THE ELEPAIO

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For the Better Protection of Wildlife in Hawaii

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CONSERVATION COUNCIL FOR HAWAII

At the annual meeting held on Thursday, February 9, 1961, the following resolution was passed:

WHEREAS, the Paiko Lagoon located in Maunalua Bay on State property is one of the few feeding sites available to the Hawaiian Stilt and other shore and migratory birds on the island of Oahu, and

WHEREAS, this lagoon offers excellent nursery habitat for certain estuarine fish, custacea and other sea life, and

WHEREAS, the Paiko Lagoon today preserves much of the charm and beauty of old Hawaii which are fast disappearing, and

WHEREAS, by proper planning it appears possible to assure and make compatible the future preservation of the lagoon with the vast housing, marina and parks development contemplated for the Maunalua Bay area, now

THEREFORE, BE IT RESOLVED, that the Conservation Council for Hawaii at its Eleventh Annual Meeting does strongly recommend to the Governor, members of the State Legislature, Board of Harbor Commissioners, State Department of Planning and Research, City Planning Department, City Department of Parks and Recreation, and Board of Agriculture and Conservation that:

- 1) Serious consideration be given the continued preservation of the Paiko Lagoon and that concerted efforts be applied to assure minimum disturbance of the Paiko Lagoon in any overall planning contemplated for the Maunalua Bay area;
- 2) The creation of a nature sanctuary be recommended for the Paiko Lagoon for the enjoyment of all the people of Hawaii;
- 3) Engineering studies be made to determine the feasibility of eliminating the odors emanating periodically from the Paiko Lagoon. Findings from such studies should embody features which would occasion the least amount of ecological damage, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to the Governor, with the request that he turn over by Executive Order the decision as to Paiko Lagoon to the Department of Agriculture and Conservation, President of the Senate, Speaker of the House, Board of Harbor Commissioners, State Department of Planning and Research, City Planning Department, City Department of Parks and Recreation, and Board of Agriculture and Conservation.

ROGER PETERSON'S BIRD'S-EYE VIEW (Reprinted from AUDUBON MAGAZINE, November-December, 1960)

REDISCOVERY ON KAUAI

When I wrote my last letter to Ludlow Griscom in the spring of 1959 I suspected that he would not see another migration. He must have known it too. He had dedicated much of his life to the preservation of birds, not simply for his own pleasure but, as he once expressed it, "so that there would be condors and whooping cranes for the next generation, and the next." Conservationists have a deep desire for continuity.

With this in mind, I ended on a hopeful note. There was some indication, I wrote, that two or three of the endemic birds of the Hawaiian Islands appeared to be making a slight comeback — in fact, the crested honeycreeper and the parrot-bill (PSEUDO-NESTOR) had recently been rediscovered on Maui after a lapse of many years. Could it be that some of the Hawaiian species, which were brought to the edge of extinction by contracting diseases carried by alien birds, had finally effected a kind of immunization? Perhaps a few disease resistant birds had survived and the species were now slowly expanding. A hopeful thought, but little did I anticipate the bombshell of this past summer of 1960. Dr. Frank Richardson of Seattle established the fact that Kauai, the oldest of the main islands, had not fully lost a single species! This included four birds that had not been authenticated by specimens since the time of Perkins, 60 years ago. How I wish Ludlow could have known about this!

And how narrowly I missed being in on the discoveries myself! On our return from the bird protection meetings in Tokyo, Eugene Eisenmann and I stopped off at the Hawaiian Islands for a three weeks' survey. Several days on the large island of Hawaii netted us three rarities. In the great tree-fern forest William Dunmire, the park naturalist, showed us two Ous (the first Ous recorded since 1953), interesting greenish birds with parrot-like bills. We saw one Akepa, a little orange honeycreeper. The climax came when we recorded between 25 and 30 finch-like Palilas on the slopes of Mauna Kea. No one in recent times had seen anything like this, and it was Dunmire's opinion that there must be many hundreds of Palilas in the open mamane groves on the mountain at this time. Of course, we also saw the commoner species, the abundant Apapane (scarlet with black wings), the greenish Amakihi, and the less common Iiwi, bright vermillion with a pink sickle bill.

