

BIRDS OBSERVED DURING TWO ATLANTIC CROSSINGS

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EVEN though a number of excellent papers have been written on pelagic birds of the North Atlantic, there is still a definite need for more information on their distribution. I have recently made two Atlantic crossings between the United States and Europe. This paper consists of my observations of oceanic birds on these voyages and should help to fill some of the gaps in our present knowledge of these birds.

The eastbound crossing in 1957, made on H.M.S. *Queen Elizabeth* from New York to Cherbourg, France, took over four and a half days to complete. The ship left New York Harbor at 11:00 a.m. (E.S.T.), July 11, and docked at Cherbourg at 8:00 a.m. (Cherbourg time), July 16. The course the ship followed was roughly east from New York to 34° West longitude, northwest of the Azores, and then a gradual curve northeast into the English Channel to Cherbourg. The weather was mild for most of the trip. July 12 and the morning of July 14 were overcast with occasional rain, and on the 15th there was a light fog most of the day.

The crossing on the way back in 1958 was made on the S.S. *United States* from Southampton, England, via Le Havre, France, to New York. The steaming time from Le Havre to New York was four days and eight hours from 1:30 a.m. (Le Havre time), August 15, to 8:30 a.m. (E.S.T.), August 19. The course of the westbound crossing was considerably north of the eastbound crossing. From Le Havre the ship followed a gradual curve west and south to approximately 48° West longitude and 41° North latitude. From there it sailed directly to New York (the noon positions for both voyages are given in Table 1). The weather on this trip was similar to that of the preceding one. The morning of August 16 and up to 10:00 a.m. on August 17 were the only overcast periods with the exception of a heavy fog on the afternoon of the 17th.

I have found no previous record of observations on oceanic birds from a ship of this size or speed. Mayr (1938:54) states that "... it seems impossible to make satisfactory sea-bird observations on steamers which do much more than 20 knots." However, the *United States* and the *Queen Elizabeth* had cruising speeds of approximately 30 and 27 knots, respectively.

On both trips all my time spent observing birds was from the bow of the ship. I have no means of knowing what species, if any, followed in the wake of the ship. This may have affected the numbers I saw of certain oceanic birds (e.g., Wilson's Petrel, Fulmar) which are reported to follow in the wakes of ships. In the bow of the ship I frequently changed from one side to the other. Except in the few areas where birds were abundant and passing in large

TABLE 1
NOON POSITIONS AND THE NUMBER OF BIRDS SEEN PER HOUR

Voyage	Date	Noon Position	Hours of Observation	Total No. Birds Seen
East (1957)	July 11	South of Long Is.	2	6
	July 12	40° 42'N., 60° 02'W.	5	27
	July 13	41°N., 44°W.	3	1
	July 14	44°N., 29°W.	7	147
	July 15	49°N., 15°W.	3	4
West (1958)	Aug. 15	49° 51'N., 08° 29'W.	4	6
	Aug. 16	48° 38'N., 28° 45'W.	7	115
	Aug. 17	44° 06'N., 46° 56'W.	5	84
	Aug. 18	41° 21'N., 63° 35'W.	4	66

numbers on both sides of the ship at once, I saw nearly all the birds that the ship passed while I was on deck. I used 7× binoculars almost exclusively. On one occasion I tried using a 20× telescope; however, this proved to be unsatisfactory from the moving deck of a ship. I found that the binoculars sufficed in nearly all cases.

On the eastbound voyage I averaged four hours per day observing birds, and five hours per day on the westbound voyage. The exact hours for each day are given in Table 1. On the days when birds were numerous I generally spent more time on deck than on the days when they were scarce. This explains the day to day variation shown in the table. I spent a total of forty hours on deck during both voyages. I kept the exact time that each bird was observed in order that its location could be found.

