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NESTS OF THE RED-WHISKERED BULBUL ON O'AHU*

By Timmy J. Ohashi and Meyer L. Ueoka

On May 2, 1977, Keith Briten informed us that he knew the location of two red-whiskered bulbuls' (*Pycnonotus jocosus*) nests at the residence of Mrs. Corinne von W. Forde in upper Makiki, O'ahu. At the advice of Timothy A. Burr, we visited Mrs. Forde's home on May 4, 1977 with Ralph Saito, and upon closer inspection, discovered another nest. All three nests were situated in and supported by English ivy (*Hedera helix*) vines that ran along the ceiling of the covered patio. The ivy vines were fastened to the ceiling beams with staples and gave the appearance of an ivy canopy below the ceiling. Part of the ivy canopy was of dead vines and the third nest was located there. The other two nests were constructed in live ivy vines. The birds built their nests in the sparser areas of the ivy, seeming to avoid the denser areas.

An adult red-whiskered bulbul was perched on a wooden fence about 5 feet from the patio when we first arrived. While making our observations of the nests the bird flew to one of the nests and immediately began incubating its eggs. Birds were not observed in the other two nests and none were seen in the vicinity of the patio.

The three nests were located in a triangular configuration. Each nest was given a letter, A, B, and C. Distances between the centers of each nest were measured. The distances between A to B, B to C, and C to A were 106 in. (2.7m), 154 in. (3.9m), and 115 in. (2.9m), respectively. The average distance between nests was 125 in. (3.2m). The height of the nests above the patio floor was 90 in. (2.25m).

Measurements were taken of each nest; however, only the outside measurements were taken of nest C due to the presence of the incubating adult. Nest measurements were as follows:

Nest Measurements	Nest A	Nest B	Nest C	Average
Outside Depth	2.5 in. (6.4cm)	2.5 in.	2.5 in.	2.5 in.
Cup Depth	2.3 in. (5.7cm)	2.3 in.	--	2.3 in.
Outside Diameter	3.5 in. (8.9cm)	3.5 in.	3.8 in. (9.5cm)	3.6 in. (9.1cm)
Cup Diameter	2.4 in. (6.0cm)	2.3 in.	--	2.4 in.

The outer portion of the nests was constructed with large, coarse material. Leaves, tissue paper, wax paper, and cotton were used to form the base of the nest, while grass runners and twigs were interwoven to form the sides. The exterior of the nest was also made up of thin grass runners as well as other fibrous material resembling coconut fibers. A closer examination of the nesting material will be conducted after completion of nesting so as to minimize disturbance.

Nests A, B, and C had 3, 2, and 3 eggs, respectively. The eggs were oval and measured 16x22 mm. The base color of the eggs was pink, with purplish-brown blotches and spots occurring at the blunt and pointed ends respectively.

The incubating adult "sat-tight" and appeared not to be disturbed despite close observations and nest measuring. Mrs. Forde informed us that she noticed the nests about 2-3 weeks prior to our investigation. She also said that she saw birds in only two of the nests found (B, C). Observations will be continued to determine whether the third nest (A) is still active, and to record the nesting progress of these birds.

*From notes of Division of Fish and Game investigation for bird identification, May 4, 1977.

RECENT OBSERVATIONS OF BIRDS ON O'AHU--AUGUST 1976 TO FEBRUARY 1977

By Robert L. Pyle

Observations are by the author (RLP) unless credited to C.J. Ralph (CJR), Hawaii Audubon Society field trip (HAS) or to others as indicated.

Wedge-tailed Shearwater--CORRECTION: In the 'ELEPAIO, Oct 1976, p.45, under Newell Shearwater, the second sentence should read: "More than 100 Wedge-tailed Shearwaters were with them, but only one Great Frigatebird was seen."

Many Wedge-tailed Shearwaters were moving northward off the southwest shore of Ka-'ena Point Sept 26 (RLP). Two were seen from a small boat off Honolulu Harbor Feb 4 (J.Walters), an interesting mid-winter record.

White-tailed Tropicbird--These are becoming increasingly more difficult to find on O'ahu. One was seen from upper Mānana trail back of Pearl City on Aug 1, and one was watched for most of the morning exploring the steep cliffs in Ha'i-kū Valley Feb 13 (HAS).

Blue-faced Booby--Several over Moku Manu seen through scope from Ulu-pa'u Head Oct 23 (M.Ord, R.Shallenberger).

Brown Booby--From one to eight were found foraging and sitting on buoys off Sand Island on most visits from mid-September onward (R.Larsen, RLP, HAS).

Great Frigatebird--At Lani-kai, 217 were counted flying down the shore between 6:15 and 7:15 a.m. Oct 22, but only 2 on Oct 23 (P.Hodges).

Little Blue Heron--One found at Big Pond on Wai-pi'o Peninsula October 2 by C.J. and Carol Ralph, who noted the following: "The bird was seen flying over the big pond in company with a Cattle Egret. Our first thought was that it was a Reef Heron. It landed in the trees mauka of the pond, where we watched it for about 20 minutes through 20x telescope at about 100m. We noted the following details as it sat and preened: bill was $\frac{1}{4}$ the length of the head, gray, and tipped with a dark color which looked black, but too distant to be sure; legs were gray; bottoms of feet may have been a lighter color, possibly yellowish; body was blue-gray with chestnut head and breast as seen briefly at 50m before the bird flushed. The throat was seen clearly 3 times as the bird preened, and it showed no white."

Black-crowned Night Heron--One bird, on Sept 3, found $\frac{2}{3}$ of the way into North Hālawā Valley, a surprising location (R.Shallenberger, 'ELEPAIO, Oct 76, p.40).

Glossy or White-faced Ibis--An immature ibis was found Sept 12 at Big Pond on Wai-pi'o Peninsula (M.Ord, D.Pratt, RLP, HAS). It was watched with telescope and binoculars for over half an hour, mostly at 75 to 150 yards distance, and for a minute or so at 40 yards distance. It flew several times. Doug Pratt, a specialist on these two species, fortunately was with the HAS group, and confirmed it as an immature of one of these two species. For ten weeks the bird was seen by numerous observers, usually feeding along the mauka edge of Big Pond. The last reported sighting was on Nov 27 when it flushed from a settling basin $\frac{1}{2}$ mile east of Big Pond. It still had not developed the facial skin color that would identify its species.

Mallard--One pair was flushed from Big Pond Oct 10 (HAS).

Hawaiian Duck (Koloa)--Two flushed from an irrigation canal on Wai-pi'o Peninsula Jan 9 (HAS). A pair on Ka-'ele-pulu Canal along Hāmākua Drive, Kai-lua, hatched a brood of 6 in late January, of which one remained by end of February (R.Shallenberger). This is the first recorded successful nesting of koloa in the wild on O'ahu in recent years. About 15 koloa, dyed light red under the wings, were released at the koloa pen on Nu'u-pia Pond, Kane-'ohe Marine Base, in mid-February. Fourteen were still near the pen on Feb 27. A similar number, dyed green under the wings, were in a pen at Wai-mea Falls Park Feb 6, apparently also intended for early release.

Pintail and Northern Shoveler--The flock at Big Pond grew from 10 on Sept 5 to a high count of 400 Shovelers and 250 Pintails on Jan 6 (RLP). Numbers then dwindled as the pond dried. About 120 were found regularly on the second settling basin west of Wai-pi'o Access Road. Another 120 were counted at the filtering pond northeast of Big Pond on March 6. Kui-lima Reservoir at Ka-huku had very few ducks through most of the fall and winter, but 150 were found there Feb 6.

Green-winged Teal--One to several pairs (males in good plumage) were found regularly at Big Pond Oct 30 (CJR) through Jan 9 (HAS), with high counts of 6 birds on Nov 27 and 9 on Jan 9 (HAS).

American Wigeon--One to four birds were seen regularly at Big Pond through the fall (CJR, RLP, HAS), and 6 were counted there Jan 9 (HAS). Two were at Kui-lima Reservoir Oct 10.

Ring-necked Duck--One male in good plumage was found on the north end of Puna-manō Pond at Campbell Refuge, Ka-huku, Jan 13 (P.Sekora, B.Giezantanner) and Feb 6 (RLP).

