective sub-group contact.

Do you know about the OU programme called OpenLearn? Some of you may, but I only discovered it recently. There are hundreds of free on-line course available in a wide variety of subjects. This link - <http://www.open.edu/openlearn/science-maths-technology/science/geology> - takes you to the geology section. The shorter courses vary in length from a few minutes to a few hours – why not try one? I'm doing the one on Plate Tectonics and am greatly enjoying it.

A few of you have reported difficulty in opening the various documents that we circulate, particularly the .docx Word files. If you are interested, there are a couple of free applications available for download to help overcome such problems. These are:

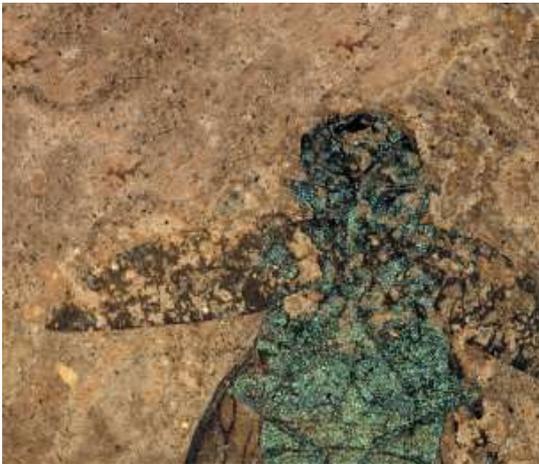
- [Apache OpenOffice](#)
- [LibreOffice](#)

The Messel Pit

This remarkable site was given a brief mention in last month's special edition; but such is its importance, it seemed reasonable to give you some more information about it. Here is an outline description.

It may be hard to believe now, but back in the mists of time the area around Darmstadt consisted of a volcanic lake surrounded by a tropical forest. The result is that the Messel Pit offers a particularly bio-diverse window into life in the Eocene period. The oil shale hides a wealth of excellently preserved fossils whose diversity and quality is simply unparalleled. These include more than 100 plant species, 8 fish, 31 reptile, 5 amphibian, more than 50 bird and more than 30 invertebrate species. Exhibits of particular interest are the various mammals, especially the remains of prehistoric horses such as the Eurohippus, which would have fitted comfortably in a shopping bag. So far, more than 30 complete skeletons have been recovered. Preserved stomach contents and soft tissue samples even provide information about diet and lifestyle. The pit can be visited as part of regular group tours. A visitor and information centre on the edge of the pit opened in August 2010

Here are a few photographs of specimens recovered from the site, which was destined to become landfill – fortunately its quality was recognised in time and it is now a UNESCO World Heritage Site.



At the risk of being provocative, well OAT/Fossils sub group, what about this?

<http://whc.unesco.org/en/list/720>

Rock of the month

Like Excalibur pointing out of the stone, awaiting King Arthur to extract it, a 13cm spear of

deep blue tourmaline has intergrown with a quartz crystal in the cooling remnants of a boron rich granite (the latter being an essential component of this mineral. The whole piece measures 18.5 x 11.0 x 10.0 cm and was mined in the pegmatite fields of Minas Gerais in Brazil.



