

EARLY NINETEENTH CENTURY SEALERS' REFUGES ON LIVINGSTON ISLAND, SOUTH SHETLAND ISLANDS

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ABSTRACT. A brief history is given of the fur seal industry in the South Shetland Islands during the 19th century. When the islands were discovered in 1819 they abounded with fur seals, particularly Byers Peninsula, Livingston Island. During the period 1820–23 several hundred thousand skins were taken and the population was almost exterminated, although there was a modest revival of the industry during the 1870s and 1880s. During the first two or three years of fur seal exploitation up to 200 men lived ashore for part of each summer, on the western part of Livingston Island, in small drystone huts and in caves. The distribution of these relics of habitation is documented and an illustrated account given of artefacts found in two of these. The importance of these historical sites throughout the South Shetland archipelago is stressed and a plea made for their conservation and for a professional archaeological survey to be made.

INTRODUCTION

The discovery of the South Shetland Islands (Fig. 1) has been attributed to the Englishman William Smith who, in the brig *Williams*, was blown far to the south of Cape Horn during a trading voyage between Buenos Aires and Valparaiso. He sighted land in the archipelago on 19 February 1819 and revisited the same locality to make the first landfall later in that year. He landed on King George Island on 16 October and took possession for King George III (see Anon, 1820*a–d*; Miers, 1820; Gould, 1941; Anon, 1950; Jones, 1975). Within a few months other islands in the group were claimed by English seafarers, notably Joseph Herring, the mate of *Espirito Santo* (Captain Rodrigo), landed on an island and took possession of the entire archipelago on 25 December 1819 (Anon, 1820*e*; Jones, 1971), while on 4 February 1820 Edward Bransfield (*Williams*) claimed Clarence Island in the Elephant Island group (see Anon, 1821; Bone, 1821*a–c*; Anon, 1946).

Following the announcement of the British discovery of the South Shetland Islands several reports from United States sources claimed that American sealers had, in fact, been operating at the islands at least a decade earlier (see Mill, 1905, p. 92; Bertrand, 1971, p. 36). However, no logbook of such voyages is known and none of the sealers who authored narratives ever directly made such an assertion (Bertrand, 1971). Fanning (1833) maintained that the South Shetlands were first seen by the Dutchman Capt. Dirck Gherritz in 1599, then later by the Frenchman A.-F. Frézier in 1712, who called them South Iceland. However, there is no foundation to these 'claims'. There is also no substantive evidence to support Beltramino's (1972, p. 14) statement that the Argentine sealing industry was operating in the South Shetland Islands before

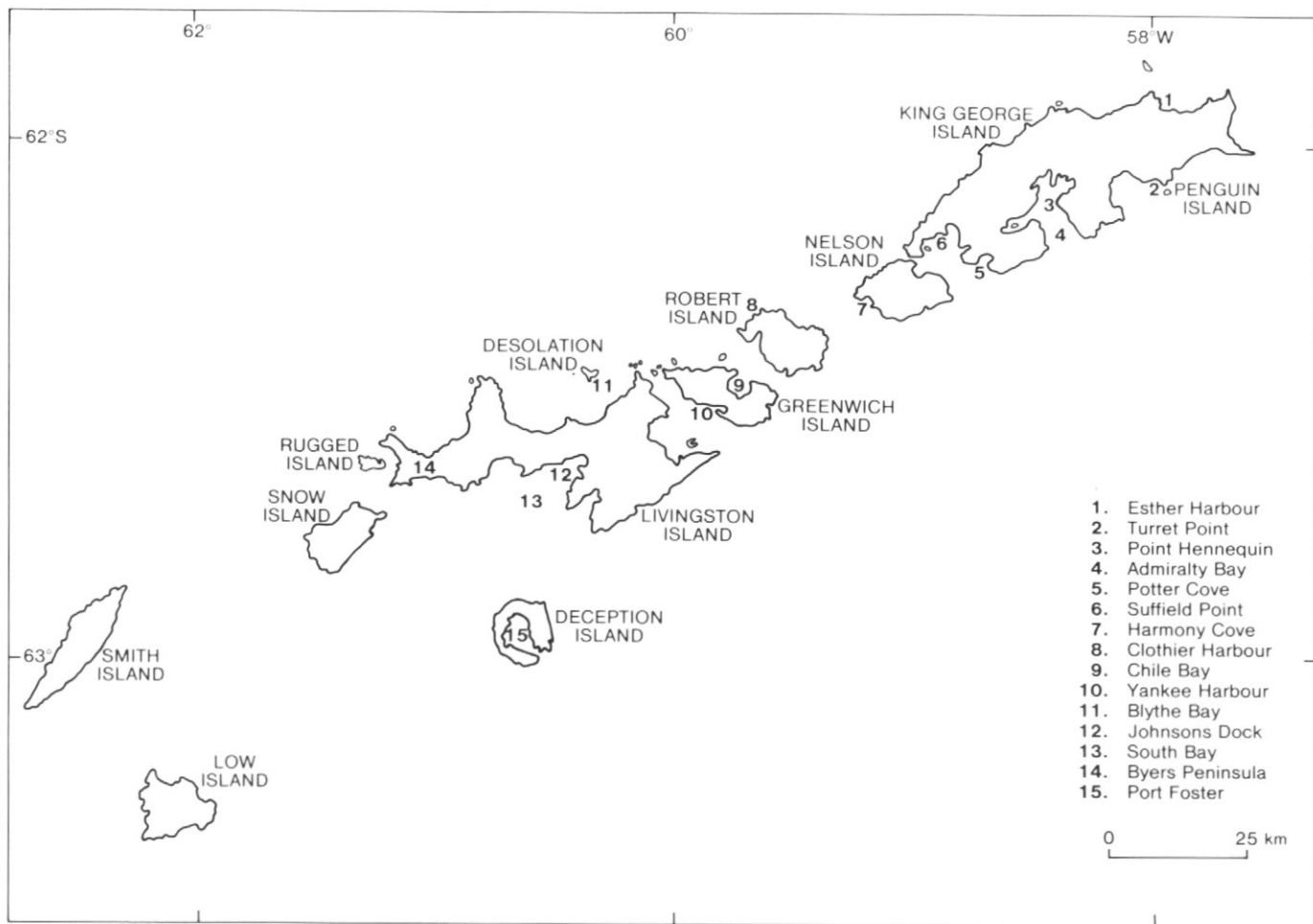


Fig. 1. The South Shetland Islands showing localities referred to in the text.

