

BIRDS OBSERVED AT SEA BETWEEN SOUTHAMPTON, UNITED KINGDOM, AND
CAPE TOWN, SOUTH AFRICA, SEPTEMBER 1977

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INTRODUCTION AND METHODS

From 2 - 15 September 1977, I travelled on the M.S. *S.A. Vaal* on the last mailship cruise from Southampton, United Kingdom, to Cape Town, South Africa, with a call at Las Palmas, Canary Islands. During the voyage, I made regular observations of seabirds at least twice a day, using a method previously described (Voisin 1980).

The results are given in Table I (from Southampton to the Equator) and Table 2 (from the Equator to Cape Town). They are expressed in abundance indices, which are the average number of birds of each species recorded in ten-minute periods for each watch. In order to give a better impression of faunal assemblages, the species which were encountered mostly at the beginning of the voyage are listed first, followed by the species mostly sighted in the middle part, and then the ones mostly observed at the end of it.

Because of the high speed of the ship (19 - 22 knots), only a few species (e.g. albatrosses *Diomedea* spp. and *Stercorarius* spp.) were able to circle around it, and could not do so many times, thereby minimizing this type of overcounting. However, the high speed made determination, and perhaps also detection, of the smaller species more difficult, as was the case with the two small grey gadfly petrels *Pterodroma* sp. seen on watch 37 (Table 2), which could not be identified to species. A good method of observation on such fast ships would be watches conducted by more than one person, one main observer keeping the record and detecting the birds, and one, or several, helpers making difficult species determinations and other complementary observations, for instance on bird behaviour.

Again because of the high speed of the ship, the distance covered during watches of two hours was judged too long, and watches of more than 100 minutes have been divided into smaller ones, except for watches 22 and 25 (Table 2), during which no birds were seen. As a rule, and after having used this method for counting seabirds many times in different seas (e.g. Voisin 1983a,b), I now think that it is better for the observer not to conduct one watch for more than one hour at a time. On the contrary, he should take a rest and relax during a few minutes after one hour, and then resume counting for another watch.

The birds were not counted within an arbitrary exclusion distance from the ship, as recommended by Frost (1977) and

