

# 'ELEPAIO

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For the Protection of  
Hawaii's Native Wildlife

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## THE KALIJ PHEASANT ON HAWAII

By Thane K. Pratt

On two trips to the Big Island this summer I was fortunate to see a new game bird known to some society members on Hawaii, but which, to my knowledge, has not been reported in THE ELEPAIO. I would therefore like to share with the society my few observations of this bird, the Kalij Pheasant (Lophura leucomelana), and I hope that, by alerting other members of its presence, more information will be forthcoming on its introduction to Hawaii and its present distribution here.

I first learned of the Kalij through Charles van Riper who has seen them in the mountain forests of the North Kona District. I have since visited with Will and Judy Hancock of Waimea Kohala two areas in Kona where these pheasants occur: the first, on July 5, a ranch property near the Kahaluu Forest Reserve, and the second, on August 17, the Kaloko Mauka subdivision. At both localities the pheasants inhabited thick 'ohi'a forest and successional vegetation bordering roads. Unfortunately we arrived at the Kahaluu forest shortly after noon and spent only a few hours in a forest between 2,000 and 2,500 feet. Our search turned up two Kalij, one a black crested cock. A cock Ringneck Pheasant (Phasianus colchicus) was seen in an adjacent pasture and wild turkeys are reported to live here also. Kaloko proved to be more productive, however, perhaps because we chose a better time of day--late afternoon until sunset. Here we encountered the Kalij in groups of two to eight birds foraging in the grass and shrubbery alongside the road at elevations between 4,000 and 5,000 feet. As many as three cocks of two plumage types occurred in a group with hens, and in one case, several half grown chicks. They usually showed no inclination to leave until we approached closely and only then would they reluctantly run a short way into the forest. When startled, some of the cocks flew into the lower branches of 'ohi'a trees where, with necks craned and crests raised, they gawked at us below.

The cocks are strange looking birds--what one might expect to be the offspring of Roadrunner and a Plymouth Rock hen. They resemble a black rooster complete with red facial skin (but no wattles or comb) and a long arched tail (though not so curved). Their distinguishing field marks include a loose crest sprouting from the back of the crown, white barring on the rump, and grey streaking on the breast. The females resemble Jungle Fowl (Gallus gallus) hens but they too may be identified by, among other characters, their long crest.

There are eight subspecies of Kalij distributed from Nepal to Burma. The Kona birds appear to represent at least two of these races, both from the western Himalayas (hence the name Nepal Pheasant). In the first and westernmost subspecies, L. leucomelana hamiltoni, the cock has brighter plumage: the crest is white to brown grey, the rump is heavily barred white, and the breast is much streaked with grey. In the second subspecies, L. leucomelana leucomelana, cock is much darker with black crest, narrower barring on the rump, and reduced streaking on the breast. Differences between the hens are more subtle. Surprisingly, Delacour (1949: 204) reports that "generally speaking, hybrids between the two races do not show intermediate characters, reproducing those of either parent in a pure state, particularly in the color of the crest."

Before leaving the taxonomy of these birds, it should be mentioned that the Kalij is very closely related to the Silver Pheasant (L. nycthemera), so close, in fact, that the



two might be considered geographical representatives (the Silver inhabits Southeast Asia, from Burma into southern China) of the same species were it not for fairly distinct plumage differences between the two and that in some areas where the two species occur together they occupy different habitats; the Silver living in montane forests and the Kalij in lowland rain forest. At some localities the two species hybridize extensively—as they will in captivity.

The birds I saw showed no Silver traits at all; but this is something that should be checked, since Silvers are common ornamental pheasants and they may have gotten mixed with the Kalij before or during their introduction on the Big Island. Male Silver Pheasants differ from the Kalij in that their back, wings, and tail are pure finely vermiculated black.

Belonging to a large and successful genus of jungle pheasants in Southeast Asia, the Kalij and Silver Pheasants are birds of the mountain forests between elevations of 2,000 and 11,000 feet. So far, the Kalij appears well adapted to Big Island rain forests and, judging from reports of Kona residents, it seems to be spreading southward from the slopes of Hualalai. The only record of its introduction that I can find is of 67 birds released on the Puu Waawaa Ranch in 1962 (Lewin 1971). Five years after their release Lewin found that "a small population persists immediately uphill from this release site. They are shy forest dwellers and are never seen at the sanctuaries. Adults and young were regularly seen in thick stands of silk oak (*Grevillea robusta*)..." (Lewin 1971:149). Was this the only release? If so, then indeed the Kalij are rapidly expanding their range. Certainly much of this pheasant's success may be attributed to its ability to colonize humid and densely vegetated habitats that have been devoid of game birds since the near extirpation of wild Jungle Fowl many decades ago.

#### Literature Cited

Delacour, Jean. 1949. "The Genus *Lophura* (Gallophasants)", *Ibis*, 91:188-220.

Lewin, Victor. 1972. "Exotic Game Birds of the Puu Waawaa Ranch, Hawaii", The Journal of Wildlife Management, 35:141-155.

