'ELEPAIO

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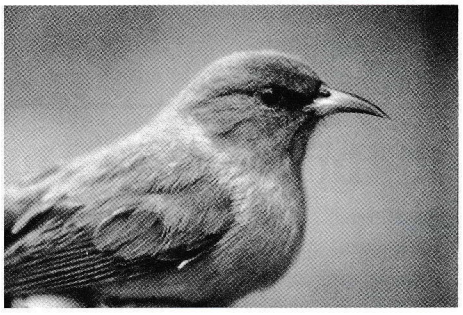
O'ahu 'Amakihi Nest in Manoa Valley

Eric A. VanderWerf [1]

'Amakihi are one of the most common and familiar native forest birds in the Hawaiian Islands. In 1995 the species formerly known as the "Common 'Amakihi" was split into three different species, the Kaua'i 'amakihi (*Hemignathus kauaiensis*), the O'ahu 'amakihi (*Hemignathus chloris*), and the Hawai'i 'amakihi (*Hemignathus virens*), the last of which occurs on Hawai'i, Maui, Moloka'i, and Lana'i (AOU 1995). Most previous research on 'amakihi has focused on Kaua'i, Maui, and Hawai'i. The O'ahu form is poorly known and has not been well-studied, despite being fairly common and widespread on the most populous of the Hawaiian Islands. The following is a summary of observations on an 'amakihi nest I found in suburban Manoa Valley, and a brief review of the nesting biology of the O'ahu 'amakihi.

On 27 May 1997 at about 1:00 p.m. I saw a male O'ahu 'amakihi fly into a large lychee tree (*Litchi chinensis*) in my backyard on Woodlawn Drive in Manoa Valley. 'Amakihi are common in the area so this was not unusual, but the very purposeful flight pattern of this bird caught my attention. It flew more than 50 meters to the crown of the lychee tree, flying around or past several other trees on the way. I lost the bird when it landed in the dense foliage, but I could hear high-pitched "see-see-see" begging calls coming from the tree. I ran inside to get my binoculars, and about five minutes later the male 'amakihi returned to the same tree. This time I watched the bird as it landed, and next to it was a dark mass of sticks, a nest! The 'amakihi hopped onto the rim of the nest, and I again heard the begging calls, but I could not see the inside of the nest or its contents. The nest was in a cluster of dense foliage about 50 centimeters from the end of a branch and was mostly hidden by leaves, but it appeared to be made primarily of small twigs and blades of grass. The nest was about 12 centimeters in diameter and was supported by small branches 1-2 centimeters thick, and was about 5 meters from the trunk. The lychee tree was 30.8 centimeters in diameter and 14 meters tall, and the nest was 10 meters above the ground.



O'ahu 'Amakini
Adult Male
Lyon Arboretum

Photograph by author

I watched the nest again for an hour the next morning. The male appeared after ten minutes, but he did not fly to the nest. Instead he landed in the lychee tree about 5 meters from the nest. I again heard the begging calls, but this time they were a slightly louder "seep, seep, seep", with each call more distinct. When I looked with binoculars I saw the source of the calls- a small 'amakihi chick begging for food with fluttering wings and a gaping bill. The chick had fledged since the previous afternoon. The fledgling was fully feathered, but it was noticeably smaller and plumper than the adult and had a shorter tail. The male fed the fledgling quickly and then flew off. The fledgling made two short, downward flights of less than 5 meters, with unsteady, whirring wingbeats, then it slowly hopped and flew back up higher into the tree.

I heard the begging calls several more times, but I saw the fledgling only once more, and it disappeared into the neighbor's yard. I saw a female 'amakihi fly to the lychee tree once, after which I heard the fledgling's begging calls, and it is likely that the female was also feeding the fledgling, although I did not see it happen. Female 'amakihi are usually more active than males in feeding chicks on other islands (Eddinger 1970, van Riper 1987). I could not see any food in the bill of either adult as they flew to the tree, but 'amakihi carry food in the crop and feed chicks by regurgitation (van Riper 1987).

The site is at 115 meters elevation and is suburban, but most yards in the area have large numbers of trees and shrubs. Plants in the immediate vicinity of the nest tree included Java plum (*Syzygium cumini*), silk oak (*Grevillea robusta*), mango (*Mangifera indica*), eucalyptus, Christmas berry (*Schinus terebinthifolius*), and umbrella tree (*Schefflera actinophylla*). The nearest native plants are several hundred meters away on the slopes of Wa'ahila Ridge. The male 'amakihi visited flowers of the silk oak several times, and also foraged in the lychee tree, a mango tree, and an umbrella tree.

Introduced birds are abundant in the area, particularly red-whiskered and red-vented bulbuls (*Pycnonotus jocosus* and *P. cafer*), white-rumped shama (*Copsychus malabaricus*), and Japanese white-eye (*Zosterops japonicus*). There was a nest of red-whiskered bulbuls with nestlings about thirty meters from the 'amakihi nest, but I saw no interactions between the 'amakihi and the bulbuls or any other introduced birds.

Surprisingly little is known about O'ahu 'amakihi compared to other Hawaiian birds. The first reported nest was found on 22 June 1980 while it was under construction in an ohia tree (*Metrosideros polymorpha*) at 400 meters elevation on Wa'ahila Ridge (Russell and Ralph 1981). The second was found during incubation in a koa tree (*Acacia koa*) at 610 meters elevation on Tantalus on 11 April 1983 (Eddinger 1984). Another was found during incubation in a Norfolk Island pine (*Araucaria excelsa*) at 110 meters elevation in Makiki near the Hawaii Nature Center in May 1987 (S. Conant, pers. comm.). Bryan (1905) reported finding six

comm.). Bryan (1905) reported finding six O'ahu 'amakihi nests, but none were active at the time of discovery and no birds were observed at any nest. Several of the nests differed considerably in construction and placement from known 'amakihi nests on O'ahu and on other islands (Scott et al. 1980, van Riper 1987), and they may not have been nests of 'amakihi.

The breeding season of O'ahu 'amakihi appears to extend at least from April-June. The nests were found in April, May, and June, and 'amakihi in breeding condition have been mist-netted at Lyon Arboretum in April and May (L. Freed unpubl.). This is shorter than the breeding season on other islands, but many more nests have been found on other islands, and the season on O'ahu likely is longer than the few records indicate. The breeding season on Hawai'i Island is from November-July with a peak from March-June (van Riper 1987, Ralph and Fancy 1994), on Kaua'i from March-July with a peak in April (Eddinger 1970), and on Maui from February-June (P. and H. Baker unpubl.).

'Amakihi are perhaps the most successful of Hawaii's native forest birds in adapting to human disturbance. On O'ahu they are often observed foraging in introduced vegetation, and two of the four nests found on O'ahu were in introduced trees. 'Amakihi apparently declined in abundance on O'ahu in the past few decades (Williams 1987, Conry 1991), but more recent information suggests they may be increasing again and repopulating certain low-elevation areas, such as Manoa Valley (E. VanderWerf unpubl.). Observers should be alert for 'amakihi, even in suburban areas, and make note of unusual activity so that we may fill the gaps in our knowledge of this little-known bird. I thank Bonnie Nielsen for reading the manuscript and providing several helpful suggestions, and Robert Pyle for his review.

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Hawaiian Freshwater Snail Proposed for Addition to Endangered Species List

by Barbara Maxfield

Newcomb's snail, a Hawaiian freshwater snail, has been proposed for listing as threatened under the Endangered Species Act, the U.S. Fish and Wildlife Service (U.S. FWS) announced recently.

This small snail inhabits waterfalls, seeps and springs in stream drainages on the northern half of the island of Kaua'i. It is presently known to exist in five streams on state land.

Intentional or accidental introductions of snail predators threaten the Newcomb's snail. The alien rosy glandina snail and two species of marsh flies were introduced into Hawaii in the 1950s and 1960s to control agricultural pests, but they have significantly affected native species. The rosy glandina snail has caused the extinction of many populations and species of native snails throughout the Pacific islands.

Newcomb's snail is unique among the Hawaiian Lymnaeidae snails in having a smooth, black shell formed by a single oval whorl rather than the typical shell spire.

A complete description of the U.S. FWS's proposal to list the Newcomb's snail as a threatened species was published in the Federal Register on July 21, 1997.

Source: U.S. Fish and Wildlife Service – Region 1

T-Shirts Available

The Hawaii Audubon Society has a stock of T-shirts designed to spread the Audubon message. Not only are they attractive personal apparel, but they make excellent presents as well.

