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## CRESTED HONEYCREEPER OF MAUI

By Charles Van Riper III

During March 1971 I had the opportunity to take a field trip to Maui. I spent five days at Paliku cabin in the Haleakala National Park and hiked the surrounding country. On March 15 I climbed to the top of Kalapawili ridge and walked three miles north-east along Lauulu trail through the intermittent rain and drizzle typical of this region. Just before reaching Lake Wai Anapanapa I sighted a Crested Honeycreeper (Palmeria dolei) in the top of an 'ohi'a (Metrosideros).

The Hawaii Audubon Society (Hawaii Audubon Society, HAWAII'S BIRDS, 1967) classifies the Crested Honeycreeper as possibly the rarest of the living Hawaiian mountain birds. It was once found on both Molokai and Maui, but presently is confined to the extremely wet upper forests on the northeast slope of Haleakala crater, Maui. I can find no published report on the sighting of this bird within the last five years. /Sighted August 1967 in Kipahulu Valley by the expedition scientists (THE CONDOR, July 1968, Vol. 70, No. 3, pp 265-266 and HONOLULU STAR-BULLETIN, 30 Nov 67, p. A-4)/

I first sighted the bird in an 'ohi'a tree on a ridge forming the northern boundary of Lake Wai Anapanapa at an elevation of 6,400 feet. Perched on the top-most branch of the tree, the bird was preening. After two minutes it flew into the under-cover beneath the tree. Emerging from the lower branches, another bird then flew to the top of the same tree. At the time I thought the second Crested Honeycreeper to be the same individual as the first, but after a short period the original bird flew up and joined the second in the top of the tree, both then proceeding to feed on the lehua blossoms in bloom. After moving from tree to tree for eight minutes, the birds flew in a northerly direction deeper into the forest.

One of the more noticeable characteristics of the Crested Honeycreeper is the orange coloration, which is especially bright on the nape. In fact, the region from the temporal canthus to the auriculars is much more vividly colored than most pictures and museum specimens depict. There were two distinct types of crests on the birds. One had a pale white colored crest which was larger than that of the other bird whose crest was colored with a brownish orange tint. This difference was either natural or due to accumulated pollen from the lehua.

Awkward in flight, the Crested Honeycreeper beat its wings intermittently. Thus, its motion in the air was quite jerky. The sound produced by the primaries was much like that of the 'Apapane (Himatione sanguinea), but of a much lower tone. Because of the intermittent wing beat, the whirring sound had pauses spaced at intervals.

The legs appeared as if they were oversized in proportion to the rest of the body. After flying, the bird looked as if it had trouble landing. It acted as if it were unsure of its footing. Even when climbing over branches, the bird appeared



awkward.

On several occasions the Crested Honeycreeper flew up 20 to 30 feet in the air and hovered with its wings extended below its body in a drooping fashion. This behavior could have possibly been a display action. On the other hand, it could have been utilizing the hovering action as a method of drying itself, for the bird would hover only when the rain temporarily abated.

Thirty minutes later and one-quarter mile east of the original sighting I observed another pair of Crested Honeycreepers. In both of my sightings the birds were paired and always remained in close proximity to one another. Neither of the pairs I observed sang extensively. I only heard a few snatches of song, and these were low and not at all melodious.

This second pair flew from tree to tree gleaning, spending from 5 to 20 seconds in each area. They appeared to have trouble hanging upside down; so they searched for insects by standing on top of the branch, while reaching under the leaves with their heads.

The tops of the trees appeared to be the favorite haunt of this bird. One would always remain in the top-most branch, while the other fed below. The bird on top would then swoop down into the foliage, and the other would return to the top. I observed this action a number of times.

At no time during my observations did any of the Crested Honeycreepers appear to be afraid of man. Even when approached as close as 15 feet, they carried on their normal activities and did not fly away. Because the birds did accept my presence, I was able to observe their appearance and habits closely.

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#### SALT LAKE

Following is an excerpt from the HONOLULU STAR-BULLETIN, 1 March 1972, pages 1 and A-4: Governor Burns May Halt Fill-In Plan by Tom Coffman

Reopening a controversial 1966 decision, Governor John A. Burns has ordered a full review of the plan to fill in most of Oahu's Salt Lake....

The lake is the only sizable lake in the Hawaiian Islands. It is to be filled some time this year--barring a reversal of State policy.

Burns requested the Salt Lake review on Monday, after studying a summary of Star-Bulletin research into the 1966 controversy over the use of conservation land....