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Progress Report from Paul C. Banko, Biology of Endemic Forest Birds on Mauna Loa, Hawaii, 14 October 1975: ...As the situation stands now, I have completed the census of Dr. Paul Baldwin's plots of the 1940's and have statistically compared my results with his. I have also discussed various aspects of the project, including the census data, with Dr. Baldwin to make sure that my conclusions are valid.

I am presently interpreting my census data in historical context and the study should be more meaningful as a consequence. I hope to finish this effort by the end of 1975....

The portion of the project dealing with competition between native birds and the introduced White-eye had to be modified somewhat from the original goal of my project proposal. Techniques to obtain stomach contents from live specimens proved to be impractical, so I resorted to studying differences and similarities in feeding behavior which would give an index of competition between native birds and White-eyes. Although this is a valid and relatively useful method of evaluating competition, much more data is needed before meaningful conclusions can be made. Unfortunately, lack of time and logistical problems will prevent further activity in this direction in the foreseeable future.

The question of competition for food between Hawaiian birds and introduced organisms, including the White-eye, has been extensively researched from the literature by my father, Winston, and me during the last three years. ...

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Letter to Don Roberson, Insert Editor, BIRDING from Mae E. Mull, 3 September 1975: ...You asked for directions to the habitat of the 'Akiapola'au to accompany the BIRDING reprint of THE ELEPAIO (34:7) article by James Jacobi.

Jacobi's observations in the Kilauea Forest Reserve and adjoining Keauhou Ranch were made during the course of his work as a biologist in the Island Ecosystems study under the International Biological Program. A cooperative agreement between the private landowner, Bernice P. Bishop Estate, and I.B.P. for four years permitted an intensive biological study of the area that has been proposed for future koa timber logging by the Estate. That agreement is now terminated and preliminary proposals for logging are underway.

There is no public access to the 'Akiapola'au habitat described by Jacobi. The Kilauea Forest and Keauhou Ranch are wholly owned by the Bishop Estate and no public



entry is permitted. The Keauhou Ranch, formerly a closed 'ohi'a and koa forest, has been grazed for generations and presently is under long-term lease to the Parker Ranch. The only access to the 'Akiapola'au habitat in the Kilauea Forest is over about ten miles of rough jeep road through a series of fenced paddocks and locked gates on ranch land. Presently, only two or three biologists have the permission of the leaseholder and landowner to enter the area.

There appears no hope that public access can be acquired and only faint hope that this habitat of several endangered species will not be drastically altered by logging operations. The Bishop Estate, largest private landowner in Hawaii, has the primary goal of maximum monetary return from its holdings to support the Kamehameha Schools.

Under these circumstances, a map and specific directions would serve no useful purpose for your readers.

The continuing decline and loss of native Hawaiian ecosystems, including its unique avifauna, are inevitable as long as public goals emphasize growth, development and population increase. ...

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#### Bird's Eye View\*

By Peggy Hodge

Highrises in Kahala are for the birds these days, literally! Phil and Judy Graef, not particularly interested in feathered friends, went to Maui for a short trip, came back with a coconut planter.

Put a fern in it that night on the balcony of their 20th story condominium at the Kahala Towers, and the next day a pair of house finches or linnets found it and were soon making a nest.

The brave finches moved aside the fern and made a triangle base with grass for their nest. The bright red headed, red breasted male sang and sang to his lady love on the edge of the railing and together they finished the nest and it had a pale green egg in it a week later, with two more to come.

In 13 days the Graefs found three hatched babies, translucent red with mouths open. The parents came faithfully to feed the young and were not disturbed when the Graefs ran their vacuum nearby.

The birds made history in the opinion of Dr. Andrew J. Berger, expert in birds and professor of zoology, University of Hawaii. He has never heard of birds going above the eighth floor in a highrise and was out on the Graefs' balcony viewing the week old birds with us.

Dr. Berger was particularly interested in this nest as he has been collecting new information on island birdnests for the Hawaii Audubon Society and his research projects. He is the author of HAWAIIAN BIRDLIFE.

The finches have a beautiful song not unlike a canary to which they are related. They also have "location notes" which they use to say "I'm back, dear, my turn at bird sitting." Often the male feeds the mother and then she feeds the chicks.

The birds departed the nest about 18 days after hatching but continued to be fed at other places by the parents. Usually the finches have two broods a season, one in Spring and the next in early Summer, starting again within a week after the young ones have flown the coop.

Dr. Berger says the finches may possibly use the same nest again. The Graefs hope so.

\*By special permission reprinted from HONOLULU, July 1975, Vol. 10, No. 1, page 44.

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Field Trip 12 October 1975 by Timothy A. Burr: Waipi'o Peninsula

At 0800 seven members and four guests gathered at the State library for a head count and introductions before departing for Waipi'o peninsula to view wintering shore birds. Skies were overcast but cleared to scattered clouds with light winds by mid-morning. The major sighting enroute was a single Black-crowned Night Heron observed just past the Waipahu High School.

Waipi'o Settling Ponds: On our approach to the ponds, nine Black-headed Mannikins were seen in the grasses lining an irrigation ditch. We were quite disappointed after looking into the first pond: dry, hard mud bottoms with only a few scattered, shallow pools. A fair-sized flock of Hawaiian Stilts kept our spirits up, however. As we walked along the dike searching for a better start, Brazilian Cardinals were seen feeding along the grassy



ditch banks.

