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For the Better Protection of Wildlife in Hawaii

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Adventures in Bird Study
Collecting Specimens of Birds
By George C. Munro

The subject of Bird Collecting has been brought prominently to my notice in the past year. I find that there is much misconception concerning it. Collectors have done a great service in the past in the acquiring and correlating of knowledge, bird collectors emphatically included. In fact little would be known about birds in remote countries their benefit or danger to domestic economies were it not for collectors. In any kind of scientific study specimens are necessary and ornithology is no exception. Any writer on birds would be handicapped if he had to take all his descriptions from live birds. It is a decided advantage in any community if it has someone who can prepare and preserve specimens.

Birds are often found dead from natural causes and if the skin is preserved as a specimen it is available for future study. There are several small collections in Honolulu which are made up of birds that had died or were about to die. I know of several Pacific Islands on which important records are being lost at the present time for the reason that there is no one there taking specimens. There are numerous instances of birds straggling to distant islands and dying there. If the skins are preserved they can be authentically identified. Otherwise in many cases it is impossible to be sure of the species. Common birds can often be identified by anyone but in many cases a specimen is necessary. I have been told by colonists on Howland Island of straggling birds which might be any one of several species for all I could tell from the descriptions, but which could have been scientifically determined had there been someone there who could prepare specimens of them.

The few collections made in the early history of these islands preserved valuable information on the birds. The pity of it is that there were not more. Up to 1907 about the only specimens of the dark-rumped petrel, the uau of the Hawaiians (*Pterodroma phaeopygia sandwichensis*) were those collected by Valdemar Knudsen and the Gay and Robinsons. Of Newell's shearwater, the ao (*Puffinus newelli*) there are not more than seven specimens, if so many, in existence today. Four of these were collected by the Gay and Robinsons, two by Brother Matthias Newell and a mounted one mentioned by William Alanson Bryan as being in the possession of Mrs. Wilson, then living in Pelekunu. These two birds which are peculiar to the Hawaiian Islands, at one time swarmed to the mountains of the main islands to nest and were used as food by the Hawaiians. Thousands were undoubtedly killed every year for this purpose and many thousands have been killed by the mongoose and other predatory animals since. It is possible that both have been entirely wiped out for all that is known at the present time. What possible harm could there have been in taking even a few score specimens for

scientific study? When birds are in flourishing condition some taken from the natural increase is often more beneficial than detrimental to the species. Birds that are unmolested increase up to their food supply and then a certain proportion die every year and young cannot be raised when food is short. Mills' collection saved valuable specimens for study. Brother Matthias Newell did some good work in collecting and so saved data of interest. If after the law was passed protecting forest birds in 1907 an ornithologist had been employed to take a few specimens, study the birds and their dideases the wonderful avifauna of Hawaii might have been saved. The few specimens he would have taken from the natural increase would never have been missed. No imported birds will take the place of the native birds or form the great natural gatherings of them at the flowering trees. The entertainment value of these birds was not foreseen. Such places as Kokee on Kauai and parts of Kona, Hawaii which are easily accessible might have been great show places and tourist attractions, as the sights of the birds on Laysan Island will certainly be in the future. The law was passed primarily for economic reasons due to the researches of Dr. Perkins showing the value of the birds to the forests.

I think that every enthusiastic bird student should be able to "make a skin"; that is, skin and preserve a specimen. I learned much from collecting and feel that I have done a little towards scientific research and bird protection from that source. Some of the greatest advocates of bird protection were bird collectors in their youth. Audubon, Theodore Roosevelt and Gilbert Pearson are examples. It is my belief, based on my own experience, that the boy collector absorbs a respect for birds and never kills a bird needlessly, never wastes a skin that can be preserved. Or allows other boys to wantonly kill birds.

When on Howland Island in 1938 I gave a demonstration of skinning to James Kinney and left him what preservatives I had with me. He made good study collections for the Bishop Museum of the color phases of the red-footed booby and of the wedge-tailed shearwater on Jarvis Island. An immature pintail duck he found in a dying condition in the surf at Jarvis Island and a gray-faced petrel taken on Howland Island could not have been determined without the specimens. Both are records of extension of range for the two species.

