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MONGOOSE PREDATION ON A NESTING NĒNĒ

by James K. Baker and Christa A. Russell

The Small Indian Mongoose (*Herpestes a. auropunctatus*) is one of several non-native mammal predators known for, or suspected of, preying upon Hawaiian avifauna, including especially vulnerable ground nesting species. This paper documents that a Small Indian Mongoose was the probable predator on a NĒnĒ (*Branta sandvicensis*) in Hawaii Volcanoes National Park, island of Hawaii, resulting in the death of the female and the abandonment of the nest containing three eggs by the male.

We are presently involved in rat and mongoose studies in Hawaii Volcanoes National Park to determine mongoose distributions, population densities, home range sizes, and basic food habits. In late September 1978, we established a 500 m² (25 ha or 60 acre) trapping quadrat in a mountain parkland habitat at 1,886 m (6,186 ft.) near the end of the Mauna Loa Strip Road in order to estimate the densities of rats and mongooses in an area known for NĒnĒ nesting.

Other ground nesting birds in the study area on which mongooses might feed are the Green Pheasant (*Phasianus versicolor*), California Quail (*Lophortyx californicus*), Chukar (*Alectoris graeca*), and the Skylark (*Alauda arvensis*). These species are all non-native introductions which have become well established in Hawaii Volcanoes and elsewhere on the island.

On October 23 we noted for the first time a pair of NĒnĒ flying over the study site. The pair landed on the nearby Keamoku lava flow. On a number of occasions through the remainder of 1978 we saw one to three NĒnĒ flying in the vicinity of the quadrat. We

also saw them on occasions sitting on the lava flow or foraging within the study plot.

Between February 14 and February 26 we shut down the rat and mongoose trap lines because of frequent torrential rains. Apparently during that same time, however, a pair of NĒnĒ constructed a nest beneath a pukiawe (*Styphelia tameiameia*) bush within 5 m of the path along a mongoose trap line, and within 25 m of a trap station which had caught a mongoose on November 21.

The pair of NĒnĒ consisted of an unbanded (wild) female and a State-banded, pen-raised male. Between February 26 and March 6 we noted the pair together twice and the male alone on several occasions, including the mornings of March 5 and March 6, but we were not aware of the nearby, well-hidden nest.

On March 7 the male was absent from atop the large rock it had been using as an observation platform, and on investigation of the area around the rock the nest with three cold eggs was found. A layer of feather down which had lined the nest was scattered about. A search was made for both NĒnĒ, or evidence of predation, but none was found.

On March 9 Paul Banko used a Brittany Spaniel to search for the NĒnĒ. The male was unharmed near the nest, but the female was found dead 25 m from the nest site, well hidden under a dense growth of pukiawe shrubbery. Most of the bird had been eaten except for the wings, some feathers, and a portion of the sternum. On March 12, the male was seen alive again near the nest but not on any other occasion after that.

ATTENTION!

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Circle 2-4 November on your calendar now!

In five months of trapping we saw or caught no other small carnivores, such as feral house cats (*Felis domesticus*), in our study area, nor did we see any signs of other carnivores. The Roof Rat (*Rattus rattus*) is common in the area, but we do not believe a rat would have eaten so much of the Nēnē, or could have carried the carcass 25 m. We suspect that the predator was a mongoose. They are common in the area, and Paul Banko (pers. comm.) has found other instances of mongoose predation on Nēnē in the same general region.

The mongoose in Hawaii is known as a bird predator. Bryan (1908:48-51) reported instances of Small Indian Mongoose predation on Hawaiian Dark-rumped Petrels (*Pterodroma phaeopygia*) on Molokai. He noted instances of mongooses occupying petrel burrows, and believed that the decline of petrels was due to mongoose predation. Bryan also described a mongoose attack upon a Black-crowned Night Heron (*Nycticorax nycticorax*). Munro (1944) expressed the opinion that mongooses killed all the Newell Manx Sheawaters (*Puffinus p. newelli*) which had nested on Hawaii, Maui, Oahu, and Molokai; an opinion also expressed by King and Gould (1967).

Schwartz and Schwartz (1950:25; 1951:302-303) list the mongoose in Hawaii as a likely predator on California Quail, Ring-necked Pheasant (*Phasianus colchicus*), and the Green Pheasant. Ord (1964) described a successful attack by a Small Indian Mongoose on a young Red-footed Booby (*Sula sula*) at a nest on Oahu. The booby was killed by a persistent attack at the nape of the neck. Schwartz and Schwartz (1950) and Kramer (1971) mention Barred Doves (*Geopelia s. striata*) as common food items of mongooses on Oahu and Molokai. Kramer (1971) mentions an instance of a single mongoose killing 26 chickens in less than three minutes. Each chicken was killed by a bite at the base of the skull. Tomich (1969) summarizes other food items of mongooses in Hawaii, including rodents and invertebrates.

Baldwin (1945), Elder (1958), R.L. Walker (1966), and Banko and Banko (1976) list the mongoose as a probable factor in the decline of Nēnē, although they state the degree of predation is unknown. R.L. Walker (1966) records actual predation on clutches of Nēnē eggs, and L.W. Walker (1945) describes a method employed by mongooses for breaking large-sized eggs.

It seems, therefore, that the Small Indian Mongoose in Hawaii can be a serious predator on any ground nesting species. Natural resource managers need to initiate, or continue, mongoose control programs in all

areas of their respective responsibilities where Nēnē and other ground nesting native birds occur.

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A FINAL ALOHA

The Society notes with sadness the passing of two long-time members: Mrs. Ruth Rockafellow, very active in field work and other affairs of the Society, especially in the 1950's and 1960's; and Sir Robert Falla, eminent dean of New Zealand ornithologists and close friend and colleague of Society founder George C. Munro.