The next pond supported many more birds and afforded all an excellent chance to compare the often confused Sharp-tailed and Pectoral Sandpipers. Once seen side by side, the creamy, lightly streaked breast, blending into whiter underparts, of the Sharp-tailed Sandpiper differed noticeably from the heavier streaked and abruptly divided breast of the Pectoral Sandpiper. A rufous crown apparent on the Sharp-tailed Sandpiper also aided in separating the two species.

The sharp eyes of one member picked out a smaller sandpiper from among a group of Sanderlings. After close scrutiny, it was decided that it was most likely of the Western type, with positive identification unsure. Other birds recorded included a Green-wing Teal, Golden Plovers, Ruddy Turnstones, Cattle Egrets, and Hawaiian Stilts. A lone Canada Goose species was also spotted and was approached quite closely by most of the group.

While pursuing three illusive ducks of undeterminable species, we stumbled upon a large, well watered pond with many more birds. The most abundant species appeared to be the 280 plus Pintail ducks, with Shoveler and Mallard ducks also present. Additionally, Hawaiian Coots, Cattle Egrets, Golden Plovers, and nearly 100 Hawaiian Stilt could be seen scattered throughout the pond.

Four Red Munia were seen along the dirt road to this pond, and Wayne Gagne and Bob Pyle reported seeing three more and a hundred or more Black-headed Mannikins in an adjoining grassy swell.

Summary of settling pond species: Black-crowned Night Heron-1, Cattle Egret-105, Canada Goose species-1, Mallard-14, Pintail-280+, Green-winged Teal-1, Shoveler-15, Spotted Dove-25, Barred Dove-30+, Hawaiian Coot-28, Golden Plover-55, Ruddy Turnstone-23, Sharp-tailed Sandpiper-6, Pectoral Sandpiper-1, Sandpiper-Western sp.-1, Sanderling-80+, Hawaiian Stilt-135, Mynah-35+, Red Munia-7, Black-headed Mannikin-109+, Brazilian Cardinal-13.

Reef Runway Replacement Habitat--West Loch: Interest expressed by most of the group prompted a side trip to West Loch to inspect the area bought to replace shore bird habitat destroyed by the construction of the reef runway.

After negotiating a six-foot high chain-link fence, we found ourselves in a series of islands separated by nearly dry water courses. A thorough head-scratching on the suitability of the area for shore birds did nothing more than raise a little dandruff and a lot of ire. Despite the disappointing terrain, Golden Plover-40+, Ruddy Turnstone-1, and Wandering Tattler-4 were seen in the shallow water.

Shrimp Ponds-- West Loch: On the way to the replacement habitat a brief stop was made at a small group of shrimp ponds to see the Hawaiian Gallinule. Although only one of these birds was seen, we were treated to a good look at seven Hawaiian Coot, two of which were in juvenile plumage, a female Mallard, and an American Widgeon.

A total of 24 species was seen for the day.

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Field Notes from Walter R. Donaghho: Big Island

4 October 1975: The Audubon field trip to the Kilauea Forest Reserve, led by Bill and Mae Mull and Larry Katahira, ranger, whose account of the trip is in the November issue (pages 62-63).

We drove in the early morning (I was picked up by the Mulls at the dark hour of 5 a.m. in front of the lodge of the Kilauea Military Camp) through the rough lava-covered pastures of the Keauhou Ranch, now a part of Parker Ranch. Plover flew up, but they didn't seem as numerous as usual (and as numerous as I found on the 5th, on a second trip); 3 Nēnē flew up nearby as we passed the first water tank. We stopped above the second one, not far from the Keawewai cabin and approached the forest, largely of 'ohi'a, where one of the first birds that flew up onto the top of one of the trees was an 'Ākepa, brilliantly orange in the morning sunlight. It flitted about in the foliage like a 'Apapane and passed on. 'Ōma'o sang from within the forest, and we saw more than one pair of them as we entered. I whistled for 'I'iwi and a brilliant scarlet bird flew up into a tree overhead, looking for that "other 'I'iwi".

There were no certain sightings of the 'Akiapola'au, although I am sure that a large green bird that flew through the woods was one. Bill Mull heard one later, but we were unable to see it. The Mulls also reported another 'Ākepa and two creepers on a side road branching off the road running along the Forest fence.

Five Nēnē flew in circles just south of us as we came out of the woods and prepared



to get into the cars to drive down to one of the roads leading in to the Kilauea Forest Reserve fence.

Here, we walked a good trail downslope through the forest, where 'Apapane, 'I'iwi, and 'Ōma'o were evident. Once, while we were standing in an open area on the trail, a creeper flew into an 'ohi'a overhead, crept a little, then sat and preened.

5 October: Returned to the Kilauea Forest Reserve where we were on the 4th. Walked through the forest, and saw one 'Akiapola'au. Later went down the trail we were on yesterday and saw another passing through the kolea-naio understory, not far from the rain gauge.

An immature 'Io sat in the middle of a small koa tree right by the fence overlooking the road, giving forth its harsh "screeeee" now and then.

