South Georgia Association Newsletter

Number 28 May 2015
Website: www.southgeorgiaassociation.org ISSN: 1747-430
Facebook: www.facebook.com/southgeorgiaassociation

The Spring Meeting & AGM will be on May 22, 2015

Antarctic tern near its nest beside the track to King Edward Point.

Seeking your views

South Georgia continues to have a strong public image, particularly in the United Kingdom. We are after all in the Shackleton Centenary period when there are frequent references in the media to the *Endurance* Expedition, to Shackleton, his men and their exploits. This of course will continue through to 2016 and perhaps beyond. The SG Heritage Trust's Habitat Restoration Programme (the rat eradication project as we all better know it!) and the South Georgia Government's cull of the reindeer are also bringing the island to the attention of a wider audience.

At the same time it is also important that, as an Association, we listen to the views, concerns and issues of our members so we can respond to them. Some input can assist us with the planning of our programme each year - how we are best serving our members with talks, exhibitions, city visits and the like. Other concerns may be about activities on and around South Georgia, about environmental issues, protected areas, the marine and near shore habitats, commercial fishing and licensing, impacts of tourism or views on the wider South Atlantic scene and South Georgia's place in it. Your Committee regularly debates and discusses these topics but we want to hear from you! Where appropriate we can deliberate on them and, for instance, pass them to the Commissioner, other parts of the GSGSSI or the FCO.

So this is an open invitation for you to interact with your Association and its Committee and raise with us such matters as you see fit - we welcome your interest and involvement!

David Drewry, on behalf of the SGA Committee

Aliens on South Georgia – the next step?

With the commendable eradication of the introduced reindeer and the highly successful rat cull, South Georgia is perhaps returning to a near natural state – or is it? If the aim is to have a flora and fauna cleaned of alien species, is it not about time to look at other, not so obvious, aliens?

There are many introduced species of vascular plants on the island – some 35 species according to records - and the effects of former introductions of farm animals and pets, mostly during the whaling era, often remain. However the invertebrate fauna is of considerable interest in the light of introductions; they are much less conspicuous and relatively little studied. Introduced terrestrial species include an earthworm (*Dendrodrilus rubidus*), the German cockroach (*Blatella germanica*), a hover fly (*Eristalis croceimaculata*), a bluebottle fly (*Calliphora vicina*) and probably the codling moth (*Cydia pomonella*). But the best studied insect aliens are two carnivorous ground beetles (Family Carabidae): *Trechisibus antarcticus* and *Oopterus (Merizodus) soledadinus*, introduced with imports during whaling operations.

The alien carnivorous ground beetle
Trechisibus antarcticus
adult (British Antarctic Survey).

The former beetle was discovered in 1982 in the area of Husvik (Vogel 1985) whilst the latter was recorded in 1963 at King Edward Point (Darlington 1970), both in habitats close to the whaling stations. Both species have Falkland Islands and South American distributions.

On South Georgia *O. soledadinus* appears to be restricted to the buildings of Husvik whaling station, Hut Point in Jason Harbour (Fig. 2) and tussock areas around Grytviken and King Edward Point.

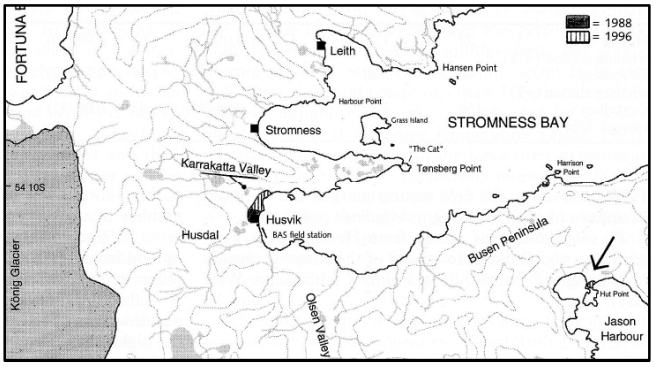


Fig. 2. Map of the distribution of Oopterus soledadinus *in Stromness Bay 1988-1996; note the small population at Hut Point, Jason Harbour discovered in 1996 (Brandjes, et al. 1999).*

By contrast *T. antarcticus* has colonised extensive areas of lowland tussock in Stromness Bay. This species is extremely carnivorous and has increased its range through predation of the young larval stages of the indigenous beetle *Hydromedion sparsutum* (Perimylopidae), a herbivore feeding mostly on tussock litter, with profound effects on the latter's biology and populations (Ernsting *et al.* 1995).

Adult and larva of Hydromedion sparsutum. *The larvae are main prey of* Trechisibus antarcticus *(British Antarctic Survey).*

The rapid spread of *Trechisibus* over eight years of field observations in the Stromness Bay area is shown in Fig. 2 (Brandjes *et al.* 1999).

