

THE ELEPAIO

Journal of the
HAWAII AUDUBON SOCIETY

Volume 9 Number 11



For the better Protection
of Wildlife in Hawaii

May 1949

DR. MAX DE LAUBENFELS' LIFE LIST (Continued)

You will see, on my list, noted with arrows, the blank spots indicating the birds I have not yet seen, of which there are 90 at the present time. These are marked on a map to show the areas in which the gaps occur. Twenty of these 90 are to be found only in New England in very cold winters, such birds as the eider duck, snow owl, Hudsonian chickadee, arctic tern, gannet, white winged crossbill, etc. Although Florida is the best place in the world to see birds, last summer I was able to add five species to my life list on a return trip to Florida; the Limpkin, one of the rare kites, the swallow-tailed kite, a purple gallinule, and I still have not seen the Mississippi kite, or the Everglade kite. However, it is quite likely that this last is now extinct. It is not easy to add the flamingo to one's list as often it does not come to the United States, but remains in the Bahamas.

My map also shows a gap in the Mississippi low lands, one of the rare warblers; another in Texas and the lower Rio Grande. This area was once a very fine place for certain tropical birds, before it was taken over for orange culture. Now these birds don't come as far north as the United States. It was in this region that I added the rare Chacalaca, a turkey-like bird, to my list, in spite of the hazards of camping in the jungle where the mosquitos turned me to a raw red color. A red billed pigeon is now reported in this area, but I did not see it.

There is another area containing several blanks in the high Rockies. As an example of a long and unrewarded search, I especially recall the three-toed woodpecker, which has a yellow spot on its head. As a boy my friend called me up in great excitement to tell me there was one just outside his home, in a Chicago suburb. I rushed over but it had gone. All that season it seemed that everyone I knew had seen the three-toed woodpecker except me - it had always disappeared by the time I reached the given spot. Since then I have made trip after trip to see this bird. One trip took me to the extreme northern end of Minnesota in a canoe to the moose country. I saw things old timers in the area had never seen, notably a small animal called a fisher, but no three-toed woodpecker. Later in the Rockies I became acquainted with a ranger who said he had seen one recently, and I made camp on the spot. Today I have still not seen a three-toed woodpecker. That is part of the business of making a life list. Next year I shall try again.

You look at the list and the dates thereon and you see that there are no blanks at all in some species. But most important, perhaps, is that in retrospect you see not only the bird but also the experiences you enjoyed at that time and the thrill you felt when you finally added that particular bird to your list. So much for life lists as a sport - at first it is easy to add ten birds to the list. In later years you spend as much time and have as much fun adding only one, in fact

it follows a law of increasing returns because you get even more fun out of finding the few rare ones that remain than you did with the easy first ten.

As a zoologist I also became interested in a bird as a piece of machinery. It seems somehow incongruous that we find the highest intelligence centered in the less well designed body of the mammal instead of the bird. To consider each of the bird's functions, let us start with the respiratory system. It has nostrils, a wind pipe and lungs, much as mammals, but with us the lungs are the end of the system, while with birds the air goes on out from the lungs to air sacks which differ in size and position with different species, even into the wing. These air sacks are not actually used for breathing. When we breathe in and exhale we never expel all the air, so that each new breath mixes the pure air with the bad air that is left; hence we never actually work with pure air after the first breath is drawn - we are always using residual air with its impurities. But the bird empties its lungs completely - all residual air is back in the air sacks. Its lungs are dealing with completely fresh air which we never get. In humans all our exercise serves by virtue of our structure to hamper our breathing so that when we need the most air the supply is actually reduced. With birds it is so arranged that the motion of flying automatically correlates breathing - each motion of the wings up and down is exactly coordinated with the inhalation and exhalation of air. Thus the faster a bird flies the faster he breathes. As a result he has much better metabolism.

Birds are very resistant to bacteria. We have read recently that ducks are dying in California, but of what? Botulism. This deadly bacteria will kill a human almost at once, but birds can resist most of the less violent bacteria. The reason for this is that they have a fever all the time. Fevers, if not too high, are actually good for us as they kill bacteria. Birds have an average constant temperature of 103 degrees. This burns up food very fast so that they have to keep taking in lots of food. The phrase, "a bird's appetite," is actually a description of the most gluttonous animal in the world. Birds often eat their weight in one day. Baby birds eat much more than their weight in one day. Their system of handling food is much better than ours, especially if we are in a hurry. Birds chew after eating, while we have to chew as we go. They have double stomachs - the first is a storage space. A bird quickly puts a whole meal in that. The second, or gizzard, uses swallowed stones for teeth, and he had no trouble with a dentist. If the first stones wear out he only has to swallow a few more. These stones grind up the food which passes on into the intestines, in which the duodenum is the principal organ of digestion as with us.