11 October: Three widgeon and one Green-winged teal were in the Waiakea Ponds near the Hilo Lagoon Hotel. The widgeon were in the pond next to the hotel grounds, while the Green-winged teal was in the main channel, near the Park mauka of the Waiakea Resort Hotel. Mike Scott came down from the National Park to examine the ducks.

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Field Notes from Peggy Hodge: 'Iwa Watching

Watching the sun rise over the islands of Mokulua and Lanikai and counting 'iwa (great frigatebird) at dawn is the absorbing hobby of Bill Hodge these days. He reports an average of 100 a morning, usually between 6-7 a.m.

Record count recently on October 24 was 237 during that early morning hour. The birds circle and glide over the deck of the Hodge "tree-house" at the foot of Ka'iwa ridge, appropriately named.

There are usually some 8-12 boobies that trail along.

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The following testimonies were sent to Senator Jean King, Chairman, Committee on Ecology, Environment, and Recreation from Vice-President William F. Burke, 25 February 1975:

SB 195 relating to the protection of endangered species of wildlife: The problem of endangered species is of growing concern throughout the world. Many of us in Hawaii are particularly aware of it because our small island state is, unfortunately, a major contributor to the statistics. According to the most recent listing of endangered fauna in the United States published by the Fish and Wildlife Service of the Department of the Interior (May 1974), Hawaii, with twenty-six endangered birds plus the endangered Hawaiian Hoary Bat, contains one-fourth of all the endangered animals in the United States. Looking solely at the bird populations, one finds that Hawaii contains over one-half of all the kinds of birds in the United States in danger of extinction! In addition, approximately eight hundred kinds of Hawaiian plants are endangered (more than the rest of the United States combined).

The Hawaii Audubon Society supports S.B. No. 195 and suggests that perhaps it might serve as an amendment to the State Endangered Species Act of 1972 (Act 49). We further request that the term "wildlife" be employed to include plants as well as animals as it is in the Federal Endangered Species Act of 1973.

Certainly, with the dubious distinction of having more endangered species than any other state, Hawaii, even more so than other areas, needs strict laws to protect its biota. Habitat destruction, particularly by feral mammals, is certainly the major threat to our endemic flora and fauna. This bill, preventing the unregulated intrastate sale of endangered species or any product thereof, covers another important aspect of the problem and is certainly a major step in the right direction.

SR 244, SCR 63, and SB 970 concerning the protection of Hawaii's native ecosystem on Mauna Kea via fencing: As both the Senate Resolutions and Bill recognize, the native ecosystem on Mauna Kea consisting of the mamane-naio forest and several resident endangered species of birds is a unique and fragile biological system. For those who may not appreciate its inherent aesthetic and biological values, as a unique and fascinating collection of biological species, it also serves a practical purpose as a watershed area. To sit idly by and allow its eventual destruction when the means exist to save it would certainly be a crime and might indeed have unforeseen ecological consequences.

A small percentage of the population in Hawaii (less than two percent) is engaged in hunting the feral mammals on Mauna Kea. Certainly their rights and the pleasure they derive from this activity should be respected. However, the rest of the citizens of this state and indeed people from all parts of the world have a right to the biological



heritage involved here--the preservation of a unique portion of the biosphere.

The United States and other nations recognize the importance of protecting areas for their practical, biological, and aesthetic value. Several international organizations, particularly the United Nations through its "Man and the Biosphere" program, have begun to search out areas to be set aside as natural reserves because they are representative or unique and frequently because they are threatened with destruction. Our native ecosystem on Mauna Kea seems to fit all three categories. Can our state do less than protect at least a portion of it?

Considerable sums of money have been spent in the past on the monitoring and maintenance of the feral mammal populations to the detriment of the native flora and fauna. The conservation of endemic species should be afforded at least equal consideration, if not primary. The bisecting of Mauna Kea will at least achieve this equal status situation. It is some consolation to know that the State might consider plants such as the mamane, naio, and silversword and animals such as the Palila and 'Akiapola'au (all unique to Hawaii) on par with wild sheep and goats. The removal of feral mammals from the mountain would be the optimal solution. Fencing is at least a half way step in the right direction. We would thus allocate only fifty percent of the mountain to less than two percent of the population of Hawaii while granting the other half of Mauna Kea to the ninety-eight percent of the remaining citizens in the State plus the rest of the peoples of the world.

The Hawaii Audubon Society supports any measure which will maximize the protection of Mauna Kea's ecosystem.

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To Representative Richard Kawakami, Chairman, Water, Land Use, Development, and Hawaiian Homes, 26 February 1975.

HR 281 relating to the breeding of sheep on Mauna Kea to eliminate the herding trait: While H.R. No. 281 points out the fact that feral sheep cause severe ecological damage to the native ecosystem on Mauna Kea, it fails to recognize that the Mouflon sheep also exert a damaging influence on the native flora and fauna. The proposed breeding of the two stocks, even should it prove successful, would only serve to mitigate the problem and in no way approach a rational solution. If the resulting hybrid did indeed exhibit the characteristics hoped for, it would result in merely a slower death to some of Hawaii's unique biota. There is also the possibility that quite the opposite result will occur and the hybrid Mouflon will join the feral sheep herds. Such a situation has been observed with lone experimental hybrids and hybrids produced in the wild. The ecosystem on Mauna Kea, like most island ecosystems, is fragile and easily succumbs to outside biological perturbations whether they be feral sheep, Mouflon sheep, or any combination thereof.

