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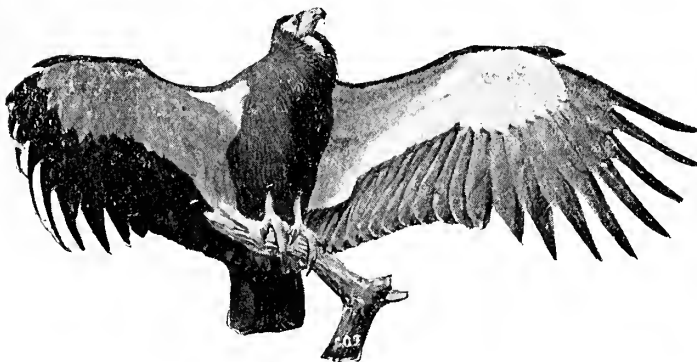


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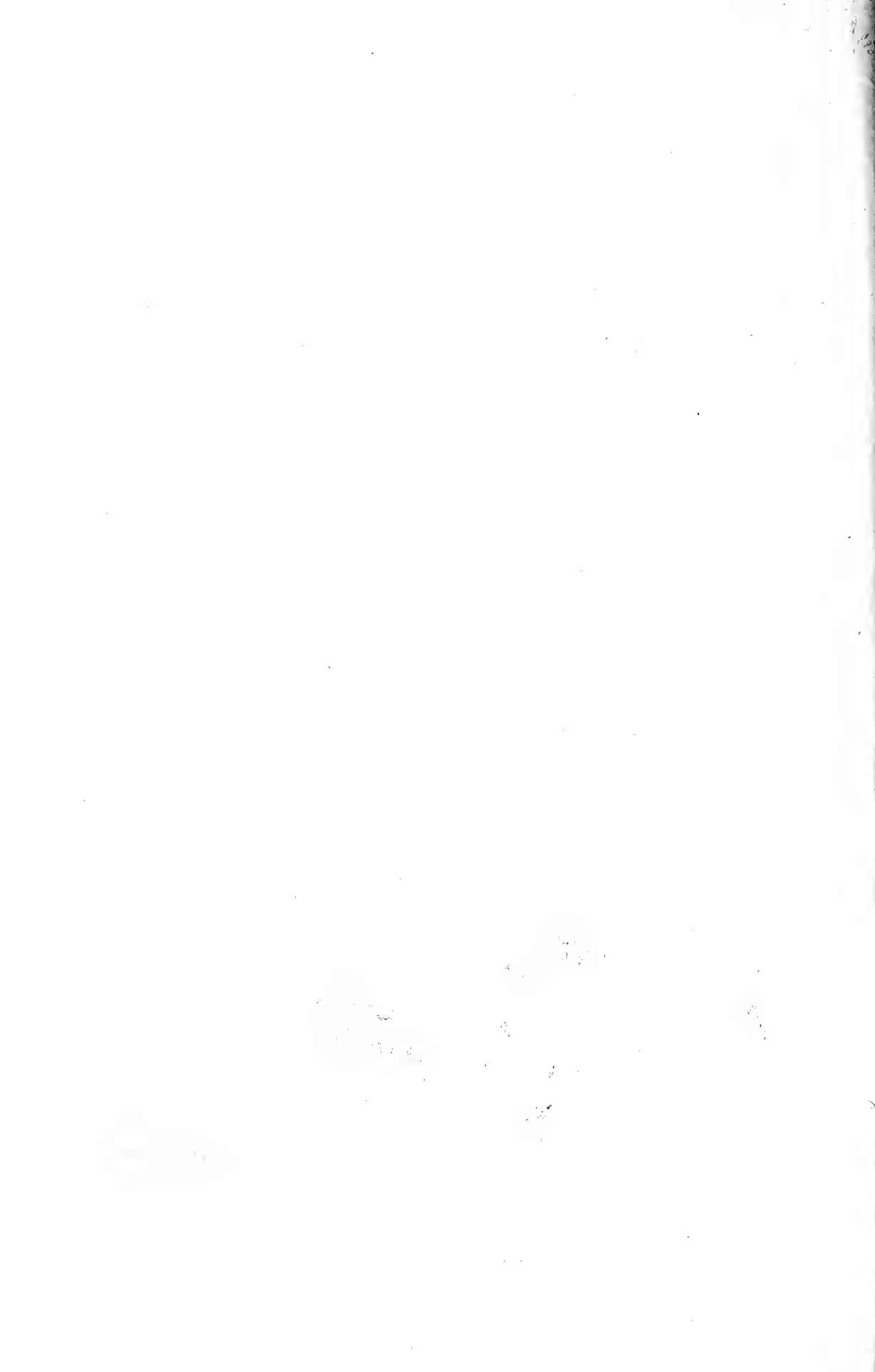
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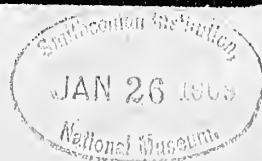
January-February, 1909

Number 1



W.K.F.

