



Pacific Bird Observer

NEWSLETTER OF THE PACIFIC OCEAN BIOLOGICAL SURVEY PROGRAM, SMITHSONIAN INSTITUTION, WASHINGTON, D.C.

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BARREN ENDERBURY ISLAND FOCUS FOR BIOLOGICAL SURVEY

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BIRD

Enderbury Island in the Phoenix group is typical of the South Sea Islands on which the Smithsonian Institution is conducting its extensive biological survey. Flat, hot, dry, and barren to all outward appearances, Enderbury hardly fits the popular conception of a south Sea Island with lush tropical foliage and grass-skirted girls. Approached from the sea, it appears as a glaring white strip of sand with few distinctive features. Upon closer examination a small hill of guano may be found on the north end while a lighthouse and several shacks project from the otherwise flat surface of the south end. In any case it would hardly be considered the ideal vacation spot.

Yet this inhospitable looking island is the home of at least 30 species of insects, 14 species of plants, 2 species of reptiles, 13 species of birds, and is the vacation spot for 10 other species of birds. Feral populations of the Polynesian rat and the common house cat were present on Enderbury at one time. Both were probably introduced by man and both are now ex-

tinct. From time to time in the history of this island, it has played host to man and even to a dog and a mule at one point, but for the most part it has remained for the birds.

A mere speck on the Pacific, Enderbury Island is only $2 \frac{2}{3}$ miles long and 1 mile wide. Its nearest neighbor, Canton Island, is 35 miles to the northwest.

Situated at $03^{\circ} 07'$ South latitude and $171^{\circ} 05'$ West longitude,



Enderbury Island Natl. Geog. Photo.

Enderbury falls within the equatorial dry zone and can not be expected to have much more than 17 to 20 inches of rain a year. Lack of fresh water on the island, its limited size, and its isolated position have severely limited the number of plants and animals that it supports.

Taking these facts into consideration it would seem that an intensive study of Enderbury would be dull indeed but such is not the case. This small and remote island has had a past full of human conflict and international intrigue as well as being the home of some of the world's most interesting sea-birds.

During the middle of the 19th century, the Central Pacific islands became a center of commercial interest. When it was discovered that many of these islands contained valuable deposits of guano (a combination of soil and bird droppings used as fertilizer) a number of companies formed intense rivalries for rights to the islands and "Guano Wars" ensued.

On December 31, 1859, the Secretary of State of the United States issued a proclamation granting the guano rights of Enderbury to the Phoenix Guano Company. How-

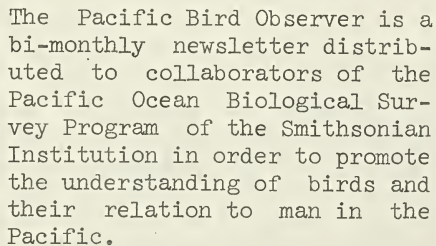
ever, the U.S. Guano Company, headed by Alfred G. Benson, was at that time attempting to monopolize the guano islands in the Central Pacific. As a result of the efforts of this firm, there was some doubt as to the proper claim to Enderbury. Although it seems readily apparent now that the U. S. Guano Company claims were invalid, they tried to gain control of the island by force nevertheless, hoping to implement their position by means of the old adage "Possession is nine-tenths of the law".

The Phoenix Guano Company had already placed men on the island but Benson sent a ship under command of Captain John Gunn to gain control of the island by force. Gunn, arriving at Enderbury in 1861, kidnapped the Phoenix Company agent, mounted cannons on the island, and left two men with explicit instructions to fire upon anyone attempting to land on the island.

