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For the Protection of
Hawaii's Native Wildlife

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FIRST PONAPE RECORD OF A DOLLARBIRD, WITH A SUMMARY OF THE SPECIES' OCCURRENCE IN MICRONESIA

John Engbring

Rogelio R. Vega, State Agriculturist for the Ponape State Government, saw a Dollarbird (*Eurystomus orientalis*) near Kolonia, the capital of Ponape, Eastern Caroline Islands, in May 1982 and described it to me a month later. The bird was captured in early June, when Vega took color photographs of the bird in hand that confirmed identification of this unmistakable species. The Dollarbird has been recorded in Micronesia previously from Palau and Yap (Owen 1977); this record for Ponape extends the range eastward by nearly 2,000 km.

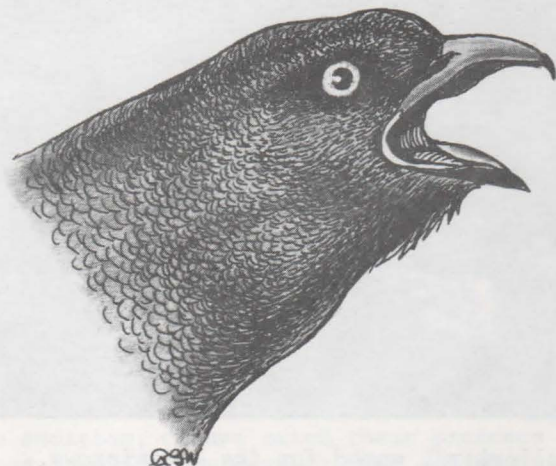
Although the quality and color of the photographs (reproduced in black and white on the following page) are poor, distinctive characters are shown. These include a large, broad, flat, slightly hooked beak; relatively large, broad head; stout neck and body; distinct whitish patch in the primaries; and overall dark, uniform color. Note size relative to a human hand. The bird appears an overall dark bluish black, and is apparently young for it has a dark bill rather than red bill as found in adults. The gape appears distinctly yellow.

Vega reported that the bird frequented trees along the edges of small fields of the Agriculture Station. There it perched on exposed branches and foraged by hawking insects. It also harassed Hunstein Mannikins (*Lonchura hunsteini*), a finch species commonly found in grassy fields on Ponape. Released after it was photographed, the bird remained in the vicinity of the Agriculture Station for a week but was not seen subsequently.

The Dollarbird, named for the conspicuous, silvery "dollar" patch on the wings, is the only roller (family Coraciidae) that occurs in Micronesia. There have been at least six previous records from Micronesia, including a specimen collected from Babel-

daob, Palau, in 1938 (Yamashina 1940) and a specimen collected from Yap on 18 June 1976 (Pratt *et al.* 1977). Additionally, there are four unpublished records. Robert Owen (pers. comm.) saw a bird in Koror, Palau, in the 1950's; Keith Axelson (pers. comm.) saw one on Angaur, Palau, on 20 September 1978; and I saw one on Angaur on 8 October 1977 and two on Pulo Anna, Palau, on 19 May 1979. These records suggest that the Dollarbird is a rare to uncommon visitor in southwest Micronesia.

The Dollarbird is found from Nepal and East India through China, Japan, the Philippines, Borneo, the Sundas, New Guinea, the Solomons, Australia, and New Zealand (Mayr 1945, King *et al.* 1975). Several subspecies are recognized, all apparently non-migratory except the Australian form, *E. o. pacificus* (Baker 1951, Diamond 1972, Macdonald 1973, King *et al.* 1975). This subspecies nests in



Pen-and-ink of a Dollarbird, based on the photo on page 36 of this issue.

Drawing by Ronald L. Walker



A Dollarbird, captured in Kolonia, Ponape, Eastern Caroline Islands, in May 1982.