TABLE 2
NUMBERS OF THE MORE COMMON SHEARWATERS AND PETRELS

Species	Eastbound Crossing					Westbound Crossing			
	11	12	July 13	14	15	15	August 16	17	18
<i>Puffinus gravis</i>	—	20	—	50	—	—	56	9	—
<i>Puffinus diomedea</i>	1	—	—	72	2	—	14	4	2
(Unidentified shearwaters)	—	5	—	—	1	1	8	16	—
<i>Oceanodroma leucorhoa</i>	—	—	—	15 ¹	—	—	—	3	9
(Unidentified petrels)	—	—	1	—	—	—	1	49	52

¹ Possibly *O. castro* (see text).

ACKNOWLEDGMENT

I wish to express my appreciation to Professor V. C. Wynne-Edwards for his criticism of this paper. I am very much indebted to him for his help and encouragement.

SYSTEMATIC LIST

The following is a systematic list of the birds I observed out of sight of land on two Atlantic crossings:

Fulmar (*Fulmarus glacialis*).—Two light-phase Fulmars were seen resting on the water in a heavy fog on August 17, 1958, off the southern tip of the Grand Banks at 43°N. 50°W. The two birds were about three and a half nautical miles apart. Wynne-Edwards (1935: Fig. 12) shows the range of *F. glacialis* on the Grand Banks in July to be no farther south than about 47°N. Rankin and Duffey (1948: Fig. 6), however, do include the southern tip of the Banks in the summer distribution of this species. My observations support Rankin and Duffey's distribution of this species on the Banks but not in mid-ocean. These authors show (Fig. 6) *F. glacialis* ranging south of the 50th parallel west from 15°W. from April to September. However, I saw no *F. glacialis* on August 16 when the *United States* was sailing just south of 50°N.

Cory's Shearwater (*Puffinus diomedea*).—On both crossings this species was ordinarily seen only in small numbers. The only occasion on which it was common was the afternoon of July 14 on the eastbound voyage when over 60 shearwaters of this species were seen, including two flocks of over 15 individuals and several smaller groups. *P. gravis* was entirely absent from the area. On the 1957 trip individuals of *P. diomedea* were observed near both the American and European coasts. On July 15 two shearwaters identified as this species were seen at 48°N. 14°W. and 48½°N. 12°W. respectively, and on the 11th an individual was observed south of Massachusetts at 41°N 71°W. This is an early record for this species in the western Atlantic. Wynne-Edwards (1935:267) mentions that *P. diomedea* does not reach American waters until early August. Gordon (1955:141) found them off southern New England no earlier than July 18 in 1953. However, two early sight records of this species for 1957 were published in *Audubon Field Notes*. (1) Baird and Emery (1957:388) reported two Cory's Shearwaters seen by W. Bailey off Monomoy, Massachusetts, on June 29. (2) Nichols (1957:390) reported 170 observed by P. Buckley off Mecox Bay, Long Island, on July 8. In 1957 there appears to have been an early wave of *P. diomedea* to the southern New England and Long Island coasts. On the westbound crossing the easternmost shearwater of this species was seen at 48½°N. 59°W. and the westernmost individual at 41½°N. 59° W. Both of these positions are over 400 nautical miles farther west and east respectively than the extreme observations on the eastbound voyage.

Greater Shearwater (*Puffinus gravis*).—This species of shearwater was seen frequently in mid-ocean on both crossings. My records generally agree with the range of this species given by Wynne-Edwards (1935: Figs. 5 and 6). The shearwaters seen on July 12 and 14 indicate that *P. gravis* occurs as far south as 40°N. in the western Atlantic and 44°N. in mid-ocean at least up to the second week of July. Wynne-Edwards (1935: Fig. 5) shows that this shearwater is already slightly north of these areas by June 25. On the westbound crossing my observations agree even more closely with this author. In his Fig. 6, Wynne-Edwards shows that the southern limit of *P. gravis* on August 10 approximately corresponds with the 50th parallel. On August 16 at 48½°N. over 50 of these shearwaters were seen, while the next day when four degrees farther south only nine were observed. I never

observed any large flocks of this species of shearwater. Actually, they were most often seen singly or in pairs. The exceptions were a group of nine in the afternoon of July 12, six or seven flocks of shearwaters on the morning of July 14, the three largest of which included over ten *P. gravis* each, and eight shearwaters some of which were this species observed in a flock on August 18. The flocks on July 14 and the one on August 16 all included a few *P. diomedea*.