COOPER ORNITHOLOGICAL CLUB



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PINTAIL DUCKLING; KLAMATH LAKE, OREGON

Photo by Finley and Bohlman

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume XI

January-February 1909

Number 1

NOTES ON ALBATROSSES AND OTHER PELAGIC BIRDS IN AUSTRALIAN WATERS

By DR. T. W. RICHARDS, U. S. NAVY

THE body of water known as the "Great Australian Bight", which fills an indentation on the southern coast of the Island Continent twelve hundred miles in width, bears an unenviable reputation; here the navigator well knows that bitter winds, with rain and hail, and the eternal swell which rolls in from the Antarctic, will all combine to render his passage both difficult and uncomfortable. It was with no pleasant anticipations, therefore, that we contemplated a trip from Melbourne, Victoria, to Albany, Western Australia; of all months, September—the beginning of spring—is one of the worst, and we had already sampled the Southern Ocean in crossing from New Zealand. But by the ornithological enthusiast, physical discomforts are easily overlooked; so when Mr. W. H. D. Le Souef, Director of the Melbourne "Zoo", informed me that I was about to traverse one of the most populous haunts of the albatrosses of Australian seas, I brushed up my binoculars and prepared to become intimately acquainted with my fellow voyagers. The outcome fully justified my friend's prediction, for in no other waters have I seen such an interesting display of oceanic bird-life. As indicating local conditions, it may be mentioned that the weather, too, was all we had anticipated; for four days the big battleship "Kansas" ploughed into a gale which drove the head seas over our flying bridge, some forty feet in height.

The first point of interest upon leaving Melbourne was Mud Island, a small, round hill, rising from the waters of Port Philip Harbor; for this is one of the breeding haunts of the White-faced Petrel (*Pelagodroma marina*), a straggler to our own shores, and consequently included in the A. O. U. List. Tho we passed close to the island, no birds were in sight, but we afterwards encountered them at sea. The breeding season is in November and December, and I obtained three eggs taken during these months in previous years. Reed and Davie, referring to eggs of this species from New Zealand, in the Crandall and Thayer collections, describe them as being heavily marked, for petrel eggs, with a "wreath" of spots;

my specimens, on the contrary, are "pearly white", but in two cases immaculate, while the third has a few almost imperceptible specks on the larger end. The longest and shortest measure: 1.50×1.04 , and 1.44×1.02 inches.

Once well at sea, albatrosses became conspicuous, both by their size and numbers overshadowing all other birds. At least four species accompanied us, from time to time, the White-capped (*Diomedea cauta*), Wandering (*D. exulans*), Sooty (*Phaethria fuliginosa*), and another, with blackish bill, which was probably the Yellow-nosed (*Thalassogeron culminatus*). Of these, the White-capped was the most abundant, out-numbering the others fifteen to one; usually there were, all told, at least a hundred of these birds in the wake of the ship. In addition, there were, more or less constantly in sight, almost as many petrels and shearwaters, the most beautiful being a pearly Prion. These smaller followers were much more erratic and independent than the albatrosses, keeping less closely to the ship, foraging widely over the waters, with an occasional tit-bit from our "galley". But whenever the opportunity occurred they did not hesitate to join in the scramble, mixing fearlessly with their larger companions. While the shearwaters and, especially, the smaller petrels, seemed to beat their wings more frequently than the big fellows, their powers of flight are fully as great, and in rapidity of motion, especially change of direction, they have decidedly the best of it; so sudden are their movements that it is often difficult to follow them with the glass, and nothing in the flight of the larger birds impressed me so strongly as to see one of these waifs, apparently but a feather, wafted helplessly before the gale, suddenly turn, stop, and, rising lightly against the blast, dart off in a series of dips and circles as tho to mock the very elements. Owing to these habits, and the general similarity of some forms, positive identification was in most cases impracticable, but I think that at least six species were usually within view.