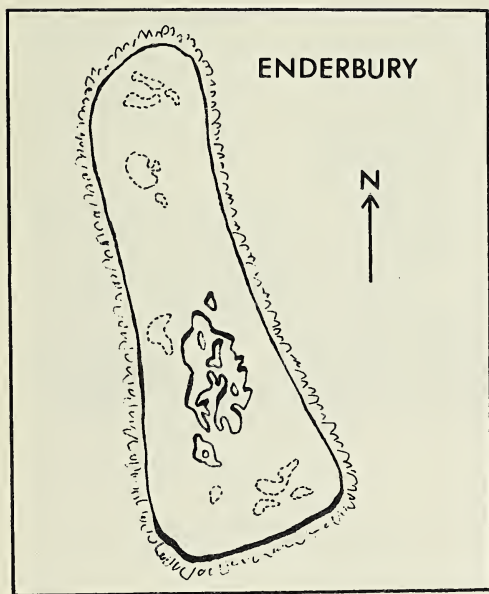
Unaware of the turn of events, officials of the Phoenix Guano Company sent supply ships to Enderbury which were repulsed and forced to return to Honolulu. The agents of the Phoenix Company were quick to retaliate. They returned to the island armed with an official document stating their rights, and sufficient force to remove the squatters if they did not leave peacefully. They did.

Several years later one of the guano ships which sailed from Enderbury was subject to a mutiny two weeks after it had left the island. Such dramas were not uncommon in those days of "wooden ships and iron men".

During the 1870's guano digging operations on the island began in earnest. The original guano reserve was estimated at 100,000 tons and



The Pacific Bird Observer is a bi-monthly newsletter distributed to collaborators of the Pacific Ocean Biological Survey Program of the Smithsonian Institution in order to promote the understanding of birds and their relation to man in the Pacific.



the going price at the time was \$32 to \$40 a ton. The guano was brought from the main deposits by railway trams and taken to the ships from a pier built out from the western side of the island. Several small buildings were erected to house the guano workers.

Today little evidence remains on Enderbury's busier days. Buildings which once housed man have become shacks in which thousands of hermit crabs seek shade during the day. Once up-turned guano soil is now a softly undulating expanse of sand, coral rubble, and scrubby plants, to which the birds have again returned. But it would take them thousands of years of undisturbed existence there to rebuild such a guano deposit.

Although several scientific expeditions (including the Wilkes, 1840, the Whitney, 1924, and the Taney, 1938) have visited Enderbury

and some banding was even done in 1938, very little has been known about the birds which occur there. The major emphasis of the Pacific Ocean Biological Survey Program's work on Enderbury has been on birds. Efforts have been concentrated upon discovering how many of which species occur there, their breeding status, and how widely they range from Enderbury itself.

Our extensive banding program has proved to be of immense value since reports are now being received from all over the Pacific of birds which were originally banded on Enderbury and other such islands. As a result of the analysis of these data, we are now able to predict with some degree of accuracy, the probable distribution and dispersal of many species for which guess-work has had to suffice previously.

Over 600 birds banded on Enderbury have been recaptured on other islands and almost 400 birds banded on other islands have been recaptured on Enderbury. From these data we have learned, for example, the dispersal pattern of the Lesser Frigatebird. It was previously thought that the Lesser Frigatebird which nests in the Phoenix Islands would never go more than 200 miles away, but as a result of this program we now know that it flies regularly to the Western Pacific, in many cases traveling over 3,000 miles.

Six of the species of birds now known to occur on Enderbury were first recorded by P.O.B.S.P. personnel. In addition to new records, this program is attempting

(Continued on page 4)

habits of species for which they were previously unknown. The program's studies on Enderbury have shown, for example, that the Red-tailed Tropicbird, Blue-faced Booby, Red-footed Booby, Great Frigatebird, Lesser Frigatebird, and Gray-backed Tern commonly nest on Enderbury and have annual breeding cycles.

Another bird, the Sooty Tern, apparently breeds on Enderbury at 6 month instead of 12 month intervals. The Brown Booby, however, does not seem to exhibit any particular choice of breeding season.

