

**BIRDS OF AN OCEAN ISLAND.**  
BY E. S. BOWDISH.

It is a significant commentary on the relations that man has established with the birds, that the almost universal experience of naturalists exploring uninhabited and seldom visited islands, shows that where for generations bird life has existed in ignorance of man, the birds exhibit little or no fear of him. So accustomed have we become to the display of fear of man and keen efforts at self-preservation on the part of our little feathered brothers of the thickly-settled portions of the world, that it seems unnatural to find birds displaying no such caution. Yet we have abundant evidence that fear of fellow creatures is born only of bitter experience, either in the present or a past generation. In Porto Rico the grackle (*Quiscalus brachypterus*) clammers fearlessly on the legs and tails of cattle, seeking the pestiferous flies and vermin, while the animals, apparently realizing the benefaction that the birds are performing, stand quite still. This habit has also been ascribed to our own cowbird, from which the bird has derived its name. A small species of old-world plover enters the mouth of the crocodile quite unconcernedly, to relieve the reptile of vermin infesting it. As surely as this fearlessness of fellow creatures is born of confidence in their peaceable intentions, so surely is universal fear of man where he is known born of all too well-founded suspicions of his intentions.

To the nature lover there are few, if any, experiences that can compare with those of a visit to one of those wild islands where man's influence on nature has never made itself felt. Walter K. Fisher has given a very interesting account of a visit to the Windward group of the Hawaiian Islands, on the Fish Commission's steamer "Albatross," engaged in deep-sea explorations. As is usually the case at such islands, the birds were found remarkably fearless as compared with our own birds, and Mr. Fisher secured a series of pleasing and interesting photographs. These represent birds in their home life that are unfamiliar to most people. As might be expected in such a situation, sea birds were much more numerous in species and individuals than were their fellows of the land. One of the most abundant, conspicuous, and interesting of the feathered inhabitants of these islands was the Laysan albatross. Besides being found in great numbers, the bird is large and of striking appearance and exceedingly interesting in habits. At the time of Mr. Fisher's visit these birds had young about two-thirds grown, and nearly every tussock of the grass that abounds on Laysan Island afforded shelter from the heat of the sun to a young albatross, which sat awkwardly on its heels dreaming until some one passed too near, when it snapped its bill fiercely. In most cases this demonstration was found to be largely "bluff," and the naturalist succeeded in stroking them while they mildly objected. If, in rushing about, the young birds stumbled into the burrows of the petrels, they tumbled forward heavily, which usually resulted in their disgorging their food, much to their chagrin.

It was found that the old birds had no apparent objection to the presence of man, and one could walk among them without disturbing them in the least. They objected, however, to such undue familiarity as handling, and were apparently greatly astounded when, in backing away from the intruder, they collided with a tussock of grass. They exhibited curiosity over the strangers, however, and one was particularly interested in the bright aluminium head of the tripod, which he examined and tested with his beak.

The old birds lived in absolute harmony, but the young had some small squabbles, and the parents often seemed to have a strong aversion for another bird's chick. The birds have a "game," which seems to be explained only by a desire for recreation. "Two albatrosses approach each other, bowing profoundly, and stepping rather heavily. They circle around each

other, nodding solemnly all the time. Next they fence a little, crossing bills and whetting them together, pecking meanwhile, and dropping stiff little bows. Suddenly one lifts its closed wing and nibbles at the feathers underneath, or rarely, if in a hurry, merely turns its head and tucks it under its wing. The other bird during this short performance assumes a statuesque pose, and either looks mechanically from side to side or snaps its bill loudly a few times. Then the first bird bows once and, pointing its head and beak straight upward, rises on its toes, puffs out its breast,



**Black-Crowned Night Heron.**

and utters a prolonged nasal groan, the other bird snapping its bill loudly and rapidly at the same time.

"Sometimes both birds raise their heads in air, and either one or both utter the indescribable and ridiculous bovine groan. When they have finished they begin bowing at each other again, almost always rapidly and alternately, and presently repeat the performance, the birds reversing their role in the game or not. There is no hard and fast order to these antics, which the seamen of the 'Albatross' rather aptly called a 'cake walk.' . . . Occasionally one will lightly pick up a twig or grass straw and offer it to the other. This one does not accept the gift, however, but thereupon returns the compliment, when straws are promptly dropped, and all hands begin bowing and walking about as if their very lives depended upon it." Mr. Fisher adds that when he approached a pair of birds engaged in this game, they would cease their play and walk away in a deprecating manner some little distance, to resume the game. It is said that if a person enters a group of birds that have been engaged in this diversion and bows, they will sometimes walk around him bowing in return.

The young birds are fed by regurgitation, inserting their bills crosswise in the bill of the parent. Each bird hatches and raises only a single young one. Like many of the large seabirds, and particularly members of this family, this bird roams over vast areas when not engaged in breeding.