Conditions for observing the albatrosses were much more favorable, and the following remarks, except as noted, apply equally to all species seen, as there appeared to be little difference in their habits or mode of flight, tho *D. exulans* was obviously much larger than the rest. So much has been written about the "marvellous powers of flight" possessed by these birds, that I believe one who observes them for the first time is apt to be somewhat disappointed by their appearance close at hand; for the heavy bill, short, thick-set body, and abnormally long and slender wings seem somewhat ungainly. Then, too, they are singularly silent birds, and this apparent lack of animation adds to the impression of stolid stupidity which their appearance inspires. But if such be the case, unfavorable criticism is soon dispelled; for the spectacle of dozens of these great birds maneuvering in a gale at sea, with an ease and assurance which baffles explanation, is positively exhilarating. Unlike the petrels, these massive, powerful aviators never give one the impression of being "swept away", even when under full headway "down the wind".

Of the various species, *D. cauta* seemed somewhat bolder than the rest; usually keeping close to the ship, one would occasionally drift directly over the deck, and I have stood still with one of these birds, poised, and apparently motionless, within a few feet of my head. Nevertheless, both ship and bird were gliding along at thirteen knots, and yet even at such close range it was often impossible to detect the slightest quiver of the pinions. It is only at such times that one can appreciate their size; over the water there is no standard for comparison, and I found my shipmates constantly underestimating the expanse. *D. exulans* is very much larger, but I saw none under such favorable circumstances; they sometimes passed close astern, but usually followed in wider circles, hugging the waves so closely that in turning, the long pinions frequently touched the water.

It is, I believe, generally supposed that albatrosses will follow a ship for long distances, on outstretched wings, without apparent movement, but such has not been my experience: on the contrary, at comparatively brief intervals there is apt to be a well-marked "flap", usually several times repeated. But upon continued observation it seemed to me that this was almost always done with a very definite purpose, namely, the execution of a sudden turn, or, to rise quickly and so continue in a given direction. In other words, flapping seems seldom required so far as mere progression goes, and they can undoubtedly continue in the air and cover great distances with no other movement of the wings than a change of curvature in balancing. In this manner, they sail with, across, or down the wind, without apparent effort, tho to increase their elevation it seems necessary to head up against the air current. Sailing with the wind, there appears to be always a tendency to settle, tho perhaps almost imperceptibly; but even in this position they may still, for a time, pursue an undulating course, following, as they often do, the conformation of the waves. It would seem that their best point of sailing, like a schooner's, is "on the wind", viz: neither having it directly ahead nor "abeam" but between the two. Even so, they are unable to lay a straight course indefinitely, and soon resort to circles or a few vigorous beats of the wings; apparently the selection of either is rather a matter of convenience and time than one of necessity. When fairly under way, gliding, the wings are extended stiffly and almost horizontally, but in the execution of sudden maneuver the tips may be much bent downward, forming a bow, and it has seemed to me that at such moments the two wings are not invariably symmetrical. In taking a sharp turn, the inclination or "dip" which a bird can make, is one of their most startling performances, and it really looks sometimes as if they must "turn turtle": I am sure the angle may be as much as 90° , for to the eye the wings seem absolutely perpendicular, one tip grazing the water, the other pointing to the sky above.

All in all, if we give him the gale he loves so well, the albatross lives up to his reputation, but I must confess that for quiet dignity in flight I have never seen these, or any pelagic birds if we except the Frigates, equal the grandeur displayed in the endless circles of our larger birds of prey; but the conditions are so different that comparison is, perhaps, unfair. So far as my experience goes, the albatross dislikes a calm—which, by the way, he seldom gets in his favorite latitudes—as much as an old time sailor. About a week after the trip here referred to, the Atlantic Fleet of sixteen battleships was cruising up the west coast of Australia; there was very little wind and we repeatedly passed small flocks of these birds resting on the water, and altho eight ships passed on either side of them, in no case did I see them rise and follow. Certainly this was remarkable, for with ordinary weather conditions they had never failed us for more than three thousand miles.

