'ELEPAIO

Journal of the
Hawaii Audubon Society

For the Protection of
Hawaii's Native Wildlife

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MAY 1983

Bulbul Introductions on Oahu

Richard N. Williams

In 1975, Berger summarized the biology of the Red-whiskered Bulbul (*Pycnonotus jocosus*) and the Red-vented Bulbul (*P. cafer*) on Oahu. Berger ended the review with speculations on the introductions of both species. In this article, I present new information and additional speculations bearing on these introductions.

The Red-whiskered Bulbul was first observed in lower Makiki Heights during the fall of 1965 (Kjargaard 1968) and spread in subsequent years to Nuuanu and Manoa valleys (van Riper *et al.* 1979). In February 1982, Dr. Thane K. Pratt related to me that he had visited aviaries owned by Lowell Dillingham in the mid-1960's. The aviaries were located on the slopes of Tantalus above Makiki Heights. While there, Mr. Dillingham mentioned that the Red-whiskered Bulbuls observed in Makiki were probably birds which had escaped from his aviary when a koa branch broke and crashed through the roof of the bulbuls' cage. I contacted Mr. Dillingham who confirmed this account of the Red-whiskered Bulbul's accidental release, but was unable to give an exact date for the event. Additionally, Red-whiskered Bulbuls were maintained in an aviary on the Ewa slopes of Diamond Head by Mr. John Petrous, a personal friend of Mr. Dillingham. Red-whiskered Bulbuls also escaped from this aviary in the mid-1960's (Eilerts per. comm.). Again, no exact date was given.

Initial observations of the Red-vented Bulbul on Oahu are geographically scattered (Figure 1). Red-vented Bulbuls were first observed in October 1966, near Waipahu (Donaghho 1966) and Fort Shafter (Walker 1967). They were observed five and eight months later at Keolu Hills and Bellows Air Force Station, respectively (Walker 1967). The widely separated observations during this eight month period led Berger (1975) to speculate that the Red-vented Bulbul was introduced in more than one area of Oahu. Ali and Ripley (1971) and Watling (1977) describe the Red-vented Bulbul as a local resident species. That is, although bulbuls are strong fliers, they seldom fly long distances and are sedentary, remaining in a single locality year round (Ali and Ripley 1971). These behavioral observations lend credence to Berger's speculation of multiple introductions.

In an effort to document information concerning the introduction of the Red-vented Bulbul on Oahu, I contacted many current and retired officials of both state and federal agencies. These persons included officials from the Forestry and Wildlife Division of the Hawaii Department of Land and Natural Resources, the Plant Quarantine Inspection Office of the Hawaii Department of Agriculture and the Veterinary Services Import Export Office of the U. S. Department of Agriculture. In addition, I contacted local commercial cage bird importers for any information concerning bulbuls arriving in Hawaii as part of the cage bird industry. Almost all individuals from the various government offices told me that the Red-vented Bulbul became established on Oahu after escaping from cages at the Honolulu International Airport while being transferred between airplanes. I was unable to locate any written records documenting that bulbuls were handled at the Honolulu airport, or that bulbuls had passed through the airport enroute to mainland destinations. None of the above individuals could verify the "airport escape" hypothesis, although it is evidently the accepted explanation for the introduction. One individual, however, concluded his comments on the introduction by noting that bulbuls were then (and still are) on the state of Hawaii's list of prohibited birds and it was therefore, illegal to import them. Thus, bulbuls had to arrive in Hawaii through illegal channels.

