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First Record of the Whiskered Tern From the Tropical Pacific

by Roger B. Clapp[1] and Roxie C. Laybourne[2]

While examining records of the Common Tern (*Sterna hirundo*) from the tropical Pacific (Clapp et al., in press), we noted that Pratt et al. (1977) reported a specimen of this species taken 23 June 1976 over a freshwater pond near the Yap airport. Through the courtesy of Phillip L. Bruner, who collected the bird, and Robert L. Pyle, we were able to examine this specimen (Number 2024 in the collections of the Brigham Young University-Hawaii Campus). When we compared this bird with terns in the collection of the U.S. National Museum, it was evident that the Yap specimen was neither a Common Tern nor an Arctic Tern (*Sterna paradisaea*) because the wing was too short. The badly worn wing of the Yap bird, sexed as a male, measured only 205 mm. The shortest wing lengths of 15 male Common Terns and 22 male Arctic Terns measured by Ridgway (1919) were 256 and 257 mm, respectively. The length of the exposed culmen of the Yap bird (28.7 mm) is also shorter than the shortest culmens reported of the Common Tern (33 mm) and Arctic Tern (29.5 mm) reported by Ridgway.

We compared the Yap bird with other species of *Sterna* and with marsh terns (*Chlidonias* spp.) in non-breeding plumages and concluded that the bird was a Whiskered Tern (*Chlidonias hybrida*) in winter plumage. We excluded the White-winged Black Tern (*Chlidonias leucoptera*) which has been recorded in the Bonin, Palau and Mariana Islands (King 1967) because that species has a much shorter and thinner bill than the Whiskered Tern. The exposed culmen of the Yap specimen measured 28.7 mm, and the exposed culmen of the White-winged Black Tern is only 22-25 mm (Williamson 1960). Adults in winter plumage and juveniles of both the Black (*Chlidonias niger*) and White-winged Black Terns have relatively broad white collars, but the nape of the Yap bird is gray and only slightly paler than the back. All the juveniles, immatures, and non-breeding adults of both Black (163 specimens) and White-winged Black (12 specimens) Terns in the collection of the U.S. National Museum are considerably darker in plumage than the Yap specimen which is very pale gray on the back and has a wash of slightly darker gray on the lower breast and abdomen. The specimen from Yap is so pale on the back that we have identified it as *Chlidonias hybrida fluviatilis*, the palest race of the Whiskered Tern (Parkes 1958). Indeed, this specimen is a good match in both coloration and measurements (except for the wing) for an extralimital specimen of *Chlidonias h. fluviatilis* (USNM 218302) collected at Batavia, Java, on 22 April 1909 and previously reported by Parkes (1958).

We do not find it remarkable that the specimen was misidentified by Pratt et al. (1977) because Whiskered Terns in non-breeding plumage are often surprisingly similar to Common Terns in size and appearance (Mackworth-Praed and Grant 1962). Furthermore, the Common Tern had been reported previously in western Micronesia, but the Whiskered Tern had not (Baker 1951).

Mackworth-Praed and Grant (1962) stated that such Whiskered Terns may be distinguished from Common Terns "by the shorter and stouter bill, short outer tail feathers, deeply incised webs to toes and more mottled black and white nape; eye brown; bill, feet and toes reddish brown." This description fits the specimen from Yap. According to the label, it had a dark maroon bill, almost black at the base of the mandible, and dark red feet when it was collected.

The Whiskered Tern has not been previously recorded from the waters of the tropical Pacific. This species breeds in East Africa from Kenya South to the Cape and in southern Europe from Portugal, Spain and France east to the Russian Turkestan, India, and Manchuria, and south to Australia and New Zealand (Vaurie 1965). The race *fluviatilis*, to which we have assigned the specimen from Yap, breeds on the Australian mainland and through the Indonesian chain to New Guinea (Serventy et al. 1971, Condon 1975). It has previously wandered north to the Philippines (Parkes 1958).

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Review

Prodromus of the Fossil Avifauna of the Hawaiian Islands

Storrs L. Olson and Helen F. James

Smithsonian Contributions to Zoology, Number 365, vi + 59 pp., paper, (1 December) 1982. (Not commercially available; a limited number of individual copies may be obtained by addressing the authors, Division of Birds, NHB E612-MRC116, Smithsonian Institution, Washington, D.C. 20560, U.S.A.)

