



Problems of Nomenclature and Identification of Introduced Birds in Hawaii: A Case Study of Two Estrildid Species

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INTRODUCTION

Introduced species create a host of problems for bird watchers, import officials and the conservation and biological communities in Hawaii. Among the lesser publicized of these problems is correct identification and nomenclature. To illustrate some of the ramifications of these problems, two estrildid finch species introduced to Hawaii will be discussed.

Identification of avian releases is complex because the species represent a broad assortment of birds from any family and any geographic origin. This leaves local conservation authorities and birders with the problem of pinpointing which species or subspecies is actually present and determining its correct name. In the case of estrildids, until very recently there was also a critical lack of voucher specimens to assist this process in Hawaii.

ESTRILDIDS

Estrildids frequently are called estrildid finches, although they are not true finches. Their presence as part of the introduced avifauna is not surprising in view of their popularity as cagebirds. Between 1968 and 1970, 1,990,997 estrildids were imported to the United States representing over 56% of all (reported) birds imported during these three years (Clapp and Banks 1973). More than 95% of these were wild-caught, the rest were raised in captivity. Since pet stores are brimming continuously with estrildids, it is doubtful the demand in recent years has waned.

Estrildids in Hawaii represent an excellent example of the types of nomenclature and identification problems created by introduced species. There presently are eight established estrildid species on Oahu: Nutmeg Mannikin (*Lonchura punctulata*), Chestnut Mannikin (*Lonchura malacca*), Warbling Silverbill (*Lonchura malabarica*), Java Sparrow (*Padda oryzivora*), Red Avadavat (*Amandava amandava*), Orange-cheeked Waxbill (*Estrilda melpoda*), Lavender Waxbill (*Estrilda caerulea*), and the Common Waxbill (*Estrilda astrild*). This paper will focus on the Warbling Silverbill and the Common Waxbill.

PROBLEMS OF NOMENCLATURE

The Warbling Silverbill was first collected in Hawaii in 1972 on the Island of Hawaii when a dead bird was found in a water tank (Berger 1975). It was first described in 1974 when Shallenberger identified it as *Lonchura cantans* in a brief note in the 'Elepaio. This note describes the bird as having no white rump feathers like its "close relative, the Indian Silverbill..." (so it) appears to be the African Silverbill." Shallenberger refers to the Department of Agriculture records from 1967, which note that 104 individuals of this species (*Lonchura [Aidemasayne] cantans*) were imported that year.

When Berger (1975) wrote a more extensive treatment of this bird, he discussed the species in Hawaii as being the African race of the species, *Lonchura malabarica*. This followed Ali's (1964) assessment that the African bird is a subspecies of the Indian form and so should be called *Lonchura malabarica cantans* rather than *Lonchura cantans*. The latest monograph on Estrildidae, *Estrildid Finches of the World* by Goodwin (1982), considers the African and Indian birds to be full species. The silverbills have a long history of such taxonomic reassessments; other authors dispute Ali's treatment and consider the two to be separate species (e.g., Harrison 1964, Goodwin 1982).

Today, the Warbling Silverbill is given as *Lonchura malabarica* in *Hawaii's Birds*, the local field guide. An accompanying photograph in the 1981 edition (p. 44) shows a bird with a black rump, so it is obviously the African Silverbill as originally described by Shallenberger and confirmed by Berger (the 1984 edition of the field guide has a different photograph taken from the front so does not assist in identification of rump coloring). The text describing the Warbling Silverbill makes no mention of its native range specifying it as the African bird, so that the scientific name and photograph do not appear to refer to the same species when compared to other authorities like Goodwin (1982) who consider the African Silverbill to be *Lonchura cantans*, a separate species from its Indian congener.

The 1981 edition of *Hawaii's Birds* was published prior to Goodwin's monograph, and, at the time of publication, Hawaii Audubon Society policy for the nomenclature of this species was formed based on consultations with Berger and his published papers that treated the bird as a subspecies (Pyle pers. comm.). The American Ornithologists' Union followed this precedent in their 1983 *Check-list of North American Birds*, as did Pyle in his 1977 and 1983 checklists of the birds of Hawaii.

This example illustrates the problems of nomenclature surrounding introduced species when local authorities have no experience with the bird other than observing it in the wild, and must base decisions on the work of others. Both treatments of the Warbling Silverbill have been defended and are acceptable; however, confusion can result when one scientific name is chosen over another without published explanation or background information.

PROBLEMS OF IDENTIFICATION

In the case of the Warbling Silverbill, identification was fairly easy since the bird did not look like any others already present, and the black rump immediately separated it from its Indian congener.

The Common Waxbill (*Estrilda astrild*), however, presented problems with both its identification and nomenclature for Hawaii's birders and Audubon Society Christmas Bird Count (CBC) participants.

On 15 October 1965, a small, brownish gray bird with a red beak and eyestripe was sighted on Oahu (Donagho 1965). It was identified on 16 October by Donagho and Throp as the "Common Waxbill" (a name used generally in the pet store trade for the several species of similar appearing waxbills). In the Christmas Bird Count for 1965, the Common Waxbill was tallied for the first time. Five other estrildid species new to the CBC were also found that year in the Diamond Head/Kapiolani Park area.

In the 1967 CBC, Throp, Director of the Honolulu Zoo (thus an interested professional) and observer of this species on the count, had researched this group and decided the bird being seen was *Estrilda troglodytes*, the Red-eared Waxbill, and that name was used in the count report. No explanation of this switch was noted, however, so Pyle, in his description of the 1967 count's highlights, believed Throp had found yet another waxbill species. Because Throp was then Director of the Honolulu Zoo and also a cagebird specialist, Pyle (pers. comm.) did not question the identifications. So many other new species were being sighted in the Diamond Head area, Pyle did not believe another one would be surprising. Pyle and Throp later clarified this confusion, confirming that all of these waxbills recorded on the 1965, 1966, and 1967 Christmas Bird Counts were of one species, *troglodytes*. This resolution was never explained in the 'Elepaio however (Pyle pers. comm.).

The Christmas Bird Counts (CBC) from 1968 and 1969 called this species the Common Waxbill, rather than Red-eared as in 1967, to avoid confusion of switching to a different name. In 1970 and 1971, the 'Elepaio editor changed to "Red-eared (Common)," thus providing a cross-reference to the Common Waxbill name which had been used earlier.

In 1970, Berger was completing his book, *Hawaiian Birdlife*, and listed *Estrilda troglodytes* by the names Common, Red-eared or Black-rumped Waxbill. Berger preferred Red-eared Waxbill in his text, probably based on Bates and Busenbark's (1970) *Finches and Soft-billed Birds* (Pyle pers. comm.). This text discusses *E. troglodytes* as the Red-eared Waxbill (p. 142) but also explains the bird understandably is called the Common Waxbill because it is the most numerous of African importations. The name Common Waxbill is also applied to *E. astrild*, which, however, is also known as the St. Helena Waxbill. *E. troglodytes* can also be called the Black-rumped Waxbill, a name which recognizes the physical distinction between the two species.

The Red-eared Waxbill was listed for the 1972 and 1973 CBC's; however, in 1974, the count compiler, Erika Wilson, introduced the common name "Black-rumped Waxbill," with a cross reference to "Common," as a more suitable name. This change was not explained in the journal however. In Berger's 1976 article about "Names for Hawaii's Introduced Birds," Red-eared Waxbill was still used. After 1976, the Hawaii Audubon Society adopted Red-eared Waxbill for this species for references in the 'Elepaio and other publications (Pyle pers. comm.).

All sightings of this estrildid type until 1976 were in the Diamond Head/Kapiolani Park area. Except for Pyle's misunderstanding of Throp's notes in 1967, which they later clarified, it was also assumed that only one species of this red-beaked, red-eared type of estrildid had been released. The confusion that resulted revolved around the nomenclature, that is, which common name to assign the species *Estrilda troglodytes*.

In December, 1975 and January, 1976, this estrildid type was sighted at Kuilima on the North Shore of Oahu (Pyle 1976). This represented the first observation of such a bird away from the Diamond Head area. It was thought to be the same species, *Estrilda troglodytes*, that had been sighted previously and given the aforementioned assortment of common names. Other sightings that followed were also presumed to be the same species.

The 1976, 1977 and 1978 Honolulu CBC's listed the Red-eared Waxbill in the count tallies. None were found after 1978 from the Diamond Head area of the Honolulu CBC.

In 1977, the Waipio Christmas Bird Count was initiated. The first year's efforts yielded Red-eared Waxbills, but none were found again until 1981. In 1982, both *E. troglodytes* and *E. astrild* were reported from this count. The 1982 CBC was taken but the results were never fully compiled, nor was it published in *American Birds* and subjected to the editorial scrutiny that is usually performed. In April of that year, a report by Ord appeared in the 'Elepaio that clarified the fact that the birds being seen at Waipio were, in fact, not the Red-eared Waxbill (*E. troglodytes*) but were instead the similar species, *E. astrild*, or the Common Waxbill.

Ord (1982) also provided descriptions of these two very similar species. The most prominent distinguishing feature is that the Common Waxbill has a red rump and dark brown tail while the Red-eared has a black rump and black tail with the pair of outermost feathers being white. There is also some white in the vent area of the Red-eared Waxbill. The vent feathers of the Common Waxbill are black. Both species have a rose color on the breast but the shading starts high on the chest of the Common and in the abdominal area of the Red-eared. The Common Waxbill has prominent, fine striations over the upper side of the body. The Red-eared has this barring, but it is visible only at close range. The Red-eared is slightly smaller (3.5 in to 4 in) than the Common (4 in to 4.5 in).

It was not until the 1986 CBC that corrections were made to the 1982 Waipio CBC when both the Red-eared and Common Waxbills were reported. Bremer (1987) explained (p. 57) that the 1977 and 1982 reports of Red-eared Waxbills from the Waipio Peninsula area should have been given as Common Waxbills, a separate species from the one previously sighted in the Diamond Head area.

Prior to 1976, the problem created by these waxbills was one of nomenclature, since the same vernacular name had been given to different species by the cage bird trade, and there was some confusion about the correct name that should be used in Hawaii. The identification of the birds was then called into question when they appeared in other parts of the island away from Diamond Head. Since it was unknown that another, very similar species had been introduced (*E. astrild*), it was assumed the same species was being observed on the North Shore as in southeast Oahu. This fallacy was not discovered until 1981 when Ord identified *E. astrild* at Waipio Peninsula (Ord 1982).