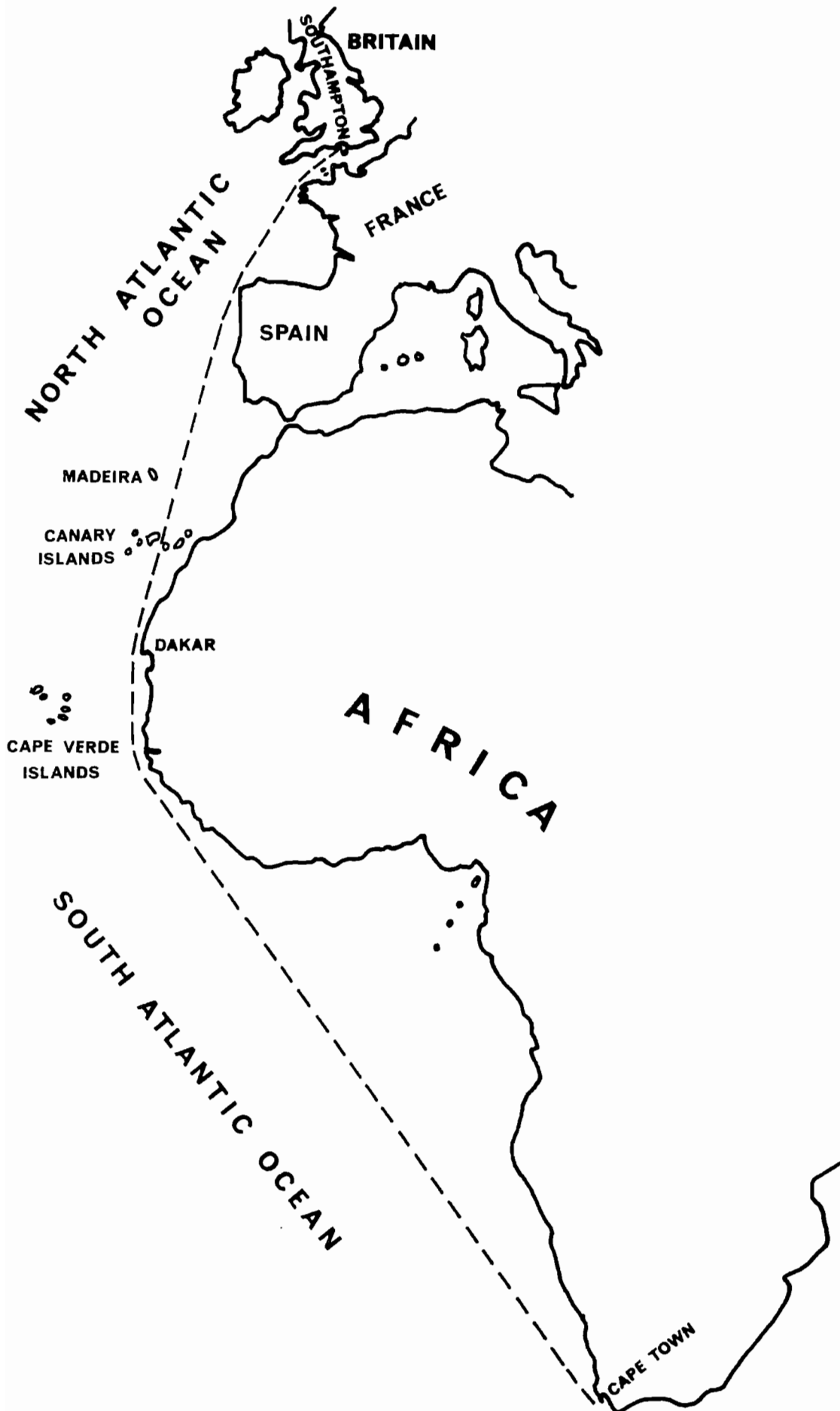


Figure 1

Route of the *S.A. Vaal*, Southampton, United Kingdom to Cape Town, South Africa, September 1977

TABLE 1

BIRDS OBSERVED AT SEA BETWEEN SOUTHAMPTON, LAS PALMAS AND THE EQUATOR, SEPTEMBER 1977

| Species | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|-----------------------------|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|
| <i>Sula bassana</i> | | 0,3 | 0,7 | | | | | | | | | | | | | | | | | | |
| <i>Larus argentatus</i> | | 0,1 | 0,2 | | | | | | | | | | | | | | | | | | |
| <i>Puffinus gravis</i> | | 0,2 | 0,2 | 0,1 | 0,2 | | | | | | | | | 0,2 | e | e | | | | | |
| <i>Streptopelia turtur</i> | | | | | | | | | | | | | | 0,2 | | | | | | | |
| <i>Phylloscopus sp.</i> | | | 0,1 | | | | | | | | | | | 0,2 | | | | | | | |
| <i>Catharacta sp.</i> | | | 0,2 | | | | | | | | | | | | | | | | | | |
| <i>Puffinus griseus</i> | | | | 0,1 | | | | | | | | | | | | | | | | | |
| <i>Xema sabini</i> | | | | 0,1 | | | | | | | | | | | | | | | | | |
| <i>Larus marinus</i> | | | | | | | | | | | | | | | | | | | | | |
| <i>Stercorarius sp.</i> | | | | | 0,2 | | | | | | | | | | | | | | | | |
| <i>Puffinus assimilis</i> | | | | | | | | | | | | | | | | | | | | | |
| <i>Puffinus puffinus</i> | | | | | 0,4 | | | | | | | | | | | | | | | | |
| <i>Caionectris diomedea</i> | | | | | | | | | | 0,3 | 0,4 | 0,3 | | | | | | | | | |
| <i>Pterodroma mollis</i> | | | | | | | | | | | | 0,1 | 0,4 | | | | | | | | |
| Undetermined tern (a) | | | | | | | | | | | | | | 0,2 | | | | | | | |
| <i>Sterna fuscata</i> | | | | | | | | | | | | | | 0,6 | | | | | | | |
| <i>Sula leucogaster</i> | | | | | | | | | | | | | | | e | | | | | | 0,2 |
| All species together | 0,4 | 1,2 | 0,3 | 0,5 | 0,4 | 0,3 | 0 | 0,5 | 0,6 | 0,3 | 0,1 | 0,4 | 0 | 1,1 | 0 | 0 | 0 | 0 | 0 | 0 | 0,2 |
| Number of species | 2 | 4 | 2 | 5 | 1 | 2 | 0 | 2 | 2 | 1 | 1 | 1 | 0 | 2 | (1) | (2) | 0 | 0 | 0 | 0 | 1 |