Lesser Scaup--One in female plumage at the settling basin at Wai-pi'o Peninsula Nov 14 (HAS), and one male in eclipse plumage (same bird?) there on Jan 9. A male and female were at Puna-manō Pond Feb 6.

Bufflehead--One in female plumage at Enchanted Lake, Kai-lua, Dec 19 (D.Woodside, CJR) and Jan 6 (RLP).

Hooded Merganser--The group of 6 found Dec 4 (P.Opler) and Dec 19 ('ELEPAIO, Feb 1977, p.82, 85) was seen frequently through January and February by many observers on Nu'u-pia and Ka-lua-puhi Ponds just inside the gate of Kane-'ohe Marine Base.

Marsh Hawk--One bird was found at Big Pond Oct 11 (C.J. and C.Ralph). They noted: "This bird was perched virtually immobile on a stalk of cane on the 'Ewa side of Big Pond. We observed it for more than an hour. It was dark chestnut all over, with the characteristic face mask of a harrier, outlined with white above and below the eyes. It had long yellow tarsi. Briefly, while changing its position, it showed the white rump. It was

clearly a Circus, and, considering the date, probably the North American one. The Asiatic species in the young or female plumage are not usually separable, and would be more likely, perhaps, in the 'spring' migration. It appeared to be in some distress, closing its eyes for prolonged periods. The right primaries seemed to be somewhat loosely attached at the tip, as if they had been broken, but not lost. The bird also sat in what appeared to be an 'uncomfortable' position."

Peregrine Falcon--Sightings of this Endangered species on 'Aiea trail for the Honolulu Christmas Count Dec 19, and independently at Maka-pu'u Point the next day, are reported in the 'ELEPAIO, Feb 1977, p.82 and March 1977, p.98. The Maka-pu'u observer (J.Good) described his bird as probably not adult, mostly brown, not very dark, and with head markings definitely present but not very distinct. He last saw it dropping behind bushes headed south. A third report of a Peregrine, a month later at Maka-lapa, is described as follows (R.Larsen): "On Wednesday, 19 Jan 77, at about 5 p.m., I was leaving the Pearl Harbor base through Maka-lapa gate. While stopped at the traffic signal at Kam Highway, I looked up and saw a large falcon flying by about 100 yards ahead. It was moving fast, flapping steadily in a southeasterly direction, 100-150 feet above the ground. I did not have time to get binoculars into use, and did not see any details of plumage. The bird was rather dark, and I got the impression of a brownish color, at least in the wings. The only contrast I could make out in the plumage was that the under tail coverts were very pale, almost white. The bird was larger and more heavily built than a Kestrel or Merlin, but was very clearly a falcon. On the basis of appearance, probability of occurrence, and other recent sightings, I am confident it was a Peregrine Falcon, probably an immature."

Ring-necked Pheasant--Three flushed from fallow cane fields on Wai-pi'o Peninsula during the HAS field trip Jan 9.

Hawaiian Gallinule--A good population of this Endangered species is resident on Ka-'ele-pulu Canal, Kai-lua. Seven were found there for the Christmas Count Dec 19 (D.and D.Huddleston), and 15, including a pair with 4 large young, were counted Jan 13 (G.Kridler). Adults and full grown immatures have been seen there regularly through February. One gallinule was found at Honouliuli Refuge Nov 14 (HAS), and 2 were seen there during November and December (D.Black). A single bird was there Jan 10 (B.Giezentanner).

Hawaiian Coot--Fifty-two were at Big Pond on Sept 5, but thereafter counts dropped below 20 as the pond gradually dried. Thirty-five were found there Jan 6. One or two with dark red frontal shields were seen there several times during the fall (CJR). Eleven Coots were at Kui-lima Reservoir Oct 10, and 15 on Oct 20. Nine were found at Puna-manō Pond, Ka-huku, on Feb 6.

Semipalmated Plover--Up to 3 were seen together at the easternmost settling basin, closest to Wai-pi'o Access Road, or at Big Pond, Wai-pi'o Peninsula, on 6 dates from Oct 23 through Jan 9 (M.Ord, HAS, et al). This species is not safely distinguishable from the Ringed Plover of Asia, but the latter has not yet been collected or reported from Hawai'i.

Killdeer--The bird at Big Pond last July was seen there again Sept 12 (HAS). Thereafter, it was seen at the easternmost settling basin by numerous observers on virtually every visit. It was still there March 6 even though the basin had been dry for weeks and most other birds had departed.

Golden Plover--Two birds at Ki'i Pond, Ka-huku, and one at Kahana Pond, both on Aug 4, could have been summering birds or early fall arrivals. A primary concentration point for Golden Plovers in winter is along the north edge of Nu'u-pia Pond, Kāne-'ohe Marine Base. In the late afternoon of Jan 6, 268 were counted there from one vantage point at the koloa pen, plus another 150 just to the east. Many more were resting elsewhere around the Ponds.

Black-bellied Plover--One to five were found on virtually every visit to Big Pond from September 12 through the end of February. One bird was at Ka-lua-puhi Pond, Kāne-'ohe Marine Base, on Jan 15 and 26.

Bristle-thighed Curlew--At least 3 seen on Sept 25, and one on Oct 9, on the grassy dunes east of the old airstrip at Ka-huku (Phillip Bruner). A few have been seen here regularly during September and October of both 1975 and 1976. One was reported seen at Honolulu Airport near the Terminal Building on Jan 3 (Dick Smith).

Lesser Yellowlegs--Good studies of 3 birds on Sept 12 (HAS), 1 on Oct 2 and 30 (CJR), and 1 on Jan 9 (HAS), all at Big Pond.

Ruddy Turnstone--Eight at Ki'i Pond, Ka-huku, on Aug 4 were interesting mid-summer records. Maximum count at Big Pond was 117 on Nov 27 (HAS), with 35 more at the settling basin the same day.

Sharp-tailed Sandpiper--One reported from Big Pond Sept 12 (HAS), and 1 on Nov 20 (CJR).

Pectoral Sandpiper--Pectorals were present regularly at Big Pond from Sept 12 (1-HAS) to Nov 20 (3-CJR), with high counts of 7 on Oct 11 and Nov 13 and 10 on Oct 24 and 30 (all by CJR). One at Kui-lima Reservoir Oct 20.

Least Sandpiper--Five were seen well at Big Pond Nov 27 (CJR, RLP), and 3 on Dec 2 (RLP). Identification based on small size, yellowish legs and brownish pattern.

Western Sandpiper--One bird with black legs and rather long bill slightly downcurved at the tip, and noticeably smaller than Sanderling, was identified as "95% sure to be a Western" rather than a Semipalmated Sandpiper, at Big Pond Oct 11 (CJR). The latter species has not yet been recorded from Hawai'i.

Dunlin--Three at Big Pond Sept 12 (HAS) and Nov 14 (HAS), and 6 there Dec 2.

Dowitcher--At Big Pond, 1 bird on Oct 11, 24, 30, and Nov 20; and 3 or 4 birds on 6 dates from Nov 14 through Jan 29 (HAS, CJR, RLP et al). All were in drab winter plumage. Species was not firmly established.

Sanderling--Seven at the easternmost settling basin and 3 at Big Pond on Sept 5. Counts during the fall at Big Pond ranged up to 52.

Hawaiian Stilt--High counts of this Endangered species include 499 at Big Pond and

over 100 elsewhere on Wai-pi'o Peninsula Aug 9 (R.Walker); 550+ at Big Pond Sept 5 (RLP), about 300 there Sept 12 (HAS); and 435 at Wai-awa Refuge Oct 25 (F.Zeillemaker). Numbers at Big Pond varied from 140 to 290 in October and early November, but fell to 90 on Nov 20 (CJR) as the pond was drying, and to 50 on Dec 2. At least 100 were there Jan 9 (HAS).

