

# THE ELEPAIO

Journal of the  
Hawaii Audubon Society



For the Better Protection  
of Wildlife in Hawaii

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## SAVE HAWAII'S UNIQUE FLORA AND FAUNA

Letter from Andrew J. Berger to W. Michael Ord, February 9, 1966:

I am prompted to write to you because of observations made on my most recent field trip to Hawaii, and because of an article in the February, 1966, issue of The Elepaio, "The Program and Objectives of the Hawaii Division of Forestry."

The readers of The Elepaio are thoroughly familiar with the tragic decimation of the Hawaiian Honeycreepers during the past 100 years. Roger Tory Peterson has written that more species of birds have become extinct in Hawaii than in any area of comparable size in the world except for the Mascarene Islands. The causes of this wholesale extinction are poorly understood, but destruction of the habitat certainly has played an important role.

During the third week of January, 1966, I continued my efforts to retrace the steps of Perkins, Baldwin, Richards, and Dumire by visiting their collecting and study areas in a search for remnants of the rarer drepanids. On January 23 I visited the forests bordering the Kulani Prison Road, driving to the prison at an elevation of approximately 5200 feet. Large tracts of forest down slope from the prison for perhaps 2000 feet are magnificent, climax 'Ohi'a-Tree Fern forests, which provide ideal honeycreeper habitat. Several of the rarer species have been seen in this region during the past 25 years, although I saw none on my brief preliminary examination of the area. The Hawaiian Thrush, however, is common in these forests, as is the 'Apapane and the 'I'iwi. I have no doubt but that some other species of drepanids still inhabit these forests.

How long they will be able to do so, however, is highly questionable. Vast tracts of this virgin 'Ohi'a forest, that have required centuries to evolve, have been, and are continuing to be, ravaged by bulldozers. I am thoroughly conversant with the multiple-use concept in conservation circles, and I do not believe that any one in the Division of Forestry can present facts or theories to justify the complete destruction of these particular forests, which have been described as one of the best examples of the dwindling Hawaiian rain forest.

What disturbs me most is not merely the possible, or probable, extinction of more species of Hawaii's unique endemic birds (unfortunate as that would be), but that this activity by one or more divisions of the State Government seems to demonstrate clearly that all of the recent newspaper publicity on conservation and beautification is virtually pure baloney. There appears, in fact, to be little or no genuine interest or desire to conserve Hawaii's unique flora and fauna. Nor does there appear to be any effective coordination or cooperation among the several divisions of the Department of Land and Natural Resources, or between that Department and other agencies and organizations whose combined knowledge is necessary to fulfill

The aims and goals of a modern conservation program, which means the wise use of all resources.

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Letter from Governor Burns to W. Michael Ord, March 21, 1966:

This letter is written in response to a letter addressed to you by Mr. Andrew J. Berger. He sent a copy to me.

I wish to assure you and all members of the Audubon Society that our Department of Land and Natural Resources is aware of the need to protect our native birds and their habitats. The activities that were reported in the vicinity of Stainback Highway are less extensive and destructive than was suggested. Provisions have been made and more are contemplated to protect substantial areas of the 'ohi'a-tree fern forest permanently.

In the district which is being discussed, 5,880 acres were artificially reforested with desirable species of valuable hardwood trees between 1959 and the present. This was done for the purpose of improving the economic welfare of Hawaii in the future. This acreage represents about 7 per cent of areas of similar forest in Volcano National Park and other ownerships. Although we intend to extend our plantings in that area, substantial tracts in State ownership will not be disturbed for two reasons. First, we sincerely agree with you that some of the native forest should be preserved. Second, considerable acreages of the rain forest are not suitable for development.

In our reforestation operations, a strip of native forest from 300 to 500 feet in width has been left along the highway. Also, in the interest of preserving native plants and wildlife, scattered native trees are left throughout the tree planting areas. Hapu'u and shrubs which are crushed by the tractors resprout quickly and continue to grow with the planted trees.