1819: 'As long ago as 1818, when the northern hemisphere was unaware of the existence of Antarctica, small sealing vessels were sailing from Buenos Aires for the islands now known as the South Shetlands. They included the *Director*, *San Juan Nepomuceno* and *Espirito Santo*.' In fact, the latter two ships were not operating in the islands until the 1819–20 season, after they had been discovered by William Smith (see Headland, in press). Similarly, Capdevila's (1978) detailed list of early Argentine voyages to Antarctica claims several pre-1819 visits to the archipelago, but Headland (in press) disputes these also.

EARLY SEALING ACTIVITIES IN THE SOUTH SHETLAND ISLANDS

These early explorers all remarked on the incredible numbers of fur seals (*Arctophthalmus gazella*) on many of the beaches and, because of the high price such skins fetched on the China market, exploitation of their stocks commenced immediately. Sealing expeditions sailed from ports in England and on the eastern seaboard of the United States of America to harvest this newly discovered wealth. It is recorded that Capt. Rodrigo's (*Espirito Santo*) British sealing expedition* from Buenos Aires, in December 1819 and January 1820, found seals 'in countless multitudes.... Of these, in 33 days, they killed vast numbers, the skins of which they sold at Buenos Aires at a very low rate' (Anon, 1820*e*). The first ship believed to have taken fur seals in the South Shetland Islands and return to port was the *San Juan Nepomuceno* (Captain Carlos Tidblon or Timblon) of the Buenos Aires Province sealing expedition, which reached Buenos Aires on 22 February 1820 with 14600 skins (Jones, 1985*a*). The first United States sealing expedition to the South Shetland Islands was by James P. Sheffield in the *Hersilia*. He took 8868 (reported as 11000 by Clark, 1887) fur seal skins during 15 days in January 1820, and saw 300000 seals, while based at Rugged Island off west Livingston Island (Bertrand, 1971, p. 47). According to Fanning (1833):

After procuring several thousand skins of the choicest and richest furs, as the weather or climate would not admit of their drying them at this place, they were therefore not prepared with a sufficiency of salt for a full cargo, but calculated to dry a part of the skins where they should take them; thus with as many as they had salt to save, they left Rugged Island, leaving, according to their estimation, 50000 fur seals.

Several other sealers were operating in January of that year. Numerous sheltered bays in the archipelago were used as harbours by sealing vessels. These included: Yankee Harbour (named Hospital Cove by the British) on the West Coast of Greenwich Island; Harmony Cove on the west of Nelson Island; Potter Cove on south-west King George Island; Blythe Bay on Desolation Island; Hersilia Cove on Rugged Island; New Plymouth (also called President's Harbour) on the west side of Byers Peninsula, Livingston Island; Johnson's Dock, South Bay, Livingston Island; Port Foster, Deception Island (Fig. 1). During the 1820–21 season there were at least 44 British and American and two Russian sealing vessels; William Smith (*Williams*) reported 15–20 British and 30 United States vessels (Jones, 1975). By 1821–22 at least 91 were reported to be taking fur seals. However, because of the reluctance of ships' masters to disclose the location of profitable sealing grounds and also because many

* The *Espirito Santo*, trading from London to Pernambuco in Brazil, was fitted out for a sealing expedition by some British merchants in Buenos Aires. It had a British crew and made a landing in the South Shetland Islands on 25 December 1819.

ships' logs and other records have been lost, most of these early sealing voyages have never been chronicled (Jones, 1971, 1985*a, b*). Unfortunately, many of the extant records give conflicting accounts of the number of seals killed.

Such was the devastation that the fur seal population of the South Shetland Islands (and also of South Georgia) was almost exterminated by the end of 1822, only three years after the discovery of the archipelago. Their numbers have never recovered, although there are now a few small breeding colonies on several of the islands. Weddell (1825, pp. 141–2) graphically recorded:

The quantity of [fur] seals taken off these islands, by vessels from different parts, during the years 1821 and 1822 may be computed at 320,000, and the quantity of sea-elephant oil, at 940 tons.... The system of extermination was practised however, at Shetland; for whenever a seal reached the beach, of whatever denomination, he was immediately killed, and his skin taken; and by this means, at the end of the second year, the animals became nearly extinct; the young having lost their mothers when only three or four days old, of course all died, which, at the lowest calculation, exceeded 100,000.

According to Clark (1887) within only a few weeks in the 1820–21 season over 250,000 skins (including 150,000 taken by the American fleet) were salted, while thousands of seals were killed and lost. However, the Board of Trade in London recorded 202,545 seal skins imported into Great Britain in 1821, of which 190,000 were taken from the South Shetland Islands; the total taken by the British and American fleets in 1820–21 may have been half a million fur seals (Jones, 1971, 1985*a*). Individual vessels were taking as many as 60,000 skins, e.g. William Smith of the *Williams* (Jones, 1975). Only small numbers of seals were taken over the next few years. In subsequent years the number of seals killed in the South Shetland Islands declined rapidly, with recorded catches by British vessels of 18,730 skins taken in 1821–22, 16,038 in 1822–23 and only a few thousand in 1823–24 and 1824–25 (Jones, 1985*a, b*). After this very few seals were killed. By mid-century there were only a few sporadic voyages; one ship took 500 skins in 1852–53 with no further culls until 20 years later. Then, because of high market prices, there was a revival by the American fur sealers during the early 1870s. However, accounts are confused.

Allen (1899) reported that between 1872 and 1888 45,000 fur seal skins were taken; Headland (in press) notes that three vessels took 8,000 skins in 1871–72, eight vessels took 15,000 skins in 1872–73, six took 10,000 skins in 1873–74, while four took over 6,000 skins in 1875–76 (Clark, 1887). An interesting summary of the situation was provided by Capt. J. W. Budington who wrote in 1892 of the South Shetland Islands' fur seal rookeries:

The shores of these islands were once covered with seals, but there are practically none there now. I don't think 100 skins could be taken from there at the present time, while I have known of 1 vessel taking 60,000 in a season. Since my experience began, however, the biggest catch was 13,000 by a fleet of 4 vessels; that was in 1871–72. I was there at that time. The next year we took about 12,000, the fleet consisting of 6 vessels. In 1873–74 our fleet of 7 vessels took about 5,000. Up to about 1880 from 100 to 200 seals were taken annually from these islands. Since 1880 the rookeries were not worked till 1888–89. That season I visited the islands and took 39 skins. I again went there this year [1890–91] and took 41.