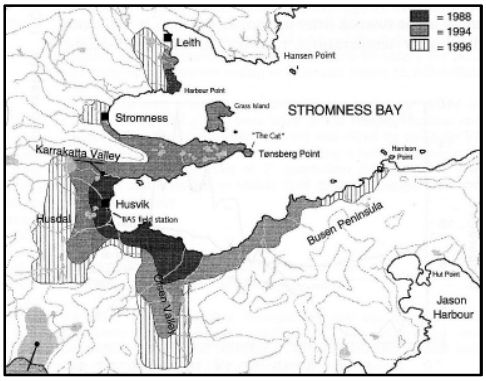


Fig. 2. Distribution of the predatory beetle Trechisibus antarcticus *in Stromness Bay 1988-1996.*

High numbers of the predator have been recorded in tussock areas where it feeds on the first three (out of six) larval stages of the herbivore *Hydromedion* reducing its population to much lower levels compared with predator-free areas of tussock. It was found that the size of the adult *Hydromedion* beetle was significantly greater under predation than elsewhere. Laboratory experiments showed that female *H. sparsutum* from predator-infested areas produced larger eggs and young larvae than females from predator-free sites. Two hypotheses have been proposed to explain these findings: (a) size selection by the predator causes larger eggs and larger young larvae of the prey to survive (the size -selectivity hypothesis) and (b) the size increase of the prey is an indirect effect of predation – by lowering its population density the *per capita* food supply increased, enabling a higher growth rate and larger adult body size of the prey species (the food hypothesis). Whichever hypothesis is correct, this example from field studies on South Georgia demonstrated that the introduction of a single alien insect can have profound and complex effects on the structure of such native terrestrial communities.

Sub-Antarctic land habitats have suffered greatly from human influence and have the least extreme environmental conditions of the Polar Region. Introductions of mammals (cats, rabbits, rats as well as large grazing animals) have been rife throughout recent history. Eradication schemes have been reasonably successful on many islands and archipelagos for some species. South Georgia has had the most intense exploitation and human activity of the sub-Antarctic islands and it is gratifying that the introduced reindeer and rats are to be completely eliminated from the island. However, there will be long lasting effects on the indigenous vegetation and the terrestrial community structure from grazing animals such as reindeer, which have destroyed large areas of native burnets (*Acaena* spp.)

So is it not time to consider the ecological impacts associated with alien plants and the less conspicuous invertebrate animals? The need may become more pressing as climate change becomes more obvious on South Georgia. Introduced plants may expand their range under warmer southern summers and more alien insects will be able to tolerate and survive the winter conditions. With increasing traffic to the island, introductions of both plants and invertebrates may well increase and improved bio-security will be needed. Fortunately the GSGSSI is addressing the problem of alien invertebrates with biosecurity measures at KEP and landing protocols for ships.

South polar terrestrial ecosystems are comparatively simple (and also vulnerable) and South Georgia provides a valuable opportunity to monitor the ways in which such ecosystems respond both to environmental change and to invasion by alien species. The importance of sub-Antarctic ecosystems is self-evident and monitoring of potential alien incursions to islands such as South

Georgia, especially during a scenario of warming climate, is paramount.

Brandjes, G.J., Block, W. & Ernsting, G. (1999) *Polar Biology* 21: 326-334. Darlington, P.J. (1970) Pacific Insects Monograph 23: 234. Ernsting, G., Block, W., MacAlister, H. & Todd, C. (1995) Oecologia 103: 34-42. Ernsting, G., Brandjes, G.J., Block, W. & Isaaks, J.A. (1999) J. Anim. Ecol. 68: 741-752. Vogel, M. (1985) *Spixiana* 8: 153-163.

William Block

South Atlantic Marine Science

The South Atlantic Environmental Research Institute (SAERI) was created by the Falkland Islands Government (FIG) in 2012 when it became evident there was a need for an umbrella organisation to produce environmental science within the Falkland Islands and the South Atlantic. The aim was to enhance and encourage existing local research activities and to increase the volume of scientific research conducted within the Falklands and the other South Atlantic Overseas Territories (UK OTs), both locally and internationally. It needed a focus on localising research and work that is currently being conducted elsewhere by other researchers and institutes. FIG commissioned the British Antarctic Survey (BAS) to carry out a feasibility study to determine the necessity and practicality of such an Institute in the South Atlantic. The conclusion was that there is a real need for such an establishment.

The scope of the research centre encompasses environmental research in geology, climate change, oceanography, inshore marine environment, fisheries, agriculture, biodiversity and renewable energy, extending geographically across all the UK South Atlantic OTs (SA OTs), from the equator down to the ice in Antarctica. Thus far, the primary focus of the work undertaken by the Institute has been on the marine environment and fisheries-related research, solely because the Director and the lead Post-Doctoral project officer are marine and fisheries ecologists. One of the other aims of the Institute is to provide a Geographic Information System (GIS) Centre, based in the Falkland Islands, which would provide GIS knowledge and expertise throughout the SA OTs. In September 2013, a GIS specialist was recruited, thus forming the foundation of the GIS Centre. Work in this area and capacity building across the SA OTs has begun and is progressing rapidly. The GIS officer is crucial in furthering many of the projects undertaken by SAERI within the Falkland Islands and other SA OTs, but also provides training and expert help to the other FIG departments and sectors. The purpose of the Institute is to not only conduct local and international research into the natural and physical sciences and to provide GIS support throughout the SA OTs, but also to teach students and build further capacity between the SA OTs and other international research institutes.

Collecting specimens. (Credits: Shallow Marine Surveys Group)

SAERI already has projects and partnerships in several of the SA OTs, including South Georgia, Ascension Island, Tristan da Cunha and St Helena. The Institute works closely on various projects with GSGSSI and BAS. Currently, the Institute has three established PhD students joint with the University of Aberdeen, all doing work in South Georgia, to some extent. One of the projects is investigating the uncertainties inherent within the South Georgia mackerel icefish (*Champsocephalus gunnari*) surveys, employing various technical and statistical techniques, and with a particular focus on acoustics. Another student is addressing the gaps in knowledge of the algal biodiversity of the Falkland Islands, especially the numerous red algae species found in Falkland waters. The project is also aiming to compare algal species biodiversity and distribution between the Falklands and South Georgia. The third PhD student only started in January 2014 and is modelling the life-history and reproductive biology of the Patagonian toothfish population in South Georgia waters. SAERI has recently found the funds to take on a local graduate to conduct a PhD on shallow benthic ecology in spatial and temporal scales.