The findings of the Star-Bulletin's investigation included the following:

1. Government memoranda suggest that the State Land Board's key executives played less than an impartial role in the planning decision.
2. There is no known State study of how much it would cost to clean up and preserve the lake, either for scenic or recreational purposes.
3. In 1964, when the developer secured State zoning for the area surrounding the lake, the developer left the Land Use Commission with the impression that the lake would remain as a lake. Developer Clarence T.C. Ching's International Development Corp., via his attorney takes issue with this point.
4. In 1965, when developer Ching secured City Council zoning, he still was proposing a lakeside subdivision, but immediately thereafter announced his plan to fill the lake.

5. This 1965 move provoked grumbling by City councilmen that IDC had made its presentation in bad faith (which Ching denied).

The investigation summary also noted the main argument of the developer: That the proposed golf course on filled land serves a scenic and conservation purpose, and that cleaning and maintaining the lake would be enormously expensive.

The Governor, after reviewing the Star-Bulletin's findings, telephoned the State Department of Planning and Economic Development and ordered an official State review...and requested information...on two points:

1. The pattern of water drainage in the Salt Lake area.
2. The possibility of preserving a sizable part of the lake for scenic



and recreational uses....

When in 1966 the State Land Board approved the plan to fill in the lake, ecology was a little-known word. Nonetheless, the proposed destruction of a lake aroused heated opposition.

Those who battled unsuccessfully against the developer included most of the conservation groups, led by Robert Wenkam, plus the Chamber of Commerce and the ILWU.

Supporters of the plan included several golf clubs and such tourism interests as the airlines and Matson Navigation Co.

Since that 1966 battle, community attitudes regarding conservation and ecology have changed dramatically. Another factor also has entered the picture--the lakeside subdivision now is heavily populated....

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The following information on the birds at Salt Lake with a note: "We welcome Governor Burns' decision calling for a review of the development planned for Salt Lake. A fresh evaluation of the best long-range use of the lake in terms of human environmental quality could include conservation of Salt Lake and the native birdlife it supports. The mauka half of Salt Lake could make a fine waterbird refuge!" was prepared 30 January 1972 by William P. Hull, Vice President, and sent to Honolulu Star-Bulletin; Honolulu Advertiser; KHVH (Byron Baker); KGMB (Bambi Weil); Governor John A. Burns; Senators Donald D.H. Ching, Joseph T. Kuroda, Francis A. Wong, Nadao Yoshinaga; Shoji Kato, Chief, State Planning Division; Sunao Kido, Chairman, Board of Land and Natural Resources; Eugene Kridler, Administrator, Hawaiian Islands National Wildlife Refuge, Bureau of Sport Fisheries & Wildlife; Concerned Citizens of Salt Lake; and Life of the Land; 2 March 1972:

Over the past fifteen years, seventeen species of waterbirds and shorebirds have been observed at Salt Lake, according to the records of the Society. Of these, five are year-round residents of Hawaii, and twelve are migrant species that spend most of the year here but spend their late-spring and early-summer breeding season thousands of miles away in Alaska, the Aleutian Islands and Siberia.

Unlike the cardinals, mynahs, doves and house sparrows that now are so common in the housing areas around the lake--all of which were brought here by man and are not native birds--these seventeen species of waterbirds and shorebirds are native birds in the sense that they got here naturally, have been living here or visiting here for thousands of years and are, in a very real sense, part of old Hawaii.

The five year-round residents that have been seen at the Lake in recent years are the Hawaiian Duck, Hawaiian Gallinule, Hawaiian Coot, Hawaiian Stilt and Black-crowned Night Heron. The first four of these native waterbirds are considered "endangered" by State and Federal wildlife authorities and by scientists and conservationists who study these birds. They are officially designated as Endangered Species because their total numbers are small throughout Hawaii and because their wetland habitats upon which they depend--for feeding, breeding and shelter--(like Salt Lake) are being reduced or drastically altered. Recent significant examples of such changes in waterbird habitat on Oahu are development of the Hawaii Kai and Enchanted Lake subdivisions at Kuapa Pond and Kaelepulu Pond, both of which formerly supported large populations of Hawaiian waterbirds--but no longer do.