Birds' excretory system includes kidneys similar to ours but they empty into the rectum instead of from a separate outside opening. At first this would seem very bad, which it would be for us. Metabolic action may be compared to that of a stove; combustion requires fuel and oxygen and gives off smoke and leaves ashes. These ashes must be removed and are comparable to metabolic wastes. Ammonia is the basic substance - life is based on ammonia compounds. In order to metabolize at all, living things must get rid of the ammonia. It is extremely soluble and very penetrating. Quite a number of animals eliminate ammonia, as such - crayfish for example. It is possible for them to survive this only because the flow of surrounding water carries the ammonia off at once. Others combine the ammonia with carbon dioxide to make urine which is not so bad as ammonia and more easily disposed of. Most mammals use this process. To do this we have to drink lots of water. This would be bad for a bird because he would have trouble flying. Birds convert urine into uric acid. This is prepared in the blood as sodium urate or taken from vegetables as potassium urate. The kidneys reabsorb the sodium or

potassium, leaving uric acid which is insoluble and cannot poison. Hence the bird can get by without any water at all. He doesn't need it. Birds can do without water for weeks.

The circulatory system is very similar to a mammal's and as good. The musculature is of the finest type, providing great efficiency in flight. Plover do stop and rest on the water, but cover 2000 miles with little rest and no food. The skeleton is good - hollow bones in most birds (terns have solid bones) - which are very strong. Their reproductive system is effective without the necessity for carrying the embryo for a long period of time. As to the nervous system, they have almost no sense of smell and their hearing is not exceptional, but their vision is incomparable to ours. In the middle of a bird's eye is an opaque structure across the middle of the eyeball known as the pecten. Why this helps vision we don't know. It would appear to be a slight handicap, yet this is the only thing we can pick out as being accountable for their greater accuracy of vision. Their intelligence is not like the human's. On the other hand, if you take the whole class of mammals, birds are smarter than the average of the mammals excepting humans. The birds' covering is a marvelous thing, keeping them warm in the Arctic because of air spaces that insulate, and cool in the heat by fluffing out the feathers for free circulation of air; it also provides protection against rain. Which brief survey may show you how extremely effective birds are from the physiological point of view.

In response to questions, Dr. de Laubenfels said that even a humming bird would accomplish a complete breath with every wing beat. Asked for an explanation of the resolving power of so small an eye as a bird's, he said it would seem impossible for it to be good, but the reason seems to lie in the presence of the pecten. In mammals we know that the sight is less good as the eye is smaller; a mouse, for instance, has very poor vision. The eye of the mammal operates on the same principle as a camera, but this is not so with the eyes of birds, which do not seem to follow the laws of optics as we know them. They have a wide field of vision and yet get telescopic vision. We have assumed that this is the function of the pecten in the eye, but as yet no one knows how it operates to accomplish this effect.

/Editor's note. Readers may be interested in the following excerpt from L. H. Hyman's Comparative vertebrate anatomy; p. 486, "The pecten is a structure found in the eyes of birds and reptiles. Its function is uncertain; according to Menner (1938) it acts to throw a shadow on the retina, hence makes birds very sensitive to any movement in their visual field...", referring to E. Menner, Die Bedeutung des Pecten im Auge des Vogels... "Zool. Jahrb. Abt. allg. Zool., 58.7

-----00000-----

NATURE IN KAPIOLANI PARK.

By George C. Munro

After the rains in January it was interesting to see the sparrows and other small birds acting like flycatchers. About 20 perched on the telephone and light wires or in the top of a monkeypod tree, flying out catching insects and returning made quite an animated scene. The grasses along the tree borders quickly flowered and seeded, furnishing the small birds with plenty of food. Ricebirds, sparrows and Brazilian cardinals frequented them for a time. Ricebirds seemed to have no trouble in feeding on the seed of the Setaria grass mentioned in a former paper. If startled when feeding their feathers might become entangled in the sticky seed

heads. If left to themselves they seem to be able to use it as food without danger. The grasses are all cut now and the ricebirds have disappeared again, the sparrows and Brazilian cardinals still stay. Mynahs are mostly in pairs now. On February 1, among a flock of other small birds was a blue bird about the size and shape of a white-eye. It may have been an indigo bunting or a Japanese blue-bird. A careful watch for it has been kept since, without result.