Throughout the revival period up to several hundred barrels of elephant seal oil were also obtained.

During the first, and possibly during the second, sealing epoch sealers frequently lived ashore in crudely built huts and bothies, either free-standing or against a cliff

face, with walls constructed of boulders supporting a framework of timber or whale rib beams covered with sailcloth. In a few instances caves were made habitable by the erection of a wall across the rear portion of the cavern. The only record of sealers living ashore during the second sealing period was in 1876 when some of the crew of Capt. Budington's *Florence* wintered under a boat at Potter Cove, King George Island (Balch, 1904; Headland and Keage, 1985). It is not known if any of the early refuges were renovated and reoccupied, or even if any new huts were built, during the second sealing epoch. The sites of habitation occurred around the more sheltered bays of Livingston and King George Islands, in particular. Probably the most detailed account of the 19th century land-based sealing activities on Livingston Island has been provided by Stackpole (1953, 1955). The following anecdotes, from Stackpole (1955), provide an insight into British and American habitation on the islands:

On the western side of Livingston (largest of the South Shetland Islands) is President Harbour, called by the British 'New Plymouth'. A few miles away, the English sealers had already [November 1820] arrived and had set up camps along Livingston's north shore all the way from Start Point to Shirreff's Cape. (p. 20)

Captain Pendleton, their leader [of the Fanning-Pendleton Stonington fleet based at Rugged Island], apparently intended using President Harbour (or New Plymouth), on Livingston Island, as the headquarters for the fleet. Spars, casks, wood and other supplies were landed here by the *Hero* and *Express*. (p. 26)

At their three camps they [Captain Burdick and Davis] had collected 1,062 skins, while the Stonington camps during the same time had put aboard the *Hero* a total of 4,000 skins....Further than this, the log of the *Hero* shows that Captain Palmer was collecting skins on the north shore of Livingston Island as well, picking up from camps between Shirreff's Cape and Williams Point[*] in 'Blythe Bay' [on Desolation Island]. (p. 38)

'On December 19 and 20 [1820], Captain Burdick sailed the *Cecilia* to the three shore stations set up on the south coast of Livingston Island...'. His boat crew found '...about 50 men Stationed on this Beach which was about 7 miles in Extent which consisted Chiefly of the Stonington Co. which had landed 40 men' (ex Burdick, C., 1820. Log of the *Huntress* of Nantucket). (p. 37)

Captain Davis wrote on 26 January 1821 '...Concluded to make the best of our way for our People that is stationed on the South Beach, and then to go on a cruise to find new Lands, as the Seal is done here....' (ex Davis, J., 1821. Log of the *Huron* of New Haven, in Stackpole, 1955, p. 47).

Several vessels were wrecked around the archipelago (see Headland, in press) and survivors occasionally spent several weeks or months ashore before being rescued. The first men to winter in the Antarctic were the chief officer and ten of the crew of the *Lord Melville* (Capt. Clark) who were left ashore, involuntarily, at Esther Harbour on King George Island in 1821 (Roberts, 1958; Headland and Keage, 1985). Many pieces of wrecked ships litter numerous beaches in the South Shetland Islands, particularly along Robbery Beaches on Byers Peninsula and Cape Shirreff, Livingston Island.

An indication of the population of sealers encamped on Livingston Island during the height of the fur seal industry in the early 1820s may be gleaned from Stackpole's (1955) and Bertrand's (1971) accounts of developing hostilities between American and

* Williams Point is at the north-eastern extremity of Livingston Island and not on Desolation Island as suggested by Stackpole's reference to Blythe Bay.

British sealers on the island from November 1820 to January 1821. In fact there was even great rivalry between the crews of vessels from the same country. Smith (1844, p. 159, 161) described a conflict in 1821 between British sealers from the *Hetty* and *Indian*:

'on our landing, we were met by the crews of three vessels, who forbid us from taking any [seals], claiming the beach as theirs, as they had taken possession of it and were therefore determined to defend it as their own ground to the uttermost in their power' and 'The leading men of our party, seeing their audacity, instantly collared their leaders to prevent them from farther prosecuting their obstinate design. This act immediately threw the parties into confusion, which resulted in a general and bloody encounter, in which many were severely wounded.'

Captain Burdick recorded in the log of the *Huntress* (see Stackpole 1955, p. 45): At 6 A.M. [26 January, 1821] Cap^t Bruno of the Schooner *Henry* started in a boat with the first officer of the schooner *Express* with a Circular Letter being signed by all the masters to their respective officers at their camps to muster all their men save one at each camp, and with their Boat to repair immediately under the guidance of Capt Bruno to a small Bay [Blythe Bay] not far from Shirreff cape, where Captain Davis and Captain Barnard would meet them in the Shallop with the residue of the men from the harbour. At 8 P.M. Captain Davis and Capt Barnard started in the Shallop with 5 boats and 33 men which would make in all (when they met at the place appointed) 120 men. They would have to Land and by the best information we can get the English have but 80 men there.

The number of British sealers at Cape Shirreff was confirmed by Captain Davis in his log of the *Huron* (see Stackpole, 1955, p. 46):

...at 2 P.M. the Boat returned from Shore not being allowed to Land as the English had collected in numbers say from 60 to 75 men, all armed with Guns, Pistoles, and Swords and appeared in a hostile manner, Hoisted in the Boat and Proceeded on the westward.... Capt Johnson bore away to the North and East'd.

There must therefore have been at least 200 men living on the island at that time, and probably several dozen more in refuges on other islands (notably King George, Nelson and Greenwich Islands) in the archipelago.