We have already informally set aside two tracts to be protected as natural areas in the Waiakea-Olaa area. Final establishment is subject to review and approval by the Board of Land and Natural Resources. One tract is at an elevation of 3,500 feet around Puu Makaala. It contains all or almost all of the native plants within the rain forest type. Field observers report that it supports an abundant population of birds. The other tract is a portion of the 1942 lava flow and adjacent undamaged forest. Tentatively we are thinking of a total area in these two tracts of several thousand acres.

I believe the Olaa Forest Natural Area should be mentioned. The tract contains 9,655 acres and is directly adjacent to the area about which you inquired. It is an unbroken tract of native rain forest type. Some years ago it was transferred by Executive Order No. 1539 to the U.S. Department of the Interior from our Forest Reserve. The National Park Service administers it as an undisturbed natural area.

Our Department of Land and Natural Resources manages a considerable number of parks, arboreta, and sanctuaries elsewhere on the Island of Hawaii. I mention this as further evidence of our determination to protect native fauna and flora.

May I suggest that on your next visit to Hilo that you contact the Forestry Office. I am sure that the District Forester, or his staff, will be glad to show work performed on the ground and explain their objectives. The State is charged by the Constitution through the Department of Land and Natural Resources to protect the native birds. Please give us the opportunity to show you how we are accomplishing this.

Warmest personal regards. May the Almighty be with you and yours always.

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Hawaii's unique flora and fauna must be saved, so please share your information, comments, or suggestions on this vital subject by writing to Kojima, 725-A 8th Ave, Hon.

BIRDS OBSERVED ON VARIOUS POLYNESIAN ISLANDS  
 ABOARD THE RESEARCH SHIP TE VEGA

By Fred X. Fry\*

The Te Vega is a two-masted schooner operated by Stanford University as a training and research ship in biological oceanography. The vessel has cruised for over two years in various parts of the Pacific and Indian Oceans. It was supported by funds from the National Science Foundation. I served as medical officer on Cruise Eight, which stretched between Pago Pago, Samoa, and Monterey, California. Specifically, between June and September, 1965, we visited Pago Pago in Samoa, Vava'u in the Tongas, Fakaofu in the Tokelaus, Canton in the Phoenix Islands, Christmas and Fanning in the Line Islands, several of the Hawaiian Islands and finally, Monterey, California, the home port of Te Vega.

The position of medical officer required but little of me and I was able to devote considerable time to my rather unofficial job of ship's ornithologist. No specimens were taken and, therefore, all records are sight records. In most instances, these were quite positive and I was able to obtain many good photographs. This should in no way be taken as a complete check-list of island birds. It lists, rather, just the birds I was able to see in the time available.

TUTUILA, AMERICAN SAMOA

Tutuila is a high, volcanic island, mountainous over much of its surface. The vegetation is lush, due to the 200 inch annual rainfall. The excellent harbor of Pago Pago is the elongated crater of an extinct volcano, open at one end to the sea. There is a good road which half circles the island. Since 1961, American Samoa has been the scene of an all-out attempt at model, American colonialism, including paved roads, schools, medical care and television. The population is about 20,000. (Visited 13 to 21 June 65 and again 2 to 4 July 65.)

Samoa Storm-petrel Nesofregata moestissima A small band of five birds observed off Pago Pago harbor mouth on 4 July 65, in good, mid-afternoon light, for a short time within 80 feet of the vessel. The birds exhibited erratic, bat-like flight just above the surface of the water. They were uniformly sooty black with no white areas visible, had deeply forked tails and were 8 or 9 inches long. They showed no interest in our vessel and were soon out of sight.

White Tern Gygis alba Common everywhere along the coast as well as in the harbor at Pago Pago. In the harbor, they appeared to fly down from the high mountainsides in the morning. Always seen in pairs and flying close together.

White-capped Noddy Anous minutus Eight nesting pairs observed on 16 June 65 on steep, wooded cliffs along the shore of Fagaitua Bay. Observed both on cliffside and in trees. Appeared unconcerned about vehicular and human traffic on the nearby coastline road. Usually seen flying in pairs. The cliffs were inaccessible (at least, as far as I was concerned), so that no eggs or chicks were seen, but the nests were clearly visible.