Pomarine Jaeger--Making several visits to Sand Island each week through the fall, Rey Larsen found the first jaeger on Oct 9, and single birds again on Oct 23 and 30. Thereafter, 6 to 11 were found on most visits through December. On the HAS trip Jan 9, over 500 birds were counted foraging over the sewer outfall area well offshore. Distance was too great to identify birds by plumage, even with telescope. Consensus of observers present (M.Ord, CJR, RLP, et al) was that at least 80% were jaegers, based on size, shape and flight style. Some Brown Boobies were with them. Any shearwaters or other low-flying birds over the outfall could not have been seen. Only 8 were found there Feb 2. A count of 65 on Feb 26 certainly was low as the birds were moving back and forth from a background of sky to water. The wide variation from visit to visit in number of jaegers seen and counted is surely related to tide, wind, location and amount of effluent, time of day, and to observing conditions as affected by sea roughness and how many birds are flying versus sitting on the water. Clearly, an enormous number of jaegers appear at times off Honolulu Harbor in winter, but they are too far distant to obtain a reliable count from shore.

Gulls--Several of the gulls at Ke'ehi Lagoon (at least 7 individuals of possibly 5 species--'ELEPAIO, Feb 77, p.82) remained through January and until at least Feb 27, when four including one white-winged gull were seen on the water and flying around a fishing vessel anchored well offshore. A dark-backed gull, possibly Western or Slaty-backed, was collected near Hau-'ula Dec 2 and sent to the Mainland for identification (Phillip Bruner). The nearly adult California or Ring-billed Gull seen off the Reef Runway in July ('ELEPAIO, Oct 76, p.46) was seen again Aug 9 (R.Walker). A 2 to 3 year old subadult Ring-billed Gull was seen well at Big Pond Jan 9 (HAS). A Franklin or Laughing Gull in the same plumage as the 4 at Ka-lua-puhi Pond last winter ('ELEPAIO, July 1976, p.8) was at Big Pond Nov 13, 14, and 20 (CJR, RLP, HAS). One Bonaparte Gull was seen briefly at Big Pond Nov 27 (CJR, RLP), and two were there on Jan 6 and 9. Characters noted included small size, small, dark bill, white head with dark spot behind the eye, and characteristic wing pattern in flight. Neither of them had tail bands when seen flying on Jan 9.

Least Tern--Six were sitting together on a mudflat at Big Pond Sept 12 (HAS), and a single bird was there Nov 14 (HAS). Two were found at Honouliuli Refuge on Oct 27 (G. Kridler), and one was seen there frequently from Sept through Dec 2 (D.Black).

Brown Noddy--Many were working northward around Ka-'ena Point Sept 26.

Hawaiian (Black) Noddy--These noddies can always be found, in any season, foraging over Ka-lua-puhi Pond, Kane-'ohe Marine Base, or moving across the beach toward Mō-kōlea Rock one mile off shore. High counts of 28 on Aug 15 (RLP) and 30 on March 5 (R.Larsen) have been recorded.

White Tern--Five were seen from Nā Lā'au trail Oct 16 (J.Walters).

Red-crowned Parrot--Reports from Mainland visitors of 5 parrots Aug 8 and 4 on Nov 22 indicate these birds are still present in central Ka-pi'o-lani Park.

Parakeet--Three "long-tailed parrots" flying over Makālei Place just west of Ka-pi'o-lani Park on Oct 11 (J.Walters), and 1 parakeet in the park Nov 23 (J.Dennis), may have been the Rose-ringed Parakeets reported there occasionally in recent years.

Barn Owl--One bird found dead along the road near Kui-lima, Ka-huku, on Sept 12 (HAS).

Pueo (Hawaiian Owl)--One was seen flying over Hawai'i Kai golf course at dusk on Aug 20 (J.Cummings).

Edible-nest Swiftlet--Several were found in N. Hālawā Valley Sept 2 and 3, at the same location where they were last reported in 1969 (R.Shallenberger, 'ELEPAIO, Oct 1976, p.40). They were not seen on a return visit Dec 19.

Skylark--Two birds were engaging in aerial song between the runways at Honolulu International Airport Feb 7 (F.Zeillemaker).

Red-billed Leiothrix--Reports of one bird in N. Hālawā Valley ('ELEPAIO, Oct 1976, p.40) and in the Wai-'anae range ('ELEPAIO, Nov 1976, p.57), indicate this species is not completely gone from O'ahu.

Red-whiskered Bulbul--Seven on the University campus Oct 3 (S.Conant) and at least a dozen at Lyon Arboretum Feb 19 (CJR, RLP) further document the tremendous increase in these birds in Manoa Valley as reported on the 1976 Honolulu Christmas Count.

Red-vented Bulbul--These birds continue to increase and spread. A pair observed in Hawai'i Kai since May appeared with three young in early October (A.Marrack). One was seen atop Koko Crater at the extreme southeast end of O'ahu Oct 16 (O.Bussen), and at least 5 were seen regularly at nearby Hanauma Bay this fall (A.Marrack). Some were found in September well up in N. Hālawā Valley (R.Shallenberger), and several were near the Loran Station gate in Ha'i-kū Valley Feb 13 (HAS). The species was reported from Lā'ie on Jan 27 (Phil Bruner, R.Shallenberger).

Shama--Shamas are noticeably more numerous in most parts of O'ahu, particularly in forested valleys in the Ko'olau range. At least 4 have been seen in Lani-kai since January (P.Hodges). Two Mainland visitors reported one Dyal among many Shamas in Wai-mea Falls Park Jan 22.

Japanese Bush Warbler--Phil Bruner heard this bird several times in early summer in Kua-loa Park, right at the windward coast. After the summer quiet period (only 1 on Poamoho trail Aug 16, O.Bussen), resumption of singing and calling revealed their abundance in many forested areas. "Lots" were heard on Poamoho trail Feb 5 (J.Walters). Many were heard and most observers saw at least one well on the HAS trip to Ha'i-kū Valley Feb 13.

'Amakihi--Only one bird was heard on Poamoho trail Feb 5 (J.Walters), although

'Apapane and other birds were abundant. This further confirms the impression that 'Amakihi are found only sparingly on this trail.

O'ahu Creeper--In addition to the bird on 'Aiea trail in December ('ELEPAIO, March 1977, p.97), one was identified by bill shape, flight and behavior at 'Ohiki-lolo in the Wai-anae range on Oct 11 (J.Obata).

'Apapane--The 30 to 40 'Apapane, including many immatures, found on Poamoho trail Aug 16 (O.Bussen, J.Luther), were nearly always in koa trees even though 'ōhi'a was blooming in profusion. They might be inclined to forage for insects, rather than nectar, if they were feeding nestlings at this time. Among the many 'Apapane along Poamoho trail on Feb 5 was one that "...was using a prominent 'ōhi'a as a base, calling from it, then flying out in a wide circle and calling in the air. He would slow and hover while calling." (J.Walters).

'I'iwi--One heard and seen well for 5 minutes on Feb 5 about one mile from the summit of Poamoho trail (J.Walters), where this bird has been found occasionally in recent years.

Exotic Finches--John Walters has made numerous visits to Nā Lā'au trail, including 5 trips between Sept 25 and Nov 21. Based on these visits, he summarizes the population sizes of these birds at Nā Lā'au as follows: "From what I've seen, there seems to be only a single flock of Lavender Firefinches, probably 30-50 birds strong. It may split up from time to time, but you generally see just one group of birds on any day. Red-cheeked Cordon-bleus are a bit more complicated. There are usually a few around the lower edge of the open grove and the lawn, maybe half a dozen or so. The main area for Cordon-bleus is usually around the grove of pencil trees...usually in several small flocks of 6-10 birds each. So probably a total of around 30-50 birds again. Not enough waxbill observations yet. Have seen Yellow-fronted Canaries and Pintailed Whydahs only in the open grove and lawn, maximum of about 6 each. It would be interesting to know how extensive their ranges are beyond the Nā Lā'au trail. I have wandered up the trails above the open grove a couple of times without seeing any cage birds. Have rarely seen them before getting to the open grove...(Lavender) Firefinches used to perch in the banyan trees at the end of the trail, but haven't seen them in that area in quite a while." His only observations of Waxbills have been 9-12 Red-eared and 3 Orange-cheeked on Nov 21, and one of each on Nov 20.

Red-eared Waxbill--Two were seen briefly at Kui-lima Reservoir Feb 16 (RLP), in the same area where a few were found one year ago ('ELEPAIO, July 1976, p.9).