SEALERS' ENCAMPMENTS AND RELICS

Little remains of the sealers' refuges except for the outline of the walls and, in some places, try pots in which elephant seal blubber was rendered to oil (e.g. on the south side of Yankee Harbour, Greenwich Island (White, 1966) and Admiralty Bay (Stehberg, 1983*a*); however, no trace could be found in 1958 of the try works reported in Antarctic Pilot (Anon, 1974) at Johnson's Dock, South Bay, Livingston Island, although some pieces of iron-work were found in a penguin rookery on the west side of Hannah Point between Walker and South Bays (Simpson, 1959); charcoal from a fire was found on the east side of this point (see Fig. 2). Since the mid-1950s several parties of British Antarctic Survey (formerly Falkland Islands Dependencies Survey = FIDS) geologists and biologists have worked on several islands in the archipelago and made observations on the sealers' refuges. However, the most comprehensive archaeological study was made between December 1957 and March 1958, during the course of the first detailed geological and topographical survey of Livingston Island, by a team of nine members of FIDS (Simpson, 1959; O'Gorman, 1963; Hobbs, 1968). Most of the ice-free coastline was visited. Many of these sites, and some on other islands, were examined by M. G. White during a biological and

geomorphological survey in 1965–66. Some of the sites were again examined by one of the present authors (R.I.L.S.) in 1981 during a botanical and geological survey of Byers Peninsula. In many places along the coastline there are timbers and larger pieces from the wrecks of sealers' ships, notably on President Beaches, Robbery Beaches and Cape Shirreff.

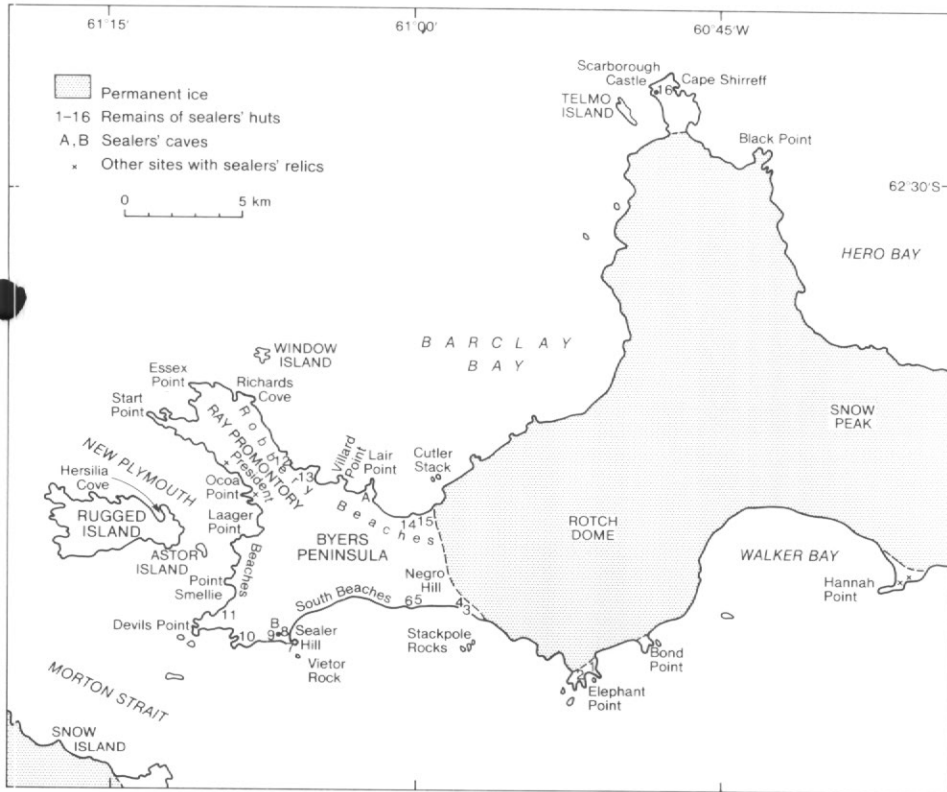


Fig. 2. Western half of Livingston Island showing sites of sealers' refuges.

Of the huts on west Livingston Island, particularly on Byers Peninsula (Fig. 2), the typical construction was of three walls, now only about 1 m high, built of boulders abutting on a rock face; cracks in the walls had been caulked with pieces of fur seal skins. A break in one of the walls served as a door. In a few instances the hut was a free-standing structure of four walls. Pieces of cloth from the top of one wall suggested a roof of sailcloth which may have been supported by an oar. In one hut whale ribs, with rusty nails protruding from them, had clearly been used as beams to support the canvas. However, the roofs have long been collapsed and the interior of the huts have filled the wind-blow sand. The destruction of the roof and walls would have been caused by winter snow conditions, wind and rain, and probably also by elephant seals.

The following account presents information on refuges at the western end of Livingston Island. Their locations are indicated in Fig. 2.

1, 2. Elephant Point. One hut has a low drystone wall constructed on an area



Fig. 3. Sealers' refuge (left) and wall, possibly of a second refuge (right), Negro Hill, South Beaches, Byers Peninsula, Livingston Island. (Photo W. N. Bonner, 1981.)



Fig. 4. Sealers' refuge on spit opposite Vietor Rock (background), South Beaches, Byers Peninsula, Livingston Island. (Photo J. Smellie, 1975.)



Fig. 5. Sealers' refuge, Sealer Hill, South Beaches, Byers Peninsula, Livingston Island. (Photo J. Smellie, 1975.)

of scree against the western extremities of a cliff at the back of the beach. The internal area is 2.40 by 1.80 m and it contained a whale jaw bone. There is also a second hut nearby but no details are available.

3, 4. Near the shore opposite Stackpole Rocks. Two huts with low drystone walls. No details available.

5, 6. Near the shore south of Negro Hill. Two huts with low drystone walls. No details available. (Fig. 3)

7. West side of 'Viotor Point' (opposite Viotor Rock). A low three-sided drystone wall constructed against a sea stack on the lowest raised beach level, towards the point. The internal area is 2.10 by 1.80 m and it contained several whale vertebra 'seats'.