e : species present, but not observed during the watch. (a) : either *Sterna maethetus* or *S. fuscata*

| Watch number | Position | Time | Sea temperature | Remarks |
|--------------|---------------------------------|---------------|-----------------|---|
| 1 | Off the Needles (Isle of Wight) | 16h40 - 18h00 | 14,9 | Rain, strong wind |
| 2 | 46 38N , 07 07W (07h) | 07h20 - 08h20 | 17,2 (07h) | |
| 3 | - | 08h20 - 09h20 | - | |
| 4 | 44 20N , 08 54W (15h) | 16h00 - 17h40 | 17,2 (15h) | |
| 5 | 39 01N - 11 27W (07h) | 07h20 - 09h20 | 19,4 (07h) | |
| 6 | 36 25N , 12 32W (15h) | 15h00 - 16h00 | 20,9 (15h) | |
| 7 | - | 16h00 - 17h00 | - | |
| 8 | - | 18h00 - 18h40 | - | |
| 9 | 31 05N , 14 19W (07h) | 07h20 - 08h50 | 21,1 (07h) | |
| 10 | 28 29N , 15 12W | 14h45 - 16h00 | 20,6 (15h) | |
| 11 | - | 16h00 - 17h15 | - | In sight of the Gran Canaria |
| 12 | 25 09N , 16 22W (07h) | 07h45 - 08h40 | 21,1 (07h) | |
| 13 | 24 27N , 16 47W (15h) | 17h15 - 17h25 | 21,1 (07h) | |
| 14 | 18 44N , 17 40W (07h) | 07h40 - 08h45 | 25,5 (07h) | One Leach's Stormpetrel found on the deck short after midnight |
| 15 | 15 53N , 17 44W (15h) | 14h40 - 15h35 | 26,4 (15h) | |
| 16 | - | 15h45 - 18h00 | - | Six Turtle Doves on and around the ship. Cap Vert and Dakar in sight shortly after the end of the watch |
| 17 | 10.28N , 17 12W (07h) | 07h45 - 08h45 | 27,2 (07h) | Dolphins, agitated waters |
| 18 | 08 09N , 15 32W (15h) | 14h45 - 18h00 | 26,7 (17h) | |
| 19 | 03 30N , 12 11W (07h) | 07h30 - 08h45 | 27,2 (07h) | |
| 20 | 01 33N , 10 23W (15h) | 15h45 - 17h00 | 25,8 (15h) | |

TABLE 1B

WATCH DETAILS FOR TABLE 1A. TEMPERATURES ARE GIVEN IN °C, THE POSITIONS INDICATED ARE THE NEAREST ONES TO THE CONCERNED WATCH

