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The history of Granite House and the western geological party of Scott's *Terra Nova* expedition

B. Schroeter
Botanisches Institut, Universität Kiel, Olshausenstraße 40, D-24098 Kiel, Germany
T.G.A. Green
Department of Biological Sciences, University of Waikato, Hamilton, New Zealand
R.D. Seppelt
Australian Antarctic Division, Channel Highway, Kingston, Tasmania 7050, Australia

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ABSTRACT. In summer 1911–1912, during Robert Falcon Scott's *Terra Nova* expedition (1910–1913) a field party of four men led by the geologist Griffith Taylor surveyed the coast and hinterland of Victoria Land, Antarctica. During their stay at Cape Geology (77°00'S, 162°35'E), Granite Harbour, the members of the 'western geological party' built Granite House, a rock shelter used as a kitchen. The field party finished its work in the Granite Harbour region in the second week of January 1912, but heavy sea ice prevented *Terra Nova* from reaching the prearranged meeting point at the entrance to the bay. Faced with the possibility of being trapped for the winter, the party left Granite Harbour and travelled overland back toward the winter quarters on Ross Island. One month later the party was picked up by *Terra Nova* and was returned safely to Cape Evans. During an expedition to Granite Harbour in January–February 1992, the authors discovered an 80-year-old note left by the field party in a cigarette tin in the vicinity of Granite House. Dated 14 January 1912, the note was written by Taylor to Lieutenant H.L.L. Pennell, the skipper of *Terra Nova*, to let him know that the party had left for Cape Roberts. Granite House is a significant relic of the 'heroic era' and merits protection.

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Introduction

Status as a Historic Site Reserve has been proposed for Granite House, a rock shelter located at Cape Geology (77°00'S, 162°35'E), Granite Harbour, Victoria Land. Granite House was built in December 1911 for use as a field kitchen by the second 'western geological party' during Robert Falcon Scott's *Terra Nova* expedition of 1910–1913 (Huxley 1913). However, the history of this structure started during Scott's first voyage in *Discovery* (1901–1904).

On 20 January 1902, during the search for winter quarters along the Victoria Land coast, *Discovery* entered Granite Harbour, a well protected bay. A shore party explored the natural harbour for several hours. However, *Discovery* steamed on and found open water stretching another 100 km south to Ross Island, where winter quarters were erected at Hut Point. During the earlier landing at Granite Harbour, however, the shore party was deeply impressed by the geological features of the landscape. No doubt because of these findings a sledging party was sent out in 1911, during the *Terra Nova* expedition, to investigate the area.

The western geological party 1911–1912

Considerable scientific work was carried out during Scott's second expedition, much of it conducted by a series of field parties. During the austral summer of 1910–1911 a geological party under the Australian geologist Griffith Taylor surveyed the coast and hinterland of Victoria Land south of Cape Bernacchi as far as Mount Discovery. After wintering at Cape Evans, Ross Island, Scott decided that the geological exploration of the coast of Victoria Land should be continued northward paying special attention to the Granite Harbour region (Fig. 1).

The western geological party comprised four men: Taylor, the senior geologist and leader; Frank Debenham, also an Australian geologist; Tryggve Gran, a Norwegian ski expert; and Robert Forde, a petty officer in the Royal Navy (Fig. 2). The achievements of the western geological party were reported by Taylor (1913, 1916), as well as in the diary of Gran (1984).

Originally, the party planned to leave Cape Evans about 22 October 1911, but Debenham injured his knee two days before and had to spend several weeks in his bunk, and Forde was disabled by severe frostbite to his right hand. On 5 November Taylor, Gran, Forde, and Edward Nelson, a zoologist whose specialty was the study of invertebrates, left Cape Evans to establish a depot about 15 km short of Butter Point; they returned on 11 November. Finally, on 14 November, Taylor, Debenham (still with a lame leg), Gran, and Forde set off for Granite Harbour, with Nelson and Anton Omelchenko (the Russian pony groom) in support for the first four days.

Although most of the next 16 days consisted of manhauling two sledges, each with a load of about 400 kg, when the wind was favourable they 'sailed' the sledges with a large floor cloth as a sail and bamboo poles as the mast. On 26 November they approached Granite Harbour in moderate weather (about –4°C), and on 30 November they camped at Discovery Bluff, the inner entrance to the harbour.