Perhaps in all the world there is no more extraordinary example of adaptive radiation than the Hawaiian honeycreepers, the one endemic family of birds that has developed in these mid-Pacific islands. Had Darwin visited the Hawaiian group rather than the Galapagos, he would have found a more extreme case of divergent evolution than that exhibited by his famed finches of the genus GEOSPIZA. So far had some of the Drepanididae diverged in their various bill structures that Darwin might not have recognized that all were derived from one basic stock. He might even have been delayed in formulating his theory of evolution.

At any rate, eons ago (no ornithologist could hazard a precise guess) a flock of birds -- or even a pair of birds -- probably of American origin found its way across more than 2,000 miles of open sea to these volcanic islands. Over the millenia, thousands of other small waifs had probably arrived similarly but had not taken root. Ornithologists dispute whether the ancestors of the Hawaiian honeycreepers were finches, tanagers, coerebids, or some other related group. I like to think that they were probably rather like siskins or crossbills -- wandering finches with a tendency to travel in cohesive flocks and which sometimes strike out over water in their irruptive journeys.

The original invasion brought birds of extraordinary adaptability. Finding many environments untenanted -- devoid of competing land-birds -- they evolved rapidly in

various directions. Some developed finch-like bills for cracking seeds. Indeed, one now extinct, had a bill as stout as that of an evening grosbeak. Others such as the creeper and the Anianiau possessed slender warbler-like bills. In still others the bill became lengthened and decurved for probing the blossoms of the ohia and other flowering trees. The curlew-like bill of the sparrow-sized Akialoa is nearly half the length of the rest of the bird. Two species, the Ou and PSEUDONESTOR developed parrot-like bills while the Akepa, with the lower mandible twisted slightly to the side, suggests a crossbill-like adaptation. Perhaps one of the most remarkable bird-bills in the world is that of the Akiapolaau in which the upper mandible is deeply curved while the lower is shorter and quite straight like that of a woodpecker.

Of the 22 species of Hawaiian honeycreepers described by the early collectors, 8 seem to have disappeared. No area their size in the world except the Mascarene Islands in the Indian Ocean can compare with the Hawaiian Islands in the number of endemic birds that have suffered extinction. Many reasons have been given for this wholesale disappearance which happened with surprising speed -- mainly around the turn of the century. Some writers have heaped the blame on the Hawaiian kings who used countless thousands of Mamos, Oos, Iiwis, and other birds for their gaudy feather cloaks. At the Bishop Museum in Honolulu, I was shown a cloak made of the yellow shoulder feathers of 80,000 Oos. However, most species took their sudden drop long after bird-catching for feather cloaks was discontinued. Some biologists insist that the mongoose was the great destroyer but if this were so, why did this weasel-like predator allow the skylark, the California quail, and other introduced ground-nesting birds to succeed and multiply while the tree-nesting honeycreepers disappeared? The mongoose hunts on the ground; it does not climb trees. The destruction of the original environment undoubtedly was a more potent factor. Cane and pineapple fields now sprawl over hundreds of square miles once clothed by native forest. However, on some of the larger islands great patches of suitable habitat still exist which are now quite devoid of much of their original avifauna. Competition with aggressive exotics such as the white-eye and the LEIOTHRIX, both of which are now exploding on some of the main islands, must also be considered.

The most valid explanation seems to be that introduced birds (brought from four continents) carried with them diseases such as bird malaria and bird sleeping sickness, to which the island species had no immunity. The plight of the birds suggests that of the native Hawaiian people, numbering about 400,000 at the time of Cook's visit, whose population in a century, dropped to 30,000 due to the ravages of such "harmless" diseases as measles which were brought to the islands by Europeans, Americans, and Asians.

After our few days on the big island of Hawaii, Eugene Eisenmann and I sojourned at Midway with its albatrosses and tropicbirds before returning to the main islands. Unfortunately, I had to leave Eugene in the naval hospital on Sand Island for an enforced stay of three weeks.