With these points in mind, I would like to suggest that the Red-vented Bulbul on Oahu is derived from a Fijian population of the Red-vented Bulbul, and was brought to Oahu illegally and intentionally (although the persons involved may have been ignorant of the illegality of their actions). The birds may have been brought as cage birds and escaped inadvertantly, as

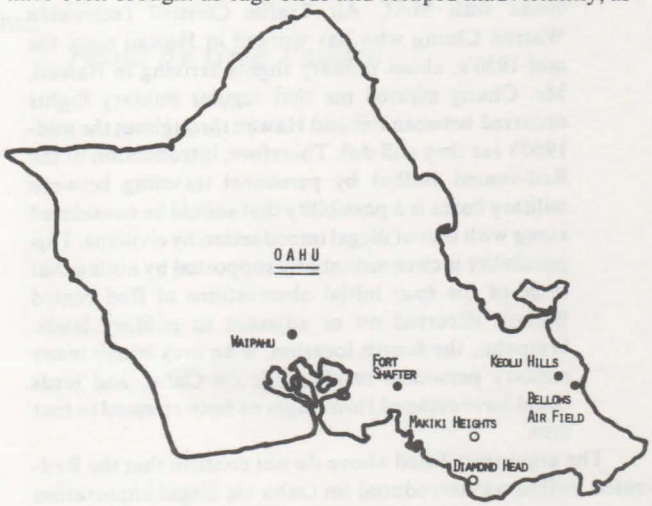
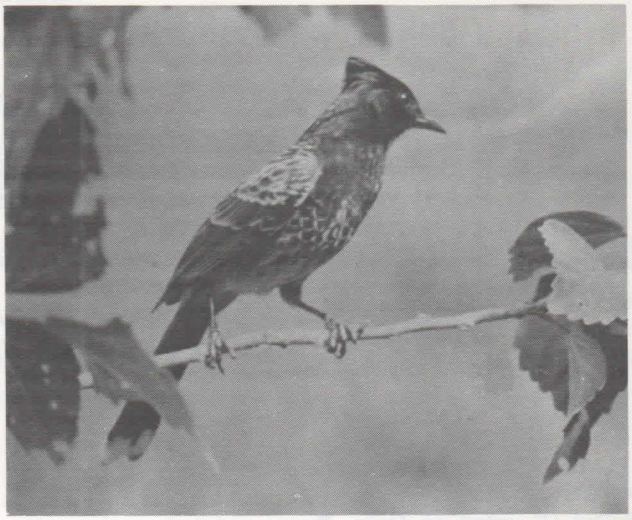


Figure 1. Initial observation sites of bulbuls on Oahu. Closed circles denote Red-vented Bulbul observation sites and open circles denote Red-whiskered Bulbul observation sites.

did the Red-whiskered Bulbul, or may have been released intentionally at two or more locations on Oahu. Circumstantial evidence suggest that the bulbuls may have arrived in this manner, rather than by accidental escape at the airport. The circumstances include:

1) Ali and Ripley (1971) recognize seven subspecies of the Red-vented Bulbul throughout the bird's native range in India and Ceylon. Phillip L. Bruner of the Brigham Young University Hawaii Campus Biology Department assisted me in determining that the Red-vented Bulbul on Oahu is the Bengal subspecies (*P. cafer bengalensis*). This same subspecies has been introduced to other Pacific islands including Fiji, Tonga, Samoa and Tahiti (Watling 1977, Bruner 1979).
2) The Red-vented Bulbul was introduced to Fiji around 1905 (Parham 1955) and subsequently spread to Tonga and Samoa (Watling 1977). It is well-established and abundant in Fiji, where it is often kept as a cage bird by immigrated Indian families (Watling 1978). Thus, bulbuls could have been obtained easily by interested persons.
3) The Red-whiskered Bulbul was first observed in Makiki Heights and then in Kapiolani Park near densly populated areas where known individuals maintained aviaries filled with exotic birds, including prohibited species. Initial observations of the Red-vented Bulbul, however, occurred in substantially less populated areas. The two windward sightings occurred at Bellows Air Force Station and at Keolu Hills, an area between Bellows and Kailua (see Figure 1). The two leeward sightings occurred at Fort Shafter and at the manager's home of the Oahu Plantation near Waipahu. It seems unlikely that Red-vented Bulbuls were kept as cage birds at these four disparate locations and even more unlikely that they inadvertantly escaped from aviaries in each location over an eight month period in late 1966.
4) U.S. military bases exist throughout the South Pacific and air travel occurs between these bases and Hawaii. I spoke with MAC Air Traffic Control Technician Warren Chung who has worked in Hawaii since the mid-1950's, about military flights arriving in Hawaii. Mr. Chung assured me that regular military flights occurred between Fiji and Hawaii throughout the mid-1960's (as they still do). Therefore, introduction of the Red-vented Bulbul by personnel traveling between military bases is a possibility that should be considered along with that of illegal introduction by civilians. This possibility is circumstantially supported by noting that three of the four initial observations of Red-vented Bulbuls occurred on or adjacent to military lands. Waipahu, the fourth location, is an area where many military personnel reside while on Oahu, and birds could have escaped from cages or been released in that area.