As the Abstract by this husband and wife team states, the prodromus (a running before, a preliminary or introductory work—it could have been worse, see Parker 1981) is intended as a discussion of "the fossil deposits and the physical and biological features of the islands in order to provide background for our future systematic publications on the fossil and modern avifauna of the Hawaiian Islands." The systematic work referred to is currently planned to comprise seven monographs: two on passerines, and one each on raptors, geese, ibises, rails, and seabirds and shorebirds.

Fourteen pages of the prodromus are devoted to an Introduction and sections titled Geology and Physiography, Climate, Vegetation, Climate and Vegetation at the Major Fossil Sites, and Ages of the Fossil Deposits. The prehistoric (i.e., pre-Cook) avian deposition areas, including a few archeological ones, on five of the main Hawaiian Islands are discussed in 15 pages. Ten pages of Species Accounts of all Hawaiian birds represented by fossil (i.e., anything "dug up") material are given; with the final 11 pages of text covering environmental effects of prehistoric Hawaiians, analysis of the various fossil samples, and limited aspects of Hawaiian avian biogeography. There is also a six-page Literature Cited section.

The dozen text figures include maps of the State and fossil sites on Moloka'i and Kaua'i, as well as assorted photographs of sites and fossil bones. Five tables, mostly brief, give potassium-argon and radiocarbon dates for islands and sites; qualitative and quantitative comparisons of endemic bird groups or species totals by island occurrence and fossil/historic status; and, quite usefully, the distribution of all native fossil and historic land and fresh-water birds by island.

The authors' summary of physical and biological characteristics of the Hawaiian Archipelago is well done, and certainly adequate for its present purpose. It will probably be especially helpful to out-of-State readers of future Olson and James' Hawaiian bird papers. The descriptions of sites vary in thoroughness, but for the areas not covered in detail, recent pertinent references are cited (some, unfortunately, being unpublished reports of limited availability).

Taxonomically, the authors reduce the former family Drepanididae to tribal rank (Drepanidini) within the fringillid subfamily Carduelinae, largely on the basis of their own yet-unpublished research. This phylogenetic relationship, if not relatively low taxonomic level, had been anticipated or suggested by other recent workers (primarily anatomists, for example, Raikow 1977), and thus will probably provoke little controversy, especially when supporting data are presented in the forthcoming Olson and James' monograph on drepanidines. It might be noted that the 1983 sixth edition of the A.O.U. Check-list will consider the group a subfamily, Drepanidinae, of the Fringillidae; see American Ornithologists' Union (1982:16CC). However, the use of "Hawaiian finches" in place of "Hawaiian honeycreepers", reasonable as it may seem to scientists from their particular perspective of ancestry and internal anatomy, will be less easily accepted by many other students of Hawaiian birds. The decidedly un-finchlike external appearance and feeding habits of so many historic—and apparently also some fossil—members of this Hawaiian avian group will undoubtedly preserve usage of the traditional vernacular name for some time to come.

The tens of thousands of prehistoric Hawaiian bird bones thus far studied by Olson and James allow them to recognize at least 40 previously unknown Hawaiian bird species, thus more than doubling the former total of endemic land bird taxa (and increasing the required minimum number of initial immigrant stocks from 10 to 20 for the endemic Island avifauna). All of these new forms are briefly assessed in the informal Species Accounts, and this section is probably the most immediately interesting portion of the prodromus. In fact, the reader can scarcely help being intrigued by the preliminary notices of such birds as the several flightless and semiflightless (?) geese, the Hawaiian eagle and small *Accipiter*, seven flightless rails of various sizes, the long-legged bird-catching owl, and drepanidines with such tentative appellations as Hoopoe-like sickle-bill, Giant Oahu finch, and Icterid-like gaper.

One of the more surprising findings is the relatively very young age of all the fossil deposits thus far radiocarbon-dated: approximately 5,200 and 5,500 years for Moloka'i (but with a 25,000-year date for an isolated flightless goose skeleton), 5,100 and 6,700 years for Kaua'i, and 800 years for O'ahu. However, another O'ahu fossil bird site, discovered after the prodromus was at the printers and as yet incompletely studied, is apparently more than 120,000 years old (Whitten 1982). Thus, it would seem the fossil avifauna discussed represents a

relatively late stage in the history of, at least, the drepanidines. Although they never specifically state this, the authors apparently assume most of the fossil species known so far to have been approximately contemporaneous, i.e., not including any ancestral-descendant forms above roughly the specific level. If this assumption is correct, it means that the remains of a number of Hawaiian ancestors of presently known, highly differentiated fossil and historic taxa are still to be discovered.

