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BRIEF NOTES ON SOME BIRDS OF MIDWAY ISLANDS¹

By Hubert and Mable Frings
(Pennsylvania State Univ., University Park, Pa.)

During our stay on Midway Islands (October 25 - December 14, 1958) for studies on the behavior of the Albatrosses, we were able to observe some of the other sea-birds as well. These random observations add little that is new, but they may prove useful to those interested in the habits of these birds. In general, they are consistent with the observations of Kenyon and Rice (Elepaio, 18: 2-4, 1957) and with the excellent general descriptions of Bailey (Denver Mus. Pictorial, No. 12, 1956).

WEDGE-TAILED SHEARWATER (Puffinus pacificus). By the time that we arrived, there were a few adults and a few almost fully grown young on Sand and Eastern Islands. We did not hear any of these; quite a disappointment, for we wanted recordings. On December 4, an almost fully grown young was brought to us. This was the last that we saw, and we had not seen any for a few weeks before this.

WHITE-BREASTED PETREL or BONIN ISLAND PETREL (Pterodroma hypoleuca). These and the Shearwaters are lumped together as Moaning Birds by the residents of Sand Island. Some people distinguish these as Little Moaning Birds, but most do not. This caused us some trouble, for we wished to record the Shearwaters' moans and caterwauls, and we were given many leads by well-intentioned persons to where we could find Moaning Birds. These always proved to be the little Petrels. Certainly any attempt to describe the sounds made by these birds as moans is completely wrong. There were thousands of them, many in pairs, throughout our stay, but, up to December 7 at least, no eggs could be found. Every night the air was full of these birds. They seemed to be most active for a few hours after sunset and again for a similar time before sunrise, with decreased flight activity in the middle of the night. Above the flood-lighted football field they darted in and out of the light, looking like giant shooting stars. Near houses they often flew into lamps, but they did not do this with the bright flood-lamps. Perhaps these were too bright when they flew near them.

These birds seem to be fearless of man and dig their burrows near houses as well as in the dunes on Sand Island. They are very numerous, but we have no estimate of numbers. By injecting some with sodium chloride solution, we found that they, like other sea-birds (Schmidt-Nielsen, Scientific American, 200:109-115, 1959), have very efficient nasal glands. The excretion of concentrated salt solution was very vigorous, pouring from the nostrils and along the beak to drip from the tip.

RED-TAILED TROPIC BIRD (Phaethon rubricauda). These are known on Midway almost exclusively as Bo'sun Birds. The population was not high during our stay, but the birds were fairly widely distributed, more on the uninhabited Eastern Island than on Sand Island, although a few babies were present near the houses on Sand Island. Most of the young were more than half grown at the time of our arrival, and almost all were

1. See page 48

fully grown by about December 1. The adults continued to engage in flight displays all the while we were there.

BLUE-FACED BOOBY or MASKED BOOBY (Sula dactylatra). There were only a few of these nesting on Eastern Island, and none on Sand Island. By the time that we arrived, the young were all capable of flight, so the birds were very wary. On November 4, we saw a group of about eight flying and one on a nest on the ground. The latter was alone and flew away quickly when we approached. These seldom appear near man and apparently nest only on Eastern Island.

BROWN BOOBY (Sula leucogaster). There were a few pairs nesting on the ground on Eastern Island, none on Sand Island. We found one pair with a baby and obtained a series of pictures of its growth. On October 28, the baby was quite small and downy; by November 4, it was almost as big as the parents, still downy; by December 8, it was as large as the parents, with the wings getting their dark feathers.

RED-FOOTED BOOBY (Sula sula). This is the most common Booby at Midway, nesting in the tops of Scaevola on Eastern Island, but not on Sand Island. During our stay, they were not numerous and were not nesting. In January, 1958, during a previous short stay, we had found them nesting in a colony of possibly a hundred on Eastern Island.

FRIGATE BIRD (Fregata minor). These were scarce at the time of our visit. We saw about six soaring over the lagoon near Sand Island about December 1. On Eastern Island, where they nest, we saw 12-18 on December 6, but fewer on our earlier trips to that island. The red pouches of the males were not developed up to the time of our leaving. On January 14, 1958, we had photographed Frigate Birds with the breeding ornaments developed.