Private collections generally revert to museums where they are preserved indefinitely. Walter Rothschild's great collection is now in the American Museum. Knudsen's small collection of Kauai birds created a sensation in the Smithsonian Institution in the 1880s. The only Hawaiian genus the American Museum lacks is that which contains the bird I found new on Lanai and which specimen I determined would not leave the islands so long as there was but one. It is now in the Bishop Museum where Henshaw's and my little collection found a permanent resting place.

March 31, 1944 To be continued

Corrections for the Book "Birds of Hawaii"

Due to various causes some mistakes have crept in in the book and I now take the opportunity to draw attention to them.

Page 10, fourth line from bottom should read "and insured no opportunity."

Page 17, second line of second paragraph should read "from ranging" not ranging from. On third line from battom there should be a comma after "when wind favored,"

Page 18, bottom line of page should read "it had a regal carriage", not a real carriage.
Page 21, second line from top, below picture should be "gooney ... fully 10 feet".
Page 39, Running Heads "Sea Birds" should have ended here. In fact the Running Heads of that part should have been "Native Hawaiian Birds".
Page 41, third line from top of page should read "are ordinary light brown birds."
Page 43, 14 lines from bottom of page should read "March 9, 1941", not 1891.
Page 50, ninth line from top of page should read "Kona, Hawaii".
Page 90, Tree showing relationship pf Drepanididae; the caption should be: "After Dr. R. C. L. Perkins, with the addition of Telespiza and Dysmorodrepanis, elimination of Heterorhynchus, and Oreomyza changed to Paroreomyza. Pittacirostra was omitted and Pseudonestor put in its place between Rhodacanthis and Dysmorodrepanis. Pseudonestor is in its right place between Hemignathus and Loxioides. It might be explained that Perkins confined himself to the birds of the main islands of the group and did not include Telespiza, and Dysmorodrepanis was described long after he wrote his Aves in Fauna Hawaiiensis.
Page 93, ahikipolena should be akihipolena.
Page 162, the Bleeding Heart Dove was omitted between the Blue Ground Dove and Wongawonga Pigeon.
Page 173, Sturnells neglecta should be Sturnella neglecta.
There should have been captions to Plates 14 and 15 drawing attention to the fact that the birds on both plates were undoubtedly descended from the same ancestral species despite the vast difference in their bills.
Page 33 third line from top of page there should be inverted commas after "Kahului, Maui".

It has been brought to my attention that stilts in other countries generally lay four eggs in a clutch. I quite expect that four is the normal clutch for the Hawaiian stilt. The only nest I found of unhatched eggs had four eggs and another with old eggs had three. At the time Mr. Gay's observations were made the species was in large numbers and two or three birds might on occasion lay in one nest.

I also have been informed that the Chicadee has been omitted in the book. I think this name is sometimes applied to the Japanese Tit, or Yamagara (Parus varius varius). It is listed on page 65. I omitted the name chicadee as I think it is used only on Kauai and had forgotten about it.

I should also like to make a correction in a note of mine on page 43 of the Elepaio of April, 1944. On the fourth line from the bottom of the third paragraph, Mokulii should be Mokulea. It is easy to land on Mokulii but not on Mokulea.

George C. Munro

April 4, 1944

Mr. Munro has generously presented an inscribed copy of his book, Birds of Hawaii, to the library of the Society.

SEA BIRDS CATCHING FISH

In previous issues of Elepaio there has been some discussion of how sea birds, in particular the white terns, can have caught all the fish which they are often seen carrying in their beaks. (See Vol.1,page 51 and Vol.4,page 40). We ventured as a possible explanation that the birds hold the fish by pressing them with the tongue against the upper mandible, leaving the lower mandible free to open and catch more fish.

