

OBSERVATIONS OF BIRDS AT SEA BETWEEN CAPE TOWN, TRISTAN DA CUNHA
AND GOUGH ISLAND, OCTOBER-NOVEMBER 1977

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INTRODUCTION AND METHODS

From the 12 October 1977 to the 7 November 1977 I had the opportunity to travel from Cape Town to Tristan da Cunha and Gough Island and back to Cape Town (Fig. 1) on board the M.V. *R.S.A.* During the voyage I made regular watches for seabirds from the bridge (Voisin 1980a). Results are given in Table 1 (from Cape Town to Tristan da Cunha), Table 2 (from Tristan da Cunha to Gough Island) and Table 3 (from Gough Island to Cape Town). They are expressed in terms of average numbers of species recorded in ten-minute periods for each watch. Contrary to my two previous papers on seabird distribution (Voisin 1980b, 1983), species are not listed in the order of sighting. In order to give a better impression of faunal assemblages, the ones which were mostly seen at the beginning of the voyage are listed first. Then those species which were mostly sighted in the middle part of the voyage are given, and lastly the ones which were predominantly observed towards the end of the voyage. Species which have been encountered during the whole cruise are listed last. During the voyage, the speed of the ship varied from 9,5 to 11 knots.

SPECIES NOTES

Wandering Albatross *Diomedea exulans*

Distinction at sea between the nominate subspecies *D. exulans exulans* which breeds at South Georgia and in the southern Indian Ocean, and *D. exulans dabbenena* from Gough Island and the Tristan da Cunha Group, is difficult, and is probably impossible in many cases. However, birds in a very white plumage, resembling the "*chionoptera*" stage of the nominate form, were encountered at almost every watch, including those which were made near the islands. Plumage details showed that different birds were involved each time.

Yellownosed Albatross *Diomedea chlororhynchos*

Yellownosed Albatrosses breeding at Gough Island and in the Tristan da Cunha group differ from those nesting at other localities in having bluish-grey heads, necks and upperbreasts (Verrill 1895, Shaughnessy & Fairall 1976, Brown *et al.* 1982) and have been characterized on a subspecific level by the name *D. chlororhynchos chlororhynchos* Gmelin, whereas the white-headed form from other localities received the name *D. chlororhynchos bassi* Mathews (Lowe & Kinnear 1930, Brooke *et al.* 1980).

TABLE 1
BIRDS SEEN AT SEA BETWEEN CAPE TOWN AND TRISTAN DA CUNHA

Watch no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Phalacrocorax coronatus</i>	0,2				0,2	-		0,2		0,2	0,2	0,1		
<i>Phalacrocorax capensis</i>	1,2			0,5	0,1	0,8							0,3	
Unidentified comorants	2,2			0,1	0,8		0,1	0,5						
<i>Stercorarius parasiticus</i>	0,3								0,1					
<i>Larus dominicanus</i>	8,3	10,9												
<i>Sula capensis</i>	1,5	0,3	0,4					0,2						
<i>Pterodroma macroptera</i>		0,6												
<i>Sterna spp.</i>		0,3		0,5	0,1	0,8				0,2	0,1			
<i>Daption capense</i>								0,1						
<i>Diomedea melanophrys</i>														
<i>Phoebastria fusca</i>														
<i>Stercorarius pomarinus</i>										0,1				
<i>Catharacta antarctica</i>										0,1				
<i>Pterodroma mollis</i>										0,3		0,4	0,5	0,3
<i>Puffinus griseus</i>			0,7	1,1		0,2		0,3		0,3	0,3	0,4	0,1	0,2
<i>Pterodroma incerta</i>			0,1	0,2					0,5		0,1		0,1	
<i>Puffinus assimilis</i>				0,1					0,1	0,1	0,5	0,1	0,1	
<i>Oceanites oceanicus</i>											0,3	0,8		0,3
Unidentified stormpetrels													0,1	
<i>Puffinus gravis</i>				0,1		0,1					0,1	0,1		
<i>Procellaria aequinoctialis</i>				3,7	8,8	6,5	0,3	0,2	0,9	0,3	0,1	0,2		
<i>Diomedea exulans</i>	0,7	4,0	2,8	2,0	7,8	1,4	0,1	1,6	0,9	0,8	0,3	0,4	1,3	0,7
<i>Diomedea chlororhynchus</i>			3,8	1,8	5,9	2,5	0,1	0,3	0,1	0,1			0,8	1,4
<i>Prions Pachyptila spp.</i>		0,3		0,6	0,7	0,2	0,1	0,3	0,1	0,2	0,4		0,3	0,3
Miscellaneous			+++		29,6	0,1	0,2				24,3	28,3	6,6	47,8
		M		P		M		Pf		P	P	Pf	P	P
All species together	7,2	4,9	8,1	10,1	52,8	12,9	0,8	3,4	2,8	2,2	26,7	30,3	9,9	51,0
Number of species	7	7	8	11	8	10	6	9	7	10	11	9	10	8