The arguments listed above do not confirm that the Red-vented Bulbul was introduced on Oahu via illegal importation as pets or for intentional release, but are more supportive of this hypothesis than of accidental release of bulbuls at the airport. As Berger (1975) noted, unless additional information becomes available, however, we can only speculate on the actual circumstances of their introduction.



Red-Vented Bulbul, Kailua, Kona.
Photo by Greg Vaughn

ACKNOWLEDGEMENTS

I thank Phillip L. Bruner, Robert Pyle and Peter Paton for stimulating and critical comments on drafts of this manuscript. I am especially grateful to Sheila Conant for her advice and assistance on this manuscript and with my research on bulbuls in Hawaii.

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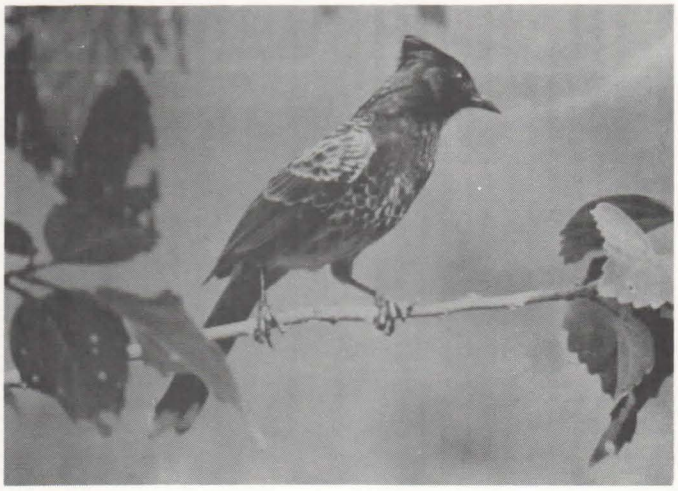
ERRATA

A mistake appears on page 90 of this issue (Vol. 43 (11). The correct area is Oahu and not Kona.



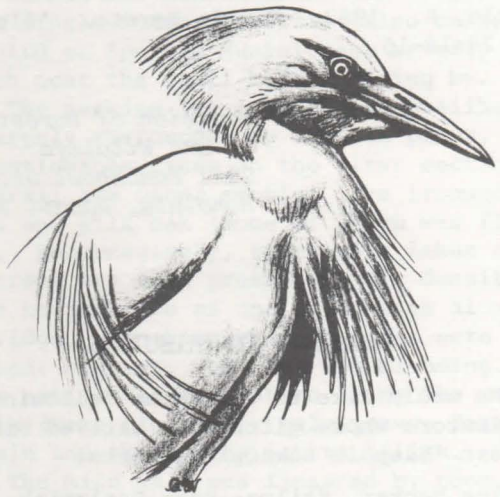
Red-Vented Bulbul, Kailua, Oahu.

Photo by Greg Vaughn

CATTLE EGRET ROOKERY ON MOLOKAI

by Ronald L. Walker

Cattle Egrets (*Bubulcus ibis*) were first introduced from Florida to Hawaii in 1959 by the State Department of Agriculture, the expressed purpose being to control insects associated with livestock (Breese, 1959). Twelve egrets were released on Molokai sometime during the period 17 July to 24 August, 1959 (Berger, 1972). The first rookery in Hawaii was reported at Kahuku on Oahu in 1960 (Rockafellow et al., 1960). Alan Thistle reported on a rookery located in West Loch, Pearl Harbor (Wekele Stream estuary) in September 1963 (Thistle, 1963). Numerous authors in the *'Elepaio* have reported on the nesting activities of Cattle Egrets at a site on the Kaneohe Marine Corps Air Station on Oahu (*'Elepaio*, 39:10, 1979; 41:7-8, 1980 etc.).