The mynahs are again at work on the caterpillar of the moth Polydesma umbri-
cola on the opiuma tree. Dr. Zimmerman tells me that the caterpillar spins a thread to lower itself from the tree branches to the ground. This accounts for the mynahs' spreading out under the tree as far as the branches reach. I had a small caterpillar captive for a time and saw it use the thread. I was astonished to see it jump like a jumping spider. The monkeypod trees in the park are now all nearly denuded of leaves, but I think it is the usual seasonal shedding.

The sedge in the ditch by the proposed site of the Wildlife Refuge is flourishing again and also the reeds in the bird park. I hope both will not be finally cleared out before the refuge is ready. A patch of both of these in the pond would be a boon to the birds and an inducement for them to come to the refuge.

March 31, 1949

-----00000-----

J. D'ARCY NORTHWOOD writes from Newark, N.J. "...Thank you very much for the reminder that the Hawaii Audubon Society is ten years old. I well remember the early days; we had our difficulties, especially during the war, but we were on a sound basis and I am proud of having helped to make the success the Society now shows. Mrs. Northwood and I look forward to each issue of the Elepaio. We particularly enjoy the sensitive accounts of the bird walks...

"sometimes we almost wish we were back in Hawaii, these winters are pretty grim but now the wonderful time is starting. Hawaii has nothing like this annual rebirth of the trees and flowers and the lift it gives to our spirits. There is quite a surprising number of birds around in winter but soon that flood of migrants will be here. All the warblers, a bewildering multitude of bright little birds, many of which are seen only for a few weeks each spring. Such a delight to see them again and hear their buzzy little songs! And then there are the birds that come back to spend the summer with us - tanagers, orioles, meadow larks, and so many others.

"Our next field trip is to Fortescue, a fishing village on the shores of Delaware Bay. On the great marsh near the village a flock of perhaps twenty thousand Snow Geese stays for two or three weeks on their way north to their breeding grounds. Its a wonderful sight.

"Kindest regards to all our friends."

-----00000-----

FIELD TRIP TO PA LEHUA TRAIL, March 13, 1949.

"Inclement weather" on January 9 caused the first cancellation of an Hawaii Audubon Society bird walk. It had been scheduled for Pa Lehua in the Waianae Range, so it seemed poetic justice prevailed when March 13 turned out to be a perfect day for the 13 hikers gathered at the beginning of the lower trail. The group divided rather roughly into three parts; advance guard, some who went part

way on the trail and found views too lovely to leave or good birding by lunch time, and a few who stayed near the beginning of the trail. The latter were rewarded by seeing three pheasants; oddly enough these were in trees when first seen.

As we went down the steep road-like beginning of the trail it was impossible for the first time to keep our eyes from the wonderful view spread out before us. However, the trees below the trail had many inhabitants at that time of day, flitting about somewhat in the manner of popping corn. Soon many of us were treated to the song of a Chinese thrush as Unoyo Kojima tried to flush it into view for us.

Later a sound unusual in the wild was heard - a peacock which seems to have returned to nature. Mr. Porter also had a quick look at a Japanese bush warbler, but as usual that bird only tantalized the rest of us by his frequent call.

The bird seen and heard in the greatest number was the Elepaio; many of them seemed very curious and friendly. Four apapane and two amakihi were counted. White-eyes, Japanese hill robins, linnets, and Kentucky cardinals were seen by most of the group. The latter's spring song made me keep pinching myself to remind me I was not on a hillside trail in Ohio in March! Then a long, friendly encounter with a couple of elepaio persuaded me I was in Hawaii and after the last long, hot climb back to the cars I was convinced.

Carolyn Crawford

-----00000-----

FIELD NOTES: On Thursday, April 14, my partner naturalist and I walked the Poamoho Trail to its intersection with the Summit Trail and return. Since rain and Poamoho are practically synonymous, we had no great hope of getting back dry, but the gods were good and we made the entire trip without a drop of rain falling on us. I was very pleased that the trail has been well-cleared of its former tangle of staghorn fern and now appears wide, reasonably smooth and in good condition, although the approach road is, in some spots, in very bad shape.

The ohia lehua was a profusion of bloom, and I have never even dreamed of seeing as many apapane as we saw throughout the day. We lost count early in our walk, but I should judge that we probably saw a hundred or a little more individuals, moving about the lehua in groups of four or five. There were many hill robins to be heard, but only three or four were seen, together with a few elepaio, but for the most part the apapane and dozens of white-eyes had the run of the place.