8. Shore end of spit to west of 'Viotor Point'. A large stone structure amongst sea stacks. The internal area is 5.40 by 2.40 m with a 2.10 by 1.50 annexe built at the end facing the sea. (Fig. 4)

9. Sealer Hill. A low three-sided drystone wall against a low rock outcrop and filled with sand. Internal dimensions are approximately 2.40 by 2.40 m. (Fig. 5)

10. To east of Devils Point. Three low drystone walls backing against an east-facing cliff. The area of the hut is about 2.40 by 2.40 m. No other details are available. (Fig. 6)

11. Bay south of Point Smellie. The base of a wooden hut built on a sealers' cargo sledge. There is a large amount of charcoal and charred timber, and it appeared that the construction had been burned down. There are also the remains of a

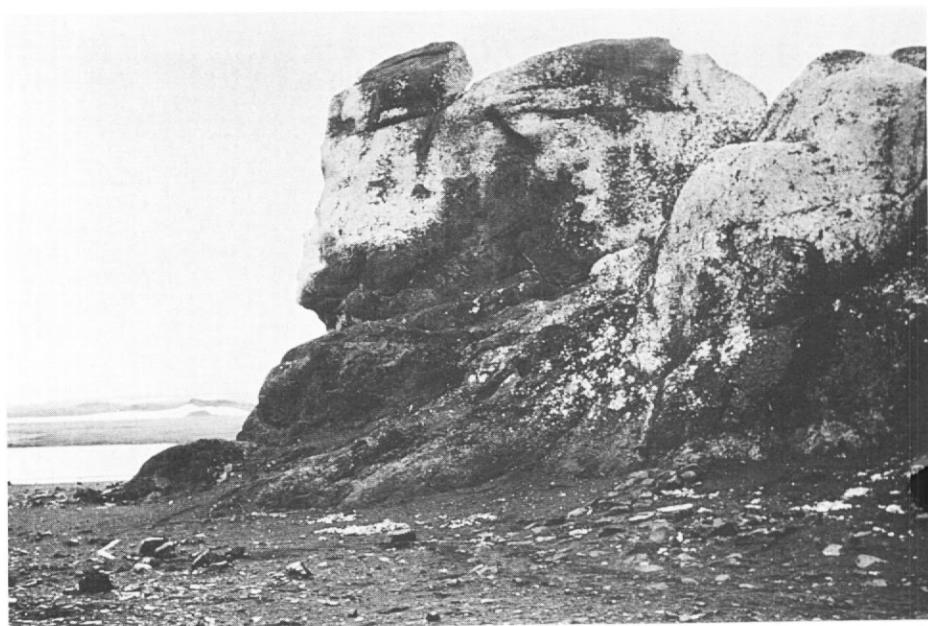


Fig. 6. Sealers' refuge (right), South Beaches, Byers Peninsula, Livingston Island. (Photo W. N. Bonner, 1981.)

cast-iron stove and the pebbles below the floor planking are coated with blubber oil.

12. Headland on north-west Robbery Beaches. A low drystone free-standing four-walled construction. The internal dimensions are 2.40 by 3.00 m and there were three whale vertebra 'seats' along the eastern wall. At this hut, or another a little to the north, a grindstone was found in the sand.

13. North side of point to west of Villard Point. A three-sided drystone wall against the north-west side of a sea stack about 20 m from the shore. Its internal area is 2.40 by 2.10 m and it contained four whale ribs in positions suggesting that they had once supported a roof.

14, 15. Headland in bay between Lair Point and Cutler Stack. The principal hut is a small three-sided stone structure built against the west side of an outcrop dyke under an overhang. Its internal dimensions are 2.10 by 1.50 m and it contained one whale vertebra 'seat' inscribed 'B.S. Cutler SCH'. A second hut with the remains of stone walls occurs on a rock outcrop nearby but no details are available. (Fig. 7)

16. Near Scarborough Castle, north-west end of Cape Shirreff. A hut with low drystone walls. No details are available. Pieces of a wrecked ship lay high on the beach nearby.

On Ray Promontory the walled remains of several other huts have been observed, but not examined. What may be refuges, together with accumulations of fur seal bones occur inland of the bay between Lager Point and Ocoa Point, and also just to the north of Ocoa Point, opposite Rugged Island; on a raised beach at the latter site there are the remains of a dinghy extensively encrusted with lichens (see Fig. 2).



Fig. 7. Sealers' refuge, by between Cutler Stack and Lair Point, Byers Peninsula, Livingston Island. (Photo M. G. White, 1965.)



Fig. 8. Sealers' cave, Lair Point, Robbery Beaches, Byers Peninsula, Livingston Island. (Photo H. W. Simpson, 1958.)

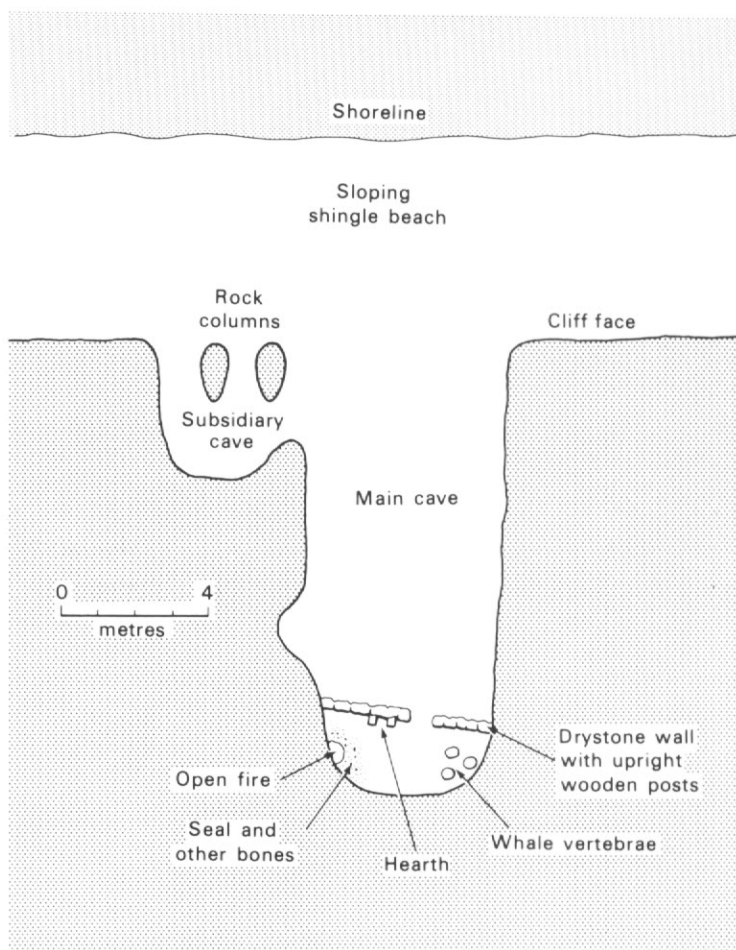


Fig. 9. Diagram of arrangement of features at back of sealers' cave at Lair Point (Fig. 8).
(From a field sketch by M. G. White.)