Red and Black-headed Munias--An occasional group of 3-6 Red Munias, and flocks of up to 100 Black-headed Munias, were found regularly on Wai-pi'o Peninsula through the fall and winter. A flock of up to 30 Black-headed Munias has come regularly to Rey Larsen's yard near Salt Lake since June. One Red Munia was with them on Aug 24.

Java Sparrow--About a dozen of these birds were found in Lyon Arboretum, in upper Mānoa Valley, Feb 19. Nine were seen along Nā Lā'au trail Nov 20 (J.Walters).

Pintailed Whydah--In the small park across Pāki Street from the golf driving range, where whydahs have been found regularly in the past year, four including one good male were seen on Oct 23, and 2 in the brown plumage were there Dec 2.

Red and Golden Bishops--Three Red Bishops were found in the archery-tennis court area of Ka-pi'o-lani Park on Aug 6, 7, and 8 (C.Weidenfeld), and 2 were there Oct 23. On the Nā Lā'au trail, just above this area, one was found Aug 26 (F.Zeillemaker), and one was seen and heard in a particular tree regularly until Oct 16 but not thereafter (J.Walters). One was found at Big Pond, Wai-pi'o Peninsula, Sept 12 (HAS). Single Golden Bishops were with the Red Bishops in Ka-pi'o-lani Park Aug 6, 7, and 8, and Oct 23, and one was found at Big Pond Oct 10 (M.Ord). All of these observations have been of males in good plumage, except one of the Red Bishops on Oct 23 was already changing out of the bright plumage. Bishops are seldom, if ever, reported during the winter half of the year, as they normally moult into a drab brown plumage at that time. As far as is known, no females of these species have ever been brought to Hawai'i, even as permanent cage birds. Thus, they cannot be breeding here, and hence are not included on the Hawai'i state list as established species.

Saffron Finch--One adult was seen repeatedly on the Mid-Pacific Institute athletic field in August and September. After mid-August, it was accompanied by an immature bird which it frequently chased (R.Gardner). Six immature birds were feeding in the grass in the small park across Pāki Street from the golf driving range on Oct 23, and 1 immature was seen there Dec 2.

White-rumped Serin (Gray Singing Finch)--One, and possibly four, of this species were seen briefly near a feeder in a yard back of the tennis courts on Pāki Street on Oct 23 (M.Ord). This is the first known sighting of this species since the 1971 Honolulu Christmas Count, and may be a recent release.

House Finch--A pair nesting in a potted fern on the lānai of a 22nd floor apartment in Salt Lake fledged 5 young successfully in May 1976.

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Kaua'i Field Notes from Fred Zeillemaker, September 1976 - February 1977 p.123.

Horned Grebe--One bird in December and January. See 'ELEPAIO, Vol.37, No.10, Apr.1977, 7

Black-footed Albatross--A single bird appeared at Ki-lau-ea Point January 31. On the evenings of February 19 and 20 at least nine birds followed ships past the point.

Laysan Albatross--The first Ki-lau-ea Point record for the winter was a single bird December 8. Up to six frequented nearby Moku-'ae'ae Island in January with one actually landing on the point January 27. Two to three birds remained throughout February.

Wedge-tailed Shearwater--1976 Ki-lau-ea Point chicks began night forays out of their burrows in late October. They began fledging November 8 and were completely gone by December 3. The first spring adult appeared there February 28.

Red-tailed Tropicbird--Four continued to visit Kī-lau-ea Point September 5. One was observed September 21 and the final sighting of the year occurred October 9. The first spring sighting was of a single bird February 18. Two were present by February 26.

Blue-footed Booby--A single bird roosted at Moku-'ae'ae Island off Kī-lau-ea Point November 12 and January 30. One was observed passing over the point February 10 (Dick Smith).

Brown Booby--Up to 34 visited Moku-'ae'ae Island and Kī-lau-ea Point in September. Up to 25 were there in October, 60 in November, December and January, and 15 in February.

Red-footed Booby--The Kī-lau-ea Point colony of about 1100 birds (about 1/3 of the total Crater Hill colony) began building nests December 4. Most were incubating eggs by January 15 and several had chicks by February 21.

Great Frigatebird--Up to 40 visited Kī-lau-ea Point and Moku-'ae'ae Island in September and October. Over 100 passed over the point November 11. Up to 40 were present in December, 50 in January and 20 in February. Aerial courtship was observed February 19.

Canada Goose--A single bird was reported circling over Hanalei Refuge in early November (Bill Haraguchi).

Mallard--The first bird of the fall at Hanalei Refuge was a drake that arrived September 3. Four were there by November and three remained February 28.

Hawaiian Duck--An all-time high of 119 were observed at Hanalei Refuge February 15. Twenty-four were at Hulē'ia Refuge February 23.

Pintail--Six arrived at Hanalei Refuge September 16. The wintering population peaked at 48 on January 19.

Garganey Teal--A single female was studied at Hanalei Refuge November 24 and again December 1. Wing markings were clearly observed.

Green-winged Teal--A single bird arrived at Hanalei Refuge October 18. Nine were found there November 19.

Blue-winged Teal--A pair appeared at Hanalei Refuge January 27 and remained there throughout the month of February.

Cinnamon Teal--A male appeared at Hanalei Refuge October 12. A lone drake was also reported there December 24 and 28 (Brent Giezentanner).

Northern Shoveler--Nine arrived at Hanalei Refuge October 12. The wintering population peaked at 19 on October 18.

Ring-necked Duck--Four birds in female plumage were found at Pu'u Ka Ele Reservoir mauka of Kī-lau-ea on December 18 with one male and five female lesser scaup (D.Kawahara). The birds were still there January 13.

Bufflehead--A female plumaged bird was at Ka-Loko Reservoir near Kī-lau-ea Jan. 13.

Hawaiian Gallinule--The peak observed population at Hanalei Refuge during the period was 71 birds on October 4.

Hawaiian Coot--The peak observed population at Hanalei Refuge during the period was 250 in February. The birds usually move away from the refuge in December or January, but have remained this year because of drought conditions elsewhere on Kaua'i and on Ni'ihau. A population of 1100 was reported on Waitā Reservoir near Kō-loa January 13 (Tom Telfer).

Common Snipe--One appeared at Hanalei Refuge November 9.

Sharp-tailed Sandpiper--Two arrived at Hanalei Refuge November 1. The fall migrants peaked at four on November. The last observation of a single bird was November 9.

Pectoral Sandpiper--Four arrived at Hanalei Refuge September 10. The migrants peaked at eight on October 4. The last bird of the season was observed November 9.

Hawaiian Stilt--The peak population at Hanalei Refuge during the period was 181 on September 3.

Greater Necklaced Laughing-thrush--Birds were found on Hanalei Refuge throughout the period.

Moloka'i

Lesser Scaup--Two were at the Kaunakakai Sewage Pond January 26 (Brent Giezentanner).

Hawaiian Stilt--A surprising 31 were at the Kaunakakai Sewage Pond December 5 (Brent Giezentanner).

Maui

Green-winged Teal--Six were at Ke-ālia Pond November 5, and 14 were there February 8.

Northern Shoveler--An impressive 1065 were observed at Ke-ālia Pond November 5.

Ring-necked Duck--Five were at Ka-nahā Pond Sanctuary January 26 (Brent Giezentanner). They were still there February 8.

Osprey--A single bird was observed at Ke-ālia Pond November 5. It was found again December 5 and January 27 (Brent Giezentanner).

Semipalmated Plover--Two were at Ke-ālia Pond November 5, and three were there Feb. 8.

Killdeer--One bird sighted at a reservoir near 'Ōma'o on the waterfowl count, January 13 (E. Andrade, M. Ueoka).

Greater Yellowlegs--A single bird was at Ke-ālia Pond September 29 and November 5.

Lesser Yellowlegs--One remained close to the greater yellowlegs at Ke-ālia Pond September 29. One was there again February 8.

Willet--One was found at Ka-nahā Pond Sanctuary November 4 and photographed November 5. The bird was at Ke-ālia Pond December 5 (Brent Giezentanner). It was still there February 8.