Watch details : Watch no. Date Time (local) Position Sea Temperature (°C)

Watch no.	Date	Time (local)	Position	Sea Temperature (°C)
1	12 Oct 77	16h20-17h25	Between Robben Is & Sea Point	15 - 16
2	12 Oct 77	17h30-18h00	Off Cape Town	14 - 14,5
3	13 Oct 77	08h25-10h25	33 53S, 15 51E	14,5
4 (1)	13 Oct 77	15h00-17h10	33 47S, 15 01E	15,5
5	14 Oct 77	08h25-10h25	33 51S, 10 52E (08h)	14,0
6 (2)	14 Oct 77	14h50-17h00	33 46S, 09 57E (12h)	15,5
7	15 Oct 77	08h50-10h50	34 25S, 05 41E (09h)	15,5
8	15 Oct 77	14h40-16h40	34 22S, 04 14E (15h)	16,0
9	16 Oct 77	08h35-09h55	34 38S, 00 45E (09h)	16,0
10	16 Oct 77	14h35-16h35	34 41S, 01 03W (17h)	14,0
11	17 Oct 77	08h35-10h35	35 26S, 04 25W (10h)	14,5
12	17 Oct 77	14h35-16h35	35 35S, 06 30W (16h)	14,5
13	18 Oct 77	08h40-10h40	36 25S, 09 16W (10h)	14,4
14	18 Oct 77	14h45-16h45	36 35S, 10 30W (16h)	

