



# THE HIGHLAND GEOLOGICAL SOCIETY

Scottish Charity No. SC004427

**AUGUST 2018**

Dear Members,

Please let me know if you are planning on joining either of our remaining excursions this season – the summer seems to be passing remarkably quickly! At the end of this newsletter you will find advance information regarding the 2019 fieldtrip programme. The society has exclusive use of Glebe Barn on Eigg 14-18<sup>th</sup> April next year and we also plan to visit Assynt 10-14<sup>th</sup> May, using the Inchnadamph field centre as a base (exact timing within that window to be agreed).

This newsletter also contains remaining dates and more details about the forthcoming winter talks so please add this information to your diaries.

## **SUMMER PROGRAMME 2018**

**Saturday 11<sup>th</sup> August**, *Shaping the NE Highlands – the view from Ailnack Gorge*, Prof. David Macdonald, University of Aberdeen

*Meet at 9.30 am at the Museum and Visitor Information Centre, The Square, Tomintoul*

We plan to leave as many cars as possible in Tomintoul before moving to the Delnabo car park.

Ailnack Gorge is sometimes called “Scotland’s Grand Canyon”. While this is more than a little overblown, it is certainly an impressive erosional feature, stretching 2-3 km and reaching depths of almost 100 m. The gorge is the product of glacio-fluvial erosion in the waning stages of the last glaciation, but more importantly it provides a window into the evolution of the landscape of the eastern Highlands. The Caledonian unconformity between Dalradian metasediments and Old Red Sandstone conglomerates is spectacularly displayed and it is obvious that the sedimentary rocks buried pre-existing relief on the unconformity surface.

We will study the unconformity, the underlying metamorphic rocks, and the overlying strata and trace the unconformity through the landscape. From the geological maps of the area it is obvious that the rounded hills of Abernethy, Cromdale, and east to the Ladder Hills and The Cabrach owe their existence to the shape of the unconformity surface rather than to glaciation. In fact the subtitle of this excursion could be “Ice – it’s a bit rubbish, isn’t it?” At least, that is David’s conclusion – come along and see if you agree!

Most of the walking will be on tracks but there is some rough going over heather moorland with an optional descent into valley bottom. The total distance covered will be no more than 10 km.

**Saturday 1<sup>st</sup> September to Sunday 2<sup>nd</sup> September** – *Achiltibuie and Coigach*, Pete Harrison, NW Highlands Geopark

This excursion will run as part of the NW Highlands Geopark Geofestival which runs from April to October. The detailed itinerary has yet to be agreed but broadly will be:

**Saturday:** Achiltibuie itself, Achlochan for the Stour/Lewisian unconformity and the Torridon/Stoer unconformity, the shore at Achiltibuie to see the Stac Fada member and then to Cnoc Mor to see the Lewisian in more detail and the Lewisian/Torridon (Diabaig) unconformity in 3D.

**Sunday:** Start at Enard Bay and then visit one or two other sites (possibly Reiff, Badentarbat, Achininver, Dornie, or Achduart).

The group will be based in Ullapool for the weekend as Pete has very kindly offered us the use of the high-school minibus, which will simplify the logistics, although it will add travel time to the programme. Of course, if you wish to stay in Achiltibuie (or elsewhere in Coigach) that is absolutely fine! (See <http://coigach.com/directory/category/b-and-b/> for ideas).

## **WINTER PROGRAMME 2018 – 2019 (more details and other dates to follow)**

**10<sup>th</sup> October** – *Jurassic Mammals of Skye and their Ancient Freshwater Ecosystem*, Elsa Panciroli, National Museums Scotland and University of Edinburgh

The Jurassic limestones of the Isle of Skye contain the fossil remains of ancient mammals, lizards, turtles and crocodiles. These were part of a thriving freshwater ecosystem during the ‘Age of Reptiles’ in Scotland. Elsa’s talk will look at the latest research being carried out on these internationally significant fossils, and discuss what this tells us about Scotland’s place in the wider Jurassic world.

**7<sup>th</sup> November** – *The Caledonian Unconformity*, Professor David Macdonald, University of Aberdeen

The Caledonian Orogeny marks the starting point of the evolution of the Scottish Highlands. There is debate as to the level of erosion that the Highlands have experienced since the Devonian and thus the extent to which the Highland landscape reflects the Caledonian events. David will explain how fieldwork and modelling have shown that the Caledonian erosion surface is a good indicator of the present-day surface, suggesting that the Highlands are an exhumed landscape, and thus that there has been limited denudation of basement rocks since the end of Devonian.

**5<sup>th</sup> December** – *Seychelles – a Unique Microcontinent*, Dr Alan Crane, University of Aberdeen

Recent research shows that the granitic rocks of the Seychelles microcontinent formed in an Andean-type tectonic setting whilst situated on the margin of the late Proterozoic Rodinia supercontinent. Subsequent tectonic plate breakup and reorganisation placed Seychelles within the Gondwana supercontinent but along what was to become the boundary marking the c.170Ma split between East and West Gondwana. At this time Seychelles lay adjacent to India and was part of East Gondwana as it separated from Africa, but by c.56Ma Seychelles had rifted from India and become part of the African plate. Spreading-ridge jumps and mantle plumes have played significant roles in the plate tectonic development of the Seychelles microcontinent resulting in its ever increasing isolation and separation from other continental masses during the last 56My. Unique Seychelles flora and fauna have developed as a consequence of this isolation within the Indian Ocean.