To the ornithologist on shipboard, the most interesting period is just after meal hour, when the cooks are clearing out the "galley". Ever on the alert, no suitable morsel escapes the hungry horde, and it is wonderful how accurately they can pick out the "wheat from the chaff", no second glance being given to the odds and ends unfit for food. But with all their eagerness to be first at the feast, the prizes go to the ones that can stop and *alight* the quickest. And most of them make a bad mess of it: swooping rapidly to the coveted spot, they find it difficult to check their speed, and many have to pass and circle back again. With those more fortunate, or expert, wings are thrown suddenly back, the tail is wide-spread and depressed, and—a most comical effect—the broad, webbed feet are expanded and thrust out forward, exactly as a skater digs his heels in the ice to stop his headway. Once on the water, the wings are kept partly expanded and raised high

over the back, the wind's levitation thus bearing most of the weight. Actually, the birds now *walk on the water*, paddling with the big feet quite sufficing to lift the bodies clear, and, gulping food rapidly as they go, the whole performance is most grotesque. With all this excitement, there is no noise; in a few moments the last scrap has disappeared, a hundred wings are extended, and, with a final "push", each bird rises lightly to windward, resuming his tireless vigil in our wake.

I am inclined to believe that among ornithologists unaccustomed to ocean voyaging, a mistaken estimate is apt to prevail as to the relative number of pelagic birds: I say "relative", for of course the actual total is enormous. Such a false impression would naturally arise from several causes, the principal one, no doubt, being a failure to realize the immensity of the seas, covering, as they do, four-fifths of the earth's surface: an incredible number of birds may be scattered over this vast area and yet appear, as is actually the case, few and far between. Then, too, these birds breed in colonies, and are best known to us when assembled in apparently countless hordes. While it is true that in making a coastwise trip, say from San Francisco to San Diego, or New York to New Orleans, one would, during certain seasons of the year, have plenty of feathered followers, few of the birds observed would be "pelagic", and a voyage over the high seas in similar latitudes would probably be comparatively lonely; indeed, I can confidently assert that except in high latitudes, and especially those of the southern hemisphere, one may sail not only hundreds but *thousands* of miles and not see a bird for days at a time. The recent voyage of the "Kansas"—with the other fifteen battleships of the U. S. Atlantic Fleet—from San Francisco to Japan, via Hawaii, New Zealand, Australia and the Philippine Islands, may serve as an illustration. The total distance covered was approximately 12,000 miles, but except from Lat. 32 S., Long. 178 E. (some two hundred miles north of New Zealand) to Lat. 30 S., Long. 112 E. (off the west coast of Australia) I did not observe, all told, as many as 100 pelagic birds. Doubtless many escaped notice, but I was much of the time on deck myself, and my shipmates, knowing my hobby, were always keen to send me word whenever any "strange birds" were about. I think, therefore, such errors were reasonably few and quite insufficient to materially affect the general conclusions expressed herein.

U. S. S. Kansas, Yokohama, Japan.

NESTING OF THE XANTUS MURRELET AS OBSERVED ON LOS CORONADOS ISLANDS, LOWER CALIFORNIA

By CHESTER LAMB

THIS article does not pretend to be a life history of *Brachyramphus hypoleucus*, for my stay on its breeding grounds was much too short to make full observations. It is merely an account of the manner in which the species nests in the locality where I found it.

Los Coronados Islands are four in number, situated a few miles south of the boundary line of California and Mexico, and about ten miles from the mainland. They are quite small, the largest being not over two miles and a half long, by a mile wide, the next in size about half as large, while the two remaining are mere large rocks rising out of the sea.

During the week, May 30 to June 6, 1908, it was my good fortune to camp on

these islands in company with my friend Mr. Pingree Osburn of Pasadena. In that interval we examined over twenty-five nesting sites, indicated by the broken egg-shells and half as many full sets.

Mr. Osburn and Mr. Beck visited the Los Coronados group in early April of this year, and at that time they found two sets, one fresh and the other heavily incubated.

According to some authorities these birds commence breeding as early as the fore part of February further south in the vicinity of Natividad Island; but in this latitude their nesting period evidently commences about April 1, extending to the middle of June.

An acquaintance later visited the Islands July 1 but found no Xantus Murrelets breeding. I believe that the Los Coronados group is the furthest north that they have been found nesting.

Reed, in his "Nests and Eggs of North American Birds", states them as laying but a single egg, but I found them laying two to a setting nearly as frequently as one. Of twelve sets five were of two and seven of one. When the set consists of two the eggs will be very different in markings, and even ground color. I believe, too, that when the set is of two, one egg is frequently infertile, as indicated by our finding several nesting places having the broken shells of an egg, evidently hatched, and an infertile egg with it. In one set of two, upon which I captured the sitting bird, one egg was infertile.