We have recently come across another explanation in "A Bird Watcher in the Shetlands" by Edmund Selous. That is a fascinating book, telling of the author's experiences in those bleak islands to the north of Scotland, where sea birds and seals gather in the breeding season. Day by day he recorded the little details of the lives of the birds and described them with the greatest enjoyment and with many digressions and philosophical musings. Often we were reminded of Hudson's last book, "A Hind in Richmond Park", which starts with the thoughts that arose from watching a deer twitching its ears and develops into a discussion of the most varied subjects.

We are not quite sure that we have understood Selous' explanation of how the birds can catch more fish when the beak already holds several, so we quote it in full. It will be found on pages 300 and 349 of the book. "I have sometimes wondered if the fish which the puffin catches so deftly, and then carries home, a dozen at a time, are paralysed at the sight of it. If a shoal of sand-eels fainted, and lay strewed about the bottom of the sea, it would then be easy for their enemy to pick them up one after the other, pack them securely, and get a firm grip on all of them before they began to revive and wriggle. At least, it ought to be easier; but how the bird chases and catches each in succession, without losing those it has already caught and which lie in a row across its beak, it is not so easy to see. I have sometimes, I believe, made out a dozen, at the least - all sand-eels - closely wedged together along the cleft of the mandibles, their heads and tails hanging down on either side of the lower one. Perhaps, however, the difficulty is not so great as it seems to be - of understanding it, of course, I mean; it is no doubt easy enough for the bird to do. My theory, at any rate, of its modus operandi is this. The first sand-eel is, no doubt, passed to the base of the mandibles, and being firmly wedged against the membrane that unites them, I suppose that they are finally closed upon it. Were they opened again, at all widely, to catch the next and subsequent ones, there would be a danger of as many as were already there either escaping by their own efforts, or being floated out owing to the pressure of the water. But the beak of the puffin, though broad and leaf-like in its shape, is sharply tipped, and by opening it but a little, and pressing the fish against the bottom, the bird could no doubt pinch up the skin so as to get a secure hold of it. The various little tactile movements of the mandibles upon the fish, by which the latter would be first grasped between, and them carefully passed down them, to lie against the one last caught, can be pretty well imagined, and they could be very effectively aided by the rubbing or pressing of it, on either side, against the sand, rocks, stones, etc., of the bottom. It must be remembered, too, that the mandibles open like a scissors, so as to be wider apart at the tips than at the base, which would diminish the difficulty; and moreover, each fish is so deeply indented by the sharp cutting blades - which, however, do not seem to pierce the skin - that although alive - reflecting possibly on the beauty of maternal affection - they would be likely to "cleave to their mould" like putty, for a little while after the pressure were relaxed.

I think that the broad, blade-like bill of the puffin has to do

with this power that the bird possesses of holding many fish at a time, and that the razorbill, whose beak is of the same type, and who bites the fish across in just the same way, is in the habit of doing so also. Be this as it may, the guillemot, whose bill is quite differently shaped, holds the fish, as a rule, in a different manner, longitudinally, namely, with the head towards the throat, and the tail drooping over to one side. This is not invariable; but I have never myself seen a bird bring in more than one fish at a time. It is the same, I think, with the black guillemot, at least in this latter respect, but I have seen much less of it than the other. Unless, however, it be supposed more difficult to catch and hold many fish than many insects, there is no reason why the puffin should be singled out for wonder in this respect. The water wagtail, when feeding its young, fills its bill with insects, which it catches, not only on the ground, but flying also - a great feat, surely - and the lesser spotted woodpecker brings a similar assortment to the nesting-tree. I believe myself that most insect-eating birds do the same whilst feeding their family, unless when they catch an insect sufficiently large to be a host in itself.

There is a puffin, now, within a few feet of me, with the largest fish I have yet seen one carrying; as large as a Cornish sardine, and that is as large as can possibly pass for one. And yet it has several smaller ones in its bill, besides. How is this done? For, to catch the big fish, it must have opened the beak a good deal. That one, however, is right at the base of the bill, as though it had been caught first. This, I think, supports my ideas as to the modus operandi. I do not see how so large a fish could be caught, without letting out any little ones that had gone before it. But if it were caught first, the beak, which can cut into the body, to the bird's convenience, need not be opened more widely, on the next occasion, than it would be if it held only a small fish. Did the big fish occupy any other position in the bill than that which it does, it would be against my theory; situated as it is, it is for it. Pray heaven, then, I don't see another puffin with a big fish! - for it may be held differently."