Today, the Common Waxbill is well-distributed around the island but until very recently has been remarkably absent from southeast Oahu, the Diamond Head and Kapiolani Park area (Figure 1), where the Red-eared Waxbill was present. The Common Waxbill's range was always allopatric with the Red-eared Waxbill's range when the two occurred on Oahu (Pyle 1988). It is possible that the Red-eared still exists on the island, but it is unlikely since observers are now more keen to the problems the two similar species have presented, and no reports of this type of waxbill from the Diamond Head area have been made since the 1978 Honolulu CBC. Also, specimens of the waxbills at Waipio Peninsula were collected in March, 1987, with the help of Andy Engilis and Carl MacIntosh,

and were examined thoroughly for traces of white in the ventral region and outer tail feathers. All the birds had brown tails with no traces of white, indicating they were the Common Waxbill, not the Red-eared.

RECOMMENDATIONS AND CONCLUSIONS

One way to rectify the type of nomenclatural problems illustrated by the Warbling Silverbill in Hawaii is to use the subspecific name, or trinomial, when it is known which race of the bird is present. A brief mention in *Hawaii's Birds* about the silverbill's native range in Africa accompanied by its complete name, *Lonchura malabarica cantans*, would settle the potential confusion posed by this species which has had a great variety of taxonomic treatments. The American Ornithologists' Union *Check-list* (1983) now provides the insurance of consistency in usage of scientific names for species in Hawaii.

The next edition of *Hawaii's Birds* should also reflect the most up-to-date information about the Common Waxbill. The 1984 book (p.49) illustrates the escaped cage birds in Hawaii. The painting shows *Estrilda troglodytes* with white outer tail feathers and uses the common name, Red-eared Waxbill. The text gives the range of the species, indicating its confinement to the Diamond Head area; however, this species is thought to be extinct on Oahu (Pyle pers. comm., and pers. obs.). I did not find *E. troglodytes* during over a year of fieldwork (1986-1987) directed at determining estrildid distributions on Oahu. When it is possible to update the text, this should be changed to show the species which is actually extant on Oahu, the Common Waxbill. There are several other species in this illustration that are thought to be extinct, at least on Oahu, and the text should indicate this as well (e.g., Pin-tailed Whydah [*Vidua macroura*], Red-cheeked Cordon-Bleu [*Uraeginthus bengalus*]). The Hawaii Audubon Society maintains a photographic file of species, so perhaps these can be utilized in the future.

The presence of introduced species can provide insidious and confusing problems for those who are charged with the observation and recording of them. When birds are released, the exact species and subspecies must be identified correctly, usually from field observations only. The correct name must then be chosen from the assortment that may be available. This brief note provides examples of some of the ways in which alien species create problems not only for resource management officials, but also for those who enjoy birding in Hawaii. The Hawaii Audubon Society, with its annual Christmas Bird Count, field guide, and newsletter is a major clearinghouse in Hawaii for information about native and exotic species, and it is the Society's task to present the best information possible on the status of all species.

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ERRATUM

This figure was inadvertently omitted from the November 1988 (Vol. 48, No. 11) issue of *Elepaio*. It should be inserted after page 93 in the article, "Problems of Nomenclature and Identification of Introduced Birds in Hawaii: A Case Study of Two Estrildid Species," by Karen Falkenmayer.

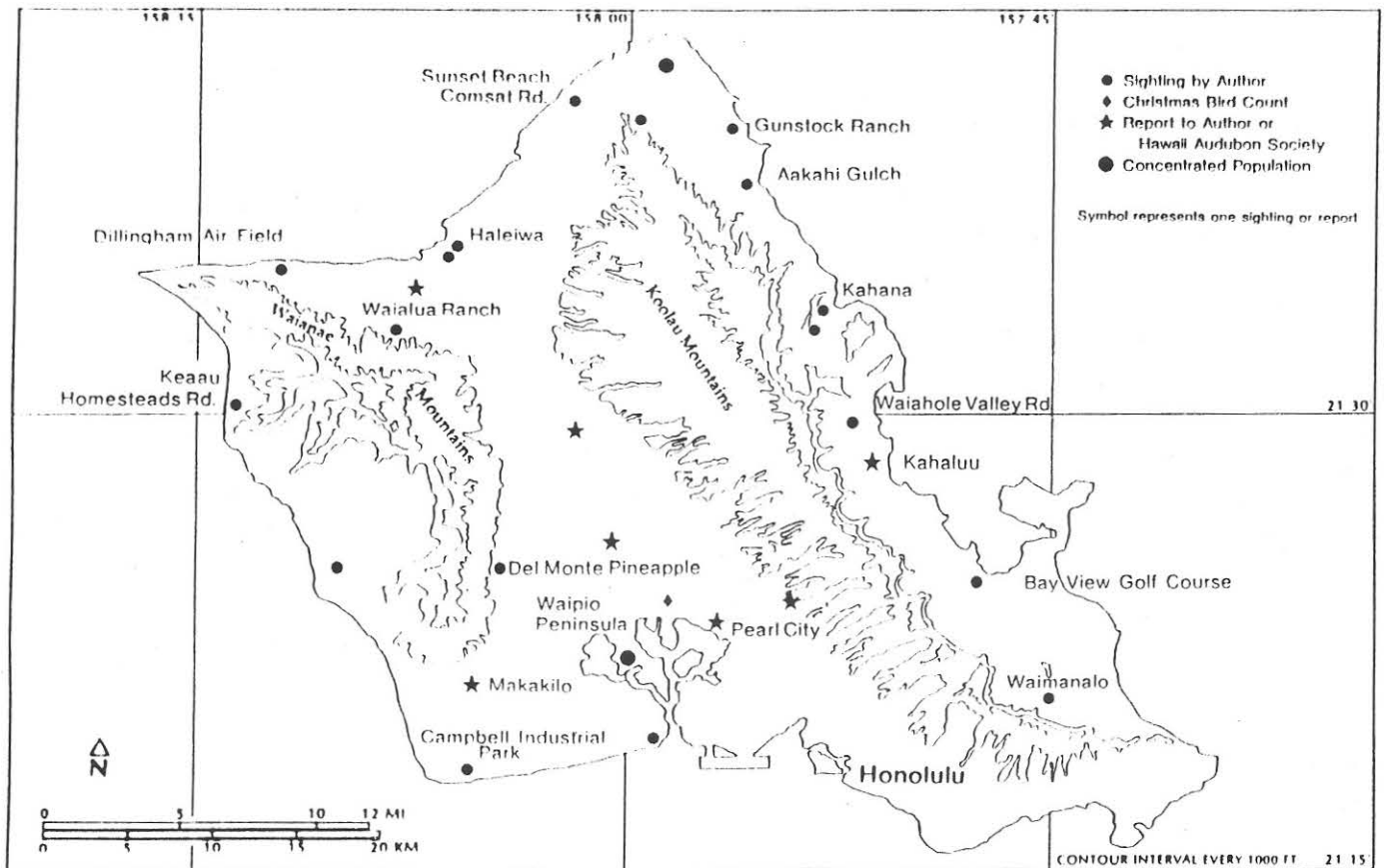


Figure 1. Distribution of the Common Waxbill (*Estrilda astrild*) on Oahu.



Common Waxbill (*Estrilda astrild*), Island of Oahu.

Photo by Karen Falkenmayer

MOVIE REVIEW: GORILLAS IN THE MIST

The Mountain Gorilla is an endangered species. Fewer than 400 live today, high in the Virunga mountains straddling Rwanda, Zaire and Uganda. If not for Dian Fossey, the American naturalist who dedicated the last 18 years of her life studying these gentle giants and working for their survival, Mountain Gorillas might be extinct.

Gorillas in the Mist is based on Fossey's book of her life with and studies of these apes. Sigourney Weaver in the starring role portrays well Dian's complicated personality -- smart, shrewd, determined, and fiercely protective of "her gorillas" and "her mountain," yet tender, humorous, and gentle with the animals. We see her fighting poachers who used to supply baby gorillas to zoos and gorilla heads and hands as trophies for tourists, and challenging government officials who were willing to export these baby gorillas for much needed foreign exchange.

The glimpses of mountainous Rwanda are breathtaking. The photo sequences of the gorillas capture their very essence as a family unit -- playing on the ground and in the trees, charging a perceived danger, protecting their young, eating, doing their chest beating and hoot series, and even touching their Dian. Those who have visited the gorillas in Rwanda know that these scenes are real. We see the gorillas in their environment, doing what comes naturally. As we follow Dian in her research, we learn about their nomadic life style, as we did when reading the book.

However, because the movie is based on an autobiographical memoir, one wonders why certain facts were changed, for example how she met Louis Leakey, her benefactor, and her escape from the Zairoise army, and the fate of her favorite gorilla, Digit.

Rwanda has several habituated gorilla groups which tourists can visit. A maximum of six people plus the a park guide can visit each group on any one day. Permits must be purchased well in advance. The walk to the gorillas can take from two to five hours in rainforest, through mud and undergrowth of bamboo and nettles. Visitors are permitted to remain with the gorillas for one hour. The film makers faced the same restrictions -- but they were filming Dian's gorillas at Karisoke, and they had to climb daily from their base camp at 8,500 feet to Karisoke's 12,175 feet.

Anyone interested in nature and animal conservation will enjoy this film!

Lynne Matusow

UPDATE ON OWL DIE-OFF

Since March 1987, Common Barn-Owls and Short-eared Owls (Pueo) have been found dead or lethargic on the Island of Kauai. The birds, to date 116, which are mostly found flightless along the roadside sitting on their hocks and holding themselves in balance with help of their wings, are completely weak and seem disoriented. Also, nine barn-owls showing the "Kauai die-off symptoms" were found between April and August 1988 in lowland areas on Maui.

Gross pathology showed that most of the birds were completely emaciated and dehydrated and suffered from a severe muscle atrophy. Hemorrhages were found in brain, lungs, liver, kidneys, and around the bill.

Histopathology on four of these owls (3 from Kauai and 1 from Maui) was performed by Prof. Dr. Helga Gerlach (Oberschleissheim, West Germany). Results showed muscle dystrophy involving the skeletal and cardiac muscles, degenerative vessel lesions in liver, kidney and especially in the brain, also brain edema, and neuronal degeneration.

These results could explain the occurrence of flightlessness, disorientation and subsequent inability to capture food items, with resulting slow starvation. The clinical signs, the gross pathology and the histopathological findings resemble hypovitaminosis E. I suspect that a chemical agent which is a vitamin E, selenium or glutathione peroxidase antagonist is causing this die-off.