Dr. Frank Richardson of the University Museum in Seattle, knowing of my Hawaiian plans, had invited me to accompany him for several days on the island of Kauai. "Perhaps we might even see the Kauai Oo," he wrote. There had been rumors and probable sightings of this black honeyeater with the yellow thighs, but whether it actually was had been one of the outstanding mysteries of the bird world. Kauai, the oldest of the main group, is certainly the most rugged and this contributes to the preservation of much of its primeval forest. In fact, it is extremely difficult to get into the back country on the slopes of Mt. Waialeale which is credited with the highest rainfall in the world — between 400 and 600 inches in a single year.

Here in the high koa forests, the jungle cock, the wild ancestor of the domestic chicken, still roams as it has done since the time when the early Polynesians ferried them across the ocean to this new land. We saw many of the commoner honeycreepers during those several days including the yellowish, warbler-like Anianiau. I spotted one Akepa, quite unlike the orange form on Hawaii. We penetrated to the edge of the great Alakai Swamp but nary an Oo did we see. On that day we were within two miles

of the place where Dr. Richardson was to rediscover this "lost" species.

Two weeks after my return to Connecticut I received a letter from Dr. Richardson in which he announced that he had found both the Oo and the Akialoa — the bird with the curlew-like bill. Neither had been fully substantiated for 60 years, although there had been reports of sightings, probably correct, by Walter Donagho about 20 years ago. Three Ous (not to be confused with the Oo) were seen and also the Hawaiian thrush, both of dubious status on this island. I complimented him on his success and wrote that if by chance he could ferret out the Nukupuu and the small Kauai thrush, PHAEORNIS PALMERI, he would have found every species known to have lived on this fabulous island. Before the summer was out he did observe the Nukupuu, and found quite a few of the small thrushes. This species differs from the larger Hawaiian thrush by having pink instead of dark legs.

The large island of Hawaii has lost 10 species. Kauai, less than one-seventh as large, has not fully lost a single species. This contradicts the maxim that large land areas hold their avifauna better than smaller areas. We must look then for other factors. The mongoose never got to Kauai. This may have some significance, but I doubt it. The introduced LEIOTHRIX, the wonderful little bird with the red bill did not succeed on Kauai although the Japanese white-eye is far too numerous. These exotics probably compete to the disadvantage of native birds.

The birds on Kauai may have survived because there remains a larger block of wilderness than is to be found anywhere else in the islands. Because of inaccessibility and high rainfall few have penetrated the gloomy fastnesses where these extremely rare birds survive.

When I passed the news on to Edgar Kincaid in Austin, Texas, he commented that when a bird, thought to be extinct, proves not to be extinct, it should be a cause for great rejoicing. He added, in a burst of Kincaidian enthusiasm that the news from Kauai is "by all odds the most exciting news in the 20th century, beside which earthsatellites, moon and sun rockets, etc., are crashing bores."

OBSERVATIONS ON BIRDS ON THE ISLAND OF HAWAII By Eugene Eisenmann

Between June 17-19, 1960, Roger T. Peterson and I enjoyed an interesting visit to the Island of Hawaii. We were fortunate throughout our stay to have the companionable and expert guidance of William Dunmire, Assistant Naturalist of Hawaii National Park. One day Ronald Walker of the Hawaii Department of Fish andGame joined our party, driving us over the dry slopes of Mauna Kea and enabling us to see species not elsewhere noted. Both Mrs. Dunmire and Mrs. Walker were more than generously hospitable. Peterson was then finishing the Hawaiian section of the new edition of his "Field Guide to Western Birds." My own efforts, aside from enjoying the unusual scenery, were devoted to taking notes on bird behavior and voices. As several of the native birds encountered are now rare and may be becoming rarer and many of the introduced species are in a dynamic phase, some of our observations, spotty as they are, may have value.