Sharp-tailed Sandpiper--One was at Ke-ālia Pond September 29 and November 5. One was

at Ka-nahā Pond Sanctuary November 4.

Least Sandpiper--Two were found at Ke-ālia Pond September 29. One was there November 5, and two were there February 8.

Dunlin--Three were at Ke-ālia Pond November 5, and six were there February 8.

Western or Semipalmated Sandpiper--A single bird with a short bill was at Ke-ālia Pond November 5.

Long-billed or Short-billed Dowitcher--A single bird with a "medium" beak was at Ke-ālia Pond November 5.

Ring-billed Gull--One was at Ke-ālia Pond October 11 (Gene Kridler), December 5 (Brent Giezantanner), and January 27 (Brent Giezantanner). Two were there February 8.

Common Tern--One was at Ke-ālia Pond September 29.

Hawai'i

A Canada Goose (probably Lesser or Taverner race), 5 Ring-necked Ducks, a pair of Greater Scaup and a pair of Lesser Scaup wintered at Wai-ākea Pond, Hilo, and were seen by numerous observers from October 31 through mid-March. The goose was clearly larger than a mallard and showed a light tan breast contrasting sharply with the black neck, unlike the dark breast of the Cackling race which merges with the black neck. The two pairs of scaup could be compared closely, and were separated by slight size difference, rounded versus peaked head shape, color of sheen on the males' heads, and length of wing stripe in flight. A male Tufted Duck was with them from January 30 through mid-March (M.Scott). The goose and one female Ring-necked Duck remained on March 17.

Hooded Merganser--Three seen on Kehena Reservoir January 13 (E.Kosaka).

Semipalmated Plover--One was at 'Ōpae-'ula Pond on the Kona Coast September 29.

Sharp-tailed Sandpiper--Two were at 'Ōpae-'ula Pond October 10 and one was there November 5.

Long-billed Dowitcher--One was at 'Aimakapā Pond at Honokōhau on the Kona Coast November 5.

Franklin's Gull--One was studied closely at 'Aimakapā Pond November 5.

Hawaiian Crow--Two appeared at the mauka end of the Ka-loko Mauka subdivision road system November 5.

Warbling Silverbill--Berger reports ('ELEPAIO, Vol.36, No.3, Sep.1975, p.27) the first known record of this species in Hawai'i as being a bird found dead by Dr. P.Quentin Tomich in a water tank in the Pu'u-anahulu Game Management Area on May 2, 1972. The earliest reported sighting of a live silverbill was on March 22, 1974. Accordingly, it is of interest to report an earlier sighting by Frederick N. MacMillan of Madison, Wisconsin, who writes: "On March 10, 1973 four of us saw a flock of the Warbling Silverbill--evidently at the same tank where Dr. Tomich found the dead bird the previous year. According to Berger, perhaps we were the first to see the birds alive and keep a record thereof."

Black-headed Munia--Six or seven of these birds were seen with Spotted Munias on the trail to the lava tubes at City of Refuge, Hōnaunau, August 17-20 (P.Bruner). This is the first report of Black-headed Munias on this island or anywhere in the state other than O'ahu.

Yellow-billed Cardinal--A good flock (more than 10) of these birds was found in the City of Refuge area, Hōnaunau, August 17-20 (P.Bruner). Two or three of this species are seen regularly at 'Ōpae-'ula Pond and 'Aimakapā Pond, Honokōhau in north Kona.

Midway

Pelagic Cormorant--A bird identified as this species by British ornithologists Brian Hawkes and Bryan Sage, who have extensive experience with the species in Alaska, was observed near the spit in Sand Island Lagoon from a boat January 8.

Harlequin Duck--One bird was seen repeatedly during April 1976 at Midway (location not given) by J.M. Bradley, who writes: "The Harlequin Duck was a fantastic little feathered fowl--a very strong swimmer and excellent diver. I enjoyed hours of watching him and his antics. Although it was impossible to get close enough to take a photo, there was no doubt as to the species of duck--what a beautiful bird!" Karl Kenyon reported seeing one bird in "poor condition" on April 9 along the western shore of Eastern Island.

Black-headed Gull--A bird photographed at Sand Island November 11 by Bob Lucas was tentatively identified as this species. The bird was observed there November 10 to 16 by Chip Jobanek also. The photographs are presently at the National Museum in Washington, D.C., for positive identification.

Letter to Editor, AUDUBON, National Audubon Society from William P. Mull, 6 May 1977: AUDUBON, Vol.79, No.2, March 1977, pp.30-47, A hellish spot in heavenly surroundings by Bil Gilbert.

Hey! You guys trying to kill Hawai'i? Bil Gilbert's Moloka'i article (March 1977) and the AUDUBON editor who approved it really dropped a rock on Hawai'i's endangered native biota, by honoring in print (page 36) that ill-considered scheme to enrich the "diversity" of our insular ecosystems by dumping more continental exotic species on this isolated archipelago.

The article's "Hawaiian biological community" is now, in fact, a battleground between nature's home-grown endemics and man's introduced exotics--with the foreign invaders forcefully displacing the natives, not peacefully integrating with them. More cosmopolitan exotics will simply displace more unique endemics. Check Hawai'i's world records for species endangerment and extinction since Captain Cook brought continental enlightenment to these little islands two centuries ago.

And re-check the article's statement, "evolutionary and conservationist thought is that diversity of life forms is desirable," cited as justification for the scheme. It's natural

diversity, not man-manipulated ecological mayhem, that we hold "desirable."
 Auwē! We don't need such conservation help from National!

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From Sheila Conant, 17 May 1977: Hawai'i is the last holdout.

That statement can be taken in many ways. Hawai'i is certainly not only the last but the only holdout for countless species of highly endangered plants and animals that never existed anywhere else in the world but this tiny, most isolated archipelago on earth. Also, Hawai'i was the last of the 50 states to decide to apply for chapter status in the National Audubon Society. We began serious contemplation of this during my term as president of the Hawaii Audubon Society in 1976, and the 1977 Executive Board has just decided to formally apply for chapter status. Until a few days ago I was feeling comfortable with that decision, thinking that we could look forward to a substantial increase in the effectiveness of our efforts to protect native Hawaiian wildlife. (This is our motto.) Then I read Bill Gilbert's article on Ka-laupapa in the March AUDUBON. When I reached the middle of page 36 I was shocked (to put it very mildly) to read the paragraph in which Mr. Gilbert sets forth a philosophy that is diametrically opposed to that held by Hawai'i's best scientists and conservationists for over a century. That is, he says that the introduction of foreign plants and animals (to an extremely fragile isolated insular ecosystem, which possesses the most uniquely evolved biota in the world) is not just acceptable but good!

For many decades (starting way back in the mid-1800's) scientists and conservationists have been aware that one of the most, if not the most, important factor causing the tragically irreversible loss of unique Hawaiian species and degradation of ecosystems has been the introduction of destructive (countless insects, pigs, goats, deer, cattle, rats, cats, dogs, etc.) and aggressive (blackberry, lantana, christmas berry, ants, etc.) exotic organisms. Those "50 species of continental birds" have brought with them untold new parasites and epidemic diseases that have probably been instrumental in the total loss of native forest birds from lowlands in Hawai'i, and their severe decline in the uplands, not to mention the extinction of those other 30 species. What man has done in the way of land clearing, exploitative forestry, initiation and acceleration of soil degradation by exhausting nutrients and causing erosion, etc., is incriminating in the eyes of even the novice naturalist. One could go on at length.

I am sorely disappointed that the National Audubon Society has allowed such an erroneous (Where, Mr. Gilbert, are those "hard facts" that show our ecosystems were "insufficiently diverse..." they were fine until Homo sapiens got here??) and misleading statement to be published just as Hawai'i has decided to join you as a chapter, with the primary motivation being increased effectiveness in our conservation program. Scientists and conservationists in Hawai'i have been making "value judgements" for years that strongly oppose introduction of exotic biota, and we don't care whether or not these judgements are "conventional," we are just concerned about protecting what is Hawai'i's unique heritage.

I hope the National Audubon Society will change its viewpoint or I will regret that we are not still the last holdout for joining the ranks of what I thought was a conservation-oriented organization.