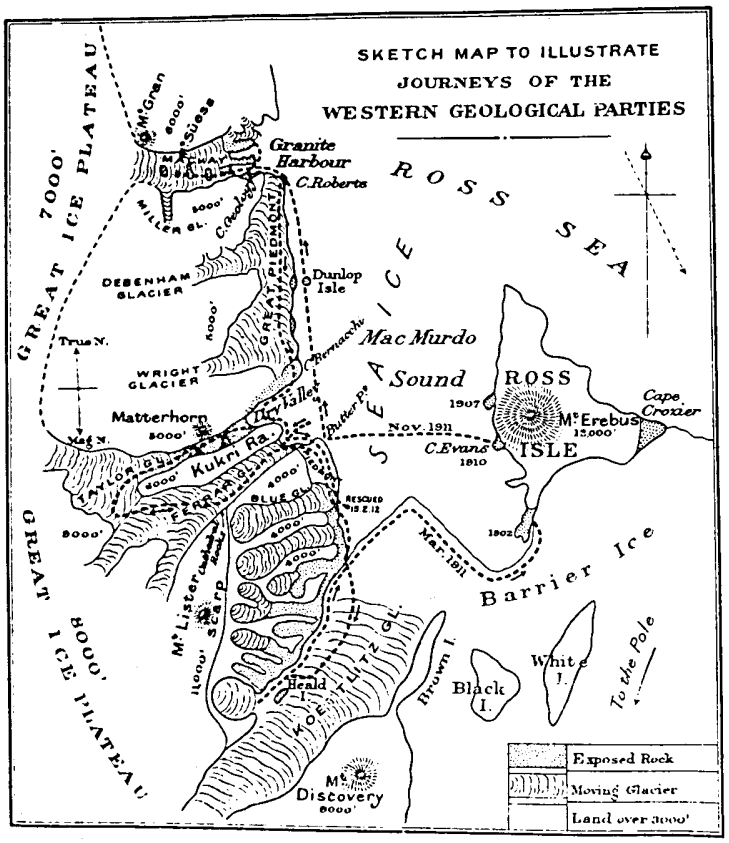

Fig. 1. Map of the western geological journeys during the *Terra Nova* expedition 1911–1912 (from Taylor 1913: 284).

The party's headquarters were erected on Cape Geology for the next six weeks, and a stone kitchen named Granite House was built for the blubber stove. Until 13 January 1912 the party surveyed the Granite Harbour region on several excursions to Discovery Bluff, Mackay Glacier Tongue, Cuff Cape, Devil's Punch Bowl, Mount Suess, Gondola Ridge, and Flat Iron. Large collections of geological specimens, fossils, lichens and mosses (Darbishire 1923), and insects were made. The work was completed in the second week of January, but, despite summer temperatures, the ice in the bay was as solid as when they had entered. Because *Terra Nova* would be unable to reach the party at Granite Harbour, the original plan to take them north to Evans Cove for some weeks was cancelled. After several discussions Taylor decided to leave the headquarters, and, on 14 January, leaving detailed notes for Lieutenant H.L.L. Pennell, the skipper of *Terra Nova*, the party set off for the more accessible Cape Roberts, about 14 km to the east. A collection of several hundred kilograms of geological and biological specimens was left behind on a sledge to be retrieved later, together with items not essential for the return journey. They camped at Cape Roberts and waited for relief. On 20 January they sighted *Terra Nova* 20–30 km distant, trying to push her way through the pack ice. Until 23 January *Terra Nova* was frequently in sight, but it proved impossible to reach her over the pack ice, and no communication with the ship was possible. After cutting down rations by half; depositing one week's provisions (in case they had to return); abandoning dirty clothes, books, Taylor's heavy Browning camera, and several glass plates; and carefully storing the narrative report (a detailed account on the sledging journey with several sketches and maps (Taylor 1912)), on 27 January they left Cape Roberts for Cape Bernacchi and Hut Point with 10 days' provisions. After strenuous sledging, they reached Cape Bernacchi on 8 February and then arrived at the Butter Point depot on 13 February. Nearby there was open water, and, after following the coast and crossing Butter Point Glacier, they were picked up by *Terra Nova* on 15 February. At the Cape Evans hut the party split up, with Taylor leaving the expedition on board *Terra Nova* and the others wintering again at Cape Evans.