Any additional information would be appreciated.

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AUDUBON TO OPEN OFFICE Furniture and Equipment Needed

In early December, the National Audubon Society and Hawaii Audubon Society will jointly open a state office in downtown Honolulu. Hawaii-born Dana Kokubun, now working for the Sierra Club in California, has been hired as State Director.

Can you help furnish our office? We need the following: xerox machine, refrigerator, bookcases, file cabinets, chairs, conference table, touch-tone telephone, answering machine, and computer work station.

All donations are tax-deductable to the extent permitted by law. Please call Lynne Matusow at 531-4260 after 4 November if you have items to donate.

Mahalo!



A gorilla in the mist.

Photo by Lynne Matusow

CHECKLIST OF THE BIRDS OF HAWAII --- 1988

Robert L. Pyle

This Checklist includes all species of birds which have occurred naturally in Hawaii, and those species introduced by man which are currently established as viable populations reproducing in the wild. It revises and updates the *Checklist of the Birds of Hawaii* (Pyle, 1983).

The geographic scope of this Checklist includes all islands in the state of Hawaii west to Kure Atoll, plus Midway Atoll which is not legally a part of the state of Hawaii. It includes coastal waters out to 325 kilometers (about 200 miles) from any of these islands. All endemic species and subspecies are listed, including those presumed to have become extinct in historic times. Ancient species known only from paleontological remains are not included.

The American Ornithologists' Union *Check-List of North American Birds*, 6th Edition 1983, and the 35th(1985) and 36th(1987) Supplements to the *Check-List* are followed in this Checklist for sequence of species, and generally for scientific and vernacular names. Scientific names are given to the species level for visitors and alien introduced species, and to the subspecies level for native breeding birds. Tribe headings are shown within the unique Hawaiian sub-family *Drepanidinae*.

The vernacular name listed is generally the one used in the A.O.U. *Check-List*. Where the A.O.U. *Check-List* uses the possessive form, the 's' is omitted herein for considerations of reduced complexity and grammar. This usage is not considered to be a departure from the "A.O.U. name". Other vernacular names which have been used frequently in the literature of Hawaiian birds are given in parentheses as an aid to users of the older literature. In certain native species, island names are used to form vernacular names for subspecies {in brackets} to designate the different island races.

The Hawaiian language name is listed as the vernacular name for all species endemic to Hawaii at the species level, including a few species for which the A.O.U. *Check-List* gives the Hawaiian name as an alternate rather than the primary vernacular name. Hawaiian language names were given to most of the native bird species by the native Hawaiian people long before western man arrived in the islands. These are the names used in the earlier literature, and they are used extensively today. The Hawaiian names given in the Checklist follow Pukui and Elbert (1986). The Hawaiian Audubon Society strongly encourages use of the traditional Hawaiian language names as vernacular names for endemic birds. Hawaiian names should include the letter 'u'ina, or glottal stop (the second commonest consonant in the Hawaiian language), and the diacritical mark " - " (macron), for correct spelling and pronunciation.

The status of each species and subspecies in Hawaii is indicated by a symbol between the vernacular and scientific names. Symbols are defined in Table 1.

Visitor species to be included in the Checklist must be supported by a specimen, or by a sight record accompanied by adequate details of identification in a context indicating the observer was aware of its rarity in Hawaii. Species recorded only as free-flying individuals presumed to have been hatched in captivity or transported to Hawaii in captivity, and their early-generation descendants, are not included in the Checklist. A straggler which may have utilized a ship-of-opportunity during part or all of its journey to Hawaii, without strong presumption that it had been held in captivity, is included as a straggler species in the Checklist.

Alien species are of two classes: those introduced and well-established before 1940, and a large number of gamebird and songbird species brought to Hawaii since 1950. Some of the latter introductions are well-documented, but many are not. It isn't always clear whether continued presence of an exotic species represents reproduction in the wild, or successive introductions over a period of years without reproduction. Criteria for acceptance as an established population are based on persistent sightings (8-10 years or more for Passerines) of the species in a specific area in numbers indicating some recruitment to the population after the last known escape or introduction, preferably with direct evidence of nesting activity or breeding. The more recently introduced species in the Checklist with "An" status reflect the author's best judgment at this time that they are established. A number of species are marginal as to whether they should or should not be included.

Pyle(1983) acknowledges numerous people who contributed to earlier versions of the Checklist. Andrew Engilis, Jr., Peter Donaldson and Reginald David have provided much information and helpful comment for the present revision. Numerous helpful comments from reviewers John Engbring, Andrew Engilis, Jr., and H. Douglas Pratt have improved the Checklist considerably. Suggestions for additions, deletions and other modifications to the Checklist are solicited for consideration for future revisions.

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TABLE 1. SYMBOLS FOR STATUS

R = Resident native species; normally does not leave the islands.

Re = Resident; endemic at species level; not extinct.

Rx = Resident; endemic at species level; presumed extinct.

Res = Resident; indigenous species; Hawaiian subspecies is endemic.

Ri = Resident; indigenous species; Hawaiian form is not endemic.

A = Alien introduced species; resident; normally does not leave the islands.

Al = Alien; long established and breeding since before 1940.

An = Alien; new introduction since 1950; apparently established.

Ax = Alien; formerly long established and breeding for more than 25 years, but now no longer present in Hawaii.

B = Breeding species in Hawaii; native; most individuals leave Hawaii when not breeding.

Be = Breeder; species breeds only in Hawaii.

Bes = Breeder; species also breeds elsewhere; Hawaiian subspecies breeds only in Hawaii.

Bi = Breeder; Hawaiian form also breeds elsewhere.

V = Visitor species; breeds elsewhere; occurs in Hawaii when not breeding.

Vc = Visitor; common migrant to Hawaii.

Vr = Visitor; regular migrant to Hawaii in small numbers.

Vo = Visitor; occasional to frequent migrant to Hawaii.

Vs = Visitor; accidental straggler to Hawaii; at least one well-substantiated record since 1960.

Vx = Visitor; accidental straggler to Hawaii; no well-substantiated record since 1960.

Vd = Visitor; accidental straggler to Hawaii; recorded in Hawaii only as dead remains.

E (or T) immediately preceding the genus name designates a species or subspecies currently listed as Endangered (or Threatened) on the Federal List of Endangered Species.

CHECKLIST OF THE BIRDS OF HAWAII -- 1988

Robert L. Pyle

GREBES		PODICIPEDIDAE	
Pied-billed Grebe	Ri	<i>Podilymbus podiceps</i>	
Horned Grebe	Vs	<i>Podiceps auritus</i>	
Red-necked Grebe	Vs	<i>Podiceps grisegena</i>	
Eared Grebe	Vs	<i>Podiceps nigricollis</i>	
ALBATROSSES		DIOMEDEIDAE	
Short-tailed Albatross	Vo	<i>Diomedea albatrus</i>	
Black-footed Albatross	Bi	<i>Diomedea nigripes</i>	
Laysan Albatross	Bi	<i>Diomedea immutabilis</i>	Mōlī
PETRELS, SHEARWATERS		PROCELLARIIDAE	
Northern Fulmar	Vo	<i>Fulmarus glacialis</i>	
(Hawaiian Petrel)--Dark-rumped Petrel	Bes	<i>E-Pterodroma phaeopygia sandwichensis</i>	'Ua'u
(Juan Fernandez Petrel)--White-necked Petrel	Vo	<i>Pterodroma externa</i>	
Mottled Petrel	Vo	<i>Pterodroma inexpectata</i>	
Murphy Petrel	Vs	<i>Pterodroma ultima</i>	
Kermadec Petrel	Vs	<i>Pterodroma neglecta</i>	
Herald Petrel	Vs	<i>Pterodroma arminjoniana</i>	
Cook Petrel	Vs	<i>Pterodroma cookii</i>	
Bonin Petrel	Bi	<i>Pterodroma hypoleuca</i>	
Black-winged Petrel	Vo	<i>Pterodroma nigripennis</i>	
Stejneger Petrel	Vd	<i>Pterodroma longirostris</i>	
Bulwer Petrel	Bi	<i>Bulweria bulwerii</i>	'Ou
Jouanin Petrel	Vs	<i>Bulweria fallax</i>	
Flesh-footed Shearwater	Vo	<i>Puffinus carneipes</i>	
Wedge-tailed Shearwater	Bi	<i>Puffinus pacificus chlororhynchus</i>	'Ua'u kani
(New Zealand Shearwater)--Buller Shearwater	Vs	<i>Puffinus bulleri</i>	
Sooty Shearwater	Vr	<i>Puffinus griseus</i>	
Short-tailed Shearwater	Vo	<i>Puffinus tenuirostris</i>	
Christmas Shearwater	Bi	<i>Puffinus nativitatis</i>	
(See Appendix)--Newell Shearwater	Be	<i>T-Puffinus newelli</i>	'A'o
Little Shearwater	Vs	<i>Puffinus assimilis</i>	
STORM-PETRELS		HYDROBATIDAE	
Wilson Storm-Petrel	Vs	<i>Oceanites oceanicus</i>	
Fork-tailed Storm-Petrel	Vs	<i>Oceanodroma furcata</i>	
Leach Storm-Petrel	Vr	<i>Oceanodroma leucorhoa</i>	
(Hawaiian or Harcourt S.-P.)--Band-rumped Storm-Petrel	Bi	<i>Oceanodroma castro</i>	'Akē'akē
(Tristram Storm-Petrel)--Sooty Storm-Petrel	Bi	<i>Oceanodroma tristrami</i>	
TROPICBIRDS		PHAETHONTIDAE	
White-tailed Tropicbird	Ri	<i>Phaethon lepturus dorotheae</i>	Koa'e kea
Red-billed Tropicbird	Vs	<i>Phaethon aethereus</i>	
Red-tailed Tropicbird	Bi	<i>Phaethon rubricauda rothschildi</i>	Koa'e 'ula
BOOBIES		SULIDAE	
(Blue-faced Booby)--Masked Booby	Ri	<i>Sula dactylatra personata</i>	'Ā
Brown Booby	Ri	<i>Sula leucogaster plotus</i>	'Ā
Red-footed Booby	Ri	<i>Sula sula rubripes</i>	'Ā
CORMORANTS		PHALACROCORACIDAE	
Pelagic Cormorant	Vs	<i>Phalacrocorax pelagicus</i>	
FRIGATEBIRDS		FREGATIDAE	
Great Frigatebird	Ri	<i>Fregata minor palmerstoni</i>	'Twa
Lesser Frigatebird	Vs	<i>Fregata ariel</i>	