Joe Budd/Rob Lavinsky/iRocks.com

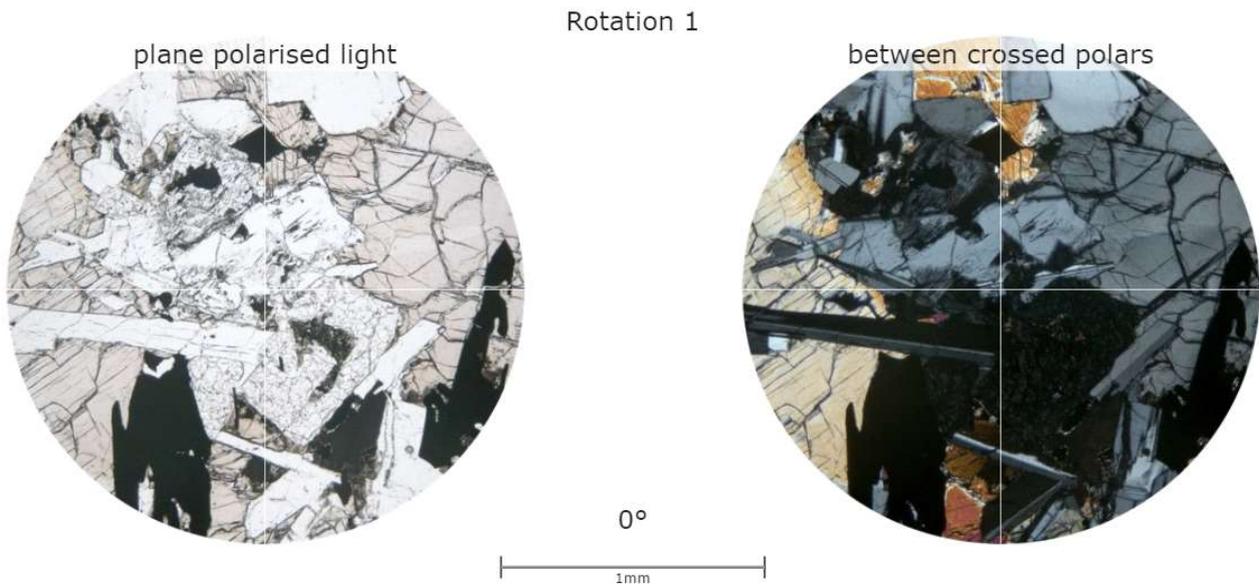
Microscopes

Are useful things, which is why we purchased one for the Group. We did deliberate about buying a polarising microscope – the type used to examine very thin sections of rock, but decided against it. So it was quite useful to come across a website that fills the gap, it is entitled **Virtual Microscope**. Just to give you a taster, here is an image of a rock from the Apollo 11 moon mission.



This is a piece of ilmenite basalt returned by Apollo 11. In the next images we can see two

thin sections of this rock, which to the experienced eye, reveal its composition.



On the website you can rotate the polarisers and see the changes in colour and shade that help reveal individual crystals. If you would like to roam around this website then please follow the link:

<http://www.virtualmicroscope.org/content/uk-virtual-microscope>

Don't forget that you can loan our binocular microscope by contacting Geoff Carver/Margaret Rodway/Alan Gray (in that order).

And how about this for spectacular?



This is the Mexican volcano, Colima, which has been erupting all summer. In the late Pleistocene era, a huge landslide occurred at the mountain, with approximately 25 km³ of debris travelling some 120 km, reaching the Pacific Ocean. An area of some 2,200 km² was covered in landslide deposits. The currently active cone is situated within a large [caldera](#) that was probably formed by a combination of landslides and large eruptions. About 300,000 people live within 40 km (25 miles) of the peak, which makes it the most dangerous volcano in Mexico

And by way of a complete contrast

There is a family interest here for our Editor. His late father in law was a keen caver and was the discoverer of a new cavern in the Dan yr Ogof cave complex and subsequently named Wigmore Hall in his honour.



The library

Elizabeth Staley our library guru and resident bookworm wants your body, well more probably your mind. She writes:

“As you probably know, we display some of the library books, maps and guides at each monthly meeting. Do have a look, and borrow any that interest you.

There are many more items that we do not have room for on the table. So if you are looking for material on a particular subject or region, please ask us. Also you can refer to the on-line catalogue on the Malvern U3A site.

Do make the most of your library!”

Calendar

October	31	Steering Committee meeting
November	2	New Members - Rocks, minerals and fossils
	9	Monthly Talk: Ancient Subduction Zones in the UK
	23	New Members - Tank Quarry and Whitman's Hill Quarry
	30	New Members - Gullet Quarry
December	7	New Members - Building Stones of Worcester
	14	Monthly Talk: Historical Large Scale Volcanism and Future Risks
January	11	Monthly Talk: East African Rift Valley
February	8	Monthly Talk: Use of Stalagmites in Geology/The Anthropocene
March	8	Monthly Talk: What's Underneath a Volcano?
May	5	South Wales (until 9 th)
September	19	Brittany (until 28 th)

Who's who?

Steering Committee

James Berry	01684 560334	zostera66@hotmail.com
Geoffrey Carver	01684 560749	geoffrey.carver@btinternet.com
Hilary Edgeley	01386 462725	hilary.edgeley@btopenworld.com
Robert Eveleigh	01531 632947	eveleigh.r@gmail.com
Mary Geffen	01684 561890	mary@geffen.plus.com
Dick Harris	01886 880699	richardlangleyharris@gmail.com
Roger Hunt	01684 565926	rmrhunt@sky.com
Richard Newton	01684 565626	richard@renewton.plus.com
Maggie Smith	01684 567278	maggietoshsmith@gmail.com

Subgroup contacts

Fossils

Christopher Wright 01905 20920 cnw48@hotmail.com

Landscape Appreciation

Raphael Bate 01684 573882 randhbate@gmail.com

Maps

Mary Geffen 01684 561890 mary@geffen.plus.com

Plate Tectonics

Dick Harris 01886 880699 richardlangleyharris@gmail.com

Newsletter

Geoff Carver

01684 560749

geoffrey.carver@btinternet.com

Library

Elizabeth Staley

01684 574392

js@cmail.co.uk

Group website

Malvern U3A Geology



<http://geology.malvernu3a.org.uk/>