Photo by Rogelio R. Vega

Australia from October to January and migrates northward to the New Guinea region during the Australian winter (Macdonald 1973); it is probably the form that most commonly visits Micronesia. The five dated Micronesian records are from May, June, September, and October, corresponding well with the migratory season of the Australian race. Mayr (1945) also indicated that the subspecies visiting Micronesia is *E. o. pacificus*. Other subspecies, however, apparently reach Micronesia as well. Yamashina (1940) assigned the bird collected in Palau in 1938 to an Indonesian race, *E. o. connectens*. The bird collected on Yap (Pratt *et al.* 1977) has not yet been identified to subspecies (P. Bruner, pers. comm.).



The Dollarbird, named for the conspicuous, silvery "dollar" patch on the wings.

Photo by Rogelio R. Vega

Literature Cited

- Baker, R. H. 1951. The avifauna of Micronesia, its origin, evolution, and distribution. Univ. of Kansas Publ. 3. 359 pp.
- Diamond, J. M. 1972. Avifauna of the Eastern Highlands of New Guinea. Nuttall Ornithological Club, No. 12. 438 pp.
- King, B. F., E. C. Dickinson, and M. W. Woodcock. 1975. A field guide to the birds of South-East Asia. Collins and Sons, London. 480 pp.
- Macdonald, J. D. 1973. Birds of Australia. A. H. and A. W. Reed, Sydney. 552 pp.
- Mayr, E. 1945. Birds of the Southwest Pacific. The Macmillan Co., New York. 316 pp.
- Owen, R. P. 1977. A checklist of the birds of Micronesia. *Micronesica* 13(1):65-81.
- Pratt, H. D., P. L. Bruner, and D. G. Berrett. 1977. Ornithological observations on Yap, Western Caroline Islands. *Micronesica* 13(1):49-56.
- Yamashina, Y. 1940. Some additions to the "List of the Birds of Micronesia". *Tori* 10:637-679.

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ERRATA IN VOL. 44, NO. 3

The first paragraph of the article "Observations of Migrant and Vagrant Birds on Nihoa Island" by Sheila Conant mentions that four new sight records are reported in the article, but only three of the species are listed. The fourth new sight record for Nihoa mentioned in the article is of the Northern Cardinal (*Cardinalis cardinalis*). In addition, the genus name of the Nihoa Finch was misspelled; it should be *Telespyza*.

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. These prices are subject to change.

FRIGATEBIRD NESTS

WITH TWO CHICKS

by Sheila Conant¹ and Mark S. Collins²

In May, June and July of 1980 we spent 37 days on Nihoa Island, Northwestern Hawaiian Islands, studying the island's two endemic land birds, surveying its plants and terrestrial arthropods, and censusing its seabirds. Conant returned in the winter of 1981 for 23 days and in the summer of 1981 for about three and one half months to continue these studies. This article documents Collins' discovery of a Great Frigatebird (*Fregata minor*) nest with two young in June 1980 and Conant's discovery of another such nest in June of 1981. Both nests were photographed to document these unusual records, and the color slides have been deposited with the Rare Bird Documentary Photograph File (RBDPF) of the Hawaii Audubon Society.

Recent studies of Great Frigatebird breeding biology in the Northwestern Hawaiian Islands by the U. S. Fish and Wildlife Service (unpublished data) reveal that these birds begin breeding activities in January, with the onset of courtship. Egg laying starts in February, and incubation may continue into late June. The first chicks hatch about mid-March, though most hatching is usually in May. The first chicks are capable of flight in September.

The first of these two nests (Nest '1) was discovered and photographed (Fig. 1) during the second or third week of June 1980. Unfortunately, our notes on seabirds are incomplete due to our preoccupation with other work. At the time of discovery both nestlings appeared healthy and one was slightly larger than the other. However, both chicks were well within the normal



FIGURE 1. Frigatebird chicks photographed on June 1980 (Nest 1).

Photo by Mark S. Collins



FIGURE 2. Frigatebird chicks photographed 15 June 1981 (Nest 2).