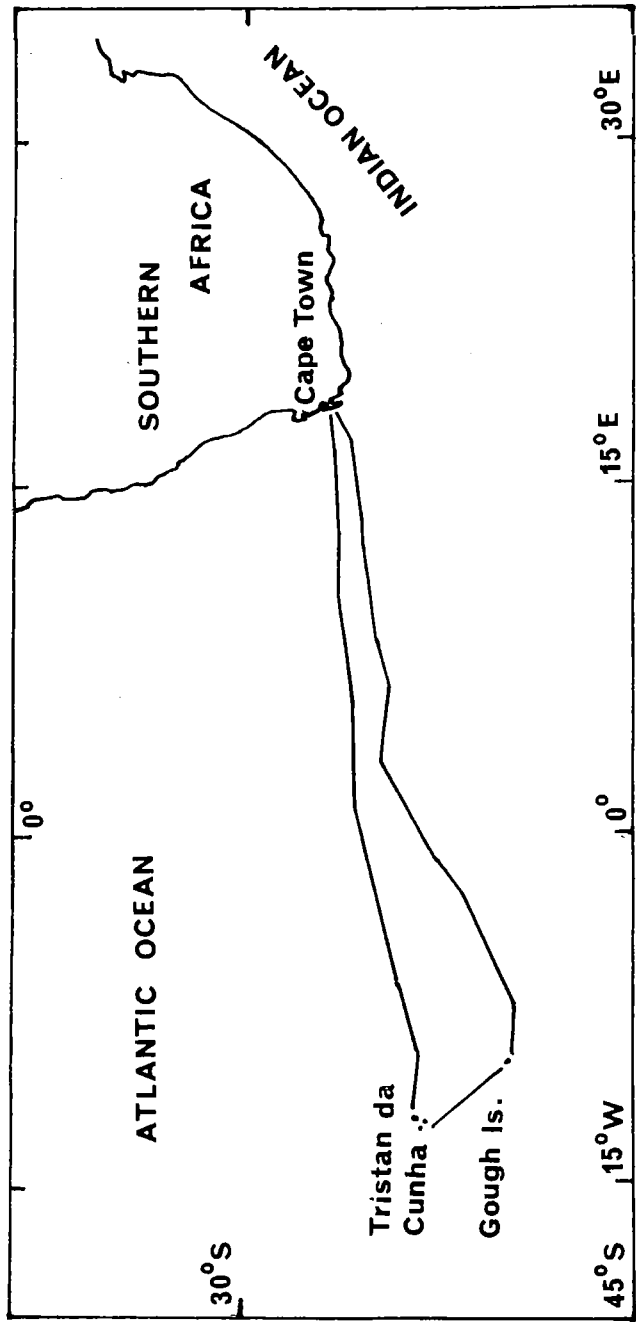


Figure 1

Route of the M.V. R.S.A. from Cape Town to Tristan da Cunha and Gough Island and back in October - November 1977

TABLE 2

BIRDS SEEN AT SEA BETWEEN TRISTAN DA CUNHA AND GOUGH ISLAND

Date	23 October 1977	
	11h30 - 12h00	12h20 - 14h20
Time (local)		
Position	Just south of Tristan da Cunha	37 25S, 12 08W (14 h)
Sea temperature (°C)	13,0	13,0
Remarks	-	(3)
Watch no.	15	16
<i>Macronectes giganteus</i>	0,3	0,1
<i>Diomedea chlororhynchos</i>	17,7	2,6
<i>Sterna vittata</i>	1,3	0,3
<i>Phoebastria fusca</i>	3,0	3,1
<i>Catharacta antarctica</i>	0,3	0,2
<i>Puffinus griseus</i>	0,3	-
<i>Diomedea exulans</i>	-	0,5
<i>Diomedea melanophrys</i>	-	0,1
<i>Procellaria aequinoctialis</i>	-	0,7
<i>Daption capense</i>	-	0,5
<i>Pterodroma mollis</i>	-	0,2
<i>Pterodroma incerta</i>	-	0,5
<i>Puffinus assimilis</i>	-	0,3
<i>Oceanites oceanicus</i>	-	0,1
Unidentified stormpetrels	-	0,2
<i>Sterna paradisaea</i>	-	0,1
<i>Sterna</i> spp.	-	0,1
Prions <i>Pachyptila</i> spp.	-	5,3
Unidentified mollymauk	-	0,1
Unidentified <i>Eudyptes</i> penguin	-	0,1
All species together	23,0	14,8
Number of species	6	19