| Watch number | Position | Time | Sea temperature | Remarks |
|--------------|--------------------------|--------------------------------|-----------------|--|
| 22 | 02 54S , 06 56W (07h) | 07h30 - 08h45 09h45 - 11h00 | 23,3 (07h) | These two watches have been united under the same number because no bird was seen during them |
| 23 | 03 00S , 05 20W | 15h25 - 16h25 | 23,3 (15h) | |
| 24 | (15h) | 16h25 - 17h25 | | |
| 25 | 09 19S , 02 26W (07h) | 07h45 - 08h45 09h55 - 10h55 | 22,2 (07h) | Two small oil patches and oil nodules from 10h20 to 10h25. These two watches have been united |
| 26 | 11 24S , 00 54W (15h) | 14h45 - 16h55 | 21,1 (15h) | |
| 27 | | 16h55 - 17h05 | | |
| 28 | 16 31S , 02 54E (10h) | 07h40 - 08h45 | 18,9 (10h) | |
| 29 | - | 09h55 - 10h55 | - | |
| 30 | 18 41S , 04 33E (18h) | 15h55 - 16h45 | 17,8 (18h) | |
| 31 | - | 16h45 - 18h00 | - | |
| 32 | 22 55S , 08 18E (10h) | 07h40 - 08h40 | 17,2 (10h) | Numerous medium-sized cetaceans, among them Pilot Whales <i>Globicephala</i> sp. |
| 33 | - | 09h40 - 10h40 | - | Numerous small and medium-sized cetaceans |
| 34 | 25 02S , 10 10E (18h) | 15h00 - 16h15 | 16,0 (18h) | Numerous medium-sized cetaceans, among them Pilot Whales and False Killer Whales <i>Pseudorca crassidens</i> |
| 35 | - | 16h15 - 17h30 | - | Numerous small cetaceans |
| 36 | 29 24S , 14 06E (10h) | 07h35 - 08h45 | 15,6 (10h) | |
| 37 | - | 08h40 - 10h35 | - | |
| 38 | 30 29S , 13 07E (14h) | 15h00 - 16h15 | 14,9 (14h) | A fishing vessel far away. Rough sea, wind and rain, which caused the interruption of the watch at 16h15 |

TABLE 2B
WATCH DETAILS FOR TABLE 2A, WITH THE SAME CONVENTIONS AS IN TABLE 1B

TABLE 2A

BIRDS OBSERVED BETWEEN THE EQUATOR AND CAPE TOWN, SEPTEMBER 1977

| Species | Date (Sep 1977) | | 11 | | 12 | | 13 | | 14 | | | | | | | | |
|-----------------------------------|--------------------|-----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| <i>Sula leucogaster</i> | | | | | | | | | | | | 0,7 | 0,8 | | | | 0,7 |
| <i>Sterna</i> sp. (a) | | 0,5 | 0,2 | | | | | 0,2 | 0,1 | | | | 0,5 | | | | |
| <i>Stercorarius</i> sp. | | | | | | | | | | | | | 0,1 | 0,1 | | | |
| <i>Pterodroma macoptera</i> | | | | | | | | | | | 0,2 | | | | | | |
| <i>Procellaria aequinoctialis</i> | | | | | 0,1 | | 0,2 | 0,2 | 0,3 | 0,1 | | | 0,1 | 0,1 | 0,2 | | 9,7 |
| <i>Pterodroma incerta</i> | | | | | | | | 0,2 | 0,5 | | | 0,2 | 0,2 | 0,1 | | | 0,1 |
| <i>Pterodroma mollis</i> | | | | | | | | 0,2 | 0,1 | | | 0,7 | 0,2 | | | | 0,2 |
| Undet. grey gadfly petrel | | | | | | | | | | | | | | | | | 0,4 |
| <i>Diomedea chlororhynchus</i> | | | | | | | | | | | | 0,2 | | | 0,2 | | 0,1 |
| <i>Daption capense</i> | | | | | | | | | | | | | | | e | | 0,7 |
| <i>Diomedea exulans</i> | | | | | | | | | | | | | | | | 0,4 | 0,1 |
| <i>Diomedea melanophrys</i> | | | | | | | | | | | | | | | | | 1,2 |
| <i>Sula capensis</i> | | | | | | | | | | | | | | | | | 5,6 |
| <i>Catharacta</i> sp. | | | | | | | | | | | | | | | | | 0,5 |
| Undet. grey stormpetrel | | | | | | | | | | | | | 0,1 | | | | |
| All species together | 0 | 0,5 | 0,2 | 0 | 0,1 | 0 | 0,2 | 0,5 | 0,7 | 0,7 | 1,3 | 1,2 | 1,7 | 0,4 | 0,3 | 1,5 | 20 |
| Number of species | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 3 | 4 | 2 | 4 | 4 | 5 | 3 | 2 | 4 | 9 |
| | | | (2) | | | | | | | | | | | | (3) | | |

e: species present, but not observed during the watch. (a): either *Sterna paradisaea* or *S. hirundo*