The resolution speaks of avoiding curtailing the hunters' prerogative. Certainly, their rights are to be respected. However, they constitute a very small percentage of the population of Hawaii (less than two percent). The remaining ninety-eight percent of the citizens of this state and indeed the rest of the peoples of the world also have a right--the right to the biological heritage of a unique portion of the biosphere located on Mauna Kea. To ignore the rights of a great majority of people while catering to the prerogatives of a small group is not just.

At a time when the endangered species problem and the need for protecting natural areas for their practical, biological, and aesthetic values is recognized both nationally and internationally, it would seem incumbent upon our state to do its share in protecting its part of the world's biota.

Considerable sums of money have already been spent on monitoring and maintaining the feral mammal populations on Mauna Kea to the detriment of the native flora and fauna. To allocate more time and money toward a project that may or may not work and even if successful will not satisfy the desires of either the hunters or those concerned with saving Hawaii's unique plants and animals is not at all a rational approach. The multiple use philosophy simply does not work in this particular biological situation. The only sensible solution is to separate the native and introduced organisms from either all or a portion of the mamane-naio forest. The native ecosystem does have a chance to recover once outside pressures are removed.

The Hawaii Audubon Society does not feel that the breeding program suggested in H.R. No. 281 serves the best interests of the citizens of Hawaii.



Testimony on Environmental Protection Program LNR 401: Fish and Wildlife, to Senator Jean S. King, Chairman, Ecology, Environment and Recreation Committee from Alan C. Ziegler, Vertebrate Zoologist, Bishop Museum, 21 February 1975.

I am presenting this testimony as an individual. ...

In testimony on Program LNR 804 before this Committee last February 7th, I noted that the State Division of Fish & Game each year spends approximately \$12,000 (plus \$36,000 in matching Federal funds) to maintain herds of feral sheep on the Big Island's Mauna Kea, solely for hunting purposes of the less than 1% of our State's population who care to shoot mammals. Also, to show that the entire native ecosystem of Mauna Kea is steadily being wiped out by these barnyard sheep gone wild, I included with my earlier testimony copies of A Forest Dies on Mauna Kea, published 15 years ago in Pacific Discovery, along with more-recent related articles on the continued senseless destruction of the entire original Mauna Kea watershed; including the soil mantle itself, the native mamane-naio forest, and at least one unique Endangered Hawaiian bird species: the Palila.

In spite of the obviously critical need to begin immediately to initiate effective protection of Mauna Kea's natural environment, no funds at all are requested for this specific purpose in the LNR Program 401 you are considering today. In order to explain only one relatively limited reason why the protection of what remains of Hawaii's natural environment is so desperately needed, I would like to briefly describe the ten species of uniquely Hawaiian birds that have already been lost on the Big Island alone during the past 100 years. (To provide perspective, it might be noted that in the almost 500 years of recorded history on the North American continent, only four or, possibly, five bird species are known to have become extinct.)

1) Mamo (Drepanis pacifica). Yellow and black feathers used for over a thousand years by Hawaiians in making feather capes; birds still common in native forests in 1880's; extinct by 1900.

2) 'Ula-'ai-hāwane (Ciridops anna). Hawaiian name means "red bird that feeds on fruit of the native fan palm;" in last half of 1800's widely distributed in Districts of Kohala, Kona, and Hilo; last seen in early 1890's; only five specimens ever collected.

3) Greater Koa Finch (Psittirostra palmeri).

4) Lesser Koa Finch (Psittirostra flaviceps).

5) Grosbeak Finch (Psittirostra kona). (All three of these large-billed seed-eating species once found on Kona slopes of Mauna Loa; all first described between 1888 and 1892; no reports of any of the three surviving after 1896.

6) Greater 'Amakihi (Loxops sagittirostris). Discovered 1892 in lowland native forest along Wailuku River above Hilo; seen again there in 1895 but extinct before 1910.

7) 'Akialoa (Hemignathus obscurus). In 1800's numbered in tens of thousands over most of Hawaii (including virgin Mauna Kea forest); became extinct during early 1900's; other races occurred on Lanai and Oahu but these also gone now.

8) 'Ō'ō (Moho nobilis). Similar to Mamo in coloration, and likewise used in making feather cloaks; still extremely abundant in all lowland forests of Big Island through 1900; last reported seen in 1934.

9) Kioea (Chaetoptila angustipluma). Essentially nothing known of this Big Island bird; only three specimens ever taken, first collected (possibly in Hilo area) in 1840; reported seen for second--and last--time in 1859.

10) Moho (Pennula sandwichensis). A sparrow-sized flightless rail; during Hawaiian times extremely abundant in unforested lowland areas; last seen in 1884, just about one year after mongoose introduced to the Big Island; only five specimens ever collected.