TABLE 3
BIRDS SEEN AT SEA BETWEEN GOUGH ISLAND AND CAPE TOWN

Watch no.	17	18	19	20	21	22	23	24	25	26	27	28
<i>Phoebetria palpebrata</i>		0,1										
Unidentified giant petrels		0,6										
<i>Fregatta grallaria</i>	0,2	0,1										
<i>Macronectes halli</i>	0,1	0,1										
<i>Puffinus assimilis</i>	0,4	12,9	2,0									
<i>Macronectes giganteus</i>	-	0,6	0,1	0,1								
Prions <i>Fachyptila</i> spp.	16,1	3,3	5,8	2,6								
<i>Phoebetria fusca</i>	3,6	5,1	-	0,1								
<i>Diomedea melanophrys</i>	0,5	0,6	-	0,2	0,1							
<i>Pterodroma incerta</i>	0,4	0,1	0,3	-	0,1							
<i>Catharacta antarctica</i>	1,3	-	-	-	0,1	0,2						
Dark stormpetrels	1,3	0,8	-	-	0,1	-	-	0,2 (W)				
<i>Daption capense</i>	0,8	0,5	-	-	0,5	0,5	0,2	0,4	0,6			
<i>Pelagodroma marina</i>	-	-	-	-	0,1							
<i>Pterodroma brevirostris</i>	-	-	-	-	0,1							
<i>Fregatta tropica</i>	-	-	-	-	-	-	0,1	-				0,3
<i>Pterodroma macroptera</i>	-	-	-	0,1	-	-	0,1	-				-
<i>Stercorarius</i> spp.	-	-	-	-	-	0,2	-	0,2				0,1
<i>Sterna</i> spp.	-	-	-	-	-	-	-	-				-
<i>Sula capensis</i>	-	-	-	-	-	-	-	-				0,5
<i>Sterna vittata</i>	-	-	-	-	-	-	-	-				0,1
<i>Diomedea emulans</i>	-	-	-	-	-	-	-	-				0,1
<i>Diomedea chlororhynchos</i>	3,2	2,0	0,4	1,3	-	0,7	-	0,2	0,1	0,3	0,3	0,2
<i>Pterodroma mollis</i>	1,6	2,8	0,7	0,8	0,5	1,0	0,6	0,4	-	0,3	0,8	0,5
<i>Puffinus gravis</i>	1,2	0,1	0,1	-	-	0,1	0,1	-	-	0,1	0,3	
<i>Puffinus griseus</i>	1,0	1,4	0,2	0,1	0,8	1,2	0,2	1,1	0,3	-	0,4	0,7
<i>Procellaria aequinoctialis</i>	0,5	2,3	0,5	-	1,7	0,3	-	-	-	-	0,1	0,3
Unidentified Procellariiformes	0,8	1,2	2,1	0,1	1,1	1,8	1,7	2,4	0,4	0,3	0,5	
P	P	-	Pf	-	-	-	-	-	-	-	-	-
All species together	32,8	34,3	12,3	5,7	6,9	5,8	3,3	5,1	1,6	2,1	2,4	2,6
Number of species	17	18	11	9	11	9	8	7	5	5	7	8

Watch details :				Sea temp.
Watch no.	Date	Time (local)	Position	(°C)
17	2 Nov 77	08h15-10h15	39, 45S, 07 55W	10,5
18	2 Nov 77	14h40-16h40	39 06S, 06 15W	10,5
19	3 Nov 77	08h20-09h20	37 50S, 02 43W	12,5
20	3 Nov 77	14h05-15h35	37 07S, 01 44E	13,0
21	4 Nov 77	08h25-10h25	36 12S, 01 33E	14 - 15
22	4 Nov 77	14h15-16h15	35 04S, 03 07E	15,0
23	5 Nov 77	08h20-10h25	35 21S, 06 54E	14,5
24	5 Nov 77	14h05-14h50	35 08S, 08 22E	16,5
25	5 Nov 77	15h40-16h50	35 08S, 08 22E	16,5
26	6 Nov 77	08h20-10h00	34 42S, 12 37E	16,0
27	6 Nov 77	14h00-16h00	34 30S, 13 30E	17,0
28 (4)	7 Nov 77	08h15-10h15	34 00S, 17 15E	19,0

FOOTNOTES TO TABLES 1 - 3

Remarks :

- (1) An interruption of 50 minutes in the middle of the watch, because of a fire exercise.
- (2) A school of dolphins near the ship in the last quarter of the watch.
- (3) Just after having passed the channel between Nightingale and Inaccessible Islands.
- (4) Strong wind.

Symbols :

- +++ too numerous to be counted and evenly distributed over the surface of the sea
- P unidentified gadfly petrel
- Pf unidentified shearwater
- M unidentified mollymauk
- W Wilson's Stormpetrel *Oceanites oceanicus*

The proportion of greyheaded birds in my observations is given in Table 4. They were noted all the way to and from the islands, but were noticeably more numerous on the return cruise. Besides seasonal population movements, one explanation could be that the ship attracted some individuals which then followed it for some distance away from their normal haunts. However, as far as I could notice, most birds were 'new' at every watch, with a few exceptions. Whiteheaded Yellownosed Albatrosses were observed even in the vicinity of the islands, and many of them were obviously adults, as, for instance, on watches no. 16 and 17 (Table 4). I do not think they followed the ship for any distance, because they were only noted on a few watches, and because their numbers were variable.