What really makes these four birds endangered is the fact that they are found nowhere else in the world and cannot be brought back if they disappear here in Hawaii. Although they have close relatives on the Mainland, each has certain physical characteristics that distinguish it from its Mainland counterpart. It is this factor of distinctiveness that is largely responsible for the fact that the Black-crowned Night Heron, the fifth kind of waterbird seen at Salt Lake, is not also considered endangered officially. The Hawaii form is virtually identical with the Black-crowned Night Heron on the Mainland, where the species still thrives in large numbers.

The twelve species of migrant waterbirds and shorebirds seen at Salt Lake over the past fifteen years include five ducks (Pintail, American Widgeon, Shoveler, Lesser Scaup and Bufflehead), four shorebirds (Pacific Golden Plover, Ruddy Turnstone, Wandering Tattler and Sanderling) and three gulls (Bonaparte Gull, Ring-billed Gull and Glaucous Gull).



Our records show that the bird seen at Salt Lake most consistently and in the greatest numbers over the past fifteen years is the Coot. Two thousand were counted there in December 1958, one thousand in May 1960, and then declining numbers to a low of no Coots observed at the lake on two surveys in January and December 1966. From seven seen there in December 1967, the population grew until it reached a fairly stabilized figure of from twenty to sixty-four for the period 1969 to the present (January 1972).

The current status of Salt Lake as a habitat for waterbirds and shorebirds is indicated by the following list of eleven species seen there consistently or on several occasions over the past two years, including (in parentheses) the greatest number observed of each species at any one time during that period: Black-crowned Night Heron (11), Hawaiian Duck (3), Pintail (29), Shoveler (7), Lesser Scaup (17), Bufflehead (1), Hawaiian Coot (64), Pacific Golden Plover (90), Ruddy Turnstone (35), Wandering Tattler (8), and Hawaiian Stilt (37).

The above list represents birds observed feeding and resting at the lake. We have no record of nesting at the lake by any of the resident waterbirds, although the presence of a number of immature Coots there in the summer of 1970 suggests the possibility that some successful nesting may have taken place that year.

In considering Salt Lake as a potential sanctuary for native waterbirds, the question of suitable breeding habitat is important. As it is now, the lake offers only marginal prospects for the Coot and the Stilt. The best potential breeding area is along the shoreline of the shallow-water sections at the mauka end, but the birds can find little or no protection there from predators like cats, dogs, mongooses and rats--or from disturbance by the ever-increasing human population nearby. The problem could be overcome by creating small islands in the mauka shallows, which would provide secure nesting sites that would be isolated and protected from predator and human disturbance along the shore.

Aside from protection against predators and people, other factors like water quality, water-level stability, assured aquatic food sources and other environmental considerations would have to be investigated and projected ahead by competent biologists before any serious effort is made to create a permanent sanctuary for Hawaiian waterbirds at Salt Lake. Nevertheless, the great size of the lake and the fact that waterbirds are using it now as habitat, despite the increasing disturbances and perils around the lake in recent years, indicates the lake has real potential as an effective sanctuary for the birds--with a little help from their friends.

Attached is a complete list of the seventeen species mentioned in this report, plus the scientific name for each and the Hawaiian name for those that have them.

#### ATTACHMENT

List of Hawaiian Waterbirds and Shorebirds Observed at Salt Lake, Oahu, since 1957

| <u>Common Name</u>          | <u>Scientific Name</u>                    | <u>Hawaiian Name</u> |
|-----------------------------|---|----------------------|
| Black-crowned Night Heron.. | <u>Nycticorax nycticorax hoactli</u> .... | 'auku'u              |
| *Hawaiian Duck.....         | <u>Anas wyvilliana</u> .....              | koloa maoli          |
| Pintail.....                | <u>Anas acuta</u> .....                   | koloa mapu           |
| American Widgeon.....       | <u>Mareca americana</u> .....             |                      |
| Shoveler.....               | <u>Spatula clypeata</u> .....             | koloa moha           |
| Lesser Scaup.....           | <u>Aythya affinis</u> .....               |                      |
| Bufflehead.....             | <u>Bucephala albeola</u> .....            |                      |
| *Hawaiian Gallinule.....    | <u>Gallinula chloropus sandvicensis</u> . | 'alae 'ula           |
| *Hawaiian Coot.....         | <u>Fulica americana alai</u> .....        | 'alae ke'oke'o       |
| Pacific Golden Plover.....  | <u>Pluvialis dominica fulva</u> .....     | kolea                |
| Ruddy Turnstone.....        | <u>Arenaria interpres</u> .....           | 'akekeke             |
| Sanderling.....             | <u>Crocethia alba</u> .....               | hunakai              |
| Wandering Tattler.....      | <u>Heteroscelus incanum</u> .....         | 'ulili               |
| *Hawaiian Stilt.....        | <u>Himantopus himantopus knudseni</u> ... | ae'o                 |
| Bonaparte Gull.....         | <u>Larus philadelphia</u> .....           |                      |
| Ring-billed Gull.....       | <u>Larus delawarensis</u> .....           |                      |
| Glaucous Gull.....          | <u>Larus hyperboreus</u> .....            |                      |