No one knows for sure the exact reason why even one of these ten species of native birds became extinct. However, it is generally conceded that the probable cause in each case included at least one of the following: a) epidemic deaths by introduced diseases (such as avian malaria), carried to Hawaii by introduced continental birds; b) destruction of some critical portion or component of original native habitat or ecosystem by introduced hoofed mammals such as goats, sheep, or wild cattle; and c) predation by introduced small mammals such as black rats, mongoose, and feral cats.

Thus, I hope this Committee might be willing to take action to ensure that the Palila does not join the other ten Big Island bird species which have already been lost to the world, as well as to provide for the extremely practical matter of preserving for future use the priceless watershed potential of Mauna Kea. To do these two things, I would respectfully request the Committee consider removing from LNR 804 the sum of \$12,000 in State funds now intended for continuation of sheep-maintenance on Mauna Kea, and add this



same amount to the present Environmental Protection Program LNR 401; with the stipulation that these added Environmental Protection funds be used by the Division of Fish & Game for carrying out as quickly as possible whichever of the following two actions the Board of Land & Natural Resources should deem most feasible: 1) transfer all existing feral sheep from the badly damaged native ecosystem of Mauna Kea to some other Big Island locality less susceptible to habitat destruction by these mammals; or 2) continue to maintain sheep on portions of Mauna Kea as at present, but fence off other portions of the mountain in large enough quantities to insure the native ecosystem there can recover and maintain itself in perpetuity.

Either of these two alternatives, it may be noted, will at the same time allow both conservation of significant areas of native habitat and continued maintenance of feral sheep herds for hunting. Also, it seems most likely that the same yearly \$36,000 of Federally administered Pittman-Robertson Wildlife Restoration money currently being received by the State would continue to be approved by the U.S. Fish & Wildlife Service for this revised use. ...

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Following testimonies were sent to Rep. Russel Blair, Chairman, Committee on Environmental Protection; Rep. Richard A. Kawakami, Chairman, Committee on Water, Land Use Development and Hawaiian Homes; and Sen. Jean S. King, Chairman, Ecology, Environment and Recreation Committee; from Board Member Francis G. Howarth, 6 March 1975: HB 489 relating to the protection of indigenous and other desirable animal and plant life: ...The purpose of Bill 489 is to amend and substantially nullify the environmental protection functions of the Animal Species Advisory Commission. We urge this committee not to pass this bill.

Hunting developed as a continental sport. Our native Hawaiian ecosystems and Hawaiian culture developed without big game animals. Our native forests do not have defenses against the destruction of grazing animals that continental forests have. We should no more commit our natural heritage and resources to development of big game hunting here than the people of Kansas should dig up their prairie to develop salt water fishing as a sport. Biological pollution is a forever thing. Once an undesirable animal species becomes established it would be very costly, if at all possible, to eradicate it from the Islands. Hawaii must take the critical view that all proposed introductions are potentially dangerous if we are to maintain and expand our agricultural industry and assure the well being of the public.

One point in the bill is exceptionally critical. Page 3, lines 8-9 removes the requirement for public hearings on DLNR sponsored animal liberations by absolving the DLNR from regulations under chapter 91 of the Administrative Procedures Act. Does this legislature want to do this?

From the complaints of some local hunters there is a communication gap between the hunting community and the Commission. Many hunters believe that no positive hunting action has been taken by the Commission. The facts are: the white-winged pheasant was recommended for introduction by an early act of the Commission, and the scientists on the Commission have been nearly unanimous in strongly urging the Division of Fish and Game to open more areas to hunting. We feel the problem now is not enough hunting pressure in many areas of the State, such as the Kulani Prison area, the mamane-naio forest on Mauna Kea, portions of Waimea Canyon, Kauai, and portions of Molokai. These are badly overgrazed by wild animals, and if their numbers are not soon controlled by the hunters then the demise of the vegetation will control animal populations, not hunting pressure. We recommend that the Division of Fish and Game actively pursue opening access for hunting and hiking to public and private lands within the State.

I have sat in on a few Commission meetings and feel that though many differences of opinion and problems exist, the Commission has been an important learning process for both the scientists and the hunters, and has been successful.

HB 1867 & SB 1665 relating to conservation management and protection of endangered or threatened species of wildlife or plants: The State of Hawaii, the Island Paradise, has the dubious distinction of having the worst survival record of its native biota of any other state. One hundred percent of its indigenous mammals are endangered; of the 70 indigenous Hawaiian birds not found elsewhere in the world 25 are already extinct and 27 endangered; of the 2200 kinds of indigenous plants more than 100 are extinct and nearly 900 are endangered; the insects, snails, and other invertebrates are less well known but they have not fared any better. As the plant goes its insect associates and its niche in



the ecosystem goes with it. With such a poor record we are well aware of the fragility of Hawaii's indigenous biota. But with such a rich and remarkable biota still extant there is still time to reverse the trend. The priorities of this bill should be with conserving our indigenous biota.

We are in favor of the intent of this bill as stated in Sec.-1, pg. 1, but have many misgivings over the mechanics and wording of the bill and urge you to consider the following amendments or table this bill.

Pg. 2, line 13: The definition of "endangered species" is inadequate for it excludes those species on the U.S. list, although these are included in Sec.-4 on pg. 4, line 16! Suggested rewording: "Endangered species" means any species of wildlife or plant which is currently in danger of extinction throughout all or a significant portion of its range in the world and has been so designated pursuant to Sec.-4.

