

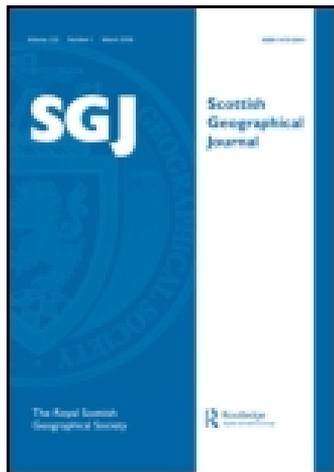
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Argentine Antarctic station

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41° F. Notwithstanding this difference in temperature, there was little difference in the animals observed on the two occasions. Those found in July were:—*Diaptomus gracilis* (blue and red, grey, red, blue), *Cyclops strenuus*, *Bosmina obtusirostris* (small purple), *Daphnia lacustris* (all pale red), *Eurycercus*, *Polyphemus*, *Triarthra*, *Polyartha*, *Anurcea cochlearis*, *Conochilus*, *Ceratium hirudinella*, *Dinobryon*. In March all the same animals were found, except *Polyphemus*, and there were in addition a few larvæ of *Corethra* (phantom larvæ), *Notholca foliacea*, a second species of *Ceratium* (*C. cornutum*—less common in lakes), *Mallomonas*, and a very small form of *Astrionella*. Near the shore large spheres of *Ophridium* were found on the weeds. In the mud from the bottom were found many *Rhizopods* of the species *Cyphoderia ampulla*, *Diffugia pyriformis*, *D. globulosa*, and *D. arcuata*. *Lobelia* and *Myriophyllum* were growing along the shore.

Loch na Creige Duibhe.—As this loch was only examined by means of a net thrown out from the shore, it is probable that some of the pelagic animals may have been missed. Those seen were *Diaptomus gracilis*, (reddish), *Cyclops strenuus* (yellow), *Alonopsis elongata*, *Chydorus sphaericus*, *Anurcea cochlearis*, *Bosmina obtusirostris*, *Arcella vulgaris*. A few of the commonest filamentous algæ and desmids were seen. *Astrionella* was scarce.

ARGENTINE ANTARCTIC STATION.

By R. N. RUDMOSE BROWN, B.Sc.

FROM the accounts of Mr. R. C. Mossman, the Director of the Meteorological and Magnetical Observatory at Scotia Bay, South Orkneys, it is now possible to give some outline of its first year's work under Argentine auspices. This station, it will be remembered, was built and set in working order during the winter of 1903, which the Scottish National Antarctic Expedition spent at the South Orkneys. When the *Scotia* returned in December of that year to Buenos Aires to coal and refit, Mr. Mossman, the meteorologist, was left in charge of a party to continue the observations until the return of the ship. The Argentine Government agreed with Mr. Bruce to take over the observatory for another year, and in February 1904 the *Scotia* landed three Argentine scientists to remain with Mr. Mossman, who had been asked by the Argentine Government to assume the directorship. Mr. Mossman had with him Messrs. L. H. Valette, H. Acuna, E. Szmula, and William Smith. Mr. Valette was naturalist of the station, and among many valuable observations and collections made by him perhaps the most interesting are the capture of a young Ross Seal (*Ommatophoca Rossii*) and the record of a Sea Elephant (*Macrorhinus leoninus*), which came ashore at Scotia Bay on April 11th, but was not captured. This is the first recorded occurrence of a Sea Elephant at the South Orkneys.

Mr. William Smith was originally a member of the *Scotia's* crew, and agreed to remain a second year with Mr. Mossman.

The weather experienced at the South Orkneys in 1904 seems to have been very different to that in 1903, being more severe, but fine for longer periods at a time.