THE ARMY IN HAWAII

The U.S. Army Support Command, Hawaii (USASCH), has recently distributed a Draft Installation Environmental Impact Statement for public review. HAS has taken an active role in the review and comment process because of the long term significance of Army activities in the State. The DEIS is intended to satisfy requirements of the National Environmental Policy Act (NEPA) to evaluate actions of a federal agency. The Army owns or controls nearly 170,000 acres of land on 35 installations in the State. Most of the installations are on Oahu and Hawaii, the largest being Pohakuloa Training Area on the Big Island. In order to gather pertinent data for preparation of the DEIS, USASCH funded extensive studies of cultural and biological resources on Army installations. Socioeconomic studies were also conducted.

HAS provided extensive input into the DEIS review process at a public hearing on the Big Island and recently by submission of detailed comments in writing. Our primary concern is the inadequate presentation of pertinent descriptive data and evaluation of environmental impacts. The DEIS lacks substantive discussion of measures to eliminate or reduce identified impacts. We have objected to the lumping of the many and varied installations into a single DEIS without devoting sufficient attention to those sites where environmental impacts are most serious. These areas include Pohakuloa Training Area on Hawaii and several training areas on Oahu (Schofield Barracks, Makua, Kawailoa, and Kahuku). These installations contain vast tracts of native forest and support many species of rare or endangered plants and wildlife.

The primary biological impacts of Army training activities include the alteration of habitat by fire, erosion, dispersal of exotic plants, and feral mammals. Fire is often caused by live ordnance, smoke grenades, pyrotechnics, and other training equipment. Trespassing civilians on Army lands have also been involved in some fires. The Army has been cooperative in assisting in fire control off Army installations. However, the measures taken to prevent the spread of fires out of impact areas, and the efforts to control fires on installations, have often been largely ineffective. Loss of vegetative cover on portions of some installations has created locally severe erosion problems and resulted in the

encroachment of aggressive, weedy species of plants. The dispersal of exotic plants has been further aggravated by the movement of men and equipment into pristine forest by ground vehicles and aircraft. The problem of feral mammals on Army installations is most serious at Pohakuloa, where restrictions on public hunter access to impact areas has allowed uncontrolled sheep, goat, and pig populations to devastate the native dry forest.

Considerable public attention was drawn to the first public notice of the Army's DEIS because the identified alternatives to continued "business as usual" were so extreme. These included: moving the 25th Infantry Division to Pohakuloa; eliminating live ordnance training on Oahu; transfer of all training to Pohakuloa; or closing down of all USASCH installations and relocation outside of Hawaii. As expected, these proposed alternatives raised considerable public opposition, particularly in light of significant national defense and economic considerations. If it was the Army's intention to make the status quo look desirable by comparison, the effort was successful. We strongly suggest that all options, not just the extremes, be considered for the lands.

It is not our desire to take an adversary position on this issue, largely because it seems apparent that most, if not all, of the significant environmental problems identified in the DEIS could be satisfactorily mitigated or eliminated without a major adverse impact on the Army mission or national defense. We have approached the issue with constructive suggestions to solve the problems, but at the same time, we feel that the DEIS will have to be revised considerably to address fully the impacts and mitigation alternatives on a site-specific basis. The Army has already been cooperative in modification of training activities in portions of Pokauloa Training Area now included within the legally defined preparation of an educational sound-slide program that is shown to all troops before deployment to Pokauloa Training Area. The Army is also involved in a study of candidate critical habitat for other endangered plants and animals on Army lands.

We look forward to a continuing interchange of ideas with USASCH that will result in an acceptable DEIS. More importantly, we wish to be involved in development of site-specific fish and wildlife management plans that critically evaluate on-going training activities to minimize impact to the environment.

R. J. Shallenberger

NO HUMMINGBIRDS IN HAWAII

A letter to the Honolulu Star-Bulletin,
10 February 1977,
by Andrew J. Berger

There are no hummingbirds in Hawaii. The Hui Manu, formed by several kamaaina in 1930, wanted to import hummingbirds in the 1930s but found it impractical to do so before the days of air service to Hawaii. Later hummingbirds were prohibited entry because it was assumed that they would cross-fertilize pineapples.

Many people have called recently either to ask if there were hummingbirds in Hawaii or to say that they had seen these birds feeding at flowers. These people have confused moths (family Sphingidae) with hummingbirds. The moths begin to feed on the nectar of flowers an hour or two before sunset.

The moths have a very rapid wingbeat - as do hummingbirds - and they extend a long proboscis into the flowers so that the proboscis may look like a bird's bill. The entire feeding behavior is very similar to that of hummingbirds so that the error in identification is easy to understand.

Some of the moths are called sphinx moths; others are known as hawk moths. At least 10 species of hawk moths now occur in Hawaii; all are introduced species. Many do not have any specific common name, but one of the larger species is the oleander hawk moth, so named because of its preference for oleander flowers.

The oleander hawk moth is a large species, about 2 to 2.25 inches long and with a wingspan up to 4 inches or slightly more. This moth is green with pink and gray markings. The sweet potato moth also has a wingspan up to 4 inches, and the wingspan of the tomato or tobacco horn worm moth may exceed 4.5 inches.

The oleander moth was first discovered in Hawaii in 1974. The latest arrival (about six months ago) is a small brown moth (Macroglossum) with orange marks on the wings and orange bands on the abdomen; it also has a short, fanlike tail almost hairlike in appearance. This moth, about 1.25 inches long with a wingspan of 2 inches, may account for the many recent reports about hummingbirds.

FILM ON GALAPAGOS FOR OUR
ANNIVERSARY CELEBRATION

As part of our 40th Anniversary Celebration this November, we have been extremely fortunate to arrange for a National Audubon Film/Lecture Tour presentation by Mr. John Wilson, noted Canadian filmmaker. Many of our members are familiar with the NAS Film/Lecture series and can attest to the continuing highest quality programs. We in Hawaii have missed the tour in the past, with the exception of an outstanding show on New Zealand by Mr. Grant Foster last January. We had virtually no prior advertising, and an embarrassing lack of arrangements for proper facilities. Over 600 people turned out for the New Zealand show, and many had to be turned away at the door.