Send check made payable to HAS with order ($12 plus $2.00 shipping) to Yvonne Izu, 1957 Alai Place, Wahiawa, Hawai'i 96786.

Nominating Committee Announces Slate for 1997 Election

Members encouraged to submit nominations

The Nominating Committee announces the following nominees for the 1997 HAS ballot for two-year terms beginning January 1998: First Vice President John Harrison (incumbent); Directors Reginald David, Elizabeth Kumabe, Daniel Sailer, Andrew Tomlinson. Also nominated to fill out Director terms for next year are Sharon Reilly, Linda Shapin, Ellyn Tong, and Debra Woodcock.

Continuing officers and directors are President, Linda Paul (incumbent); Second Vice President, Wendy Johnson; Recording Secretary, Deetsie Chave; and Directors Mary Gaber and Eric VanderWerf whose terms run to the end of December 1998.

The Society bylaws provide that members may nominate additional candidates by submitting their names in writing, along with their written consent to be nominated, to the Elections Committee at the return address on this journal **by November 10**, 1997. The nominations may be for one of the positions in the first paragraph or for the vacant position of Treasurer with term expiring December 1998.

Paradise Pursuits Begins 7th Season

by Sylvianne Yee

Yes, folks, it's Paradise Pursuits time once again! The 1997-98 school year marks the seventh season for the popular environmental quiz program sponsored by the Hawaii Audubon Society with major funding from the Hawaiian Electric Company. Preparations are already under way for another successful year. Registration packets have been sent to over sixty public and private high schools statewide, the question writers are already hard at work organizing the games, and support from businesses is being solicited.

The primary goals for this year are to improve and refine the play–off games (televised on all public access channels) and to include more questions that challenge the problem solving skills of the student participants. We also hope that even more schools will come on board and take the **Paradise Pursuits Challenge**.

Each school is allowed one team consisting of three members, one alternate, and a coach. Preliminary competitions will be held in February and March with the finals in April. Prizes are awarded at each level of competition. Generous individuals and businesses have in the past donated books, T-shirts, hiking/camping trips, gift certificates, and environmental organization memberships.

The deadline for registration is October 15. Please call Sylvianne Yee at 373-3062 if you wish to help. We're always looking for willing and able volunteers.

Birding for Beginners

2nd Annual Workshop

by Lynnea Overholt

Join us at the Ho'omaluhia Botanical Garden in Kaneohe for a fun and informative workshop for novice birders. Learn how to identify and observe common species. Topics will include optics, field guides and other gear. This will also be a great way to prepare for the Christmas Bird Count!

Come early, bring your lunch, and to get to know other members while you look over some HAS publications. Following the workshop, join us for a walk in the gardens and try out your new birding skills. Come prepared to take notes and bring binoculars if you have them. Preregistration required: for more information and to register call the Hawaii Audubon Society, 528-1432, leave name and telephone number for Lynnea Overholt. Donation requested: $2 members, $4 nonmembers. Workshop to be held on Saturday, November 15, 1:00-3:00 p.m. at Ho'omaluhia Botanical Garden.

Navy Protects Island Monarch

By Martha Balis-Larsen and Tim Sutterfield [1]

By the end of World War II, most of the small Pacific island of Tinian had been bombed, burned, or cleared. But limited military use of the island since the war has allowed for the natural restoration of Tinian flora and fauna. In many ways, this semi-protected environment has become a shelter for many species previously found only within the Marianas, including a little-known bird known as the Tinian monarch (*Monarcha takatsukasae*).

Tinian is one of the fifteen islands in the Marianas Islands Archipelago. The northern fourteen islands form the Commonwealth of the Northern Mariana Islands (CNMI), which is politically affiliated with the United States, while Guam, the southernmost island, is a U.S. territory. Tinian is a small island, only 20 kilometers (12 miles) long and 8 km (5 miles) at maximum, but it is the second largest island in the CNMI. Nearly the entire population of Tinian, or approximately 2,000 people, live in San Jose Village on the southwest coast. The northern two–thirds is leased to the U.S. Navy from the CNMI government. The Navy does not maintain an active presence on Tinian, but uses the island intermittently.

Between 1900 and 1940, Japanese settlers destroyed much of the native vegetation to develop the island for sugar cane production. Construction of roads, airfields, and other infrastructure to support a military presence during World War II reduced the remaining native limestone forest on Tinian to less than four percent by 1945. The limestone forest community is unique to the Mariana Islands. Once the dominant vegetation type on Tinian, the native woody plants and trees growing on the limestone substrate cover less than five percent of the island today. Yet this fragment remains the preferred habitat for most endemic species.

The Tinian Monarch

Probably because of the island's small human population and its geographic isolation, little basic research has been conducted on Tinian's flora and fauna. The Tinian monarch, a flycatcher endemic to the island, is a fine example. While it is considered the second-most abundant bird on Tinian, there is very limited published material on the species. This lack of basic biological information has made it difficult for land and natural resource managers from the Navy, the U.S. Fish and Wildlife Service, and the CNMI's Division of Fish and Wildlife, Department of Land and Natural Resources, and Division of Coastal Resource Management to determine the best policies for use of the land while protecting endemic species.

As a result, in 1994, the Navy established an intensive year-and-a-half survey of five species of concern: the Tinian monarch, Mariana moorhen (*Gallinula chloropus*), Micronesian megapode (*Megapodius laperouse*), green turtle (*Chelonia mydas*), and Marianas fruit bat (*Pteropus mariannus*). The primary goal of the Navy survey was to obtain information on the Tinian monarch. Listed as endangered in 1970 on the basis of a 1945 report that estimated the total population at 40-50 birds, this species was found to have grown much more abundant (over 39,300 birds) during a survey done in 1982. The 1945 survey had been conducted just after much of Tinian's forest had been destroyed.

More recent findings have noted the monarch's adaptability to the recovering forest patches. Following the 1982 survey, the Tinian monarch was reclassified to the less critical status of threatened. In 1994, the FWS, with Navy funding, replicated the 1982 Tinian forest bird survey to determine current population levels. An increase in the population to over 52,000 monarchs was indicated. The survey was repeated again in 1996, but results from this latest study are still being determined. All three studies examined sites in the three major forest types that occur on Tinian: native limestone forest, secondary forest, and tangantangan (*Leucaena leucocephala*) forest.

Reliance on Native Habitat

A total of 116 Tinian monarch nests were located during the 1994 and 1995 field seasons. Over sixty percent of the nests were found in native tree species. While the Tinian monarch is assumed to breed year round, the research found that there was pronounced seasonality in nesting activity and nesting success. Nest construction demonstrated a direct correlation to the amount of rainfall. Lack of nesting occurred during periods of low rainfall; once the rains resumed, so did nest building.

The study also showed the important role that the native limestone forest plays in the survival of Tinian monarchs. Nesting success in the limestone forest was unrivaled by the other two forest habitats, probably due to the higher availability of insects. Monarchs in non-limestone forest habitats had to travel four to five times as far to obtain prey. Overall, the data indicate that there are more monarchs in the five percent of Tinian that is native forest than there are in the nineteen percent that is secondary forest, and almost as many as in the thirty–eight percent that is tangantangan forest.

Nests in the remnant limestone forest areas also had higher survival rates against fire and inclement weather. Some nest destruction was attributed to dry-season fires that originated either naturally or as a result of military training. But researchers found that the main source of nestling mortality was inclement weather. Tropical storms and typhoons were responsible for falling trees and branches, destroying monarch nests. Fire and typhoons caused the most destruction in forest habitat.

This research has revealed the importance of remnant native forest to the Tinian monarch. Preservation of the remaining limestone forest habitat on Tinian should receive high priority as CNMI and Navy resource managers plan for future use of Tinian's land. The recovery of the Tinian monarch suggests that the island's other limestone forest habitat-dependent flora and fauna have also benefited from the Navy/CNMI lease arrangement.

[1] Martha Balis-Larsen is with the Fish and WildLife Service's Division of Endangered Species in Washington, D.C., and provides editorial assistance for the Endangered Species Bulletin. Tim Sutterfield is a Regional Natural Resources Specialist with the Pacific Division of the Naval Facilities Engineering Command located in Honolulu, Hawaii.

Source: Endangered Species Bulletin,

Checklist of the Birds of Hawaii — 1997

by 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. Ancient species known only from paleontological remains are not included. This revises and updates the *Checklist of the Birds of Hawaii — 1992* (Pyle, 1992).

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. Included are 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.