Cattle Egret.

Drawing by the Author

More recently, active rookeries have been documented at Kilauea on Kauai (Byrd, Zeillemaker, and Telfer, 1980) and the Island of Hawaii at Loko Aka (Anon., 1982). To my knowledge, no record of Cattle Egrets breeding on the Island of Molokai exists.

There have been several sightings of Cattle Egrets on Molokai since their release there. Twenty years after their release, the State Department of Agriculture surveyed 140 acres (56.7 ha.) of alfalfa fields at Hoolehua and saw approximately 100 egrets feeding on "mice, stink bugs, and other insects" (Nakahara, 1979). The State Division of Forestry and Wildlife has been recording egrets on Molokai during their semi-annual waterbird census since 1974. Although not a comprehensive census, the summary of counts in key waterbird areas as displayed in Table 1 gives an indication of the increasing numbers in recent years.

Table 1.

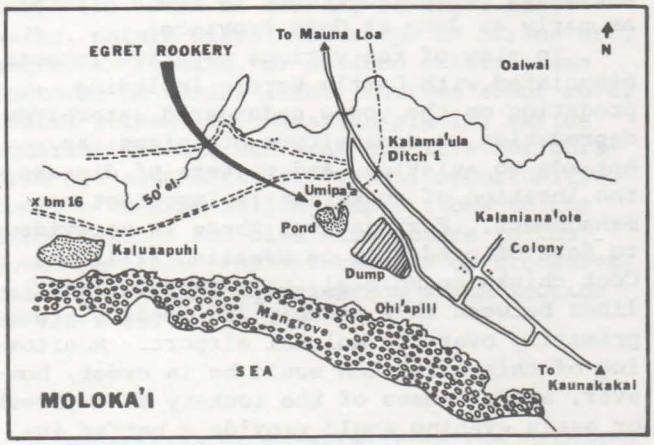
CATTLE EGRETS SEEN ON SEMI-ANNUAL WATERBIRD CENSUSES ON MOLOKAI

1974-1983[1]

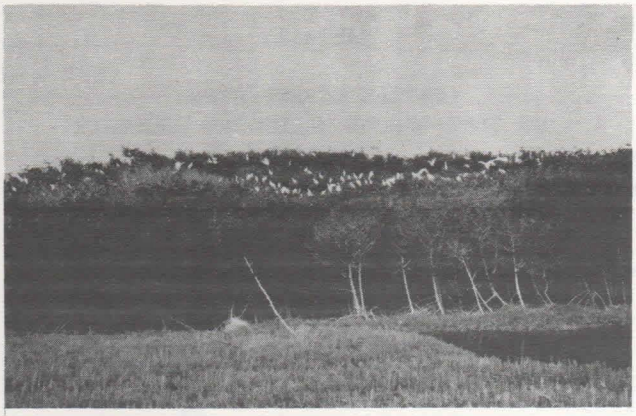
Year	Winter	Summer
1974	0	3
1977	9	0
1978	1	3
1979	0	30
1980	10	38
1981	18	0
1982	73	82
1983	23	-

[1]Pittman-Robertson Federal Aid to Wildlife Restoration Project W-15-R-5, W-18-R-1 through W-18-R-7, State Department of Land and Natural Resources.

During a routine survey trip to Molokai on January 20, 1983, I discovered a Cattle Egret rookery at Umipa'a, south of Maunaloa Highway (46) in central Molokai (see map). It is located on level ground adjacent to a fairly large brackish pond formed by overflow from the Kalamaula 1. ditch and isolated from civilization by the pond and surrounding mangrove and kiawe forest. The nests of coarse sticks were located approximately 12 feet (4 m.) above the ground in the canopy of a mangrove clump facing the pond. The trunks



Map by author showing location of the rookery on Molokai.