\* Endangered Hawaiian species



AXIS DEER AND THE HEALTH OF LIVESTOCK AND HUMANS  
Relative to the Proposed Introduction of Deer to the Island of Hawaii  
By Frank J. Radovsky, Ph.D, Bishop Museum

If introduced to the Big Island, the axis deer would be a significant threat to the livestock industry because of the following combination of factors.

1. The deer are susceptible to most of the same microbial pathogens and many of the same metazoan parasites as cattle.
2. The deer can be expected to range over extensive areas; they can not be practically fenced out of large areas; and, once introduced and established, they could not be eradicated without great expense, if at all.
3. A quarantine procedure with careful veterinary surveillance could ensure that deer were essentially pathogen-free prior to introduction, but such procedure would have no influence on the capability of deer to conserve or spread diseases now on the island or that might be introduced in the future.

For the same reasons and because many cattle-deer diseases are transmissible to man, axis deer would also constitute a hazard to human health.

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One could easily overstate the case for expected influence of axis deer on the epidemiology of disease. (I believe there are more compelling reasons than their disease potential for not introducing axis deer to the Big Island.) We should not anticipate an obvious impact of the deer on the disease situation within months, and with luck we could escape a serious result for years. Furthermore, few studies have been made specifically on axis deer and their susceptibility to various pathogens; to a large extent, we must (and reasonably can) extrapolate from what is known of diseases in other species of deer, particularly in North America. With this in mind, the facts and concepts given here do constitute a strong case for anticipating an eventual important impact of deer on the health of livestock and perhaps of man as well.

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Tuberculosis -- Bovine and human strains of the tubercle bacillus are placed in the same species, and they produce the same symptoms in man according to the route of introduction (respiratory or alimentary). Until recently, tuberculosis was present in feral cattle in a restricted area on the Big Island, resulting in concern among cattlemen that the disease might spread from this focus. The danger was averted by a successful program to destroy the wild cattle. Tuberculosis has been identified in 3 axis deer on Molokai. It is for this reason that deer considered for possible introduction to the Big Island are only those on Lanai; in effect, axis deer on Molokai are in quarantine because of tuberculosis infection. One can easily envisage extreme aggravation of the problem of eradication of tuberculosis on the Big Island if the disease were reintroduced in the presence of deer.

Anaplasmosis -- This disease of cattle is present on the Big Island. Attempts to eradicate anaplasmosis in Hawaii are continuing. Eradication is more feasible here than in most Mainland areas of endemicity, not only because of the insular situation but also because the usual tick vectors are absent and there are no deer in the major cattle-raising areas. Ticks are important as vectors of the pathogen because they can conserve it for long periods and pass it among themselves from generation to generation. However, the disease can be maintained by mechanical transmission through dehorning and other ranching practices, and by biting flies and other insects; in Hawaii there is evidence that the disease has been maintained at least partly by transmission through lice. Deer are suitable hosts of the disease agent, and current opinion is that deer serving as an infectious reservoir are a major obstacle preventing eradication in Mainland areas. As far as we know, axis deer could act in the same capacity on the Big Island.

Ticks -- These external parasites are first in importance as vectors of disease in domestic animals and second only to mosquitoes as vectors of human disease; their direct effect on livestock, through blood loss, harassment, etc., is extremely costly. We are fortunate in Hawaii that quarantine procedures have kept out all ticks other than the 2 established species -- the spinose ear tick of cattle and the brown dog tick. Establishment of any additional species of cattle tick could be a disaster to



the cattle industry. Deer are suitable hosts for any cattle tick that might be introduced, and the problem of localization and eradication would obviously be much greater in the presence of deer.

Liver Flukes -- Fasciola gigantea is the principal liver fluke established in cattle in Hawaii. Deer are not expected to influence the transmission patterns of this fluke. Fascioloides magna is a fluke found on the Mainland that is maintained in deer. Cattle often become infested and the disease produced in them is extremely severe. All parasitic flukes require snails as intermediate hosts; 2 of the principal genera carrying F. magna on the Mainland (Fossaria and Pseudosuccinia) are in Hawaii. Presence of deer on the Big Island would make it possible for F. magna to become established if accidental introduction of the parasite should occur.