Photo by Sheila Conant

size range of chicks observed on the island. We classified these chicks as "Stage C" in a growth scale developed by U. S. Fish and Wildlife Service personnel (Audrey Newman, personal communication). At this stage the scapular feathers are longer than 3 cm, the secondary feathers have erupted, and the birds have no primaries. Conant passed by this nest twice during late June, noting that both nestlings were doing well, and appeared to be developing at a rate in concert with other chicks in the colony. Our last observation of this nest was made on 3 July 1980, three days before we left Nihoa. At that time we noted that the chicks appeared healthy and that there was still some size difference between them.

On 15 June 1981, Conant discovered a second frigatebird nest (Nest 2, Fig. 2) with two young. One of the nestlings was larger than the other, but both birds appeared in good health. These chicks could be classified as "Stage D", with rectrices (tail feathers) less than 3 cm in length and primaries erupted, and were well within the range of variation of chick size at other nests in the colony. These chicks were photographed on two occasions; the first being the day of discovery, the second (Fig. 3) on an unknown date during the second week of August. On the latter day, the birds had developed to a "Stage E" phase with rectrices longer than 3 cm, and the down just clearing from their wings and heads. The fact that both birds were strong and alert on these occasions confirms that they were both being regularly fed in the intervening seven to eight weeks. In addition, Conant noted their presence and good condition on several days during late June and July while working near the nest or within sight of it.

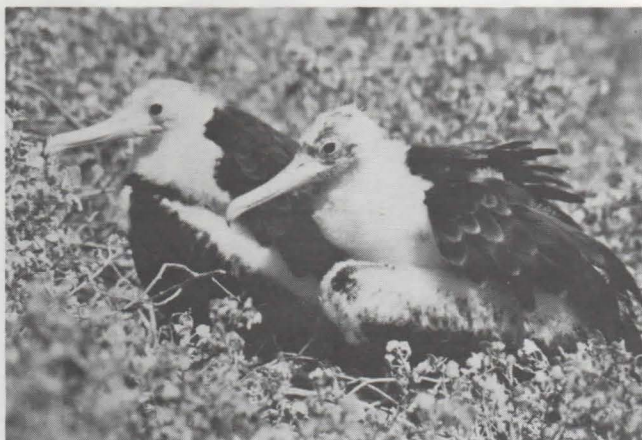


FIGURE 3. Frigatebird chicks photographed the second week of August 1981 (Nest 2).

Photo by Sheila Conant

The nest discovered by Collins was located about halfway up the east ridge of Middle Valley and the other nest was near the mouth of West Valley, about 400m (1300 ft.) away. Both nests were located in frigatebird colonies, but neither nest was less than three meters from the nearest nest, making it highly unlikely that the flightless and somewhat clumsy nestlings could have moved from one nest to the other. Although it is impossible to be sure, it seems reasonable to conclude that these two pairs of young hatched from two eggs laid in each nest, rather than that one or both chicks moved or were carried to the nest. The birds could have hatched from two eggs laid by the same female or from eggs laid by two females. Due to the fact that we were concentrating our observations on the land birds, plants and arthropods, we did not observe the nests long enough to discover if the chicks were attended by more than one female or more than one male.

The presence of two chicks in a nest is not uncommon among other pelicaniform birds, especially boobies (Berger 1981). Females will lay two eggs, sometimes even three in the case of Brown Boobies (*Sula leucogaster*). Although only one chick survives in such cases, Kepler (1969) found that the second chick to hatch was the one that fledged in 22 percent of the Masked Booby (*Sula dactylatra*) nests he studied on Kure Atoll. The two nests reported here are unusual in two respects. First, it is the first reported case we know of two chicks in a single Great Frigatebird nest. Second, judging from the condition of the nestlings in the 1981 nest, both of those chicks may have had a good chance of surviving.

Acknowledgments

We would like to thank the University of Hawaii Office of Research Administration and Sea Grant Program, the U. S. Fish and Wildlife Service, the U. S. Forest Service, and the National Marine Fisheries Service for their financial and logistic support. We thank Barbara Hoshida for typing the manuscript. R. Shallenberger and M. Naughton made helpful comments on the manuscript.