Pg. 2, line 20: "Indigenous species" is correctly defined and is the benefactor of the bill as ascertained from the intent on pg. 1. Incredibly, nowhere in the body of the bill does the term appear again!

Pg. 3, line 23: What is a "particular species"? This section refers entirely to endangered and threatened species. The intent of this bill is nullified if only "particular species" are conserved. We urge that the words "endangered and threatened" be substituted for "particular" in line 23.

Two important paragraphs in Chapter 191 H.R.S. have been omitted from "Conservation Programs" Sec.-5 (paragraphs (b) and (d) in 191-56 H.R.S.) in this draft and weaken the bill. We recommend inclusion and the following rewording in this bill: 1)The department shall take such action as may be necessary to insure that activities which it authorizes, funds, or carries out do not jeopardize the continued existence of endangered species; and 2)In carrying out programs authorized by this section, and other provisions of this Act, priority shall be given to the conservation and protection of those endangered species and their associated ecosystems which are indigenous to the State.

In Chapter 191 H.R.S. authority to implement the act is given to the Division of Fish and Game. No specific agency within DLNR is so designated in this bill. Was this an oversight? Shall we create a new division concerned with the environment? Perhaps it is good to remove such activity from the Division of Fish and Game since they have admitted a real conflict of interest between endangered species policy and their goal to improve hunting. But Fish and Game now handles U.S. endangered species funds. Will they be unable to spend these without a mandate from this legislature? ...

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#### HAND-BLOCKED PRINTS AND NOTES WITH HAWAIIAN THEMES BY LOCAL ARTISTS

Let's support local artists who use natural Hawaiian themes in their work! This is another way of spreading the message on Hawaii's beauty and natural values. At the same time, we give ourselves and others the pleasure of distinctive designs all created and produced by hand in Hawaii--at prices no higher than mass-produced cards from the mainland.

Ione and Wesley Kanetake are Hawaii-born artists who live close to the sea in Hilo. They are intrigued with the birds, fish, plants and scenes around their rural Big Island home. Both work to capture the character of island life forms on block prints. Wesley creates the design and executes it on linoleum or wood blocks. Ione does the hand printing from the blocks in two colors. Their work is available in a few selected galleries and by mail order from them.

Wesley has made black-and-white wall prints of two endemic birds: the 'Ō'ū (4"x4½"), a rare honeycreeper, and the 'Elepaio (6"x6"), Hawaii's flycatcher. Both designs are mounted on 10"x10" mats, ready for framing. They are available for \$10 each at the Volcano Art Center or from Kanetake by mail order.

The folded note cards in a two-color print, with envelopes, make attractive Christmas cards, year-round greeting cards, unusual notes, and small gifts. Or they can be mounted for wall prints. These galleries carry Kanetake notes: Kitta International in The Ward Warehouse, on Ala Moana Blvd., across from Fisherman's Wharf in Honolulu; Volcano Art Center in Hawaii Volcanoes National Park, Island of Hawaii; and Margaret's Gallery in Pahoa, Island of Hawaii. Mail Orders: A set of 8 notes is \$2.50 plus 4% Hawaii sales tax. Order by print number given below and send order to: Ione and Wesley Kanetake, 2084 Kalanianaʻole Avenue, Hilo, Hawaii 96720. List of print numbers and titles: #100-Hawaiian Stilt, ʻĀe'o, 101-Haole Koa Leaves, 102-Kalapana (Kaimu Beach), 105-Large Fish, Uhu, 106-Iolani Palace, 107-Orchid, 108-Cove Scene, 109-Jungle Leaves, 111-Small



fish, Uhu, 112-Flounder fish, Pāki'i, 113-Bird on Branch, 114-Four Seasons, 115-Sea Turtle, Honu, 116-Owl, Pueo, 117-Sea Bird below Moon, 118-Flower Arrangement (small gift enclosure cards, \$2.00), 119-Dandelion, 120-Bird in Papaya Tree, 121-Wisteria, 122-Four Fish on Tapa, 123-Plumeria, 124-Sea Birds over Water, 125-Chrysanthemum, 126-Hawaiian Mother and Child, 127-Mauna Kea over Hilo Bay, 128-Kilauea Caldera. A sample of the notes #100-Hawaiian Stilt, Ae'o, will be on display at the general meeting. -Mae E. Mull-

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Wildlife Scholarships: The National Wildlife Federation (NWF) has announced that its graduate fellowship program for research in wildlife conservation and management or other environmental concerns has been expanded this year to \$100,000. It is open to masters and doctoral degree candidates. NWF has encouraged persons with Hawaii topics to apply, according to Steve Montgomery, their local affiliate representative. Applications, due 30 December, may be requested from the NWF, 1412 Sixteenth St, NW, Washington, DC 20036.