PINTAIL DUCK (Anas acuta). A female of this species was killed on a road on Sand Island and given to us on November 12. The skin is in the Bishop Museum. There were at least six to twelve of these, all females, that we saw off and on in the housing area and on a small fresh-water pond near the CPO Club on Sand Island. Identification was made certain by the accident that gave us the skin. A male, almost certainly of this species, appeared on the lagoon in mid-November, but could not be approached.

OLD SQUAW DUCK (Clangula hyemalis). Bryan (Elepaio, 19:57-58, 1959) has described this duck, a female. It was found dead on the beach of Sand Island by one of the men stationed on the island and was brought to us. We prepared the skin, noting in the process that the nasal glands were remarkably well-developed. This fact might be related to the partially maritime habits of this species.

PACIFIC GOLDEN PLOVER (Pluvialis dominica). These were very common all over, on lawns near the houses on Sand Island, as well as in open areas on both islands. An individual with only one leg stayed near the Officers' Club all the while we were on Midway. It was remarkable how well this bird had adapted to its one-legged life.

RUDDY TURNSTONE (Arenaria interpres). This is another very common bird, somewhat more wary and retiring than the preceding, preferring the beaches and wilder areas of Sand and Eastern Islands.

BRISTLE-THIGHED CURLEW (Numenius tahitiensis). These were not common and were shy and hard to approach. They were usually seen singly away from man in the wilder parts of Sand and Eastern Islands. It was much easier to locate them by their characteristic call than by sighting.

SOOTY TERN (Sterna fuscata). This species is one of the most numerous on Midway at the proper season (March-September), and second in importance to the Albatrosses as a hazard to aircraft. Usually all have left by late October. In 1958, however, as a possible solution to the problem posed by the nesting of such vast numbers of birds

near the runways, an harassment campaign had been carried out on Sand Island while the Sooty Terns tried to settle for nesting. The Terns gave up after a time and went to Eastern Island. This resulted in delayed nesting, and on October 28, when we first visited Eastern Island, we found quite a sizeable colony of fully grown young and a few adults on the ground near one of the old runways. All of these were either gone or dead by mid-November. We brought some back alive to the laboratory and injected salt solution into them. They dripped from the beak actively after the injections, showing that the nasal glands function in removal of excess salt from the blood in these birds.

TO BE CONCLUDED

1. These studies were aided by a contract between the Office of Naval Research, Department of the Navy, and Pennsylvania State University (NRL60-464). Re-production in whole or in part for any purpose of the United States Government is permitted.

STATE OF HAWAII
BOARD OF COMMISSIONERS OF AGRICULTURE AND FORESTRY
Division of Entomology and Marketing
Honolulu 14, Hawaii
November 23, 1959

Board of Commissioners of Agriculture and Forestry
Honolulu 14, Hawaii

Gentlemen:

Recent observations on the Cattle Egrets released in Hawaii are as follows:

Kauai-- 11 to 18 birds remain in general release area at Kipu. Forage with cattle and horses, picking flies from legs and cheeks of animals. Occasionally observed on animals' backs. Also feeding on insects disturbed into flight (such as grasshoppers) by foraging animals.

Oahu - Kokohead Area-- 3 birds have located at a Pekin Duck Farm in the Kokohead area. Apparently feeding on flies and other insects associated with Duck Farming. 3 or 4 other (?) birds occasionally reported from Kokohead area.

Oahu - Kualoa Ranch - Kaaawa Valley-- No birds observed in general release area. 3-4 birds reported from Kahuku Area and 1-2 birds at Haleiwa (Pekin Duck Farm). One bird returned to Honolulu Zoo.

Maui-- 4-5 birds observed general area of release (old Puunene Dairy-Kahului). Not observed with livestock.

Molokai-- 5-6 birds reported in general release area. Not observed with livestock.

Hawaii - Keeau Ranch-- 4 birds with cattle. Occasionally on animals' backs. Feeding on flies as animals forage. Also on grasshoppers disturbed by foraging animals.

Hawaii - Parker Ranch - Mahukona area-- 4-5 birds observed in general release area. Not seen with livestock.

