SHORT NOTES

A REPORT ON THE DEATH OF SHEATHBILLS, *Chionis alba* (Gmelin), AT SIGNY ISLAND, SOUTH ORKNEY ISLANDS, DURING THE WINTER OF 1965

By C. A. Howie, N. V. Jones* *and* I. C. Williams*

During the winter of 1965 unusually large numbers of sheathbills were found dead in the vicinity of the British Antarctic Survey station on Signy Island. Between mid-July and early September twelve carcasses were found, two of which showed a possible cause of death. One of these, a juvenile male, was heavily infected with tapeworms and was considerably underweight (380 g.). The other, an adult male, was seen to fall during flight and die; on post-mortem examination a split was found in the hepatic portal vein with resulting haemorrhage. A third bird was seen to die moments after feeding (Burton and Howie, 1965).

Between 8 and 17 October, a further 25 birds were found dead. These were mostly from Factory Cove in the immediate neighbourhood of the British Antarctic Survey station and included ten banded birds, two of which were known to have nested on the island. Several birds were under observation in front of the station when they died. In all cases death was very sudden; the birds were active, either in the air or on the ground, when they fell, kicked and died (Burton and Howie, 1965).

Sixteen of the birds found dead in October were preserved in deep freeze and were received in the United Kingdom in May 1966. Twelve of these specimens were examined by N.V.J. and I.C.W., the remaining four being sent to Dr. A. R. Jennings, Department of Animal Pathology, University of Cambridge, who also sent organs from three of the birds to the Laboratory of the Government Chemist for determination of pesticide residues. With few exceptions, the 12 birds examined by us were well preserved and the tissues had suffered little apparent deterioration. Dr. Jennings, however, reported that the specimens he examined showed histological deterioration that would mask any small pathological changes.

Results

Pathological examinations

None of the specimens examined by Dr. Jennings and ourselves showed any significant pathological condition. On the contrary, the birds appeared to have been in good condition prior to death. None of them had suffered any physical damage, for example from the attacks of other birds, before death. All 16 birds were adults, and of the 12 we examined ten were males. The body weight of the males varied from 500 to 770 g. with an average weight of 675 g.; the weight of one female was 625 g., while the weight of the other, which had been damaged by other birds after death, was not recorded.

The crop and gizzard of nine of the 12 birds we examined contained food which consisted, for the most part, of tea leaves and chopped mammalian muscle, obtained no doubt by foraging at the British Antarctic Survey station. Other common items in the crop were penguin eggshells, algae, and cherry and apple seeds. In two birds we found eight cephalopod beaks which were sent to Dr. M. R. Clarke, National Institute of Oceanography, but no identification has so far been made. Vertebrae from a small fish were found in one bird, and small bird bones in another. Several small stones, and in one case a lead shot, were present in the gizzard of each bird. The crop and gizzard contents indicate that the birds had been feeding normally, mainly by scavenging, almost until they died. The crop and gizzard were empty in the remaining three birds.

Dr. Jennings (personal communication) found that routine bacteriological, histological and

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parasitological examinations of three females proved negative. He was unable to offer any opinion as to the cause of death.

Pesticide residues

The livers of three females were examined by the Laboratory of the Government Chemist and found to contain traces of chlorinated residues. The results have been published and discussed elsewhere (Tatton and Ruzicka, 1967).

Parasitological examinations

Ectoparasites. Analgesid mites were present on the feathers overlying the preen gland of most birds. A small number of lice was also collected from the head and neck regions. Both of these types of parasite are quite usual on Signy Island sheathbills (Jones, 1963).

Endoparasites. Eight species of helminth parasite were found, none of which is thought to have caused the death of the host. The parasites comprised two species of trematode, *Notocotylus chionis* Baylis 1928 and *Gymnophallus deliciosus* (Olsson 1893), two cestodes, *Lateriporus australis* Jones and Williams 1967 and *Nototaenia fileri* Jones and Williams 1967, three nematodes, *Paracuaria tridentata* (von Linstow 1877), *Phocanema decipiens* (Krabbe 1878) and *Contracaecum* sp., and one acanthocephalan, *Corynosoma hammani* (von Linstow 1892). A full account of these infections has been given elsewhere (Jones and Williams, 1967, 1968, in press).

Discussion

The absence of pathological lesions and of helmith parasites, in sufficient numbers to produce disease, in most of the sheathbills seems to be a clear indication that these unusual deaths were caused by some external agency or by the ingestion of some rapidly acting poison which, owing to absence of alimentary damage, must have been non-irritant in action. The apparently normal behaviour of the birds before death, and the presence of food in the crop and gizzard of most of those examined, argues that viral or bacterial infection was not the cause of death. The weights of the birds, which were generally within the normal range for adult sheathbills, seem to indicate that a slow-acting and debilitating poison was not the cause of death. This is supported by the report that the pesticide residues were very low in the samples examined.