The Cattle Egret rookery on Molokai.
Photo by the Author

of the trees were about 2-4 inches (5-8 cm.) in diameter and spaced approximately 2-3 feet (.6-.9 m.) apart.

On arrival at 12:00 noon, I counted roughly 200 adult egrets on nests, perching, or in flight over the colony. I estimated 90 nest structures, 30 of which were active. Broken (hatched) eggs littered the ground under the nests and from the condition of the vegetation under the canopy (sparse and dead) it was obvious the roost had been there for some time. No hatchlings, nestlings, or fledglings were noted, although it was difficult to actually see into the nest structures. It can be assumed that the egrets were in the egg-laying and hatching stage of the life cycle.

Byrd et al. (op. cit.) noted eggs and chicks from February through April at Kilauea on Kauai. Thistle (op. cit.) recorded eggs hatching in March and April at the rookery at Pearl Harbor on Oahu. Mackworth-Praed et al. (1963) indicate a varied breeding season in Africa (February-May in Northern Rhodesia; October-December in South Africa; as early as June at Cape Province).

In view of the various negative impacts associated with Cattle Egrets including predation on the young endangered waterbirds, depredation on aquaculture organisms, as hazards to aviation, and vectors of disease, the location of rookeries is important to management. Fortunately, there is no evidence to date of predation on Hawaiian Stilt and Coot chicks on Molokai, nor are the flight lines between this rookery and feeding areas primarily over the Molokai airport. Monitoring of this situation would be in order, however, and a census of the rookery at daybreak or early evening would provide a better indication of the number of Cattle Egrets on Molokai.

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In addition, Blanch Pedley of Carmel, CA has made a donation to Hawaii Audubon Society in memory of Margaret Titcomb.

Norris Henthorne

WAAHILA RIDGE FIELD TRIP REPORT

The 13 March 1983 field trip to Waahila Ridge began with a cool nip in the air which was rapidly warmed by the sun. About twelve Hawaii Audubon Society members, guests and Mainland visitors showed up for the bird walk; however, the trail was a bit steep for some peoples' footwear and fewer people completed the hike.

The trailside vegetation was alive with familiar bird calls, although few species were seen well. Most of the birds encountered were common non-native species such as White-rumped Shamas, House Finches, Japanese White-eyes, Japanese Bush-Warblers, Spotted Doves, Zebra Doves (also called Barred Doves), Northern Cardinals, and Red-vented Bulbuls. The one native forest species we encountered was the Oahu 'Amakihi, which was neither common nor scarce along the trail. I saw a single Nutmeg Mannikin (also called Ricebird or Spotted Munia) rest briefly on a branch near the trail before flying by.

The parking lot area at the trailhead is largely surrounded by Norfolk pines, but the noticeable trees on the first section of the trail are other exotics like ironwood, guava and silk oak (some of which was flowering). Encouragingly, a few ohia lehua and koa trees are also present; their density seems to increase as one progresses along the ridge. No ohia lehua blossoms were noticed; however, some koa was blooming. Other noticeable vegetation along the way was 'ie'ie (some blooming), palm grass, Jamaica vervain and the pretty native 'ilima.

The bird walk was finished by noon. All the participants seemed to have enjoyed themselves in the sunny weather.

Marie Morin

CHANGE OF ADDRESS

Are you planning to move? If so, please let us know ahead of time, or as soon as you know your new address. Changes of address should be sent to: Susan Schenck, Hawaii Audubon Society, P.O. Box 22832, Honolulu, Hawaii 96822.

REPRINTS OF ARTICLES

Reprints of articles in the *'Elepaio* are available to authors and others at the following rate if ordered before publication date: for 100 copies, $10 per page of the article. For each additional 100 copies, add $3 per page.

ENVIRONMENTAL EDUCATION GRANTS ANNOUNCED BY THE NATIONAL AUDUBON SOC. EXPEDITION INSTITUTE

A scholarship and grant program for high school, college, and graduate students has been announced by the National Audubon Society Expedition Institute. The 1983 awards are designed to defray a student's expenses while attending school or completing a project, internship, or summer program of the student's choice.

