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REPORT ON PLANTS ENDEMIC TO HAWAII NOW GROWING AT KE KUA'AINA By Hector G. Munro

Mr George C. Munro has asked me to prepare a report on the plants at Ke Kua'aina. This I am happy to do.

Argemona alba var. glauca: Puakala, Hawaiian Poppy. Two plants three feet high and both of them flowering. More plants should come up later from seed in the ground.

Portulaca cynosperma: Growing in quite a few places in the area. A low growing plant spectacular when flowering.

<u>Hibiscus brackenridgii</u>: Eleven plants of the tree form now growing. Two of them are three and four feet high. These plants are from seed of the original tree that attained a height of eight feet but died in 1960. Three plants of the low form are growing nicely, one of them being two feet high with a spread of four feet. Two of these plants bloomed in May.

Hibiscadelphus hualalaiensis: Haukuahiwi. Two plants growing four, and two and onehalf feet high. They should flower this year.

Gossypium tomentosa: Mao or Huluhulu, Hawaiian cotton. Two healthy looking trees growing two feet high.

Kokia sp.: Could be K. rockii or K. cookei. Both are rare plants. One is now growing four and one-half feet high. We hope it will flower this year as we are anxious to get its identification and to get seed.

Sapindus oahuensis: Hawaiian Lonomea, alulu or kaula. Four plants now growing. They look healthy, but growth is slow.

Erythrina sandwicensis: Wiliwili. This tree is now well established at Ke Kua'aina, there being approximately 80 healthy trees growing from five to fifteen feet high. One tree had a few blossoms on it in July, 1962, the first one to flower. We hope many more will flower this year. This tree is also growing well throughout the whole area of Na Laau Hawaii from seed planted.

Munroidendron racemosum: Pokalakala. One tree growing in grove five about one foot high. Two more that were growing nicely last year have died. We hope that we will be successful in getting this remarkable tree to grow in Ke Kua'aina.

<u>Nesoluma polynesium</u>: Keahi. Only two plants still alive. Growth very slow. One inch last year - now two.

Gardenia brighamii: Hawaiian Mao. Twelve plants of this rare tree look healthy but growth is slow. Some are one foot high.

Lipochaeta lobata var. albesens: Species of Nehe naturally in the area. Several flowering bushes growing in many places and more will come up later from seed.

Bidens cuneata: Three healthy growing plants. Two of them are now flowering.

<u>Ipomoea tuboides</u>: A healthy vine of this native night blooming morning glory is growing in grove 9. It flowered in May. We are trying to get seed.

Breweria menziesii: This rare plant seems to be now well established in the area. Six healthy plants are growing one of which flowered in May.

Canavalia lanaiensis var. munroi: None growing at present. Plants we hoped would flower this year died during the drought. Formerly if we watered them in the dry season they died when the heavy rains came.

Myoporum sandwicense: Naio. Five plants are growing but growth is rather slow on a few of them.

Cuscuta sandwicensis: Hawaiian Kauna'oa. (Lanai Emblem). A few patches of this vine now growing in the area. Although a parasite it is not hard to control.

Boerhavia diffusa var. tetrandra: Alena. Growing in many places on the bank of the trail to Ke Kua'aina, being able to flourish in cracks of almost solid rock.

Achycranthes splendens: Only one plant growing.

Chenopodium oahuense: Alaweo or aweoweo. Now well established but not in competition with any other endemic plants.

Panicum cinerium: Hawaiian kakonakona. Healthy clusters growing throughout the area.

Doryopteris decora: Several large clusters of this fine fern now growing in the area.

Sicyos sp.: From seed scattered in the area sent by Mrs. Desha on Lanai. This vine is now well established and having at this time a plentiful supply of seed.

Plants indigenous, but not endemic growing naturally in the area.

Sida fallax: Ilima. Heavy growth of flowering plants being very colorful at this time.

Cassia gaudichaudii: Hawaiian name Heuhiuhi. Three healthy trees two growing in grove 8 and one in 9. All are flowering. These are from seed of the original tree that grew in grove 9 but died a few years ago.

Heteropogon contortus: Pili. A few small patches growing throughout the area.

Erogrostis variabilis: Native name Emoloa. This very showy grass covers most of the steep slope in grove 4. Should not retard growth of any Endemics that might grow there.

A more comprehensive report as to the history and origin of the Endemic Plants growing in Ke Kua'aina compiled by the able pen of George C. Munro may be found in the "Elepaio" in journal published by the Hawaiian Audubon Society dated April 15, 1962.