HERONS, EGRETS

Great Blue Heron	Vs	<i>Ardea herodias</i>	
Great Egret	Vs	<i>Casmerodius albus</i>	
Snowy Egret	Vs	<i>Egretta thula</i>	
Little Blue Heron	Vo	<i>Egretta caerulea</i>	
Cattle Egret	An	<i>Bubulcus ibis</i>	
(Green Heron)--Green-backed Heron	Vs	<i>Butorides striatus</i>	
Black-crowned Night-Heron	Ri	<i>Nycticorax nycticorax hoactli</i>	'Auku'u

IBISES

White-faced Ibis	Vs	<i>Plegadis chihi</i>	
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GEESE, DUCKS

Fulvous Whistling-Duck	Ri	<i>Dendrocygna bicolor</i>	
(Whistling Swan)--Tundra Swan	Vs	<i>Cygnus columbianus</i>	
(White-fronted Goose)--Greater White-fronted Goose	Vs	<i>Anser albifrons</i>	
Snow Goose	Vs	<i>Chen caerulescens</i>	
Emperor Goose	Vs	<i>Chen canagica</i>	
Brant	Vo	<i>Branta bernicla</i>	
Canada Goose	Vo	<i>Branta canadensis</i>	
(Hawaiian Goose)--Nēnē	Re	<i>E-Nesochen sandvicensis</i>	Nēnē
Green-winged Teal	Vr	<i>Anas crecca</i>	
Mallard	Al,Vo	<i>Anas platyrhynchos</i>	
(Hawaiian Duck)--Koloa	Re	<i>E-Anas wyvilliana</i>	Koloa maoli
Laysan Duck	Re	<i>E-Anas laysanensis</i>	
Northern Pintail	Vc	<i>Anas acuta</i>	Koloa māpu
Garganey	Vo	<i>Anas querquedula</i>	
Blue-winged Teal	Vo	<i>Anas discors</i>	
Cinnamon Teal	Vs	<i>Anas cyanoptera</i>	
Northern Shoveler	Vc	<i>Anas clypeata</i>	Koloa mohā
Gadwall	Vs	<i>Anas strepera</i>	
(European Wigeon)--Eurasian Wigeon	Vs	<i>Anas penelope</i>	
American Wigeon	Vr	<i>Anas americana</i>	
Common Pochard	Vs	<i>Aythya ferina</i>	
Canvasback	Vs	<i>Aythya valisineria</i>	
Redhead	Vs	<i>Aythya americana</i>	
Ring-necked Duck	Vo	<i>Aythya collaris</i>	
Tufted Duck	Vs	<i>Aythya fuligula</i>	
Greater Scaup	Vs	<i>Aythya marila</i>	
Lesser Scaup	Vr	<i>Aythya affinis</i>	
Harlequin Duck	Vs	<i>Histrionicus histrionicus</i>	
Oldsquaw	Vx	<i>Clangula hyemalis</i>	
Black Scoter	Vs	<i>Melanitta nigra</i>	
Surf Scoter	Vs	<i>Melanitta perspicillata</i>	
Common Goldeneye	Vs	<i>Bucephala clangula</i>	
Bufflehead	Vo	<i>Bucephala albeola</i>	
Hooded Merganser	Vs	<i>Lophodytes cucullatus</i>	
Common Merganser	Vs	<i>Mergus merganser</i>	
Red-breasted Merganser	Vs	<i>Mergus serrator</i>	
Ruddy Duck	Vs	<i>Oxyura jamaicensis</i>	

HAWKS, EAGLES

Osprey	Vo	<i>Pandion haliaetus</i>	
Steller Sea-Eagle	Vs	<i>Haliaeetus pelagicus</i>	
Northern Harrier	Vs	<i>Circus cyaneus</i>	
(Hawaiian Hawk)--'Io	Re	<i>E-Buteo solitarius</i>	'Io
Golden Eagle	Vs	<i>Aquila chrysaetos</i>	

FALCONS

Peregrine Falcon	Vo	<i>E-Falco peregrinus</i>	
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ARDEIDAE

<i>Ardea herodias</i>
<i>Casmerodius albus</i>
<i>Egretta thula</i>
<i>Egretta caerulea</i>
<i>Bubulcus ibis</i>

THRESKIORNITHIDAE

<i>Plegadis chihi</i>

ANATIDAE

<i>Dendrocygna bicolor</i>	
<i>Cygnus columbianus</i>	
<i>Anser albifrons</i>	
<i>Chen caerulescens</i>	
<i>Chen canagica</i>	
<i>Branta bernicla</i>	
<i>Branta canadensis</i>	
<i>E-Nesochen sandvicensis</i>	Nēnē
<i>Anas crecca</i>	
<i>Anas platyrhynchos</i>	
<i>E-Anas wyvilliana</i>	Koloa maoli
<i>E-Anas laysanensis</i>	
<i>Anas acuta</i>	Koloa māpu
<i>Anas querquedula</i>	
<i>Anas discors</i>	
<i>Anas cyanoptera</i>	
<i>Anas clypeata</i>	Koloa mohā
<i>Anas strepera</i>	
<i>Anas penelope</i>	
<i>Anas americana</i>	
<i>Aythya ferina</i>	
<i>Aythya valisineria</i>	
<i>Aythya americana</i>	
<i>Aythya collaris</i>	
<i>Aythya fuligula</i>	
<i>Aythya marila</i>	
<i>Aythya affinis</i>	
<i>Histrionicus histrionicus</i>	
<i>Clangula hyemalis</i>	
<i>Melanitta nigra</i>	
<i>Melanitta perspicillata</i>	
<i>Bucephala clangula</i>	
<i>Bucephala albeola</i>	
<i>Lophodytes cucullatus</i>	
<i>Mergus merganser</i>	
<i>Mergus serrator</i>	
<i>Oxyura jamaicensis</i>	

ACCIPITRIDAE

<i>Pandion haliaetus</i>	
<i>Haliaeetus pelagicus</i>	
<i>Circus cyaneus</i>	
<i>E-Buteo solitarius</i>	'Io
<i>Aquila chrysaetos</i>	

FALCONIDAE

<i>E-Falco peregrinus</i>	
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FRANCOLINS, PHEASANTS, QUAILS

Black Francolin	An	<i>Francolinus francolinus</i>	
Gray Francolin	An	<i>Francolinus pondicerianus</i>	
Erckel Francolin	An	<i>Francolinus erckelii</i>	
Chukar	Al	<i>Alectoris chukar</i>	
Japanese Quail	Al	<i>Coturnix japonica</i>	
Kalij Pheasant	An	<i>Lophura leucomelana</i>	
Red Junglefowl	Al	<i>Gallus gallus</i>	Moa
(Common Pheasant)--Ring-necked Pheasant	Al	<i>Phasianus colchicus</i>	
Common Peafowl	Al	<i>Pavo cristatus</i>	
Wild Turkey	Al	<i>Meleagris gallopavo</i>	
Gambel Quail	Al	<i>Callipepla gambelii</i>	
California Quail	Al	<i>Callipepla californica</i>	

RAILS, GALLINULES, COOTS

Hawaiian Rail	Rx	<i>Porzana sandwichensis</i>	Moho
Laysan Rail	Rx	<i>Porzana palmeri</i>	
(Hawaiian Gallinule)--Common Moorhen	Res E	<i>Gallinula chloropus sandvicensis</i>	'Alae 'ula
(Hawaiian Coot)--American Coot	Res E	<i>Fulica americana alai</i>	'Alae ke'oke'o

CRANES

Sandhill Crane	Vx	<i>Grus canadensis</i>	
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GRUIDAE**PLOVERS**

(Gray Plover)--Black-bellied Plover	Vr	<i>Pluvialis squatarola</i>	
(Pacific or American Golden-Plover)--Lesser Golden-Plover	Vc	<i>Pluvialis dominica (fulva)</i>	Kōlea
Mongolian Plover	Vs	<i>Charadrius mongolus</i>	
Semipalmated Plover	Vo	<i>Charadrius semipalmatus</i>	
Killdeer	Vs	<i>Charadrius vociferus</i>	
Eurasian Dotterel	Vs	<i>Charadrius morinellus</i>	

CHARADRIIDAE**STILTS**

(Hawaiian Stilt)--Black-necked Stilt	Res E	<i>Himantopus mexicanus knudseni</i>	Ae'o
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RECURVIROSTRIDAE**SANDPIPERS, WADERS**

Greater Yellowlegs	Vs	<i>Tringa melanoleuca</i>	
Lesser Yellowlegs	Vr	<i>Tringa flavipes</i>	
Wood Sandpiper	Vs	<i>Tringa glareola</i>	
Solitary Sandpiper	Vs	<i>Tringa solitaria</i>	
Willet	Vs	<i>Catoptrophorus semipalmatus</i>	
Wandering Tattler	Vc	<i>Heteroscelus incanus</i>	'Ūlilī
(Siberian Tattler, Polynesian Tattler)--Gray-tailed Tattler	Vs	<i>Heteroscelus brevipes</i>	
Spotted Sandpiper	Vs	<i>Actitis macularia</i>	
Whimbrel	Vs	<i>Numenius phaeopus</i>	
Bristle-thighed Curlew	Vr	<i>Numenius tahitiensis</i>	Kioea
Hudsonian Godwit	Vs	<i>Limosa haemastica</i>	
Bar-tailed Godwit	Vo	<i>Limosa lapponica</i>	
Marbled Godwit	Vs	<i>Limosa fedoa</i>	
Ruddy Turnstone	Vc	<i>Arenaria arenaria</i>	'Akekeke
Red Knot	Vs	<i>Calidris canutus</i>	
Sanderling	Vc	<i>Calidris alba</i>	Hunakai
Semipalmated Sandpiper	Vs	<i>Calidris pusilla</i>	
Western Sandpiper	Vo	<i>Calidris mauri</i>	
Rufous-necked Stint	Vs	<i>Calidris ruficollis</i>	
Little Stint	Vs	<i>Calidris minuta</i>	
Long-toed Stint	Vs	<i>Calidris subminuta</i>	
Least Sandpiper	Vo	<i>Calidris minutilla</i>	
Baird Sandpiper	Vs	<i>Calidris bairdii</i>	
Pectoral Sandpiper	Vr	<i>Calidris melanotos</i>	
Sharp-tailed Sandpiper	Vr	<i>Calidris acuminata</i>	
Dunlin	Vr	<i>Calidris alpina</i>	
Curlew Sandpiper	Vs	<i>Calidris ferruginea</i>	

