



THE HIGHLAND GEOLOGICAL **SOCIETY**

Scottish Charity No. SC004427

JUNE 2015

Dear Members,

Many of you will have seen Alan's email informing members of the sad death of Dr Peter Webster, following a short illness. Peter was a stalwart supporter of the society and gave liberally of his time and expertise, acting as Treasurer for many years. Peter's friends and family have made a very generous donation of £500 to the society – the best way to utilise this bequest will be discussed at the next committee meeting in September; please contact Alan if you have a suggestion that you would like to put forward for consideration.

There is still time to sign up this month's fieldtrip – please email Martin at the address below if you would like to join the group.

This newsletter also gives the date of our winter meetings for 2015/16 – please note that there are **two** events on 17 February!

20 June – Ben Wyvis – Martin Hind

Meet near Garve at 9.15 am. Meeting place to be given out at time of booking

Day trip to explore the evidence for glaciation on Ben Wyvis with Highland Countryside Ranger, Martin Hind. This event will also be open to members of the public **so pre-booking is essential** to ensure that an appropriate leader:participant ratio is maintained - you cannot just turn up on the day. Please email Alison ASAP to secure your place. The walk is 14 km (8.75 miles) over fairly rough terrain and involves an ascent of over 900 m; there is an easy climb on paths through the forest initially, followed by much steeper ground on the path ascending to An Cabar.

12-13 September – Loch Monar and Loch Hourn – Eddie Lynch

Meet at the car park just before the Gatehouse at Inchmore west of Struy Bridge (NH 395 406) at 9.15 am.

We will view the classic exposures at the Lochiel Dam, working our way back along the Glen throughout the day. Excursion 8 of the Moine Guide (2010) has the details of the localities we will try and visit, which includes spectacular fold interference structures as a result of polyphase deformation as well as the Sgurr Beag Thrust traverse and possible basal conglomerate locality. We will also see Morar and Glenfinnan Group meta-sediments and Lewisianoid basement inliers and hopefully visit the graphite mine, subject to time and weather conditions.

We plan to eat at the Cnoc Hotel on completion of the day's activities – please let Alison know if you would like to join the group as we will need to pre-order dinner.

On Sunday, meet in the car park at Invermoriston (NH 421 167) at 9.30 am.

Again, please let Alison know if you will be attending on the Sunday only in case our plans change! We will look at a road cutting just west of the car park before driving westwards and having a couple of road cutting halts on the way to Bun Loyne junction where we will turn south and then

west along the Kinloch Hourn road. Excursions 4 & 5 of the Moine Guide (2010) have locality details. Priority will be given to the Loch Quoich shore and dam area and we will go to see Sgurr Beag Thrust zone at Kinloch Hourn if we have time. Again lots of spectacular folds and re-folded folds to be seen as well as curvilinear sheath fold varieties. We will also see appinite, microdiorite, abundant pegmatite and West Highland Granitic Gneiss.

10 October – Scatwell Mica Mine, Strath Conon – Martin Hind

Meet at the Luichart Power Station, Lower Scatwell past Loch Achilty (NH 393 571) at 10am

An opportunity to visit the rock quarries and spoil heaps associated with the mica mine, which was active during the Second World War. This event will also be open to members of the public. Please let Alison know if you will be able to join this excursion so that Martin can effectively manage participant numbers.

WINTER PROGRAMME 2015-16

4 November *Exploring Chile's volcanoes - Quetrupillán and Llaima*, Dr Dave McGarvie, Open University in Scotland

Quetrupillán volcano is the middle volcano in a chain of three volcanoes, and its neighbour to the west (Villarrica) had a decent eruption on 3 March 2015. At the time Dave was camping in heavy rain and thick cloud on the flanks of Quetrupillán, so didn't hear the ash falling on the tent; next morning it was obvious that an eruption had happened, so he climbed the c.300 m ridge between the camp and Villarrica to get a good view of aftermath of the eruption. The special feature of Quetrupillán is that instead of exerting energy in producing a nice and neat cone-shaped volcano, it has a rather scraggy main cone (with no head) in the north and a dispersed and fault-controlled volcanic field in the south. This dispersed volcanic field preserves excellent examples of ice-confined lavas, which is the main focus of Dave's research. He also had the opportunity to do a recce with US colleagues on another of Chile's largest and most active volcanoes - Llaima - which last erupted in 2008. This volcano has twin summits, and from summit to flank is dominated by young (Holocene) lava flows, some of which have dammed rivers to create beautiful lakes. From this volcano also emerged a massive explosive eruption c.13,200 years ago which produced an unusual and far-travelled ignimbrite. Dave has previously shared details of his fieldwork with the society and this promises to be another lively and interesting talk.

9 December *The Adventures of a Baby Geologist in Hawaii*, Rhona Fraser, HGS

This talk will describe the OUGS trip made by a group of baby geologists (with some very tolerant grown-up ones) to the Hawaiian chain in May 2014; the excursion started with a visit to O'hau (of Pearl Harbour fame) and ended on the 'Big Island' Hawaii. Unsurprisingly, black igneous lithologies make up the islands but the highlight of the trip was an interesting black rock with large bits of green (and some white) crystals. In places the sand is also green and Rhona promises lots of nice pictures for a dark December evening!! .

