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DISTRIBUTION OF ALBATROSSES IN THE NORTH PACIFIC AND ADJACENT WATERS

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Because of the pelagic wanderings of albatrosses, ornithologists find relatively few opportunities to observe them. The difficulties involved in collecting these birds in the open sea from ocean-going vessels often compels us to accept sight records of their occurrence. Thus our knowledge of the geographical and seasonal ranges of albatrosses is largely fragmentary when we compare it to our knowledge of other species. The general range of the Black-footed Albatross (*Diomedea nigripes*) in the North Pacific and southern Bering Sea has long been known (Bent, 1922:5). Its seasonal occurrence in these areas is still not fully established. The observations of Starrett and Dixon (1946) and others indicate that observations from many areas at different seasons should be assembled before we are more fully able to understand the seasonal wanderings of this species. The previously recorded range of the Laysan Albatross (*Diomedea immutabilis*) does not indicate that it occurred formerly as far north as observers and collectors in recent years have found it.

The opportunity to gather the following observations on albatrosses was afforded during several cruises aboard the Fish and Wildlife Service vessels "Black Douglas" and "Penguin" in 1947, 1948, and 1949. These cruises took us as far into the Bering Sea as the Pribilof Islands, along the Aleutian Chain to Attu, across the Gulf of Alaska and across the North Pacific Ocean from Unalaska to San Francisco, California, and through the waters off California, Oregon, and Washington (see chart, fig. 21). Dr. Victor B. Scheffer and I spent many hours in the wheelhouse on all these cruises and kept notes on the albatrosses observed. In addition, information was gathered by several other observers and kindly put at our disposal.

BLACK-FOOTED ALBATROSS

Gulf of Alaska.—On cruises in May, June, and July, usually 3 or 4, but as many as 10 or 12, remained about the ship all day. They joined us about 10 miles from shore and generally left at about the same distance as we approached land. As late as October 13 and 14 they were with us constantly between Kodiak and Sitka. However, in November we found that their occurrence in the Gulf was unpredictable. On November 25 and 26, 1947, while crossing the northeastern side of the Gulf, several remained about the ship during all daylight hours. On the 26th one of these remained with us after we had passed Cape Spencer and continued circling the ship until we were four miles within Cross Strait, an unusual proximity to land. Between November 12 and 16, 1948, we passed through the same area without seeing one albatross.

North Pacific Ocean.—On November 26, 1948, we left Unalaska and headed directly for San Francisco where we arrived on December 6. For the first three days out we saw no albatrosses. At sundown on November 30, over 900 miles from Unalaska, the first Black-footed Albatross joined us. From this point on, from 1 to 10 were with us during all daylight hours until we reached the Farallon Islands just off the Golden Gate.

Between December 8 and 18 we cruised between San Pedro, California, and Cape Flattery, Washington. After leaving the Channel Islands we ranged from 30 to 175 miles off shore. From 5 to 15 albatrosses were with us every day.

Bering Sea and Aleutian Chain.—Although the Black-footed Albatross may be depended upon to follow a ship across the Gulf of Alaska during the spring and sum-