Literature Cited

- Berger, A. J. 1981. Hawaiian birdlife. Second Edition. University of Hawaii Press, Honolulu, Hawaii.
- Kepler, C. B. 1969. Breeding biology of the Blue-faced Booby, *Sula dactylatra personata*, on Green Island, Kure Atoll. Publ. Nuttall Ornithol. Club No. 8.

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RED-VENTED BULBUL ALERT

A Red-vented Bulbul was reportedly seen on 24 August 1983 at the western end of Molokai in the vicinity of the Sheraton Molokai. Red-vented Bulbuls are an introduced bird now common on Oahu, where they were brought illegally and somehow escaped into the wild during the 1960's. If this bird is capable of over-water flight, the west end of Molokai seems like a natural stepping stone from Oahu to the other islands. In addition to this reported sighting, at least one Red-vented Bulbul was sighted in Kona in late 1982. That sighting was probably of a bird which arrived on the Big Island with human help. Both of these sightings of a bird which is an introduced agricultural pest deserve special attention (for more information, see the articles in 'Elepaio Vol. 43, Nos. 11 and 12). Prompt action by concerned citizens in reporting Red-vented Bulbul sightings on the outer islands to Div. of Forestry and Wildlife biologists will help greatly to suppress the spread of this pestiferous bird from Oahu. On the Big Island, call Ron Bachman (961-7307) or Jon Giffin (885-4250); for Maui, Molokai, or Lanai call Meyer Ueoka (244-4352).

Sheila Conant

AUDUBON MAGAZINE EXPOSES THREATS TO NATIONAL WILDLIFE REFUGES; URGES ITS CHAPTERS TO "ADOPT-A-REFUGE"

This country's 410-unit National Wildlife Refuge System--by far the most diverse and extensive system of its kind in the world--is seriously threatened by commercial and recreational pressures spurred by "a development-oriented administration that seems determined to wring out every last dollar that it can."

The plight of the national wildlife refuges is the subject of a 32,000-word article by Jim Doherty, entitled "Refuges on the Rocks", in the July issue of AUDUBON. In the most thorough and up-to-date report yet published on the federal refuges, Doherty vividly describes the forces that manace the system: conflicting uses on the refuges, damaging development on adjacent lands, a shortage of funds and personnel, and government failure to acquire additional refuge land needed to complete and protect the system.

To help counteract these threats, the National Audubon Society is urging its 485 chapters throughout the country to "adopt" a refuge that may be near and dear to them. Audubon chapters that take a refuge under their wing will offer volunteer assistance to the refuge manager, support refuge staff in protecting and enhancing wildlife, resist private and governmental efforts to use the refuge for purposes inimical to wildlife, and generally work to build a citizen constituency to further the basic, protective purpose of the system.

Today the national wildlife refuges total 90 million acres in 49 states and five territories--exceeding in size the National Park System. As the only federal lands set aside specifically for wild creatures, the refuges provide necessary habitat for more than 600 species of birds, 220 kinds of mammals, many varieties of reptiles, amphibians and fish, and 63 endangered species.

Yet these same refuges have experienced "years of physical decay, degrading commercialization, and crippling political abuse," according to Doherty. And many of the worst threats to the refuges, he reveals, come from "within".

"Although the refuges are being worked hard by the public and commercial interests these days," Doherty writes, "they are under intense pressure to produce more, and President Reagan's Interior Secretary, James Watt, is only too happy to oblige. Watt and his lieutenants are making economic development a top priority--some observers say the top priority--of the refuge system."

"The development push could hardly come at a worse time," Doherty explains. "Last year, a nationwide 'threats and conflicts' survey of the refuges by the Interior Department's U.S. Fish and Wildlife Service (the administering agency) revealed a system in shambles." The survey concluded that "more than half of the refuges are plagued by erosion, water problems, industrial and commercial development, air pollution, and wildlife disturbances."

The Reagan Administration has suppressed that survey, and at the same time has increased pressure on refuge managers to undertake new or expanded economic uses of the refuges, including logging, farming, haying, trapping, drilling for oil and gas, grazing, concessions, commercial fishing, and small hydroelectric generation.