The terns of the Hawaiian Islands come closer home to most of us, for while not the same species as the terns of our coast, they are nearly related. All species are beautiful, graceful birds, and it is a sad thing that a desire on the part of gentle woman to herself wear their plumes, and a love of "sport" on the part of man,

have almost stripped our coasts of these dainty creatures.

The carelessness of the tern in the matter of nest building reaches its extreme in the white tern of these islands. In several instances the egg was found laid on a bare limb; otherwise it might be laid on the phosphate rocks, but nowhere with any pretense of nest building.

Besides the white terns there were also found noddies and Hawaiian terns. The writer remembers many pleasant experiences while making the acquaintance of the noddies on wild little Decicheo Island thirty miles from Porto Rico. Here birds were almost undisturbed by man, and many of the noddies, a few bridled terns, large numbers of common boobies, and a few laughing gulls made their homes. The terns here built no nests, although there were plenty of bushes, but nested in most cases on the bare ledges of rock. It is an indescribable experience to be among the homes of these birds, to see them almost at arm's length, performing their various household duties, and a spectacle never to be forgotten. One who has once enjoyed it will never feel like sanctioning the destruction of the tern colonies on our coasts.

In the Hawaiian Islands Mr. Fisher found the noddies building nests in the bushes, which, I believe, is the rule with the birds in most places where they breed.

Two of the birds that inhabit these islands are the shearwaters and petrels. These birds belong to the order known as tubinares or tube-nose birds, from the tubular form of the nostrils. Both excavate burrows, in which the single egg is laid and the young reared. The wedge-tailed shearwater makes only a pretense of a burrow, in many cases not sufficient to hide the sitting bird, while those of the white-breasted petrel are six feet and more in length. The burrows of the petrels were found close together, and the birds occupied all available space in the nesting territory. Both petrels and shearwaters are most active at night, and often remain at or near their burrows during the daylight hours.

The writer yet recalls how through a powerful glass, from Aguadilla, P. R., he watched the movements of a cloud of birds hovering about Decicheo Island, thirty miles distant. They were not, of course, identifiable at that distance, but when later an opportunity afforded to visit the island, the birds that had been watched so eagerly proved to be boobies, and it was one of these which was the first bird to welcome the boat, when, just as daylight was dawning, he came sailing out, looking like a gigantic duck as he took a turn over the boat and bent his neck to inspect its contents. On Decicheo the common boobies vied with the noddies as the birds of greatest numbers. The blue-faced and red-footed boobies, though sought for, were not found. While the birds are rather clumsy in appearance on land, they are far from being so on the wing. Lacking the dash and arrow-like grace of the man-o-war bird, they are easy and untiring on the wing, nevertheless, and when skimming the waves in pursuit of their prey, they fly into and out of the water with an ease that puts to shame the labored movements of the pelicans. In the Hawaiian Islands Mr. Fisher found the blue-faced and red-footed boobies far more abundant than the common booby. In speaking of the blue-faced booby, he says: "The boobies appear to exhibit affection for their young. I have seen them gazing at the fuzzy-white ball with evident pride in their otherwise stolid countenances, and on one occasion saw an old bird carefully lay dry sedge over the exposed and not too heavily feathered hind parts of the young."

It was noted that although two eggs were laid, in very few cases did more than one hatch, and in these cases only one young survived. In this species the eggs were laid on the sand, with little or no pretense of a nest, while the red-footed booby constructed a



**Red-Footed Booby (*Sula Piscator*) on Nest.**



**Sooty Tern About to Leave the Nest After Laying an Egg.**



**Miller Bird and Nest.**

rudé platform of twigs in the bushes. The latter birds take turn in incubating, and Mr. Fisher says "are rather loath to leave their egg, when disturbed ruffling their feathers and uttering a hoarse cry, making use of their bills if occasion offers. They are singularly beautiful despite their vicious yellow eyes, as their white plumage is set off by bright blue skin about the bill and by the coral-red feet."

Of the few species of land birds found on these islands, two represent two large families, the one a

the New York Observatory and Nautical Museum, to provide an endowment for the proposed institution, and also to purchase all the instruments and apparatus that will be required to make the New York institution one of the best equipped in existence.

"In accordance with the customs prevailing, the New York Observatory and Nautical Museum will establish various degrees of membership by which the citizens of New York who may be interested in the general work of the museum or in some particular

alone of all the great cities of the world is without an observatory of any kind or description worthy of the name. Boston has the Harvard Observatory, Chicago the Yerkes, San Francisco the Lick, Philadelphia the Flower, Washington the Naval, Paris the Paris, London the Greenwich, and Berlin the Potsdam.

"There are in existence to-day fifty-three telescopic lenses of fifteen or more inches in diameter, and of these fourteen are in the various observatories of the United States. An astronomical observatory, irrespec-



Wedge-Tailed Shearwater in Close Converse.



Laysan Finch and Nest.



