● June 2017

Hot topic in a cold place

The Arctic Research Group ("ARG"), the charitable organisation aiming to advance scientific knowledge of the High Arctic, will this summer travel to the world's most northerly warm springs. These lie to the west of a remote fjord and in the North West Spitsbergen national Park on the Svalbard archipelago. This is a land so stark that NASA uses it as one of the areas to practice its Mars science programme. At almost 80º North, these springs are near the geologically recently active volcano Sverrefjellet. They issue from deep in the earth to well out at the surface and precipitate a series of crystalline deposits known as travertine. Some of these are remarkably pretty and lie in a series of fan shaped terraces; the chemistry of these and the water can reveal a lot about how this environment has developed and is still developing.

Such is the influence of these warm discharges that it is sufficient to raise the ambient temperature locally to a stage where unique vascular plants are able to flourish. These occur nowhere else in Svalbard and their success is solely down to the presence of the artificial environment created by the warm springs.

This year the ARG has extended its field team to include both Professor Andy Hodson and Dr. Aga Nowak, both of Sheffield University, who will be leading the work on the spring water samples. Group Leader Ian Frearson (age 72) and first time member George Winter (age 20) will be assisting with this and running the project work around the vascular plant species present both within and outside the area of influence of the springs. They will also work in collaboration with a team from St Catherine University Minnesota, led by Prof. Jill Welter and a further group from Imperial College under the leadership of Dr. Michelle Jackson. Only the ARG members will be on site for the full period with the other groups coming and going in bursts of up to two weeks.

Spring waters and travertines from several sites in the area will be sampled. A search for springs not seen since the first decade of the 20th century, when an expedition to the area chanced upon them, will also be undertaken. The resulting papers and reports will be produced in conjunction with the universities of Sheffield and Glasgow and with David Banks, a scientist who has published considerable previous work on the springs, and all participating bodies.

The ARG will be in the field from 27th June to 26th July 2017 following which samples will be analysed (some in Svalbard and the rest in the UK) to determine their chemical and stable isotopic composition. These data will help us build a picture of how the climate may have changed in the past.

Group Leader Ian Frearson, commented:

“We are excited to be venturing back to Svalbard and with a much larger team this year, as we embark on a trip to the most northerly warm springs, in such a remote area. We aim to add to the knowledge of the effects of climate change on the world’s polar regions, through the study of these unique springs”

Further details, and a link to donate to support the ARG’s work, may be found on our website, **www.arcticresearchgroup.org**

Contact details:

Ian Frearson, ARG Leader: ian@arcticresearchgroup.org

+44 (0)7810 150213

Notes on ARG

The ARG has existed for nearly 30 years. Based in Derby, it has organised, financed and carried out eight highly successful scientific expeditions to the Spitsbergen archipelago, one of the last pieces of land before the North Pole. It is now a charitable organisation, with the aims of advancing scientific knowledge of the High Arctic and providing young scientists with the opportunity to gain early experience of working in, and exploring, one of the world’s most fragile and challenging environments.

The ARG has won several awards for its work and given numerous young people the chance to travel to one of the ends of the earth. Many of these young people are now not so young, but have taken the love and concern for the Arctic environment that the ARG expeditions gave them into their roles as university professors, engineers, environmental scientists, etc. These members are now passing on their enthusiasm to newer members – in the process helping to keep the UK at the forefront of Arctic science at a time when this is of increasing importance.

We rely solely on donations and grants to carry out our work.