The squid Loligo gahi *is fished off the Falkland Islands.*

SAERI also has other projects based in the Falkland Islands and Ascension Island. For example, between April and July, 2014, four new projects will be commencing based in the Falkland Islands. Two are born of the need for the gaps in our knowledge of the marine environment to be established and addressed, before the oil industry starts in earnest in the near future. One project will address the gap in knowledge of higher marine predators, such as penguins, fur seals and sea lions, with tagging and tracking work being the main focus, whilst also pooling all the existing knowledge of these species' biology, ecology, behaviour and population dynamics. The other 'gap' project will determine the state of knowledge of the benthic environment (habitats and species present) and oceanography of the Falkland Islands' waters. The third project is exploring the feasibility of some inshore species (primarily invertebrates) as targets for sustainable fisheries. The inshore and subtidal environments, like all of the marine environment of the Falkland Islands, is poorly described and understood, therefore the distribution and abundance of certain candidate species, and their age, growth and reproduction need to be determined in order to provide a feasible and sustainable fishery.

The other project starting soon will address the lack of a strategic approach to marine spatial planning within the Falkland Islands. Awarded Darwin Plus funding, the Marine Spatial Planning project aims to provide the framework for future legislation and practice with regards to marine protection. The project will entail collation and analysis of marine habitat and species data to determine biodiversity and conservation 'hot spots' which may prove to be candidate sites for future management. The project will feed directly into other research projects and into the oil activities within the Falklands.

Swarms of lobster krill live in the Falkland Islands.

Since its establishment, SAERI has worked closely with BAS and GSGSSI, sharing two of the aforementioned PhD students and supplying a SAERI member of staff as the coastal marine biologist on board RRS *James Clark Ross* during a survey of the waters around South Georgia and Tristan da Cunha. The aim is for these Institutes to work closely together in the future, with several collaborative projects already planned. SAERI is also soon to be conducting a project in Ascension Island. Darwin funding was awarded in 2013 for a project in conjunction with Ascension Island Government to learn more about the poorly known marine biodiversity and fisheries science capacity at Ascension Island. This project will provide three marine fisheries scientists to research the marine environment and its biodiversity and also to provide the science base needed for sustainably managed fisheries.

SAERI also hosts several visiting scientists and helps to organise the logistics and details of their visits and projects within the Falkland Islands. The Institute aims to become an incorporated charitable trust and therefore other sources of funding must be found to support the many current and planned projects. Obviously, grant opportunities are both limited and highly competitive. Therefore SAERI is involved in several consultancy opportunities, mostly focussed on environmental surveys and will soon be delivering fisheries consultancy work for various international fisheries. Clearly, within two years SAERI has achieved much and become a well-established South Atlantic research institute, with an exciting future to look forward to.

Deborah Davidson and Paul Brickle

(To learn more about the work of SAERI, a visit to www.south-atlantic-research.org is recommended. Ed.)

Larsen Harbour Weddell seals in decline?

One of the many highlights of a cruise to South Georgia is to take a zodiac cruise up Larsen Harbour, the narrow, steep-sided bay leading off Drygalski Fjord. The scenery is spectacular even by South Georgia standards, there is a rare chance of seeing and hearing the South Georgia pipit and the Harbour is home to the most northerly colony of Weddell seals. If the cruise is at the beginning of the season, it is possible to see pups lying onshore with their mothers or taking a swim in the sheltered waters.

Very little is known about this colony so I have been collecting such records as are available. Weddell seals were first recorded at Larsen Harbour just over a century ago and, until the species was protected in 1916, some were taken by sealers working out from Grytviken. When some of the *Endurance* men visited Larsen Harbour on the sealer *Lille Carl* on 18 November 1914, Robert Clark, the biologist, noted that the Weddell seals 'had young'. Frank Hurley photographed them but the photos did not survive

the famous cull of glass negatives when *Endurance* was abandoned.

A Weddell seal with a pup resents the approach of a neighbour.

The first counts of seals were made by the sealing inspectors Nigel Bonner and Bill Vaughan in the late 1950s and early 1960s but they only visited Larsen Harbour when the sealing vessels took shelter there and they were never able to visit the whole of the harbour. Subsequently, the harbour was visited by yachts and some detailed counts were made, notably by Seamus McCann, Tim and Pauline Carr, Fraser and Mark Carpenter, Harald and Hedel Voss, and Kicki and Thies Matzen. They also found pups in Smaaland Cove and Doubtful Bay. In the last couple of years I have asked staff on cruise ships to count the Weddells, especially the pups, seen during their zodiac cruises.

Bonner Beach, the site of the main aggregation of pups, in 1985.

The problem with counting pups to give an idea of population size is that births take place over a long period and pups take to the water at an early age, so no single count will give the total number of pup births. It has been very rare for more than one count to have been made in a year and the number of pups visible can vary from day to day, even hour to hour. The best counts will be in early October when all the pups will have been born but pups can still be seen in mid-November.