Blue-Faced Booby Feeding Young.

finch and the other a warbler. The Laysan finch like the other birds found there was fearless and unsuspecting. They were found everywhere, singly and in small flocks, searching for food both among the bushes and in open places, and ignored the presence of man as long as they were undisturbed. They were observed to eat "soft parts of grass stems, tender shoots of bushes, seeds, and especially eggs." A pair were observed to attack a tern's egg as soon as the owner left, which they opened and started to eat, while a camera was being adjusted close by, being presently driven away by a rail, which in turn appropriated the egg. While Mr. Fisher was preparing specimens, one of these finches lit on his table and explored his implements. These birds were found to be very good songsters. Their nests were usually built in tussocks of grass.

The warbler, known locally as miller bird on account of its fondness for these small moths, was one of the most abundant of the land birds on Laysan Island. As is the case with most birds, it was found to be most active during the cool morning and late afternoon hours, and at such times was quite musical. Like the other feathered inhabitants of the island, these birds were fearless, and photographs were secured without camera or operator being concealed. The bird seemed always busy in the search for millers, which it caught in the grass with great dexterity, and it hunted about, and even in, the house. It also secured caterpillars and other insects. The nests were built in the middle of a clump of grass, and the white feathers of the albatross were used for a lining.

It would seem that the success with which observations of the birds are conducted, in places where they have not learned to distrust man, and the pleasure to be derived from such familiar intercourse with them, would suggest the establishing of very different relations between man and bird than now exist in the settled portions of the world.

#### A Projected Observatory and Nautical Museum for New York.

Prof. Charles Lane Poor announces that Frederick G. Bourne, Cornelius Vanderbilt, and several other well-known men of New York have agreed to found

line of investigation may become allied with it and contribute toward the support and maintenance of its scientific reputation. Special arrangements will be made whereby officers of the United States Navy, the United States Marine Corps, the Revenue Service, and the Merchant Marine may become affiliated with and entitled to the privileges of the institution during their active service.

"The principal aim of the institution," in the words of Dr. Poor, "will be to investigate all problems arising in transportation by water, especially in the careful study of all matters which tend to increase the usefulness and importance of New York city as a maritime port. Some of these problems, such as the study of the tides and currents, and the development of harbor facilities, are a part of the functions of the national government, but with so many thousands of miles of ocean, lake, and river coast to chart, buoy, and light, the federal government cannot always adequately examine and study the local conditions that affect the efficiency of any one port.

"The safety of ships at sea depends upon the accuracy of their navigating instruments, upon the adjustment of their compasses, the reliability of their sextants, and the rating of their chronometers. The master of an English ship can by the payment of a small fee have his instruments tested under government supervision, his chronometers rated at Greenwich, and his sextants standardized at Kew, but in this country there is no place where the navigating instruments of an American vessel can be scientifically investigated and adjusted. The vessels of the navy have the Naval Observatory at Washington, but the vessels of the merchant marine have to depend upon the honesty and skill of the instrument maker.

"The observatory to be established would aim to have a bureau for the standardization of instruments, where, upon the payment of a reasonable fee, the navigating instruments of any vessel in the port of New York would be investigated and adjusted, and a reliable 'certificate of inspection' furnished.

"Methods of rating chronometers and standardizing instruments depend on astronomical observations and calculations, hence the institution must be equipped with a complete astronomical observatory. New York

tive of its necessity as an adjunct to the nautical museum, must and would be of great interest and benefit to the New York public generally.

"The New York observatory, when completed, will contain a fairly large equatorial lens for public use and instruction. It is planned that this telescope shall be open to the public two or three evenings each week. The other instruments, those for purely scientific work in connection with the work of the institution, will be located in small buildings separated from the main observatory. The plans for the various buildings of the institution have been made, the main building of the group being that of the museum, which is to be 320 feet long, 48 feet wide, and three stories in height.

"In the museum will be collected and exhibited models of all types of vessels, safety and signal devices, nautical instruments, and methods of determining positions, charts, historic instruments, and relics. The museum will be open to the public and so arranged that properly qualified persons can avail themselves of the facilities offered there for investigation and research."

#### Isolating Radio-Thorium.

A method of isolating radio-thorium from thorium salts is described by Messrs. G. A. Blanc and O. Angelucci in the *Atti dei Lincei*. When sulphuric acid is added to a solution of thorium nitrate containing barium chloride no precipitate is formed in the cold solution, but on warming, part of the barium is precipitated as sulphate, the precipitate carrying down some of the radio-thorium. The sulphate is converted into carbonate by fusion with sodium carbonate, and the product, after thorough washing, is dissolved in acid; on adding ammonia a slight precipitate of radio-thorium is obtained, which has an activity about 5,000 times as great as thorium hydroxide in a state of radioactive equilibrium.

In his address to the Chemical Section of the British Association Prof. Wyncham Dunstan remarked that the production of rubber by chemical means had been virtually accomplished by its formation from isoprene.



Red-Footed Booby in Nest.



Hawaiian Noddy in Its Nest.  
BIRDS OF AN OCEAN ISLAND



Hawaiian Tern Alighting on Its Nest.