Mr. Wilson's film/lecture, entitled "Galapagos," promises to attract a large crowd as well. This cinematographer and his film are described in detail on the Anniversary Celebration flyer in this 'Elepaio. The film will be shown twice during Mr. Wilson's short visit to the Islands. The program will be co-sponsored by the Hawaii Geographic Society and held at the Mid-Pacific Institute auditorium on 3 and 6 November 1979, beginning each night at 7:30 p.m. Refreshments will be served during the intermission. Although the general public will be invited to each program, Audubon members are encouraged to attend the Saturday evening show as part of the weekend anniversary celebration. Admission of \$3.00 will be charged for adults (\$2.50 for senior citizens, active military, and students), and \$2.00 for those under 18 years old.

1979 MEMBERSHIP CARDS

The 1979 membership cards have been sent to most new members joining the Society this year, but not to most continuing members who have renewed for 1979. Costs of envelope and first class postage are dictating this policy. Cards are available, however, and any member who did not receive a card and would like to have one for 1979 is welcome to send a request, and a card will be sent promptly.

New membership cards, closely resembling our current cards, are now being printed as part of a postcard. One of these postcards will be sent as a combination acknowledgment and membership card to all new and renewing members in future years.

PRELIMINARY LIST OF THE BIRDS OF HAWAII

AMENDMENT NO. I

by Robert L. Pyle

Since publication of *Preliminary List of the Birds of Hawaii* (Pyle, 1977), several changes in nomenclature and status of some species have been accepted. These are documented in this first Amendment to the *List*. Six new species and two new species pairs also are added to the *List*; two species are deleted; various changes in English and scientific names are incorporated; some changes in status are reported, and two typographical errors in the *List* are corrected.

Parkes (1978) has presented rules to bring consistency to the use of hyphens and capitalization in English compound names of birds (Night-Heron, Laughingthrush, etc.). He further states that the American Ornithologists' Union Committee on Classification and Nomenclature has adopted these rules for its Checklist. A number of changes are included herein to bring the compound English names in the Hawaii list into conformity with these rules.

A new category of species status, Fx, is added to provide for foreign introduced species formerly long-established and breeding for more than 25 years, but now no longer present in Hawaii. This new category permits recognition and a statement of current status for such species which appear prominently in the past literature. The category is not intended for assignment to relatively new introductions which may have appeared to have been established and breeding for a few years, but which later disappeared. Currently, only one species, Varied Tit, is assigned to Fx, but the category is available for any other long-established species that may assume this status in the future.

Early drafts of this amendment were reviewed by Andrew J. Berger, Roger B. Clapp, H. Douglas Pratt, C.J. Ralph, David H. Woodside and C. Fred Zeillemaker. Their many helpful comments and suggestions are gratefully acknowledged.

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LIST OF CHANGES

SYMBOLS FOR STATUS

Add new status code, following Fn:

Fx = Foreign - formerly long-established and breeding for more than 25 years, but has since declined and now is apparently gone from Hawaii.

STORM-PETRELS -- HYDROBATIDAE

Change English name:

Sooty Storm Petrel -- change to Sooty Storm-Petrel.

*Corrects typographical error in 1977 *List*.

HERONS, EGRETS -- ARDEIDAE

Change status:

Cattle Egret -- change from Fr to Fn.

*Corrects typographical error in 1977 *List*.

Change English name:

Black-crowned Night Heron -- change to Black-crowned Night-Heron.

*Conforms to Parkes (1978).

GEESE, DUCKS -- ANATIDAE

Delete reference to subspecies:

Canada Goose -- delete parenthetical terms (Cackling subspecies) and (*minima*).

*Other subspecies also have occurred in Hawaii.

Change English name and order in list:

Garganey Teal -- change to Garganey and move in listing order to position following Cinnamon Teal (preceding European Wigeon).

*Conforms to name and order used in European and Asiatic references.

Change status:

Red-breasted Merganser -- change from Vx to Vs.

*Well-substantiated sighting on Molokai in 1979 ('Elepaio 40:15).

DOVES -- COLUMBIDAE

Change generic name:

Mourning Dove -- change *Zenaidura macroura* to *Zenaida macroura*.

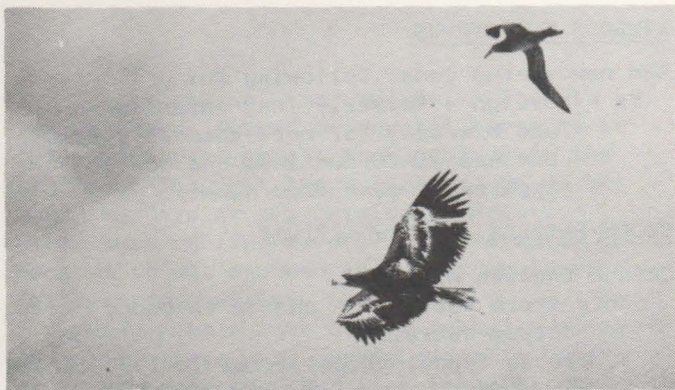
*Conforms to 32nd Supplement to A.O.U. Checklist, *Auk* 90:415.

HAWKS, EAGLES -- ACCIPITRIDAE

Add new species, following Golden Eagle
(preceding Marsh Hawk):

Vs Steller Sea Eagle -- *Haliaeetus pelagicus*

*Well-substantiated sightings during several weeks at Kure and Midway Atolls in 1978 (Balazs and Ralph, 1979, 'Elepaio 39:117). Good photographs were obtained.



Steller Sea Eagle in flight with Black-footed Albatross (above) and perched with Laysan Albatross (below), Kure Atoll, February 1978.

Photos by George H. Balazs

QUAILS, PHEASANTS, etc. -- PHASIANIDAE

Delete species:

Fn Chinese Bamboo Pheasant -- *Bambusicola thoracica*.

*Absence of known observations in recent years indicates that there is no longer a viable population of this species reproducing in the wild. (Correct English name is Chinese Bamboo Partridge; typographical error in 1977 List.)

Change English name:

Red Jungle Fowl -- change to Red Junglefowl.
*Conforms to Parkes (1978).