Itinerary. We arrived at Hilo by airplane on June 17 and drove up to Volcano House, on the rim of Kilauea Crater in Hawaii National Park. We saw no molten lava, but the recent activity was evident in the steam still rising and in the fresh lava flow that had destroyed part of the road around the crater. Moreover, during our first night, in the pre-dawn hours of June 18, we felt two earthquakes. Along the road were beautiful tree ferns, and almost everywhere the remarkable Ohia Lehua tree (Metrasideros collina), which grows even on the raw lava, showed scarlet flowers, providing the main food of two still common red drepanids, the Apapane and Iiwi. During the afternoon of June 17 Mr. Dunmire introduced us to parts of the humid section of the

park near Kilauea Crater, and then took us to a cleared area just below the park off the Hilo road to show us the rare 'O'u. On June 18 we drove on the dry slope of Mauna Loa to where the Nene or Hawaiian Goose was being bred in captivity for restocking purposes under Mr. Walker's supervision. Mr. Walker then took us down the Kona road to the Dillingham Ranch. In the woods of this ranch, through the courtesy of Mr. Carlsmith, we were able to find the almost extirpated Hawaiian Crow. That afternoon Mr. Walker drove us back, by jeep station-wagon, over the almost trackless rocky slopes of Mauna Kea, through open woods of scattered Mamane (Sophora chrysophylla) to observe the grosbeak-like Palila. On our last morning, June 18, Mr. Dunmire took us to a private ranch near the park headquarters, which still contained many large Koa trees (Acacia koa). Unfortunately, cattle enjoy the young koa growth, so, we were told, this endemic tree is not reproducing itself. Doubtless because of clearing, much of this area had a park-like aspect, but certain hillsides held thicker growth, koa mixed with ohia, and lower, denser thickets interspersed. In this area we saw a greater variety of endemics than anywhere else. Unfortunately there apparently is no extensive koa grove within Hawaii National Park.

We missed the White-tailed Tropicbird (Phaethon lepturus), which for years has been reported nesting in the crater of Kilauea. The effect of the recent eruption may have made the nesting sites unsuitable.

ANNOTATED LIST

(?) Dark-rumped Petrel. Pterodroma phaeopygia. During the night of June 18 we repeatedly heard at Volcano House a mewing call from some nocturnal bird flying over, which probably was this species, for specimens have been taken in the area.

Nene or Hawaiian Goose. Branta sandvicensis. We only saw birds in pens, including three young reared in captivity. In the young birds the presumably ancestral Canada Goose (B. canadensis) pattern was very apparent.

Hawaiian Hawk. <u>Buteo solitarius</u>. On June 18 we saw two individuals, both on dry leeward slopes in rough lava country, with scanty bush vegetation. One was on the slope of Mauna Kea, the other lower down on the Dillingham Ranch. In color the birds resembled the European Buzzard (<u>Buteo buteo</u>), but in flight the slight dihedral of their wings somewhat suggested a Swainson's Hawk (<u>B</u>. <u>swainsoni</u>).

California Quail. Lophortyx californica. Common along the grassy edge of the Kona road and in the open parts of the Dillingham Ranch.

Erckel's Francolin. Francolinus erckelii. These African birds had been released recently in the rough Mauna Loa area where the Nene was being reared. Mr. Walker said they had bred since release. A number of birds were seen there and one as we drove through the Mamane woodland area, where they had also been released.

Japanese or Green Pheasant. Phasianus versicolor. We heard this bird repeatedly in the more humid wooded parts of the Hawaii National Park. We were told that it hybridized with P. colchicus torquatus, at least in ecologically intermediate localities. Its voice seemed to us higher-pitched than that of the next form.

Ring-necked or Common Pheasant. Phasianus colchicus. Ring-necked birds, presumably P.c. torquatus, were repeatedly noted in open grassland and in the open woods of the Dillingham Ranch.

Peafowl. Pavo cristatus. In wooded parts of the Dillingham Ranch, near the jeep track, we saw at least 20. Mr. Carlsmith estimated there might be a thousand birds on the Dillingham property. The peacocks were wary. When our jeep approached they would pause, and if anyone got out, or if the car stopped too long, they would run off (or rarely fly) a short distance out of sight. Most of the birds we saw were green; a few were pure white.