Vesicular stomatitis -- This viral disease has symptoms in cattle very similar to those of foot-and-mouth disease. It is present in Hawaii. Deer are susceptible and could be expected to increase dissemination of the disease.

Johne's disease -- This disease of cattle is caused by an organism related to the tubercle bacillus. It is present and an important disease of cattle in Hawaii. Deer are susceptible and could be expected to increase dissemination.

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In addition to the diseases and parasites mentioned above, there are many others for which deer can be expected to play an epidemiologic role. Among these are leptospirosis (Weil's disease or infectious jaundice in man) and brucellosis (undulant fever in man, Bang's disease in cattle), both present on the Big Island and able to cause disease in man as well as cattle. More than 40 years ago, over 20,000 deer were killed at great expense in California in an effort to prevent the establishment of foot-and-mouth disease. I personally worked on the epidemiology of epizootic bovine abortion in California, caused by an organism belonging to the psittacosis group. The disease causes an estimated annual loss of \$10,000,000 to the cattle industry in California alone. Although the existence of a sylvatic (wild animal) reservoir is known, the epidemiology is not fully understood. There is circumstantial evidence suggesting that deer are involved.

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The list of potential interactions between deer and economically or medically significant disease could be extended, but perhaps the situation can best be summed up as follows: Deer on the Big Island would represent an additional, and possibly the most important, disease reservoir. A great deal is known that indicates their potential disease importance. There is much that is not known, and this is an equally important argument for not introducing deer in the absence of compelling reasons for doing so.

4 February 1972

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Letters to the HONOLULU STAR-BULLETIN Editor on the Axis Deer

1 March 1972, page A-17, Wants Deer on Hawaii by Dr. Don C. Rogers

I would like to see axis deer introduced into Hawaii.

As a former, longtime animal-watcher, I lament the death of wild animals in our State. We have only mongooses, rats, mice, and bats. Our pigs, goats, and sheep are only feral....

In the summertime vacation, my wife and I are privileged to have such wild animal neighbors in the forest surrounding our log cabin in northwest Ontario, Canada: White-tailed deer, beaver, chipmunks, red-striped squirrels, flying squirrels, white-footed mice, shrews, voles, bats, varying hares, marmots, skunks, red foxes, otter, muskrats, mink, weasels, timber wolves, moose, fishers, martens, bobcats, black bears, lynxes, and occasionally wolverines and porcupines.

The introduction of axis deer would improve Hawaii's present imbalance of nature. We now hold the doubtful distinction of having the least wild animal life among the 50 states.

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10 March 1972, page A-13, Hawaii's Ecological Realities by William P. Mull, Hawaii Audubon Society

Dr. Rogers may be a longtime "animal-watcher," but he seems to have ignored the



rest of nature. In fact, he even seems to have ignored all "wild animal life" other than mammals. Certainly he has ignored the ecological realities of Hawaii.

His desire to introduce axis deer to "improve Hawaii's present imbalance of nature" is a biological non sequitur. Introductions of alien mammals like the axis deer are a major cause of, not a cure for, present imbalances in nature in Hawaii.

Dr. Rogers' premise that mammals are necessary for "balance" in nature is ecological nonsense. Native Hawaiian ecosystems were rich in species and delicately balanced--with minimum help from only one diminutive native land mammal, the Hawaiian hoary bat--until man arrived and started introducing a host of foreign animals (mammals, birds, reptiles, amphibians, insects, etc.) that have been rocking the ecological boat here ever since.

It's not exactly clear what Dr. Rogers means by his statement that Hawaii has "the doubtful distinction of having the least wild animal life among the 50 states" (Mammals only? Number of species? Number of individuals per square mile? Native species?). In any case, it would seem a much more "doubtful distinction" that Hawaii has more rare and endangered native birds (29) than the other 49 states combined (23)--and almost SIX TIMES (23) the number of extinct native birds recorded in the other 49 states combined (4)!

Ironically, Hawaii's notorious record for native species extinction and endangerment is the result largely of well-meaning but dangerously naive attitudes like that portrayed by Dr. Rogers, when he implies that a continental mammal fauna like that of Canada would somehow be good for these islands. It is continental man--with his continental values and his continental introductions--who needlessly has done so much to destroy and degrade nature in Hawaii over the past two centuries. Virtually every foreign plant and animal successfully introduced into the wild in Hawaii achieves its success at the expense of native species. The result is biological pollution--and the extinction and endangerment of native species.