According to federal law, no refuge activity may be undertaken that conflicts with wildlife protection. But the law, as presently written, is dangerously flawed, for it allows one individual--the Secretary of the Interior--to make the crucial decision as to whether a particular activity on a refuge is compatible with its wildlife.

In his article in the July AUDUBON, Doherty examines many of the current abuses and threats to the system. From his conversations with refuge managers throughout the country, he also reports that staff morale is at an all-time low. "The refuge people in the field are afraid to say what they think," Doherty asserts. "They are, all of them, in a very tough spot nowadays."

"I urge you to study this special issue of AUDUBON," writes Russell W. Peterson, president of the National Audubon Society, in an accompanying editorial directed to the Society's half-million members. "Think about it, discuss it, and act on it. Familiarize yourself with the plans and problems of the national wildlife refuge nearest you."

The ultimate goal of the Society's "adopt-a-refuge" program, according to Peterson, is "to build a strong and vocal citizen constituency that will make our national wildlife refuges become once again what their name implies --havens for wild creatures and sanctuaries for the human spirit."

National Audubon helped to establish the National Wildlife Refuge System early in this century and, together with other conservation groups, has been working since that time to further the system's basic mission: the preservation and enhancement of native wildlife in its natural diversity.

*National Audubon Society
News Release*

(Editors' note: see the October field trip to Kahuku in this issue of 'Elepaio. Also, see

page 18 in the August 1983 'Elepaio, for a related article on the future Northwestern Hawaiian Islands Master Plan.)

WAIKAMOI WON

Congratulations everyone! With our help The Nature Conservancy of Hawaii (TNC) raised more than the \$325,000 needed to buy the perpetual management rights for 5,230 beautiful acres of wild Waikamoi on Maui. Large and small offers of help added up until HAS members generously donated over \$20,000. We were joined by many other local supporters of Hawaii's native ecosystems. At last count, the total contributions from Hawaii people came to almost \$300,000, and gifts are still coming into the TNC office.

Of course, it's not over yet! Now that Waikamoi is ours, the next task is to keep it native and wild. TNC calculates that a \$600,000 endowment is needed to generate income for the preserve's expected annual management costs. Earnings from the endowment would pay the preserve manager's salary and could help cover costs on the preserve for such things as exotic plant and animal control, fencing, and public education. The endowment fund held over \$170,000 at the beginning of September, including a \$100,000 challenge grant from the Kresge Foundation of Michigan. The rest of the endowment must be raised by 15 March 1984 to keep the Kresge grant. TNC is optimistic. "The Waikamoi Preserve gave people a tangible way to help us save some of our unique natural heritage. Their response has been a wonderful thing," smiled Kelvin Taketa, Hawaii director of TNC. "And every day we find new friends who want to join our efforts to save the land."

If you want to help, you can send your contributions to Waikamoi Endowment Fund, The Nature Conservancy of Hawaii, 1026 Nuuanu Ave, Suite 201, Honolulu, HI 96817. Any amount is welcome, and \$115 will endow the acre you so lovingly saved. And thank you all, once again. The Waikamoi is ours, forever.

Audrey Newman

ALOHA TO NEW MEMBERS

We welcome the following new members and encourage them to join in our activities.

New Joint Members (National and Hawaii): PFC Edward Andreoli, Schofield Brks; E.B. Cravens, Kealahakua; John and Donna Dehann, Honolulu; Paul R. Field, Honolulu; Nancy E. Harkinson, Waipahu; Keith Keffer, Capt. Cook; Eugene Knez, Kaneohe; Jerry A. Mebus, Honolulu;

Stephanie Pechous, Wahiawa; Teresa M. Telecky, Honolulu; Paul W. Van Marter, Kihei; William C. Williamson, Honolulu; Adriane Leu, Waipahu; Lynne Toyofuku, Aiea.