Our trip paid off well, however, in hearing five birds, two of which we saw, that we cannot identify. All were of the same species, and I shall refer to them as birds "A" to "E", inclusive. My partner naturalist first heard bird "A" in the distance, and commented that she had heard a loud, flute-like call which she did not recognize. I was engrossed in the apapane, and the call was not repeated. At a point near the top where the trail crosses over the ridge, we heard bird "B" call nearby, and in such a loud clear tone, and in such a musical arrangement, that my P.N. believed there must be a man on the trail ahead of us. We stopped immediately, and the call was repeated over and over about 50 feet ahead of us. It was answered by bird "C" in the forest below the trail. After singing about 10 minutes, bird "B" dropped down across the trail, giving me a very brief glimpse, and then disappeared.

On the way down from the summit we again heard the call from a different area, below the trail. My musical notation is of the most juvenile type, and music teachers who may read this will shudder, but the call sounded (to me) like this:



I spotted the bird with my glasses down in the forest below us, and undertook to imitate his call. I must have met with more success than usual because the bird seemed quite curious, and flew up to perch on a limb not more than 20 feet away. He stayed about 8 or 10 minutes, answering when I whistled and looking us over with apparent interest. He had several songs and a few call-notes, but the song noted above seems to be the most typical, and was sung by four of the five individuals we heard.

The bird was nearly as large as a lace-necked dove, measuring (I should judge) some 11 inches. The bill and legs were yellow. A black mask extended under the chin and behind (and around) the eyes. There was a white cheek patch, accented toward the back by a rather dark rufous beige, which shaded off to a light pinkish beige covering his breast. His belly was light gray with a definite line of demarcation between this and the breast. The under-tail coverts were pure white, and there was a fine white "down" under the wings that fluttered lightly in the breeze when he raised his wings. The back was a light russet brown, the wings being just a little darker. The tail was quite long, hanging down nearly vertically as the bird perched, and was quite rounded on the end. The center tail feathers were quite dark russet. The outer tail feathers ended in white, which gave, in flight, a white band across the end of the tail.

When we got back to the end of the road, another individual (bird "E") came up to sit some 30 or 40 feet from us and serenaded us for another five minutes, with an entirely different song. The bird was in full view, however, and we had another chance to observe him closely.

It may be that this bird is the same one reported by the writer and three others in the summer of 1947 on the same trail. In that case, however, the bird was seen on the valley floor and no detail could be noted. It would be greatly appreciated if anyone can help in identifying this bird for us. The writer is in serious danger of developing a perpetual pucker as a result of repeating the song in the hope that some one may recognize it. Most birds are still a mystery to me; this one seems to be a mystery to everyone.

H. Paul Porter

-----00000-----

Mr. J. Donald Smith, Game Conservationist with the Board of Commissioners of Agriculture and Forestry, talked to the Hawaii Audubon Society at its March meeting about migratory water fowl:

Let me begin with water fowl on the mainland and some of their problems. It was in the 1920's that the Fish and Wildlife Service began to band water fowl in any large numbers. It has become apparent from the returns that the water fowl were following regular routes which could be called flyways, large highways running north and south, on the North American continent. These flyways were in distinct geographical units; we have been able to define four: The Atlantic flyway bounded by the Atlantic coast on the East and by the mountain chains on the west. This is followed by black ducks and Canada geese. Some come clear from the marshes of Utah. A large number of greater scaup come down from Northern Alaska and Alberta. The Mississippi flyway is funnel shaped. Its mouth embraces all of the lake states, bounded on the west by the mountains of North and South

Dakota. It narrows down to a small strip where the Missouri River runs into the Mississippi, and continues on to the Gulf Coast, widening again somewhat. The Central Flyway is next on to the west. Most of the ducks in this area are pintails, mallard, cinnamon teal, blue wing teal, and green wing teal. The Pacific Flyway which lies on the Pacific Coast is bounded on the west by a route that has some mystery attached to it because it is an offshore route, and on the east by the Rocky Mountains. There are a large number of canvasback, some red heads, lesser scaup, pintails and black brant.