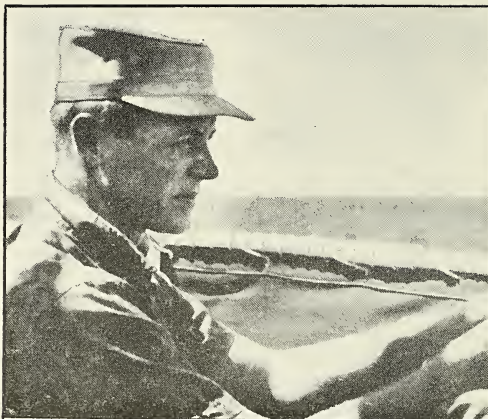
Egg, nest, and nestling counts are made at different times of the year, behavior is recorded in field notes, bird parasites are collected, stomachs are examined for contents, and notes on molt are kept; all this is an effort to increase mankind's knowledge of the breeding biology of seabirds. In addition, the P.O.B.S.P. has made representative collections of fish, insects, plants, reptiles, and reef crustacea. This information, when compiled and analyzed, will be published by the Smithsonian Institution along with other similar island reports.

- Tina C. Abbott

SIBLEY TO STUDY CONDORS

Fred Charles Sibley joined the P.O.B.S.P. at its inception and was given charge of field work in the South Pacific.

Most of his field work for the Program has been in the Phoenix and Line Islands where he led six 2-month expeditions, directing the varied activities undertaken on the island surveys. An avid collector, he obtained personally many speci-



Fred Sibley on watch aboard ship.
Photo by R.B. Clapp, POBSP.

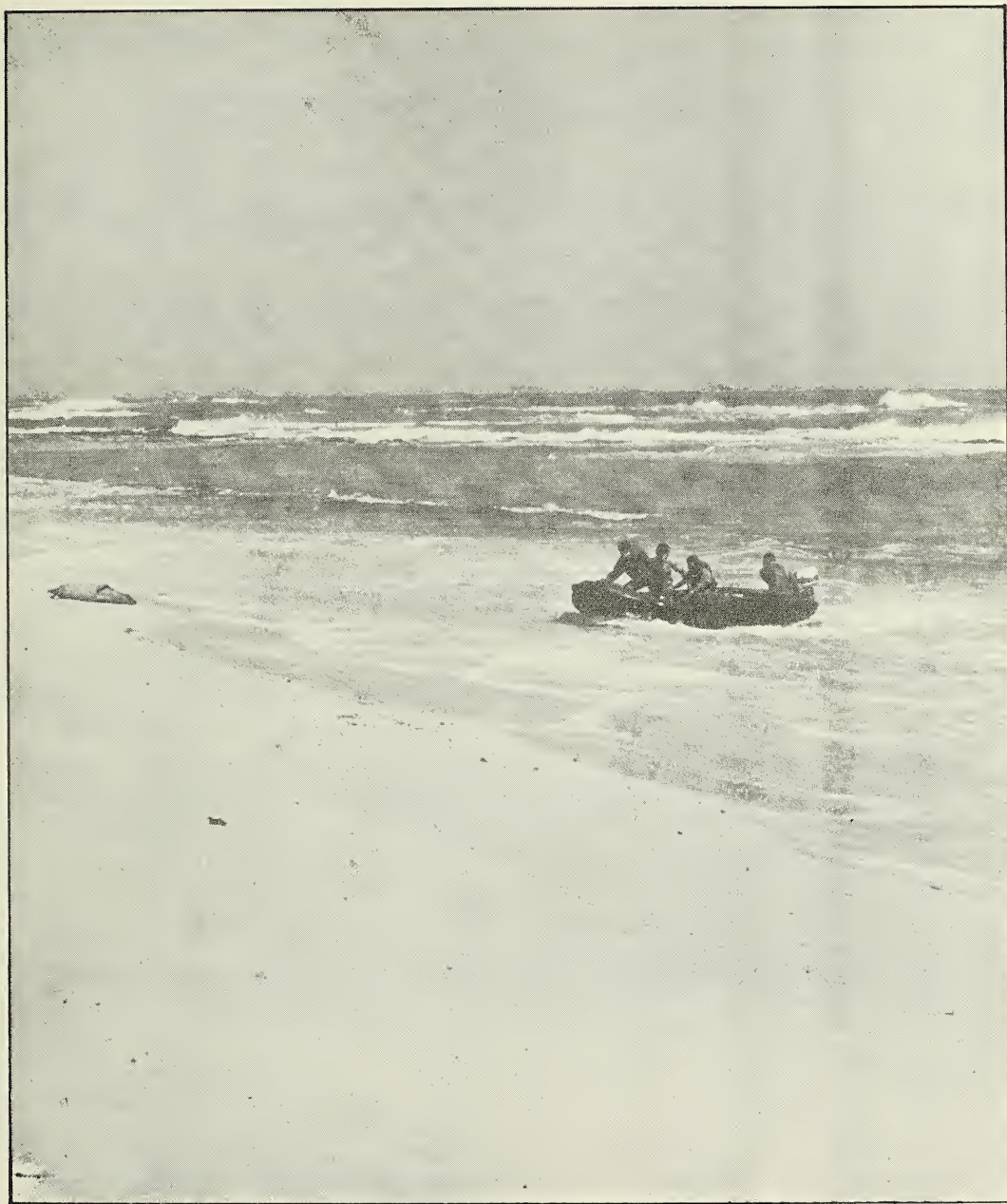
mens of birds heretofore unknown or infrequently recorded in the Central Pacific.