TRIP TO HALEAKALA NATIONAL PARK, MAUI Made by Dr. Philip Ashmole & W. M. Ord April 11-14, 1963

After leaving Kahului Airport in sunshine, it was rather disappointing to encounter rain at about 3000 feet on the drive up to Haleakala National Park. Once within the Park boundary the clouds lifted for a short time and Ring-necked Pheasants (<u>Phasianus</u> <u>colchicus</u>) could be seen on the roadside darting for cover as we approached.

We made a brief stop at the Park Headquarters for the latest weather information and also to inquire into the condition of certain trails that we would be using during our brief trip. The weather had apparently been very dismal during the past weeks with a great deal of rain; similar weather was forecast for the next few days. Undaunted by this news, we began the hike down into the crater by way of the Halemauu Trail at approximately 3:45 p.m. hoping to reach the Paliku Cabin before dark. As it happened, when we arrived at Paliku some 3 hours and 50 minutes later darkness had overtaken us.

The hike to Paliku was uneventful. A heavy mist in the crater obliterated any possible views that might have been seen. On the paddock at Holua Cabin there was a small flock of 8 Golden Plover (<u>Pluvialis dominica</u>) all of which were in full summer plumage. Several Skylarks (<u>Alauda arvensis arvensis</u>) were also seen and heard singing in the same area.

Chukars (Alectoris graeca) became a fairly common sight as we crossed the lava flow which sweeps down the Koolau Gap. Between the Silversword Loop Trail and Puu Nole, neither of us saw .or even heard a bird. However, in the region between Puu Nole and Oili Puu four Mockingbirds (<u>Mimus polyglottus</u>) were heard singing. Three of them were definitely different birds, since they could be heard singing at the same time from different locations. Skylarks, Pheasants and Chukars were not at all uncommon through this area. One Amakihi (<u>Loxops virens wilsoni</u>) was heard calling in a mamane tree and seen as it flew to another mamane tree. Evening Primroses (oenothera striata) were blooming in great abundance along this portion of the trail and gave the cool evening air a fragrant smell. Before reaching Paliku Cabin, it was possible to hear the faint call of Nene (<u>Branta sandvicensis</u>) settling down to roost in the Kaupo Gap lava flow.

Friday morning started very pleasantly; the weather was clear and sunny even though the temperature was in the low 40 degrees. There was a chorus of bird songs coming from the ohia and mamane trees around the cabin. Apapane (<u>Himatione sanguinea</u>), Iiwi (<u>Vestiaria coccinea</u>), and Amakihi were busily feeding on the few blossoms of the Ohia Lehua. While below in the Hawaiian Raspberry thickets Japanese White-eyes (<u>Zosterops palpibrosus</u>) and Red-billed Leiothrix (<u>Leiothrix lutea</u>) were excitedly searching for insects and grubs. The two exotics were much more numerous than the endemic birds.

Our first task that morning was to make a count of the Nene and also to take photographs of them in their natural habitat, while the sun lasted. After a fairly thorough search of the release area, 21 Nene were counted. (The Nene in Haleakala are the result of the 1962 shipment of young Nene from Slimbridge, England. Of the 35 birds released the majority had been accounted for shortly before our visit so we weren't unduly alarmed by only counting 21 birds.) The main flock still remains closely knit but it was evident that several other pairs had completely cut themselves off. These Nene are still extremely tame and photography under good weather conditions is a simple matter. While we observed the Nene feeding on the various grasses, ohelo berries and other plants, goats could be heard bleating continually from the high cliffs separating Haleakala Crater from Kipahulu Valley.

At 9:30 a.m. we began our ascent up the ridge to Kipahulu Valley. The beginning

portion of the Lauulu trail is relatively easy but once you leave the trail and attempt to scale the ridge it becomes increasingly more difficult. We were forced to back track on two occasions because of unscaleable waterfalls and to add to the chaos the weather turned bad with visibility down to twenty yards. Under such conditions, we eventually reached the ridge overlooking Kipahulu Valley, very tired and wet. Apart from hearing many Ring-necked Pheasants, Chukars and Skylarks, we saw a solitary Pueo (Asio flammeus) hunting over the grassy slopes near Kaluaiki.