The delineation of these flyways offered a starting point from which to approach the problem of population statistics of birds in the N. American continent. The numbers decreased during the drought years of 1935-36. During this time the Norbeck-Andresen Act was passed which permitted the Fish and Wildlife Service to enter on a large refuge program. Prior to this time there were some refuges already under the control of the Fish and Wildlife Service, most of them established to promote certain species of birds and to care for some of the colonial birds. However, with the passage of the Norbeck-Andresen Act, the Fish and Wildlife Service began acquiring water fowl refuges and watering grounds along the flyways. These were particularly necessary because of large scale drainage projects and also flooding of marshes--too much water eliminates the foods found in shallow waters. And too, over-shooting the birds had done much damage. Certain birds had been practically shot out of the picture and we almost had a duckless America. With the coming of heavy rains and restrictions on gunners the waterfowl staged a remarkable come-back. In 1934 there was a count of 34 million which rose to 180 million in 1944. After that, the curve started down again and reached about 80 million in 1947. There is some indication that it is now on the way up again. This recovery would have been impossible had it not been for the widespread refuge program that the Fish and Wildlife Service is carrying out.

Today we no longer believe that the flyways are limited to the North American continent. They are also on the European and Asiatic continent. And we may have one here in the Pacific Ocean. There may be more than one here. Our job now is to find out if the waterfowl you see here every winter are members of a definite flyway of which Hawaii marks the southern terminus. If we find that this is a flyway and that the birds we see here are regular visitors, then we must, if we ever have a hunting season again, be very careful of bag limits and species that we should take. It has been the view of some that if this is not a flyway we should have a hunting season for ducks because they are stragglers and would not return anyway. I do not hold that view and would do my best to prevent such hunting. We are starting on several banding operations next winter when the ducks return.

All this points to the need for refuges here in Hawaii. I think we will find there is little doubt that this is part of a flyway. You may already have had certain indications that particular individuals come back here each year. If this is part of the flyway, we must save every possible area of water. In addition to the pond at Kailua, I am also interested in setting aside the pond on Maui. Recently there were 15 canvasbacks, 10 ring neck ducks, 300 pintails and some shovellers seen on this pond. The composition of the flock is changing rapidly from week to week which may indicate that the birds are already moving on to Alaska or wherever they go. The Maui pond has supported approximately 500 pintails during the entire winter. The food supply in the pond seems to be very limited, so how this has been possible we don't know. In that connection, we have planned to start studies which we call artificial restocking. This would involve trapping pintails during the winter, clipping one wing, keeping them in

open pens until after the migratory urge has departed, then pulling the flight feathers of one wing and letting them grow out. The birds will be free to fly out of the pens and it is our hope that they will nest in the vicinity. In England large populations of birds have been introduced in this fashion. Whether it will be possible to induce the birds to stay here once their flight feathers have grown out, we don't know, but we are going to try to do it.

(To be concluded)

-----0000-----

MAY ACTIVITIES:

BIRD WALK: May 8th, to Poamoho. Bring lunch and car (if possible). Meet at the Library of Hawaii at 8:30 a.m. Be prepared for rain and a wet trail. Poamoho Trail continues from the end of the 4 miles graded road and follows the ridge (5.3 miles) to the Summit Trail, about 3 miles to the junctions of Castle Trail (north) and Waikane Trail (south). Poamoho is our favorite trail. None other approaches anywhere near the abundance of birds and the beauty of this trail. The occasional glimpses of Helemano Stream among the colorful yellow and red lehua, the graceful koa, and the friendly tree ferns with apapane, amakihi, hill robin, elepaio, and white-eye singing and flying around you, as you creep excitedly along the trail trying to blend into the invigorating atmosphere are among the many wonderful surprises stored for you on this trail. An unidentified, handsome, healthy-looking brown bird (mynah size) with a black face, a broad white-bordered tail, and a call note (heard 4/16/49) resembling a cat's meow is the most heart-warming challenge to any bird enthusiast. If you are fortunate enough, you may also see an iiwi and a Japanese tit.

Unoyo Kojima, Chairman.

MEETING: May 16th, Library of Hawaii Auditorium at 7:30 PM.

Mr. Guy C. Caldwell of Los Angeles, a naturalist widely known for his imitations of bird songs, will present a program of bird and animal calls. Mr. Caldwell is giving a series of lectures on wild life while in Honolulu and has graciously arranged to include us in his schedule.

-----0000-----

HAWAII AUDUBON SOCIETY OFFICERS:

President : Mr. H. Paul Porter, 403-F Seaside Avenue
 Vice-Presidents: Mr. E. B. Hamilton, P.O. Box 3679
 Miss Grenville Hatch, 1548 Wilhelmina Rise
 Secretary-Treasurer: Mrs. Margaret C. Porter, P.O. Box 5032
 Editor, The Elepaio: Miss Charlotta Hoskins, 3212 Loulu St., Honolulu, T.H.

Dues:

Regular:- \$2.00 per annum

Junior (18 years and under) - \$1.00 per annum

Life - \$50.00.