I realize this is strong language--so was Mr. Gilbert's. However, it doesn't hold a candle to the expletives I have gotten from fellow scientists when I show them that paragraph. I think National Audubon Society owes its readership and its prospective new Hawai'i chapter some kind of retraction via publication of letters like this one, or, better yet, a brief article or editorial on the subject (in consultation with Hawaiian scientists and conservationists, please!).

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From Francis G. Howarth, 30 May 1977: Auwē! The hellish article by Bill Gilbert in a heavenly magazine (March 1977) does Hawai'i a great disservice and discredits the stature of AUDUBON Magazine. The numerous biological and conservation errors are infuriating and damage the cause to which we are so deeply committed and which must be won if we are to pass on Hawai'i's remarkable biological heritage to our heirs.

To wit: the reason much of the Ka-laupapa Peninsula is now virtually treeless is that it has been grazed within an inch of its life by exotic mammals. The islands were never a "collection of sterile, lifeless rocks." The botany on page 35 is deceptive. The Polynesians introduced only some 25 plants. Their uses of native plants fill several ethnobotanic volumes. Just one example, one of the strongest known fibers in the world was made from Touchardia, an endemic genus of nettle. The 2200+ kinds of plants known only from Hawai'i demonstrate the most spectacular examples of adaptive radiation on oceanic islands. Many of our endemic flowers and fruits are as colorful and as tasty as those elsewhere.

But it is the non sequitur on page 36 where Gilbert and the editor displayed their biological incompetence. How can anyone call biological deserts such as an exotic eucalyptus forest, which has hardly any fern or herbaceous understory and only the occasional twitter of a bird, more diverse than a native forest which is a mass of color with a great variety of ferns, herbs, herbaceous trees, arborescent shrubs, and a sonority of crickets, buzzing insects and birds. Further, perhaps more native species have gone extinct than have become established.

Biological pollution is Hawai'i's most serious conservation problem. May the excrement of 1000 starlings splatter anyone who extolls the virtue of introduced biota!

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From Hawaii Audubon Society (written by F.G.Howarth, R.Pyle, & M.Stemmermann), 30 May 1977: Bill Gilbert's article, "A Hellish Spot in Heavenly Surroundings" (March 1977) is a sensitive tribute to the history and people of Ka-laupapa. It is a shame that such an article should be marred by several mistakes, some of which are trivial, and others which are inexcusable. The widespread dissemination (page 36, col.2) of such misinformation as

"...the Hawaiian biological community is markedly more diverse now than when man arrived," and "...the previous community was insufficiently diverse," is both disheartening and infuriating to those of us attempting to understand and protect Hawai'i's native biota.

Such value judgements as those quoted above are indicative of lack of understanding of both the evolutionary processes which have occurred in the Hawaiian Islands and of the nature of the ecological communities found there. The disharmony and unique diversity inherent in island ecosystems are not to be deplored. Rather, they are treasured, for they are the bases of the spectacular examples of adaptive radiation which make the Hawaiian Islands a paradise for the casual naturalist and the serious biologist alike. Artificial introductions by man serve to obscure and then eventually obliterate the unique patterns which have made Hawai'i such an ideal "living lab" for evolutionary studies. Biological pollution is Hawai'i's most serious conservation problem.

We appreciate as much national publicity as we can get, but it is hoped that such articles will be carefully written, reviewed, and edited by those who have a more comprehensive knowledge of the biology of the Hawaiian Islands than does Mr. Gilbert. In this case, we all would have been better off if he'd stuck to his history.

Hawaii Audubon Society Field Trip to Kaua'i, 19 March 1977 by John F. Walters

We set out bright and early (well, early anyway) at 07:15 on the Seaflite hydrofoil to Kaua'i, birding as we went. Identifying birds from this fast-moving contraption is quite a challenge—one look is all you get! Several brown boobies and pomarine jaegers were sighted near the Honolulu Harbor entrance and Sand Island, and frigatebirds soared overhead. Birds were surprisingly scarce along the Wai-'anae coast of O'ahu and in the Kaua'i Channel. A couple of sooty terns were seen off Ka-'ena Point. Things got more interesting as we neared Kaua'i. We saw a half-dozen white-tailed tropicbirds and one red-tailed tropicbird, a few red-footed boobies, and two shearwaters, probably wedge-tailed, although the more sharp-eyed thought one might be the rarer Newell's.

Our guide for the day, Fred Zeilemaker of the U.S. Fish and Wildlife Service, met us at Nā-wiliwili Harbor, and we piled into two vans and proceeded to Kī-lau-ea lighthouse, on the northern coast of the island. Fred and his family live there, keeping tabs on a large colony of red-footed boobies and cattle egrets. On the road to the lighthouse we stopped to look at a mockingbird sitting on a power line and watch a pueo working over a grassy field in search of lunch.

What a place for watching seabirds! The trade winds come blowing up the cliff, and the birds hang nearly stationary in the updraft, often almost close enough to touch. In addition to red-footed boobies and cattle egrets, we watched red- and white-tailed tropicbirds, frigatebirds, brown boobies, and a single Laysan albatross. Through spotting scopes we could see the downy booby chicks in their nests on the cliffs across from us. The wedge-tailed shearwaters had just arrived and had begun digging their nesting burrows, some right at the edge of the road. We didn't see any shearwaters, but Fred played a tape of their yelping call, and we heard answering calls from the slope below. Far below in the water, a green sea turtle sunned itself, and a school of spinner porpoises periodically surfaced for air.

Fred had seen some melodious laughing-thrushes near his house, so we followed him up the road and scanned the brush while he played a tape of their mockingbird-like call. Sure enough, a pair of thrushes promptly appeared, hopping rapidly through the thick growth, usually keeping out of direct view. As we left, a shama flew across the road in the same general area.

We stopped again to watch the pueo, this time looking for lunch on the other side of the road. As it was nearly 14:00, we were ready to look for lunch ourselves, so we drove to Princeville and discussed the day's sightings over sandwiches.

After lunch, and a brief stop at a nearby golf course, where we saw western meadowlarks, golden plovers (many already acquiring their breeding plumage), and black-crowned night herons, we drove on to the Hanalei National Wildlife Refuge. Here in the midst of lush taro patches live four endangered species of Hawaiian water birds, the stilt, coot, gallinule, and koloa. All four were easily observed. We were treated to a pair of gallinules displaying their white tail feathers at each other. Fred has recently noticed that a few of the coots have a maroon frontal shield like Mainland coots rather than the chalk-white shield characteristic of the Hawaiian subspecies; one of the coots we saw had this feature. In addition to the endangered species, we also saw golden plovers, 'ūlili, a shoveller, pintail, and probably a blue-winged teal, and also a black-crowned night heron in breeding plumage, with long white nuptial plumes and bright red eyes.

Retracing our path, we drove back down the coast and up the other side, stopping briefly at Pu'u-ka-Pele for a look at Wai-mea Canyon in the late afternoon sunlight. White-tailed tropicbirds were soaring in the canyon far below. Arriving at Kōke'e, we checked into our cabins and spent the next two hours over a slow but satisfying dinner at Kōke'e Lodge. And so to bed...

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20 March 1977 by Betty L. Johnson: Bright and early Saturday morning, March 19, 26 enthusiastic members, including men, women, and children, of Hawaii Audubon Society, led by Dr. Robert Pyle, embarked on Seaflite's Ka-mehameha for Kaua'i, and an adventurous, rewarding week-end.

While John Walters has told you about the Saturday half of the expedition, I have been assigned the Sunday portion. Sunday pre-dawn was heralded by the lusty crowing of the resident jungle fowl, although the morning proved cool and drippy. Promptly at 8 a.m., however, substantial breakfasts under our belts, we were off in the rented vans for the Ka-lalau Lookout. Although rainy and windy, it was not soaked in, and we shifted to another vantage point of the lookout where we were rewarded with curious, chipper 'elepaio and a number of 'apapane, sometimes in twos and threes, feeding on the lehua blossoms. At the

Lookout we were met by Fred Zeillemaker with his trusty tape recorder, and later we went to a lower valley, forested with koa and lehua trees, where the playing of taped bird calls enticed 'amakihi, 'apapane, a flitting 'i'iwi or two, and one 'akepa. An 'akepa also was seen at Ka-lalau Lookout, and others were seen on Pihea Trail. We could also hear northern cardinals whistling, but not see them. Some of the group, less fortified with breakfast, departed shortly after 10 to return for a late breakfast at Kōke'e Lodge, while the rest of us stuck it out until past 11, then ate an early lunch at the Lodge, just as the others were emerging from their late breakfast.