Selous is discussing the puffin, a bird which has a different beak structure from that of the tern and perhaps his explanation is correct for the puffin. We still prefer ours in the case of the tern.

J.d'A.N.

First Impressions of an Hawaiian Forest

Those of us who are amateur ornithologists and who have found ourselves in new and strange surroundings have been able to add to our own store of knowledge and enjoyment by investigating these different conditions in which we find ourselves, unexpectedly, perhaps.

It was with keen anticipation that I awaited this first bird walk in Hawaii. Up to the time of my arrival here my knowledge of the bird life upon these islands was very little indeed. However, after reading a few of the current books on island birds I felt that I would not be totally unprepared once the haunts of the forest birds were invaded.

The forest, besides sheltering the remaining native species, also contains numerous imported, but nonetheless interesting, types. And the more difficult it is to find and observe a bird the more profound is the pleasure derived when its presence is discovered and its habits noted. I had little conception of what an Hawaiian forest would be like. The picture of tall pines or redwoods in dense groves certainly does not hold true here, for the trees are spreading and vine-covered rather than spired and sky scraping. The undergrowth covers the ground like an all-engulfing mat except for outcroppings of rock here and

there. The ridge is a solid wall of verdure with patches of light green against the darker background marking the presence of wide-spreading kukui trees. The trail we followed was completely overgrown by grasses so that the noise caused by even a small group, such as we formed, seemed capable of frightening away any birds which might be present. But when stops were made we looked and listened and soon a pair of white-eyes would be scolding us for venturing so near their home, and the rollicking song of the hill robin would come rolling up the mountain side from some hidden recess in the underbrush. Naturally, it is always the goal of such an expedition to come upon some of Hawaii's own native species, living their lives in tha same manner as their predecessors did for centuries and little influenced by human activities. So, on this day, we were fortunate to find not only the tiny hero of the woodland - the elepaio, with his clear ringing song - but also the amakihi, flitting about from limb to limb, on his never-ending search for food, apparently oblivious to our presence. The pellet of an owl found along the way showed that the diet of that beneficent species is little different throughout the world.

That the Hawaiian forest is moist and cool is apparent to anyone venturing within its bounds, but it is also quiet and restful, a pleasant release from the realities of the hour. Though it is doubtless true that the Hawaiian forest may appear to hold few birds and that various niches in that environment remain unfilled by avian members, the birds who do choose to live there are reason enough to spend part of a day in searching them out in their haunts and observing them. Although my first walk through the Hawaiian forest lasted only a few hours it caused me sufficient enjoyment to look forward to a return journey and further association with the feathered species which it harbors.

Roy S. Cameron

Dear Miss Hatch: This is to inform you of my new address, which you will find at the end of the letter. Your "Elepaio" has been arriving each month in good order. Have just received my February copy today. As soon as I get hold of my bird notes, which at present are not handy, I will prepare several articles on Tulagi, New Caledonia and New Zealand.

Incidentally the notes sent in to the January issue of the "Elepaio" from S/Sgt. Wilson are from the New Hebrides. I observed the same parrots feeding on the same red blossoms, which are mountain apple blossoms. The parrots are lories. I didn't see the honeysuckers, but did the white-eyes, which are the largest I have seen, being half again the size of the familiar mejiro. The gnatcatcher is the cute fantail flycatcher, found also in New Caledonia, New Zealand and Australia. Aside from the pigeon and the dove, the other birds are strange to me. I was only able to devote one morning to the study of N.H. birds. If Sgt. Wilson would write me at Hammond General Hospital, Modesto, California, I would like to discuss Solomon birds with him.

Walter Donaghho

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Next Bird Walk: meet Liliha and Wyllie, May 13th., 2.00 p.m. for a walk along the Alewa trail.