SCOLOPACIDAE

Buff-breasted Sandpiper	Vs	<i>Tryngites subruficollis</i>
Ruff	Vo	<i>Philomachus pugnax</i>
Short-billed Dowitcher	Vo	<i>Limnodromus griseus</i>
Long-billed Dowitcher	Vr	<i>Limnodromus scolopaceus</i>
Common Snipe	Vo	<i>Gallinago gallinago</i>
Pin-tailed Snipe	Vs	<i>Gallinago stenura</i>
Wilson Phalarope	Vo	<i>Phalaropus tricolor</i>
Red-necked Phalarope	Vs	<i>Phalaropus lobatus</i>
Red Phalarope	Vs	<i>Phalaropus fulicaria</i>

JAEGERS, GULLS, TERNS, NODDIES

Pomarine Jaeger	Vr	<i>Stercorarius pomarinus</i>	
Long-tailed Jaeger	Vs	<i>Stercorarius longicaudus</i>	
South Polar Skua	Vs	<i>Catharacta maccormicki</i>	
Laughing Gull	Vo	<i>Larus atricilla</i>	
Franklin Gull	Vs	<i>Larus pipixcan</i>	
Common Black-headed Gull	Vs	<i>Larus ridibundus</i>	
Bonaparte Gull	Vo	<i>Larus philadelphia</i>	
Ring-billed Gull	Vo	<i>Larus delawarensis</i>	
California Gull	Vs	<i>Larus californicus</i>	
Herring Gull	Vo	<i>Larus argentatus</i>	
Slaty-backed Gull	Vs	<i>Larus schistisagus</i>	
Western Gull	Vs	<i>Larus occidentalis</i>	
Glaucous-winged Gull	Vo	<i>Larus glaucescens</i>	
Glaucous Gull	Vs	<i>Larus hyperboreus</i>	
Black-legged Kittiwake	Vs	<i>Rissa tridactyla</i>	
Gull-billed Tern	Vs	<i>Sterna nilotica</i>	
Caspian Tern	Vs	<i>Sterna caspia</i>	
Common Tern	Vs	<i>Sterna hirundo</i>	
Arctic Tern	Vs	<i>Sterna paradisaea</i>	
Little Tern	Vs	<i>Sterna albifrons</i>	
Least Tern	Vo	<i>Sterna antillarum</i>	
Gray-backed Tern	Bi	<i>Sterna lunata</i>	Pākalakala
Sooty Tern	Bi	<i>Sterna fuscata oahuensis</i>	'Ewa'ewa
Black Tern	Vs	<i>Chlidonias niger</i>	
(Common Noddy)--Brown Noddy	Ri	<i>Anous stolidus pileatus</i>	Noio kōhā
(Hawaiian Noddy, White-capped Noddy)--Black Noddy	Ri	<i>Anous minutus melanogenys</i>	Noio-(Eki'eki)
Blue-gray Noddy	Bi	<i>Procelsterna cerulea saxatili</i>	
(Common Fairy-Tern, Fairy Tern)--White Tern	Ri	<i>Gygis alba rothschildi</i>	Manu-o-Kū

AUKLETS, PUFFINS

Cassin Auklet	Vs	<i>Ptychoramphus aleuticus</i>
Parakeet Auklet	Vd	<i>Cyclorhynchus psittacula</i>
Tufted Puffin	Vd	<i>Fratercula cirrhata</i>
Horned Puffin	Vs	<i>Fratercula corniculata</i>

ALCIDAE

SANDGROUSE		PTEROCLIDIDAE	
Chestnut-bellied Sandgrouse	An	<i>Pterocles exustus</i>	
DOVES		COLUMBIDAE	
Rock Dove	Al	<i>Columba livia</i>	
(Chinese Dove, Lace-necked Dove)--Spotted Dove	Al	<i>Streptopelia chinensis</i>	
(Barred Dove)--Zebra Dove	Al	<i>Geopelia striata</i>	
Mourning Dove	An	<i>Zenaida macroura</i>	
PARAKEETS		PSITTACIDAE	
Rose-ringed Parakeet	An	<i>Psittacula krameri</i>	
(Pale-headed Parakeet)--Pale-headed Rosella	Ax	<i>Platycercus adscitus</i>	
BARN-OWLS		TYTONIDAE	
Common Barn-Owl	An	<i>Tyto alba</i>	
TYPICAL OWLS		STRIGIDAE	
(Hawaiian Owl)--Short-eared Owl	Res	<i>Asio flammeus sandwichensis</i>	Puco
NIGHTHAWKS		CAPRIMULGIDAE	
Common Nighthawk	Vs	<i>Chordeiles minor</i>	
SWIFTLETS		APODIDAE	
(Uniform Swiftlet, Island Swiftlet)--Gray Swiftlet	An	<i>Aerodramus vanikorensis</i>	
KINGFISHERS		ALCEDINIDAE	
Belted Kingfisher	Vs	<i>Ceryle alcyon</i>	
LARKS		ALAUDIDAE	
Eurasian Skylark	Al,Vs	<i>Alauda arvensis</i>	
SWALLOWS		HIRUNDINIDAE	
Barn Swallow	Vs	<i>Hirundo rustica</i>	
CROWS		CORVIDAE	
(Hawaiian Crow)--'Alalā	Re E-	<i>Corvus hawaiiensis</i>	'Alalā
TITS		PARIDAE	
(Japanese Tit, Yamagara)--Varied Tit	Ax	<i>Parus varius</i>	
BULBULS		PYCNONOTIDAE	
Red-vented Bulbul	An	<i>Pycnonotus cafer</i>	
Red-whiskered Bulbul	An	<i>Pycnonotus jocosus</i>	
BUSH-WARBLERS, 'ELEPAIO, THRUSHES, ETC.		MUSCICAPIDAE	
(Uguisu)--Japanese Bush-Warbler	Al	<i>Cettia diphone</i>	
Millerbird		<i>Acrocephalus familiaris</i>	
{Laysan Millerbird}-----	Rx	<i>A. f. familiaris</i>	
{Nihoa Millerbird}-----	Re E-	<i>A. f. kingi</i>	
'Elepaio		<i>Chasiempis sandwichensis</i>	
{Kaua'i 'Elepaio}-----	Re	<i>C. s. sclateri</i>	'Elepaio
{O'ahu 'Elepaio}-----	Re	<i>C. s. gayi</i>	'Elepaio
{Hawai'i 'Elepaio}-----	Re	<i>C. s. sandwichensis</i>	'Elepaio
(Shama Thrush)--White-rumped Shama	Al	<i>Copsychus malabaricus</i>	
Kāma'o	Re E-	<i>Myadestes myadestinus</i>	Kāma'o
'Āmaui	Rx	<i>Myadestes oahensis</i>	'Āmaui
Oloma'o		<i>Myadestes lanaiensis</i>	
{Moloka'i Oloma'o}-----	Re E-	<i>M. l. rutha</i>	Oloma'o
{Lana'i Oloma'o}-----	Rx	<i>M. l. lanaiensis</i>	Oloma'o
'Ōma'o	Re	<i>Myadestes obscurus</i>	'Ōma'o
Puaiohi	Re E-	<i>Myadestes palmeri</i>	Puaiohi
Greater Necklaced Laughing-thrush	Fl	<i>Garrulax pectoralis</i>	
Gray-sided Laughing-thrush	Fl	<i>Garrulax caeruleatus</i>	
(Melodious Laughing-thrush, Chinese Thrush)--Hwamei	Fl	<i>Garrulax canorus</i>	
(Pekin Nightingale, Japanese Hill-robin)--Red-billed Leiothrix	Fl	<i>Leiothrix lutea</i>	

MOCKINGBIRDS

Northern Mockingbird F1

MIMIDAE*Mimus polyglottos***PIPITS**Olive Tree-Pipit Vs
Red-throated Pipit Vs
Water Pipit Vs**MOTACILLIDAE***Anthus hodgsoni*
Anthus cervinus
*Anthus spinoletta***STARLINGS, MYNAS**European Starling Vs
Common Myna Al**STURNIDAE***Sturnus vulgaris*
*Acridotheres tristis***HONEYEATERS**Kaua'i 'Ō'ō Re
Oah'u 'Ō'ō Rx
(Moloka'i 'Ō'ō)--Bishop 'Ō'ō Re
Hawai'i 'Ō'ō Rx
Kioca Rx**MELIPHAGIDAE***E-Moho braccatus*
Moho apicalis
Moho bishopi
Moho nobilis
Chaetoptila angustipluma'Ō'ō'ā'ā
'Ō'ō
'Ō'ō
'Ō'ō
Kioca**WHITE-EYES**

(Mejiro)--Japanese White-eye Al

ZOSTEROPIDAE*Zosterops japonicus***CARDINALS, MEADOWLARKS, ETC.**(North American or Kentucky Cardinal)--Northern Cardinal Al
(Brazilian Cardinal)--Red-crested Cardinal Al
Yellow-billed Cardinal Al
Yellow-faced Grassquit An
Saffron Finch An
Savannah Sparrow Vs
Snow Bunting Vs
Western Meadowlark Al
Great-tailed Grackle Vs**EMBERIZIDAE***Cardinalis cardinalis*
Paroaria coronata
Paroaria capitata
Tiaris olivacea
Sicalis flaveola
Passerculus sandwichensis
Plectrophenax nivalis
Sturnella neglecta
*Quiscalus mexicanus***FINCHES, HAWAIIAN HONEYCREEPERS****CARDUELINAE FINCHES**(North American or Kentucky Cardinal)--Northern Cardinal Al
(Linnet)--House Finch Al
Common Redpoll Vs
(Green Singing-Finch)--Yellow-fronted Canary An
(Canary)--Common Canary Al**FRINGILLIDAE****CARDUELINAE (subfamily)***Cardinalis cardinalis*
Carpodacus mexicanus
Carduelis flammea
Serinus mozambicus
*Serinus canaria***HAWAIIAN HONEYCREEPERS****FINCH-BILLED HONEYCREEPERS**Laysan Finch Re
Nihoa Finch Re
'Ō'ū Re
Lana'i Hookbill Rx
Palila Re
Lesser Koa-Finch Rx
Greater Koa-Finch Rx
(Grosbeak Finch)--Kona Grosbeak Rx
Maui Parrotbill Re**DREPANIDINAE (subfamily)****PSITTIROSTRINI (tribe)***E-Telespiza cantans*
E-Telespiza ultima
E-Psittirostra psittacea
Dysmorodrepanis munroi
E-Loxioides bailleui
Rhodacanthis flaviceps
Rhodacanthis palmeri
Chloridops kona
Pseudonestor xanthophrys