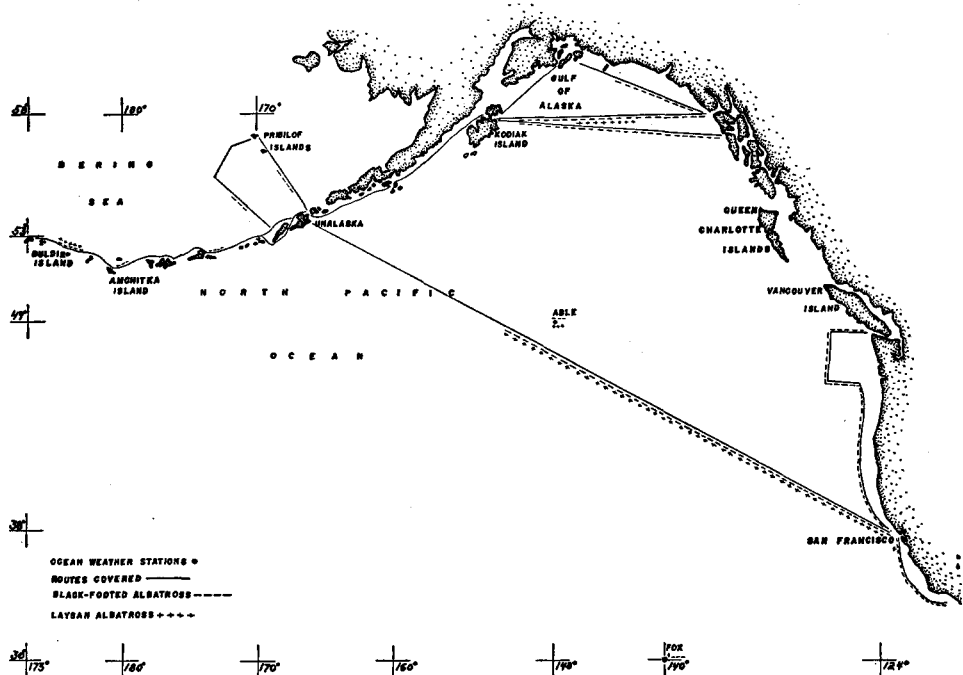


Fig. 21. Map showing areas where albatrosses were observed on cruises of 1947, 1948, and 1949.

mer, conditions are quite different in the southern part of the Bering Sea. Between Unalaska, in the Aleutians, and the Pribilof Islands, 200 miles north of there in the Bering Sea, albatrosses are quite irregular in occurrence. Along this route on October 23, 1947, November 23 and 25, 1948, and May 8 and 9, 1949, we saw no albatrosses. On July 8, 1947, several joined the ship for a few hours during rough weather about halfway between Unalaska and the Pribilofs. A few days earlier, on July 4, while the ship wallowed through heavy seas southwest of the Pribilofs, and about 100 miles northwest of Umnak in the Aleutians, four albatrosses circled the ship for an hour or more. During five days of cruising in the Bering Sea between July 3 and 9, those mentioned above were the only ones observed.

Between October 27 and November 17, 1947, we cruised along the Aleutian Chain from Unalaska to Attu and back. On October 29, about 10 miles north of Amliia Island three albatrosses joined us. On November 7, a stormy day, 5 to 10 remained with us all day while we neared the western extremity of our cruise, passing Buldir Island about noon. We returned through this same area on November 11. The day was clear and sunny with a light breeze blowing, but the albatrosses had completely vacated the area. The only other individual of this species observed later was one that followed us for a short time near Amchitka Island on November 13.

Dr. Olaus J. Murie summarized his notes on the Black-footed Albatross in the Aleutian area for the summer of 1937 in the following statement: "On May 31, while passing to the north of Seguam Island, in the Aleutians, many albatrosses were following the ship, at least 9 having been counted at one time. They were common also all the way westward to Kiska Island, where they were noted fairly near shore on June 3. They were much in evidence near Petrel Banks. Albatrosses were noted casually elsewhere among the Aleutians, usually only one or two at long intervals" (MS, 1937).

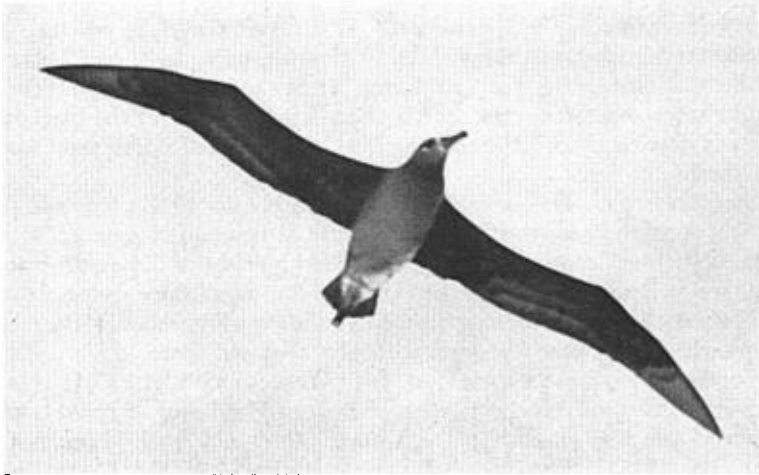


Fig. 22. Black-footed Albatross in flight over ship.