Respectfully,
/s/ ALAN THISTLE
ALAN THISTLE, Director
Division of Entomology and Marketing

SEASONAL CHANGES IN BIRD POPULATIONS ON TANTALUS

By Margaret Titcomb

Some of us have wondered why our birds want to change their habitat seasonally in such places as Tantalus on Oahu. In late summer the cardinals, leiiothrix, linnets and doves leave off their custom of calling in for seeds each morning at the feeding spot, and disappear for many weeks. Some stay, but instead of a dozen birds of each kind there will be occasional ones. At present there are no linnets. The shama thrush never a feeder at the tray, is silent, though one is occasionally seen taking flight from road to trees when disturbed by an oncoming car. At this time, however, the elepaio is more frequently heard than in spring and summer. Flocks of ricebirds feed on the seeds of Tantalus weeds.

An article by W. Wedgwood Bowen, of Dartmouth College, entitled "The Temperature Factor in Bird Distribution" (Proc. New Hampshire Academy of Science, 1946, Vol. 1, No. 6:11-25) may give at least the hint of an answer. He says:

"... It is a well known fact that, in mountainous regions, the vertical ranges of many species of birds are restricted, often to surprisingly narrow altitudinal zones. ... Of the several climatic factors which vary in relation to altitude, temperature alone decreases, both with the increasing altitude and latitude. The conclusion that a relationship exists between temperature and bird distribution is, thus, not easy to resist, even though such evidence as there is, is of a circumstantial nature only ..."

His area of research was "in the upper Connecticut Valley, one degree of latitude in length by 1200 feet in height", which compares well with Tantalus except that it is not in the tropics. He selected eight species of birds for his test which extended over three years. His results are represented by charts, and he tells of all the difficulties of making reliable findings.

Jumping to his conclusion, we read: "In conclusion, I feel that I must say a few words regarding the interesting, but controversial subject of what the mechanism is which initiates and controls bird migration. As we have just seen, the range of a bird's toleration to temperature fluctuations begins to narrow some time before migration starts. Whatever the environmental factor which initiates migration is (if such an external factor does indeed exist), it certainly cannot be temperature. Temperature is, as we have seen, the 'trigger finger' which releases the force that sets the migratory mechanism in motion; it also guides, by repeated action, the bird along its way and determines where it shall stop. It does not cause, nor initiate, the migratory process ... Thornton, Cummings and Greeley (1945) who, after summarizing the pertinent literature, and describing some of their own experiments, conclude that 'the only environmental variable which has clearly been demonstrated to control the avian sexual cycle is light'.

"Seasonal variations in the length of daylight do, most certainly, appear to bring about gonad development and an inclination to migrate ... But ... the amount of seasonal variation in day length that is experienced by a species that winters in the tropics, is practically nil. The reversal of the seasons south of the equator further complicates the problem, and invalidates the length-of-day theory of the cause of bird migration. All that can be said is that by experimentally increasing the amount of daylight the normal reproduction cycle of a bird can be so affected that abnormal migration is induced."

Bowen quotes Blanchard as follows: "... migration occurs in strict correlation with a complex and deep-seated physiological development which has been proceeding in its various manifestations for a long time and which has been shown to be in some degree controlled by remote climatic conditions ... It is logical to conclude from the constancy of these correlative conditions that migration is not a last moment effect of contemporaneous or nearly contemporaneous climatic conditions but rather fits into its

place in the grand pattern as inevitably as a single element of a picture puzzle. I have been able to describe only two or three of the more obvious elements of the pattern. Of the more deep-seated physiological controls we know nothing.

"It is impossible, therefore, to say with Kendeigh (1934) that spring migration is regulated and timed by rising temperatures and increasing daily periods of light, because migration is obviously a tightly bound-in element of a complex process, genetically fixed or annually variable in response to circumstances of greater remoteness in time and longer duration than such a concept would imply."

Bowen fully concurs, and says: "Seasonal changes in the sensitivity of a bird to extreme temperature fluctuations, such as I have described this evening, are most certainly of a deep-seated physiological nature. The causes of such changes are not known, but once they are set in motion the rest must follow."