Giant petrels *Macronectes* spp.

Giant petrels were only sighted on watches 15 to 20, when we were not very far from the islands. Only two Northern Giant Petrels *M. halli* were noted, on watches 17 and 18. Southern Giant Petrels *M. giganteus* were represented by many more birds, some of them showing the very dark colouration and the vivid green bill characteristic of the Gough Island form (Voisin & Bester 1981). This was particularly the case of the ones seen on watches 15 and 16, and of five of the 13 Southern Giant Petrels and unidentified giant petrels observed on watch 18. Of the remaining Southern Giant Petrels, three or four, sighted on watches 18 and 19, had the very light colouration of old birds from Bouvet Island (Haftorn & Voisin 1982), South Georgia and localities in the southern Indian Ocean.

Whitechinned Petrel *Procellaria aequinoctialis*

The Whitechinned Petrel was the most abundant of all birds recorded on the whole cruise. Individuals of the spectacled form *P. a. conspicillata* were positively identified on three occasions: two out of eight birds on watch 16, one out of 14 on watch 18, and one out of 22 on watch 22.

Sooty Shearwater *Puffinus griseus*

Sooty Shearwaters were seen more or less anywhere on the crossing to and from Gough Island, but they were more frequent near land. On one occasion, on watch 10, I observed two of them pursuit-plunging *sensu* Ashmole (1971). They plunged from a height of 1 to 1.5 m, head first, and disappeared entirely into the water for about two seconds. One flew off immediately after emerging again, while the other then chased for a few seconds, half flying, half swimming, and apparently in vain, a small prey item which swam just below the surface and which I could not identify.

Subantarctic Skua *Catharacta antarctica* and skuas *Stercorarius* spp.

The first skua on the crossing to Tristan da Cunha was sighted at 14h00 on 16 December 1977 by M.N. Bester. It was not possible to identify all *Stercorarius* skuas to species. However, one Pomarine Skua *Stercorarius pomarinus* was observed in good conditions on watch 10 and at least one of the five skuas observed on watch 23 probably belonged to this species too. Arctic Skuas *S. parasiticus* were only positively identified on watches 1 and 22, but my impression is that they were the most numerous encountered.

TABLE 4

PROPORTION OF GREYHEADED YELLOWNOSED ALBATROSSES *DIOMEDEA*
CHLORORHYNCHOS OBSERVED ON WATCHES 1 TO 28

Watch no.	Proportion of greyheaded birds	No. of Yellownosed Albatross records
From Cape Town to Gough Island		
1	0	0
2	0	1
3	0	0
4	0,28	7
5	0,25	4
6	0	2
7	0	1
8	0,25	4
9	1	1
10	1	2
11	1	5
12	0	0
13	0,75	4
14	1	3
15	1	53
16	0,94	31
From Gough Island back to Cape Town		
17	0,95	19
18	1	33
19	1	6
20	0,5	8
21	1	6
22	1	12
23	1	7
24	1	2
25	0	0
26	0,67	3
27	0,88	9
28	0,83	6

Terns *Sterna paradisaea*, *S. hirundo* and *S. vittata*

When the ship was moving, it was not possible to identify all terns specifically. However, most Antarctic Terns *S. antarctica* could be told apart because of their new breeding plumage with no frontal patch, whereas at this time of the year both boreal species, the Arctic Tern *S. paradisaea* and Common Tern *S. hirundo*, were in worn non-breeding plumage with a white patch on the forehead, and most often flew in small groups of three to four birds.