In discussing the evolutionary history of endemic Hawaiian birds, the authors state (p.52) they see no reason why all presently known ones, living or extinct, could not have evolved entirely within the lifetime of the main Hawaiian Islands (i.e., within the last 5 million years). It is true the flightless species almost had to evolve within the lifetime of the particular island they inhabited. And, all of the flighted endemic birds *could* have evolved on the main Islands within the period favored by Olson and James but, on the other hand, there seems no reason why some or even all of them *could not* have evolved on almost any island of the entire archipelago at any time during the past 30 million years, and simply island-hopped southeast along the chain as new islands formed (this includes possible evolution on the Leeward Islands, most of which were apparently once in the general size range of, and at the same present latitudes as, the present main Islands; see, for instance, Macdonald and Abbott 1970:400ff., and Burke and Wilson 1976:49). In fact, until and unless evidence to the contrary is forthcoming, it would seem easier to defend this latter possibility than to argue that most or all endemic Hawaiian bird groups, particularly the numerous drepanidines, evolved only within the last 5 million years, and at the same time have to explain why not one other passerine group established and significantly radiated here in the entire previous 25-million-year period that large Hawaiian land masses had existed.

In the section dealing with environmental effects of man, numerous and varied data are presented in arguing convincingly that at least the main Hawaiian Islands were very likely forested down to sea level at the time of Polynesian arrival, and that these dry lowland forests were probably responsible for the great variety of Hawaiian birdlife now known to have existed in pre- and early Polynesian settlement times. The eventual destruction of most of these forests by essential subsistence activities of man prior to Western contact is proposed as the major factor in decimation, distributional changes, and eventual major extinction within this rich avifauna, with direct predation by man, pig, dog, and Pacific Rat (*Rattus exulans*) playing a minor role.

Olson and James point out that their new determinations of species numbers and distribution by island serve to refute recent conclusions of Juvik and Austring (1979) regarding Hawaiian avian biogeography. However, some of this criticism seems premature, at the very least, and could perhaps eventually even prove largely unwarranted. The numerical data of the latter authors are now known to be incorrect, of course, because their computations were made before information on the true extensiveness of the Hawaiian prehistoric avifauna was available to them. But, until the first relatively productive fossil bird site on the Island of Hawai'i is discovered and studied, there is simply no way of knowing how this large island's suite of prehistoric species will compare numerically with the relatively large ones thus far recorded from the significantly smaller islands of Moloka'i, O'ahu, and Kaua'i. The Hawai'i Island prehistoric avifauna contemporaneous with those of these islands, when found, could easily prove, say, twice as great as any of theirs, thus generally vindicating Juvik and Austring's conclusions.

Also, the prodromus states (p. 53):

> "Obviously, the recent history of the endemic Hawaiian avifauna has been one of massive extinction without natural replacement—not one of slow increase in number of species on islands, as Juvik and Austring (1979) concluded."

Here, it appears oranges and apples are being compared: Olson and James are speaking of the relatively short period since Polynesian arrival, the other two authors about the long pre-man period.

The information on fossil bird populations made available by Olson and James, now and in the future, will unquestionably be of tremendous importance in revised studies of insular biogeography in Hawai'i. However, because of the still-incomplete knowledge of the State's prehistoric avifauna noted earlier in this review—in both ecological and evolutionary time—anything approaching final conclusions on Hawaiian Island biogeography should be avoided for the time being. One thing in this regard is almost certain, however; and this is the absolute validity of the prodromus authors' admonition (p. 53) that:

> "Data from islands that have suffered from human disturbance, which would include most of the islands of the world, should not be relied upon for numerical studies of island biogeography unless the impact of such disturbance is known."

In spite of the foregoing minor disagreements, it seems Olson and James have generally succeeded admirably in providing a relatively concise, factually accurate, and extremely readable background document. This significant fossil bird publication would seem most worthwhile to have at hand by all those consulting the authors' future, more technically oriented Hawaiian bird monographs.

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HONOLULU CHRISTMAS BIRD COUNT -1982-

Robert L. Pyle

Despite a record number of counters spending more total hours afield than ever before, the 39th annual Honolulu Christmas Bird Count on 19 December 1982 recorded fewer birds than in any year since 1978.

Poor weather was the biggest factor in keeping the count totals down. Strong winds throughout the day, especially on the mountain trails, kept bird activity low and hampered observers' efforts to hear and see the birds that were about. Intermittent rains during the day added to the counters' problems, especially following the near continuous rains of the day before. A dearth of ohia lehua (*Metrosideros* spp.) blossoms and other tree blooms, possibly related to Hurricane IWA's winds four weeks earlier, helped keep totals for the native forest bird species to well less than half the numbers found in recent years.