On the westbound crossing a single *P. gravis* flew along with the bow of the liner at some distance off the beam for ten minutes, having no trouble keeping up with the ship which had a cruising speed of 31 knots. For flight it relied entirely upon the 15 mph wind, flapping only twice during the ten minutes. An individual of this species of shearwater flying at a speed of 15 knots kept up with the ship from which Wynne-Edwards made his observations (Wynne-Edwards, 1935:248). This is the only other record of the flight speed of a shearwater in the North Atlantic that I have been able to find.

I had little trouble separating the present species from *P. diomedea*. I found that the dark, sharply contrasting cap was by far the easiest way to identify *P. gravis*. Other field marks that I used included the conspicuous white patch at the base of the tail, the dark bill, the dark abdomen patch (though it was difficult to observe), and the smaller size when the two species were seen together. The light-colored bill of *P. diomedea* was often noticeable on birds in good light.

Manx Shearwater (*Puffinus puffinus*).—On August 15 three of this species were seen. A single bird was observed 75 nautical miles and two others 195 nautical miles west of the Scilly Isles. All three birds flew under the bow permitting close observation. They were all presumably *P. p. puffinus* but were certainly not the subspecies with darker underparts, *P. p. mauretanicus*, which occurs in the English Channel from June to September (see Nicholson, 1952:51).

Audubon's Shearwater (*Puffinus lherminieri*).—On the westbound voyage in 1958 I observed two together and three single shearwaters that were undoubtedly of this species on August 18 at 41°N. 60°–61°W. Their characteristic flight and smaller size distinguished them from *P. puffinus*, which has the same contrasting color pattern. A distinct brownish hue was seen in excellent light at close range on the upperparts of these five shearwaters. This, according to Murphy (1936:682), is one of the characteristics distinguishing the present species from the Little Shearwater (*P. assimilis*), whose upper surface is slate-colored “. . . without a trace of brownish hue in fresh feathers.” *P. assimilis* is the only other small North Atlantic shearwater with a similar flight. In 1957 three shearwaters that appeared to be small enough for *P. lherminieri* were seen at 40°N. 56°W. on July 12. Since their flight was not noticed, there is a possibility that they were *P. puffinus*. These three individuals were in the company of nine *P. gravis*. The color of the under tail-coverts was not seen on any of the birds.

The distinctive flight of *P. lherminieri* is the most noticeable characteristic distinguishing it from the larger *Puffinus* shearwaters. The present species during flight alternates short glides with nearly equal periods of rapid flapping, dividing its flight into a regular pattern. I found that the number of wing strokes between glides varied between five and 15, though less than eight flaps was unusual. *P. puffinus* and the other larger shearwaters are more accomplished at gliding and banking, only taking one or two occasional flaps at irregular intervals. Lockley (1947:15) describes the banking flight of *P. puffinus* in relatively calm weather as “. . . careening from side to side, now skimming the water for fifty yards with one wing-tip, then rising to about ten feet above the surface, beating its wings once or twice or thrice to gather a fresh momentum, then skimming the sea for a similar distance with the other wing down.” Several authors mention this difference in the

flight of these two groups of shearwaters. Among them are Peterson (1947:246) and Alexander (1955:28).

I have been able to find very few published records of *P. lherminieri* in the North Atlantic. There are only two positive identifications by authors. A single bird was seen on November 22 at approximately 50½°N. 40°W. by R. L. Grayce (1950:34), who includes no details of plumage or behavior other than that it was in the company of hundreds of *Fulmarus glacialis*. The second identification was of several shearwaters of this species seen off South Carolina and Florida in January and February, 1912 and 1913, by J. T. Nichols (1913:506-508). M. S. Gordon (1955:140) identified some small shearwaters that were almost certainly this species off southern New England in 1953. Two shearwaters which could not be distinguished as to whether they were *P. lherminieri* or *P. assimilis* were seen by Rankin and Duffey (1948:10) in mid-ocean, one in August and the other in December. Along the American coast this species occurs occasionally as far north as Massachusetts. Off southern New England Gordon (1955:141) first found *P. lherminieri* on August 6 when a single bird was seen four miles southwest of Martha's Vineyard. By late August they had become the most numerous shearwater between 39½°N. and 40°N., south of Massachusetts. These records along with my own indicate that in August the range of this species extends as far north as 41°N. and as far out as 60°W. from the American coast, and possibly even to 38°W. if Rankin and Duffey's observation is of this species. However, there are not adequate data to make even these assumptions. Many more specimens and reliable sight records are needed to determine the oceanic range of *P. lherminieri*.