One year later, on 18 January 1913, *Terra Nova* returned to Cape Evans. She left Ross Island one day later with the surviving members of the expedition. On her way north, *Terra Nova* anchored at the mouth of Granite Harbour, 2 km north of Cape Roberts. On 23 January Gran led a party of six to recover the specimens left behind the year before. On their way through the pack ice to Cape Geology, some 10 km distance, the shore party had to cross open water by stretching canvas over the sledge to make a kayak. They returned to the ship the same afternoon with nearly 300 kg of rocks and fossils.

The history of Granite House

One problem that continually faced the sledging parties was the lack of a good camp site on land. So, when the western geological party entered Granite Harbour, the members were extremely pleased to find a flat gravel site in the midst of massive granitic rocks and boulders at Cape Geology. It was decided to use the site as a base for further exploring trips, so efforts were made to improve the facilities. Because the stove, which burned seal blubber, produced excessive fumes, they preferred to keep it outside the sleeping tent, so a rock shelter was constructed by Gran and Forde for use as a field kitchen. Use was made of a natural gully in a granite outcrop about 30 m northwest of their tent. The gully was about 1 m deep by 2 m wide, and was closed at the seaward side by an almost vertical wall. Construction started on 30 November, the day of their arrival at Cape Geology, and was finished on 3 December.

In his account of the expedition, Taylor (1916: 354–355) reported about the construction of Granite House: 'Buttresses of granite crossed the beach, and between two of these was an area where our kitchen was almost half built. Surrounded on three sides by solid granite walls three feet high was an enclosure which we managed to roof in well enough to hold the blubber stove. Forde and Gran were especially keen on this edifice, which they called Granite House from Verne's *Mysterious island*.'

Fig. 2. The western geological party on board *Terra Nova* on 15 February 1912, the day they were picked up. Left to right: Taylor, Debenham, Gran, and Forde (from Huxley 1913: facing page 222).

Granite blocks were used to build a wall across the open (landward) end of the gully to close it off but leaving a doorway for access. There was no lintel across the doorway. One of the two sledges formed the roof beams, over which seal skins were draped. A small (2.3 by 2.0 m) room was thus completed. The final touch was to pack moss into the cracks in the walls to exclude the cold wind that blew down from the hills. Figure 3 shows Granite House in December 1911.

Granite House was both the work room for the day's cook and the dining room for the party. Additionally it served as a room in which to celebrate special occasions, such as Taylor's birthday on 1 December 1911. On this occasion the blubber stove was inaugurated, and Debenham, who relieved Taylor for his cooking duty in the evening, prepared seal steak with great success (Gran 1984).

On 10 December Gran and Taylor constructed the first 'vegetable garden' within the Antarctic Circle by sowing seeds of sea-kale in mossy ground on a sheltered spot facing the noon sun. Returning from an excursion of several days on 8 January, they found 12 seedlings sprouted.

In preparing for their retreat to Cape Roberts, the members of the party dismantled Granite House. The sledge that formed the roof was taken down, loaded with geological and biological specimens, and left for *Terra Nova* to collect later. When the party left Cape Geology on 14 January, Granite House looked 'very woe-begone...with the sealskins flapping dismally on its walls' while the skuas pounced 'eagerly on our specimen bags, and flew off some distance with several, in the hopes of finding some dainty morsel' (Taylor 1916: 396).

The present condition of Granite House

Granite Harbour has rarely been visited since the original trips by Scott's party. Despite the graphic accounts of abundant plants and insects reported by Taylor (1913, 1916), the site was probably not revisited for nearly 50 years.

During the Commonwealth Trans-Antarctic Expedition (1955–1958), a geological party worked at the northwest corner of Granite Harbour but did not visit Cape Geology. The first group to visit Granite House was most likely a US geological party led by R.L. Nichols on 24 November 1959 (Marvin 1983; Harrowfield 1988). This party documented Granite House and several artefacts that were found in the vicinity. Forty-seven years after the western geological party left Cape Geology, the members of the US party found Granite House more or less unchanged, with an intact sledge nearby and an ice axe standing erect. On the sledge they found several boots, a tobacco box, a gasoline tin, toilet paper, canvas, leather straps, and two books in perfect condition: *The secret of the island* by Jules Verne and *Tales of mystery and imagination* by Edgar Allan Poe. Both books were later returned to their owners: Debenham in Cambridge, and Taylor in Sydney, respectively. Loose items were also found on the ground, such as biscuit tins, gasoline tins, more boots, and bamboo poles, but no written accounts. However, no attempt was made to document and preserve the remnants of the western geological party. Marvin (1983) reported that in 1981 Granite House was still in good condition, with intact entrance walls. But most of the loose items were missing and the sledge had been dismantled, with only one runner remaining.