The lowest temperature of the year occurred on August 3rd and 4th. On both these days a minimum of -40° F. was recorded, with a mean on the latter day of -33° F. In 1903 the minimum registered was -26° F. on June 19th, and the mean of that day was -19.3° F. On June 26th, 1904, the daily mean was -19° F., with a minimum of -26° F. In 1903 the coldest snap of the year was from September 1st to 4th, with a daily mean of -21.8° F. on the 2nd, and a minimum of -25.8° F. In both 1903 and 1904 a cold snap occurred in October with a minimum of -9.1° F. on October 3rd, 1903, and a minimum of -25.0° F. on October 11th, 1904. October 1904 had a monthly mean of 18.4° F. as compared with 27.0° F. in 1903.

The other monthly means of 1904 are not yet obtainable, but those figures will show how much the temperature of the two years has differed. Mr. Mossman notes that December of last year was a cold month with almost continuous frost; in 1903 the mean of December was 31.5° F., and the lowest temperature recorded was only 25.4° F. In 1903 a phenomenally high temperature of 46.8° F. was recorded on May 31st during a Föhn wind. A similar occurrence took place on August 28th, 1904, but the temperature rose no higher than 40.0° F. Mr. Mossman records the unusual occurrence of a heavy thunderstorm in August and again in October.

The continual snowstorms which were the most unpleasant feature of the weather of 1903 were not nearly so common last year. As late in the winter as the middle of July 1904 there was less than a foot of snow on the beach, while the previous year there were some three or four, and the fact of there being as much as thirty feet less drift in one place under the cliffs shows how much finer the weather must have been.

After July there was more snowfall, but even then it was apparently not so excessive as in 1903.

In 1903 the severest gales were from the NW. to SW., but in 1904 Mr. Mossman mentions at least three severe gales from the SE., a direction from which they were seldom experienced the previous year.

These strong contrasts between the weather of the South Orkneys in two consecutive years are doubtlessly due to the difference in the disposition of the pack ice. In 1903 the pack ice never extended many miles north of the island. Throughout the winter there was probably open ocean within ten miles in that direction and often nearer. On her first approach to the South Orkneys, in February 1903, the *Scotia* met the pack in $60^{\circ} 20' S.$, $43^{\circ} 50' W.$, only some eighty miles north of the latitude of the islands.

In marked contrast was the state of affairs in 1904, when the *Uruguay* had to penetrate 240 miles of pack lying to the NW. of the South Orkneys, her first encounter with the ice being in $58^{\circ} 40' S.$, $50^{\circ} 30' W.$

In 1903 Scotia Bay was finally frozen on April 1st and broke up again on November 23rd, while in 1904 it was frozen on May 11th;

but when the *Uruguay* left the South Orkneys on January 1st this year it was still frozen, with open water fully two miles off, and heavy pack jammed against its mouth. And so with other bays—two different ones near Scotia Bay were fully two months later in breaking up last year than the year before. Mr. Mossman considers that 1903 must be looked on as an early season for that region. The lower temperatures and more steady weather, with far less snow, made travelling over the floes relatively easy, and certainly much less precarious than it was on the unstable and ever-shifting floes of 1903.

The ice during the past year was everywhere close and compact and in excellent condition for travelling. Comparing the possibilities of sledging and surveying in the two years, Mr. Mossman says, "This season all would have been different; the weather was remarkably fine for days together, and the survey of Coronation Island, an impossibility last winter owing to the disturbed ice conditions, would not only have been practicable but easy."

As regards the natural history of the South Orkneys there appear to have been no great discoveries made this last year, with the exception of the capture of the young Ross Seal and the record of a Sea Elephant noted above. But while penguins were very scarce in 1903 after the month of April, Mr. Mossman has records of flocks of several hundred seen in both May and July, all moving north. However, despite the very different conditions of these two years, the penguins and other birds began to lay at practically the same time in both years. From the number of cuttle-fish beaks found in seals' stomachs the Scottish Expedition had the strongest evidence of the existence of a large cuttle-fish in South Orkney waters, so that the capture by the Argentines of one with a body over six feet long is of special interest.

