



THE HIGHLAND GEOLOGICAL **SOCIETY**

Scottish Charity No. SC004427

Dear Members,

JUNE 2014

Following the fantastic weather we experienced on both Skye and Mull, we're hoping that the rest of our excursions will be equally dry; we look forward to seeing you in July and/or October for our excursions to Strath Fionan and Dunkeld.

This newsletter also includes dates for the Winter 2014/15 Programme to allow you to plan ahead so we hope to see you at 7.30 pm at Millburn Academy (Diriebught Road, Inverness, IV2 3QR) on 5 November. The committee usually meet the speaker for dinner beforehand so if you would like to join us for dinner, please let Alison know – all welcome!

Summer Programme 2014

Field trips are charged at £3 for day excursions and £5 for weekend trips.

5 – 6 July – Strath Fionan

Leader: Fiona McGibbon, Open University

Meet in the main square at Kinloch Rannoch at 10 am on 5 July.

This field trip will investigate Dalradian stratigraphy, structure and metamorphism in an area of outstanding scenery next to Schiehallion. We will see outcrops of quartzite, schist, amphibolite and marble, overprinted by strain fabrics of increasing intensity. We should see kyanite and garnet and so will also investigate metamorphic grade. All of this will be considered in terms of what it reveals to us about the Grampian orogeny that shaped this part of the Highlands. Although the rocks here are quite complex, there will be much to see and learn at many levels. **Hard hats required!**

The group will stay at Kindrogan Field Centre (near Pitlochry) on 5 July. Please contact Alison as soon as possible if you would like to join us for dinner, bed and breakfast (£38.40 per person)

4 October – Little Glen Shee, Dunkeld and the Hermitage

Leader: Dr David Stephenson, British Geological Survey

Meet at Little Glenshee car park to the south of the fording point of the Shochie Burn, close to the wooden footbridge (NN 9880 3404) at 10 am.

This excursion will allow us to: examine key exposures within and close to the closure of the Tay Nappe that enable its 3-D geometry to be determined; to see minor folds and cleavages resulting from the three phases of deformation that produced the large-scale structure; and to examine metasedimentary rocks of the Birnam Slate and Grit Formation and Dunkeld Grit Formation of the Southern Highland Group (Dalradian Supergroup).

Maps:

OS 1:50 000 Sheet 52 (Pitlochry to Crieff) or Sheet 53 (Blairgowrie) - they overlap. The area lies at the junction of BGS 1:50 000 sheets 47E (Crieff) and 55E (Pitlochry) but most of the outcrops covered by the excursion lie with the unpublished Sheet 47E, with only Craig a'Barns in the bottom RH corner of Sheet 55E.

Suggested reading:

see A.L.Harris descriptions in the Dalradian GCR volume (Tanner, P.W.G. et al. 2013. The Dalradian rocks of the Highland Border region of Scotland. Proceedings of the Geologists' Association Vol. 124, pp. 215 - 262.)

Winter Programme 2014-15

5 November

Dr Dave McGarvie (the Open University in Scotland)

Fieldwork in Chile: land of volcanoes and earthquakes

In January 2014 Dave returned to Chile to work on a little-known volcano to investigate lava-ice interactions and to collect samples for follow-up geochemistry and age dating. The volcano is called Quetrupillán, and its name means 'the headless spirit'. He became a cowboy, going to and from the volcano on horseback, and camped by an idyllic lake, cooked by a camp-fire, drank bourbon, and drawled a lot! Working at 5,000-8,000 feet up in the mountains meant the views across the Andes were sometimes stunning; the rocks were spectacular as well, with plenty of excellent and subtle examples of lava-ice interactions so this should be a well-illustrated talk. If time permits, he'll also show a few images of part of Chile that was hit badly by the largest recorded earthquake in history; Dave kayaked in the drowned forest that sank beneath sea level when the land suddenly dropped two metres during the earthquake, and was then hit by a tsunami.

10 December

Peter Reynolds (HGS) and Julie Corcoran (Highland Library Service)

The HGS Library Collection

This is an opportunity to explore our extensive collection held by Inverness library which comprises personal bequests and donations from both former and current members, giving the membership access to a ready-made working collection of geological reading matter including back runs of journals, field guides and other relevant texts. Reference material held by the Highland Library Service in Inverness will also be accessible so come along and see what you can find!

28 January 2015

Dr Sue Beardmore (Curatorial assistant (geology/palaeontology), Elgin Museum)

Letters from America: vertebrate palaeontology in Utah, USA.

The Grand Staircase-Escalante National Monument in southern Utah, USA, is situated on the western edge of the Colorado plateau where an almost complete stratigraphic succession of Mesozoic rocks is exposed. Work since 1999 by the Natural History Museum, Utah, and Denver Museum of Nature and Science in the Upper Cretaceous Kaiparowits Formation has revealed a high number of dinosaur (hadrosaur, ceratopsian and rarer theropod types), crocodile and turtle skeletons, with as many as twenty being new to science. Bivalves, gastropods and plant debris occur in thin, dense horizons throughout the formation, often in association with skeletons, revealing something of the transportation processes at the time of deposition. In combination with research in Canada, Mexico and other American localities, a broader picture is now emerging of the North American continent today as being well-vegetated and supporting a wide range of organisms 74-76 million years ago, and crucially just prior to the famous end-Cretaceous extinction.

25 February

Annual General Meeting

Please come and support the important business part of the society's activities, which will be followed by a short talk:

Peter Reynolds (HGS) **How thin sections are made**

Much of our current knowledge of earth processes is based on the study of thin sections - extremely thin slices of rock mounted on microscope slides. Although this may appear to belong to the realm of university research it is within reach of the interested amateur. Our former president Sinclair Ross taught Ann and Peter Reynolds the basics of thin section making and this short illustrated talk shows how it is done.

18 March

Paul Monk (HGS)

50 years in amateur geology: collections, fieldtrips and passion.

Paul will take a stroll through his collecting history, sharing some geological stories along the way, and giving us a tour through a small part of his collections of minerals, fossils and 18th and 19th Century geology books.

22 April

Dr Alan Crane (University of Aberdeen)

Aotearoa: A Plate Margin Journey

Aotearoa (re-named New Zealand by Europeans) is situated astride an obliquely convergent section on the tectonic boundary between the Indo-Australian and Pacific Plates. For the last 24 million years this has been, and continues to be, an active orogenic zone creating one of the fastest rising mountain belts on Planet Earth. Aotearoa is also an area where oceanic segments of both the Pacific and Indo-Australian Plates are being subducted, resulting in associated active strato-volcanoes, rifting and back-arc spreading.

The talk will comprise a travelogue-style DVD illustrating the classic 'Tranz-Alpine' rail journey: a flight traverse of the Mount Cook (Aoraki) Range; a boat trip on proglacial Lake Tasman; geysers and lakes of boiling mud of the Taupo Volcanic Zone; a helicopter flight to White Island in the Bay of Plenty (currently New Zealand's most active volcano); plus the consequences of devastating earthquakes for two of New Zealand's major cities. A short power-point presentation outlining the Plate Tectonic Geology of Aotearoa will provide an introduction to the DVD.

Please note that all dates are subject to confirmation by the Rector of Millburn Academy. Evening meetings are charged at £2 for members and £3 for non-members.

Contact information:

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