GUINEAFOWL -- NUMIDIDAE

Delete Family and species:

Helmeted Guineafowl -- *Numida meleagris*.

*Absence of known observations in recent years, and indications that former populations had been maintained only by repeated releases, justify deleting this species from the list until clear evidence is developed that an established breeding population exists. It was the only member of its family reported in Hawaii.

RAILS, GALLINULES, COOTS -- RALLIDAE

Change generic names:

Laysan Rail -- change *Porzana palmeri* to *Porzana palmeri*.

Hawaiian Rail -- change *Pennula sandwichensis* to *Porzana sandwichensis*.

*Taxonomic revisions; see Olson, 1973, *Wilson Bulletin* 85:381-416.

SANDPIPERS, WADERS -- SCOLOPACIDAE

Add new species, following Long-billed Dowitcher (preceding Marbled Godwit):

Vs Buff-breasted Sandpiper -- *Tryngites subruficollis*.

*Well-substantiated sight record in 1978 (Ralph and Pyle, 1979, 'Elepaio 39:140).

GULLS, TERNS, NODDIES -- LARIDAE

Add new species, following Least Tern (preceding Black Tern):

Vs Caspian Tern -- *Sterna caspia*.

*Well-substantiated sightings of one bird during several months in 1979 ('Elepaio 40:29).



Caspian Tern at Kaluapuhi Pond, Kaneohe Marine Corps Air Station, Oahu, Hawaii, June 20, 1979.

Photo by Rick Coleman

SWIFTS, SWIFTLETS -- APODIDAE

Change English and generic names:

Edible-nest Swiftlet -- *Collocalia vanikorensis* change to Gray Swiftlet -- *Aerodramus vanikorensis*.

*Taxonomic revision; see Medway and Pye, 1977, in Stonehouse and Perrins, Eds., *Evolutionary Ecology*, University Park Press, Baltimore.

KINGFISHERS -- ALCEDINIDAE

Change status:

Belted Kingfisher -- change from Vx to Vs.
*Well-substantiated sighting in 1978 ('*Elepaio* 39:18).

TITS -- PARIDAE

Add new Family and species, following CROWS (preceding BABBLERS):

Fx Varied Tit (Yamagara) -- *Parus varius*.

*Introduced to Kauai in 1890, 1905 and 1907, and later to other islands. It was well-established and breeding on Kauai and Oahu, but diminished during the 1940's and 1950's. No valid reports since early 1960's.

BABBLERS -- TIMALIIDAE

Change English name:

Greater Necklaced Laughing-thrush -- change to Greater Necklaced Laughingthrush.

*Conforms to Parkes (1978).

Add new species, following Greater Necklaced Laughingthrush (preceding Melodious Laughing-Thrush):

F1 Gray-sided Laughingthrush -- *Garrulax caerulatus*.

*Well-substantiated sighting on Oahu in 1978, in exactly the same area where birds almost certainly of this species were reported frequently in the late 1940's and 1950's (Taylor and Collins, 1979, '*Elepaio* 39:79-81).

Change English name:

Melodious Laughing-Thrush -- change to Hwa-mei (Melodious Laughingthrush, Chinese Thrush).

*Hwa-mei, from Chinese origins, has been used frequently for this species in Hawaii, and is used in southeast Asian references.

THRUSHES -- TURDIDAE

Change English name:

Small Kauai Thrush -- change to Puaiohi (Small Kauai Thrush).

*Puaiohi, the Hawaiian name, is commonly used, and avoids confusion with the Kauai Thrush, *Phaeornis o. myadestina*.

OLD WORLD WARBLERS -- SYLVIIDAE

Change English name:

Japanese Bush Warbler -- change to Japanese Bush-Warbler.

*Conforms to Parkes (1978).

WHITE-EYES -- ZOSTEROPIDAE

Change specific name:

Japanese White-eye -- change *Zosterops japonica* to *Zosterops japonicus*.

*Conforms to nomenclatural rules on gender (Pratt, 1979, '*Elepaio* 39:84-85).

HAWAIIAN HONEYCREEPERS -- DREPANIDIDAE

Change specific and subspecific names:

Change to:

'Anianiau	<i>Loxops parvus</i>
Hawaiian Creeper	<i>Loxops maculatus</i>
Kauai Creeper	<i>Loxops maculatus bairdi</i>
Oahu Creeper	<i>Loxops maculatus maculatus</i>
Molokai Creeper	<i>Loxops maculatus flammeus</i>
Lanai Creeper	<i>Loxops maculatus montanus</i>
Maui Creeper	<i>Loxops maculatus newtoni</i>
Hawaii Creeper	<i>Loxops maculatus mana</i>
'Ākepa	<i>Loxops coccineus</i>
Kauai 'Ākepa	<i>L. coccineus caeruleirostris</i>
Oahu 'Ākepa	<i>Loxops coccineus rufus</i>
Maui 'Ākepa	<i>Loxops coccineus ochraceus</i>
Hawaii 'Ākepa	<i>Loxops coccineus coccineus</i>

*Changes of specific and subspecific names in genus *Loxops* to masculine endings are required by nomenclatural rules on gender (Pratt, 1979, '*Elepaio* 39:84-85).

Change English and Hawaiian names:

Po'o Uli -- change to Po'ouli;

'Akiapola'au -- change to 'Akiapōlā'au.

*Conforms to correct Hawaiian style (*vide* Elbert, 1977, in '*Elepaio* 37:139).

Add Hawaiian name:

Mamo -- add Mamo in Hawaiian name column.

*Omitted in 1977 *List*.

WAXBILLS, MUNIAS, SPARROWS -- PLOCEIDAE

Change English name:

Lavender Fire-finch -- change to Lavender Fire-Finch.

*Conforms to Parkes (1978).

CARDINALS, FINCHES -- FRINGILLIDAE

Explanatory note:

Northern Cardinal.

*In the 1977 *List*, "Northern" was added to the A.O.U. name "Cardinal" to distinguish this species from two other species of cardinal that are established in Hawaii. The name "Northern Cardinal" conforms to American Birding Association, 1975, *A.B.A. Checklist: Birds of Continental United States and Canada*.