'Ō'ū

Palila

Hōpue

SLENDERBILLED HONEYCREEPERS

Common 'Amakihi			<i>Hemignathus virens</i>	
{Kaua'i 'Amakihi}----	Re	<i>H. v. stejnegeri</i>		'Amakihi
{O'ahu 'Amakihi}----	Re	<i>H. v. chloris</i>		'Amakihi
{Maui 'Amakihi}----	Re	<i>H. v. wilsoni</i>		'Amakihi
{Hawai'i 'Amakihi}----	Re	<i>H. v. virens</i>		'Amakihi
(Lesser 'Amakihi)--'Anianiau	Re	<i>Hemignathus parvus</i>		'Anianiau
(Green Solitaire)--Greater 'Amakihi	Rx	<i>Hemignathus sagittirostris</i>		
Hawaiian 'Akialoa		<i>Hemignathus obscurus</i>		
{O'ahu 'Akialoa}----	Rx	<i>H. o. ellisianus</i>		'Akialoa
{Lana'i 'Akialoa}----	Rx	<i>H. o. lanaiensis</i>		'Akialoa
{Hawai'i 'Akialoa}----	Rx	<i>H. o. obscurus</i>		'Akialoa
Kaua'i 'Akialoa	Re E-	<i>Hemignathus procerus</i>		'Akialoa
Nuku pu'u		<i>Hemignathus lucidus</i>		
{Kaua'i Nuku pu'u}----	Re E-	<i>H. l. hanapepe</i>		Nuku pu'u
{O'ahu Nuku pu'u}----	Rx	<i>H. l. lucidus</i>		Nuku pu'u
{Maui Nuku pu'u}----	Re E-	<i>H. l. affinis</i>		Nuku pu'u
'Akia pōlā'au	Re E-	<i>Hemignathus munroi</i>		'Akia pōlā'au
Kaua'i Creeper	Re	<i>Oreomystis bairdi</i>		'Akikiki
Hawai'i Creeper	Re E-	<i>Oreomystis mana</i>		'Alauahio
O'ahu Creeper	Re E-	<i>Paroreomyza maculata</i>		'Alauahio
Moloka'i Creeper	Re E-	<i>Paroreomyza flammea</i>		Kakawahie
Maui Creeper		<i>Paroreomyza montana</i>		
{Maui Creeper}----	Re	<i>P. m. newtoni</i>		'Alauahio
{Lana'i Creeper}----	Rx	<i>P. m. montana</i>		'Alauahio
'Ākepa		<i>Loxops coccineus</i>		
{Kaua'i 'Ākepa}----	Re	<i>L. c. caeruleirostris</i>		'Akeke'e
{O'ahu 'Ākepa}----	Rx	<i>L. c. rufus</i>		'Akepeu'ie
{Maui 'Ākepa}----	Re E-	<i>L. c. ochraceus</i>		'Akepeu'ie
{Hawai'i 'Ākepa}----	Re E-	<i>L. c. coccineus</i>		

RED AND BLACK HONEYCREEPERS

			<i>DREPANIDINI</i> (tribe)	
'Ula-'ai-hāwane	Rx	<i>Ciridops anna</i>		'Ula-'ai-hāwane
'Tiwi	Re	<i>Vestiaria coccinea</i>		'Tiwi
Hawai'i Mamo	Rx	<i>Drepanis pacifica</i>		Mamo
(Perkins Mamo)--Black Mamo	Rx	<i>Drepanis funerea</i>		Hoa--('Ō'ō nuku mū)
(Crested Honeycreeper)--'Ākohekohe	Re E-	<i>Palmeria dolei</i>		'Ākohekohe
'Apapane		<i>Himatione sanguinea</i>		
{Laysan Honeycreeper}----	Rx	<i>H. s. freethii</i>		
{'Apapane}----	Re	<i>H. s. sanguinea</i>		'Apapane
Po'ouli	Re E-	<i>Melamprosops phaeosoma</i>		Po'ouli

OLD WORLD SPARROWS

(English Sparrow)--House Sparrow	Al	<i>PASSERIDAE</i> <i>Passer domesticus</i>
----------------------------------	----	---

WAXBILLS, MANNIKINS

			<i>ESTRILDIDAE</i>	
Red-cheeked Cordonbleu	An	<i>Uraeginthus bengalus</i>		
Lavender Waxbill	An	<i>Estrilda caerulescens</i>		
Orange-cheeked Waxbill	An	<i>Estrilda melpoda</i>		
(Red-eared Waxbill)--Black-rumped Waxbill	An	<i>Estrilda troglodytes</i>		
Common Waxbill	An	<i>Estrilda astrild</i>		
(Strawberry Finch, Red Munia)--Red Avadavat	Al	<i>Amandava amandava</i>		
Warbling Silverbill	An	<i>Lonchura malabarica</i>		
(Ricebird, Spotted Munia)--Nutmeg Mannikin	Al	<i>Lonchura punctulata</i>		
(Black-headed Mannikin or Munia)--Chestnut Mannikin	Al	<i>Lonchura malacca</i>		
Java Sparrow	An	<i>Padda oryzivora</i>		

SPECIES PAIRS

Well substantiated sightings, identifiable only to one of a species pair difficult to distinguish in the field, have been recorded in Hawaii since 1960 for the following accidental Visitors:

Black-throated/Pacific Loon	----	<i>Gavia arctica</i> or <i>G. pacifica</i>	(GAVIIDAE)
Tahiti/Phoenix Petrel	-----	<i>Pterodroma rostrata</i> or <i>P. alba</i>	(PROCELLARIIDAE)

APPENDIX

Summary of changes from *Checklist of the Birds of Hawaii*, 1983.

Abbreviations: AB = *American Birds*; E = *'Elepaio*

HRBP = prefix for catalog numbers of pictures in Hawaii Rare Bird Documentary Photograph File

BBM and BPBM = prefixes for catalog numbers of specimens in B.P. Bishop Museum, Honolulu

1. TYPOGRAPHICAL ERROR CORRECTED

The Hawaiian name Hōpue listed erroneously in the 1983 Checklist for Grosbeak Finch (*Chloridops kona*) belongs properly to Greater Koa-Finch (*Rhodocanthis palmeri*).

2. SPECIES ADDED

Red-necked Grebe (*Podiceps grisegena*). One bird at Halenānahu Reservoir, Kaua'i I. from Feb. 20 to at least mid-April 1988 (AB in press; HRBP 784 *et seq.*).

Cook Petrel (*Pterodroma cookii*). Five birds recorded at sea between Midway Atoll and French Frigate Shoals in Nov. 1984 (E 46:102).

Stejneger Petrel (*Pterodroma longirostris*). One wing and head of a petrel found on Lana'i I. in 1914 and long considered to be from a Bonin Petrel, were re-examined critically in 1962 and 1983 and determined to be from a Stejneger Petrel (E 44:97-98; specimen BBM-7045A).

Wilson Storm-Petrel (*Oceanites oceanicus*). Three birds observed carefully at sea between Midway Atoll and Laysan I. Nov. 3, 1984 (E 44:183).

Black Scoter (*Melanitta nigra*). One bird photographed alive and collected at Midway Atoll Nov. 20, 1980 (HRBP- 343, 344; specimen USNM-599954).

Common Goldeneye (*Bucephala clangula*). One bird in female plumage studied thoroughly at Keālia Pond, Maui I. during February 1986 (AB 40:337).

Common Merganser (*Mergus merganser*). One bird at Keālia Pond, Maui I. from Oct. 4, 1987 until at least mid-March 1988 (AB 42:141; HRBP-710). Also, one bird sighted at the same locality Feb. 14, 1986.

Sandhill Crane (*Grus canadensis*). One bird captured alive at Kahuku, O'ahu in 1933 (specimen BBM-6280).

Solitary Sandpiper (*Tringa solitaria*). One bird seen and photographed at Puna, Hawai'i I. Sep. 14, 1983 (AB 38:249; HRBP-301).

Spotted Sandpiper (*Actitis macularia*) included in the 1983 Checklist in the SPECIES PAIR section. One bird of this species observed closely and photographed at Sea Life Park, O'ahu I. Sep. 13, 1983 (HRBP-266). Several confirmed sight observations in subsequent years.

Hudsonian Godwit (*Limosa haemastica*) included in the 1983 Checklist in the SPECIES PAIR section. One bird of this species studied by numerous observers at Waipi'o Peninsula, O'ahu I. during late July 1987 (AB 41:1490).

Semipalmated Sandpiper (*Calidris pusilla*). Three confirmed sightings of this species on O'ahu I. in 1983, 1984 and 1986 (E 48:71 *et seq.*; HRBP-252,671 *et al.*).

Rufous-necked Stint (*Calidris ruficollis*). Four documented sightings of this species on Kure Atoll, O'ahu I. and Hawai'i I. in 1983, 1986 and 1987 (E 48:71 *et seq.*; HRBP-246,281 *et al.*).

Little Stint (*Calidris minuta*). Three documented sightings at Kure Atoll and O'ahu I. in 1983, 1985 and 1987 (E 48:71 *et seq.*; HRBP-274,660 *et al.*).

