

THE HIGHLAND GEOLOGICAL

SOCIETY

Scottish Charity No. SC004427

MARCH 2016

Dear Members,

Many thanks to everyone who has already paid their membership subscriptions - Rhona will be happy to accept monies from anyone who is yet to renew for the coming year! Also thank you to the many members who attended the AGM (and Andy's excellent talk) last month. The AGM is an important event in the society's calendar: the relevant reports have been accepted by the Scottish Charity Regulator and we thus remain in a secure position financially and legally.

The penultimate lecture takes place this week and I am pleased to confirm that we have a speaker for the April meeting (details below); this newsletter also contains more detail of the excursion to Skye next month, plus further dates for your diary!

WINTER PROGRAMME 2016

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' Bhuird 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 Deep and Shallow Time in the North West Highlands Geopark, Peter Harrison The North West Highlands Geopark is one of 100 sites globally endorsed by UNESCO; as a member of the European and Global Geopark Networks, the NW Highlands Geopark aims to promote the geological heritage of the area in a sustainable manner. Peter will outline the unique nature of the geology to be found within the park and discuss some of the ways in which the area is managed. The Geopark has recently renewed its affiliation with the network, an undertaking which involves close scrutiny of the management plans, and Peter will outline some of the ways in which members can support the endeavours of the organisation.

Meetings take place at 7.30 pm at Millburn Academy (Diriebught Road, Inverness, IV2 3QR) and 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.

SUMMER PROGRAMME 2016

Saturday 9 April to Monday 11 April – Skye, Dr Iain Allison (University of Glasgow)

Saturday: Meet at Broadford Visitor Information Centre at 1 pm (IV49 9AB)

From here we will drive to Elgol and walk the coastal section north and south of the village (see Bell & Harris, *An Excursion Guide to the Geology of the Isle of Skye*, excursion 3, pp 168-175). We will look at the Middle to Upper Jurassic sedimentary rocks and their internal structures, in particular the Bearreraig Sandstone with its spectacular cross-bedding. We shall also look at the relationships between the sedimentary rocks and the Palaeogene igneous rocks. If there is time left we may stop at Kilchrist on the way back to Broadford and look at the old marble quarry and the contact with the Beinn an Dubhaich granite where scarns are developed.

Sunday: Meet at the Sligachan Hotel at 9.15 am (IV47 8SW)

We will drive north from Sligachan and follow parts of Bell & Harris's excursions 18, 20, 21 and 22. The first locality will be Bearreraig Bay for middle Jurassic sedimentary rocks. We will examine the Palaeogene lavas at either Storr or the Quirang. A brief stop at the Kilt Rock will be followed by the Staffin Bay section and the possibility of seeing dinosaur footprints. If time permits we will drive round to the west side of the Trotternish peninsula to near Duntulm Castle to examine the Great Estuarine Group. Return to Sligachan.

Monday: Meet at the Sligachan Hotel at 9.15 am

This will be a half-day excursion: options will be dependent on the weather and the interests of the group so can be finalised the day before:

a) Walk from the hotel south up Glen Sligachan between Marsco and Sgùrr nan Gillean to examine the variety of granites at the margins of this Western Red Hills sub-volcanic complex.

b) Road-side localities at Moll (Maol Ban) on the coast road south – granites and hybrid rocks of Western Red Hills Centre.

c) Composite sill at Rubh' an Eireannaich at Broadford.

- d) Broadford Beds in Broadford Bay
- e) The marbles at Kilchrist (if not seen on Saturday)
- f) The Torridon Sandstones just east of Kyle of Lochalsh.

We will be based at Sligachan – please book direct with either the hotel (01478 650204) or with the bunkhouse (0781 085 7683) or arrange your own accommodation elsewhere if you prefer. There is also a campsite at Sligachan; more information available at: http://www.sligachan.co.uk/sligachan-hotel.php

It would be helpful if you could let Alison know if you are coming on this excursion (either for the weekend or just a day). Dinner will be provided at the hotel on both Saturday and Sunday evenings at 7.30 pm. **Please confirm with Alison if you plan to join the group for dinner.** We will eat in either the restaurant or the bar (the menu is the same) to best suit the size of the party and/or the hotel staff.

Saturday 11 June – Sunday 12 June – Banffshire coast, Dr John Mendum (BGS)

Programme details again are still to be finalised but this weekend will be based in Cullen and will allow us to explore some of the Dalradian rocks along the Banffshire coast.

Sunday 7 August – Duntelchaig, south of Inverness, Ann Reynolds (HGS)

Saturday 3 September – Sunday 4 September – Tayvallich volcanics, Dr Roger Anderton

This excursion will be based in Lochgilphead to allow us to look at the upper part of the Argyll Group (Craignish Phyllites, Crinan Grits, Tayvallich Limestone and Volcanics) which provides varied stratigraphy and sedimentology, volcanics, and interesting tectonic structures. There is also some fascinating Quaternary geology to see, including moraines, outwash, sea level, and periglacial features, as well as noteworthy geoarchaeology.

It is also hoped to have an excursion in early October; plans are already in place for the start of the 2016/17 winter programme so details given below to ensure your early availability!

WINTER PROGRAMME 2016

9 November – 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.

7 December – *The real mineral resources of the UK*, Professor Peter Scott, Peter W. Scott Ltd. and Camborne School of Mines, University of Exeter

Rocks and minerals mined or quarried in the UK provide many of the raw materials for our basic industries. Those currently extracted include sand and gravel, limestone, dolomite, sandstone, igneous rocks, silica sand, gypsum, potash, salt, china clay, ball clay, common clay, building and dimension stone, slate, fluorite, barite, and talc. They are worth about £2.5 billion to the UK economy and provide around 20,000 jobs at about 2,000 sites of extraction. Processing and manufacture into mineral-based and other products that contain one or more of these minerals add considerably more value and gives even more employment. By contrast, metal ore extraction in the UK in recent years was worth about £1 million, although this will increase with a new tungsten mine now on-stream in Devon. The lecture will describe the geological features of some of the minerals that were once extracted in the UK and discuss the geological problems in extracting some of the present ones.

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