Magazine Issue Focuses on Hawaiian Wildlife and Habitat: The December issue of Defenders of Wildlife News almost entirely is devoted to Hawaii's living heritage. Numerous leading experts have written articles covering nearly every aspect of natural history of the islands, including waterbirds, landshells, stream life, and native flora. The color-filled issue, to include several original paintings, will be comparable to the conservation group's successful issue on Madagascar of last April. You may receive a copy with membership in Defenders of Wildlife at \$10.00 for one year. Also, a copy of the Hawaii issue can be ordered by sending \$2.00 to Defenders of Wildlife, 2000 N St, NW, Suite 201, Washington, D.C. 20036. -Steven Montgomery-

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Donation: As usual Miss Grenville Hatch's bound volume of THE ELEPAIO has arrived. Every five years she has been binding her THE ELEPAIO into one volume and donating it to the Society. MAHALO NUI LOA for your continued support and generosity.

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ALOHA to new members:

Michael Barry, Dept of Zool, Univ of Haw, 2538 The Mall, Honolulu, HI 96822  
Theodore Dabagh, 2295 Round Top Drive, Honolulu, HI 96822  
John W. Goemans, P.O. Box 67, Kamuela, Hawaii 96743  
Carol H. Kimoto, 45-731 Waiawi St, Kaneohe, Oahu 96744  
Kathleen Lewis, 2138 Atherton Road, Honolulu, HI 96822  
O.M. Mabry, Box 636, Kealahakua, Hawaii 96750  
Cynthia Winters, 425 Ena Road, #704-B, Honolulu, HI 96815

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Honolulu Christmas Count is scheduled for Sunday, 21 December 1975. The count is conducted within a circle 15 miles in diameter, centered close to Nuuanu Pali. This same area has been covered each year since 1954. Areas to be covered are 1) Aiea Trail; 2) Moanalua Gardens, Nuuanu Valley, Salt Lake, Sand Island, Keehi Lagoon; 3) Tantalus, Makiki Trail, Punchbowl, Pensacola cemetery; 4) Waahila Ridge, Woodlawn Trail, Manoa Valley, Ala Moana Park; 5) Kapiolani Park, Ewa slope of Diamond Head; 6) Diamond Head Crater, Kaimuki to Paiko Lagoon; 7) Kaelepulu Pond, Bellows Field; 8) Kawainui Marsh, Quarry Road, Kailua; and 9) Kaneohe Marine Corps Air Station, Moku Manu.

If you are interested in helping with the count, please call Dr. Sheila Conant, 988-6522 (evenings) or Dr. Robert Pyle, 262-4046.

Full details and discussion of count plans will be given at the annual meeting.

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Big Island Christmas Count: The Volcano Christmas Count will be held on Saturday, 3 January 1976. This Count Area on the southeast slopes of Mauna Loa is a 15-mile-diameter circle centered at Kulani Cone, near the community of Volcano. The Count Area includes such varied native habitats as alpine scrub at 8,000', fresh lava flows at 3,000', and koa and 'ohi'a-tree fern rain forests in between. Over 10 species of endemic Hawaiian birds live in the Count Area, and more than half of them are endangered. Experienced observers are encouraged to participate in this exciting and important annual bird census. For details, contact Dr. Michael Scott, compiler, P.O. Box 44, Hawaii National Park, Hawaii 96718, telephone 967-7208; or telephone William Mull, 967-7352. -Mae E. Mull-

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REQUEST FOR NESTING INFORMATION: Audubon members can add a great deal to our records of the nesting activities of both introduced and native species if they will call when they find a nest. Dr. Berger has agreed to coordinate the nest-record program. If you find a nest, please call him at the Department of Zoology, University of Hawaii, telephone 948-8655 or 948-8617. MAHALO NUI LOA for your interest and KOKUA.

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The poster "We Care About Hawaiian Wildlife Habitat" is available for a suggested donation of \$1.50 or more. Despite our frugal existence we are unable to give away this valuable educational poster to the general public. For information call Steve Montgomery, 941-4974.



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Academy of Nat Sc-Pa  
 Amer Mus of Nat Hist-NY  
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 Haw Nat Hist Assn-Haw  
 Haw Pub Lib-Haw

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 Koloa Comm Sch Lib-Kauai  
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 Lib of New S. Wales-Australia  
 Life of the Land-Hon  
 Lyman K. Stuart Observ-NY  
 Maui Pub Lib-Wailuku

Maui Pub Lib-Kahului  
 Lahaina  
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 McGill Univ Lib-Canada  
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 Palama Settlement-Hon  
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HAWAII'S BIRDS, a field guide, is out of print. As soon as the new edition is out, we'll let you know. We'll do our best to keep the price as it is now, but no guaranty.

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Reprint permitted if credited as follows: from 'ELEPAIO, Journal of the Hawaii Audubon Society.

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#### DECEMBER ACTIVITIES:

- 8 December - Board meeting at Waikiki Aquarium Auditorium, 6:45 p.m. Members welcome.
- 15 December - Annual meeting at Waikiki Aquarium Auditorium at 7:30 p.m.  
 Program: (1) Elect officers (2) Work out details of the Christmas bird count (3) Talk by Walter R. Donaghho on his recent world trip (color slides).
- 21 December - Honolulu Christmas bird count.
- 3 January - Big Island Christmas bird count.

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#### HAWAII AUDUBON SOCIETY EXECUTIVE BOARD:

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