Chinese Spotted Dove. Streptopelia chinensis. Seen on Hawaii island only in the lowlands near Hilo. On Oahu I noted its call as a low-pitched cookuroooo and cookrooo, slower and less rhythmic than the call of the smaller Barred Dove.

Barred Dove. Geopelia striata. Noted only near Hilo; this terrestrial dove is not nearly so common as on Oahu, where its call was a rolling, highly rhythmic, soft, but carrying, coorroccuckoo and coorroccococckoo.

Skylark. Alauda arvensis. Amazingly abundant along roadsides and open grassy areas on the dry side of Mauna Kea and the Kona road. They were singing profusely. I have never seen them so numerous in their native European haunts.

Hawaiian Crow. Corvus tropicus. In the woods of the Dillingham Ranch, one of the few places where this endemic survives, we saw at least four and heard others. The first two were together; one was apparently hunting for food about the crotch of a tree, while the other was on the ground feeding on a dead Mynah, which was covered with ants. These brownish crows answered readily a crow-call obtained from the mainland by Mr. Carlsmith. Yet their voice was different, a crrraw, which Peterson characterized as a "cracked caw."

Hwa-mei. Garrulax canorus. Known locally as "Chinese Thrush," this introduced member of the Timeliidae was fairly common in thickets at the edge of the mixed Koa and Ohia woods. On June 19 they were singing a sweet many-phrased song, somewhat suggestive of a Mockingbird (Mimus), in that each phrase tended to be repeated two to three times (occasionally more) before the bird went on to a new phrase. Some phrases were composed of clear musical whistles, others were rather buzzy; often churring and chucking sounds were interspersed. A frequent phrase sounded like cheeooee. A call heard was wheereeo.

Red-billed Leiothrix or Pekin Nightingale. Leiothrix <u>lutea</u>. One of the commonest and most attractive introduced birds in the highlands, favoring lower trees. The birds sang a continuous, rich, throaty warble, somewhat suggestive of a Rose-breasted Grosbeak (<u>Pheucticus ludovicianus</u>) or occasionally of a Warbling Vireo (<u>Vireo gilvus</u>). They also uttered a nasal <u>bzzp</u> and <u>beezzzp</u>.

Hawaii Thrush. Phaeornis obscura. This endemic was fairly common in lower trees, below the canopy in the koa woodland and to some extent in nearby thickets. When startled they flew into the trees. What may have been their song, we noted as an emphatic, throaty, semi-musical chook-weechew (or chee-weechew), sometimes more elaborately, chee-chook, cheeweea, chooweeo cha. In addition there were several calls: a nasal, snarling, long-drawn chee-ow and chee-ao, a churrp and wheerp. Most surprising was a call suggestive of a Myiarchus (Crested Flycatcher), varying from whrreeep to prreep, and sometimes prrp. Although looking remarkably like a neotropical solitaire (Myadestes), this thrush does not sound like one.

Elepaio. Chasiempis sandwichensis. We saw Elepaios in woodland in both dry and humid country, but they were most numerous in the mixed koa and ohia woods, especially where there was bushy growth below the trees. With its cocked-up tail it suggests a wren, but at times the elevated tail was pressed so close against the back that it seemed tailless. It shivered its wings as well as cocked its tail. On June 19 one bird was feeding a juvenile. In addition to the whistled "elepaio" call of four notes (sometimes shortened to three), I noted a variety of sharp non-musical, single calls: week; weet; whit; also whit-wich; witchoo; an emphatic keeawick; and a squeaky weechick or weekick.

Common or Indian Mynah. Acridotheres tristis. Present everywhere except in heavy woodland. Numerous along roadsides and in fairly open places. Frequently perches on wires but feeds chiefly on the ground. Its behavior on the ground suggests the European Starling (Sturnus vulgaris) in its waddling walk, but also the American Robin (Turdus migratorius) in its manner of standing erect with neck extended. The

only notes I heard were a harsh screeched kreeyoo, often repeated, sometimes elaborated into teeyoo, kreeyoo or tee, kreeyoo; and a cheek.