The American Ornithologists' Union *Check-list of North American Birds,* 6th Edition 1983, and the 35th (1985) through 41st (1997) 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.* Despite long standing ornithological tradition, the possessive suffix 's is omitted herein from vernacular names given in honor of, rather than for being possessed by, a person, for considerations of reduced complexity and grammar. 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. For certain native species, island names are used to form vernacular names of subspecies {in brackets} to designate the different island races.

The Hawaiian language name is listed as the vernacular name for most 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 early 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 encourages use of the traditional Hawaiian language names as vernacular names for endemic birds (Hawaii Audubon Society, 1996). Hawaiian names should include the letter 'u'ina, or glottal stop (the second most frequent 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 included in the Checklist are 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 game bird 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 (eight to ten 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 (1988,1992) acknowledges numerous people who contributed to earlier versions of the Checklist. 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 species; not extinct.
- Rx = Resident; endemic species; 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.

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.

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

Checklist of the Birds of Hawaii — 1997

by Robert L. Pyle

GREBES		***PODICIPEDIDAE***	
Pied-billed Grebe	Ri	*Podilymbus podiceps*	
Horned Grebe	Vs	*Podiceps auritus*	
Red-necked Grebe	Vs	*Podiceps grisegena*	
Eared Grebe	Vs	*Podiceps nigricollis*	
ALBATROSSES		***DIOMEDEIDAE***	
Short-tailed Albatross	Vo	*Phoebastria albatrus*	
Black-footed Albatross	Bi	*Phoebastria nigripes*	
Laysan Albatross	Bi	*Phoebastria immutabilis*	Mōli
PETRELS, SHEARWATERS		***PROCELLARIIDAE***	
Northern Fulmar	Vo	*Fulmarus glacialis*	
(Hawaiian Petrel)—Dark-rumped Petrel	Bes	E-*Pterodroma phaeopygia sandwichensis*	ʻUaʻu
Juan Fernandez Petrel	Vo	*Pterodroma externa*	
White-necked Petrel	Vo	*Pterodroma cervicalis*	
Mottled Petrel	Vo	*Pterodroma inexpectata*	
Murphy Petrel	Vs	*Pterodroma ultima*	
Kermadec Petrel	Vs	*Pterodroma neglecta*	
Herald Petrel	Vs	*Pterodroma arminjoniana*	
Cook Petrel	Vs	*Pterodroma cookii*	
Bonin Petrel	Bi	*Pterodroma hypoleuca*	
Black-winged Petrel	Vo	*Pterodroma nigripennis*	
Stejneger Petrel	Vd	*Pterodroma longirostris*	
Bulwer Petrel	Bi	*Bulweria bulwerii*	ʻOu
Jouanin Petrel	Vs	*Bulweria fallax*	
Streaked Shearwater	Vs	*Calonectris leucomelas*	
Flesh-footed Shearwater	Vo	*Puffinus carneipes*	
Wedge-tailed Shearwater	Bi	*Puffinus pacificus chlororhynchus*	ʻUaʻu kani
(New Zealand Shearwater)—Buller Shearwater	Vs	*Puffinus bulleri*	
Sooty Shearwater	Vr	*Puffinus griseus*	
Short-tailed Shearwater	Vo	*Puffinus tenuirostris*	
Christmas Shearwater	Bi	*Puffinus nativitatis*	
Newell Shearwater	Be	T-*Puffinus newelli*	ʻAʻo
Little Shearwater	Vs	*Puffinus assimilis*	

STORM-PETRELS		***HYDROBATIDAE***	
Wilson Storm-Petrel	Vs	*Oceanites oceanicus*	
Fork-tailed Storm-Petrel	Vs	*Oceanodroma furcata*	
Leach Storm-Petrel	Vr	*Oceanodroma leucorhoa*	
(Hawaiian or Harcourt S.-P.)—Band-rumped Storm-Petrel	Bi	*Oceanodroma castro*	*ʻAkēʻakē*
(Sooty Storm-Petrel)—Tristram Storm-Petrel	Bi	*Oceanodroma tristrami*	
TROPICBIRDS		***PHAETHONTIDAE***	
White-tailed Tropicbird	Ri	*Phaethon lepturus dorotheae*	Koaʻe kea
Red-billed Tropicbird	Vs	*Phaethon aethereus*	
Red-tailed Tropicbird	Bi	*Phaethon rubricauda rothschildi*	Koaʻe ʻula
BOOBIES		***SULIDAE***	
(Blue-faced Booby)—Masked Booby	Ri	*Sula dactylatra personata*	ʻĀ
Brown Booby	Ri	*Sula leucogaster plotus*	ʻĀ
Red-footed Booby	Ri	*Sula sula rubripes*	*ʻĀ*
CORMORANTS		***PHALACROCORACIDAE***	
Pelagic Cormorant	Vs	*Phalacrocorax pelagicus*	
FRIGATEBIRDS		***FREGATIDAE***	
Great Frigatebird	Ri	*Fregata minor palmerstoni*	ʻIwa
Lesser Frigatebird	Vs	*Fregata ariel*	
HERONS, EGRETS		***ARDEIDAE***	
Great Blue Heron	Vs	*Ardea herodias*	
Great Egret	Vs	*Ardea alba*	
Snowy Egret	Vs	*Egretta thula*	
Little Blue Heron	Vo	*Egretta caerulea*	
Cattle Egret	An	*Bubulcus ibis*	
(Green-backed Heron)—Green Heron	Vs	*Butorides virescens*	
Black-crowned Night-Heron	Ri	*Nycticorax nycticorax hoactli*	ʻAukuʻu
IBISES		***THRESKIORNITHIDAE***	
White-faced Ibis	Vs	*Plegadis chihi*	
GEESE, DUCKS		***ANATIDAE***	
Fulvous Whistling-Duck	Ri	*Dendrocygna bicolor*	
(Whistling Swan)—Tundra Swan	Vs	*Cygnus columbianus*	
(White-fronted Goose)—Greater White-fronted Goose	Vs	*Anser albifrons*	
Snow Goose	Vs	*Chen caerulescens*	
Emperor Goose	Vs	*Chen canagica*	
Brant	Vo	*Branta bernicla*	
Canada Goose	Vo	*Branta canadensis*	
(Hawaiian Goose)—Nēnē	Re	E-*Branta sandvicensis*	Nēnē
Green-winged Teal	Vr	*Anas crecca*	
Mallard	Al,Vo	*Anas platyrhynchos*	
(Hawaiian Duck)—Koloa	Re	E-*Anas wyvilliana*	Koloa maoli
Laysan Duck	Re	E-*Anas laysanensis*	
Northern Pintail	Vc	*Anas acuta*	Koloa māpu
Garganey	Vo	*Anas querquedula*	
Blue-winged Teal	Vo	*Anas discors*	
Cinnamon Teal	Vs	*Anas cyanoptera*	
Northern Shoveler	Vc	*Anas clypeata*	Koloa mohā
Gadwall	Vs	*Anas strepera*	
(European Wigeon)—Eurasian Wigeon	Vs	*Anas penelope*	
American Wigeon	Vr	*Anas americana*	
Common Pochard	Vs	*Aythya ferina*	
Canvasback	Vs	*Aythya valisineria*	