Application forms and instructions for grants up to $500 are available until July 15, 1983. Send a self-addressed, stamped #10 envelope to: Scholarship Committee, National Audubon Society Expedition Institute, RFD #1 Box 149B, Lubec, Maine 04652. Applications must be received by August 1, 1983.

Past Audubon Expedition Institute scholarships have made possible for many deserving students the fulfillment of immediate education and career goals, including attending seminars, conferences, workshops, travel programs, interning in conservation organizations, or participating in the Expedition Institute.

The Expedition Institute, a B.S./M.S. travel/study environmental education program, uses social and natural environments as a classroom. The Institute is one of many educational programs sponsored by the National Audubon Society.

WAIKIKI AQUARIUM SUMMER ACTIVITIES PROGRAM

The Waikiki Aquarium announces its Summer 1983 Activities Program. Brochures are available which describe the wide variety of activities designed for families, adults, and children. Join us for day or night reef walks, nature hikes, workshops on marine art, shoreline fishing, or seafood cuisine, and lectures on marine life. Courses about coral reefs, streamlife, Hawaiian plants, marine aquarium set-up, and seashore life for children are also offered. Travel opportunities include weekend sailing expeditions to the outer islands and dive/study tours to the South Pacific. For information or brochures, call the Waikiki Aquarium Education Section at 923-4725.

MANANA ISLAND FIELD TRIP

The first of four Manana (or Rabbit) Island field trips is scheduled for Saturday, 14 May. On this trip, we should see nesting Sooty Terns, nesting Brown Noddies, and perhaps some Wedge-tailed Shearwaters spring-cleaning their burrows before they lay their eggs in June. Later trips will feature nesting Bulwer's Petrels as well.

Each trip is limited to 30 people, so call the trip leader early for reservations:

DATE	ALTERNATE	LEADER	PHONE
14 May	21 May	Audrey Newman	732-7572
19 June	26 June	Maura Naughton	254-1896
23 July	30 July	Stewart Fefer	235-8290

There will also be a trip in August, which will be announced in a later issue.

As of last week, all trips still had openings.

We will meet at the Makai Pier, just north of Sea Life Park at 7:30 a.m. and return around 1 to 2 p.m. Be prepared to get wet!!! (Last year we waded through waist-deep water.) Seal your camera gear, binoculars, and other valuables in double plastic bags or other waterproof containers. Also, please wear tennis shoes or tabis; a jump from the boat without them can provide a painful introduction to sea urchins. Finally, the boat ride will cost $5 per person; please bring the exact amount in cash to pay the boat-pilot.

NATURAL HISTORY SCHOLARSHIP

The Hawaii Audubon Society is accepting applications for the Rose Schuster Taylor Scholarship, a one-year undergraduate tuition scholarship endowed by Dr. Yao Shen, Emeritus Professor of English at the University of Hawaii. This scholarship, which may be awarded to students at the Manoa and Hilo campuses of the University of Hawaii, is provided to lend financial assistance to outstanding undergraduates majoring in natural science, especially those interested in Hawaiian natural history.

For information and application forms, write to: Dr. Sheila Conant, Scholarship Committee, Department of General Science, 2450 Campus Road, Honolulu, HI 96822. The deadline for applications will be June 1, 1983.

MAY FIELD TRIP

On Sunday, 8 May, Rick Coleman will lead a field trip to Kaneohe Marine Corps Air Station on Oahu. This trip, in addition to a visit to the Red-footed Booby colony on the Station, will feature Hawaiian Stilt, Black Noddies, Black-crowned Night-Herons, and possibly a Caspian Tern. Bring binoculars, spotting scopes, and a hat; the spotting scopes will be used to search offshore Moku Manu Island for seabirds.

Interested persons should meet in Honolulu at the State Library on Punchbowl Street at 8:00 a.m. or at the main gate of the Marine Corps Air Station (H-3 gate), Kaneohe, at 8:45 a.m. Call the leader, Rick Coleman, at 262-8424 for more information.