Tasker *et al.* (1984), since experience shows that such a distance is practically impossible to assess. Because of the absence of any landmark (!) at sea, such a distance can only be very roughly estimated by eye, and this estimation needs to be made each time a new bird is detected. Every experienced seaman would tell that such a method is highly imprecise. Moreover, the movements of the ship influence greatly the accuracy of this estimation, which tends to be "long" when that part of the vessel where the observer stands is at an angle above the horizontal, and to be "short" when it is below it.

Another point is that the detection radius of a bird is highly variable, depending upon a number of factors, such as species, weather, visibility, direction of the sun, etc. (Yapp 1956, Voisin 1980, 1983a,b, Tasker *et al.* 1984). In fact, it very often would not be the same for the same bird on one side and the other of a ship, and the detection perimeter of a bird, that is, the curve delineating the distance from which it first can be detected, is most often a curve far from a circle.

SPECIES NOTES

Yellownosed Albatross *Diomedea chlororhynchos*

Only two of the observed Yellownosed Albatrosses (watches 33 & 38) belonged to the greyheaded form *D.e. chlororhynchos* which breeds in the Tristan da Cunha Group and at Gough Island. All the others belonged to the whiteheaded form *D.e. bassi* from other localities. Greyheaded birds were not more frequent one month later at sea east of Cape Town, but they were much more so in the same waters in November 1977 (Voisin 1983a), suggesting some kind of seasonal population movement.

Giant petrels *Macronectes* spp.

Curiously enough, no giant petrel was sighted on this voyage, even though both the Northern Giant Petrel *M. halli*, and, to a lesser extent, the Southern Giant Petrel *M. giganteus* can regularly be observed near the coast of South West Africa/Namibia at that time of the year (Lambert 1971, Summerhayes *et al.* 1974, Shaughnessy & Voisin 1981). Similarly, Summerhayes *et al.* (1974), Summerhayes (1976) and Hansen (1978) do not mention giant petrels from the waters crossed by the *S.A. Vaal*. All this suggests that, when going to their feeding grounds near the southern African coast at this time of the year, giant petrels either pass very rapidly the zone which was crossed by the *S.A. Vaal*, or, more probably, take another route.

Whitechinned Petrel *Procellaria aequinoctialis*

The first Subantarctic bird which was seen on this trip was a Whitechinned Petrel (watch 26), at about 11 24S. It flew near the ship and was observed in very good light. Subsequently this species was observed on almost all watches, but was never numerous. No bird in *P. a. conspicillata* (spectacled) plumage

was seen.

Bulwer's Petrel *Bulweria bulwerii*

No Bulwer's Petrels were observed, even though we passed through the Canary Islands, and not very far from Madeira, where the species is a common breeder, and at a time when it has not yet completed breeding (Jouanin *et al.* 1979). Its absence from the waters around the Cape Verde Islands is less surprising, since it has already left its breeding grounds there in September (Jouanin *et al.* 1979).

Softplumaged Petrel *Pterodroma mollis* and Kerguelen Petrel *P. brevirostris*

Softplumaged Petrels were observed on watch 12 (Table 1), south of the Canary Islands, and from watch 30 onward (Table 2). A darkphase bird was observed in very good conditions on watch 32, at about 22 55S, 8 18E. It was identified, in spite of its grey colour, by the characteristic pattern of the species' underparts, with a darker chest band and eye markings, as in Sinclair's description (1978), with which I checked this identification. Moreover, it looked quite different from the Kerguelen Petrel, with which I am familiar from previous visits to the Crozets and Kerguelen Islands (Voisin 1983b). The two small, grey gadfly petrels which were sighted on watch 37 could not be identified with certainty, but could well have been Kerguelen Petrels, since both forms are very like one another (Sinclair 1978, Schramm 1982). However, even if southern African waters are regarded as part of the normal nonbreeding range of the Kerguelen Petrel (Brooke & Avery 1981), this would still have been a very northerly observation for the species.