When the authors visited Granite House in January 1992, a considerable portion of the original structure remained. A comparison of the original photograph with that taken in January 1992 (Fig. 4) shows that one half of the doorway is essentially intact whilst the other had

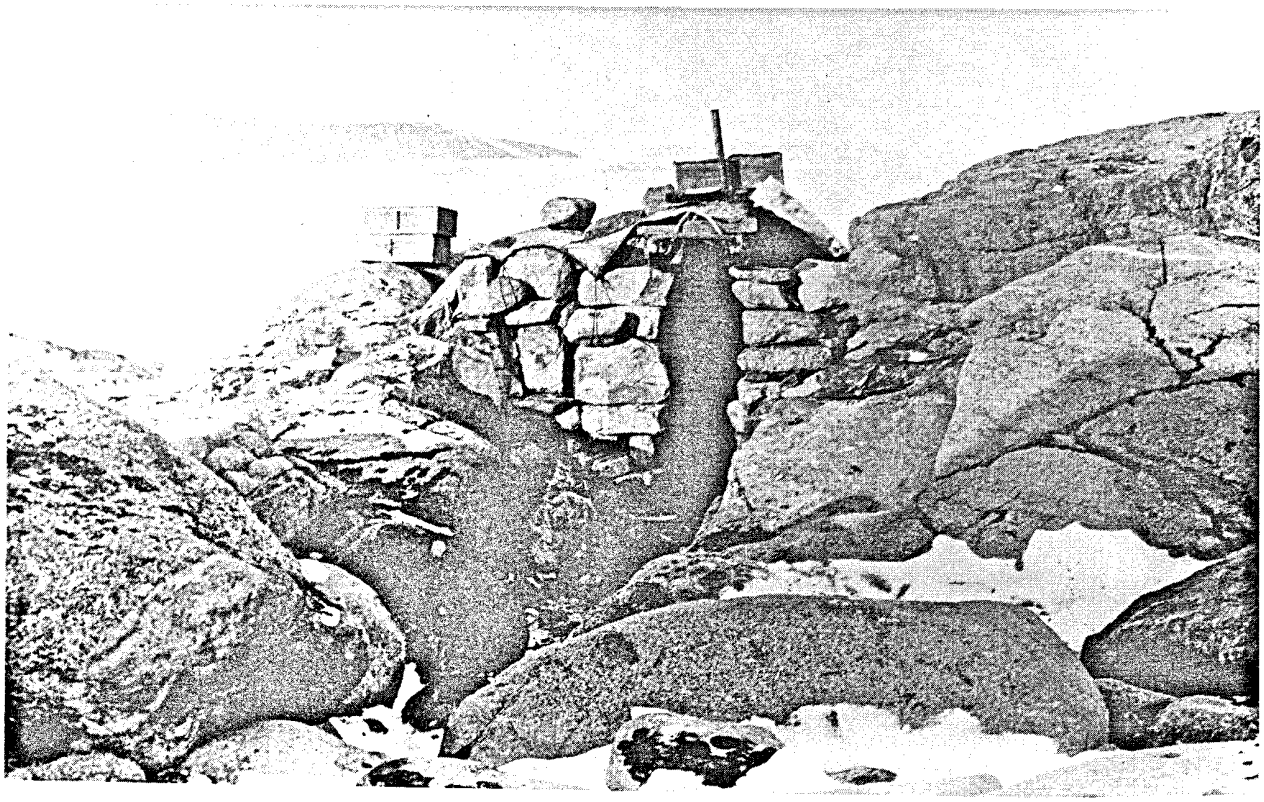

Fig. 3. Granite House in December 1911. The sledge forming the roof is covered by sealskins with the runners positioned on the door frame. The sealskins are weighed down by food boxes, and two rocks that held the roof in place can be seen hanging on a rope on the left side (from Gran 1984: 65, plate 8).