- Long-tailed Jaeger (*Stercorarius longicaudus*). One bird observed closely and photographed at sea off Keāhole Pt., Hawai'i I. May 5, 1985 (*E* 48:27-28; HRBP-446 *et al.*).
- South Polar Skua (*Catharacta maccormicki*) included in the 1983 Checklist in the SPECIES PAIR section. One sighting of this species at sea 55 mi. s.s.e. of South Pt., Hawai'i I. Oct. 7, 1987 (*AB* 42:141).
- Gull-billed Tern (*Sterna nilotica*). One bird observed and photographed at Pearl Harbor Nat. Wildlife Refuge, O'ahu I. Jan. 11, 1988 (*E* in press; HRBP-720 *et al.*). A bird of this species, perhaps the same individual, sighted at Ku'alapu'u Reservoir, Moloka'i I. Apr. 26, 1988, and at Keālia Pond, Maui I. June 5-6, 1988.
- Little Tern (*Sterna albifrons*). One individual collected at French Frigate Shoals June 2, 1985 (BPBM-161866) was determined to be this species (R.B.Clapp, details to be published).
- Cassin Auklet (*Ptychoramphus aleuticus*). One bird brought to Honolulu Zoo prior to mid-May 1977, had presumably been found on O'ahu. Specimen BBM-X 152337 (Clapp, *Colonial Waterbirds* 9:104).
- Rose-ringed Parakeet (*Psittacula krameri*). This species is added to the Checklist based on: 1) persistence for more than a decade of a flock of 30-50 individuals in the Kalāheo-Hanapēpē area of Kaua'i I.; 2) persistent sightings over the past two decades of individuals and small groups in Waimānalo and Honolulu, O'ahu I., including observations of individuals at tree cavities in both localities; and 3) an isolated, successful nesting by one pair on Hawai'i I. in 1981 (*E* 43:37-39).
- Pale-headed Rosella (*Platycercus ad-citus*). Introduced on Haleakalā Mtn. near Olinda, Maui I. in 1877, it subsequently increased to become fairly common in that area by 1900. A specimen (BBM-7270A) from this population was collected in 1928 (Munro, 1944). No later reports of the species are known.
- Common Nighthawk (*Chordeiles minor*). One bird observed daily at French Frigate Shoals during July and August 1986 (*AB* 40:1258, 41:1490; HRBP-575 *et seq.*).
- Kāma'o (*Myadestes myadestinus*).
 'Āmaui (*Myadestes oahensis*).
 Oloma'o (*Myadestes lanaiensis*).
 'Ōma'o (*Myadestes obscurus*).
 These four island thrushes, formerly treated as subspecies of the Hawaiian Thrush (*Phaeornis obscurus*), are now considered to be four biological species (*Auk* 102:684).
- Olive Tree-Pipit (*Anthus hodgsoni*). At least 12 to 15 individuals seen daily on Kure Atoll from Sep. 29 to Oct. 7, 1983, with some remaining longer (*E* 44:110-111; HRBP-283 *et seq.*).
- Lana'i Hookbill (*Dysmorodrepanis munroi*). One specimen (BBM-4792) collected on Lana'i I. in 1913 and long considered to be a hybrid or deformed individual of 'Ō'ū, has recently been carefully re-examined and determined to be a relict individual of a valid species of Hawaiian Honeycreeper, now extinct (James, Zusi and Olson, *Wilson Bulletin* in press).
- Common Waxbill (*Estrilda astrild*) referenced in the 1983 Checklist as an ADDITIONAL NOTE. This species is now locally abundant throughout much of O'ahu I., and is considered to be well established.

3. SPECIES DELETED

- Arctic Loon (*Gavia arctica*). Transferred from main list to SPECIES PAIR section. The 35th Supplement to the A.O.U. Check-List recorded a split of Arctic Loon into two full species. Neither of the two known sightings of "Arctic Loon" in Hawaii have observational details on record sufficient to assign the sighting to either of the two forms.
- Snowy Plover (*Charadrius alexandrinus*). Two sightings on O'ahu I. in 1958 published (*E* 19:24; 19:36) with minimal observational details. Inquiries in 1984-85 to the two observers of the first sighting yielded no further supporting information.
- Hawaiian Thrush (*Phaeornis obscurus*). Replaced by its four subspecies elevated to full species status.
- Southern/Northern Giant Petrel (*Macronectes giganteus* or *Macronectes halli*) included in the 1983 Checklist in the SPECIES PAIR section. Sightings at Midway Atoll in 1959-1962 were published (*Condor* 67:355-356) with observational details too scant to support identification as *Macronectes* rather than, *e.g.* an immature *Diomedea*.

4. NAME CHANGES

Townsend's (Newell) Shearwater (*Puffinus auricularis newelli*): changed to Newell Shearwater (*Puffinus newelli*). The A.O.U. Check-List gives primary treatment to Newell Shearwater as a subspecies of Townsend Shearwater, and provides for alternate treatment as a full species, *P. newelli*. Previously, Newell and Townsend Shearwater had been considered separate subspecies of Manx Shearwater (*Puffinus puffinus*).

Puaiohi: genus name changed from *Phaeornis* to *Myadestes* in accord with the 35th Supplement to the A.O.U. Check-List.

Melodious Laughing-thrush (*Garrulax canorus*): vernacular name changed to Hwamei, in accord with five current field guides to birds of China and s.e. Asia area: (King, *Field Guide to Birds of South-east Asia*; Meyer de Schauensee, *The Birds of China*; Chang, *Field Guide to Birds of Taiwan*; Severinghaus, *A Guide to the Birds of Taiwan*; Herklots, *The Birds of Hong Kong*). None mention Melodious Laughing-thrush even as a secondary name. Berger, *Hawaiian Birdlife*, 1972 and Munro, *Birds of Hawaii* give Hwa-mei as a secondary name to Chinese Thrush. Of all sources consulted, only Berger, *Hawaiian Birdlife*, 1980, Pratt *et al.*, *The Birds of Hawaii and the Tropical Pacific*, and the 1983 A.O.U. Check-List use Melodious Laughing-thrush.

Grosbeak Finch: vernacular name changed to Kona Grosbeak, in accord with 1983 A.O.U. Check-List.

5. OTHER

Tahiti Petrel (*Pterodroma rostrata*) and Phoenix Petrel (*Pterodroma alba*). All known references to these species in Hawaiian waters trace back to a series of observations made at sea during 1964-65 and reported by King, (1970). The Appendix to that report lists eleven sightings of Tahiti or Phoenix Petrel in King's study area, of which 4 are within 325 km. of the Hawaiian Islands. In the combined species account for "Tahiti Petrel or Phoenix Petrel" (p.12), the author states: "Twelve sight records were made of either or both of these similar species. . . no specimens of either species were taken in the study area."

In his letter dated May 27, 1976 (W.B.King pers. comm. to R. L. Pyle) King states: "Tahiti Petrel and Phoenix Petrel. These two were not adequately separated in the field by POBSP personnel. There are no specimen records within 100 miles of Hawaii, but there are several sightings of one or the other. One sighting which was most likely of a Tahiti Petrel was by W. King on 7 December 1964 at 19° 45'N, 153° 59'W. One most likely of a Phoenix Petrel was sighted by W. King on 10 November 1964 at 17° 49'N, 153° 55'W."

These two "most likely" occurrences are the basis for the listing of the two species in Appendix A of the 1983 A.O.U. Check-List. There are no further observational details supporting the assigning of these sightings to the indicated species. Therefore, Tahiti and Phoenix Petrels remain listed herein as a SPECIES PAIR.

Solander Petrel (*Pterodroma solandri*). King, in the Appendix to his 1970 report, lists 9 sightings of Solander Petrel in his study area, of which one is within 325 km. of the Hawaiian Islands. In the species account for Solander Petrel (p. 12) the author states: "Status: Hypothetical, based on several sight records. Nine birds thought to be this species were seen in the study area...The observers' lack of familiarity with the field characteristics of this species makes all identifications tentative."

In his letter dated May 27, 1976 (W.B.King, pers. comm. to R.L.Pyle) King states: "Solander Petrel. One hypothetical sighting by W. King within 100 miles of Hawaii on 7 October 1964 at 20° 01'N, 153° 58'W. A few other hypothetical sightings were several hundred miles distant."

This sighting on 7 October 1964 is the basis for listing this species in Appendix A of the 1983 A.O.U. Check-List. In the absence of further observational details supporting the identification of this sighting, Solander Petrel is not included in this Checklist.

* * * * *

AUDUBON GRANT TO PUPPETS ON THE PATH

At the 10-October Board of Director's meeting, the Board unanimously approved a grant of \$1500 to Puppets on the Path. Since 1983, the well-known environmental education and entertainment troupe has captured the attention and good will of thousands of school children and adults throughout the islands with its riveting performances, "blending original songs and skits, people and puppets, rhyme and reason," about conservation of Hawaii's unique animals and plants.

The Society's grant is for research and development of a new Puppets on the Path program that focuses on the essential theme of biological diversity of natural ecosystems. Most appropriately, the production is dedicated to the memory of the late Dr. Wayne C. Gagne -- entomologist, educator, conservationist, long-time officer of the Society, and strong supporter of the Puppets. The Hawaii Natural History Association of Hawaii Volcanoes National Park has already committed \$10,000 to this long-term educational endeavor.

Society members and 'Elepaio readers are encouraged to send memberships (\$20) and much-needed donations for the new biodiversity program to:

Puppets on the Path
P.O. Box 810
Volcano, HI 96785.

Don't miss any opportunity to see a Puppets performance. They rock the rafters!

Mae E. Mull

ALOHA TO NEW MEMBERS

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

NEW LIFE MEMBERS: Peter Pyle, Stinson Beach, CA;

NEW LOCAL MEMBERS: Morton Berson, Huntington, NY; Pamela Bice, Honokaa, HI; Lauren Bjorkman, Honolulu, HI; Dan Brimm, LaJolla, CA; Ralph Canevali, Charleston, SC; Robert Chiusano, Orange Village, OH; Joan Cooper, Hilo, HI; Connie Cozens, Honolulu, HI; Ken Daubert, Kapaa, HI; Carol Donovan, Kailua, HI; Thomas Duddy, Honolulu, HI; Thomas Farley, Honolulu, HI; Gary Gutterman, Brooklyn, NY; Doris Harvey, West Easton, NY; Kathryn Holt, Boulder, CO; Bruce Irvine, Schofield Bks, HI; Bruce D. Johnson, Citrus Heights, CA; Jean Kenyon, Honolulu, HI; Helen Kiefer, Koloa, HI; R. Kingsley, Ross, CA; Doug Lamerson, Honolulu, HI; Kathleen Linaker, Kapaa, HI; Pierre Martineau, San Francisco, CA; Richard Miller, New Canaan, CT; Barbara B. Moore, Honolulu, HI; Lorna Nekoba, Hilo, HI; Patricia Payson, Tucson, AZ; Thomas R. Pearson, Hermosa Beach, CA; Leighton Roden, Columbia, MO; Janet Shepler, Honolulu, HI; Susan Tanner, Mill Valley, CA; Sidney White, Columbus, OH; David Wilcove, Washington, DC; Betty Wrixon, Honolulu, HI.