Among possible external agencies, only severe climatic conditions seem to us to be capable of causing the death of so many adult birds within such a short period of time. Some sheathbills over-winter at Signy Island, while numbers of others, which had dispersed at the end of the preceding season, return to the island in October for the commencement of the breeding season (Jones, 1963). During the late winter of 1965 there were several cold spells between July and September (minimum temperature about −20°C), but they were not unusual for the time of year and seem unlikely to have accounted for the deaths of sheathbills observed during this period. The birds examined in the laboratory were found dead on 8–10 October during an unusually cold period for October; the minimum temperature for 10 October was −23·7°C which was one of the coldest October temperatures recorded at Signy Island. Yet even these birds were of normal weight and had been feeding almost until death, whereas the predominant cause of death among birds during severe winters is starvation and not cold. Judging from testes sizes, the birds were not far advanced in their reproductive state although, obviously, this was developing. At the same time, some if not all of these dead birds may have recently returned to the South Orkney Islands from more temperate regions and, encountering usually low temperatures for October, may have suffered acute cold stress before acclimatization.

Pathological conditions, parasites, pesticides and environmental conditions have been considered and on the evidence available only the possibility of acute cold stress could be considered a likely cause of death, and this only for some of the birds dying in October. We must, therefore, consider the possibility that some item of chemical waste, disposed of in the neighbourhood of the Signy Island station and readily accessible to the birds, was eaten and was sufficiently toxic to kill the birds rapidly. If so, this could account for the deaths that

occurred during the whole of the period of July to October. Even if the evidence for this is circumstantial, it is a clear warning that great care has to be exercised in the disposal of chemical waste. Sheathbills are probably more susceptible to this danger than any other Antarctic bird because of their scavenging habits.

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It is a pleasure to thank Dr. A. R. Jennings, Department of Animal Pathology, University of Cambridge, for kindly undertaking examinations on four sheathbills.

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UNUSUAL BIRDS AT SIGNY ISLAND, SOUTH ORKNEY ISLANDS, 1966–67

By J. R. BECK

THE following species have been recorded as accidental visitors to Signy Island (lat. 60°43′S., long. 45°38′W.), South Orkney Islands, since the observations of Burton (1967).

Arctic skua (*Stercorarius parasiticus*)

On 16 and 19 January 1966, R. W. Burton saw an unusual skua at Gourlay Peninsula in company with brown skuas (*Catharacta skua lönnbergi*). It was also seen by the author on 20 January at Gourlay Peninsula and the last sighting was by C. A. Howie at Three Lakes Valley on 22 January. This bird was approximately half the size of a brown skua and its flight was more buoyant and graceful. Both the upperparts and underparts were a uniform chocolate-brown colour and the tail was square or slightly wedge-shaped with no elongate central rectrices. It was almost certainly an immature Arctic skua (*Stercorarius parasiticus*) but, in view of its small size and the difficulty of identifying immature birds of the smaller Northern Hemisphere species, the possibility that it may have been a long-tailed skua (*Stercorarius longicaudus*) cannot be completely excluded.

There is one previous record of an Arctic skua at Signy Island: W. J. L. Sladen shot an immature bird at Gourlay Peninsula on 26 January 1951 (Sladen, 1952).

Light-mantled sooty albatross (*Phoebetria palpebrata*)

An adult albatross was watched circling and gliding over the gully at Polynesia Point for 2 hr. by the author on 12 February 1966. The long slim wings and tail were dark sooty-brown, contrasting with the paler underparts and pale grey, almost buff, mantle. The head was sooty-brown with a conspicuous white semi-circle of feathers behind the eye. The bird eventually alighted at the top of the gully as the observer was leaving the area.

Albatrosses are extremely rare in offshore waters at Signy Island and this constitutes the first definite record.

Chiloë wigeon (*Anas sibilatrix*)

N. C. Bacon and J. H. Baker found the body of a drake on an ice foot below Robin Peak on 16 October 1966. The bird was fresh but in poor condition. There was no abdominal fat, the stomach was empty and the pectoral muscles were grossly emaciated. It is possible that the bird may have been attacked by a leopard seal (*Hydrurga leptonyx*) because an area of skin and flesh had been torn from the back, and the body lay among several skins of Adélie penguins (*Pygoscelis adeliae*). Two leopard seals frequented this stretch of ice foot during the previous week.

This species has not been previously recorded south of the breeding grounds in southern South America and this is a new record for Signy Island. The skin is now in the British Museum (Nat. Hist.).