Great Frigate Bird Fregata minor Observed throughout our stay on Tutuila, circling high along the coast and in Pago Pago harbor. Seen alone and paired. Adults and immatures were identified.

Lesser Frigate Bird Fregata ariel Not previously reported from Tutuila. Solitary specimen identified 16 June 65 along coastline of Fagaitua Bay. Observed soaring for 5 minutes. Conspicuous, paired white patches on abdomen.

Cardinal Honey-eater Mysomela cardinalis An unmistakable, small, black and scarlet bird with a rather long, curved bill. Seen commonly in trees and shrubs in Pago Pago. Observed more often about human habitation than otherwise. Appeared to be taking more nectar than insects from the abundant flowers on Tutuila.

\*Dr. Fry died soon after he sent in the article to E.H. Bryan, Jr., and in order to put the observations on record it is published posthumously.

Wattled Honey-eater Foulehaio carunculata A noisy, not unmusical, abundant thrush-sized bird. Appeared to be the commonest on the island, both about villages and in the forests. Seen most frequently in the coconut trees. A medium-dark, olive bird with a curved bill and an obvious wattle at the base of the bill under the eye. Active and nervous. Seen singly.

Banded Rail Rallus philippensis A common bird, particularly in the less mountainous areas. Seen frequently along roads and pathways. A large, well-proportioned bird, somewhat smaller than a chicken, with long legs and a strong bill. The general impression is a large, dark rail with a conspicuous light eyebrow who seems to lack the notorious shyness of most rails. An interesting story I heard in Pago Pago about these birds concerns their habit of frequently crossing the road. When the white line was first painted on the one, major coastline road, the rails would come to the middle, stop, observe the line carefully, hop over the line, and then continue their walk to the other side. From the frequency with which this curious reaction was observed, I gather that all the rails had this instinctive response to this mark of civilization. All the birds that I observed had long-since become quite sophisticated and paid no attention whatever to the white line.

White-rumped Swiftlet Collocalia spodiopygia A common bird on Tutuila. Observed flying low about gardens and open spaces. A small, dark bird with a white bar across the rump and very minimal forking of the tail.

White-collared Kingfisher Halcyon chloris Observed only once, on a power line in "downtown" Pago Pago. A typical kingfisher configuration, blue above, whitish below, with a conspicuous whitish collar around the neck.

#### VAVA'U, TONGA ISLANDS

Vava'u is a raised coral atoll, being several hundred feet high in some places. It is one, main irregular island surrounded by many small islets. There is a beautiful, almost land-locked harbor. Good roads roughly circle the island. However, the common means of transportation is by small boat. The Tongas are an independent monarchy (with a little "help" from the British), ruled, until her very recent death, by the universally beloved Queen Salote. Her family has been ruling Tonga for 1,000 years, giving her undisputed title to the oldest ruling blood-line on earth. The population is 12,000. (Visited 23 to 30 June 65.)

White-tailed Tropic Bird Phaeton lepturus Observed occasionally, flying purposefully, usually 100 to 150 feet above the water.

White Tern Gygis alba Seen commonly, singly and in pairs.

White-capped Noddy Anous minutus On 26 June 65, at the entrance to the long, tortuous channel leading into the harbor at Vava'u, along the face of a high (200 feet) cliff at the sea edge, were approximately 35 of these birds. Their nests were visible, though inaccessible, and consisted of loosely organized twigs and vegetation (seaweed?) either in trees and shrubs growing on the cliff or on shelves of the cliff itself. No chicks or eggs were seen on the nests but approximately a third of the birds flying noisily about were smaller and less strongly marked than the others. These, I took to be immatures, recently from the nest. The outraged adults certainly behaved in a manner to suggest that they had not, as yet, lost the instinct to protect their nests.