However, there does seem to have been a steady reduction in numbers of pups born. From 26 and 27 recorded by Nigel Bonner in the late 1950s, Seamus McCann counted 58 in 1985, but since 2009 there have been fewer than 10 pups seen per year.

It is impossible to give a reason for the decline. Perhaps commercial fishing is damaging the seals' food supply, but nothing is known about their diet at South Georgia. Depression of birthrate through inbreeding is another possibility but there is a chance such a small population could become extinct simply through random events in the environment.

Bob Burton

Shackleton Legacy Meeting 8 November 2014

Shackleton, and the epic story of the *Endurance* crew, is legendary in the history of Antarctic exploration, standing as a triumph of leadership, determination and courage, but what was their legacy? The South Georgia Association and the Friends of Scott Polar Research Institute held a joint conference to discover more about the achievements of Shackleton and his men, and the subsequent development in leadership skills, Antarctic science and expedition techniques. The event proved extremely popular and there was a waiting list for the limited seating.

110 people – a full house.

The first lectures focussed on Shackleton's characteristics as a leader; why they are still relevant in the modern world. Susan Blow told the meeting how, at a time of great change, a Cambridge-based, global technology company implemented a managerial development scheme inspired by Shackleton, whom they felt to be 'a model of great leadership and….a master of guidance in a crisis.' The programme emphasised the characteristics of courage, optimism, care for the team, sustaining motivation in good times & bad, resilience and flexibility.

Similarly, Kevin Kenny described how the Shackleton Challenge in Ireland seeks to help secondary school

students answer the existential question of 'Who am I and what can I be?' by developing transitional skills of leadership, group work, self-directed research and project management.

Shackleton chose his men by unconventional means; but how do modern organisations such as the British Antarctic Survey select? John Hall, Head of Operations & Logistics discussed the ideal requirements and selection process, explaining the idea that nobody is perfect, but a team can be. You need someone who can do the job, but more importantly, you need a team player.

BAS draws its staff from various groups using standard processes, informal interviews but no psychometric testing. BAS failure rate is approximately 1% i.e. of 70 staff that go south each season, maybe only one person needs to be let go.

Whilst much has been made of the epic story of the *Endurance* crew's survival, what of the science – the penguins, the ice and the rocks? Who on-board was taking note? Frank Worsley, Robert Clark, James Wordie, Leonard Hussey and others, including Shackleton, helped with the science collections and observations. Worsley retained his logbook, but Clark's diary, Wordie's rock collections and other records went down with the ship.

Peter Fretwell described how, as *Endurance* sailed along the coast, 40 fledgling emperor penguins were sighted near the Stancombe-Wills promontory. No-one realised that the chicks indicated a breeding colony nearby, which at the time, would have been only the fourth colony discovered. In early May 1915, more emperors were seen: *'All these penguins are fat and in wonderfully good condition & of the most dazzlingly bright clean plumage.'* noted Worsley. This was the first recorded sighting of emperors returning to their colonies at the pre-breeding stage. Almost all of the twenty four birds captured for the pot turned out to be female because, as we now know, the males would already have arrived at the colonies by this time.

It was 1987 before the Stancombe-Wills colony was rediscovered by Bernard Stonehouse. Today, colonies are discovered and monitored by satellite imagery. There are 53 known colonies, twice the number originally thought pre-satellite mapping, with the most recent one found in 2014.

David Macdonald explained how awareness that South Georgia was 'different' from other oceanic islands permeates the work of Shackleton's geologist, James Wordie. His specimens sunk with *Endurance*, but his studies on the Weddell Sea - which have been vindicated by modern research - added greatly to the geographic understanding of the region.

Why was *Endurance* beset so badly by ice? Were the weather conditions or the sea ice experienced that year unusual? Has Antarctic sea ice changed since Shackleton's time? Nowadays, satellites and ground stations give a comprehensive view of the climate of the Weddell Sea.

In his lecture, Peter Wadhams revealed the surprising conclusion that little has changed in Antarctic sea ice. The lecture by John King examined the *Endurance*'s meteorological records in comparison to modern records. His research shows that it was exceptionally cold in the Weddell Sea during the summer of 1914/15 which may have led to persistently heavy ice conditions. High air pressure in the west Weddell Sea possibly caused a weakening of the normal cyclonic circulation so there was less of a southerly wind to push the sea ice north, perhaps contributing towards *Endurance*'s entrapment.

It was Frank Worsley's extraordinary skill with a sextant that brought the *James Caird* to South Georgia. Skip Novak of Pelagic Expeditions discussed how navigation has changed from the days of the *Endurance* to the present. Prior to the appearance of satellite navigation in the late 1970s, finding your position was part science, part art. Today, with a press of a button, GPS tells us exactly where we are. Whilst researching his lecture, Skip discovered that Worsley did not use 'state of the art' techniques during the *James Caird's* voyage. The difficulty of making very complex calculations in the most appalling conditions makes Worsley's skill all the more remarkable. Skip ended his presentation with the future, or rather lack of it, for classic celestial navigation whose fragile existence seems to have been extended to some extent by the lack of trust in the American GPS system. He postulates that the death knell might finally sound when the European Galileo System comes into public use in 2017.

Finally, the conference concluded with a lecture on expedition nutrition by Bob Burton. Bob showed that Shackleton's sledge rations were advanced for their time, but inadequate compared with modern expedition rations which have hugely improved in calorific and nutritional value due to advances in nutrition science and technology. Palatability has also improved; modern day expeditioners no longer find that 'hunger is the best condiment'!