Falkland diving-petrel (*Pelecanoides urinatrix berard*)

On 12 February 1967, R. Ralph found the remains of an unfamiliar petrel on a beach at Tern Cove. These consisted of an intact skeleton with some adherent plumage. The head was collected and later identified as that of a diving-petrel, *Pelecanoides* sp. A search made on the following day unfortunately failed to locate the rest of the body.

Unlike many other Procellariiformes, diving-petrels remain in waters near their breeding grounds throughout the year. The bird found on Signy Island therefore most likely came from South America, the Falkland Islands or South Georgia. Thus, it could be one of the following:

Magellan diving-petrel (*Pelecanoides magellani*)—Magellan area and Tierra del Fuego.

Coppinger's diving-petrel (*P. urinatrix coppingeri*)—archipelagos between lat. 45° and 50°S. off the Chilean coast.

Falkland diving-petrel (*P. u. berard*)—Falkland Islands.

Georgian diving-petrel (*P. georgicus*)—South Georgia.

The Signy Island specimen has been compared with skins of *Pelecanoides* in the British Museum (Nat. Hist.). The shape of the rami of the lower mandible strongly suggests that the specimen belongs to the *P. urinatrix* group and not to *P. magellani* or *P. georgicus*. In *P. urinatrix* the bill tapers abruptly near the tip and the rami viewed from below trend parallel for much of their length, enclosing an obtusely pointed inter-ramal space. The bill of *P. georgicus* tapers continuously from base to tip, with the rami diverging widely to enclose an obtuse inter-ramal space, whereas in *P. magellani* the bill also tapers gradually but the rami diverge acutely, enclosing a pointed inter-ramal area (see Murphy and Harper, 1921, figures on p. 502–04; Murphy, 1936).

The little-known form, *P. u. coppingeri*, which is apparently limited to the Pacific coast of central Chile, seems very unlikely to occur in the Scotia Sea. The evidence therefore suggests that the Signy Island bird is a Falkland diving-petrel *P. u. berard*, a new record for the island. The specimen is now deposited in the British Museum (Nat. Hist.).

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AN EARLY RECORD OF A POMARINE SKUA IN MARGUERITE BAY, GRAHAM LAND

By J. R. BECK

THE following is the substance of an extract from the ornithological report for Stonington Island for 1946 by Freeman (1947).

On 24 December 1946, an unidentified bird was seen flying near Neny Island (lat. 68°12′S., long. 67°02′W.). Description: bill—black, short and straight; head—black with white cheeks; throat with black ring; underparts white; very long "magpie" tail; wings tern-shaped with upper surface black. Bird as large as a skua [presumably a McCormick's skua, *Catharacta maccormicki*] but not so heavy looking. It was chased by the skuas but was faster than them in flight. A further glimpse of the bird obtained on 12 January 1947 provided a little more information. The general body colour appeared to be slightly yellow or brown and the black band was probably somewhat lower than the throat. The bird was thought to utter a call rather like "a tern [presumably an Antarctic tern, *Sterna vittata*] with a broken voice" but as terns were in the vicinity this last observation may not be reliable.

This is quite a good description of an adult pomarine skua (*Stercorarius pomarinus*) of the light-phase form. The large size of the bird rules out the possibility of an adult Arctic skua (*Stercorarius parasiticus*) or long-tailed skua (*S. longicaudus*), both of which have a similar colour pattern. The pomarine skua, which breeds in the North American and Russian Arctic, and normally winters in tropical and temperate oceans of the Southern Hemisphere, has been recorded only twice in Antarctica; both observations are from the west coast of the Antarctic Peninsula south of lat. 65°S. An adult was seen by members of the British Graham Land Expedition on 22 February 1937 at the Léonie Islands (lat. 67°36′S., long. 68°17′W.), Marguerite Bay, and one was photographed at the Argentine Islands (lat. 65°15′S., long. 64°17′W.) on 9 February 1953 (Sladen, 1954). These birds were also chased away by resident southern skuas. As Sladen (1954) has suggested, it seems probable that the birds were stragglers in the West Wind Drift from the Australian rather than from the South American area.

It is worth noting that, apart from the three pomarine skua records from the Antarctic Peninsula, there are now two records of Arctic skuas at Signy Island (lat. 60°43′S., long. 45°38′W.), South Orkney Islands (Sladen, 1952; Beck, 1968). It thus seems possible that migrant skuas from the Northern Hemisphere may occur fairly regularly south of the Antarctic Convergence. Further records are needed to substantiate this.

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ERRATA

British Antarctic Survey Bulletin, No. 15, p. 5, line 2.

For ". . . the South African mainland." *read* ". . . Marion and Prince Edward Islands."

British Antarctic Survey Bulletin, No. 17, p. 74, line 38.

For ". . . these plutonic rocks can be distinguished by its weak to moderate" *read* ". . . different *plutonic* (in the sense of Read (1944, p. 92)) rock groups"