After a brief rest, we descended into Kipahulu Valley in a rather trial and error method due to the heavy mist and rain. Erosion was evident in many places on the higher slopes, and lower down in the upper edges of the rain forest pigs had left large areas torn up. The undergrowth consisted mainly of tree ferns and Pukeawe, and with no trails progress was extremely slow. Another Pueo was seen periodically between mist-patches as it flew around the higher valley slopes. After a lot of aimless wandering around in the forest, we left our packs in a small clearing at 6500 feet and positioned ourselves in the near vicinity to do some bird watching. Bird watching under the circumstances was almost hopeless, field glasses either steamed up or rain drops got on the lenses. The weather had been fairly constant for about two and one half hours with steady light rain. Apapane, Iiwi and Maui Creepers (Loxops maculata newtoni) were extremely abundant and showed little alarm at human presence. Amakihi were not too plentiful in the area. Even though the weather was so adverse to us these endemics seemed to thrive on it. Noticeable by their lack of numbers were the Japanese White-eyes, very few of which were seen or heard: this may be attributed to the continual rain while we were there. The four Honeycreepers above were listed in order of their abundance though I would like to mention that the Maui Creeper could have easily tied for second place with Iiwi under better observing conditions.

After some five hours of bird watching in the rain, we decided to head back to Paliku instead of camping in Kipahulu Valley where weather conditions were turning progressively worse. During our visit to the Valley we had no reason to believe that any of the rarer endemic birds were in the small area that we covered since all birds seen were satisfactorily identified and all calls and songs heard were known. The return to Paliku was arduous and otherwise uneventful with no abatement in the weather.

It was still raining the following morning and the mist was pouring into the crater through the Kaupo Gap. Leaving the cabin at 8:00 a.m. and traveling considerably lighter than the day before, since we intended to return by nightfall, we kept to the Lauulu trail until we reached the ridge. The entire climb was made in the mist, which enabled us to get very close to many individual Ring-necked Pheasants before they flew off with a loud clatter of wings. The Pueo was again seen in the vicinity of Kaluaiki. (A pair of Pueo were recorded at this location in June 1962 by the writer.)

Once on the ridge, we were fortunate in having a break in the bad weather which enabled us to plan our strategy in descending to the rain forest on the north slope of Haleakala some 1500 feet below us. Using the cinder cone of Puu Alaea as a landmark, we began the descent keeping at least one half of a mile to the west of it. By using this direction we hoped to find the general area where Dr. Lawrence Richards had found the Crested Honeycreeper (Palmeria dolei) and the Maui Parrotbill (Pseudonestor xanthophrys) in December 1950.

The terrain from the ridge and down several hundred feet was thick tussock grass and ohelo berry bushes, waist high and awkward to hike through, particularly with raincoats on. After this the ohelo began to give way to small tree ferns and the nearer we came to the rain forest the larger the tree ferns became, intermingled with a few ohia trees. There were very few birds in this area, apart from Ring-necked Pheasants, only two Apapanes and one Pueo were recorded. At 6700 feet the rain forest begins abruptly--it is dense with very little undergrowth except for grasses, small ferns and various mosses. On reaching the outskirts of the forest, we were surprised to hear several loud clear whistles quite unlike anything either of us had ever heard before. Unable to see anything because of the mist, we patiently waited for the call

1

again but unfortunately did not hear it. However through process of elimination it would seem that in all probability it was the call of Palmeria. (The week after returning from Haleakala, I was able to discuss this point with Dr. Lawrence Richards, who, as far as I know, was the last person to have seen and heard Palmeria. He stated, based on my description of the call heard, that he was fairly certain that we had heard Palmeria.)

Apapane, Creeper, Iiwi and Amakihi were abundant in the order listed. The Creepers were extremely curious and showed no alarm at our presence, coming within ten feet of us at times and easily encouraged to remain close by when we made noises by sucking our lips together. The other drepanids were definitely not attracted by any imitation calls given. The Red-billed Leiothrix and Japanese White-eye were very much more plentiful on this side of Haleakala compared to the previous day in Kipahulu Valley, though the terrain, elevation and weather conditions were almost identical. Another interesting point which should be mentioned here is that when Dr. Richards was on this same slope in 1950, he didn't see or hear any introduced birds.

On several occasions we witnessed the flight song of the Creeper. The bird would rise quickly uttering its trilly song and abruptly return to the nearest tree. The flight pattern during this song was rapid half wing beats.

Our climb back up to the crater rim was made relatively easy by following pig trails up the ridges. The rain was still falling when we reached the summit of Puu Alaea, but stopped while we were there for a short time. On the eastern slope of Puu Alaea a small group of silverswords were growing: these were the only ones that we saw outside of the National Park.

Shortly before leaving Faliku on Sunday morning, we could see dozens of waterfalls through the mist, cascading down the cliffs behind the cabin; some falling as much as several hundred feet. A young liwi in green plumage with some buff in the body was observed looking for insects under the leaves of the Hawaiian Raspberry.

The hike out of the crater was in driving rain with visibility down to fifty yards for most of the time.