Black-napped Tern Sterna sumatrana Three pairs of these subtly beautiful birds were observed in the same area as above. They appear as a medium-sized, all-white tern with a black band across the neck. The bill and feet are black. The pale rose tint to the underparts is apparent even at some distance. If the White Tern can be called ethereal, then this bird can be described as quietly aristocratic.

Reef Heron Demigretta sacra A total of 6 birds were seen on the reef flats about Vava'u. Four were white phase, two were mottled. They are rather wary, at least when approached in the open.

Australian Duck Anas superciliosa Observed twice, once on a small fresh-water lake very near the main village, Neiafu, and once on the island's largest lake, near the village of Tu'anuku. Best described as looking like a female Mallard.

Banded Rail Rallus philippensis Seen rarely and, as on Tutuila, along the roads.

Purple Swamphen Porphyrio porphyrio A large, unmistakable bird, generally purple, with a red bill and big, red feet. Observed but once, on the edge of a reef flat.

Crimson-crowned Fruit Dove Ptilinopus porphyraceus Seen only fleetingly in the tops of coconuts and other tall trees. Spectacular green, yellow, purple and red coloration.

White-rumped Swiftlet Collocalia spondiopygia Abundant. Often as many as a dozen visible at one time along the coral-surfaced roads of the island. Usually flying low, below the treetops. The flight is characterized by gliding mixed with a typical swallow pattern. Much turning, often when gliding.

White-collared Kingfisher Halcyon chloris Fairly common about Neiafu. Seen both in high trees and in low shrubs.

#### FAKAOFO, TOKELAU ISLANDS

Fakafo, or Bowditch Island, is a classic coral atoll. There is no break on the reef to allow entrance to the central lagoon. The population consists of 800 natives, who all live on one six-acre islet on the lee side. There are no roads, no vehicles and almost no marks of western civilization other than a primitive radio which is operated as infrequently as possible. The island is administered by New Zealand, claimed by the United States. (Visited 6 July 65.)

White-capped Noddy Anous minutus A group of approximately 75 birds were nesting in the high trees on the far side of the lagoon, the islet most removed from the village. All the young were flying. The young men that went with me to explore the nesting site were not content with pointing out the area, but insisted on catching some for closer observation. This they did by quietly climbing the coconut trees native-fashion, coming up under the fronds where the birds were perching, and simply reaching up and grabbing them. The young were most easily caught in this manner, but they caught adults with the same technique. I was most impressed with their ornithological zeal until I learned that the entire scientific collection was destined to be the dinner entree that night.

White Tern Gygis alba Seen commonly, flying singly and paired.

Reef Heron Demigretta sacra Two birds seen, both dark.

M.B. The local MP (medical practitioner), the only English-speaking native on the island, told me that there are several other birds that visit his atoll over the course of a year. What they were, we could not decide. He told me that the ratio of white to dark Reef Heron was 50-50.

To be continued

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National Audubon Society's 62nd Annual Convention at Sacramento, California, from November 11 to 16, 1966, will highlight the effects of population growth and economic expansion on wildlife and its habitat, on watershed and forest ecology, on mountain and seashore scenic beauty, and on established and proposed parks and recreation area.

One of the four post-convention tours led by the Sacramento Audubon Society is to Hawaii from November 16 to 23.

For more information write to: Convention: National Audubon Convention, 613 Riversville Road, Greenwich, Conn. 06830. Post-convention Tours: Sacramento Audubon Society, 7248 Fair Oaks Blvd., Carmichael, California.

## READERS' NOTES

HONOLULU ADVERTISER, February 17, 1966, page A-25: PERHAPS HAWAIIAN THRUSH ISN'T EXTINCT AFTER ALL by Gordon Morse (Margaret L. Smith's contribution)

"...The Hawaiian Thrush, a bird which has been feared extinct in the Islands, may still be around. I think there's one in my back yard, deep in Waiahole Valley on Windward Oahu. I have managed to upset every ornithologist in Hawaii by the news....

"There seems little doubt that I saw a thrush. However, it may be a Chinese Thrush....