Japanese White-eye or Mejiro. <u>Zosterops japonica</u>. Common throughout the wooded areas, often in small groups, gleaning on the outer leafy twigs and blossoms. This species probably competes in feeding niche with the native Amakihi. The only notes identified were a high-pitched tee-ee, and a rapid chippering.

Amakihi. Loxops virens. The Amakihi was common in the mamane area on Mauna Kea, and we saw them also in woodland in Hawaii National Park and in the clearing where we found the 'O'u. I only observed one in the koa woods. Its greenish color makes the Amakihi easy to overlook, as it gleans for insects in the leafy twigs. The only vocalizations I could definitely attribute to this active little bird was a very rapid chirruping and a week-week-week. The Japanese White-eye, with a similar feeding niche, seemed much more common within the park. Mr. Dunmire surmised that this competition may have resulted in a fall in numbers of Amakihi. We did not find this species as common in the park as indicated by Baldwin's counts in mid-June of the late 1940's (Univ. Cal. Publ. Zool., 52:351-353, 1953).

Akepa. Loxops coccinea. In the thicker part of the mixed koa and ohia woodland, we spread out on June 19 over a wooded hillside in the hope of finding this species, which Dunmire had previously observed there. He did discover a pair, and Peterson obtained a view of the orange male as it flew off through the trees.

Apapane. Himatione sanguinea. This scarlet drepanid was common in the humid areas of Hawaii National Park and vicinity, and was seen elsewhere in the highlands where blooming ohia trees were present in numbers. It was particularly numerous in the mixed koa and ohia woods just outside the park. There, during the morning of June 19, we saw at least a hundred individuals. Many of these were flying overhead in scattered small groups of up to ten birds. Compared with the Iiwis, even more numerous in the koa parkland, they seemed more restless, spending less time among the blossoms of an individual tree. When in a tree Apapanes usually (though not always) carried their tails at an angle of 20-40° above the horizontal. Their calls were most varied, but none was elaborately musical. I noted the following: weep-weep, hu, the last note lower and more plaintive, sometimes simply weep-weep; a clear whistled pee, pee, poo, pee (sometimes pee, poo, pee); a sweet whistled wheea, wheea, wheep, wheep (sometimes varied to heeo, heeo); a plaintive eeeeee, pew-pew; a chip, whirrr; a very rapid chippering pitpitpitpitpit; and an ee-wee.

I saw one Apapane fly into the air to catch a small insect, but usually they fed at the ohia flowers or gleaned about the buds. In Hawaii the "flycatching" niche occupied in mainland America by the Tyrannidae and in the Old World by the Musicapidae seems unfilled.

National Park, but we found this red drepanid common only in the ranch outside, where koa trees were interspersed with ohia, particularly in the open park-like area with scattered trees. Yet the bird was seen feeding almost exclusively on ohia, generally at the flowers, sometimes apparently working at the buds. On June 19 small groups of up to ten (usually smaller) were constantly observed flying fairly high over the trees. The aggregate numbers exceeded a hundred. When feeding they seemed less restive than the Apapane. Most birds were in bright red plumage, but the few immatures, like the adults, had salmon-red bills. The only note I definitely identified as uttered by this species was sharp nasal squeak, sliding upwards with a questioning tone suggestive of a common call of the American Goldfinch (Spinus tristis). This call, uttered frequently, I wrote as eh-eek (or ee-eek), sometimes shortened to eek. More musical calls have been reported in the literature, but I saw this species in numbers only during one morning. Like the Apapane, but much less often, the Tiwi frequently carried its tail above the horizontal. Its flight high over the trees was strong but undulating,

with a hesitation after several wing-beats that caused the body to drop.

'O'u. Psittirostra psittacea. To find this rare species Dunmire took us to a recently cleared area in a very humid section off the road to Hilo just below the park. To reach the clearing we passed through a dense thicket of tall tree-ferns. There were many Amakini, Apapane, and Leiothrix in and about the clearing, and as we watched a pair of yellow-headed parrot-billed 'O'u flew into a tree within the clearing. We heard no vocalization.