For more details of the meeting and the presentations, visit the SGA website http://southgeorgiaassociation.org/shackleton-legacy.html

Sarah Greenwood

Polar Medal for South Georgia stalwarts

Two people who have spent many years on South Georgia have been awarded the Polar Medal. Neither needs much introduction to members of the SGA.

Sally Poncet first visited South Georgia in 1977 with her husband Jerome on their yacht *Damien II*. She has spent many summers on the island since, and has carried out important surveys of seabirds (especially albatrosses), seals, plants and historic sites. She conducts the wandering albatross survey and other recent projects include a trial for the rat eradication project and subsequent work on this project. She has also been involved with the reindeer and invasive plant removal projects. Her books about South Georgia include the *South Georgia Visitor's Guide* (with Kim Crosbie). Sally is one of only a handful of women who have been awarded the Polar Medal.

Pat Lurcock, accompanied by his wife Sarah, has been working in South Georgia since 1992 as Marine Officer and then as Government Officer. Before that he spent two winters as a geophysics technician on the British Antarctic Survey base at Halley Bay on the Antarctic continent. During the time Pat has been employed on South Georgia he has played an important role in the improvements in fisheries and environmental management. In his spare time Pat has contributed to the rescue, recording and conservation of cultural artefacts on South Georgia, some of which were in danger of damage or disappearance. In the austral summer of 1998/99, he and Sarah spent three months of their leave period repairing, restoring and recording graves in the four cemeteries of the Stromness Bay whaling stations.

The Polar Medal is awarded by the Sovereign to UK citizens for conspicuous contributions to the knowledge of polar regions or rendering prolonged service of outstanding quality in support of acquisition of such knowledge. The history of the medal is that an Arctic Medal was presented to members of Royal Navy expeditions in Victorian times. It was superseded by the Polar Medal which was first awarded in 1904 to members of the *Discovery* Expedition, Captain Scott's first expedition to Antarctica. It was later presented to anyone who participated in a polar expedition endorsed by the governments of any Commonwealth countries. Since 1968 greater emphasis has been placed on personal achievement.

Wandering albatross survey

In keeping with South Georgia's commitment to the Agreement on the Conservation of Albatrosses and Petrels (ACAP), a once per decade survey of the wandering albatross took place in January.

I was one of the fortunate few to join the *Hans Hansson* in January for a remarkable trip to this spectacular island. By joining the month-long trip I was keen to assist the survey team with their work, in the knowledge that we would have access to areas that can be visited only by special permit.

On arrival, we picked up Sally Poncet and Ken Passfield after their couple of weeks camping and counting on Albatross Island. We also had on board Andy Black from the South Georgia Government.

Each day's activities were governed by the survey team's need to visit areas where wandering albatrosses had been recorded as nesting ten years ago. The team's dedication and attention to detail was admirable. Some days it could be a very long hike on a very inaccessible island just to try and find one nest. For example, at Trollhul, we hiked for three hours and found only one viable nest with an egg. At other times the search was to no avail and very disappointing. On a more encouraging note a number of wanderers were found to be nesting on Outer Kupriyanov - a group of islands with a stunning view of the Harmer Glacier. One train of thought is that the wanderers have abandoned their lonely vigils on some of the other small islands and been drawn here by the displays of others.

Wanderers courting on Albatross Island.

As well as counting, marking the position of the nests with the GPS, taking photographs, noting the distance and number of fur seals and vegetation percentage etc, we had time to hike and enjoy the stunning scenery and wildlife.

One of my favourite hikes was from Elsehul up the Hope River Valley and over to Coal Harbour. The lakes, glacial terrain and mossy banks were beautiful and once

we had cleared fur seal territory we were absorbed in the peace and tranquillity of the area. If the petrels were not nesting under the tussac we tried to walk on it as much as possible, thus taking great care not to walk on the mosses and lichens because they take many years to recover from trampling. Unfortunately the fur seals appear to be venturing very high into the tussac and destroying burrowing petrel and albatross habitat.

Looking into Coal Harbour.

Another member of our party, Jess Hoskins, was there to collect samples of Collembola (springtails) and beetles. Her methods were tussock-beating and taking cores in areas of *Poa annua* (annual meadow grass) and moss. The object was to discover what species of springtails occur throughout South Georgia.

During the trip we were very lucky to have access to Albatross Island. On both the days we visited, the sun shone and the wind blew. Conditions were perfect for the wandering albatrosses to fly, land and display. The birds that had not successfully paired this year were performing all over the island. We witnessed stunning displays from would-be pairs and small groups. Their classic wing positions, strange calls and sounds were a joy to watch and the memories will be treasured forever.

On 13 January, in Schlieper Bay, Sally discovered the first recorded South Georgia pipit's nest at a previously rat-infested location. This area had been baited for rats in 2013 and hopefully this is proof that the rat eradication programme is working. She came back to the ship very excited and very pleased that the nest had been found on this survey trip. Photographic proof was sent to KEP and when we eventually arrived there, Sally collected her well-deserved bottle of champagne and we all celebrated.

During the trip we also heard the pipits singing. The song is very much like our skylark and very beautiful. This sound should now become more commonplace.