Change English name:

Canary -- change to Common Canary.

*Addition of "Common" is needed to distinguish this species from Yellow-fronted Canary.

Add new species, following House Finch (Preceding Snow Bunting):

Vs Savannah Sparrow -- *Ammodramus sandwichensis*.

*Well-substantiated sighting of one bird during 8-day period on Kure Atoll in 1977 (Rauzon, 1978, 'Elepaio 39:13).

SPECIES PAIRS

Add new species pair, following Southern/Northern Giant Fulmar (preceding Snowy/Little Egret):

Tahiti/Phoenix Petrel -- *Pterodroma alba* or *P. rostrata*.

*Several sightings of one or the other of this species pair, at sea within 160 km of the Hawaiian Islands, were recorded in the mid-1960's by personnel of the Smithsonian Institution Pacific Ocean Biological Survey Program. None were identified to species (W.King, personal communication).

Add new species pair, following South Polar/Great Skua:

Common/Hoary Redpoll -- *Acanthis flammea* or *A. hornemanni*.

*Well-substantiated sighting of one bird

during 8-day period on Kure Atoll in 1977 (Rauzon, 1978, 'Elepaio 39:13-14). The observer has since written (Rauzon, personal communication) in regard to the species identification: "I have little doubt that it was a Common Redpoll. I was aware of the possibility that a Hoary Redpoll could appear, so I was careful to check the rump area for degree of whiteness. There was no contrast between the back and the rump." -- The same observer, during a return trip to Kure, sighted a redpoll there on March 10, 1978, which remained for several days, and which he identified as a Common Redpoll. However, these records are treated here as pertaining to a species pair pending final resolution of the taxonomy and plumage distinctions of these two forms.

* * * * *

ADDITIONAL NOTES

Chestnut-bellied Sandgrouse (Indian Sandgrouse), *Pterocles exustus*, family PTEROCLIDAE, has been observed in the Waimea area of Hawaii Island more frequently in the past year. The species was first introduced in 1961, with more introductions in subsequent years. It is apparently now reproducing successfully in the wild. A continuing trend toward more frequent sightings and perhaps range expansion would confirm that a breeding population is established and viable.

Yellow-faced Grassquit, *Tiaris olivacea*, family FRINGILLIDAE, has been seen regularly since 1977 along certain ridges of Oahu Island. In one observation 40 individuals were estimated. First reported sighting was in August 1974 (Wilson, 1974, 'Elepaio 35:65). No direct observation of breeding activity has been reported. Although this species is probably breeding on Oahu, it has not yet been observed over a sufficient period of time to be assured that the population is established and viable.

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MORE TRASH?! LET'S PICK IT UP!

The Ala Wai Canal needs a spruce-up, and State Senator John Carroll is going to make it happen. Thanks to several clean-ups organized by Senator Carroll in the past, the canal was cleaned up and subsequently dredged, leaving it in relatively good shape in May, 1978. Now it's time for another once-over to pick up trash, so Senator Carroll is providing the equipment, organization, and some of the muscle power to get it done. He reports that the State will not bother itself with the canal until dredging is necessary again, so tidying up will have to be done by others.

On Saturday, October 6, there will be a particularly low tide, a good opportunity to pick up the trash. So come on down and help! The work will start from the Waikiki-Kapahulu Library at 7:30 a.m. and will be finished by 10:30 a.m. To aid the planning, it would help if you called 521-5027 if you intend to come. Senator Carroll emphasizes there will be no political overtones to the clean-up. It is plainly and simply to pick up the trash.

NOMINATING COMMITTEE FOR 1980 OFFICERS

Hawaii Audubon President Robert J. Shallenberger has appointed the following members to serve on the Nominating Committee to select candidates for officers for the year 1980: Dr. Robert Pyle (741 N. Kalaheo, Kailua 96734), Dr. Sheila Conant (3663 Alani Dr., Honolulu 96822), and Ms. Maile Stemmerman (1710 Makiki St., Apt. 402, Honolulu 96822). The Committee's list of nominees will be presented at the November general meeting and voted on at the annual meeting in December. The list also will be published in the December 'Elepaio. Additional nominations, with the prior consent of the nominees, may be made from the floor at the annual meeting. Members may vote by mail or proxy if unable to attend the annual meeting.

Nominations will be made for the following: President, two Vice-Presidents, Treasurer, Corresponding Secretary, Recording Secretary, and two Directors.

Members wishing to suggest a candidate (including themselves) for a Society office are urged to contact one of the Nominating Committee members. We look forward to more substantial participation in Society activities by our general membership, so we hope to hear from you now.

FIELD TRIP: SHORE AND WATERBIRDS AT KII

Here is your chance for a good look at the James Campbell National Wildlife Refuges at the north end of Oahu. If the water level is right, we could spend a couple of hours at Kii Pond, checking over shorebirds and ducks. This is where we found a Buff-breasted Sandpiper last year, so who knows what it will be this year. We also will check Punamano and possibly other wet spots. Bring your spotting scope if you have one, binoculars, lunch, and water. The trip is Sunday, October 14. Meet at 7:00 a.m. on the Punchbowl St. side of the State Library downtown or on the windward side at 7:30 at the intersection of Haiku Rd. with Kahekili Hwy. Our leader will be Tim Burr (235-4036).

LECTURE ON BIRD MIGRATION

Timothy and Janet Williams, authors of a recent article in Scientific American on bird migration over the Atlantic Ocean, will be giving a seminar on "*Transatlantic bird migration*" for the Zoology Department at the University of Hawaii, Manoa. They used a network of seven radars, including some on oceanographic ships, to discover that small land birds use a remarkably simple navigation technique to cross the Atlantic Ocean from North America to South America. The Williamses, plus their family and a student assistant, are here in Hawaii to study bird migration over the Pacific. Their talk will be amply illustrated with color slides. The lecture will be at 3:30 p.m., October 5 (Friday), in the ground level lecture room (room 11) of St. Johns Hall. Visitor parking is available on campus from the East-West Center Road entrance.