Two caves were also located which had been used for habitation (Fig. 2). One of these (Cave A), at Lair Point, Robbery Beaches, and at about 3 m above the present high water mark, is about 3.5 m high, 13 m deep and has a roughly circular entrance about 6 m across (Figs. 8, 9). At the back of the cave were two roughly built walls, green with algae, as were the cave walls, the gap between them being the door into the inner chamber. Several timber poles stood erect supported by these walls. The floor was covered with beach pebbles and mud. Behind the walls, in a 'room' of 4.20 by 2.10 m, was a profusion of bones of fur seals, and possibly also of elephant seals. Against one drystone wall was a hearth of stones, while nearby against the cave wall were the remains of an open fire. In the opposite corner were three whale vertebra 'seats'. The other cave (Cave B), inspected in 1981, is about 5 m above the beach on the west side of Sealer Hill, South Beaches (Fig. 10). It is of similar dimensions and also had a wall constructed across the back; several timbers and seal bones lay on the sandy floor.



Fig. 10. Sealers' cave (centre, behind snow drift) and refuge shown in Fig. 5 (lower left), Sealer Hill, South Beaches, Byers Peninsula, Livingston Island. (Photo R. I. Lewis Smith, 1981.)

ARTEFACTS ASSOCIATED WITH SEALERS' REFUGES

When H. W. S. inspected several of the huts and Lair Point cave, many sealers' relics were found; in addition there were many timbers, seal and penguin bones and limpet shells. A quantity of these artifacts were collected during the following year (January 1959) by F. O'Gorman, at the request of the Research Department, Foreign Office, London. However, after their return the entire collection (except for the spear* shown in Fig. 12a, c) was inadvertently disposed of before it could be studied or curated. Fortunately, many of the items had been photographed *in situ* by H. W. S., and are reproduced here in Figs. 11–12. The pieces of bottle and knife sheath* (Fig. 11c, d) were collected by M. G. White in 1965. Several pieces of bottle were sent to I. N. Hume, a world authority on bottles, at the Colonial Williamsburg Museum, Virginia. Hume identified (*in litt.*) the material as being early examples of machine-made bottles dating from the period 1780 to 1810, but no later than 1820.

The principal items found at two sites (the cave at Lair Point and 'Cutler's hut') are listed in Table I, and representatives of most were returned to England. A pig's mandible found in the cave (Fig. 11b) would suggest that salted pork may have been part of the sealers' diet. (While at the Falkland Islands in 1821, Smith (1844) referred to three wild pigs and a bull being shot 'to supply us with fresh food for some time' prior to the *Hetty's* sealing visit to the South Shetland Islands). A metal gaff on a 3 m long wooden pole (similar to those described by Busch, 1985, p. 59) found on the beach may have been used for removing blubber from elephant seals, or for pulling bundles of fur seal skins.

In the environs of some of the huts and Lair Point cave numerous whale vertebrae

* Now in the Scott Polar Research Institute, Cambridge.

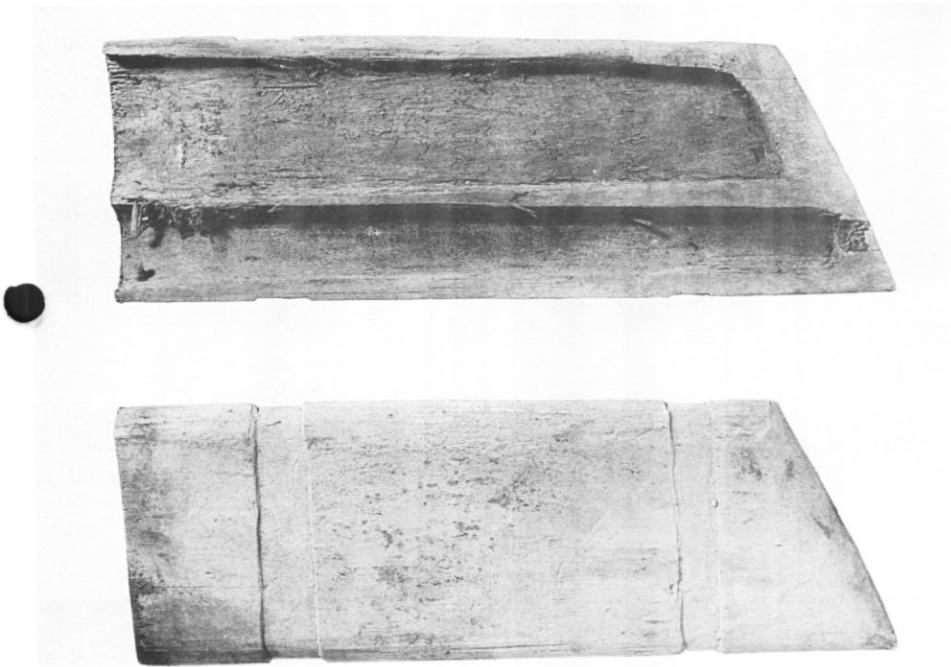
a*b*

Fig. 11. Sealers' Cave, Lair Point, Robbery Beaches, Byers Peninsula, Livingston Island. (Photos 11 *a*, *b*, H. W. Simpson, 1958; 11 *c*, *d*, C. J. Gilbert, 1985.) (*a*) view from back of cave; note the timber stanchions which may have supported canvas or seal skin panels. (*b*) View of sealers' relics on floor of the cave: whale vertebrae, seal scapulae with pig's mandible to lower left, broken bottles, leather moccasin soles and strips of leather from which soles cut. (*c*) Neck and part of base of glass bottle. (*d*) Two halves of a wooden sheath for a knife and steel.