To know this and to continue such introduction is to show no respect for what is left of the real Hawaii, to place no value on the uniqueness and integrity of nature in Hawaii, and to be insensitive to the significant and intimate role this native biota played in the thousand years of Hawaiian culture before that, too, fell victim to alien continental influences.

Dr. Rogers is fortunate indeed that he has the means and opportunity to spend his summers among the many mammals of Canada. But doctor, as a nature buff you should take a closer look at what nature has to offer here in Hawaii. You are living in a veritable treasure-trove of biological wonders. Neither Canada nor any other place on earth can match Hawaii for endemism (unique nativeness) among the natural biota on its land. Well over 90 per cent of Hawaii's land birds, insects, land molluscs and flowering plants are unique in the world. But they evolved here in the virtual absence of mammals, and their ecological "balance" and survival depend on the continued absence of mammals--particularly large, herbivorous ungulates like the axis deer.

The moose and the timber wolf belong in Canada. The axis deer and the Bengal tiger belong in India. They all are beautiful functional animals in their place. But their place is not Hawaii.

Whether you are a kama'aina or a malihini, doctor, you are privileged indeed to live in Hawaii. Show your appreciation for that privilege. Do yourself and Hawaii a favor. Be a mammal-watcher in Canada--but be a bird-watcher in Hawaii!

11 March 1972, page A-11, Benefits Only Hunters by Althea Toma /Althea is a junior Audubon member. MAHAIO for your interest and action taken/

I would not like to see any axis deer introduced into the Big Island because they would do irreparable harm to that Island's unique ecosystem and specifically threaten the few surviving species of native birds and plants which are representative of Hawaii's natural ecosystem.

If these deer are introduced to the Big Island they would destroy the Island's forests by trampling and eating native plants--herbs, trees, and shrubs--and, therefore, create an imbalance of nature. Axis deer also eat sugar cane and young pineapple plants, so these industries would suffer unnecessary loss.



The axis deer also carries diseases like tuberculosis and parasitic worms which affect cattle and other diseases which are transmissible to man.

The only group that could benefit from the introduction of these deer would be the hunters. Let's face it--the deer would be introduced to the Big Island so that they could be shot and eaten, not to increase the Island's wild animal life. This deer has already caused enough destruction on the islands of Molokai and Lanai.

The axis deer is a non-native species that can thrive elsewhere, but Hawaii's unique animal and plant species cannot. I choose to preserve our native ecosystem.

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#### Christmas Bird Count, Kauai, 27 December 1971 by Winona Sears

Waimea -- 21°57' N, 159°40' W (all points within a 15 mile diameter circle, center a bit east of junction of Koke'e Road from Waimea and Kekaha, to include Hanapepe to Koke'e, edge of Alaka'i Swamp; valleys and ridges 60%, sugar cane fields 25%, pasture 5%, ocean front, streams, holding ponds and irrigation ditches 10%, towns 5%) /105%/

7 a.m. - 2:30 p.m., 3:30 - 4:30 p.m.

Rainy, very wet and cold at Koke'e. Temp. 58-78, wind NE

Three observers in one party: Takeshi Fujita, Mrs. Florence Morinaga, Shige

Nishikawa

Total hours: 8½ (7½ by car, 1 by foot) Total miles: 91 (88 by car, 3 by foot)

Lihue -- 21°58' N, 159°23' W (all points within a 15 mile diameter circle, center north of belt road between Puhi and Koloa exits, to include south of Wailua middle fork to Kalaheo and Hanapepe Valley; valleys and ridges 35%, cane fields 40%, pasture 5%, ocean front, streams, holding ponds and irrigation ditches 15%, towns 5%)

7 a.m. - 5:30 p.m.

Showers a.m., clearing by noon with gusty NE tradewinds. Temp. 74-78

Four observers in one party: Sophie Cluff, Joan Pratt, Dave and Winona Sears

Total hours: 10½ (8 by car, 2½ by foot) Total miles: 90 (85 by car, 5 by foot)

Kapaa -- 22°3' N, 159°18' W (all points within a 15 mile diameter circle, center foothill junction of Makaleha and Anahola Mts. to include north of Wailua middle fork to Hanalei Bay, as much of foothills as accessible; valleys and ridges 40%, sugar cane and pineapple fields 25%, pasture 15%, ocean front, rivers, streams and holding ponds 15%, towns 5%)

7:30 a.m. - 4 p.m.