LEARN ABOUT NEWELL'S SHEARWATER AT OCTOBER MEETING

G. Vernon Byrd, currently manager of the Kilauea Lighthouse refuge on Kauai, will come to speak on "*The status of the Newell's Shearwater on Kauai*." He will summarize recent work to determine the state of the population of this subspecies, classified by the Fish and Wildlife Service as "threatened." He will cover the fall pick-up program and the transplant program. Vern promises a dynamic and well illustrated account of some successful wildlife management ventures, among other things. October 15, 7:30 p.m. at the McCully-Moiliili Library, 2211 S. King St.

IF NOT A MEMBER, PLEASE JOIN US

JOINT MEMBERSHIP

(National and Hawaii Audubon Societies)

Individual.	\$ 18.00
Family.	21.00
Sustaining.	30.00
Supporting.	50.00
Contributing.	100.00
Donor	250.00
Life (single payment).	1000.00
Dual Life (single payment)	1500.00

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

LOCAL MEMBERSHIP

(Hawaii Audubon Society only)

Regular	\$ 3.00
Junior (18 and under)	1.00
Subscriber (non-Hawaii residents)	3.00
Life	100.00

(payable in \$25 annual installments)

NOTE TO CONTRIBUTORS TO THE 'ELEPAIO

All contributions concerning natural history and conservation are welcomed, especially those pertaining to the Pacific area. The Editorial Committee wishes to encourage material from the Pacific Islands, such as the Trust Territory, Guam, American Samoa, and other areas. Articles on all natural history subjects are solicited.

It would facilitate the processing and review of your contribution if it could be submitted typewritten and double spaced, although this is not a requirement. All articles of a scientific nature are sent out for comments to at least two reviewers familiar with the subject.

To insure proper handling and rapid publishing of your contribution, it should be mailed to the Editor: C.J. Ralph, 3467 Alani Drive, Honolulu, HI 96822.

'ELEPAIO VIA AIRMAIL

Members and Suscribers wishing to have the 'Elepaio sent by airmail to addresses outside Hawaii may now obtain this service by remitting the amount needed to cover the air-mail postage costs. These amounts, for 12 monthly issues, are:

U.S. and Canada	\$ 3.25
Central America, Carribbean	7.00
South America, Europe, Mediterranean Africa	8.75
USSR, Asia, Africa, Pacific area	10.25

HAWAII AUDUBON EXECUTIVE BOARD

AND COMMITTEES

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Recording Secretary.	George Campbell
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Education Committee.	Linda M. Ogata
Scholarship Committee.	Sheila Conant, Robert Shallenberger, and C.J. Ralph
Sales Committee.	Walter McKinney
'Elepaio Editorial Committee.	Sheila Conant, Robert L. Pyle, C. John Ralph (Editor), Carol Pearson Ralph, and Maile Stemmermann
'Elepaio Production Staff.	George Campbell, Laura Carter, Peter Galloway, Cissie Koenig, Cindy Shaw, Kammy Wong and Winnifred Yamashiro (plus the Editorial Committee).



ALOHA TO NEW MEMBERS

The Society welcomes the following new members and hopes that they will join in our activities to further the protection of Hawaii's native wildlife:

Joint with National: James W. Ackell, Honolulu; Joan E. Baughman, Honolulu; Miriam N. Davis, Honolulu; Harry L. Denison, Honolulu; B.K. Diffen, Haleiwa; Anthony M. Flores, Wai-anae; Karen Hong, Honolulu; Elizabeth C. Johnson, Honolulu; Henry S. Kudo, Honolulu; Ernest Kuhn, San Francisco; Capt. Dennis H. Murphy, Kihei; Keith S. Oda, Aiea; Mamoru Oka, APO San Francisco; David Piper, Kaneohe; Charles H. Richardson, Honolulu; Edith E. Russ, Honolulu; Virginia Siewertsen, Lihue; Mr. & Mrs. John Talbot, Pearl City; Hal Wheatly Kalaheo; Deborah A. Zanot, Pearl Harbor.

Local Regular: Joan Byars, Wahiawa; Steve Derks, FPO, San Francisco, USS Puffer; Oscar W. Johnson, Kailua; Evelyn Norris, Honolulu; Michael E. Wheeler, Guam.

HAS ANNIVERSARY WEEKEND SHAPING UP

Put the weekend of 2-4 November 1979 on your calendar because it promises to be great fun for all members and friends. 1979 is the 40th year of the Hawaii Audubon Society, and November is the month in which the first 'Elepaio was published. Members are hard at work putting together an anniversary 'Elepaio issue, which will be available about the same time as the celebration. A flyer in this 'Elepaio is provided to encourage early sign-ups by members for various events planned for the anniversary weekend. Please take the time NOW to fill out the sign-up blocks and send in your checks. The price is lower for those who sign up before October 15.

Some adjustments have been made in the schedule to accommodate all the planned events. The Friday night (2 November) banquet at Sea Life Park starts the weekend off with a bang. The Park is beautiful at night, and this will give you a great opportunity to see a show, eat a great meal, participate in our program, and have an all around great time with good friends. We're committed to a minimum of 125 people at the Park, so let's everyone sign up now. We'll be raffling off some great prizes, sharing some fond memories, and looking to the future of HAS. Among the noted guests will be officers of the National Audubon Society, some charter members of HAS, and perhaps a few surprises as well.

Following the Friday night banquet, the most eager among us will meet at Pokai Bay at 7:00 am Saturday for the first of four pelagic field trips aboard the R/V MANTA. These half-day trips will be limited to 12 persons per trip, all by prior registration. The water in the area is generally calm, but dramamine may still be in order if you are so inclined. These trips are great for seabirds, including Newell's Shearwaters. There is also a good chance that we'll see a variety of porpoises and possibly small whales as well. If luck is with us, we'll catch a few fish too.