Redhead	Vs	*Aythya americana*	
Ring-necked Duck	Vo	*Aythya collaris*	
Tufted Duck	Vs	*Aythya fuligula*	
Greater Scaup	Vo	*Aythya marila*	
Lesser Scaup	Vr	*Aythya affinis*	
Harlequin Duck	Vs	*Histrionicus histrionicus*	
Oldsquaw	Vs	*Clangula hyemalis*	
Black Scoter	Vs	*Melanitta nigra*	
Surf Scoter	Vs	*Melanitta perspicillata*	
Common Goldeneye	Vs	*Bucephala clangula*	
Bufflehead	Vo	*Bucephala albeola*	
Hooded Merganser	Vs	*Lophodytes cucullatus*	
Common Merganser	Vs	*Mergus merganser*	
Red-breasted Merganser	Vs	*Mergus serrator*	
Ruddy Duck	Vs	*Oxyura jamaicensis*	
HAWKS, EAGLES		***ACCIPITRIDAE***	
Osprey	Vo	*Pandion haliaetus*	
Black Kite	Vs	*Milvus migrans*	
Steller Sea-Eagle	Vs	*Haliaeetus pelagicus*	
Northern Harrier	Vs	*Circus cyaneus*	
Gray Frog-Hawk	Vs	*Accipiter soloensis*	
(Hawaiian Hawk)—'Io	Re	E-*Buteo solitarius*	'Io
Rough-legged Hawk	Vs	*Buteo lagopus*	
Golden Eagle	Vs	*Aquila chrysaetos*	
FALCONS		***FALCONIDAE***	
Merlin	Vs	*Falco columbarius*	
Peregrine Falcon	Vo	E-*Falco peregrinus*	
FRANCOLINS, PHEASANTS, QUAILS		***PHASIANIDAE***	
Black Francolin	An	*Francolinus francolinus*	
Gray Francolin	An	*Francolinus pondicerianus*	
Erckel Francolin	An	*Francolinus erckelii*	
Chukar	Al	*Alectoris chukar*	
Japanese Quail	Al	*Coturnix japonica*	
Kalij Pheasant	An	*Lophura leucomelana*	
Red Junglefowl	Al	*Gallus gallus*	Moa
(Green Pheasant,Common Pheasant)—Ring-necked Pheasant	Al	*Phasianus colchicus*	
Common Peafowl	Al	*Pavo cristatus*	
Wild Turkey	Al	*Meleagris gallopavo*	
Gambel Quail	Al	*Callipepla gambelii*	
California Quail	Al	*Callipepla californica*	
RAILS, GALLINULES, COOTS		***RALLIDAE***	
Hawaiian Rail	Rx	*Porzana sandwichensis*	Moho
Laysan Rail	Rx	*Porzana palmeri*	
(Hawaiian Gallinule)— Common Moorhen	Res	E-*Gallinula chloropus sandvicensis*	'Alae 'ula
(American Coot)—Hawaiian Coot	Res	E-*Fulica alai*	'Alae ke'oke'o
American Coot	Vs	*Fulica americana*	
CRANES		***GRUIDAE***	
Sandhill Crane	Vs	*Grus canadensis*	
PLOVERS		***CHARADRIIDAE***	
(Gray Plover)—Black-bellied Plover	Vr	*Pluvialis squatarola*	
(Lesser or American Golden-Plover)—Pacific Golden-Plover	Vc	*Pluvialis fulva*	Kōlea
Mongolian Plover	Vs	*Charadrius mongolus*	
Common Ringed Plover	Vs	*Charadrius hiaticula*	
Semipalmated Plover	Vo	*Charadrius semipalmatus*	

Killdeer	Vs	*Charadrius vociferus*	
Eurasian Dotterel	Vs	*Charadrius morinellus*	
STILTS		***RECURVIROSTRIDAE***	
(Hawaiian Stilt)—Black-necked Stilt	Res E	*Himantopus mexicanus knudseni*	Ae'o
SANDPIPERS, WADERS		***SCOLOPACIDAE***	
Greater Yellowlegs	Vs	*Tringa melanoleuca*	
Lesser Yellowlegs	Vr	*Tringa flavipes*	
Wood Sandpiper	Vs	*Tringa glareola*	
Solitary Sandpiper	Vs	*Tringa solitaria*	
Willet	Vs	*Catoptrophorus semipalmatus*	
Wandering Tattler	Vc	*Heteroscelus incanus*	'Ūlili
(Siberian Tattler, Polynesian Tattler)—Gray-tailed Tattler	Vs	*Heteroscelus brevipes*	
Spotted Sandpiper	Vs	*Actitis macularia*	
Whimbrel	Vs	*Numenius phaeopus*	
Bristle-thighed Curlew	Vr	*Numenius tahitiensis*	Kioea
Far Eastern Curlew	Vs	*Numenius madagascarensis*	
Hudsonian Godwit	Vs	*Limosa haemastica*	
Bar-tailed Godwit	Vo	*Limosa lapponica*	
Marbled Godwit	Vs	*Limosa fedoa*	
Ruddy Turnstone	Vc	*Arenaria interpres*	'Akekeke
Red Knot	Vs	*Calidris canutus*	
Sanderling	Vc	*Calidris alba*	Hunakai
Semipalmated Sandpiper	Vs	*Calidris pusilla*	
Western Sandpiper	Vo	*Calidris mauri*	
Red-necked Stint	Vs	*Calidris ruficollis*	
Little Stint	Vs	*Calidris minuta*	
Long-toed Stint	Vs	*Calidris subminuta*	
Least Sandpiper	Vo	*Calidris minutilla*	
Baird Sandpiper	Vs	*Calidris bairdii*	
Pectoral Sandpiper	Vr	*Calidris melanotos*	
Sharp-tailed Sandpiper	Vr	*Calidris acuminata*	
Dunlin	Vr	*Calidris alpina*	
Curlew Sandpiper	Vs	*Calidris ferruginea*	
Buff-breasted Sandpiper	Vs	*Tryngites subruficollis*	
Ruff	Vo	*Philomachus pugnax*	
Short-billed Dowitcher	Vo	*Limnodromus griseus*	
Long-billed Dowitcher	Vr	*Limnodromus scolopaceus*	
Common Snipe	Vo	*Gallinago gallinago*	
Pin-tailed Snipe	Vs	*Gallinago stenura*	
Wilson Phalarope	Vo	*Phalaropus tricolor*	
Red-necked Phalarope	Vs	*Phalaropus lobatus*	
Red Phalarope	Vs	*Phalaropus fulicaria*	
JAEGERS, GULLS, TERNS, NODDIES		***LARIDAE***	
South Polar Skua	Vs	*Catharacta maccormicki*	
Pomarine Jaeger	Vr	*Stercorarius pomarinus*	
Parasitic Jaeger	Vs	*Stercorarius parasiticus*	
Long-tailed Jaeger	Vs	*Stercorarius longicaudus*	
Laughing Gull	Vo	*Larus atricilla*	
Franklin Gull	Vs	*Larus pipixcan*	
Black-headed Gull	Vs	*Larus ridibundus*	
Bonaparte Gull	Vo	*Larus philadelphia*	
Mew Gull	Vs	*Larus canus*	
Ring-billed Gull	Vo	*Larus delawarensis*	
California Gull	Vs	*Larus californicus*	
Herring Gull	Vo	*Larus argentatus*	
Slaty-backed Gull	Vs	*Larus schistisagus*	
Western Gull	Vs	*Larus occidentalis*	
Glaucous-winged Gull	Vo	*Larus glaucescens*	

Glaucous Gull	Vs	*Larus hyperboreus*	
Black-legged Kittiwake	Vs	*Rissa tridactyla*	
Gull-billed Tern	Vs	*Sterna nilotica*	
Caspian Tern	Vs	*Sterna caspia*	
Great Crested-Tern	Vs	*Sterna bergii*	
Sandwich Tern	Vs	*Sterna sandvicensis*	
Common Tern	Vs	*Sterna hirundo*	
Arctic Tern	Vo	*Sterna paradisaea*	
Little Tern	Vs	*Sterna albifrons*	
Least Tern	Vo	*Sterna antillarum*	
Gray-backed Tern	Bi	*Sterna lunata*	Pākalakala
Sooty Tern	Bi	*Sterna fuscata oahuensis*	ʻEwaʻewa
Whiskered Tern	Vs	*Chlidonias hybridus*	
Black Tern	Vs	*Chlidonias niger*	
(Common Noddy)—Brown Noddy	Ri	*Anous stolidus pileatus*	Noio kōhā
(Hawaiian Noddy, White-capped Noddy)—Black Noddy	Res	*Anous minutus melanogenys*	Noio, ʻEkiʻeki
Blue-gray Noddy	Ri	*Procelsterna cerulea saxatilis*	
(Common Fairy-Tern, Fairy Tern)—White Tern	Ri	*Gygis alba rothschildi*	Manu-o-Kū
AUKLETS, PUFFINS		***ALCIDAE***	
Cassin Auklet	Vs	*Ptychoramphus aleuticus*	
Parakeet Auklet	Vd	*Aethia psittacula*	
Tufted Puffin	Vd	*Fratercula cirrhata*	
Horned Puffin	Vs	*Fratercula corniculata*	
SANDGROUSE		***PTEROCLIDIDAE***	
Chestnut-bellied Sandgrouse	An	*Pterocles exustus*	
DOVES		***COLUMBIDAE***	
Rock Dove	Al	*Columba livia*	
(Chinese Dove, Lace-necked Dove)—Spotted Dove	Al	*Streptopelia chinensis*	
(Barred Dove)—Zebra Dove	Al	*Geopelia striata*	
Mourning Dove	An	*Zenaida macroura*	
PARAKEETS		***PSITTACIDAE***	
(Pale-headed Parakeet)—Pale-headed Rosella	Ax	*Platycercus adscitus*	
Rose-ringed Parakeet	An	*Psittacula krameri*	
CUCKOOS		***CUCULIDAE***	
Common Cuckoo	Vs	*Cuculus canorus*	
Yellow-billed Cuckoo	Vs	*Coccyzus americanus*	
BARN OWLS		***TYTONIDAE***	
Barn Owl	An	*Tyto alba*	
TYPICAL OWLS		***STRIGIDAE***	
(Hawaiian Owl)—Short-eared Owl	Res	*Asio flammeus sandwichensis*	Pueo
NIGHTHAWKS		***CAPRIMULGIDAE***	
Common Nighthawk	Vs	*Chordeiles minor*	
SWIFTLETS		***APODIDAE***	
(Uniform, Island or Gray Swiftlet)—Guam Swiftlet	An	*Aerodramus bartschi*	
KINGFISHERS		***ALCEDINIDAE***	
Belted Kingfisher	Vs	*Ceryle alcyon*	