Leach's Petrel (*Oceanodroma leucorhoa*).—This species was the most common of all the petrels that could be identified on both crossings (see Table 2). The North Atlantic petrels are confusing and difficult to distinguish. Several authors (Murphy, 1936:735, 1915:171; Wynne-Edwards, 1935:279; Peterson, 1947:9; Hollom, 1953:16) agree that the flight of *Oceanodroma* alone is sufficient to distinguish it from *Oceanites* and *Hydrobates*. Another author (Rankin and Duffey, 1948:8) states that ". . . the forked tail is difficult to see and therefore should not be relied on for identification." I had very little chance to compare the flight of the petrels of these three genera. In addition to this I found on August 18 several petrels that definitely had forked tails characteristic of *Oceanodroma* but were flying much less erratically than most of the birds of this genus that I observed. For these two reasons, I excluded flight as a positive identification factor of the petrels seen on both voyages, and used only the shape of the tail. In Table 2 I included under *O. leucorhoa* all petrels definitely seen to have forked tails, although it is highly probable that the majority of the unidentified individuals seen on the westbound voyage were also of this species.

The petrels seen on July 14 at 44°N. 29°-30°W. on the eastbound trip might well have been Harcourt's Petrels (*O. castro*) rather than *O. leucorhoa*, as these species are indistinguishable in the field. The position of these petrels indicates that they could very well have been *O. castro*. Wynne-Edwards (1935:282) states that *O. leucorhoa* ranges from 300 to 500 miles off shore. Murphy (1936:736) and Rankin and Duffey (1948:8) also noticed that this species rarely ranges farther than 500 miles from the American coast, and none observed any in the eastern Atlantic as far north as Ireland. The 15 petrels I observed were exactly in the middle of the ocean, 950 nautical miles from St. John's, Newfoundland, and 910 nautical miles from the nearest point of the European coast, but only slightly over 310 nautical miles from the breeding grounds of *O. castro* in the Azores. In addition, two completely unidentifiable petrels were seen farther than 500 miles from the American continent—one on July 13 at 41°N. 41°W. on the eastbound trip and the other on August

16 at $48\frac{1}{2}^{\circ}\text{N}$. 30°W . on the return crossing. The petrels shown in Table 2, seen on August 17 and 18, were all within 500 miles of land.

Storm Petrel (*Hydrobates pelagicus*).—One of these petrels was identified on August 15 on the westbound crossing approximately 190 nautical miles west of the Scilly Isles. Its flight was fairly straight with fast wing-beats, apparently distinguishable from that of *Oceanodroma*.

Wilson's Petrel (*Oceanites oceanicus*).—The only individual of this species identified on either trip was observed on August 18 at 41°N . 67°W . The characteristic feet that project beyond the end of the tail were seen at close range. It is interesting that I saw only once on both voyages a petrel so common in the North Atlantic. Mayr (1938:57) had a similar experience in 1938.

Gannet (*Morus bassanus*).—Only one bird of this species was observed a great distance from land. This was a juvenile seen about 150 nautical miles south of this species' breeding colonies in southwestern Ireland on July 15, 1957. *M. bassanus* became more common in the English Channel nearer to land.