H.A.S. NOMINATING COMMITTEE REPORT

This year's Nominating Committee (Sheila Conant, Bruce Eilerts, Mike Ord, Bob Pyle) has nominated a slate of officers for the December elections. The following members have been nominated:

President:	Bruce Eilerts
1st Vice-president:	Fern Duvall
2nd Vice-president:	Peter Luscomb

Treasurer:
Corresponding Secretary:
Recording Secretary:
Directors:

Joel Simasko
Lynne Matusow
Marjorie Ziegler
Mike Buck
Bill Gilmartin
Tom Harvey
Tim Johns
Tod Lum
Robert Pyle

Should any member wish to nominate additional "write-in" candidates, the By-Laws allow for this possibility. The nominator must send his or her nomination to the Nominating Committee (c/o Hawaii Audubon Society, P.O. Box 22832, Honolulu, HI 96822) so that it is received no later than 18 November 1988. The nominator should also include a two- or three-line biographical sketch of the candidate to be published on the ballot that will be mailed out in late November. The written nomination must be accompanied by, or the Committee must receive, also by 18 November, written notice from the nominee that he or she is willing to run for election and to serve in the designated post if elected. The deadline is set to allow time for preparation and mailing of the ballots.

Bruce Eilerts, Chairman

**AUGUST 1988 PROGRAM
"WILDLIFE OF PALMYRA ATOLL"**

Our August speaker was Stewart Fefer of the U.S. Fish & Wildlife Service, who spoke on the wildlife of Palmyra Atoll.

Palmyra has a unique ecosystem--significant because it is inhabited by marine animals and waterbirds but no terrestrial mammals or birds. Palmyra is for sale and threatened as a possible launch site for the "star wars" program. But there is now a push to purchase it for a marine and wildlife refuge.

Palmyra, 760 miles south of Hawaii and 350 miles north of the Equator, is ten miles long from east to west, 2.5 miles wide, and contains 600 acres. It was an active military base during World War II. Military contaminants remain on the atoll. Wildlife surveys were made in the 1960's and periodically since then, including an extensive survey last year by Fefer.

The atoll is a stopover for yachts on long trips. Military storage bunkers remain, as do radio towers which provide roosting sites for boobies. Overgrowth and erosion prevail on military causeways. Mud flats have covered much of the coral reef habitat, but insect life abounds. Sooty Terns, Black Noddies, Brown Noddies, and three booby species are the most numerous birds. Sea turtles nest on the atoll. There are no extensive beaches, and palm trees are abundant survivors of coconut plantations. Pandanus trees also are numerous.

Twenty-nine bird species have been recorded at Palmyra, including breeders, migrants and accidental visitors. Fefer found 18 species in 1987. "Herps" include toads, Green Sea Turtles and two species of lizards. White-tailed Tropicbirds nest in trees on Palmyra, whereas in Hawaii they nest in cavities in cliffs. Estimated numbers of Red-footed Boobies range from 6,500 to 25,000. Great Frigatebirds are difficult to census, but about 200 birds and 65 nests were estimated. Brown Noddies were estimated to number at least 400. The 3000 nests of Black Noddies indicate one of the largest populations of this species in the tropical Pacific. The White Tern is common, numbering about 500. Golden-Plovers, Ruddy Turnstones, Wandering Tattlers, Bristle-thighed Curlews, and a few Sanderlings were the migrants present. Mammals include black rats, pilot whales and pods of

dolphins. Five adult Green Sea Turtles have been counted. There is a last living vestige of wetland forest on this atoll, although none of the plant species are endangered or threatened. Endangered coral reefs need protection.

This presentation was a rare and unusual glimpse of a seldom-seen area of the tropical Pacific.

Betty Johnson

SEPTEMBER 1988 PROGRAM ENDANGERED FOREST BIRDS

Dr. Leonard Freed, Associate Professor at the University of Hawaii's Department of Zoology, spoke on "Endangered Big Island Forest Birds." Hakalau National Wildlife Refuge in Hamakua on the Big Island is unique because it contains more endangered bird species than any other national wildlife refuge in the U. S. It is also the richest place in the State of Hawaii in terms of density of endangered birds. The refuge has both open and closed canopy forests with large Koa and Ohia trees. The understory has been damaged by grazing cattle and feral pigs, especially above 5,000 ft. elevation, but below that the forest is relatively intact. However, the birds in the lower forest are fewer and more scattered. Why birds are less abundant in this rich, lower level, is unclear, but biologists are investigating the question.

Dr. Freed showed slides of the Hakalau campsite and mist nets used to capture the birds. A giant sling shot is used to install mist nets 60 to 100 ft high in the trees. There were photos showing 'Iiwi, 'Amakihi, and other birds being captured and banded, and illustrating researchers extracting a drop of blood from the birds' wing vein. Unique color bands are used to mark each bird, and only specially trained persons do the capture, banding and blood extraction. Analysis of blood samples allows scientists to use DNA to get a "genetic finger print" of each bird, and also to find any evidence of disease that may be present in the blood of the birds. Avian malaria and bird pox may be a cause of low bird numbers. Long-term studies of banded birds may reveal molting sequences, reproductive condition, longevity, and whether or not birds mate for life.

Pueo and the endangered 'Io are found in the refuge and may feed on song birds, including endangered species. 'Elepaio are abundant (not endangered), but researchers don't know how old they are at sexual maturity. 'Apapane is the most common bird in the refuge, and may be nomadic in habit; juveniles apparently mature in one year. The common 'Iiwi feed on both nectar and insects. 'Amakihi are uncommon and feed primarily on insects. Rarest of endangered birds is the 'Akiapola'au; only one has been captured in the mist nets at Hakalau. In the course of Freed's study, over 800 birds have been captured with no mortality.

The Hawaii 'Akepa was the last bird shown. 'Akepa have cross bills, and the males are bright red, contrasting with the females and juveniles which are duller. It takes several years for the male to acquire bright orange plumage. The birds nest in tree cavities, and both parents feed and care for the young.

A lively question and answer period followed the talk and slides. While most of us think of these endemic forest birds as tiny (4 1/2 in to 7 in) and frail, this is not borne out by study. Tiny, yes, but frail --NO! Some of the birds, frequently in pairs, have been captured several times, and researchers feel that handling the birds does not harm them because they are captured, banded and bled quickly, gently, and birds are constantly resighted. This program was fascinating, revealing the secrets of the lives of these tiny endemic forest birds that few of us are privileged to see.

Betty Johnson

NOVEMBER PROGRAM: BIRDS OF NOME, ALASKA -- WITH EMPHASIS ON TWO SPECIES OF GOLDEN-PLOVER

Phil Bruner, assistant professor of biology at Brigham Young University - Hawaii, has been studying the habits of wintering golden-plovers (Kolea) in Hawaii for several years. In the spring of 1988, Phil undertook an expedition to Nome, Alaska to investigate the breeding biology of the golden-plovers. At the 21 November General Meeting of Hawaii Audubon, Phil will highlight the findings of his project as well as show the striking and unique tundra environment and wildlife. The meeting place will be the Atherton Halau, B.P. Bishop Museum, at 7:30 PM.

CHRISTMAS COUNT -- 1988

There will be eight Hawaii Audubon Christmas Counts this year, **including one new one in Kona**. These counts are always exciting, with records to be broken and new birds to be seen. We especially need people to attend the counts on the outer islands. The counts have been scheduled to facilitate a weekend visit to Kauai, Maui, or Hawaii. For information on Kauai counts, contact Winona Sears at 822-3045 (hm); for Oahu counts contact Bob Pyle at 262-4046 (hm); for the Maui count, Fern Duvall at 572-0690 (wk); for the Volcano count, Larry Katahira at 967-8133 (wk); and for Kona, Reggie David at 329-9141 (wk). There will not be a workshop at the Volcano this year, but instead a day of birding is scheduled the day before the count. The counts, with dates and leaders, are as follows.

OAHU:

Honolulu -- Sunday, 18 December, Bob Pyle

Waipio -- Monday, 26 December, David Bremer

KAUAI:

Lihue -- ???

Waimea -- ???

Kapaa -- ???

MAUI:

Puu O Kali -- Saturday, 31 December, Fern Duvall

BIG ISLAND:

Kona -- Saturday, 31 December, Reggie David

Volcano -- Saturday, 17 December, Larry Katahira

NOVEMBER 20 FIELD TRIP: JAMES CAMPBELL N.W.R.

The next HAS field trip will be a repeat visit to the James Campbell National Wildlife Refuge, scheduled for Sunday, 20 November. We will observe migratory shorebirds as they pass from their summer breeding grounds in North America and Asia south through the Hawaiian Islands. The resident endangered Hawaiian waterbirds are sure to be encountered. The visit will coincide with the arrival of migratory waterfowl in the islands. Bring along lunch, binoculars, field guides, and sunscreen. Meet in front of the State Library on Punchbowl St. at 7:30 AM or at the Kahuku Sugar Mill between 8:45 AM and 9:00 AM. Contact Bruce Eilerts at 599-4795 for further information.

HAWAII AUDUBON SOCIETY

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-----'ELEPAIO-----

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PUBLICATIONS OF THE SOCIETY

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BACK ISSUES OF 'ELEPAIO and INDICES TO 'ELEPAIO:

Vol. 1-40 --	\$1.00 per issue, \$10.00 per volume
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Overseas orders cost more. Contact the Society for added cost.

FREE ICE CREAM!

Ice cream will again be served to those volunteering for paste up of the *'Elepaio* at Thane Pratt's house on Saturday, 19 Nov., beginning at 1:00 PM. Thanks to Sheila Conant, Harry Whitten, Bob Pyle, and Leann Syrotuck for helping with the paste up of the current issue! For more information, call me at 524-8464.

TKP

CALENDAR OF EVENTS

- Nov 14 (Mon.) Board Meeting at Bishop Museum at 7:00 PM.
Call Bruce Eilerts for details.
- Nov 19 (Sat.) 'Elepaio paste up at Thane Pratt's house, 1:00
PM. Call 524-8464.
- Nov 20 (Sun.) Field trip to James Campbell Nat. Wildl. Refuge.
Meet next to State Library on Punchbowl St. at 7:30
AM. Announcement on page 108.
- Nov 21 (Mon.) General Meeting at Atherton Halau, Bishop
Museum at 7:30 PM. Program: Alaskan Birds, by Phil
Bruner. Announcement on page 108.
- Nov 22 (Tues.) Meeting of Fund Raising Committee, 7:00 PM.
Call 731-4260.

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