LARKS		***ALAUDIDAE***	
(Eurasian Skylark)—Sky Lark	Al,Vs	*Alauda arvensis*	
SWALLOWS		***HIRUNDINIDAE***	
Barn Swallow	Vs	*Hirundo rustica*	
CROWS		***CORVIDAE***	
(Hawaiian Crow)—ʻAlalā	Re E-	*Corvus hawaiiensis*	ʻAlalā
TITS		***PARIDAE***	
(Japanese Tit, Yamagara)—Varied Tit	Ax	*Parus varius*	
BULBULS		***PYCNONOTIDAE***	
Red-vented Bulbul	An	*Pycnonotus cafer*	
Red-whiskered Bulbul	An	*Pycnonotus jocosus*	
BUSH-WARBLERS,ʻELEPAIO,THRUSHES,ETC.		***MUSCICAPIDAE***	
(Uguisu)—Japanese Bush-Warbler	Al	*Cettia diphone*	
Millerbird		*Acrocephalus familiaris*	
{Laysan Millerbird}——	Rx	*A. f. familiaris*	
{Nihoa Millerbird}——	Re E-	*A. f. kingi*	
ʻElepaio		*Chasiempis sandwichensis*	
{Kauaʻi ʻElepaio}——	Re	*C. s. sclateri*	ʻElepaio
{Oʻahu ʻElepaio}——	Re	*C. s. ibidis*	ʻElepaio
{Hawaiʻi ʻElepaio}——	Re	*C. s. sandwichensi*	ʻElepaio
(Shama Thrush)—White-rumped Shama	Al	*Copsychus malabaricus*	
(Large Kauaʻi Thrush)—Kāmaʻo	Re E-	*Myadestes myadestinus*	Kāmaʻo
(Oʻahu Thrush)—ʻĀmaui	Rx	*Myadestes oahensis*	ʻĀmaui
Olomaʻo		*Myadestes lanaiensis*	
{(Molokaʻi Thrush)—Molokaʻi Olomaʻo}——	Re E-	*M. l. rutha*	Olomaʻo
{(Lanaʻi Thrush)—Lanaʻi Olomaʻo}——	Rx	*M. l. lanaiensis*	Olomaʻo
(Hawaiʻi Thrush)— ʻŌmaʻo	Re	*Myadestes obscurus*	ʻŌmaʻo
(Small Kauaʻi Thrush)—Puaiohi	Re E-	*Myadestes palmeri*	Puaiohi
Greater Necklaced Laughing-thrush	Al	*Garrulax pectoralis*	
Gray-sided Laughing-thrush	Al	*Garrulax caerulatus*	
(Melodious Laughing-thrush, Chinese Thrush)—Hwamei	Al	*Garrulax canorus*	
(Pekin Nightingale,Japanese Hill-robin)-Red-billed Leiothrix	Al	*Leiothrix lutea*	
MOCKINGBIRDS		***MIMIDAE***	
Northern Mockingbird	Al	*Mimus polyglottos*	
PIPITS		***MOTACILLIDAE***	
Olive-backed Pipit	Vs	*Anthus hodgsoni*	
Red-throated Pipit	Vs	*Anthus cervinus*	
American Pipit	Vs	*Anthus rubescens*	
STARLINGS, MYNAS		***STURNIDAE***	
European Starling	Vs	*Sturnus vulgaris*	
Common Myna	Al	*Acridotheres tristis*	
HONEYEATERS		***MELIPHAGIDAE***	
(Kauaʻi ʻŌʻō)—ʻŌʻōʻāʻā	Re E-	*Moho braccatus*	ʻŌʻōʻāʻā
Oʻahu ʻŌʻō	Rx	*Moho apicalis*	ʻŌʻō
(Molokaʻi ʻŌʻō)—Bishop ʻŌʻō	Rx	*Moho bishopi*	ʻŌʻō
Hawaiʻi ʻŌʻō	Rx	*Moho nobilis*	ʻŌʻō
Kioea	Rx	*Chaetoptila angustipluma*	Kioea

WHITE-EYES		***ZOSTEROPIDAE***	
(Mejiro)—Japanese White-eye	Al	*Zosterops japonicus*	
CARDINALS, MEADOWLARKS, ETC.		***EMBERIZIDAE***	
(North American or Kentucky Cardinal)—Northern Cardinal	Al	*Cardinalis cardinalis*	
(Brazilian Cardinal)—Red-crested Cardinal	Al	*Paroaria coronata*	
Yellow-billed Cardinal	Al	*Paroaria capitata*	
Yellow-faced Grassquit	An	*Tiaris olivacea*	
Saffron Finch	An	*Sicalis flaveola*	
Savannah Sparrow	Vs	*Passerculus sandwichensis*	
Snow Bunting	Vs	*Plectrophenax nivalis*	
Western Meadowlark	Al	*Sturnella neglecta*	
Great-tailed Grackle	Vs	*Quiscalus mexicanus*	
FINCHES, HAWAIIAN HONEYCREEPERS		***FRINGILLIDAE***	
CARDUELINE FINCHES		***CARDUELINAE* (subfamily)**	
(Linnet)—House Finch	Al	*Carpodacus mexicanus*	
Common Redpoll	Vs	*Carduelis flammea*	
(Green Singing-Finch)—Yellow-fronted Canary	An	*Serinus mozambicus*	
(Canary)—Common Canary	Al	*Serinus canaria*	
HAWAIIAN HONEYCREEPERS		***DREPANIDINAE* (subfamily)**	
FINCH-BILLED HONEYCREEPERS		*PSITTIROSTRINI* (tribe)	
Laysan Finch	Re E-	*Telespiza cantans*	
Nihoa Finch	Re E-	*Telespiza ultima*	
ʻŌʻū	Re E-	*Psittirostra psittacea*	ʻŌʻū
Lanaʻi Hookbill	Rx	*Dysmorodrepanis munroi*	
Palila	Re E-	*Loxioides bailleui*	Palila
Lesser Koa-Finch	Rx	*Rhodacanthis flaviceps*	
Greater Koa-Finch	Rx	*Rhodacanthis palmeri*	Hōpue
(Grosbeak Finch)—Kona Grosbeak	Rx	*Chloridops kona*	
Maui Parrotbill	Re E-	*Pseudonestor xanthophrys*	
SLENDERBILLED HONEYCREEPERS		*HEMIGNATHINI* (tribe)	
Kauaʻi ʻAmakihi	Re	*Hemignathus kauaiensis*	ʻAmakihi
Oʻahu ʻAmakihi	Re	*Hemignathus chloris*	ʻAmakihi
Hawaiʻi ʻAmakihi		*Hemignathus virens*	
{Maui ʻAmakihi}——	Re	*H. v. wilsoni*	ʻAmakihi
{Hawaiʻi ʻAmakihi}——	Re	*H. v. virens*	ʻAmakihi
(Lesser ʻAmakihi)—ʻAnianiau	Re	*Hemignathus parvus*	ʻAnianiau
(Green Solitaire)—Greater ʻAmakihi	Rx	*Hemignathus sagittirostris*	
Greater ʻAkialoa		*Hemignathus ellisianus*	
{Kauaʻi ʻAkialoa}——	Rx	*H. e. procerus*	
{Oʻahu ʻAkialoa}——	Rx	*H. e. ellisianus*	ʻAkialoa
{Lanaʻi ʻAkialoa}——	Rx	*H. e. lanaiensis*	ʻAkialoa
Lesser ʻAkialoa	Rx	*Hemignathus obscurus*	ʻAkialoa
Nukupuʻu		*Hemignathus lucidus*	
{Kauaʻi Nukupuʻu}——	Re E-	*H. l. hanapepe*	Nukupuʻu
{Oʻahu Nukupuʻu}——	Rx	*H. l. lucidus*	Nukupuʻu
{Maui Nukupuʻu}——	Re E-	*H. l. affinus*	Nukupuʻu
ʻAkipōlāʻau	Re E-	*Hemignathus munroi*	ʻAkipōlāʻau
(Kauaʻi Creeper)— ʻAkikiki	Re	*Oreomystis bairdi*	ʻAkikiki
(Olive Green Creeper)—Hawaiʻi Creeper	Re E-	*Oreomystis mana*	
(Oʻahu Creeper)—Oʻahu ʻAlauahio	Re E-	*Paroreomyza maculata*	ʻAlauahio
(Molokaʻi Creeper)—Kākāwahie	Rx	*Paroreomyza flammea*	Kākāwahie
(Maui Creeper)—Maui ʻAlauahio		*Paroreomyza montana*	
{Maui ʻAlauahio}——	Re	*P. m. newtoni*	ʻAlauahio
{Lanaʻi ʻAlauahio}——	Rx	*P. m. montana*	ʻAlauahio
(Kauaʻi ʻĀkepa)—ʻAkekeʻe	Re	*Loxops caeruleirostris*	ʻAkekeʻe