The evening session will include an illustrated talk outlining the plate tectonic development of the Seychelles microcontinent, followed by a DVD illustrating some of the landscapes and unique flora and fauna of Seychelles.

**23<sup>rd</sup> January** – *The Parallel Roads of Glen Roy*, David Jarman, HGS

Glen Roy is one of the most important sites in Britain for Quaternary geology. It is famous for its three Parallel Roads, which were visited by the Swiss pioneer of the glaciation theory, Louis Agassiz - who saw some of the first evidence for ice shaping the Highlands here - and by Charles Darwin, who misinterpreted them as marine benches. David will discuss briefly how the three Parallel Roads formed as ice-dammed lake shorelines, and how they have been governed by overflow cols at different levels into the Spey headwaters. He will also show how the densest cluster of Rock Slope Failures (paleo-landslides and slope deformations) in the Highlands line the whole glen and consider the ‘recent’ evolution of Glen Roy as a major glacial breach of the Highland paleodivide. Breaks and tilts in the Roads were originally described as ‘blocky isostatic recovery’ after deglaciation (Sissons & Cornish, 1982, *Nature*), but David re-interprets this data as rare geodetic evidence for valley rebound after intense erosion in such a breach.

## **20<sup>th</sup> February – AGM and Members’ Rock Night**

Please come and support our Annual General Meeting – this is an important activity in showing that we continue to comply with Scottish Charity regulations. If you are interested in joining the committee, either as an office bearer or member, please contact Stephen (details below) for more information.

Following the AGM, HGS members and mineralogist Michael McMullen will be on hand to help identify those specimens that you picked up somewhere along the line but can’t remember where or why!

## **27<sup>th</sup> March – *An introduction to the Geology of Eigg*, Dr Angus Miller, EGS and Geowalks**

(<http://www.geowalks.co.uk/index.html>)

The small Hebridean island of Eigg displays a fantastic variety of geology in a beautiful setting. Hugh Miller made some remarkable discoveries here in brief visits in the 1840s. The north and east coast of the island expose Jurassic sedimentary rocks with close affinities to Skye - as well as Miller’s famous plesiosaur fossils, dinosaur bones have recently been discovered. While most of the rest of the island is Palaeogene basalt lava flows akin to Skye and Mull, the last known volcanic episode in this area created the unique pitchstone ridge of the Sgurr. A recent reinterpretation of its formation gives field parties plenty to speculate about!

## **SUMMER PROGRAMME 2019**

### **14<sup>th</sup> – 18<sup>th</sup> April, *The Isle of Eigg*, self-led**

\* NOW BOOKING!\*

The HGS has booked the Glebe Barn hostel for our exclusive use from Thursday 14<sup>th</sup> to Saturday 18<sup>th</sup> April. This excursion will be self-led but the recent publication of a new guidebook\* means that we will be able to put our time on the island to good use. The geology is varied (see Angus Miller’s abstract above) and readily accessible so please come along and join us!

More information about the Glebe Barn is available at: <http://www.glebebarn.co.uk/hostel/hostel.html>  
The hostel is self-catering but previous trips have shown that this arrangement works very well. Supplies can be ordered in advance from the shop so we won’t have to carry everything with us.

A deposit of £50 is payable on booking, either by cheque or BACS transfer (email Alan Thompson for details).

\*Hudson, J.D., Miller, A.D & Allwright, A. 2016. *The Geology of Eigg*. Edinburgh Geological Society. ISBN-13: 9780904440164

Available from the EGS: <http://www.edinburghgeolsoc.org/publications/geological-excursion-guides/#eigg>  
Price £7.50 for non-members; £6 for members.

### **10<sup>th</sup>-14<sup>th</sup> May, *Assynt*, Prof. Ian Parsons, University of Edinburgh/Lochaber Geopark**

\* Register your interest ASAP\*

This trip is likely to be 3 full-days in the field (Friday-Sunday) or possibly Friday lunchtime to Monday lunchtime, depending on participants’ availability. The group will be based at the Inchnadamph field centre but we will use the private rooms rather than the hostel dorms (<http://www.inch-lodge.co.uk/index.html>).

Please let Alison know if are interested in joining this excursion so that we can make suitable arrangements with the field centre.

**OTHER NOTES OF INTEREST:**

**Aberdeen Geological Society Annual Excursion:** The AGS are holding a weekend excursion 24<sup>th</sup> – 26<sup>th</sup> August to a range of localities in Aberdeenshire, Moray and Rosshire covering the Lower Devonian to the Triassic of Scotland. These are areas that former AGS President Professor Nigel Trewin studied extensively and this trip is dedicated to his memory. If you are interested in attending, please contact Sidney Johnston, the AGS Excursion Secretary: aagf29@ukgateway.net

**Glasgow Geological Society:**

Neil Clark from the Hunterian Museum and GGS has made a discovery of dinosaur footprints in a completely new locality, possibly on the Moray Firth, but the location is being kept secret for now. He is trying to obtain funding to complete a drone map of the area before publication. You can support his fundraising efforts at: <https://www.justgiving.com/crowdfunding/scottish-dinosaurs>

**Friends of Hugh Miller:** You can read the winning entries in the Hugh Miller writing competition in the latest edition of Hugh's News:

<http://s3.spanglefish.com/s/27844/documents/newsletters/newsletteraugust18.pdf>

**The Northwest Highlands Geopark:** The NWHG Geoheritage Festival is running until the end of October. You can keep up-to-date with events at: <https://www.nwhgeopark.com/events/> or email: [pete@nwhgeopark.com](mailto:pete@nwhgeopark.com) to be added to their mailing list.

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