This year, 72 participants (previous highest 54) in 29 parties (previous highest 23) spent 127 party-hours (not a record high) afield and counted 16,649 birds of 45 species. Total birds counted in 1979, -80, and -81 ranged from 18,900 to 20,200. This year, 25% of the party-hours were spent in mountain forests, and 45% in parks and residential areas, compared to about 35% in each in recent years.

As usual, Barred Dove (3442) and Common Myna (2790) were far ahead of all other species in numbers counted. Totals of 1000 or more were also recorded for House Sparrow (1489), Golden Plover (1402), Red-vented Bulbul (1199), Japanese White-eye (1121), and Spotted Dove (1052). The Red-vented Bulbul count was slightly higher than the previous highest count of 1174, but no other species was found in record high numbers this year. Counts for the native Hawaiian forest birds ('Elepaio - 6; 'Amakihi - 65; 'Apapane - 68) were less than half their usual numbers in recent years.

Most waterbird species were well down from recent years' totals. The 28 Koloa were a heartening exception. Two Pintails were the only migratory ducks found on count day.

Two birds were found that have been recorded very rarely in Hawaii and never before on any Christmas Count in Hawaii. A Great Blue Heron spotted by Ron Walker at Kaneohe Marine Corps Air Station was well seen several days later by other observers, but then disappeared. A Black-legged Kittiwake spent the week before the count on the little pond in back of the Hilton Hawaiian Village Hotel in Waikiki. It was dragging a 4 ft. piece of fishing line from its beak, but on several occasions was seen to catch and eat a fish. It was in near-adult winter plumage with no tail band, black legs, yellow beak, sharply defined black wing tips, and a heavy gray wash on nape and hind crown.

Escaped cagebirds observed this year by count participants included 9 Hill Mynas and 2 cockatoos at Lyon Arboretum, 6 Indian Ring-necked Parakeets at Kapiolani Park and Bellows Field, 83 feral Mallards and more than 70 domestic ducks of various descriptions.

Birds on and over Moku Manu islet are counted each year by an observer with a scope standing on Ulupau Head at Kaneohe Marine Corps Air Station. The Moku Manu totals have always been included in previous Honolulu Christmas Counts. However, the islet is 3/4 mile from Ulupau Head, and actually lies outside the 15-mile diameter circle established for the Honolulu Count. Therefore, beginning this year, the Moku Manu totals will not be included in the official Honolulu Count. The birds there will continue to be counted as in the past, and will be reported as an addendum to the official count, to provide continuity and comparison with previous counts. This year, the count on Moku Manu was 913 birds of 4 species, including one species (Blue-faced Booby) not found elsewhere on the Honolulu Count.

Sectors Covered

1-A: Aiea Trail: John Obata, Susan Schenck, Danene Jessup
B: Halawa Ridge Trail: Omer Bussen, John Hall, Simon Rose
2-A: Sand Is., Salt Lake, Tripler, Ft. Shafter, Moanalua Park, Keehi Lagoon Park: Peter Donaldson, David Bremer, Pinkie Carus
B: Alewa Trail, Kamehameha School: Chuck Burrows, Kimberly Crozier, Steven Oshiro
C: Nuuanu, downtown parks, Iwilei: Alice & Jack Mitchell, Betty Joao, Paul Sweet, Peggy Uemaru, Betty Porteus
3-A: Manoa Cliffs (west), Pauoa Flats, Puu Ohia, Round Top Dr.: Wayne Gagné, Harmony Markley, Nate Nealley, Joyce Knoblett
B: Manoa Cliffs (east), Aihualama Trail, Manoa Falls Trail: Peter Galloway, Ron Reilly, Roberta Baker
C: Makiki Environmental Education Center: Faith Roelofs, Brownie Welch
D: Makiki Valley Loop Trail: Peder Svingen, Marion Saunders, Fenny Cox