His eagerness to begin island work often led him to attempt landings when high surf awed his companions. These landings and his unhesitant handling of larger seabirds, especially those of uncertain temper and razor-edged beaks, soon earned him the name "Fearless Fred."

Mr. Sibley received his academic training at Cornell University where he received his B. S. degree in 1955 and his M. S. degree in 1959. He has done previous field work in the American Midwest, Mexico, and Nigeria.

Mr. Sibley is leaving the Pacific Program to join the U. S. Fish and Wildlife Service's Rare and Endangered Species program. He will leave soon for the West Coast to conduct studies on the extremely rare California Condor.

Although Pacific Program personnel will miss his cheerful efficiency, he has agreed fortunately to act as consultant on a number of publications for which he has gathered much data.



Smithsonian biological survey team using rubber life raft for landing on South Pacific island where banding operation will take place. Photo by W. O. Wirtz, POBSP.

VOLUNTEERS FROM SOUTHEAST PACIFIC PUBLICIZE PACIFIC PROGRAM

People from 19 countries and 21 major island groups have written to tell us how they are publicizing the migration study and the need for band reporters. These publicizers are very important to the banding program--the key people in fact in the whole migration study operation.

The names of all volunteers are too numerous to list in this issue, but some of those in the Southeast Pacific (south of the equator and east of the 180° meridian) are given here, together with their services. Names of others in the remaining quadrant of the Ocean will be listed in the next issue of Pacific Bird Observer.

Much more publicity in the Southeast was generated than our list indicates. If you live in the Southeast quadrant and have helped spread information about the migration study, please write and tell us how you have helped the project. A request to Pacific Ocean Biological Survey Program, Smithsonian Institution, Washington, D.C. 20560, will put you on our free mailing list.

PUBLICITY VOLUNTEERS AND THEIR CONTRIBUTIONS

FRENCH POLYNESIA

Monsieur Jean Tapu, Institut de Recherches Medicales de la Polynesie Francaise, B. P. No. 30, Papeete, Tahiti: published notice in local newspaper and on radio.

Monsieur J. Damery, Administrator of the Tuamotu-Gambier Islands, Papeete, Tahiti: distributed notices to all islands under his administration.

Monsieur J. Floc'h, Office de l'Administrateur, Iles du Vent, Papeete, Tahiti: distributed notices to schools in the Society Islands.

PERU

Dr. H. W. Koepcke, Casa Humboldt, Casilla 5129, Miraflores (Lima), Peru: distributed notices to interested parties in Peru.

Señor Felipe Ancieta C., Facultad de Ciencias Biológicas, Universidad Nacional de Trujillo, Trujillo, Peru: distributed notices within the University and to other interested persons.