ʻĀkepa		*Loxops coccineus*	
{Oʻahu ʻĀkepa}——	Rx	*L. c. wolstenholmei*	ʻAkepeuʻie
{Maui ʻĀkepa}——	Re E-	*L. c. ochraceus*	ʻAkepeuʻie
{Hawaiʻi ʻĀkepa}——	Re E-	*L. c. coccineus*	ʻAkakane
RED AND BLACK HONEYCREEPERS		*DREPANIDINI* (tribe)	
ʻUla-ʻai-hāwane	Rx	*Ciridops anna*	ʻUla-ʻai-hāwane
ʻIʻiwi	Re	*Vestiaria coccinea*	ʻIʻiwi
Hawaiʻi Mamo	Rx	*Drepanis pacifica*	Mamo
(Perkins Mamo)—Black Mamo	Rx	*Drepanis funerea*	Hoa—(ʻŌʻō nuku mū)
(Crested Honeycreeper)—ʻĀkohekohe	Re E-	*Palmeria dolei*	ʻĀkohekohe
ʻApapane		*Himatione sanguinea*	
{Laysan Honeycreeper}——	Rx	*H. s. freethii*	
{ʻApapane}——	Re	*H. s. sanguinea*	ʻApapane
Poʻouli	Re E-	*Melamprosops phaeosoma*	
OLD WORLD SPARROWS		***PASSERIDAE***	
(English Sparrow)—House Sparrow	Al	*Passer domesticus*	
WAXBILLS, MANNIKINS		***ESTRILDIDAE***	
Red-cheeked Cordonbleu	An	*Uraeginthus bengalus*	
Lavender Waxbill	An	*Estrilda caerulescens*	
Orange-cheeked Waxbill	An	*Estrilda melpoda*	
(Red-eared Waxbill)—Black-rumped Waxbill	An	*Estrilda troglodytes*	
Common Waxbill	An	*Estrilda astrild*	
(Strawberry Finch, Red Munia)—Red Avadavat	Al	*Amandava amandava*	
Warbling Silverbill	An	*Lonchura malabarica*	
(Ricebird, Spotted Munia)—Nutmeg Mannikin	Al	*Lonchura punctulata*	
(Black-headed Mannikin or Munia)—Chestnut Mannikin	Al	*Lonchura malacca*	
Java Sparrow	An	*Padda oryzivora*	

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 Visitors (stragglers):

Black-throated(Arctic)/Pacific Loon —— *Gavia arctica* or *G. pacifica* (*GAVIIDAE*)
Tahiti/Phoenix Petrel ——— *Pterodroma rostrata* or *P. alba* (*PROCELLARIIDAE*)

Appendix

Summary of Changes from *Checklist of the Birds of Hawaii — 1992*

Abbreviations: *AFN = Audubon Field Notes; AB = American Birds*
BPBM = prefix for catalog numbers of specimens in B.P.Bishop Museum, Honolulu, HI
HRBP = prefix for catalog numbers of pictures in Hawaii Rare Bird Documentary Photograph File

1. Species Added:

Black Kite (*Milvus migrans*). One bird observed at Sand Island, Midway Atoll December 1994 to March 1995. Photographed in flight from below (HRBP-1074,1075) with WhiteTerns.

Gray Frog-Hawk (*Accipiter soloensis*). A bird found alive at Kure Atoll 27 September 1991 died the next day (Bishop Museum specimen BPBM-178451). Identification confirmed at U.S.National Museum (Auk 114:544).

Rough-legged Hawk (*Buteo lagopus*). One bird was observed well at Laysan Island March through May 1988 (*AB* 42:373,484). Photographed in flight from below (HRBP-762-765) being mobbed by Sooty Terns.

Common Ringed Plover (*Charadrius hiaticula*). One bird at Sand I., Midway Atoll observed several times during May 1997 (photographs HRBP 1117-1120). Toes lacked palmations when viewed through scope at 20 m, and in deep tracks in mud (photograph HRBP 1121). Detailed plumage notes.

Far Eastern Curlew (*Numenius madagascariensis*). One bird observed and heard well 4 September 1996 at Laysan I. Excellent observation notes submitted.

Whiskered Tern (*Chlidonias hybridus*). One bird at Aimakapa Pond, Hawai'i I. in September and early October 1995, was observed independently by four observers. Three observers submitted detailed notes (*AFN* 50:120). Consensus agreement is that the bird was almost surely a Whiskered Tern, with small possibility of being a White-winged Tern, and very unlikely to have been any other species.

Common Cuckoo (*Cuculus canorus*). One bird at Sand I., Midway Atoll May 23, 1997 (photographs HRBP 1129-1132). Five observers submitted detailed notes and sketches. Later comparison of notes with literature and specimens established identity as this species (probably subspecies *telephonus*) and not Oriental Cuckoo (*C. saturatus*). Descriptive details and observation circumstances to be published.

Yellow-billed Cuckoo (*Coccyzus americanus*). One bird at Laysan I. 1 November 1994 well–described by two observers (photographs HRBP-1070,1071, not diagnostic).

2. Names Changed:

Short-tailed Albatross, Black-footed Albatross, Laysan Albatross: genus name for these three changed from *Diomedea* to *Phoebastria* (Auk 114:543).

Great Egret (*Casmerodius albus*): genus and species name changed from *Casmerodius albus* to *Ardea alba* (Auk 112:819).

Green-backed Heron (*Butorides striatus*): vernacular name changed to Green Heron, and species name changed from *striatus* to *virescens* (Auk 110:675-676).

Nēnē (*Nesochen sandvicensis*): genus name changed to *Branta* (Auk 110:676).

Lesser Golden-Plover (*Pluvialis (dominica) fulva*): vernacular name changed to Pacific Golden-Plover, and scientific name changed formally to *Pluvialis fulva*. This form has been split to a separate species from *P. dominica* (Auk 110:677).

Rufous-necked Stint (*Calidris ruficollis*): vernacular name changed to Red-necked Stint (Auk 112:820).

Common Black-headed Gull (*Larus ridibundus*): vernacular name changed to Black-headed Gull (Auk 112:820).

Parakeet Auklet (*Cyclorrhynchus psittacula*): genus name changed to *Aethia* (Auk 114:545).

Uniform Swiftlet (*Aerodramus vanikorensis*): vernacular name changed to Guam Swiftlet, and species name changed from *vanikorensis* to *bartschi* (Auk 112:821 and 114:545).

Eurasian Skylark (*Alauda arvensis*): vernacular name changed to Sky Lark (Auk 112:823).

Olive Tree-Pipit (*Anthus hodgsoni*): vernacular name changed to Olive-backed Pipit (Auk 112:825)..

Kaua'i Creeper (*Oreomystis bairdi*): vernacular name changed to 'Akikiki (Auk 110:680).

Moloka'i Creeper (*Paroreomyza flammea*): vernacular name changed to Kākāwahie (Auk 110:680).

O'ahu Creeper, Maui Creeper, and Lana'i Creeper (*Paroreomyza*): vernacular names changed to O'ahu 'Alauahio, Maui 'Alauahio, and Lana'i 'Alauahio (Auk 110:680).