"The Oahu Thrush has long been considered extinct. It was last seen in 1825.... The bird is about the size of a mynah, ranging in coloring from a milk to a chocolate brown. They have whitish bellies and a straight beak. What makes the Thrush so wonderful, is his song. He can out-sing any canary....

"I think we heard a thrush singing last Saturday morning. My son had just put out the wild bird's rations for the day...when this song began pouring forth from a nearby Java plum tree. It was fantastic. I never heard a bird sing like that.... Over most of his body he was dark brownish. He was about the size of a mynah, his tail was squared at the end. He was whitish underneath. We could see no distinctive markings around the eyes. He sang in the tree for about an hour. Then he came back about 1 p.m. for another hour's after-lunch concert...."

Although this news article was enthusiastically published in the March, 1966 THE OBSERVER under the heading of "Convention Notes" by the Sacramento Audubon Society and in the April, 1966, THE WESTERN Tanager by the Los Angeles Audubon Society, Walter Donaghho says, "It is highly unlikely that any of these birds are still alive. The last seen was in 1825. I have been out there several times to see it, but the bird has not shown up for me. It is my guess that it is some exotic that has 'sneaked' into our islands, as has the Garrulax, which has been seen frequently on Poamoho Trail."

HONOLULU STAR-BULLETIN, April 15, 1966, page A-12: NEARLY EXTINCT STORKS NESTING Fort Myers, Fla. (AP)--

"Three thousand pairs of wood ibis, America's only stork, are making a second attempt to raise some young this year....Their first attempt this year was wiped out by the severe freeze of midwinter. (See April, 1966, THE ELEPAIO, Vol.26, No.10, p.92)

"But Phil Owens, superintendent of the Corkscrew Swamp Sanctuary, said he flew over it last weekend and saw nests with as many as five eggs in them. He said that was very unusual. The most eggs produced by the wood ibis is usually three....

"The wood ibis has failed to raise any young for the past four years because of hurricanes, freezes and droughts. Owens said that if the birds had not come back for a second attempt this year they probably would have become extinct within 10 years."

HONOLULU STAR-BULLETIN, May 26, 1966, page F-9: NESTING SEASON INCREASES NENE POPULATION BY 69

"Sixty-nine nene were raised during the past nesting season at Pohakuloa, Hawaii. This is the largest number of them produced in captivity in one year since the nene-restoration project began in 1949....

"The previous season record was set in the 1962-1963 season when 54 nene were raised. The worst year was 1952 when only one made it. In 1949 two new ones appeared.

"There were two other firsts during this past season, which started in September and ended March 31:

1. A nene couple produced a second clutch of eggs in one season, after already raising a group of goslings. Normally they do not re-nest in the same season.
2. A nene goose laid a six egg clutch. Normally one lays between one and five eggs a year, approximately daily.

"The sixty-nine nene are being prepared for release. Some will probably be let go in July...."

Please report any information on NENE to Kojima, 725-A 8th Ave, Honolulu, 96816.

HONOLULU ADVERTISER, May 28, 1966: EGRETS FEASTING DOWN EWA WAY (Ruth R. Rocikafellow's contribution)

"When they talk about the 'Haole ground crew' at Ewa Plantation...they're referring to the hundreds of white-plumed egrets [cattle egret, Bubulcus ibis] who have become a familiar sight whenever harvesting operations are under way.

"WHAT'S SO INTRIGUING about the harvesting to the egrets? It's their bread and butter. Or better, their flies, spiders, cockroaches, lizards, centipedes, field mice and rats. These creatures normally are protected from the egrets by the dense foliage of the sugar cane. But when a field has been burned over and is ready for harvesting, there's nothing to hold the birds back. They don't even fly away when the men and machines come by.

"...The birds originally came from Africa. They migrated across the Atlantic to South America and then up to Florida. They still might have been there but for a decision by Hawaii cattlemen in 1959 to import a flock of egrets to help control cattle flies. The egrets were released on Kauai and on Windward Oahu. However, they vanished from those areas, only to show up again around Honouliuli. From there, it was inevitable that they would show up in Ewa's fields. Plantation officials have cautioned their employees not to bother the birds. (The Ewa Plantation photo is an evidence of harmonious cooperation between man and bird.)