NIUE

A. Kaulima, Editor, Niue Newsletter, Niue Island, South Pacific Ocean: published notice in newsletter.

Mr. Thomas J. Hill, Jr., American Vice Consul, American Consulate, Suva, Fiji Islands: distributed notices to 14 persons and organizations.

FIJI ISLANDS

Mr. E. R. Horn, Union Steamship Co. of New Zealand, Ltd., Thomson Street, Suva, Fiji Islands: placed notices on board their ships and sent notices to interested persons.

AMERICAN SAMOA

Mr. James C. Flannery, Acting Secretary, Office of the Governor, Pago Pago, American Samoa: distributed Pacific Bird Observer Notebooks to interested persons, published Samoan translation of notice in newspaper and on radio and television.

COOK ISLANDS

Mr. A. O. Dare, Nikao Teachers' Training Centre, Nikao Rarotonga, Cook Islands: distributed Pacific Bird Observer Notebooks to teachers.

WESTERN SAMOA

Mr. A. Ripine, Prime Minister's Dept., Gov't. of Western Samoa, Apia, Western Samoa: published notices in the "Savali" newspaper and distributed notices to interested persons spending much time at sea.

LETTER REVEALS SOUTH SEA LORE

A most intriguing tale concerning the Frigatebird in the Solomons has been sent to us by W. R. Ferguson of the Seventh-Day-Adventist Mission, Kukudu, British Solomon Islands. Such personal accounts, given by alert observers who have lived in the South Pacific many years, are often the best sources of folklore in the area. Parts of Mr. Ferguson's letter are quoted below.

"...I have always followed the custom of asking the meaning of a person's name. Often they are significant.

Well one day on my ship I said to an islander, "What does Langia mean? (Langia used to be a native Captain of my ship). Well the boy answered something I did not believe, so I went to another lad and repeated my question. This time the answer I got was "Belama."

Now "Belama" is the island word for Frigate bird. Again I felt the young fellow was pulling my leg. So I went to a third person on the

ship and repeated my original question.

This time I did not wait for an answer. I answered myself with the word "Belama". And the chap said "Who told you that?" He did not wait for me to answer his question but answered it himself with the name "Tekeni". Of course I said "Yes, how did you know?" So he told me this island philosophy.

It has been tabu to call the name of a person's father-in-law in these islands. This is done out of respect, shall I say. The idea is that a son-in-law must always eulogise his father-in-law. Now Langia was the father-in-law to Tekenia and when I asked the meaning of Langia, Tekena had to eulogise his father-in-law and so he simply said "Belama". In these islands the frigate bird (Belama) and the tuna (Makasi) are used in an island way to eulogise. ...The frigate bird is looked up on as the greatest bird in the sky and the tuna is thought of as the greatest fish in the sea."



Typical camp site on barren South Pacific island. This tent will be home for biological survey team during bird banding operation there. Photo by R.B. Clapp, POBSP.

Blue-faced Booby. . . Demon or Dunce?

The Blue-faced Booby is one of those species whose dispersal and at sea distribution has been most intensively studied by the Smithsonian Pacific Program. Many of these birds, also known as the Masked or White Booby, have been seen hundreds of miles from the nearest land. A few young birds have even been collected over a thousand miles from their natal island.

While at sea, the Blue-faced Booby courses the sea lanes searching for its favorite foods, flying fish and squid. These birds occasionally alight on the ocean but prefer to roost on floating objects such as driftwood logs, old crates discarded by passing ships, or sometimes even sea turtles.

Blue-faced Boobies nest abundantly on scantily vegetated Central Pacific islands. In the nest, which is only a circular scrape surrounded by a thin white line of excrement, two eggs are laid. Only one young is raised, because the first hatched, larger nestling pushes its younger sibling out of the nest.

On their breeding grounds, these birds, the largest of the boobies, are perhaps the most dangerous species encountered by POBSP banders. They are particularly aggressive when defending their nest sites from human intrusions. At such times the raucous honks of the female, piercing whistles of the male, and vicious lunges with bayonet-beaks by both sexes, will dismay even an experienced bander. Such antics led one observer to

call them "shrieking demons", and others, less lucky, have often described them in a rather more vitriolic manner.