c



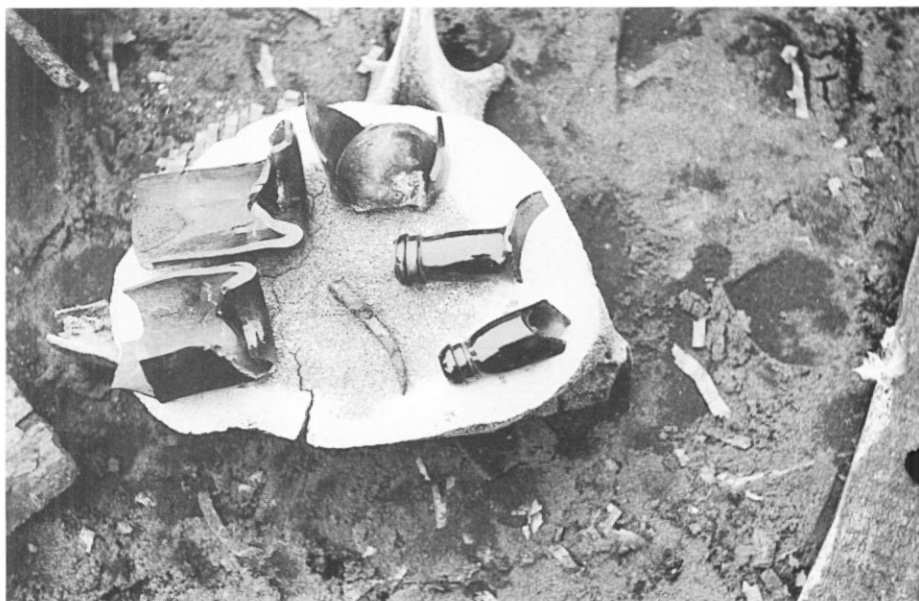
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a*b*

Fig. 12. 'Cutler's Hut', to east of Lair Point, Robbery Beaches, Byers Peninsula, Livingston Island. (All photos H. W. Simpson, 1958.) (a) Array of sealers' relics on floor of the ruined hut. (b) Whale vertebra used as a cutting block and inscribed 'B.S. Cutler SCH'; the lower part is charred. Also visible are an iron spearhead (presently at the Scott Polar Research Institute [Ac 67/8]), wooden-handled knife and a moccasin on some barrel staves at left. (c) Assortment of metal objects, spear, metal barrel hoops and staves; also leather moccasins (laced boot at top right belongs to a member of the survey team). (d) Wooden and metal stakes, barrel hoops and reed matting. (e) Broken glass bottles and metal knife blade on whale vertebra.





were lying about with cut marks suggesting that they had been used as chopping blocks. Some had had their spine cut off. Sometimes these were arranged as if to suggest a table and seats. In a hut between Lair Point and Cutler Stack, excavations by H. W. S. revealed a charred whale's vertebra with cut marks and clearly inscribed with 'B. S. Cutler SCH^r' (Fig. 12*b*). This obviously had some connection with Benjamin S. Cutler who commanded the *Free Gift*, one of the vessels of the US sealing fleet from Stonington, Connecticut, which visited the South Shetland Islands in 1821–22. However, it seems unlikely that Cutler himself lived ashore; presumably SCH^r refers to 'schooner'. This fleet included Benjamin Pendleton (senior commander, in *Frederick*), Harris Pendleton (*Hero*), Nathaniel Palmer (*James Monroe*), William Fanning (*Alabama Packet*), Capt. Chester (*Essex*), and Thomas Dunbar (*Express*). The latter took 25000 fur seal skins and reported 12 American vessels in the South Shetland Islands on 26 February 1821, which had taken 63000 skins (Headland, in press).

OTHER SITES IN THE SOUTH SHETLAND ISLANDS

Most of the sealing beaches and sheltered bays probably had temporary encampments where sealers stayed ashore for at least a few days. For instance, Fildes (1821) refers to 'two hands on shore in the tent employed beaming skins and salting them'. However, it is strange that no accounts mention the more permanent constructions described here. However, Fildes did record that when his ship *Cora* was wrecked on Desolation Island the ship's company built a 'tent' with wooden bunks and lived on seal meat and penguins eggs and provisions left by other vessels. The ship's cat also occupied this habitation and appears to be the first recorded introduced animal into the Antarctic (see also Christie, 1951).

On the south side of Yankee Harbour, Greenwich Island, there is a small free-standing drystone wall forming a square 2.40 by 3.30 m. It is partly constructed

Table I. Relics found at sealers' refuges near Lair Point, Byers Peninsula, Livingston Island.

'Cutler's Hut', to east of Lair Point

Iron spear heads, some with iron or wooden shafts
 Iron probes, hollow ended to enclose shafts
 Iron rivets and nails
 Metal knives, some with wooden handles, others only as blades
 Blubber lamps comprising circular bands of metal containing blubber and a wick
 Barrel staves and hoops (used for transporting salted seal skins, or
 for containing salted meat?)
 Bottle glass
 Hardwood pegs
 Hollow wooden pegs
 Boots made of leather and with leather laces
 Mocassins made from seal skin and others of cloth fabric (some with wooden soles)
 Pieces of cloth
 Pieces of canvas (sailcloth?)
 Pieces of ?canvas with fibres attached, resembling carpeting material
 Sleeve of a woollen garment
 Cloth waistcoat
 Piece of sisal string
 Pieces of reed matting
 Vertebra of whale inscribed 'B. S. Cutler SCH'
 Vertebra of seal
 Incisor tooth, hair and skin of fur seal

Sealers' cave, Lair Point

Metal probe
 Mocassins (canvas and seal skin)
 Strips of leather from which mocassin soles cut
 Pieces of leather from which soles had been cut
 Tibia, scapulae and flipper bones of seals
 Bones of penguins
 Pig's mandible
 Bottle glass
 Various metal objects
 Wooden sheath for knife and steel
 Wax (possibly spermaceti) cone (?candle)
 Bowl of clay pipe
 Iron bolts and nails
 Whale vertebra 'seats' (3), partly carved
 Fire hearth

fired clay bricks. A large flat-sided try pot, such as was used on whaling vessels, stands on the beach, and when observed in 1966, there was a wooden ski (presumably not contemporary with the hut) lying nearby. Near here, Fildes (1821) noted that 'close to the entrance just inside, is the Cave rock which is a good place for a boat to haul up or moor; here is a large cavern which affords good shelter in bad weather it being both warm and dry, my boats found in the rock among a variety of other names J. Macey in the year 1820-21 & 22 but never more'. He further reported that at 'Roberts Dock', a small bay within Clothier Harbour, Robert Island, 'we had our tryworks and casks on shore, and built a shallop of 20 tons. The Robert and Melona lay so snug in this place that all hands were away for many days together leaving only a little boy as ship keeper to take care of the vessels.'