MAUI BIRD WALK HOSMER GROVE

Sunday, 15 May, there will be a bird walk in Hosmer Grove, Haleakala National Park, Maui. Meet at the Hosmer Grove parking lot at 9:00 A.M. This walk is geared at developing bird identification skills, especially for the native forest birds such as 'Iiwi and Maui Creeper. Bring binoculars, field shoes, rain gear, and water. Lunch is optional, for those who wish to eat in the Grove afterwards. For further information, call Carmelle Crivellone at 572-1983 or Mary Evanson at 572-9724 between 6:00 and 8:30 P.M.

VOLUNTEERS NEEDED

---Volunteers are needed for Saturday and/or Sunday July 9 and 10 to help 2-3 other Hawaii Audubon members oversee the Audubon booth at the Waimea Arboretum Foundation Plant Sale and Exhibition. Volunteers will dispense information and sell publications. "Time-sharing" with others will provide the opportunity to visit the other activities at the plant sale. Call Leilani or Bob Pyle (262-4046).

---Another volunteer is needed to help with the monthly mailing of the *'Elepaio*. Call George Campbell for more details (941-1356).

---A volunteer is needed to fill and mail occasional orders for back issues of *'Elepaio*. Most back issues are kept at the Bishop Museum, but the extras of recent issues could be kept at home. Call Dick Smith (262-4784) or Bob Pyle (262-4046).

---Volunteers are always needed to assist with proofreading, typing, or writing for the *'Elepaio*. A volunteer is especially needed to compile a five-year index from the yearly indices. Call Marie (533-7530).

MAY PROGRAM:

ENDANGERED FOREST BIRD PROJECT

The guest speaker for the Monday 16 May Hawaii Audubon Society general meeting will be Alan Holt from the Nature Conservancy of Hawaii. His program will feature the Conservancy's Endangered Forest Bird Project.

Please note that this month the meeting will be held at a different location than usual: the Manoa Library on 2716 Woodlawn Dr. The meeting time will be the usual 7:30 p.m. Be sure to attend this interesting program on a current topic!

HELP WITH 'ELEPAIO

The June issue of *'Elepaio* newsletter will be pasted up on 11 May (Wed.) beginning at 6 p.m. Call Peter Galloway at 847-3511, ex. 156, for more information on location. No experience necessary; everyone welcome!

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Life	150.00

(payable in three equal annual installments)

New members who send in dues between January and September will receive, *if they request them*, all back issues of the *'Elepaio* for that year. After September, the dues are counted for the following year.

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'ELEPAIO

Editors.....Marie Morin, Peter Galloway
(Send articles to Marie Morin, 1415 Victoria St. #1515, Honolulu, Hawaii 96822)

FREE TRIP

National Audubon Society is looking for Audubon members qualified to lead natural history tours this summer to Alaska, the Amazon, Belize, Costa Rica, Galápagos Islands, Great Britain, Greenland, Hawaii, Israel, Kenya, New Guinea, and Trinidad and Tobago. The volunteer naturalists will not receive any pay, but all their expenses will be paid from the trip's starting point. (They must pay their own way to the city from which the trip leaves. For example, the Costa Rica trip departs from Miami.) Those interested should call Gene Wilhelm, the Society's vice president for education, at Audubon headquarters in New York, (212) 546-9123.

CALENDAR OF EVENTS

May 8 (Sun.) Field trip to Kaneohe Marine Corps Air Station. See page 94. Rick Coleman (262-8424) leader.

May 9 (Mon.) Board meeting at 7 p.m. Call Bob Pyle (262-4046) for information.

May 14 (Sat.) Manana Island field trip. See page 94. Leader A. Newman (732-7572)

May 15 (Sun.) Bird walk at Hosmer Grove, Maui. See page 94 for details.

May 16 (Mon.) General meeting with speaker Alan Holt, Nature Conservancy. 7:30 p.m. Manoa Library, 2716 Woodlawn Dr

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