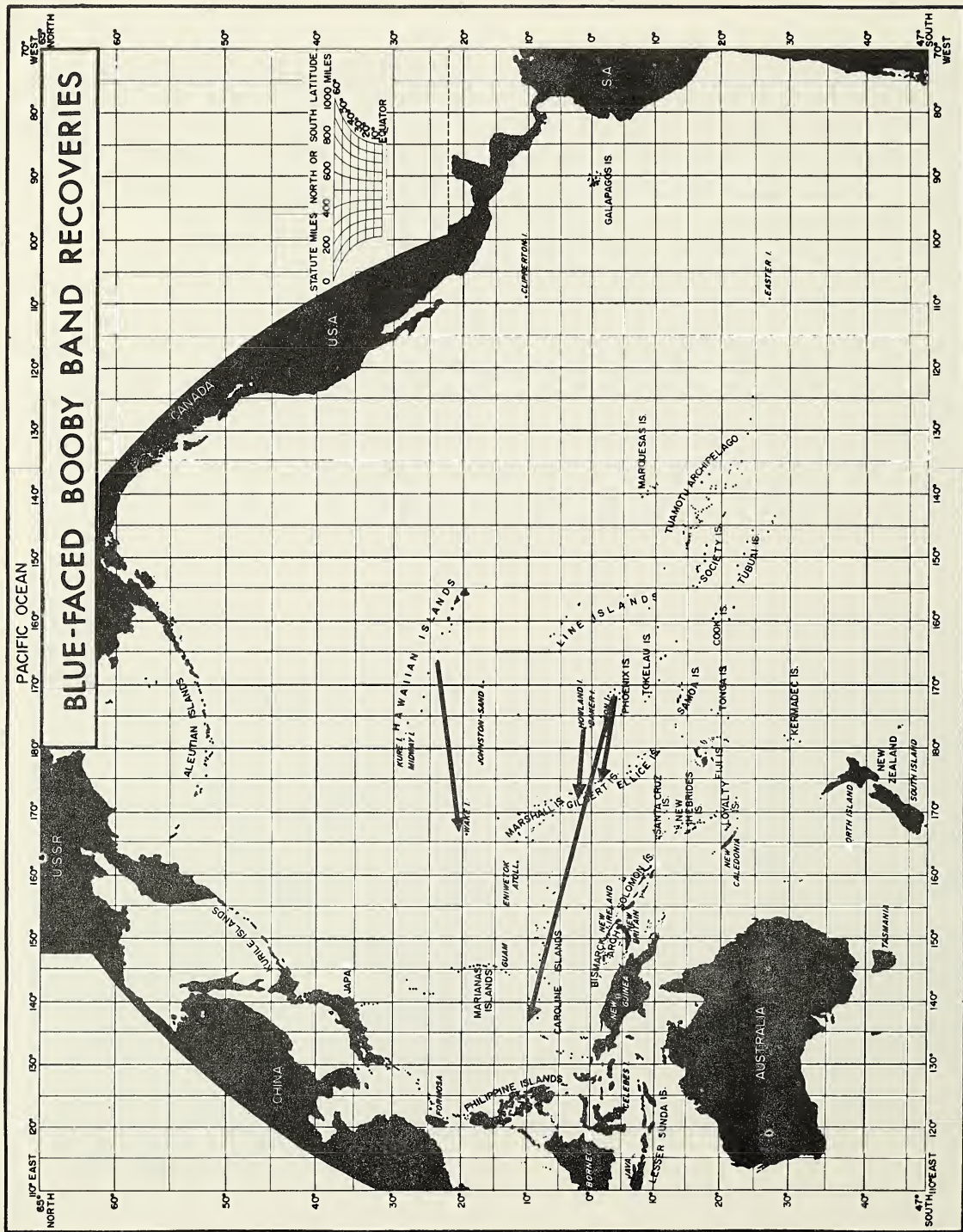
Despite their ferocious defense of "home" the Blue-faced Boobies do not recognize their eggs or young chicks, and will unconcernedly trample them underfoot when disturbed. With complete equanimity nesting birds accept and incubate such objects as worn seashells, stones, and spherical glass fish net floats. One Blue-faced Booby was even seen incubating a live hermit crab but, admittedly, the bird appeared somewhat puzzled as its "egg" crawled away from the nest.