HONOLULU CHRISTMAS COUNT - 1982

Sectors	1	2	3	4	5,6	7	8	9	10	Total
Brown Booby	.	3	.	1	2	.	1	.	.	7
Red-footed Booby	.	.	.	.	.	.	.	425	.	425
Great Frigatebird	.	5	.	.	.	.	5	13	1	24
Cattle Egret	.	.	.	.	.	40	107	96	88	331
Black-crowned Night-Heron	.	.	.	.	.	9	2	29	1	41
Great Blue Heron	.	.	.	.	.	.	.	1	.	1
Koloa (Hawaiian Duck)	.	.	.	.	.	1	14	5	8	28
Pintail	.	.	.	.	.	.	2	.	.	2
Hawaiian Gallinule	.	.	.	.	.	.	14	1	.	15
Hawaiian Coot	.	20	5	.	.	16	13	7	1	62
Golden Plover	10	301	75	44	64	196	101	374	237	1402
Ruddy Turnstone	.	18	.	.	1	32	19	196	25	291
Wandering Tattler	.	2	.	.	1	2	7	21	2	35
Sanderling	.	.	.	.	1	.	.	26	.	27
Hawaiian Stilt	.	2	.	.	.	.	7	68	.	77
Pomarine Jaeger	.	2	.	.	.	.	.	.	.	2
Black-legged Kittiwake	.	.	.	1	.	.	.	.	.	1
Black Noddy	.	.	.	.	.	.	.	7	.	7
White Tern	.	.	.	.	8	.	.	.	.	8
Rock Dove	.	316	.	115	.	5	47	28	.	511
Spotted Dove	14	127	118	196	104	66	166	172	89	1052
Barred Dove	19	764	68	523	729	434	461	156	288	3442
Barn Owl	.	.	.	.	.	.	.	.	1	1
Eurasian Skylark	.	2	.	.	.	.	.	.	.	2
Red-whiskered Bulbul	.	15	83	108	3	.	.	.	.	209
Red-vented Bulbul	26	281	33	85	59	264	158	69	224	1199
Mockingbird	1	1	2	.	3	1	.	.	.	8
Hwa-mei	.	.	.	.	.	2	.	1	.	3
Red-billed Leiothrix	.	.	.	.	.	2	.	.	.	2
Japanese Bush-Warbler	.	.	.	2	.	1	.	.	2	5
Shama	11	6	30	9	2	11	7	4	13	93
Oahu 'Elepaio	4	.	.	2	.	.	.	.	.	6
Common Myna	3	747	163	327	401	182	416	323	228	2790
Japanese White-eye	127	153	299	232	38	70	8	40	154	1121
Oahu 'Amakihi	8	19	13	25	.	.	.	.	.	65
'Apapane	51	.	9	8	.	.	.	.	.	68
Orange-cheeked Waxbill	.	.	.	.	7	.	.	13	.	20
Red-eared Waxbill	.	.	.	.	1	.	.	.	.	1
Spotted Munia	.	83	8	.	15	86	24	99	26	341
House Sparrow	2	451	42	246	207	95	113	138	195	1489
Java Sparrow	.	88	54	23	145	.	9	.	.	319
Red-crested Cardinal	6	124	2	40	89	30	48	61	71	471
Northern Cardinal	11	16	53	25	12	19	19	11	24	190
House Finch	23	89	77	17	168	11	18	29	12	444
Yellow-fronted Canary	.	.	.	.	10	1	.	.	.	11
No. of Individuals	316	3635	1134	2029	2070	1576	1786	2413	1690	16,649
No. of Species	15	25	18	20	23	24	25	28	21	45

Moku Manu Island (outside Count circle): Blue-faced Booby: 5; Brown Booby: 23; Red-footed Booby: 425; Great Frigatebird: 460. Total: 913 individuals, 4 species.

E: Punchbowl Cemetery: George Campbell, Betty Johnson, Pauline Brown
4-A: Manoa Valley: Sheila Conant, Richard Williams, Bruce Eilerts, Jon Slobins
B: Lyon Arboretum, Paradise Park: Leilani Pyle, Karen Asherman, Edna and Hugh Reilly
C: Woodlawn Trail, Puu Pia: Patrick Conant, Iain and Malcolm Waugh
D: Wa'ahila Ridge Trail: Norris Henthorne, John Engbring
E: Ala Moana Park, Ft. DeRussy, Ala Wai: same party as Area 3-E
5-A: Honolulu Zoo: Peter Luscomb
B: Kapiolani Park, Na Laau Trail: Mike Ord
6- : Diamond Head to Paiko Lagoon: Mike Ord
7-A: Waimanalo makai, Bellows Field, Kaelepulu Pond: David and Ulalia Woodside, Phillip Bruner
B: Waimanalo mauka: Robert Pyle, Maile Stemmermann
C: Maunawili: Richard and Kendall Smith
8-A: Lanikai: Peggy Hodge, Mary Grantham (2 parties)
B: Kawainui Dyke, Kailua: Don, Doris and Colin Huddleston, Martha Rosenquist
C: Kaelepulu Canal: Lynn Carey, Sally Gribbin, Helen Sing
D: Kawainui Marsh, Quarry Road: Rob Shallenberger, Stewart Fefer (2 parties)
9-A: Kaneohe Marine Corps Air Station: Ron Walker, Diane Drigott, Jacob Tsabo
10-A: Ho'omaluhia Park, Old Pali Rd.: Maile Stemmermann, Wilfred Ho, Robert Pyle (2 parties)
B: Kaneohe, Haiku, Kahaluu: Tim Burr, Carl McIntosh, Allan Samuelson, Dawn Breese
9-B: Moku Manu Is.(outside count circle): same party as 9-A

Seventy-two participants in 29 parties. Total party-hours 127 (89½ on foot, 35½ by car, 2 by canoe). Total party-miles 332 (80 on foot, 250 by car, 2 by canoe).