It is interesting to note that our observations of the Black-footed Albatross in the Bering Sea were always made during quite rough and windy weather, although we had many stormy days when no albatrosses appeared. The southern part of the Bering Sea is apparently a fringe area for the northern occurrence of this bird, into which it moves somewhat irregularly especially in the fall and then perhaps frequently under the stimulus of certain weather conditions.

SHORT-TAILED ALBATROSS

The best available evidence indicates that the Short-tailed Albatross (*Diomedea albatrus*) is extinct. Certainly the observations and data reported by Austin (1949) would lead us to believe that the bird no longer exists. The last recorded data relating to this bird "existing in the flesh" is from Toroshima. Yamada banded 22 there on April 9, 1932. Of these, 11 were recovered there in November, 1932, and 5 on June 30, 1933 (Austin, 1949:288). Thus, I present the following observation for what it may be worth. On November 25, 1947, while en route from Cape St. Elias to Cape Spencer, in the Gulf of Alaska, and 140 miles from Cape Spencer, a dark-bodied albatross with a distinctly white or pinkish white bill, circled about the "Black Douglas" for some minutes in company with several typical Black-footed Albatrosses. The unusual bird came quite close to the ship, within about 100 feet, leaving no doubt that its bill was white. Although the white bill and dark body are characteristics of the immature Short-tailed Albatross, it is also possible, in view of the overwhelming evidence for this bird's extermination by Japanese fishermen and feather hunters, that the individual observed was an abnormally pigmented Black-footed Albatross. The plumage was a uniform

sooty with none of the usual white markings characteristic of the Black-footed Albatross. Although several Black-footed Albatrosses remained with us all day, the white-billed bird left us after circling with the others for 10 to 15 minutes. During approximately six months at sea in Alaska waters at various times in the past two and a half years this is the only bird we have seen which remotely resembled the Short-tailed Albatross.

LAYSAN ALBATROSS

Gulf of Alaska.—At noon on October 13, 1948, about 230 miles due east of Kodiak, a Laysan Albatross joined the Black-footed Albatrosses that followed the "Penguin" and remained intermittently in the vicinity of the ship until dark. As Captain Carlson and I watched the bird he told me that during his five round trips to the Pribilofs each year, he quite often sees "one or two of the white albatrosses with the black wings and back at about this same place while crossing the Gulf between Kodiak and Cape Spencer but not in the Bering Sea."

North Pacific Ocean.—On our cruise from Dutch Harbor to San Francisco a Laysan Albatross first appeared near the "Black Douglas" at noon on November 30, six hours ahead of the first Black-footed Albatross. It passed quickly as did another about mid-afternoon. Two to four were visible about the ship during all the ensuing six days until we reached a point about 30 miles northwest of the Farallon Islands. On December 6 the rough weather of the past few days had moderated and shortly before the last bird was seen I was able to collect a male at 124° West Longitude, 38° 15' North Latitude, or about 40 nautical miles due west of Bodega Head and 75 miles northwest of San Francisco. The bird is now in the United States National Museum Collection (FWS), number 397551. The bird disgorged an entire squid about eight inches long just before it was retrieved. The stomach contained the beaks of 7 squid, 6 small roundworms, and 4 small pieces of pumice, the largest about half an inch in diameter. These small pebbles floated in water when removed from the stomach. Thus the bird may have picked them up from the sea or perhaps from the beach of a breeding island.

During the December, 1948, cruise of the "Black Douglas" along the Pacific Coast between southern California and Cape Flattery, Washington, only one Laysan Albatross was reported to me by the men in the wheel house but I saw none myself. The bird passed the ship on December 12 at some distance and did not circle or return. We were approximately 40 miles off central California, somewhat south of San Francisco.

The Laysan Albatross which we collected on December 6, 1949, 40 miles off central California appears to be the second specimen taken in what may properly be termed California waters. The first specimen was "caught" at San Nicolas Island, April 5, 1909, and was first reported to be a Short-tailed Albatross (see Peters, 1938:90). Several observers have reported Laysan Albatrosses 500 miles or more off the California coast and one was collected about 700 miles southwest of San Francisco on November 14, 1906 (Loomis, 1919:83). Further observations may show that this bird, although frequenting waters farther from shore than the Black-footed Albatross, occurs more frequently near our coast than the dearth of records now indicates.