On December 31st the Argentine sloop-of-war *Uruguay* arrived to embark Mr. Mossman and his companions, and land a party of five for the present year. She sailed again on the following day, and on leaving the South Orkneys struck westward with the intention of searching for records left by Dr. Charcot's Antarctic Expedition in *Le Français*; and Mr. Mossman gives some details of this voyage in addition to what has already been made known.

The South Orkneys were left on January 1st, 1905, and after much difficulty and not without some risk the *Uruguay* sighted the South Shetlands on January 7th, and next morning anchored in the crater harbour of Deception Island. No despatch from Dr. Charcot was found here, and a letter recording the visit of the *Uruguay* was left. Bad weather detained the ship for twenty-four hours, and then she left for Belgica Strait. Wiencke Island, at the south end of the strait, the next spot to be searched, was reached on January 10th. A careful search of the east side of the island failed to reveal any cairn or beacon, and no landing was made. It was unfortunate that Neumayer Channel on the west was blocked with a line of icebergs from Cape Felicie to Cape Astrup, which effectually barred the progress of the *Uruguay* and rendered a search of that side impossible. From this point Commander Galindez had intended to strike SW. into the Pacific, but heavy ice

from Cape Errara to Cape Benard prevented this. The night of January 10th was spent under the lee of Two Hummocks Island, and on the 11th the *Uruguay* sailed for Smith Island. Thick weather was experienced, but, despite an anxious time, the ship was not long in passing Smith Island and gaining the open ocean. Sighting Cape Horn on January 15th, she anchored the same evening at Harberton in Beagle Channel, and two days later reached Ushuaia. After many delays due to bad weather the *Uruguay* finally reached Punta Arenas on January 28th, and Buenos Aires on February 8th.

PROCEEDINGS OF THE ROYAL SCOTTISH GEOGRAPHICAL SOCIETY.

At a meeting of Council, held on Tuesday, March 14th, the following ladies and gentlemen were elected members of the Society :—

David Sinclair, M.B.
 Wm. Lindsay Hatrick.
 A. T. Aylmer.
 George S. M'Nair.
 Dugald Bannatyne.
 John Bisset Vétel.
 George Sandeman, M.A.
 Chas. Herbert Brown, M.A., LL.B.
 Wm. Robert Ovens, of Peel.
 Thomas J. Lindsay.
 Robert Innes.
 Chas. Edward Hamilton.
 John Nisbet.
 Dr. R. Home Henderson.
 George Wm. Russell Millar.
 Mrs. E. H. Mills.
 Mrs. Mathieson.

Mrs. Hugh Auld.
 David Gillespie.
 Fred. William Martin.
 Miss Howden.
 Alan L. Menzies.
 Miss C. Fenton.
 Rev. W. S. Sutherland.
 Miss Christie.
 William Kerr, J.P., F.E.I.S.
 Miss A. L. Forbes.
 Miss Muriel Campbell.
 Elliot W. D. Roddick.
 George Aimers Barclay.
 Webster Brown, C.E.
 George Thomas Hobart.
 Fred. C. Kennedy, C.I.E.
 Ewen Cameron.

LECTURES IN MARCH.

At Aberdeen, on the 13th March, Mr. S. Turner delivered an address on his expedition to the Altai Mountains, Siberia. Mr. John Clarke presided. On the following dates Mr. Turner repeated his address before our Dundee, Edinburgh, and Glasgow centres. Professor J. Yule Mackay occupied the Chair in Dundee, and Mr. J. G. Bartholomew in Edinburgh.

On Thursday, 23rd March, in Dundee, in the absence owing to illness of Mr. St. Hilaire Belloc, Mr. Shackleton delivered an address on "The Antarctic." Mr. J. C. Buist occupied the Chair.

On the 28th and 29th March, Dr. Tempest Anderson addressed the Society in Edinburgh and Glasgow on "The Volcanoes of the Lipari Islands."