Habitat coverage: mountain forests 25% of party-hours; parks and residential areas 45%; lowland woods and scrub 17%; marshes and ponds 10%; beach and ocean 3%.

BY-LAWS AVAILABLE

Copies of the new HAS by-laws, incorporating 1982 amendments, are now available. To obtain a copy, please send a written request to Hawaii Audubon Society, P.O. Box 22832, Honolulu, HI 96822.

EELS - AGAIN!

Once again the Legislature is considering a bill which would allow anguillid eels to be introduced to Hawaii. Once again the Hawaii Audubon Society (HAS) is opposing such action.

House Bill 155 "Relating to *Anguilla rostrata*" would amend Sec. 150 A-6, Hawaii Revised Statutes, which now prohibits entry into Hawaii of any "live snake, flying fox, fruit bat, Gila monster, injurious insect, or eels of the order Anguilliformes...", by adding "...provided that a government agency may bring into and maintain in the State, *Anguilla rostrata* for experimental or scientific purposes upon such terms as the Board may deem necessary to protect native biota;...".

The bill was introduced by Representatives Richard M. Matsuura (5th district, Hawaii) and Richard A. Kawakami (51st district, Kauai).

The provisions that a government agency be the importer, and that eels be imported for experimental or scientific purposes, are apparently a response to testimony on previous versions of the bill which strongly protested the uncontrolled introduction of eels then proposed. However, the ultimate aim of any eel importation scheme is the eventual commercial production of eels. Consequently, the Hawaii Audubon Society submitted the following testimony:

> While fully recognizing the need to diversify agriculture and aquaculture in Hawai'i, the Hawaii Audubon Society on behalf of its 1500 members wishes to go on record as opposing House Bill 155, as it has on numerous occasions in the past when similar bills to import eels were being considered and defeated by the Legislature. Since an enormous volume of testimony on this matter has accumulated in past sessions, we will not present lengthy testimony today, but we do urge committee members to review past testimony before reaching a decision on this bill.
>
> The major objective of the Hawaii Audubon Society is the protection of native Hawaiian wildlife and the ecosystems it inhabits. Should the eel escape from captivity and become established in Hawaiian streams, its effects on the unique endemic Hawaiian stream life such as 'ōpae and 'o'opu could well be devastating. Even though this bill seems to provide safeguards to minimize the possibility of escape during the experimental period, eels are notoriously slippery creatures. Moreover, the ultimate goal of

this exercise, should the experiment prove successful, would be establishment of a system of eel farms in Hawai'i. If this were to happen the escape of eels would become certain. A natural disaster such as a flood or hurricane could provide the escape mechanism, or perhaps a thief or vandal might release some. Eels can travel long distances over land in search of water. They are long-lived, voracious carnivores that could survive in streams, taro lo'i, prawn ponds, and other freshwater bodies for up to 20 years, consuming fish, shrimp, prawns, and other creatures, including both rare native ones and economically important ones.

In the interests of native Hawaiian wildlife and the protection of aquatic habitats, the Hawaii Audubon Society urges that this bill be filed. Let us not take even the first step on the path that could have such environmentally disruptive consequences.

At the start of the hearing on 2 February, Rep. Matsuura indicated his intention to introduce a further bill which would permit the introduction (under similar conditions) of both *Anguilla rostrata* and *Anguilla anguilla*, since elvers of the two species are essentially indistinguishable, and it would be impossible to tell which species was actually being imported at the elver stage. This revised bill has since been introduced as House Bill 616, "Relating to the Importation of Animals", and HAS will offer the same testimony it did on H.B. 155 should H.B. 616 come up for a hearing.

During the 2 February hearing a controversy arose. Rep. Matsuura maintained that the two anguillids had teeth like "sandpaper", while a number of scientists suggested that they actually had long, sharp teeth. It was agreed that Dr. Robert Kinzie, University of Hawaii zoologist, would obtain a skull of one or both species of *Anguilla*. Rep. Matsuura promised that, if the skull showed that anguillids had long, sharp teeth, he would "kill my own bill". Hawaii Audubon Society awaits this promised action by Rep. Matsuura.