13 January *The Work of Matthew Forster Heddle*, Hamish Johnston

Hamish, author of the new - and first - biography of Matthew Forster Heddle will talk about hitherto unknown aspects of Heddle's life, describing his exploration of the Highlands and Islands and his related published work. This includes his *County Geognosy* series of papers (from Shetland to Sutherland), his role in uncovering the geological puzzle of the North-West Highlands, and his maritime expeditions.

Matthew Forster Heddle: Mineralogist and Mountaineer has now been published by National Museums Scotland Enterprises (ISBN 978 1 905267 98 9) at £14.99. The book is a nicely produced paperback of 270 pages, with 50 colour illustrations, plus black-and-white illustrations in the text. All profits from the book go to the Museum, which holds Heddle's great mineral collection.

17 February

2.00 pm The Inverness Museum Geological Collections

Cait McCullagh, Curator (Collections Engagement), Inverness Museum & Art Gallery

Inverness Museum holds several collections of rocks and fossils, of which only a small part is on display at any time. During the visit Cait will explain how the Museum looks after and displays these collections and some of the challenges it faces. She will also have available a sample of interesting rocks and fossils for us to examine hands-on and discuss. Bring your hand lens!

7.30 pm AGM followed by:

The Lost Zircons of Upper Badcall: A New Discovery in Old Rocks, Andy Moffat, HGS.

Andy's talk will explain what zircon is and describe a former uniquely accessible zircon occurrence near Upper Badcall, Scourie in NW Sutherland. The zircon was present as well formed distinctive pink crystals and, unlike most UK zircon, was easily visible to the naked eye. The crystals were hosted in Lewisian ultrabasic rocks occurring within the gneiss. There were attempts to have the site protected as a SSI through SNH but the wheels of bureaucracy ground very slowly and after several months no progress was made and by then it was too late. As news of this discovery spread and, despite the remote location, professional mineral collectors rapidly stripped the site with specimens subsequently appearing on eBay and other online mineral selling websites. A number of specimens will be on display at the talk and a short-wave ultraviolet fluoroscope will reveal the striking yellow fluorescence of the zircon.

2 March *Minerals and Gems of the Cairngorms*, Roy Starkey

The Cairngorms are the most extensive area of high mountain terrain in Britain. The area has given its name to gem quality smoky quartz, but has also produced spectacular specimens of beryl and topaz. In Victorian times, hunting for crystals was both a popular pastime and a "cottage industry", but nowadays the area is a National Park and few fine specimens have come to light in recent years. In 1811 it was reported that these "Cairngorm Stones" were so much sought after, that a number of the inhabitants, not only of Aberdeenshire, but of the counties of Perth and Inverness, flocked to these mountains, in whole families, during the summer season, in quest of gems; and purchasers from London, who were well acquainted with their value, came frequently to buy the precious stones from these poor people. The profits of the finders or miners were extremely variable because the success rate was relatively low. Huge amounts of effort were expended in the search and records suggest that by the early 1800s, the Cairngorm diggers had already trenched more than twenty acres to a depth of from five to six feet. It is a recorded fact that Queen Victoria ascended Beinn a' Bhuid on 6 September 1850 and collected specimens of Cairngorm quartz. This talk will review the fascinating history of "Cairngorm stones", illustrated by images of notable specimens and explorations over the past 25 years or so.

13 April *A Geologist's Perspective of the Role of the Highlands and Islands in Hydrocarbon Exploration and Production*, Jim Ritchie, Subsurface Director, Speedwell Energy Ltd, Aberdeen

Major engineering facilities in the Highlands and Islands provide visual evidence of the impact of the oil and gas industry in the region. Examples include the platform fabrication yards at Ardersier, Kishorn and Arnish Point on the Isle of Lewis, the exploration rig maintenance yards at Invergordon and Nigg with mobile rigs lined up in the Cromarty Firth and, further north, the oil terminals at Flotta and Sullom Voe, as well as the subsea production and control bundles fabrication facility at Sinclair's Bay. What is perhaps less well known is the important contribution of the Highlands and Islands to the understanding of the subsea geology in the Moray Firth, North Sea and Atlantic Margin. The consequent successful exploration for, and development of, oil and gas in these areas continues to be very important to the economy of Scotland and the UK. Jim's talk will give some examples of applying outcrop studies to the offshore environment and will also describe some

onshore hydrocarbon exploration and development activity. There will also be a description of the components needed for a working petroleum system, which is essential for successful hydrocarbon exploration.

Winter meetings take place at 7.30 pm at Millburn Academy (Diriebught Road, Inverness, IV2 3QR). All events are subject to confirmation by the school's Rector but we are optimistic that these dates will stand! Evening meetings are charged at £2 for members and £3 for non-members.

If you would like to join the committee for dinner before any of the meetings, please let Alison know – all welcome!

Other information:

The Friends of Hugh Miller

The latest newsletter from the Friends of Hugh Miller is available on-line at:

<http://s3.spanglefish.com/s/27844/documents/newsletters/newsletterspring15.pdf> or contact Martin Gostwick at mgostwick@gmail.com to be added to the mailing list. The HGS is affiliated to the Friends of Hugh Miller, which is a charity committed to celebrating and promoting the legacy of this great pioneering Scottish geologist.

NW Highlands Geopark

For news of the latest developments in the NWHG, including the programme for day trips in the summer season ahead, please see: <http://www.nwhgeopark.com>. There are 2 geology based tours in August and September and the Rock Stop Geocentre is open 7 days a week.

Lochaber Geopark

Sign up to receive newsletters direct from Lochaber Geopark at: info@lochabergeopark.org.uk

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