Another job we had one day was at Wilson Harbour. We used the original GPS coordinates to find the 'wax tags' that had been put in place to see if any rats gnawed them. This could prove whether rats had recolonised that area. Unfortunately, it was very difficult to tell if the damage to the tags had been done by beetles, birds or rats. No other sign of rats was found; so presumably they have not returned. There is obviously still work to be done but it does look very promising.

At Saint Andrews Bay we saw the signs of the reindeer cull. Many skeletons and bones are in evidence. Some reindeer had been left for the scavengers to dispose of but many have also been used for human consumption. On our voyage we sampled the meat from the cull and very tasty it was too.

Hans Hansson *at St. Andrews Bay.*

I have not seen the final figures of the Wandering Albatross Survey but the trend appears to be still one of decline on South Georgia, which is in contrast to those on Crozet and Kerguelen where I understand they are recovering in numbers. I am of the opinion that because wanderers only breed every other year, the South Georgia survey should be completed for two consecutive years – this would give a more accurate figure.

On a personal note, this was the most fulfilling and memorable trip to South Georgia that I could ever imagine. Dion Poncet captained our vessel, which was simple yet comfortable. We were cared for by Juliette Hanequin and Oli Prince. Nothing was too much trouble for them and we had the freedom to stay on land all day and do as little or as much as we wanted. I learnt a great deal from Sally and would like to add my congratulations to her for being awarded the Polar Medal.

Gill Fruin

Sporting Weekend

The half marathon to Maiviken and back has become a regular event on the KEP calendar. There are now three classes of competitor: runners, walkers and runklers. The last are those competitors who subside into a walk when the effort of running becomes too much.

This year saw a new event: a model boat regatta on Gull Lake. The boats displayed a wide range of manufacturing skill levels and ingenuity (as did the jolly boating outfits). One of the faster boats was little more than a polystyrene hull with a plastic bag for a sail.

The regatta competitors, in 'boaty' outfits, and their craft.

Some boats required many hours work in the chippy shop; others were more of a last-minute affair.

Goodbye reindeer

A few reindeer were spotted on the Barff Peninsula after the cull last summer, so the same Norwegian marksmen returned earlier this season. Forty five were shot, more than the 15 that had been seen originally. Then another three were found and shot. These animals were in very good condition with plenty of fat and big antlers, compared with deer shot earlier which had to compete with thousands of others for the overgrazed vegetation.

The last three reindeer on South Georgia. A bit sad.

There is no need to remove reindeer from the arms of SGSSI.
Lion, leopard, unicorn, mermaid and other animals long extinct feature in the coats of arms of several territories.

Google Maps

Feeling nostalgic? Look at these websites for scenes of South Georgia:
https://www.google.com/maps/@-54.0762422,-36.4643993,168438m/data=!3m1!1e3
https://www.google.com/maps/views/streetview/south-georgia-island?gl=es

SGA Facebook

For the latest news, photos and stories of South Georgia, add our Facebook page to your 'Favourites' in your web browser and visit it every day or so:
www.facebook.com/southgeorgiaassociation

An unexpected night ashore

It had to happen! Sudden strong winds sometimes descend on Cumberland Bay 'out of nowhere'. They can be so ferocious that it is impossible to run boats between ship and shore. This happened last January when a large party of tourists was trapped ashore at Grytviken. The zodiac operations were suspended when the wind speed reached 55 knots, and it eventually reached 80 knots.

It is a regular procedure for cruise ships to land emergency gear – food, water and shelter – before any passengers come ashore. Luckily for the 67 passengers and five staff stranded ashore, these bare necessities for survival were not needed.

Loaves and fishes.

There is no better place to be stranded in Antarctic regions than Grytviken. Organised by the Government Officers, staff of GSGSSI, BAS and SGHT rallied round to take care of their unexpected guests. While they sheltered in the museum, emergency stores maintained for just such an eventuality were ferried to the museum.

The museum staff started cooking a two-course dinner for 72 while other South Georgians, aided by volunteers from the passengers, cleared space in the surrounding buildings to lay out mattresses, blankets and pillows. Accommodation was found in the Museum, Drukken Villa, Slop Chest, Post Office and Maritime Gallery.

Sarah Lurcock said, 'It was an extraordinary sight to see people sleeping in the galleries around the museum displays.'

Sleeping with the James Caird.

The wind dropped by 4am, so the captain called to arrange the return of his charges. The passengers were woken and by 5.30am they were enjoying a superb dawn as they were boated back to the ship.

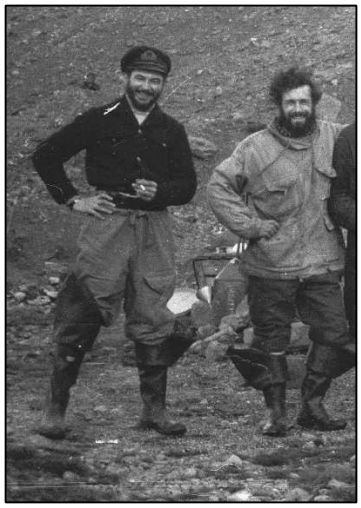
The unexpected 'Night in a whaling station' will add a special element to the usual blogs, postcards, slide shows and bar and dinner-table conversations that result from an Antarctic cruise.

(Information adapted from the GSGSSI website.)

Bernard Stonehouse

Bernard Stonehouse died on 12 November 2014 at the age of 88 after a short illness. Best known for his pioneering studies of penguins, Bernard's proud claim was that he had been pecked by all the world's 17 species except one (the Galapagos penguin). He was latterly involved with the Antarctic tourist industry both as a lecturer aboard cruise ships and as leader of a long-term study on its ecological impact.