collapsed at some time between 1981 and 1989. A rock that was used to hold the roof in place by being hung as a weight on a rope can be seen at the top of the original photograph (Fig. 3) and at the bottom of the wall in the more recent one. The walls appear much more coarsely constructed in the modern photograph. This is because the moss originally used for packing has almost entirely fallen from between the blocks. However, sufficient moss remained for an identification of the species to be made. The party seems to have taken the largest and handiest plants, which were *Pottia heimii*, *Bryum argenteum*, and *Bryum pseudotriquetrum*. Encrusting lichens are on some of the moss, the species being *Caloplaca citrina* and *Lecanora expectans*. These species are also common in the vicinity today. Granite House is one of the few structures in the Antarctic in which the local flora has been exploited as a building material.

The roof had been dismantled when the original party departed. In 1992 one of the sealskins lay on the floor of Granite House, and one lay over the northeastern wall of the structure. A third skin lay at the western end of the tent site and was in close proximity to the remnants of the sledge frame used for the roof. Both runners were missing. Several leather straps with buckles lay under or close to the sledge frame. Almost all of the original structure was still present although not always *in situ*. Some loose items had been weighed down with rocks by visitors to prevent further dispersal by the wind.

Evidence of the use of Granite House lay in and around the structure. A natural ledge at the base of the northern wall, opposite the door, was the point where the stove stood, and there were extensive black deposits of rendered blubber nearby. An area just outside the door had clearly been used as a disposal point for rendered blubber waste. On the floor adjacent to the ledge on which the stove stood were pieces of calico material (possibly a food bag), string, and some lightweight paper (partly covered by blubber waste). There were also a few bits of rusty tin and a tin modified to form a collar that could have been part of the stove chimney. The wing of a dead skua also lay beneath some of the rubbish, but it is probable that this was blown in after the party had left, as the remains of dead skuas can be found throughout the vicinity. A complete paraffin tin lay in the southwestern corner of the floor, and a second was found about 500 m west, on the beach. Assorted bits of rusted metal from different sized containers lay in the general vicinity of Granite House.

The Griffith Taylor note

One of the basic rules for the sledging parties of Scott's *Terra Nova* expedition was depot laying at strategic points on their journey (which, in the case of the western geological party, saved the lives of Victor Campbell's northern party on their retreat). Because of the lack of communications, the 'post box method' was employed to deposit written notes about the progress of a party and its probable route. This was essential for any search party.

Thus, on 3 December, before leaving Cape Geology on a surveying trip, Taylor and Gran climbed Rendezvous Bluff and planted a flag with notes about their plans for