Kammy Wong

OCTOBER FIELD TRIP

TO SEE WATERBIRDS

On Sunday, 9 October, the Society will lead a field trip to the BYU-Hawaii museum in Laie and then on to the James Campbell National Wildlife Refuge at Kahuku, Oahu. The Refuge usually has restricted public access, so this is an excellent opportunity to view the endangered waterbirds and migrant waterfowl which frequent the area. A representative of the U.S. Fish and Wildlife Service will be along to discuss the "Adopt-A-Refuge" program with interested persons (see the article in this issue for more information on the "Adopt-A-Refuge" program).

Interested birders should meet at 8:30 a.m. on Punchbowl St. next to the Hawaii State Library; from there people can carpool and caravan to the Polynesian Cultural Center parking lot. Phil Bruner will meet the group there at 9:30 a.m. and lead a brief tour through the BYU museum before everyone continues on to Kahuku.

Bring along binoculars, spotting scopes, lunch, water, rain gear, a hat, and interested friends! Call Peter Donaldson at 456-5662 if you would like more information.

OCTOBER PROGRAM:

NATURAL HISTORY OF NIHOA ISLAND

The Monday, 17 October general meeting will feature Dr. Sheila Conant, an Associate Professor and the Chairman of the Dept. of General Science at the University of Hawaii. Sheila is a well known ornithologist who has been studying the birds on Nihoa for several years. Her slide show on "The Natural History of Nihoa Island", will feature the unique flora and fauna of this fascinating, remote Hawaiian island.

The meeting will be held at McCully-Moiliili Library in Honolulu, at 2211 S. King St. at 7:30 p.m.

The program planned for November will feature J. Michael Scott, who will talk about the results of his Hawaiian forest bird surveys. (Don't miss his lava tube story!) John Engbring will share his unique birding experiences in Micronesia with us in December. More about these featured speakers in future issues of 'Elepaio!

ALOHA UNITED WAY MAY BENEFIT

HAWAII AUDUBON SOCIETY

The National Audubon Society (N.A.S.) appears to be eligible for, and has applied to be, a recipient organization in the Combined Federal Campaign of Hawaii (the federal employees portion of the Aloha United Ways Campaign). It is not certain yet that N.A.S. will be accepted, but in the campaign this October, H.A.S. members in the federal campaign are urged to examine their United Way literature. If N.A.S. is listed as an eligible organization, members are urged to designate their contribution to N.A.S. A portion of that contribution would then be passed on to the Hawaii Audubon Society.

IF NOT A MEMBER, PLEASE JOIN US

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Special rates for full-time students and Senior Citizens (65 years of age or older) are available. Please write for application form.

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All Local Memberships and Subscriptions are for a calendar year January through December. New Local Members and late renewing members who send in dues through September may obtain all previous issues of 'Elepaio in that calendar year, upon request and reimbursement to the Society for mailing costs. Dues received after September are applied to membership extended through the following calendar year, but do not include previous issues of 'Elepaio in the current year.

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VOLUNTEERS NEEDED

Volunteers are always needed for various projects, such as distributing postcards, and making Audubon teeshirts. Call Bob Pyle at 262-4046.

HELP WITH 'ELEPAIO

The November issue of the 'Elepaio will be pasted-up 19 October (Wed.) beginning at 6:30 p.m. at 1415 Victoria St. #1515. If you want to help (and we need you!), call Peter at 847-3511 ex. 156 or Marie at 533-7530 for the entry phone number. No experience necessary!

CALENDAR OF EVENTS

- Oct. 9 (Sun.) Field trip to James Campbell Nat. Wildlife Refuge, Oahu. Meet at 8:30 p.m. at State Lib. on Punchbowl St. Call Peter Donaldson at 456-5662 for more details.
- Oct. 12 (Wed.) Board meeting at Charlie Lamoureux's home, 3436 Oahu Ave., Honolulu, at 7:00 p.m. Call 988-2255 for more information.
- Oct. 17 (Mon.) General meeting on "Natural History of Nihoa" with Sheila Conant. McCully-Moiliili Library at 2211 S. King St., Honolulu, at 7:30 p.m.

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