Dr. Charles Lamoureux

REPRINTS OF ARTICLES

Reprints of articles in the *'Elepaio* are available to authors and others at the following rate if ordered before publication date: for 100 copies, $10 per page of the article. For each additional 100 copies, add $3 per page.

LAPAHOEHOE LAWSUIT SETTLED

After over a year of discussions, the Board of Land and Natural Resources (BLNR) signed an agreement with Hawaii Audubon Society (HAS) and the Hawaiian Botanical Society (Bot. Soc.), ending our lawsuit to stop a proposed logging road through native forest above Lapahoehoe on the Big Island. In April 1981, Blair Ltd., a Big Island logging company, requested permission to build three logging roads at different elevations in the Lapahoehoe Forest Reserve.

HAS and Bot. Soc. objected only to the "lower access road". They persuasively argued that the proposed lower access road might adversely impact rare and endangered plant species in the area as well as the adjacent Lapahoehoe Natural Area Reserve. Attorney Bob Miller worked with HAS and Bot. Soc. directors Wayne Gagné, Paul Kores, and Charles Lamoureux to prepare and present our legal arguments. Finally, on 15 December 1982, the BLNR and the logging company agreed to delete the lower access road from the proposal, and "A Stipulation of Settlement and for Dismissal with Prejudice" was signed.

Our deepest mahalo to everyone who helped us win this victory. Special thanks to Bob Miller for volunteering his professional services to help protect Hawaii's native species.

Audrey Newman

WIN AN AMAZON TRIP

The Western Region of the National Audubon Society is sponsoring a free drawing with over $8000 in prizes to be held on 18 April 1983.

The incentives for member participation are superb, including: an Audubon International Explorations trip for two to the Amazon; a WINDSURFER sailboard; float trips down the Snake, Green, and Klamath Rivers; backpacking gear; Audubon Baby Elephant Portfolios; and many other prizes. Everything but a portion of the grand prize was donated by thoughtful companies, so practically all of the income generated will directly support Audubon programs in the region.

The purpose of the drawing is to encourage donations to continue and augment the valuable environmental activities of the Western Region, which have included the fight to save Mono Lake, the California Condor Recovery Program, protection for the Bald Eagles of the

Klamath Basin, and nongame wildlife research and management.

No donation is required to enter, but NAS suggests a donation of $2 per entry ticket. To request a free drawing ticket and information, write to: Western Region Fundraising Office, National Audubon Society, 1414 Fair Oaks Ave., Suite 6, South Pasadena, CA. 91030.

ANNUAL TREASURER'S REPORT 1982

Prepared by Norris Henthorne

Approved by the Auditing Committee: George Campbell, Peter Donaldson, and Audrey Newman.

HAWAII AUDUBON SOCIETY
Statement of Income for the year ending 31 December 1982.

1982 Revenue:

Dues	$ 7244.93
Donations	1114.57
Hawaii's Birds (Profit on copies sold)	9685.99
Guide to Hawaiian Birding	86.60
Field Checklist	30.92
Preliminary List	39.56
Endangered Waterbirds	15.02
Posters	10.58
'Elepaio, back issues	941.50
Tinker's List	1.35
T-shirts	57.77
Postcards	356.00
R.S. Taylor Scholarship	450.00
Interest	3882.49
Miscellaneous	213.78
TOTAL REVENUE	$24,131.06

1982 Operating Expenses:

'Elepaio	$ 8801.83
Office	916.48
Telephone	164.72
Taxes	390.01
Assistance Grants	600.00
Research Grants	0
Professional Fees	1535.00
Travel	761.40
Scholarships	0
Miscellaneous	454.15
TOTAL OPERATING EXPENSES	$13,623.59

1982 Net Income	$10,507.47

Assets

Checking Account	$ 2787.76
Savings Accounts	29805.67
Temporary Investments*	25000.00
Inventory - Hawaii's Birds	20485.97
- Pacific Birds	13134.50
	$91,213.90

Equity

Retained Earnings From 1981	$ 80706.43
1982 Net Income	10507.47
	$91,213.90

Footnote:
* This includes the $5000 dollar George C. Munro bequest.