Stonehouse was born on 1 May 1926 at Kingston upon Hull. At the age of 17 he trained as a pilot with the Royal Navy and afterwards volunteered as meteorologist with the Falklands Islands Dependencies Survey. During his second year at Stonington Island, Bernard made a 500-mile round sledge journey to Adelaide Island where he found a colony of emperor penguins on the Dion Islands. That summer, the pack-ice in Marguerite Bay remained solid and prevented the relief of the base. So Bernard spent was forced to spend three consecutive winters in Antarctica and he used the third to make the first study of the breeding habits of the emperor penguin. The next project was to study the king penguin, the second of the large *Aptenodytes* penguins. With Nigel Bonner as assistant, Bernard set up camp in a garden shed at Ample Bay, on the edge of the Bay of Isles. Over a period of a year (October 1953 to December 1954) he was able to elucidate the unusually long breeding season. A pair of king penguins takes about 15 months to rear their single chick. So they produce only two chicks in three years.



Bernard with Nigel Bonner at Ample Bay.

In 1957 Bernard was appointed leader of the British Ornithologists' Union Centenary Expedition to Ascension Island. A small team, including his wife Sally as camp manager, spent 18 months studying the breeding cycles of 11 seabirds and four introduced landbirds.

Bernard then moved to New Zealand as senior lecturer at the University of Canterbury, Christchurch. This gave him the opportunity to return to Antarctica and continue his studies of penguins. He discovered new colonies of both Adélie and emperor penguins and assessed annual fluctuations in their populations.

An important strand of Bernard's research was the impact of human activity on animal populations and he became concerned about the emergence of Antarctic tourism. Initially opposed, he soon realised that tourists had more concern for the wildlife than many of the people working in Antarctica.

After a long interlude of work in the Arctic, teaching in a school in Scotland and developing a School of Studies in Environmental Sciences at the University of Bradford, Bernard moved to Cambridge where, from 1983 to 1992, he was editor of the *Polar Record* based at the Scott Polar Research Institute (SPRI).

While still editor, he set up Project Antarctic Conservation in 1991 to investigate the development and impact of the growing ship-based tourist industry in Antarctica. Field camps were set up to monitor landings from cruise ships and the behaviour of penguins towards human presence studied intensively. For instance, the

heartbeat of penguins was recorded as they incubated artificial eggs fitted with remote sensors. The results showed that a slow, careful approach by people did not alarm the penguins.

After retirement from SPRI Bernard turned his attention to the history of British Arctic whaling but remained active in penguin research. He had hoped to talk about the emperor penguins observed from *Endurance* in the Weddell Sea at our Shackleton Legacy meeting, but he was unable to attend.

Bob Burton

Team rat triumphant

Monday 23 March was a great day for South Georgia. The final helicopter-load of poison rat bait was scattered. Perhaps this date should become a local public holiday Rat Riddance Day, like Possession Day on 17 January. Of course, it's not that simple. Careful monitoring in about three years' time is required before South Georgia can be declared rat-free. But we can still celebrate the amazing efforts of Team Rat.

This year's operation, Phase 3, had its worrying moments as bad weather held up work. The worst came on 5 February when ferocious winds descended on two of the three helicopters as they sat in a sheltered corner of Moltke Harbour in Royal Bay. One was severely damaged with one of its main rotors snapped off. Amazingly, the other was quickly got airborne. This left two airworthy machines to finish Phase 3, the baiting of the eastern end of the island.

Loading the last bag of bait.

And they achieved their objective - after many years of preparation, three seasons of fieldwork, more than 800 bait-loads, a thousand helicopter flying hours and over a thousand square kilometres treated. The effects of the Habitat Restoration Project will have a profound effect on the island's wildlife – the pipits and pintails are already coming back and nesting in baited areas.

You can read Project Director Tony Martin's dramatic reports at www.sght.org/newsletters-and-publications. The photos alone are worth looking at, but I am looking forward to the books and the films.

As I write, just before this newsletter goes to the printer, Team Rat are clearing up the debris of the operation – empty fuel drums etc. - and checking the Phase 2 area for signs of rats. Fingers crossed, they won't find any.

Bob Burton

Penguin City Weekend Meeting – Edinburgh
First Announcement
30 October – 31 October 2015

The South Georgia Association will hold its second meeting for 2015 in Edinburgh. The city (and neighbouring Leith) has many connections with South Georgia and the Antarctic.

Edinburgh Zoo is famous for its daily Penguin Parade and Penguin Rock (Europe's largest outdoor penguin pool) plus the King Penguin Sir Nils Olav, Colonel-in-Chief of the Norwegian Royal Guard. Edinburgh can now be known as Penguin City!

South Georgia connections also include: Christian Salvesen of Leith sent whaling ships to South Georgia from 1900s; Edinburgh Zoo (opened 1913) received its first penguins in 1914 (courtesy of Salvesen's) and successfully bred them from 1919 onwards; newly-married Ernest Shackleton was Secretary of the Royal Scottish Geographical Society; Chas. Mackinlay and Co. (now Whyte and Mackay) despatched 25 cases of 10 year-old malt whisky for Shackleton's British Antarctic Expedition in 1907. Three cases were discovered under the *Nimrod* hut and three bottles were returned to Scotland for sampling, analysis and re-creation in 2011 by Whyte and Mackay as Shackleton's Whisky. See http://www.theshackletonwhisky.com/default.aspx

The Penguin City weekend is planned for Friday 30 and Saturday 31 October 2015, centred on Edinburgh Zoo. There will be a Shackleton Whisky presentation and tasting led by Richard Paterson (Master Blender of Whyte and Mackay) at the Holiday Inn adjacent to Edinburgh Zoo on the Friday evening where traditional 'haggis, neeps and tatties' will be served. A vegetarian option will of course be available.