The weather continued to improve as the day wore on, but some of us gained respite from our vigorous birding by enjoying the Kōke'e Natural History Museum next door to the main lodge. In the afternoon, we regrouped, after watching some active golden plovers in breeding plumage on the meadow, and had another crack at Ka-lalau Lookout. This time we were rewarded not only with many 'apapane but several bright and active 'anianiau, which came surprisingly close and gave us wonderful glimpses of them, as they fed, flew from branch to branch, and were in plain view much of the time. We also walked along the trail, where we could see not only the 'apapane and 'anianiau, but the Nā-pali cliffs, a rainbow on the floor of the valley, the surf beyond, and tropicbirds which soared in the valley.

We regrouped at Kōke'e Lodge at 3:30, when some of us decided to take the early (6p.m.) flight back to Honolulu, so the vans split up at this point. Those staying for the later flight (9 p.m.) went on to Wai-mea Canyon, with breathtaking views of the multicolored rocks and foliage, waterfalls, and native plants, as the weather had now cleared for good, and some of us walked the brief, but steep, Iliu nature trail, where we saw no birds, but many indigenous plants, many of them marked along the trail. Subsequently, we drove to the Salt Pond Park, which proved slick, muddy, and windy, to view the still-used method of evaporating salt in shallow ponds from sea water. The group had dinner in Lihue before driving to the airport, where the van was turned in, and we settled down for a brief but pleasant flight to Honolulu.

All of us voted the week-end a complete success, from all the native birds seen and heard, the endangered species at the taro fields on Saturday, and all the Hawaiian forest birds, which seemed in good supply belying their endangered status.

All of us were most grateful to Fred Zeillemaker for his time and efforts in our behalf, which made the trip so noteworthy and rewarding.

Field Trip to Ulu-pa'u Head by George G. Campbell, 15 May 1977: Twenty-six persons joined Dr. Sheila Conant in a field trip to Ulu-pa'u Head Red-footed Booby colony at MCAS Kane-ohe on Sunday, May 15. Sunny skies and a moderate breeze provided excellent conditions for observation and photography. A number of observers were much impressed with the calmness of the boobies in the face of visitors so close at hand (or should we say "wing"?). Opportunity was also afforded for studying the Moku Manu islets (State Bird Sanctuary) by telescope. Species noted from Ulu-pa'u, in addition to the Red-footed Booby, were Brown Booby, Great Frigatebird, Sooty Tern, Common Noddy and Cattle Egret.

The group then moved to Ka-lua-puhi Pond, on the east side of the Air Station, where White-capped Noddies, Hawaiian Stilts and Black-crowned Night Herons were seen feeding. A Wandering Tattler completed the Pond sightings.

During the Ulu-pa'u phase of the trip, Marine Sergeant Pat Gilkey, of the Station Information Office, served as an escort and provided interesting details about the sanctuary and adjacent areas. On the return to Honolulu, at the Kai-lua Drive-In Theater on Pali Highway, Dr. Conant saw two Koloa (Hawaiian Duck) flying south.

Field Notes from Mae E. Mull: Palila at Hale Pōhaku

On Sunday, May 8, 1977, following a trip to the summit of Mauna Kea, four of us stopped at Hale Pōhaku State Park--Bill Mull, Al Hart, Gretchen Feiker and I. At 9,200 feet elevation the sky was clear in mid-afternoon and a broken cloud layer was below us. Temporary dormitories for observatory construction crews form a quadrangle with the two old stone buildings that were formerly available to park visitors. Hale Pōhaku has been leased to the University of Hawaii until a permanent mid-level facility for the astronomers is constructed at another site within the park's 200 acres.

Within minutes after our arrival we heard Palila calls and promptly located three adult Palila feeding in māmane trees close to the restrooms and the United Kingdom dormitory. For half an hour we watched these three Palila close-up as each would break off a single māmane pod from a hanging cluster of pods, hold the pod parallel against the branch with its foot, tear the pod open and extract seeds with its heavy bill. The feeding process was frequently interspersed with melodious calls or brief songs of several notes. On a couple of occasions all three were briefly feeding and calling in the same tree at the same time. Our closeness, even watching them from under the tree where they were feeding, did not appear to affect their behavior. Sometimes we used binoculars when the bird was sufficiently distant to get it in focus. The māmane trees in the area had an abundant crop of pods that may have covered two seasons because both green and brown pods were present on the same tree.

We picked up several pods from the ground as they were dropped by the birds. In one case every seed had been extracted from a small thin-coated pod. I watched one Palila with a brilliant yellow head work at length on a pod, pausing five times in between to raise its head and give a melodious call. When the bird dropped the thick pod and flew to another tree, I picked it up and was surprised to see that only part of one seed had been extracted after all that effort!

Chris Nielsen's response (the only one received, MAHALO, Chris) to information requested on nioi and sandalwood, 'ELEPAIO, Vol.37, No.8, Feb.1977, p.90:

I saw a request in February's 'ELEPAIO for information about nioi and sandalwood trees. I don't even know what nioi is, but I do know where there are sandalwoods on Maui.

I know of two small trees of Santalum haleakalae in Hale-a-ka-lā National Park; one on

the road to Hosmer's Grove and the other on the Park road, between the ranger station and the old Hale-mau'u trailhead. The latter at one time had a wonderful big sign pointing it out to all passers-by, who, of course, proceeded to tear it limb from limb. The sign was removed!

Near Pali-kū, inside the crater, and in Kau-pō Gap, are trees that were identified to me as being sandalwood by a young ranger who had been there a few years. If so, they are Santalum ellipticum, the long-leaved species.

I have also seen a small shrub of haleakalae and a few of ellipticum in the Kahiki-nui area, the dry forest out on the south side of Hale-a-ka-lā. These are on ranch land. There is a particularly nice gully in the area, before Luala'i-lua, that has a number of species of endemic dry forest trees....

Editor's note: The scientific name for nioi is Eugenia molokaiana Wilson and Rock (page 635, Neal, IN GARDENS OF HAWAII) and the HAWAIIAN DICTIONARY, Pukui & Elbert, page 246, "nioi...2.A tree (Eugenia sp.). Its wood was said to be poisonous only from trees at Mauna-loa, Moloka'i." Page 112, "kalai-pāhoa. Name of three woods (kauila, nioi, 'ohe) believed to be the tree forms of two male gods (Kāne-i-kaulana-'ula and Kahūila-o-ka-lani) and one goddess (Kapo); the wood was considered deadly poisonous at Mauna-loa, Moloka'i only; small pieces and roots were used in black magic.

The following is a reprint from IUCN/SSC MARINE TURTLE NEWSLETTER, No. 4, May 1977; Sale of Turtle Products Promoted in Hawai'i by George H. Balazs:

The survival outlook of the Hawaiian Chelonia population was enhanced in 1974 with the adoption of a State regulation which prohibits commercial usage of turtles taken from local waters. Prior to this ban the tourist restaurant trade provided a strong cash incentive to kill an increasingly alarming number of green turtles. Although it is difficult to assess the extent of damage inflicted during the years of uncontrolled exploitation, there is little doubt that continuation of previous trends would have reduced the population to a nonviable level.

In spite of the present improved situation, conservation problems in Hawai'i persist for both Hawaiian turtles, as well as turtles from populations distinct to other areas. Hawai'i's regulation legally prohibits commercialization of Hawaiian turtles, but it does not stop commerce in turtle products derived from outside the State. This has resulted in the continued sale of such items as whole "stuffed" turtle curios from Southeast Asia, turtle leather purses from Europe, and canned turtle soup from New Jersey. Additionally products from the commercial culture operation on Cayman Island are now being actively marketed under the exemption. In this latter case, the authorized Hawai'i distributor for the Cayman company has clearly embarked on a promotional campaign to popularize turtle products and expand markets. In a recent article (March 1977, Pacific Business News) which outlines the marketing plan, the distributor is quoted as saying that "...the first step is to get people accustomed to eating turtle." In addition to lauding the supposed benefits of commercial culture, the article notes that a number of restaurants are now offering turtle meat from Cayman, and that immediate plans for market expansion include stocking Hawai'i's grocery stores with three kinds of turtle soup (chowder, bisque and bouillon), and selling turtle filet over the counter.