Palila. Psittirostra bailleui. On June 18 we found this grosbeak-like drepanid in the rocky high slopes of Mauna Kea, where there were scattered groves of mamane. Small groups of four to five birds were noted feeding on mamane pods or flying over these trees. After feeding the birds would rise in a group and fly over the tree tops, disappearing in this rough mountainous country. They seemed less active than the other drepanids we encountered, for occasionally a bird was noted perching quietly on a bare twig. We heard no calls. Our total estimate of birds seen was between 20-30.

Ricebird. Munia nisoria. A little group of this Malaysian species was noted on the roadside in the lowlands outside of Hilo.

House Sparrow. Passer domesticus. In and near Hilo this European exotic was common, but we saw none in the mountains.

North American or Common Cardinal. Richmondena cardinalis. We noted a few scattered birds on the Kona road.

House Finch. <u>Carpodacus mexicanus</u>. This North American species was common everywhere, provided there were open places. It seemed especially abundant on the dryer slopes, where there were shrubs or trees, and was numerous in the koa parkland. Most males were of a yellow or orange color, but a few were red.

American Museum of Natural History New York 24, New York

Field Trip, Aiea Trail, January 8, 1961.

Eight members and four guests made the trip to Aiea trail on the beautiful cool morning of January 8th. Cars were parked at the heiau, and the trail was ascended slowly, with frequent stops to watch the birds.

Nesting is evidently in progress, judging from the volume of song, including the song of the Amakihi, which is infrequently heard except during the breeding season. There appeared to be a number of immature Amakihi.

Amakihi seemed to be the most numerous birds on the trail; certainly they were the most conspicuous. Excellent views of them were obtained in a large koa tree close to the trail in which sap appears to be seeping from several excrescences described by one member of the party as "bettle-like." This is the same tree which ran sap for some months two years ago, and which was frequented by the Amakihi at that time. We thought then that the sap was flowing from a broken branch, but in the light of this new development wonder if it may be caused by disease, or possibly insect damage. The branches in question are very high, posing a problem in examination. At least the tree offers a perfect place for watching Amakihi. In other koa trees the Amakihi were hanging upside down on the seed pods, evidently searching for insects.

The lehua had a little blossom, and Apapane were seen in these trees. Their song was heard all along the trail. The flowering season of the eucalyptus and melaleuca

appears to be over.

Elepaio were seen and heard all along the trail, although not in great numbers. Leiothrix were heard only briefly close to the top, and were not seen at all.

Leaving the trail, we drove to Salt Lake. Ducks, coots and three gulls were observed through the 'scope. We were too far away to make identification of the latter, but assumed they were probably the same Bonaparte's gulls reported on the Christmas count.

A mockingbird, perched on the telephone wires close to the cars, entertained us with song, the most amusing part of the repertoire being his imitation of the Tattler's cry.

Finally, a short stop was made at Sand Island, for a look through the 'scope at a group of Jaegers, estimated as being between twelve and twenty in number, off shore. Much discussion ensued as to whether we are being too careless in assuming these to be Pomarine. All evidence points that way — are we being too unscientific?

Species Noted

Gulls (Bonaparte's?) Barred Dove Leiothrix Spotted Dove Amakihi Coot North American Cardinal Pintail Apapane Linnet Shoveler Elepaio White-eye Mockingbird Unidentified ducks Pomarine Jaeger

Grenville Hatch

MARCH ACTIVITIES:

FIELD TRIP: AL LABRECQUE WILL LEAD THE TRIP.

March 12 - To Poamoho. Meet at the Library of Hawaii at 7:00 a.m.

MEETING: Board - March 13, at 3653 Tantalus Drive at 7:30 p.m. Members are always welcome.

March 20, at the Honolulu Aquarium Auditorium at 7:30 p.m.
Mr. Charles Lamoureux will speak on, "Plants
Associated with the Hawaiian Birds."

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