AUDUBON WARBLER, Newsletter of the Oregon Audubon Society, February, 1966, Volume 30, No. 1: CATTLE EGRET REACHES OREGON

"On November 28, 1965, the Audubon Society received the first report of a CATTLE EGRET in Oregon. A lone juvenile was observed on the Domeyer Farm, Sauvie Island, and reported to the Society by Mr. Domeyer....

"...In North America it was first seen in Florida in 1942. From Florida it has gradually extended its range north and west. In 1964 it was reported in California."

HONOLULU ADVERTISER, April 4, 1964: IT'S OWL IN A NIGHT'S WORK (Margaret L. Smith's contribution)

"Tyto alba pratincola is firmly established in residence on the Big Island, the State Department of Agriculture said yesterday. Tyto is better known as the barn owl, and because of his fondness for dining on rats and mice the State began releasing his breed near the Big Island's Waipio Valley in 1959.

"...Agricultural officials feel the barn owl also may be entrenched on Kauai (See January, 1966, THE ELEPAIO, Volume 26, Number 7, pages 58-60) and are still awaiting evidence that he is thriving on Oahu and Molokai. Because the barn owl is a night creature...he may be at work but not yet observed on the latter Islands.

"THE FIRST barn owl nest has been located by department employee Akira Kawasaki on the Parker Ranch. The nest contained remains of rodent bones and furs, indicating his release has proved a success.

"The barn owl is a large golden bird with a white, monkey-like face and white underwings. He hunts at night, swooping down on his prey on silent wings and is classed with the cat as an outstanding rodent eliminator, officials said."

HONOLULU STAR-BULLETIN, April 7, 1966, page D-1: 40 RARE BIRDS FOR ZOO

"The U.S. Department of Interior has turned over 40 rare birds to the Honolulu Zoo. The birds, the Laysan Finch, better known as the Hawaiian honeycreeper, were captured on Laysan Island....

"Eugene Kridler, administrator of Fish and Wildlife for the U.S. Interior Department, led a four-man party that captured the birds. The finches are protected by U.S. Department of Interior laws, and special permission from the department was required before the birds could be taken off the island."

HONOLULU ADVERTISER, April, 1966: WHAT'S A LAYSAN FINCH? HE'S A VERY RARE BIRD (Margaret L. Smith's contribution)

Honolulu Zoo Director Jack Throp said, "What is strange about the birds is that they live on Laysan where there is no fresh water. Some of the birds in Kridler's collection were sent to the Mainland for research. One possibility, Throp said, is that the birds managed to live on moisture from flower buds. Another

is that they can somehow separate the salt in sea water. Winged desalinization plants, as it were. The zoo's tiniest newcomers aren't afraid of people. Throp demonstrated by holding one on his finger. 'On Laysan they had no enemies, so they're as tame as can be,' Throp said...."

Six white and six black albatrosses were also brought back, and they were delivered to the San Diego Zoo.

HONOLULU STAR-BULLETIN, May 30, 1966, page B-6: ONLY SCIENTIFIC EXPEDITIONS ARE PERMITTED IN REFUGE, PROTECTION OF WILDLIFE ON SMALL ISLANDS INCREASED

"Large signs were posted recently on some of the small islands stretching 1,100 miles between Hawaii and Midway...so-called Leeward Islands and reefs composing the Hawaiian Islands National Wildlife Refuge....Since the refuge was established in 1909 by President Theodore Roosevelt the unique animals, plants and great seabird nesting colonies have had it mostly to themselves....But because of the extreme fragile ecology of the area, the Bureau of Sport Fisheries and Wildlife is tightening its guard over the rare fauna and flora.

"...Only scientific expeditions are permitted to go into the islands now. Attempts also are being made under the Federal 'rare and endangered species' program to propagate some of the wildlife in captivity. The Laysan finch, for example, has been brought to Honolulu Zoo and sent to the University of Michigan.