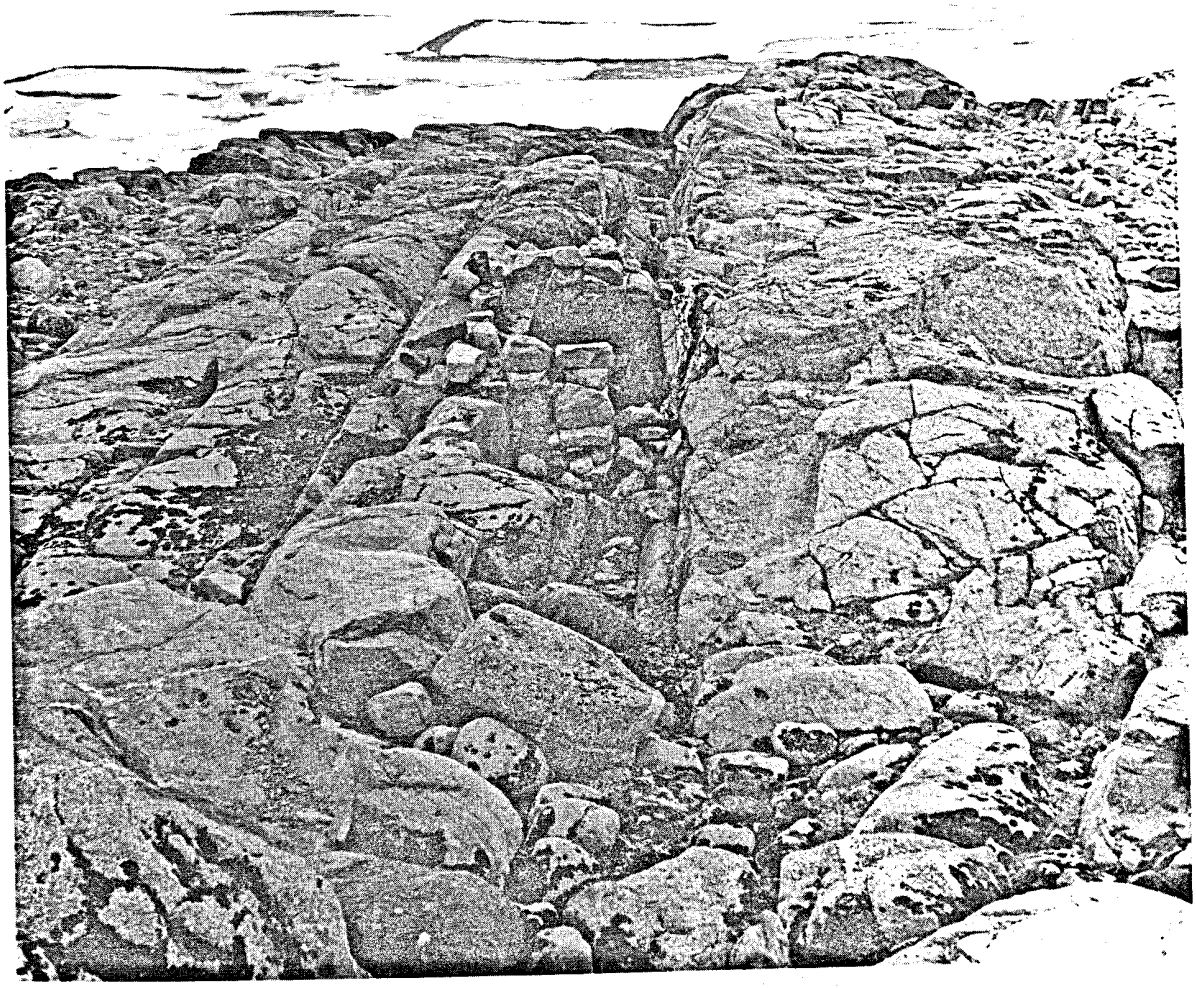

Fig. 4. Granite House, January 1992.

Pennell. On 5 December, before leaving for Mackay Glacier Tongue, Taylor deposited a note in a burberry envelope in Granite House (Taylor 1912). The signal flag was inspected several times during their stay in the Granite Harbour region and the notes were kept up to date. On 14 January, when the party decided to leave Cape Geology for Cape Roberts, another note was placed in a cigarette tin in, or near to, Granite House in order to ensure that the more important note at Rendezvous Bluff would be found even if the signal flag collapsed (as it did several times during the summer because of strong winds). Several more detailed notes were deposited on their retreat along the coast. At Cape Roberts the party left the extensive narrative of the western party, which was later found by the northern party. Also, on their retreat over the Piedmont, several notes were deposited that were never found. On 8 February, at Cape Bernacchi, Taylor (1916: 409) wrote: 'I wrote the usual letter to Pennell. I had left two in Granite Harbour and two on the Piedmont now, and it did not look as if any would ever be read.'

In a retrospective of the western geological party, Taylor (1916: 32) later wrote:

> Scott gave me my sledging orders [for the western journey]. The method of our relief by the ship seemed rather comic. We were first of all to find Granite Harbour....Here we were to await Captain Pennell in mid-January. No one on the ship had seen Granite Harbour either...the harbour was a dozen miles wrong latitude....We rendezvoused there as required but our letters and flag on the bluff remain undisturbed to this day!

Indeed, despite the later visits to Cape Geology and Granite House and the disappearance of a number of significant artefacts of the expedition, it took 80 years before Taylor's letter to Pennell was discovered near Granite House.