It would be interesting to hear from any ornithologists who read this. The tests made by the writers above were with birds that chose their own mainland habitat. What of the birds introduced into Hawaii who move about in a comparatively restricted area? Perhaps studies have already been made of the migrations or mere seasonal changes of habitat, if one should use a less formidable term, among birds introduced from one land to another. Does their behavior narrow the problem or further complicate it?

FIELD NOTES

Field Trip, November 8, 1959, Kaneohe Marine Corps Air Station.

We had applied to the commander of Schofield Barracks for permission to visit Kalena trail on Sunday, November 8. We had received this permission, but at the last minute this was denied. We had also obtained permission to visit the Booby colony at the Kaneohe Marine Corps Air Station, so we took advantage of this and had an enjoyable time.

We noted that there were very few red-footed boobies in the usual area on Ulupau Head. At this time of the year in the past we have counted anywhere from 2 to 8 hundred. This time we figured that there were only 60 - 75 birds. We hope that they are not moving away to other areas because of the firing range, but it appears that this may be the case. (Last June we noted many dead and wounded birds on the nests and in the nesting area.) It is unfortunate that the firing range was situated in such a way as to have the nesting area almost exactly down range.

Also seen in this area were many Hawaiian noddys, golden plover, ruddy turnstones, cardinals (American), ricebirds and mynahs. One black-crowned night heron was seen.

With the telescope we could see frigate birds, brown boobies, one blue-faced booby and many red-footed boobies.

On the way home we checked on Kaelepulu pond. It had a little water in it, but we couldn't get close enough to identify the few ducks on the water.

We stopped at Kuapa Pond and were pleasantly surprised to see one cattle egret. As many of you know, 12 of these birds were released at Kaaawa a couple of months ago. We also saw here stilt, sanderling, golden plover and wandering tattler.

At Kuliouou the tide was in but the usual shore birds were seen.

Chuck Hanson

Field Trip, November 22, 1959, Poamoho Trail.

Sunday, November 22, was made for a hike in the mountains. The sky was exceptionally clear and the weather cooler than usual. It was a beautiful day. As we were again denied permission to visit Kalena trail the nine members of the group headed for Poamoho trail.

The Paper Bark trees were in blossom at the beginning of the road and apapane, house finch, white-eye and amakihi were seen. We drove on to the beginning of the trail and hiked for about an hour or so but were unable to see or hear the iiwi or garrulax. But many more apapane were seen and heard along with white-eye, elepaio and amakihi. The leiostrix were especially vociferous and kept us happily entertained.

On the way home, flocks of ricebirds were seen over the pineapple fields. It was a pleasant, enjoyable day.

Chuck Hanson

TRAIL RIDERS OF HAWAII NEI

At the request of a member of the Steering Committee of the Trail Riders of Hawaii Nei, two of the members of the Hawaii Audubon Society attended a meeting of that group.

One of the club's main objectives is the establishment of a bridle path around Oahu, with legislative aid.

Membership in the organization is open not only to horse owners but also to those interested in trail riding and use of trails for hiking.

In order to have a representative membership in all trail-using organizations, a membership is offered at this time for only 50 cents, to be increased later.

For further information, if interested, please contact Mrs. Riggs or Mrs. Rockafellow.

The Condor for September-October, 1959, has as its first article "Observations on Salt Balance and Behavior of Laysan and Black-footed Albatrosses in Captivity," by Hubert Frings and Mabel Frings.

NEW MEMBER: A hearty welcome to the following new member of our Society:

Mrs. Mildred Mench, c/o ARC, Tripler US Army Hospital, Honolulu, Hawaii

JANUARY ACTIVITIES:

FIELD TRIPS: CHARLES HANSON WILL LEAD BOTH TRIPS.

January 10 - Aiea Trail.

January 24 - Shore bird trip.

MEETINGS: Board - January 11, at the Hawaiian Mission Academy, 1415 Makiki St., at 7:30 p.m. Members are always welcome.

General- January 18, at the Honolulu Aquarium Auditorium at 7:30 p.m. Mr. Edwin H. Bryan, Jr. will give us late news of Natural History Museum on the Mainland.

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