DISCUSSION

As shown by sea temperatures in Tables 1, 2 and 3, the M.V. *R.S.A.* remained north of the Subtropical Convergence, and probably reached it on 2 November 1977 (watches 17 and 18), when the temperature of the water sank to 10,5 °C, and when the avifauna got a slight Subantarctic character with the presence of species like Whitebellied Stormpetrels *Fregatta gallaria*, Lightmantled Sooty Albatrosses *Phoebetria palpebrata*, and both Southern and Northern Giant Petrels. But, as a whole, the bird fauna which we encountered was a Subtropical one. A few species, like the Great Shearwater *Puffinus gravis* and the Little Shearwater *P. assimilis* were particularly numerous near the islands, a fact related to the onset of their breeding period.

These seabird observations can be compared in general terms to the ones which I made on the Subtropical part of two other voyages in the western Indian Ocean (Voisin 1980b, 1983), but of course not with their Subantarctic parts. These voyages were made markedly later in the summer season than the present one, but, with perhaps the exception of my return trip from the Crozets to Cape Town in April 1974, this should not play an important role in comparisons since most species, especially the Procellariiforms, are already much on their way, or have already come back, to their breeding grounds in late October. Nevertheless, the number of 'southern' species observed on this voyage to Tristan da Cunha and Gough Island is probably somewhat higher than it would have been later in summer. This is illustrated by the observations of Harris & Batchelor (1980), who used a method similar to mine when sailing from Cape Town to Tristan da Cunha in late December 1976. When converted into average numbers of birds seen in ten minute intervals, their data give almost always lower values than mine. This is especially true for Wandering and Yellow-nosed Albatrosses, Prions, White-chinned Petrels, Great and Little Shearwaters, Great-winged Petrels *Pterodroma macroptera*, Atlantic Petrels *P. incerta* and Soft-plumaged Petrels *P. mollis*, and on the eastern half of their crossing. On the contrary, they observed many more Whitebellied Stormpetrels and 10 Grey Petrels *Procellaria cinerea*, whereas I saw none.

The most striking difference between Subtropical waters of the western Indian Ocean and of the eastern Atlantic is that the number of species encountered, as well as the total abundance of birds seen were markedly higher in the latter than in the former. This fact can also be inferred from the observations of other authors like Loy (1962), Hansen (1978), Duhamel (1981), Flora (1981), Frost (1981), Grindley (1981) and Jouventin *et al.* (1982). But, since they worked with different methods than the ones used here, and sometimes only published qualitative results, comparisons are more difficult with their observations.

A few species like Barau's Petrel *Pterodroma barau* (Jouanin & Gill 1967, Frost 1981, Voisin 1983), Jouanin's Petrel *Bulweria fallax* (Bartle, Stahl & Weimerskirch in prep., Voisin 1983), Pinkfooted Shearwater *Puffinus carneipes* and Wedgetailed Shearwater *P. pacificus* are characteristic of the western Indian Ocean, where, however, they are only rarely observed. On the contrary, species characteristic of the eastern Atlantic occur abundantly. They are, for instance : Atlantic Petrel, Little Shearwater, Great and Sooty Shearwaters, the two last being present, but rare in the Indian Ocean. Even the numbers of 'comic' Terns and of small Skuas *Stercorarius* spp. wintering or on their way to their wintering grounds are typical of the eastern Atlantic at certain times of the year. The species which both oceans share in common are above all the Subantarctic ones, examples being the Whitechinned Petrel, Wandering Albatross and Greatwinged Petrel. This last species seems to be more common in the Indian Ocean than in the Atlantic, but, as it is a fall breeder, it is not tied to its breeding grounds in the austral spring and summer and its movements may be more erratic than those of most other species. The same thing applies to Grey Petrels.

The reasons for these differences are not at all clear. The rich waters of the Benguela Upwelling Region explain the variety and abundance of birds observed within a few hundred nautical miles off southern Africa. The proximity of the Subtropical Convergence and of breeding grounds may explain the numbers of individuals and of species seen near the islands, but, on the whole, the part of the Atlantic which we crossed appears much more productive than the western Indian Ocean at comparable latitudes.

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