Intermittent rain all day. Temp. 74-78, wind NE trades

Three observers in one party: Delano Kawahara, William Villanueva, Winston Yama

Total hours: 8½ (4½ by car, 4 by foot) Total miles: 135 (120 by car, 15 by foot)

|                           | Waimea | Lihue | Kapaa | Total |
|---------------------------|--------|-------|-------|-------|
| Brown Booby               | .      | .     | 7     | 7     |
| Red-footed Booby          | .      | .     | 125   | 125   |
| Great Frigatebird         | .      | 1     | 6     | 7     |
| Black-crowned Night Heron | .      | 3     | 3     | 6     |
| White-tailed Tropicbird   | 3      | 2     | .     | 5     |
| Hawaiian Duck             | .      | 37    | 6     | 43    |
| Red Jungle Fowl           | 10     | 25    | 13    | 48    |
| Ring-necked Pheasant      | 2      | 6     | 4     | 12    |
| Common Gallinule          | 1      | 18    | .     | 19    |
| American Coot             | 1      | 16    | 42    | 59    |
| American Golden Plover    | 13     | 85    | 132   | 230   |
| Ruddy Turnstone           | .      | 21    | .     | 21    |
| Wandering Tattler         | .      | 3     | .     | 3     |
| Black-necked Stilt        | 4      | 31    | 2     | 37    |
| Pintail                   | .      | 70    | 3     | 73    |
| Spotted Dove              | 13     | 39    | 27    | 79    |
| Barred Dove               | 105    | 219   | 206   | 530   |



|                          | Waimea | Lihue | Kapaa | Total |
|--------------------------|--------|-------|-------|-------|
| Short-eared Owl          | 1      | 2     | .     | 3     |
| Mockingbird              | .      | 1     | 2     | 3     |
| Chinese Thrush           | 4      | 10    | 7     | 21    |
| Shama Thrush             | .      | 9     | 3     | 12    |
| House Sparrow            | 99     | 36    | 109   | 244   |
| North American Cardinal  | 22     | 22    | 31    | 75    |
| House Finch              | 1      | 43    | 66    | 110   |
| Mynah                    | 71     | 203   | 239   | 513   |
| White-eye                | 7      | 51    | 11    | 69    |
| Ricebird                 | 5      | 190   | 1315  | 1510  |
| 'Apapane                 | 2      | .     | .     | 2     |
| Western Meadowlark       | .      | 5     | 8     | 13    |
| No. of Individual Birds: | 364    | 1148  | 2367  | 3879  |
| No. of Species:          | 18     | 26    | 23    | 29    |

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Field Trip, 13 February 1972, Woodlawn Trail by Charles G. Kaigler

The two primary problems one can encounter in observation of our forest birds are wind and rain. We had a beautiful clear day for our Woodlawn Trail trip, but the wind was gusting to 30 miles an hour and the birds were understandably not quite cooperative, at least insofar as sightings were concerned. We heard them all at times; the 'elepaio, the 'amakihi, the shama, white-eyes, the cardinal, the doves and once, the 'apapane, but sightings were infrequent and then momentary at best. One shama did stay around for some of the party to see him fairly well, but in general, one has to conclude that as far as birdwatching is concerned we had a pleasant walk in the woods. Which is still a plus these days.

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Field Notes from David L. Olsen, 1 February 1972

Noah Pekelo, the State fish and game warden, Paul Meling, Bureau of Sport Fisheries and Wildlife, Portland, Oregon, and David L. Olsen, Bureau of Sport Fisheries and Wildlife, Kailua, Hawaii, inspected several of the water areas on Molokai on January 28, 1972. The following birds were observed on Kakahāia Pond: 1 Mallard (drake), 32 Coot, 18 American Widgeon, 4 Pintails, 2 European Widgeon.

This was my first observation of the European Widgeon in Hawaii. Both birds were males and there was no doubt about their identity.

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#### Readers' Notes:

AVICULTURAL MAGAZINE, Vol. 77, No. 4, p. 113, 1971: Hand-raising Hawaii's Endemic Honeycreepers by Dr. C. Robert Eddinger

The article is illustrated with color photographs of 'anianiau, Kauai and Hawaii 'amakihi, 'apapane, and Kauai creeper.