?Phalarope.—An unidentified bird was seen on July 12 at $40\frac{1}{2}^{\circ}\text{N}$. 60°W ., 420 nautical miles from New York. The general color of the upper surface was brown, streaked with a lighter color. The bird did not have a white rump-patch which is characteristic of the petrels. Migration dates do not support the possibility of this bird actually being a phalarope. August 14 is the earliest date given by Urner and Storer (1949:186) for the Northern Phalarope (*Lobipes lobatus*) on the New Jersey coast. Griscom (1939:185) found this species in Massachusetts on July 24, 1938—an early record. The migration of the Red Phalarope (*Phalaropus fulicarius*) is even later than that of *Lobipes*. Griscom (*ibid.*) showed that the main fall flight of *Phalaropus* is most likely far offshore sometime between late September and late October.

Long-tailed Jaeger (*Stercorarius longicaudus*).—Of the 11 jaegers I observed on the westbound voyage I was able to identify three as this species on August 16 at 48° – 47°N . 26° – 23°W . The first of these, seen flying close to the ship, was missing its projecting tail feathers and was identified by the restriction of white in the primaries to only the outer few feathers, the clear white breast, and the slenderness of the body. The other two jaegers of this species had their tail feathers intact. My observations agree with Wynne-Edwards' (1935:310) report that this species begins autumn migration in the last week of July, reaching a peak in the second half of August. Seven of the jaegers seen on the westbound crossing were too far from the ship to be identified. All of these were seen on August 16, except one that was observed the day after at 43°N . 50°W . The majority of the jaegers were found in the vicinity of Arctic Terns (*Sterna paradisaea*). Twenty-five terns were seen on August 16 when all but one of the jaegers were observed. However, jaegers were not found near all of the terns, and also four jaegers seen in the afternoon were found three to 22 nautical miles from the nearest terns. On the 17th, when only one jaeger was observed, no terns were seen all day.

?Parasitic Jaeger (*Stercorarius ?parasiticus*).—On August 16 at 48°N . $29\frac{1}{2}^{\circ}\text{W}$. a jaeger was observed with extensive white patches in the primaries and a prominent breast band. No projecting tail feathers could be seen to determine whether it was the Pomarine Jaeger (*S. pomarinus*) or *S. parasiticus*. However, considering the migration dates of these two species, the latter seems more probable. Wynne-Edwards (1935:304–305) observed that the migration of *S. parasiticus* begins in the last week of July, although the peak of migration does not come until the first week of September. *S. pomarinus* does not start south from its breeding grounds until the middle of August (Wynne-Edwards, 1935:300).

Kittiwake (*Rissa tridactyla*).—I identified one adult of this species approximately 32 nautical miles west of the Scilly Isles on August 15, 1958.

Arctic Tern (*Sterna paradisaea*).—Twenty-five terns were seen on the westbound crossing in the middle of the Atlantic from 49°N. 24°W. to 48°N. 30½°W. on August 16. The color of their bills, necessary for their identification, was extremely hard to observe from the ship. The entirely red bills characteristic of *S. paradisaea* were eventually seen on three of the terns at close range. The majority of the terns seen were adults. However, there were a few in juvenile plumage with white foreheads, brown areas in their wings, and large amounts of black on their bills. The flight of these terns was not strong enough to enable them to keep up with the ship. August 16 is well within the migration dates given by Wynne-Edwards (1935:327), who states that autumn migration starts before the end of July, and Rankin and Duffey (1948:26), who, although they observed only two terns in July in mid-ocean, found that "the migratory movements continued in small numbers throughout August across the breadth of the ocean." Mayr (1938:54) observed five *S. paradisaea* in the eastern Atlantic on July 31.

Two unidentified terns were seen south of Long Island on July 11, 1957.

SUMMARY

On two recent Atlantic crossings on passenger liners, 450 individuals of 12 species of birds were observed out of sight of land. *Puffinus gravis* was the most numerous representative of the shearwaters and *Oceanodroma leucorhoa* of the petrels. The oceanic range of *Puffinus lherminieri* extended as far north as 41°N. 60°W. during August, 1958. In 1957, *Puffinus diomedea* was observed off the American coast by July 11. In general, my observations confirm those of previous authors.

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210 PLEASANTVIEW AVENUE, LOUISVILLE, KENTUCKY, JULY 9, 1959