Along with others, it is my conviction that any promotional campaign aimed at encouraging people to eat turtles is clearly unacceptable in terms of conservation. Such campaigns, which strive to bring turtle products into vogue, form the basis for one of several major objections frequently raised by opponents of commercial turtle culture. In addition, such promotional practices are contrary to the IUCN Principles and Recommendations on trade in sea turtles (see 'ELEPAIO, Vol.36, No.7, Jan.1976, pp.79-80). Serious unanswered questions exist as to the ability of mariculture operations to fill the newly created markets, or indeed to compete with the far less expensive products obtained from turtles taken either legally, or illegally, from natural populations. Also, the identification of processed products as to source, either natural or cultured, is virtually impossible for trained herpetologists, let alone for wildlife enforcement personnel. The likelihood of illegal substitution is therefore considerable, particularly in view of an incentive for increased profits.

The logical course of action is for readers of the Newsletter to vigorously oppose, in their respective areas, all commercial trade in sea turtle products that is not consistent with the IUCN Principles and Recommendations.

Wildlife Refuges by Harry Whitten, HONOLULU STAR-BULLETIN, 2 May 1977, page A-19:

Establishment of the James Campbell National Wildlife Refuge near Ka-huku, announced last week, /28 April, page B-2:...The refuge includes 105 acres at the Ki'i Pond and 38 acres at the Puna-mano Pond. brings to six the number of refuges operated in Hawai'i by the U.S. Fish and Wildlife Service. The other refuges are: Hawaiian Islands National Refuge, containing 1,907 acres of emerged land and 256,145 acres of submerged land. This refuge was described in last week's column. /25 April, page A-17/. The Pearl Harbor Refuge, in two units, /Honouliuli & Wai-pā/ with total acreage of 61.15. Kakaha-i'a, Moloka'i, 42 acres. Hanalei, Kaua'i, 917 acres. Hulē'ia, Kaua'i, 238 acres. The Fish and Wildlife Service hopes arrangements can be completed soon to set up the 'Ōpae-'ula Refuge in the Kona area of the Big Island.

The full title of the local office, headed by Palmer Sekora, is Hawaiian Islands and Pacific Islands National Wildlife Refuges. It also administers: Rose Atoll NWF, American Samoa, 1,613 acres, of which only 20 acres is emerged land. Baker, Howland and Jarvis Islands NWF, with 340 acres of emerged land on Baker, 400 on Howland, and 1,100 on Jarvis. The refuge boundaries, including submerged lands, extend to the three-mile limit. Johnston Atoll, held in cooperation with the Defense Nuclear Agency, 654 acres emerged and 1,900 acres submerged land. Johnston is in the Pacific southwest of Hawai'i, while Baker,

Howland and Jarvis are small islands north of Samoa. ...

Request Information: As part of his doctoral dissertation research, Daniel Klem is attempting to estimate bird mortality in the United States resulting from birds flying into glass areas of homes and buildings. If you have any information, please send the species name, number, location (door, window, wall), and date killed to Daniel Klem, Jr., Dept. of Zoology, Southern Illinois University at Carbondale, Carbondale, Illinois 62901 and a copy of the report to 'ELEPAIO, Hawaii Audubon Society, PO Box 22832, Honolulu, HI 96822. MAHALO.

 Excerpts from the minutes of the general meeting, Hawaii Audubon Society, 18 April 1977:
 ...Field observations--John Obata saw a Barn Owl at Aloha Stadium the previous Saturday. Doug Pratt reported on his trip as guide with the World Nature Tour. They had 82 species on 4 islands. From the Seaflight they had a number of unusual sea birds. Rey Larsen had 22 Jaegers at Sand Island the previous week and quite a number of Wedge-tailed Shearwaters. The President reported that the vote of the Board...was 5 to 3 in favor of Chapterization. Now we need to change our By-laws and present them to the members in order to finalize chapterization. Frank Howarth will also draft a list of our concerns to be presented to National Audubon Society.

Member Hilde Cherry requested the use of our mailing list to send out literature regarding "Greenpeace", an organization whose purpose is whale conservation. It was decided that the Board should see the literature first and then decide on that particular mailing. Permission would be given only for one mailing at a time. ...

Carol Ralph reported that she attended the Science Fair in March. There were 255 exhibits. There were very few on natural history. ...

Rob Shallenberger announced that our planned speaker for the evening, John Sincock, was unable to come from Kaua'i. Instead, on short notice, he found a very interesting speaker, Paul Breese, former director of the Honolulu Zoo, now with the Hilo Zoo.

Paul reminisced about his early years in Hawai'i. He had many interesting stories to tell on such topics as how the Nene got to be Hawai'i's official bird, the rediscovery of the Newell's Shearwater, the Hui Mahu, how Cattle Egrets and Barn Owls got introduced, other successful and unsuccessful introductions, and a very unusual adventure when he captured a very large reptile that had broken out of its shipping container in the luggage compartment of a stratocruiser. ...

 ALOHA to New Members:

Mrs. John Culliney, 41-049 Ehukai St., Waimanalo, Oahu 96795
 Mrs. John Keat, P.O. Box 5, Makaweli, Kauai 96769
 Mr.* & Mrs. Joseph C. McAndrew, 1535 Pensacola St., Apt 47, Honolulu, HI 96822 (*Re-/instated)
 Lyon Arboretum Assn., 3860 Manoa Road, Honolulu, HI 96822

Donations: MAHALO! Following members have generously included donations with their dues and purchases: Mrs. John Keat--\$12.00; William Perreira, Junior member--\$1.00. MAHALO!

HAWAII'S BIRDS, a field guide, is available for \$3.00 + postage & tax. Postage: U.S. 25¢ book rate, 57¢ first class; foreign--variable, weight 5ozs; sales and mailing in Hawai'i--add 12¢ sales tax. Send in orders to Book Order Committee, Hawaii Audubon Society, P.O. Box 22832, Honolulu, Hawaii 96822. *****

JULY ACTIVITIES:

- 10 July - Field trip to Wa'ahila Ridge to study forest birds. Meet at the State Library on Punchbowl Street at 7:00 a.m. Bring lunch, water and, if possible, your car. Transportation cost (\$1.00) to be paid to the drivers. For information call evenings, Joyce Davis, 536-2528.
- 11 July - Board meeting at Waikiki Aquarium Auditorium, 7:00 p.m. Members welcome.
- 18 July - General meeting at Waikiki Aquarium Auditorium at 7:30 p.m.
 Program: Rescheduled--Role of Law Enforcement in Wildlife Conservation by Ms. Kim Wright, U.S. Fish & Wildlife Service, Law Enforcement Branch.

 Field trip to Manana (Rabbit) Island, 14 August. Make reservations with Omer Bussen, 262-5506, by 31 July. First preference to members. Boat cost under \$5/person, paid at dock-side; have exact amount. Meet at Makai Range Pier, 7:00 a.m. Limit of 24. Swimming ability required; must climb in/out of boat in chest-deep swells. Protect equipment with plastic. Trip depends on availability of boat/pilot, Fish & Game permission, and weather condition.

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 President-Dr. Robert L. Pyle; Vice Presidents-Dr. Francis G. Howarth (conservation), Dr. Robert J. Shallenberger (program & education); Secretaries-Leilani Pyle (recording), Dr. C. John Ralph (corresponding); Treasurer-Timothy A. Burr.
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 'ELEPAIO: Editors-Charlotta Hoskins & Unoyo Kojima

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 The Schweitzer Legacy--The deeper we look into nature the more profoundly we know that we are united with all life. Man can no longer live for himself alone.

MAHALO & ALOHA from the Editors: MAHALO NUI LOA from the many, many years of your generous KOKUA.