Another group of hardy souls will be gathering at 9 am on Saturday morning along Hamakua Drive in Kailua to participate in the second Kaelepulu Canal Clean-Up. This site, among the best on the island for observation of endangered waterbirds, has also accumulated lots of garbage and needs our help again. The last clean-up was good fun for the bunch that participated and attracted some positive attention to HAS as well.

After the clean-up is pau, there will be a field trip to waterbird habitats on Oahu, including the Fish and Wildlife refuges at Pearl Harbor and Kahuku. This is a particularly good time of year for this trip, as the

migratory shorebirds and waterfowl should be here in force.

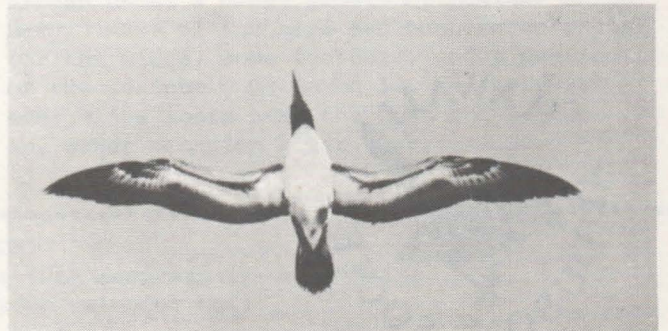
Saturday night we'll have the first presentation of the National Audubon Society Film/Lecture "Galapagos," by Mr. John Wilson of Canada. This program is described elsewhere in this 'Elepaio and on the inserted flyer.

Sunday morning at 7:00 am, the third pelagic trip will begin at Pokai Bay, but earlier than that our most energetic (and competitive) members will be meeting to start their "Big Day" birdathons. The object is to record as many species in a day as possible, and the time to do it is when the migrants are in. On the most recent attempt, Bob Pyle, Mike Ord, and Rob Shallenberger recorded 53 species during a field day that began and ended in the dark. Bob Pyle (262-4046) will be organizing the Big Day teams for the anniversary weekend.

For the rest of us, a forest bird field trip is scheduled for Sunday, beginning at the State Library at 7:30 am. We're hoping it will be the Mt. Kaala tramway trail in the Schofield Barracks Military Reservation, but if access is not secured, we'll be heading for Kipapa Trail in the Koolaus. This super forest trail has been visited all too infrequently in recent years and is well worth a visit by HAS members. One of the most recent Oahu Creeper sightings was made not far south of the trail, and the last reported sighting of a male Oahu 'Akepa was made near the summit of the trail.

We'd also be anxious to hear from you if you can help in the planning and execution of the anniversary weekend. There are bound to be lots of last minute jobs to take care of to insure that it comes off as planned. If you've got some good ideas of other activities or events that we might fit into the weekend, please let us know soon.

We're looking forward to seeing some participation from our outer island and mainland friends on this weekend as well. For those of you that are National Audubon Society members that recently became a part of HAS, this event is an excellent opportunity to meet others in the group, see what we're all about, and have a great time.



Brown Booby. Photo by W. P. Dunbar

HAWAII AUDUBON SCHEDULE OF EVENTS

FOR DETAILS SEE PAGE 59

- October 1 (Monday) Board meeting at the home of Sheila Conant, 3663 Alani Dr., in Manoa (988-6522), at 7:00 pm. All members welcome.
- October 6 (Saturday) Ala Wai Canal clean-up, from 7:30 to 10:30, starting at the Waikiki-Kapahulu Library.
- October 14 (Sunday) Field trip to Kii Pond. Leader: Tim Burr (235-4036). Meet at the Punchbowl St. side of the State Library at 7 am or at 7:30 at the intersection of Haiku Rd. and Kahekili Hy. (Kaneohe).
- October 15 (Monday) General meeting. Vernon Byrd speaks on "The Status of the Newell's Shearwater on Kauai". 7:30 pm at the McCully-Moiliili Library, 2211 S. King St.
- November 2-4 (Friday through Sunday) Special anniversary celebration. See page 61 and the insert.

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MONK SEAL REFERENCES

A limited number of copies are still available of the publication, "Bibliography of the Monk Seal, *Monachus schauinslandi*" (Technical Report No. 35) by George H. Balazs and G. Causey Whittow. This compilation of 340 references will be provided at no cost in response to written requests addressed to:

Hawaii Institute of Marine Biology
Univeristy of Hawaii
P.O. Box 1346
Kaneohe, Hawaii 96744

HAWAII AUDUBON SOCIETY
P. O. Box 22832
HONOLULU, HAWAII 96822
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HAS 40th ANNIVERSARY CELEBRATION, 2-4 NOVEMBER 1979

The time is now to sign up for various events to be held during the 40th Anniversary Celebration weekend of 2-4 November 1979. All of the events and activities are open to members and friends, but some will be limited by space available. A brief summary and schedule of events follows:

Friday, Nov. 2:

Anniversary banquet at Sea Life Park. The park will open at 6:00 pm, no-host cocktails at 6:30, porpoise show at Ocean Science theater at 7:30, and buffet dinner at 8:00. After dinner there will be a few words, awards, door prizes and other surprises. Original paintings by H. Douglas Pratt will be on display. Tickets are \$9 if you register before 15 Oct. and \$10 thereafter.

Saturday, Nov. 3:

Pelagic trips No. 1 and 2 leave from Pokai Bay marina at 7:00 am and 12 noon respectively. Bring your own binoculars, cameras, drinks and food. Each trip is limited to 12 persons, so early registration is important. Be sure to indicate 1st, 2nd, 3rd and 4th choices for trips. The preregistration cost (before 15 Oct) is \$7 and \$8 thereafter.

Kaelepulu Canal cleanup at Hamakua Drive in Kailua begins at 9 am. Bring your rubber boats, dirty clothes, garbage bags and hardworking friends.

Wetland field trips to fish and wildlife refuges on Oahu begin at 12:30 at the Kaelepulu canal cleanup site.

NAS Film/Lecture "Galapagos" by John Wilson of Canada begins at Mid-Pacific Auditorium at 7:30 pm. See the reverse side and elsewhere in this Elepaio.