After a brief visit in December 1989, which confirmed the claims about the flora and fauna made by Taylor (1913, 1916), a four-week expedition by the authors carried out botanical research at Granite Harbour in January 1992. During the course of our work we discovered a small (7 x 4 x 2.5 cm), rusty cigarette tin, which was marked 'London' and was clearly an artefact of the western geological party. It contained some rusty-coloured paper with Taylor's message to Pennell. The letter (Fig. 5) was dated 14 January 1912, and read:

> Dear Pennell
>
> We have left these headquarters (Camp Geology) for a more accessible one on Cape Roberts which is on the route any ship or party must take to reach the Rendezvous.
>
> We shall wait at C Roberts (8 m east of this) until

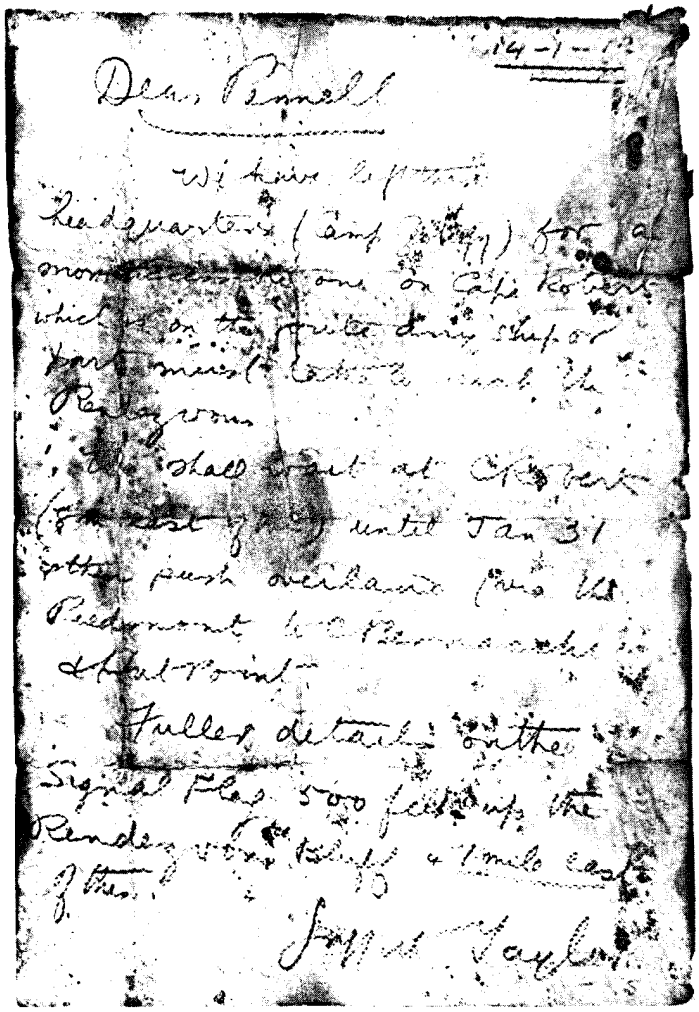

Fig. 5. The original Taylor note for Pennell.

Jan 31 & then push overland via the Piedmont to C Bernacchi & Hut Point.

Fuller details on the Signal Flag 500 feet up the Rendezvous Bluff & 1 mile east of this.

Griffith Taylor

The message, written in pencil, was brief but contained sufficient information for the party to be found by the ship. It is a poignant reminder of the conditions under which the early expeditions worked, and the simple, but effective, techniques that they used to minimize the risks.

Conclusions

The flora at Granite Harbour is now known to be extremely rich for this latitude and includes about 31 lichens, seven mosses, and one hepatic (Unpublished results). Invertebrates (collembolids, mites, tardigrades, rotifers, and nematodes) are very abundant. There are also between 40 and 50 breeding pairs of skuas, exactly as described by Taylor (1913, 1916) and Gran (1984), despite many of the eggs having been eaten in 1911–1912. There are no other bird species known to breed in the Granite Harbour area. However, the beauty of this area is still fragile.

Following the 1989 visit, special reserve status was considered for the area. A proposal was submitted to SCAR in 1991 to establish a Specially Protected Area at Botany Bay, a Site of Special Scientific Interest at Cape Geology and almost all the adjacent ice-free area, and a Historic Site Reserve for the Granite House and camp-site area. Granite House is clearly a significant relic of the 'heroic era' of Antarctic exploration and merits protection on this basis alone. However, the rise in popularity of tourism in the region means that isolation is no longer a guarantee of preservation. Using modern technology and support it is now possible to travel the same distance as the western geological party in six to eight hours by icebreaker or in about 90 minutes in a helicopter. It is to be hoped that Historic Site Reserve status and its subsequent protection will be granted to Granite House.

The historic note of Griffith Taylor will be deposited at the Scott Polar Research Institute, Cambridge, to complement its collection of relics of Scott's last expedition.

Acknowledgements

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