There are several refuges on King George Island. At Point Hennequin, Admiralty Bay, there is a three-sided stone wall constructed against the north-east side of an outcrop of rock about 10 m above high water mark. The internal dimensions are about



Fig. 13. Sealers' refuge near Turret Point, south-east King George Island. Note the whale vertebrae and ribs. (Photo M. G. White, 1965.)

2 by 2 m. At Turret Point opposite Penguin Island, the remnants of a stone wall, three whale rib bones and four vertebrae on a broad rock shelf adjacent to the south-west side of a sea stack are all that remain on a sealers' lean-to hut (Fig. 13). On the south-east coast of Fildes Peninsula, near Suffield Point, there is a three-sided drystone wall enclosing an area of *c.* 2.40 by 2.40 m, close to a cliff. Excavations at this site by Stehberg (1983*a*) yielded a small iron pot 'of European origin'. There are probably sealers' relics at Potter Cove since Fildes (1821) stated 'I had a boats crew stationed here in 1822.'

It is not known what habitation may have existed on Rugged Island, off the west coast of Byers Peninsula, although it was the location of much early sealing activity and Hersilia Cove offered a reasonably safe anchorage.

DISCUSSION

In recent years there has been a growing awareness of the need to preserve sites of Man's early habitation in Antarctic regions and this is recognised by the Antarctic Treaty in its recommendation for the protection of Historic Sites (Antarctic Treaty, 1965). Fifty-two historic monuments throughout the Antarctic region have been listed (Antarctic Treaty, 1973, in press). Of these 20 occur in the Antarctic Peninsula-South Shetland Islands sector. Lipps (1978) lists 39 sites within this sector which have undergone some degree of Man's impact on the environment. Several of these are areas which had been visited by the sealers in the early 1800s, but no mention is made of any form of habitation, least of all for Byers Peninsula. A few major national programmes are underway to restore early expedition huts as museums and tourist attractions, notably those of Scott, Shackleton and Mawson (Quartermain, 1963; Harrowfield, 1978*a, b*, 1981; Anon, 1983*a, b*, 1985; Chester, 1986). Others which are

less accessible, have had most of their contents removed for display in museums, e.g. Nordenskjöld's hut on Snow Hill Island (Comerci, 1983).

However, the location of the most prolific temporary settlements, namely those of the early 19th century sealers, is undoubtedly Byers Peninsula at the western end of Livingston Island where sealing activities were concentrated. In their account of the Byers Peninsula Site of Special Scientific Interest, Bonner and Smith (1985) state: 'There is also the greatest concentration of early 19th century sealers' refuges and associated relics anywhere in the Antarctic; these are particularly vulnerable to plundering. These and the subfossil whale remains in the raised beaches should be afforded protection.'

Stehberg (1983*a*) reported that the first archaeological excavation of such sites was currently being undertaken at the sealers' hut near Suffield Point on King George Island. However, the investigations described in the present account were made almost 25 years earlier on Livingston Island. Many items forwarded to the Scott Polar Research Institute were inadvertently discarded and this loss is irreplaceable since most of the sealers' sites of habitation on Livingston Island no longer possess many artefacts of historical value. Some items have almost certainly been removed as souvenirs, despite the fact that Byers Peninsula was designated a Specially Protected Area from 1968 until 1977 when it was re-designated a Site of Special Scientific Interest with access restricted to scientists undertaking specific research (Antarctic Treaty, 1967, 1977). However, further excavation of some of the sites may yield many buried artefacts. Although several ships and many boats foundered around the South Shetland Islands and many lives were lost, no graves belonging to the sealing era are known. However, Busch (1985) refers to the grave of a seaman from the sealing schooner *Thomas Hunt* (Capt. W. H. Appleman) on Low Island; he died in a cliff fall in 1874.

There is undoubtedly a good case for a scientifically organized archaeological expedition to the South Shetland Islands to undertake a comprehensive study of these sites before they are plundered or vandalized any further. Such a study should also involve a detailed survey of the extant logs of sealing ships and other archival material lodged in various sealing and whaling museums associated with the early Antarctic sealing era. So far the only systematic study is that by the Laboratorio Antropología, Museo Nacional de Historia Natural, Santiago, of the site on Fildes Peninsula, King George Island (Stehberg, 1983*a*). However, Stehberg (1983*a*) also refers to investigations being carried out at a group of structures on Cape Shirreff on Livingston Island. Unfortunately, according to the Agreed Measures of the Antarctic Treaty, this should not be permitted since Cape Shirreff is a Specially Protected Area, proposed by Chile, and with this status its environment and biota are protected from any form of disturbance (see Bonner and Smith, 1985).

In addition to the study of 'modern' human settlement in the South Shetland Islands, Stehberg's team have made some particularly interesting though somewhat dubious discoveries in this region. Stehberg (1983*a, b*) and Stehberg and Nilo (1983) reported stone spear heads in sediment samples dredged from 60–70 m depth in Admiralty Bay, King George Island, and in Chile Bay, Greenwich Island. These authors have discounted the remarkable coincidence that a marine programme should sample benthic sediments containing such artefacts, and interpret these finds as belonging to an indigenous population of Indians who reached the South Shetland Islands possibly as long ago as 1000–2000 years from Tierra del Fuego. However, no consideration has been given to the fact that sealing vessels in the 1800s sometimes worked on the beaches of both these bays and may have traded with Fuegian Indians, acquiring certain contemporary or ancient souvenirs which may have been taken

farther south and possibly discarded or lost if the ship was wrecked, as many were. On the other hand, the antiquity of the spear heads has been determined from analyses as being exceptionally old, but nevertheless the coincidence of finding such artefacts in a relatively small volume of dredge samples at considerable depth and at two widely separated localities seems highly improbable, unless the bays of the archipelago are littered with the handcrafts of *Homo austro-zetlandicus*!

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