Sunday, Nov. 4:

Pelagic trips No. 3 and No. 4 leave from Pokai Bay at 7:00 am and 12 noon.

Big Day teams meet at dawn (call Bob Pyle, 262-4046, for details)

Forest bird field trip begins at the State library at 7:30 am.

REGISTRATION FORM (fill in and send with check to Hawaii Audubon Society, Anniversary Registration, P.O. Box 22832, Honolulu, Hawaii 96822)

I wish to attend:

Banquet _____ (\$9 per person before 15 Oct., \$10 thereafter) Amt. enclosed _____

Pelagic trip: (note priority of choices- 1____, 2____, 3____, 4____): Amt. encl. _____
(Call Rob Shallenberger, 261-3741 to insure registration)

Kaelepulu Canal Clean up _____ Oahu Wetland field trip _____

Big Day event _____ Oahu Forest Bird field trip _____

"Galapagos" Film/Lecture _____ (Admission paid at door, Note: this does not constitute a reservation, only an indication of plans to attend)



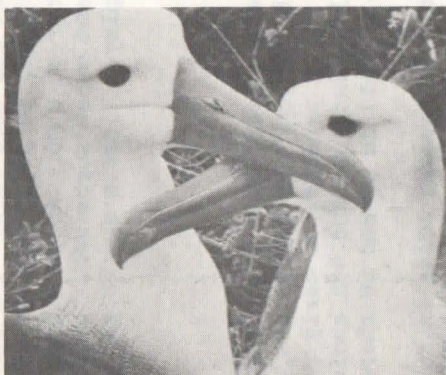
John Wilson

John Wilson was raised and educated near Montreal and attended Sir George Williams University.

He began his photographic career in 1971 when he set out on a motorcycle trip from Canada to Ecuador and to the Galapagos Islands in order to photograph and study wildlife. The eight month journey resulted in radio and television interviews for John and in his conducting seminars in wildlife studies, photography and cinematography for various outdoor recreational, naturalist and educational institutions.

In 1973, he apprenticed for one year

with Canadian wildlife cinematographer Dan Gibson, working with him variously as editor, soundman and cameraman. He followed this up with an assignment as assistant cameraman on a project to film three 30-minute television programs on Argentina and returned in 1974 to the Galapagos Islands to produce and film for Canadian KEG Productions four 30-minute television programs for their series *Wildlife Cinema*. These programs, his first solo efforts, have been acclaimed by KEG as being the best of that



Galapagos Albatross

George Holton

series.

He has worked as assistant cameraman on the KEG Production *Wings in the Wilderness* and as second unit cinematographer on the award-winning United Artists Theatres release, *Killers of the Wild*. His assignment for the UA feature was to film the more difficult wildlife behavior necessary to the success of the film.

He has worked on a number of Canadian industrial and governmental films and was leader of a "Nature Canada" tour to the Galapagos Islands.

His photographs have appeared in such publications as *Audubon* and *Ontario Naturalist* as well as in textbooks.

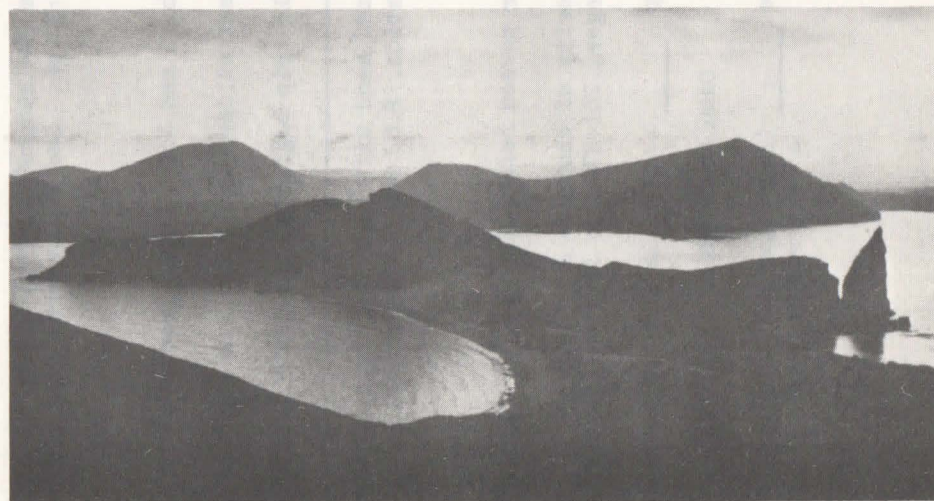
GALAPAGOS

West of Ecuador and scattered over some 23,000 square miles of the Pacific Ocean is a collection of islands named the Archipelago of Columbus and far better known as the Galapagos Islands.

They are the meeting place of cold and warm waters, of converging currents that have brought to the islands species associated with the differing waters. And because they are islands, isolated by their

than sixty islands in the Galapagos chain and chronicled the adventures involved in filming that wildlife. The result is an excellent program on the special wildlife and wilderness of the Galapagos Islands.

On Hood Island, which provides the only nesting grounds for the Galapagos Albatross, they filmed the life cycle of this species as well as the courting and nesting behavior of the Masked and Blue-footed



George Holton

surrounding waters and having no ready access to other alternative habitats, the land and land-oriented species which have flourished there have done so through adaptation to the available environments.

The Galapagos Islands have therefore become home to intriguing varieties and associations of wildlife species. They are a unique and irresistible temptation for wildlife photographers and cinematographers. John Wilson, with two assistants, Janet Jahoda and Tui De Roy, filmed the wildlife of several of the more

Boobies. In Alcedo Crater they photographed the famed Galapagos Tortoise for which the islands are named, and, after making an arduous climb to the top of Volcan Fernandina, they exposed the singular beauty of the crater lake and the resident colonies of land iguanas and Galapagos Hawks.

And throughout the film as throughout the Galapagos Islands, the Frigate Birds, flamingoes and cormorants court and nest, and the gulls, Tropicbirds, marine iguanas, scarlet crabs and sea lions abound.