"Eugene Kridler, Federal Wildlife Administrator in Hawaii, says population reservoirs may be established in the future to preserve the birds and animals in event their normal habitat is wiped out by catastrophe. Pairs of the rare species would be transplanted to other islands in the refuge or possibly elsewhere in the Pacific, Kridler said. However, he says careful research and screening must be done first....Kridler says many of the rare types of life in the refuge are making a nice comeback, although the populations are very vulnerable. The ground nesting colonies have no fear of man, he said. 'and we are fearful of rats, mice, cats or any harmful insects getting to the islands.' He points to past abuses in the refuge--the feather collecting for the millinery trade and the havoc resulting from rabbit introductions. 'We don't want anything like that happening again,' he emphasized. He said the Coast Guard is assisting with patrol of the islands."

The article also showed two rare pictures: 1. Nihoa millerbird on her nest near the summit of Miller's peak on Nihoa. Believed to be the first nest of this bird found on Nihoa; it contained one egg. 2. Twin pups--a rare event for a Hawaiian monk seal.

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FOR JUNIOR MEMBERS:

HOW SMITHSONIAN BANDS PACIFIC SEABIRDS from PACIFIC BIRD OBSERVER, November, 1965, No.2.

Banding seabirds is a backbreaking, tedious undertaking involving long hours of hard work....

Birds are banded with serially-numbered aluminum leg rings. The Smithsonian puts bands on the right leg and streamers, if used, on the left, but in some areas of the Pacific other banders put streamers on the right leg.

In order to avoid handling previously banded birds in large colonies...a spray paint is frequently used to show either that the bird has already been banded or that a band put on at some former date has been read and recorded. This paint, in different colors for different islands, normally is sprayed around the neck, but a cross or a straight line may be used occasionally on some other part of the body. Spray painting has proved to be a time-saving device, and the paint normally wears off within a month to six weeks. By the banders' next visit the birds are in their normal unpainted plumage.

At the time of banding a record is made of the bird's species, its age and sex, whether or not it was nesting and its exact location. Every attempt is made to make this record keeping simpler by banding birds in lots of 100, all birds having identical data.

Although various methods have been devised to facilitate banding, the first requirement is still long hours of hard work. During this usual two to three days



spent on an island, the bander normally works from eighteen to twenty hours out of each twenty-four (he catches up on sleep as best he can while on the ship traveling to the next island). Actual banding takes five to six hours; related work takes up the remainder of the time. Each bander normally bands from 1,000 to 1,500 birds during this short period. Most of the banding is done at night with the bander wearing a small headlight which temporarily blinds the birds, making them easy to catch. Before he starts, band numbers are recorded and a thin coat of paint is sprayed on the bands to distinguish recently-banded birds from older ones (this is done in addition to the spray paint put on the bird later). One hundred bands come partially opened on long plastic tubes. The bander holds the end of the tube in his teeth, first making a cut part way through the plastic tube so that the bands may be slipped off without taking the tube out of his mouth. Wearing his headlight, with pliers, a notebook, and his supply of bands, he is ready to begin.

Picking up the bird with his left hand in such a fashion that its wings are secured, its bill held away from him, and its right leg stationary, the bander removes a band from the tube with his right hand and puts it on the bird's leg. Then, keeping it in place with the fingers of his left hand, he securely closes the band with the pliers. Last he releases the bird, reaching for another bird with his left hand and another band with his right. In this manner he can band up to 500 birds an hour under ideal conditions--approximately one bird every seven seconds....

For any banding program to be successful the birds must be recaptured either at the original place of banding or at some distant point. Since the recovery rate for some species is low, much of the success of the Pacific banding program depends on the many observers in the Pacific Basin who report banded birds. We consider ourselves fortunate if one Sooty Tern out of one thousand banded is recaptured away from its banding site. Even with larger birds such as the Lesser Frigatebird it is unusual to have recoveries of more than one out of a hundred. We have banded over 700,000 birds in the Pacific during the past thirty months. With this large number we hope to be able to document migration routes which are now unknown.