The venue for the Saturday presentations is the Budongo Lecture Theatre within the chimpanzee enclosure of Edinburgh Zoo. Delegates will be able to view the primate inmates and will be given a guided tour of Penguin Rock by experienced zoo staff. There will be 10 short presentations with themes such as **Accessible**

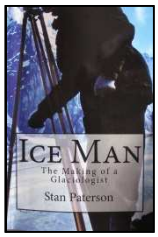
Archives (National Library of Scotland, Edinburgh University and National Museum of Scotland), **Wildlife** (Edinburgh Zoo, Ex-Salvesens Whalers Club), **Scientific Field Work** (Tim Gunn, Phil Stone and John Gordon) and **South Georgia 2015 and Beyond** (SGA, SGHT and BAS).

The weekend events will conclude with an informal three course dinner at Channings Hotel which now incorporates the house where Ernest Shackleton lived. The hotel is three miles from Edinburgh Zoo. No doubt those attending will raise a glass in memory of the abandonment of *Endurance* in the pack ice of the Weddell Sea on 27 October 1915 – almost exactly one century earlier. See http://www.channings.co.uk/.

More details will be given at the AGM and these will be circulated to the membership. They will include the final list of presentations, transport details and accommodation options, and a menu for pre-ordering the dinner at Channings Hotel. The cost for the weekend is provisionally set at £65 per person and includes the whisky-tasting and haggis, a day of presentations (including welcome tea/coffee plus sandwich lunch with tea/coffee) and a three course dinner.

Ice Man: the making of a glaciologist

Paterson, W.S.B., 2013. Edited by Lyn Paterson and Naomi Todd. 197 pages, with a Preface by Ian Smart, an Introduction by David Fisher, a Foreword by Myrtle Simpson, and two maps. Papyngay Press, Oregon. ISBN 9 780975 574935



Stan Paterson died on October 8, 2013, the very month that copyright was claimed for this self-published autobiography, which he wrote in the twilight of a long and adventurous life.

It is an odd book, the essence of which is well summarised in the Preface and Introduction written by his friends Ian Smart and David Fisher, and by the five page summing-up which was Stan's own last chapter. Fully two thirds of the book are dedicated to the two major expeditions in his early life, the British North Greenland Expedition (BNGE) of 1952-54, and the South Georgia Survey (SGS) of 1955-56, on both of which he was a surveyor. His book unfortunately adds very little to the accounts that Jim Simpson, the expedition leader, wrote as the book *North Ice* (1957), or to that in *High Arctic* (1957) by Mike Banks, who was in charge of Stan's gravity-measuring party.

The rest of the book describes a somewhat capricious life and career that soon afterwards took him to Canada and slowly became more focussed on glaciology. He described himself as someone who, on leaving Edinburgh University in 1949, 'graduated as a competent mountaineer and also acquired a degree in maths and physics' and that broadly is the theme of the book. He spent much of his career 'working in isolation' from fellow glaciologists, perhaps partly by choice. The book is interspersed with slightly didactic explanations of the scientific work that he did, and with references to climbing trips to the mountains that he loved. His main academic legacy is probably the seminal book *The Physics of Glaciers*, which was first published in 1969.

Readers of this Newsletter will recall that the full story of the South Georgia Surveys was recently documented by Alec Trendall in his book *Putting South Georgia on the Map* (2011) and I remember that Stan co-operated, perhaps a bit grudgingly, to enable Alec to produce a copiously illustrated account of all of the survey expeditions. Stan's generosity thus left him with few fresh observations to make in his own account of this, the third expedition. He was, however, more forthright than Alec in his comments about Duncan Carse's poor leadership skills and his enthusiasm for alcohol, of which he was a closer witness, and he does also describe a trip that he made with the whalers.

Stan glosses over a controversy that later arose over the expedition's notorious failed attempt to climb Mount Paget, in which John Cunningham, the distinguished mountaineer, usurped Duncan and led part of the team safely down a glacier to the coast. Stan's book curiously repeats, almost verbatim, a comment that Jeff Connor made in his biography of John Cunningham called *Creagh Dhu Climber* (1999) that John was awarded 'the Perry Medal by the British Antarctic Survey' for his part in the episode. In fact no such medal exists, but John did get the Polar Medal for the three years' service which he later gave to the British Antarctic Survey in Graham Land.

In the 50 pages of his book which Stan allocated to the SGS he makes no reference to any glaciological thoughts that he may have had while on South Georgia, nor, more modestly, to the significant contribution he made in drafting that season's part of the 1:200,000 map which Tony Bomford, a year or so later, was able to incorporate into the entire sheet.

The two maps are not very helpful, and there are no photographs in the book, apart from that on the cover, which symbolically, perhaps, reveals nothing of the man. Alec Trendall used a very similar photograph for the cover of his book in which Stan is using a theodolite, and has his back to the camera!

Keith Holmes

The South Georgia Association newsletter is produced twice a year, in April and November.
Contributions should be submitted, at least one month before publication, to the editor:
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