Even though it rained almost solidly the entire time we spent there, we considered the trip a success and have an incentive to go back again to find the bird which gives the loud clear whistle call, to determine whether it is a Crested Honeycreeper or some other species.

W. M. Ord

THE NEW NATIONAL RECREATIONS AREAS

As we all know, there has been considerable activity on the part of the Federal Government, especially "President Kennedy's Cabinet-level Recreation Advisory Council," in choosing and planning for more recreational areas for the growing population of the U.S.

The U.S. Department of the Interior News Release of April 10, 1963, sets forth "Established Criteria for New National Recreation Area System," an announcement of Council Chairman Stewart L. Udall, Policy Circular No. 1, USDI, defines criteria for the "new systems of Federal lands."

Briefly: there will be Federal investment in areas for recreation, as opposed to areas for preservation of natural or historic value. Lands will be picked "of above average natural endowments, but with less significance than unique scenic and historic elements of the National Parks..." Formerly proposed "National Seashores, Lakeshores, Riverways, Waterways, and Recreation Demonstration Areas" will now be classed as National Recreation Areas. Certain areas, as fish hatcheries...will not be included; however, "portions of all Federal real property might be considered for inclusion...." These new recreation areas "could be managed by one or more existing Federal departments or agencies, or under State-Federal agreements."

To start them off, "Upon request by the President, the Recreation Advisory Council will review proposals for National Recreation Areas, the review will be based on studies by the Department of the Interior's Bureau of Outdoor Recreation. The Council would then recommend appropriate action, modifications, priority of establishment and the agency or agencies which should manage proposed areas."

"Actual establishment of National Recreation Areas will be by Act of Congress in accordance with established procedures...."

Criteria for the "new category of Federal lands include:

- 1. Spaciousness...not less than 20,000 acres of land and water surface, except along riverways...or areas where population density within a 250 mile radius is in excess of 30 million people.
- 2. High carrying capacity...located and designed to serve large numbers of people, in relation to type of recreation offered.
- 3. Interstate use should assure interstate patronage...and should attract patronage from outside the normal service region.
- 4. Require Federal involmement--the scale of investment, development, and operational responsibility should be sufficiently high to require either direct Federal involvement, or substantial Federal participation to assure optimum public benefit.
- 5. Accessibility...not more than 250 miles and preferably closer to the Urban population centers they are designed to serve...readily accessible at all times.
- 6. Outdoor recreation dominant...If natural resources in addition to the recreation facilities are utilized, such use should be compatible with the recreation mission....
- 7. Needs not met by other programs...established only in areas where other programs...will not fill high priority recreation needs in the foreseeable future."

Some secondary criteria are also listed. The final statement is: "Secretary Udall said that the Council feels that designation of the system of National Recreation Areas will help provide the stimulus and Federal leadership necessary to achieve an adequate nationwide outdoor recreation program."

Abstracted by Margaret Titcomb

ALOHA to our new members:

Dr. N. Philip Ashmole, 1542-B Thurston Ave., Honolulu 14, Hawaii

Mrs. Myrtle J. Ashmole, ditto

Mrs. Martha R. Scruton, 445 Kaiolu St., Apt. 1001, Honolulu 15, Hawaii

A SUMMARY OF THE NOTES FROM THE GENERAL MEETING OF MAY 20, 1963.

Two separate field trips to the Poamoho trail were described by Mr. Ord and by Dr. Philip Ashmole. The latter also described his visit to Kahuku pond where 40 to 50 stilt were observed and 3 were nesting.

Miss Irma Botsford moved, seconded by Miss Laura Draper, that the Society contribute fifty dollars to the drive sponsored by Hui Manu to bring nene from England to Maui.

Mrs. Pedley moved, seconded by Mr. Holt, that an Honorary Life Membership be awarded Mr. Tom McGuire in gratitude for the many services he has rendered the Society.

Dr. Hubert Frings gave a very stimulating talk on "Pesticides" wherein the most widely use pesticides of the pre- and post-World War II periods were evaluated as to their effectiveness and their possible danger to wildlife and to man.

Laura Horigan, Secretary

JULY ACTIVITIES

- July 8 - Board meeting at the Auditorium of the Honolulu Aquarium at 7:30 p.m. Members are always welcome.
- July 14 Field trip to Tantalus Trail. Meet at the Library of Hawaii at 8:00 a.m. Leader: Al Labrecque
- July 22* General meeting at the Auditorium of the Honolulu Aquarium at 7:30 p.m. Program for the night: "Sooty Terns and Other Sea Birds of Ascension Island" by Philip Ashmole. Dr. Ashmole is at present making a study of sea birds at Christmas Island and other islands. *PLEASE NOTE THE DATE.

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