VOLUNTEERS NEEDED

--One or more volunteers are needed to assist with planning and coordinating the Hawaii Audubon Society display booth at the 1983 annual Waimea Arboretum Foundation Plant Sale and Exhibition on July 9 and 10. Please call Bob Pyle (262-4046) for more information.
--Another volunteer is needed to help with the monthly mailing of the *'Elepaio*. This would mean a commitment of a few hours a month. Call George Campbell at 941-1356 for more details.
--Volunteers are always welcome at monthly "paste-up" for the *'Elepaio* newsletter, or if you would like to assist with proofreading, typing, or writing. Call Marie at 533-7530.

HELP WITH 'ELEPAIO

The April *'Elepaio* newsletter will be pasted-up on 16 March (Wed.) beginning at 6 p.m. Call Marie at 533-7530 and/or show up at 1415 Victoria St. #1515, Honolulu, on that evening. (Dial the entry phone for "Simasko"). No experience necessary!

CHANGE OF ADDRESS

Are you planning to move? If so, please let us know ahead of time, or as soon as you know your new address. Changes of address should be sent to: Susan Schenck, Hawaii Audubon Society, P.O. Box 22832, Honolulu, Hawaii 96822.

Reprinting of material from the *'Elepaio* is permitted if credited to "The *'Elepaio*, the journal of the Hawaii Audubon Society".

MARCH PROGRAM: WHY DO BIRDS SING?

The guest speaker for the Monday 21 March general meeting will be Phillip Bruner from Brigham Young University - Hawaii Campus. He will present a film entitled *Why Do Birds Sing?* which is about bird communication.

The meeting will be held at McCully-Moiliili Library on S. King St. at 7:30 p.m. Be sure to bring interested friends along to attend this intriguing presentation!

MARCH FIELD TRIP: WAAHILA RIDGE

The Sunday, 13 March field trip will be to Waahila Ridge on Oahu. The trip will feature exotic as well as some native forest birds.

Meet at 7:00 a.m. on Punchbowl St. next to the Hawaii State Library. Bring binoculars, water, a light jacket or sweater, and interested friends! Call the trip leader, Marie Morin (533-7530) for more information.

IF NOT A MEMBER, PLEASE JOIN US

JOINT MEMBERSHIP
(National and Hawaii Audubon Societies)

Individual	$ 25.00
Family	32.00
Sustaining	50.00
Supporting	100.00
Contributing	250.00
Donor	500.00
Life (single payment)	1500.00
Dual Life (single payment)	2000.00

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

LOCAL MEMBERSHIP
(Hawaii Audubon Society Only)

Regular	$ 6.00
Junior (18 and under)	3.00
Subscriber (non-Hawaii residents)	6.00
Life	150.00

(payable in three equal annual installments)

New members who send in dues between January and September will receive, *if they request them*, all back issues of the *'Elepaio* for that year. After September, the dues are counted for the following year.

HAWAII AUDUBON SOCIETY

BOARD OF DIRECTORS

President	Dr. Robert L. Pyle	262-4046
1st V.P.	Dr. Wayne Gagné	941-5659
2nd V.P.	Dr. Charles Lamoureux	948-8028
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Cor. Secy.	Thea Johanos	946-2181
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	George Campbell	941-1356
	Erma Ikawa-Nicola	967-7367
	Marie Morin	533-7530
	Marion Saunders	988-2635

COMMITTEES

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'Elepaio	Peter Galloway	847-3511
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	Richard Smith	262-4784
Scholarships	Dr. Sheila Conant	948-8241
Special Pub.	Dr. Rob. Shallenberger	261-3741

'ELEPAIO

Editors.....Marie Morin, Peter Galloway
(Send articles to Marie Morin, 1415 Victoria St. #1515, Honolulu, Hawaii 96822)

WAIKIKI AQUARIUM STUDY TOURS 1983

The Waikiki Aquarium announces its Study Tour schedule for 1983. Beginning in February, the Aquarium will be providing unique and enjoyable opportunities to study the intriguing land and marine life of the South Pacific. Biologist Ann Fielding will escort the new trips. Visit New Zealand in March, dive amid the diversity of marine life in the Philippines in May, photograph the waters of Palau and Truk in June, and in July, sail and dive in the Kingdom of Tonga. For specific dates and details, call the Waikiki Aquarium at 923-4725.

CALENDAR OF EVENTS

Mar. 13 (Sun.) Field trip to Waahila Ridge, Oahu. See page 77 for details. Leader M. Morin (533-7530)

Mar. 14 (Mon.) Board meeting at the home of Sheila Conant, 3663 Alani Dr., Honolulu, at 7 p.m. (948-8241).

Mar. 21 (Mon.) General meeting, featuring *Why Do Birds Sing?* with Phil Bruner. McCully-Moiliili Library on 2211 S. King St., Honolulu, at 7:30 p.m.

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