Many such incidents suggest how the species received its disparaging popular name (derived from a Spanish word for "dunce"): however such behavior has not prevented this species from being one of the most abundant of the larger tropical seabirds, with over fifteen thousand breeding pairs in the Central Pacific alone.

- Roger B. Clapp



Blue-faced Booby and chick. Photo by W. O. Wirtz, POBSP.



BLUE-FACED BOOBY

BAND REPORTERS

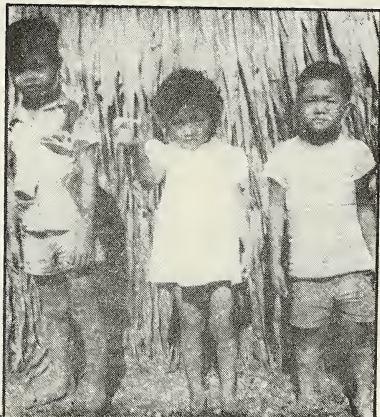
<u>NAME OF REPORTER</u>	<u>PLACE BIRD WAS FOUND</u>	<u>PLACE BIRD WAS BANDED</u>
Kureiti Biriro	Butaritar Island, Gilbert and Ellice Is.	Howland Island, Phoenix Islands
Josefa Elisala	Nikunau Island, Gilbert Islands	Birnie Island, Phoenix Islands
R. P. Higgins	At sea, Latitude 20°15'N, Longitude 170°40'E	French Frigate Shoals, Leeward Hawaiian Is.
Tinan Gilizayan	Yap Islands, Western Caroline Islands	Birnie Island, Phoenix Islands



Blue-faced Booby on nest. (Photo by R.B. Clapp, POBSP)



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Left to Right: Eduardo, Mansueta, and Elias. Photo sent by E. Lerios of Tanauan, Philippines. Mansueta holds the band and streamer found on the bird.

CHILD CATCHES BANDED BIRD IN PHILIPPINES

Eusbio Lerios of Tanauan, Philippines, has reported the capture by his daughter Mansueta of a Sooty Tern wearing a band and streamer. This bird was banded by our Pacific Program personnel on Sand Island, Johnston Atoll, while it was still a nestling. Mr. Lerios gives the following account of the capture:

"The strong wind which was about to be a typhoon had just stopped when that very weak bird was seen on the seashore. Without any hesitation my daughter approached it and caught it. She helped the bird to let it fly but it was too weak. So she got a stick and let the bird stand on it, still it was to no avail for the bird just fall from it. Later,

she carried the bird home and we tried to feed it in order to let it live but it was in vain. And at about six o'clock in the afternoon of the same day its eyes began to close until it breathed its last.... It had an orange ribbon on its left foot and a white ring on the right."

We sincerely appreciate the interest and effort shown by people like the Lerios family in reporting birds to us. These reports are of great assistance to the scientists who wish to study the birds' habits and movements.

READERS URGED TO CONTRIBUTE NEWS

Readers of the Pacific Bird Observer are urged to send their personal observations of Pacific birds directly to the Pacific Ocean Biological Survey Program, Smithsonian Institution, Washington, DC., 20560. Information on the numbers of birds and the local breeding and migration schedules of various species is especially needed. Also useful are interesting photographs and information about people with birds. Appropriate items may be published in future issues. We welcome requests to be put on our free mailing list for future issues.

Letters to us concerning our program in the Pacific and requests to be put on our free mailing list for the Pacific Bird Observer should be addressed to Pacific Ocean Biological Survey Program, Smithsonian Institution, Washington, DC., 20560.