Commander Midtlyng, who was in command of the U.S.C.G. Cutter "Klamath" during three cruises while manning ocean weather stations, kindly volunteered to keep a record of the albatrosses he saw. Commander Midtlyng is an interested observer of sea birds and mammals. While the ship was occupying Weather Station Able, 49° North Latitude, 148° West Longitude between October 11 and 31, 1948, Laysan Albatrosses were frequently seen during the entire period. On Station Fox, 30° North Latitude, 140° West Longitude, during late January and early February of 1948, several Laysans

were seen but they were rather scarce. On the same station from December 12, 1948, to January 2, 1949, only one Laysan Albatross appeared.

Dr. Gordon D. Alcorn observed three white-bodied albatrosses which he believes were Laysans during August, 1949. He saw the first two birds on August 23 "about twenty-five miles off the Washington coast just south of a line running through Destruction Island [northern Washington]. The day was very calm and there was no sea at all. The next day, August 24, there was a slight breeze and some surf, but I was able to observe one albatross. The next day, August 25, a southeaster blew up and our observations and collections were cut to a minimum. The rain was so thick that we could see but a few yards around the boat. Curiously enough, I recorded no Black-foots during the entire five days that I was off shore" (letter, 1949). The Laysan Albatross has not previously been recorded from the waters off the Washington coast. However, its appearance farther north would lead us to expect it here.

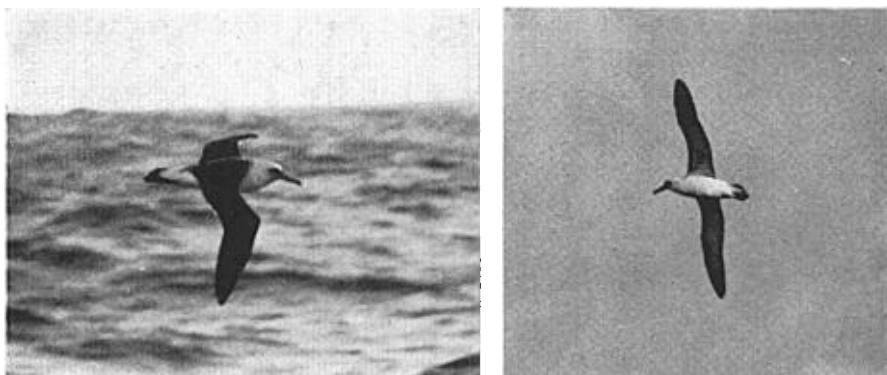


Fig. 23. Laysan Albatross. Left, photographed about 500 miles northwest of San Francisco, December 5, 1948; black back differentiates this species from the Short-tailed Albatross. Right, view of ventral surface.

Mr. Henry Hildebrand while engaged in tuna fishery research spent about 20 days at sea between August 9 and October 6, 1949. In this period operations were carried on in the off-shore waters of northern Washington, British Columbia, and southeastern Alaska between Grays Harbor and Baranoff Island. He reports that he observed two white-bodied albatrosses. In both instances the birds remained near the research vessel for an hour or more and were in company with numerous Black-footed Albatrosses. The first bird was observed between 5 and 10 miles off Tassu Sound, Moresby Island of the Queen Charlotte group. It rested on the water but remained out of range of his .410 shot gun. The second bird appeared on September 12 at 50° 58' North Latitude, 130° 44' West Longitude. This position is 75 miles due west of Quatsino Sound on the north end of Vancouver Island, British Columbia. He tentatively identified the birds as Short-tailed at the time, since they were within the expected range of that species. Not realizing that another white-bodied albatross might be expected in this area, he noted only that one had a black tail. Beyond this his notes are not detailed on the observations.

Bering Sea.—In the summer of 1937 while working on a biological survey of the Aleutian Chain Dr. Olaus J. Murie observed, on several occasions, albatrosses which at the time he recorded as Short-tailed but later decided were all Laysan Albatrosses: "One north of Seguam on May 13. On June 2, three or more were seen west of Atka and the following day they were even more plentiful, especially near the Petrel Banks.

Two were seen between Kiska and Chugul. We saw more in this one day than we did all last summer. On June 17 one was seen east of Semichi Island and next day another east of Buldir" (MS, 1937). On July 31 near Ulak Island, 178° West Longitude, Dr. Scheffer and Dr. Murie, who were on different parts of the ship, simultaneously shot an albatross resting on the water. It weighed 4 pounds, 6 ounces and had a wing spread of $77\frac{3}{4}$ inches. The specimen is in the United States National Museum Collection (FWS), number 366372.