WHAT TO DO IF YOU FIND A BAND, Ibid, p. 12.

What do you do if you find a live banded bird?

Do not remove the band, but read the number on the band, write it down, and release the bird carefully. Hopefully, the banded bird will be caught again elsewhere. Remember, don't take the band off: you might injure the bird.

PLACE THE FOLLOWING INFORMATION IN AN ENVELOPE AND SEND IT TO THE ADDRESS ON THE BAND:

1. Your name and address (plainly printed).
2. All letters and numbers on the band.
3. The date you found the bird.
4. The place where you found the bird.
5. How you obtained the bird.

If you find a band on a dead bird, straighten the band out and tape it securely to a piece of heavy paper. SEND THE FOLLOWING INFORMATION WITH THE BAND TO THE ADDRESS ON THE BAND:

1. Your name and address (plainly printed).
2. All letters and numbers on the band.
3. The date you found the band.
4. The place where you found the band.
5. Tell how you obtained the band (on a bird found dead--shot, trapped, etc).

If the band you found was that of the U.S. Fish and Wildlife Service you will receive a letter from the Bird Banding Laboratory telling where the bird was banded, what kind it was, and who banded it. The Smithsonian's Pacific program, or whoever banded it, will also learn that you found the band.

Please do not send bands or band numbers to the Smithsonian Institution. This may cause confusion with other banding programs operating in the Pacific.

Those who wish to cooperate with the Smithsonian study, write to Pacific Ocean

Biological Survey Program, Smithsonian Institution, Washington, D.C. 20560 and ask to be placed on their free mailing list to receive the PACIFIC BIRD OBSERVER.

Have you kept notes on the nesting birds? How is your beautification project coming along? Now that the summer is here, I hope you'll write to me and share your experiences with the other members.

Kojima, 725-A 8th Ave, Honolulu, 96816

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FIELD TRIP to Poamoho, May 8, 1966.

"Considerable high cloudiness, but most sunny and generally dry" was the weather forecast for the Sunday, May 8 field trip to Poamoho. A group of about twenty composed of visitors and regular Audubon members walked through the lush Koolau Mountains, led by Mike Ord.

We drove past rows of pineapples bursting with ripening fruit and on to a narrow dirt road. Most of the walk was under gray cloudy skies with very intermittent showers. Sharp and clear songs and calls could be heard from the white-eyes. At least eight 'amakihi and one 'elepaio were seen.

However, the more spectacular show of color was provided by the 'apapane with deep crimson plumage and black wings. We passed abundant flowering 'ohi'a lehua and majestic koa trees.

Although by actual bird count, the walk was not productive, everyone seemed to enjoy the cool walk through lush vegetation. And of course, the trip was not ended until we had all sampled the cold slices of fresh pineapple at the Dole pineapple stand.

M.S.

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The annual index will be mailed to the members only upon request, so if you are interested in receiving a copy, please send in your reservation before August to Kojima, 725-A 8th Ave, Honolulu, Hawaii 96816.

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ALOHA to our new members:

Earl Bishop, Dept of Botany, Univ of Hawaii, 2450 Campus Road, Hon., Haw. 96822.  
Bill Prange, 3017 Manoa Road, Honolulu, Hawaii 96822.

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JULY ACTIVITIES:

- July 10 - Field trip to Aiea to study forest birds. Bring lunch, water, and if possible, your car. Transportation cost (50¢) to be paid to the drivers. Meet at the Library of Hawaii at 8:00 a.m.  
Leader: Paul M. Scheffer, telephone 915-704.
- July 11 - Board meeting at the Honolulu Aquarium Auditorium at 7:30 p.m.  
Members are always welcome.
- July 18 - General meeting at the Honolulu Aquarium Auditorium at 7:30 p.m.  
Program for the night: Speaker: Dr. Hubert Frings  
Topic: Looking Backward

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HAWAII AUDUBON SOCIETY EXECUTIVE BOARD:

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