3. Taxonomic Revisions

American Coot (*Fulica americana alai*): vernacular name changed to Hawaiian Coot and scientific name changed to *Fulica alai*. This form has been split to a separate species from *Fulica americana* (Auk 110:677).

Common 'Amakihi (*Hemignathus virens*) has been split into three species (Auk 112:828):
Kaua'i 'Amakihi (*Hemignathus kauaiensis*); O'ahu 'Amakihi (*H. chloris*); and Hawai'i 'Amakihi (*H. virens*) which includes one subspecies on Hawai'i I. and another on Maui, Moloka'i, and Lana'i Is.

Hawaiian 'Akialoa (*Hemignathus obscurus*): vernacular name changed to Lesser 'Akialoa (Auk 114:548).

Kaua'i 'Akialoa (*Hemignathus procerus*): vernacular name changed to Greater 'Akialoa, and scientific name changed to *Hemignathus ellisianus*. Kaua'i form, *H. ellisianus procerus,* is now a subspecies of Greater 'Akialoa. Subspecies O'ahu 'Akialoa and Lana'i 'Akialoa are transferred from Lesser 'Akialoa to Greater 'Akialoa, becoming *H. ellisianus ellisianus* and *H. ellisianus lanaiensis* (Auk 114:548).

4. Other Notes

Barrow Goldeneye (*Bucephala islandica*). One female-plumaged bird seen on Kaua'i during January and February 1989 was reported by several experienced observers to be this species. Few descriptive details and no photographs are available.

Silver Gull (*Larus novaehollandiae*). A bird observed at Sand Island, Midway Atoll November 3-7, 1995 was described as this species. Basic observation notes were submitted; no photographs were obtained.

Japanese Murrelet (*Synthliboramphus wumizusume*). A bird captured and examined in the hand briefly after dark and released on the beach at Eastern Island, Midway Atoll 11 April 1996, was described as this species. The observer, experienced in handling American murrelets, submitted detailed descriptive notes.

A swift, probably Fork-tailed (*Apus pacifica*), was found alive 20 September 1995 at Sand Island, Midway Atoll but later died (specimen BPBM-183983). It is awaiting species confirmation.

The 41st Supplement (1997) to the A.O.U. Check-List was announced to be the final Supplement before publication of the revised 7th edition of the A.O.U. Check-List perhaps in 1998. In addition to the specific changes incorporated in the Hawaii Checklist above, the Supplement also summarizes various taxonomic revisions to be incorporated in the 7th edition. These include elevating certain subfamilies to family status, and changing the sequence of certain families. Some of these will affect Hawaiian birds in the families Phasianidae, Corvidae, Muscicapidae, Sturnidae, Meliphagidae, and Emberizidae. Following publication of the 7th edition, the *Checklist of the Birds of Hawaii* will be updated to incorporate these and other changes.

Reprints of this 10-page Checklist of the Birds of Hawaii — 1997 *are available for $3.00 each postpaid from Hawaii Audubon Society, 850 Richards St., #505, Honolulu, HI 96813.*

Draft, Final Recovery Plans for Forty–six Hawaiian Plant Species Released by Fish and Wildlife Service

by Karen Rosa [1]

Three draft recovery plans for twenty–five endangered or threatened plant species have been released by the U.S. Fish and Wildlife Service (U.S. FWS) for public review and comment. A fourth plan, the final recovery plan for twenty–one endangered or threatened plant species on the island of Maui, also is available for distribution to the public.

Nineteen plant taxa are included in the draft version of *Kaua'i II: Addendum to the Recovery Plan for the Kaua'i Plant Cluster*. The original recovery plan for thirty–seven Kaua'i plants was published in 1995, and these nineteen taxa were listed as endangered or threatened species on October 10, 1996. The taxa included in the addendum, all of which are found only on Kaua'i, are: *Alsinidendron lychnoides* (kuawawaenohu), *Alsinidendron viscosum* (no common name), *Cyanea remyi* (haha), *Cyrtandra cyaneoides* (mapele), *Delissea rivularis* (oha), *Hibiscadelphus woodii* (hau kuahiwi), *Hibiscus waimeae ssp. hannerae* (kokio keokeo), *Kokia kauaiensis* (kokio), *Labordia tinifolia* var. *wahiawaensis* (kamakahala), *Phyllostegia knudsenii* (no common name), *Phyllostegia wawrana* (no common name), *Pritchardia napaliensis* (loulu), *Pritchardia viscosa* (loulu), *Schiedea helleri* (no common name), *Schiedea membranacea* (no common name), *Schiedea stellarioides* (laulihilihi), *Viola kauaensis* var. *wahiawaensis* (nani waialeale), *Cyanea recta* (haha), and *Myrsine linearifolia* (kolea). The latter two species are listed as threatened; the rest are endangered. The public is invited to submit comments on this draft plan through October 20, 1997.

The draft plan entitled *Moloka'i II: Addendum to the Recovery Plan for the Moloka'i Plant Cluster* supplements the 1996 recovery plan and covers three endangered plant taxa: *Cyanea dunbarii* (haha), *Lysimachia maxima* (no common name), and *Schiedea sarmentosa* (no common name). All three species were listed on October 10, 1996, after the original Moloka'i Recovery Plan was written. Comments on this draft recovery plan are due to the U.S. FWS by November 3, 1997.

The third draft plan available for public review is the *Draft Recovery Plan for Three Plant Species on Nihoa Island*, which outlines recovery actions for three endangered species listed on August 21, 1996: *Amaranthus brownii* (no common name), *Pritchardia remota* (loulu), and *Schiedea verticillata* (no common name). Comments on this plan should be submitted by November 3, 1997.

The final *Recovery Plan for the Maui Plant Cluster* details information currently available about twenty endangered and one threatened plant species and strategies for their recovery. The species were listed under the federal Endangered Species Act between May 1986 and December 1994. Eight of these taxa are considered very near extinction, with fewer than five known individuals remaining.

Recovery plans are developed to help guide the implementation of activities that will restore endangered or threatened animals and plants to the point they are viable parts of their ecosystem. They describe actions considered necessary for the conservation of the species, establish criteria for the recovery levels for downlisting or delisting them, and estimate the time and cost needed to implement the recovery measures.

Copies of these three draft and one final recovery plans are available from the U.S. Fish and Wildlife Service's Pacific Islands Office at 300 Ala Moana Blvd., Suite 3108, (Box 50088) Honolulu, Hawaii 96850 or by calling (808) 541-3441. Public comments on the three draft plans may be submitted to Brooks Harper, Field Supervisor, at the same address.

Source: U.S. Fish and Wildlife Service – Pacific Region

EPA Proposes Permit to Complete Destruction of Weapons at JACADS

by Lois Grunwald [1]

Seeking to complete destruction of all remaining chemical weapons on Johnston Atoll in the South Pacific, the U.S. Environmental Protection Agency (U.S. EPA) proposed approval of a new permit for the Johnston Atoll Chemical Agent Disposal System (JACADS), about 800 miles southwest of Hawaii.

"We want the Army to finish off these weapons of mass destruction so there will be one less stockpile of its kind on the face of the earth," said Julie Anderson, U.S. EPA's Waste Management Division director. "It's the Army's final lap at JACADS and we want to reach the finish line in the safest manner possible for the people and marine life near this facility," added Anderson.

U.S. EPA strengthened the proposed permit from the existing permit to include more monitoring and reporting of emissions from JACADS' stacks, and to add new permit conditions limiting dioxin and certain metals emissions.

The dioxin and metals requirements in the proposed permit are consistent with national policy recently adopted by U.S. EPA. The new reporting and monitoring requirements were added to make the already stringent requirements at the facility even tighter and more comprehensive, a result of what the agency has learned about JACADS since it began operating in 1990. U.S. EPA is reviewing public comments gathered in August on the proposed permit before making a final decision.

The current permit at JACADS has proven to be protective of human health and the environment on the atoll. In the seven years that the facility has operated, there has been no documented harm to people or wildlife. Detailed sampling during test burns at JACADS has shown that the emissions meet U.S. EPA standards. And, studies

(Continued on page 140)

done by the U.S. Fish and Wildlife Service, by Lois Grunwald [1]

However, the facility has experienced operational problems in its seven year history. In March 1994, U.S. EPA cited the Army for releasing a nerve agent above allowable levels and for improper storage of hazardous wastes. The U.S. EPA fined the Army $91,700 for the violations, and ordered changes in operating procedures to prevent another release. The proposed permit would tighten some operating procedures based on EPA's review of the faciity.