Dr. Eddinger collected nestlings and hand-raised successfully 'anianiau (Loxops parva), 'apapane (Himatione sanguinea), Kauai creeper (Loxops maculata bairdi), Kauai 'amakihi (Loxops virens stejnegeri), and also Hawaii 'amakihi (Loxops virens virens) collected by Dr. Andrew J. Berger.

He fed the nestlings Gerber's high protein cereal for babies, Deca Vi Sol babies' vitamin drops, egg yolks, and papayas. As the birds became independent, to the diet he added wheat germ, honey-water mixture, oranges, grapefruit, apples, fly larvae, fly pupae, and autolyzed brewer's yeast fraction.

He said, "The birds adjusted well to aviary conditions and enabled me to observe at close hand, some behavioral characteristics that were more difficult to observe in the field, such as sunbathing, water bathing, and maintenance activities. The Hawaii 'amakihi have been in our aviaries for  $3\frac{1}{2}$  years now. Our indoor aviaries were inadequate to induce breeding activity."



Frigatebird (*Fregata minor*) in the Main Hawaiian Islands by Robert J. Shallenberger and J. Peterson Myers, Oceanic Institute, Waimanalo, Oahu

On 17 July 1970 one nest containing a frigatebird chick about 1-1½ months old was found near the shoreline along the south side of Moku Manu. The nest was located within 15 feet of Red-footed Booby nests containing chicks of approximately the same age. The size, condition, and location of the Frigatebird's nest indicated that it had possibly been used by boobies in former years. It is also interesting to note that this nest was on the extreme periphery of the local booby colony. Adult Frigatebirds (estimated total population, 400-500) roosted in dense groups 75-100 yards away in an area almost devoid of booby nests. They were also found in smaller groups (10-30) elsewhere on the island. The closest known nesting area, prior to this account, is Nihoa Island, which lies slightly less than 300 miles NW of Honolulu.

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#### ALOHA to new members:

Life from Regular: Ronald L. Walker, 46-305 Hoana St, Kaneohe, Oahu 96744

Regular: Timothy K. Earle, 150 Kuailima Drive, Kailua, Oahu 96734

Mrs. M.W. Evans, 25 Mullen Way, Falmouth, Mass. 02540

Mrs. Louis F. Nobrega, 3015 Sheffield Ave, Oakland, Calif. 94602

Dr. Alfred S. Tong, Room 30, 190 Keawe St, Hilo, Hawaii 96720

Mrs. R.M. Vanderburgh, Pohai Nani, Apt 607, Kaneohe, Oahu 96744

Dr. Richard E. Warner, Dept of Biology, Univ of Newfoundland, Canada

Fred White, 1650 Kanunu St, Apt 1406, Honolulu, Hawaii 96814

Mrs. Mary E. Woolley, 1101 Burnet Ave, Syracuse, New York 13203

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The Wallace Alexander Gerbode Foundation of San Francisco, California, has generously donated \$500 in support of our conservation efforts for the better protection of wildlife in Hawaii. This gift may initiate research projects on our rare endemic species and precious ecosystem and is most gratefully received.

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#### In Memoriam

We extend our deepest sympathy to the family of Chester M. Fennell, an ardent birder, who died of a heart attack on 21 January 1972 at Camp Zama in Japan. "...Mr. Fennell banded a total of 1511 birds, red-footed and brown boobies, noddy and sooty terns, and wedge-tailed shearwaters, working at Ulupau Head and Manana." (THE ELEPAIO, Vol. 8, No. 6, December 1947, page 29) He also contributed many articles from Korea and Japan. We'll miss him.

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HAWAII'S BIRDS, a field guide, is available for \$2.00. Send in your orders to Book Order Committee, Hawaii Audubon Society, P.O. Box 5032, Honolulu, Hawaii 96814.

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#### APRIL ACTIVITIES:

9 April - Field trip to study shorebirds. Bring lunch, water, and if possible your car. Transportation cost (\$1.00) to be paid to the drivers. Meet at the State Library on Punchbowl Street at 8:00 a.m.

Leader: William P. Mull, telephone: 988-6798

10 April - Board meeting at McCully-Moiliili Library, 6:45 p.m. Members welcome.

17 April - General meeting at the Waikiki Aquarium Auditorium at 7:30 p.m.

Speaker: Carey O'Nan Topic: Safari Story (color slides)

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#### HAWAII AUDUBON SOCIETY EXECUTIVE BOARD:

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