Mr. Elmer C. Hanson, a civilian employee at the Army base on Amchitka, recently sent us parts salvaged from two Laysan Albatrosses which he had found dead on the beaches of Amchitka on June 5, 1949. He sent the entire head, along with the feet, of one bird and the upper mandible from the other.

Available evidence leads us to believe that the Laysan Albatross does not venture more than a few miles north of the Aleutian Chain. We have never encountered it more than ten or twelve miles north of the Chain within the Bering Sea. On November 7, 1948, one remained in the vicinity of the "Black Douglas" nearly all day as we cruised westward passing about 10 miles north of Buldir Island about noon.

Bent (1922:16) states that the Laysan Albatross ranges about as far north as 40° North Latitude. Thus this albatross has been expected by observers at sea well south of Alaska waters only. However, the Short-tailed Albatross was known to invade the Bering Sea and other Alaska waters (Bent, 1922:9). Thus the white-bodied albatross observers have expected to see in these waters was the Short-tailed. Because of the extinct or near extinct status of this bird, and in view of specimens and other observations, it seems quite probable that sight records of several Short-tailed Albatrosses, as reported by Arnold (1948:556-557) for the western Aleutians and by Gabrielson (1944:110) for the Gulf of Alaska, include some cases of mistaken identify.

NOTES ON BEHAVIOR

Although Black-footed and Laysan albatrosses were frequently about us simultaneously, seldom did we note any friction between the two species. In one instance a Black-foot stopped to investigate what appeared to be a part of a jelly-fish floating on the sea. After raising and dropping the object with its bill several times, it lost interest and took flight. During this performance a Laysan alighted nearby and watched curiously until the Black-foot took off. Then it paddled over and attempted to swallow the object. Before it could finish, another Black-foot arrived, tormented the Laysan until it took flight, then worried it until it dropped the object. The Black-foot then alighted, satisfied its curiosity by picking at the object several times, and flew off. The Laysan then returned and when last seen was attempting to swallow the object.

A courtship performance was observed for a brief interval between two Laysan Albatrosses 40 miles off central California on December 6, 1948. The two birds paddled about on the calm sea facing each other. They exchanged several caresses, rubbing their bills together. Their attention was so fully absorbed in their actions that they allowed the ship to approach them closely and one of them was collected.

It has often been said of the Laysan Albatross that it is quite shy of ships and seldom remains near them for long. We found this to be true in part. Again, we found that certain individuals would stay with us for many hours at a time. While circling a ship it tends to fly in larger circles than the Black-foot, soaring perhaps half a mile in one direction, then crossing the ship's path to swing widely around the aerial paths of the Black-foots before veering back toward the ship.

SUMMARY

Black-footed Albatrosses occur irregularly in the Bering Sea. They are more frequently seen in the vicinity of the Aleutian Chain than farther north. Our observations of these birds within the Bering Sea were associated with rough, windy weather, perhaps suggesting that they move into this area, the fringe of their northern range, with certain weather conditions. During the summer and early fall the Black-footed Albatross is regularly seen in the Gulf of Alaska. However, in the latter half of November their appearance there is irregular. Several were observed there in November of 1947 but none in November of 1948.

A dark-bodied albatross with a white bill was observed in the northeastern portion of the Gulf of Alaska in 1947. Other observers have reported white-bodied albatrosses of whose identity they were not positive. The possibility exists that some of these birds may have been Short-tailed Albatrosses.

A specimen of the Laysan Albatross has been collected near the western end of the Aleutian Chain and parts of two others from the beaches of Amchitka Island in the Aleutians. The species was observed several times in this area, both in the summer and late fall. It has also been observed in the summer and fall in the Gulf of Alaska. The northern limit of range of the Laysan Albatross was previously believed to extend only to 40° North Latitude. The information presented extends their range to the western Aleutian area and north at least to 58° North Latitude in the Gulf of Alaska.

Two Laysan Albatrosses were observed in a courtship performance on December 6, 1948, 40 miles off central California. One of these birds was collected. This is the second specimen of this species to be taken near the California coast.

Future observations may reveal that the Laysan Albatross visits the waters near our shores more frequently than past records indicate.

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