The Army anticipates it will take about three more years to complete the destruction of all remaining weapons on the island. U.S. EPA is proposing a ten-year permit to make sure there is enough time for the Army to destroy all the remaining weapons, and cleanup and close the facility once all the weapons are destroyed. Under the new permit, U.S. EPA would review and control all the cleanup work.

Since 1990, the Army has destroyed all of the rockets and bombs — and in the process more than two-thirds of the four million pounds of agent originally stored on the island. There are still over 160,000 projectiles and 13,000 land mines left to destroy. The JACADS facility is designed to disassemble and incinerate chemical weapons containing nerve agent, and blister agent, known as mustard. Nerve agent is lethal in small quantities.

The weapons stored on the island were moved there from Okinawa, the Solomon Islands, and Germany. Federal law prohibits transportation of additional chemical weapons to the atoll.

[1] (415) 744-1588

Source: *U.S. Environmental Protaection Agency,* U.S. EPA Region Nine News

Moving?

Please allow four weeks for processing address changes. Because our records are kept in order by zip code, we need both old and new addresses.

Draft Recovery Plan for the Hawaiian Plant Cooke Kokio Released by U.S. Fish and Wildlife Service

Written Comments on the Plan for this Plant Species Sought. Copies available from the U.S. Fish and Wildlife Service's Honolulu Office.

by Barbara Maxfield

A draft recovery plan for Moloka'i's Cooke kokio—a small deciduous tree with large, hibiscus-like orange-red flowers—has been released for public review and comment by the U.S. Fish and Wildlife Service (U.S. FWS). The recovery plan focuses on actions that will increase the numbers of plants in cultivation followed by outplanting into appropriate dryland habitats where the impacts of alien weeds and animals can be controlled.

The destruction of dryland habitats on Moloka'i led to the demise of the Cooke kokio or *Kokia cookei* in the wild. The plant (also known as Moloka'i red cotton or Hawaiian tree cotton) was directly impacted by browsing, bark stripping, and soil trampling by domestic and feral cattle, goats, and sheep. With plants existing only in cultivation facilities and protected outplanting sites, this species is currently most threatened by the extremely low number of individuals remaining, the lack of naturally rooted plants, and the lack of viable seed production by the remaining individuals.

The Cooke kokio was federally listed as endangered on October 3, 1979, and is known only from the island of Moloka'i. When first discovered in the 1860s, three trees of this species were known. By the twentieth century, only a single wild tree remained. The species disappeared from the wild in 1918, but one cultivated tree survived at a Moloka'i residence until the late 1950s.

In 1970, a single relict plant was discovered at the same Moloka'i home, but it was destroyed by a fire in 1978. Fortunately, a branch of the plant had been grafted onto root stock of a related species, *Kokia kauaiensis*, in 1976 at Waimea Arboretum and Botanical Garden on O'ahu. The twenty–eight cloned individuals existing today were produced by grafting to root stocks of the two related *Kokia* species, *Kokia kauaiensis* and *Kokia drynarioides*. Seven individuals are in artificial cultivation facilities on the islands of Maui and O'ahu. The remaining twenty–one individuals are in small (10,000 square feet or less) outplanting sites tended by the State of Hawaii and The Nature Conservancy of Hawaii on privately owned Moloka'i Ranch lands.

The objective of this plan is to provide a framework for the recovery of Cooke's kokio so that its protection by the Endangered Species Act is no longer necessary. Recovery efforts will focus on increasing the numbers of cloned individuals while pursuing research into other methods, such as embryo culture methodology for the production of individuals capable of setting viable seed and being grown without other species' root stock. Suitable sites for outplanting of individuals on Moloka'i, Maui and Lana'i will be located and steps taken to manage these lands to perpetuate the Cooke kokio and other native dryland forest plants.

The U.S. FWS is seeking written comments on the draft recovery plan for this plant species. Copies of the draft recovery plan are available from the U.S. Fish and Wildlife Service's Honolulu Office located at 300 Ala Moana Blvd., Room 3108, Honolulu, Hawaii 96850 or by calling (808) 541-3441. Comments must be received by October 14, 1997 at the same address.

Source: U.S. Fish and Wildlife Service – Pacific Region

December Birding Opportunities on Every Island

by Arlene Buchholz, Organizer, Honolulu Count

Join our Christmas Bird Counts during the official count period, December 19, 1997 - January 4, 1998. No matter where you live or what your birding experience level, you can take part in this important annual bird survey. During a two week period at the end of each year, bird lovers from every state in the U.S., the Pacific and even Costa Rica take part in the National Audubon Society's Annual Christmas Bird Count. The purpose is to get a count of the numbers of different species as well as the numbers for each species in a given area. Each year birders return to the same areas, called count circles. The information gathered helps reveal changes in bird species populations and locations, new species arrival, and other trends.

Christmas Bird Counts in Hawaii have been a long-standing tradition and a favorite field and social event for members and guests of Hawaii Audubon Society. We are looking forward to even more participants this year. Bird Counts take place in mountains, forests, sea cliffs, beaches, wetlands, grasslands and even suburban environments. Some counts are in restricted areas that the public does not generally have permission to visit. Participants are teamed up with expert birders and are asked to help identify, count, and record birds as part of a team. There may be several teams covering different areas within the count circles listed below.

If you want to do something good for birds and meet other "bird people", call one of the coordinators to sign up. There is a $5.00/person charge to support compiling and publication of the nationwide results. NOTE: Special information is needed by the coordinator of the popular "Kulani Prison" count, so call the Big Island Volcano coordinator by the end of November to ensure your spot.

Kaua'i

Waimea	Saturday, 1/3/98	Koke'e Museum (Thorn Clark)	1-808-335-9975
Kapa'a	Date TBA	Barbara Stuart	1-808-826-9233(h) (after Nov. 30th)

O'ahu

Honolulu	Date TBA	David Smith, compiler Arlene Buchholz, organizer	HAS 1-808-528-1432, box 4, or 1-808-988-9806(h)
Waipio	Sunday, 12/29/97	David Bremer	1-808-623-7613(h)

Maui

Pu'u O Kaka'e	Date TBA	Renate Gassmann-Duvall	1-808-572-1584(h)

Moloka'i

Kualapu`u	Date TBA	The Nature Conservancy (Joan Yoshika)	1-808-553-5236

Hawai'i Island

North Kona	Saturday, 1/3/98	Reginald David	1-808-329-9141(w)
Volcano	Date TBA	Larry Katahira	1-808-967-8226(w)

Calendar of Events

Thursday, October 2 and November 6

Monthly meeting of the **Education Committee**, 7 p.m. at BaLe Sandwich Shop in Manoa Marketplace (near Safeway). All are welcome. For more information, call chairperson Wendy Johnson, 261-5957.

Monday, October 6 and November 3

Regular first Monday of the month meeting of the **Conservation Committee**, 6 p.m., at the U.H. Environmental Center (Crawford Hall, Room 317, 2550 Campus Road). All are welcome. For more information call chairperson Dan Sailer, 455–2311.

Saturday, October 11

The field trip on Discovers' Day will be a hike up Hawai'i Loa Ridge. Leader Arlene Buchholz has recently seen 'elepaio, 'apapane, and 'amakihi along this trail, and we hope to repeat her good fortune. It's about five miles, round trip, so wear good hiking shoes. Sunscreen, light rain gear, water, and a snack are suggested. There is about a 1,400 feet elevation gain on the trail. Carpool from the corner of Punchbowl and King Streets by the State Library at 8:00 a.m. Suggested donation, $2.00 per person. If you have further questions, call Arlene at 988-9806 or Mary Gaber at 247-0104.

Monday, October 13 and November 10

HAS Board meeting, (always open to all members) 6:30 p.m. at the HAS office.

Monday, October 20

HAS Program and Members' Meeting will feature Kathy Smith, Manager of the U.S. Fish and Wildlife Service Refuge at Kealia Pond, Maui. She will share the story of how community volunteers, by erecting protective fencing, removing junked vehicles and other debris, pulling weeds, and scouting the beach for turtle nests and broken fence, have created good wetland habitat for waterbirds, safe nesting for turtles, and increasing growth of native lowland plants where off-road vehicles and debris once reigned. Bring your friends and join fellow HAS members at Paki Hall Conference Room, Bishop Museum at 7:30 p.m. Refreshments are provided; HAS books, tapes, and T-shirts will be available for purchase.

Saturday, November 15

Birding for Beginners Workshop (see article, page 140)

December 19, 1997 - January 4, 1998

The annual Christmas Bird Count will be happening on all islands! See article on page 141 for information including dates and compiler/organizer contact numbers.

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