Atlantic Petrel *Pterodroma incerta*

The Atlantic Petrel was separated from the Softplumaged Petrel by the brown, not grey, colour which covers its upperparts, head and breast. The first bird of this species was sighted on watch 29, at 16 31S, 2 54E. Subsequently, single birds were more or less regularly observed on almost every watch, often in very good viewing conditions. Five birds were observed east of 50 E. This species is undoubtedly not rare in southern African waters east of this meridian, contrary to the allegations of Griffiths (1982), since it has already been observed there in more or less large numbers by several authors, such as Summerhayes *et al.* (1974), Summerhayes (1976), Hansen (1978), Flora (1981) and myself (Voisin 1983a). However, the impression which I got from the available literature and from my personal observations is that the distribution of this species at sea east of 5W is very irregular, if not patchy.

Leach's Stormpetrel *Oceanodroma leucorhoa*

No Leach's Stormpetrels were observed during any watch, but an adult bird was found on the deck of the ship a little after midnight on 7 September 1977, off the Mauritanian coast, at

about 20 15N, 17 40W. It seemed in good condition and was released the following morning.

Palaeartic migrants

Turtle Doves *Streptopelia turtur* were seen all the way from Southampton to the Canaries and until we came in sight of Dakar, Senegal, on 7 September 1977. On this last day, Turtle Doves were frequently seen, singly or in small flocks of up to seven birds around the ship. One Turtle Dove stayed on the ship all the way from Southampton to Senegal, and was fed by passengers.

Small sylviid warblers were also more or less frequently sighted during this part of the voyage, and one *Phylloscopus* sp. was suspected of having travelled on the ship from Southampton to off Dakar, Senegal. Since it was very shy, and because I never saw it taking food, I wonder if it was the same bird all the way. A few swallows, among them at least one European Swallow *Hirundo rustica*, were also sighted on 7 September 1977.

DISCUSSION

In addition to the well known paucity of seabirds in tropical warm waters compared to temperate cold waters, my records also illustrate the fact that, at the same sea temperature, southern waters are richer in numbers of both species and individuals than are northern waters, even if my observations in the southern and in the northern hemisphere are not directly comparable because of the difference in seasons.

On the other hand, my observations from this voyage give perhaps a distorted, exaggerated image of the poverty of northern temperate seas. It is quite remarkable that I sighted only one Sooty Shearwater *Puffinus griseus* between Southampton and the Canaries, at a time when this species should be common in this part of the Atlantic (Phillips 1963, Brown *et al.* 1982). The same applies to the Great Shearwater *P. gravis*, which is common between Ireland and the Iberian Peninsula from August to October, and even Cory's Shearwater *Calonectris diomedea* (Cramp & Simmons 1977, Brown *et al.* 1982). I can offer no explanation for their scarcity, the causes of which were perhaps meteorological.

The "land effect" caused by the proximity of Madeira and of the Canary Islands is detectable on watches 8 - 12 (Table I), but is weak. It mainly consists in the observation of a few Softplumaged Petrels *P. mollis*, and Little Shearwaters *Puffinus assimilis (baroli?)*. The land effect due to the African Continent and to the Cape Verde Islands was also extremely weak, and consisted in the sightings of Palaeartic migrants and terns *Sterna* spp.

As a whole, my observations from this voyage are in accordance with those made by other authors (e.g. Loy 1962, Lambert 1971, Summerhayes *et al.* 1974, Summerhayes 1976, Hansen 1978). Differences between their records and mine seem primarily due to

different seasons, and to the distance of the ship from land. This last factor seems to be most important in southern African waters, because of the richness of the Benguela Current, which is noticeable on watches 37 and 38 (Table 2), and has already been mentioned by the above authors.

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