A very handsome egg is laid, in color varying from a dark drab to a very light shade of green, marked either with fine dark brown specks, or lines, usually heaviest at the larger end, and forming a circle around it. In two sets the eggs are heavily blotched evenly over the whole surface. The eggs are elliptical in shape, one end being but slightly smaller than the other and about the size of a coot's egg.

Both sexes assist in incubating the eggs. One male and two females were captured on the nests.

Like the petrels they vomit a yellowish oil when captured, altho of not such a disagreeable odor. This scent is peculiar to them, and with a little practice one can easily distinguish between their haunts and those of petrels and auklets.

Unlike the Cassin Auklet, and Socorro and Black Petrels, among which *Brachyramphus hypoleucus* nests, they never make burrows in the ground, or even preëempt unoccupied ones. Their favorite nesting sites are in the various dark corners of a cave.

In one cave, 12 feet by 4 feet, with numerous dark holes, we found where six pairs had been nesting, besides two sets of eggs. This is the only instance on the Islands where we found them colonizing.

Their next choice of a nesting site is under a ledge of rock, well back out of reach, and had we not had a crow-bar with us it would have been impossible to reach some nests. In one case I captured a female under a small rock within easy reach; however, she was not incubating eggs.

They are not particular as to distance or proximity to the water, some of the nesting sites being a few yards above high water, and others at the top of the Islands several hundred yards from the sea.

The eggs are laid on the bare earth with no attempt at nest building, except a very shallow hole scratched out where the earth is soft and none at all where it is the least hard.

No Murrelets are to be seen about the Islands in the day time, but as soon as it gets real dark their plaintive, half cry and half whistle can be heard.

Fresno, California.

SOME RARE BIRDS AND SETS OF EGGS FROM THE CAPE REGION
OF LOWER CALIFORNIA

By JOHN E. THAYER

MR. Wilmot W. Brown has been collecting for me in the vicinity of La Paz, Lower California, for nearly a year. Among the rare sets of eggs he has sent me I think one of the most interesting is a set of Mangrove Warblers (*Dendroica bryanti castaneiceps*). Unfortunately he was unable to collect but one set, containing three eggs. He found two other nests, one with eggs so far advanced that he could only save one, and the other containing young. The nest with three eggs I have in my collection, also the other two nests.

These nests, especially on the outside, look much more like Vireos' than they do like Yellow Warblers' (*Dendroica aestiva*). The nest with eggs is made (and the others resemble it very much) of light green fern down, cobwebs and light-colored dried grasses, with a few white feathers plastered on the outside. It is beautifully lined with feathers. It is not so perfectly shaped or so well made as the Yellow Warbler's nest. It would seem that three eggs are the complete set. Mr. Brown found this nest at Pichalique Bay, near La Paz, Lower California, June 2, 1908, in a mangrove tree, ten feet from the ground. Incubation was advanced.

The eggs measure .68×.53, .67×.52, .68×.53, and look very much like the Yellow Warbler's, but are not marked so heavily.

The second set he found at San Jose, near La Paz. The nest was on the edge of a very muddy lagoon in a mangrove tree, about five feet from the ground. Incubation was very far advanced, so only one egg out of the three could be saved.

On June 16, at San Jose, Mr. Brown found another nest which contained three young; by June 25 they had left the nest except one, which was dead. This nest was placed on a mangrove bush on an island in a lagoon.

Mr. Brown collected a very large series of these birds as he knew their song and could imitate it; otherwise, he said it would have been a most difficult task as they are very shy. Mr. Frazar, in Mr. Brewster's interesting book on "The Birds of the Cape Region of Lower California", says he took only eight in all and did not shoot more than a pair in any one day. He notes the bird as "rare". That was in 1887; since that time they must have increased.

Mr. Brown says, "I found the Mangrove Warbler a rare bird, but my previous experience with this species in Panama, the Pearl Islands, and in Yucatan is what made me successful. I learned its song and alarm note in 1893. The first morning I went into the mangrove swamps of La Paz I whistled the song of the Yucatan species and the birds answered me; this is the secret of my success, for the species is very secretive in its habits. I found it so difficult to get that I offered fifty cents apiece to the duck hunters and others, including the local taxidermist, but they all failed to get it! By covering eight miles of territory I generally managed to get four or five. Sometimes when I shot one it would fall in the mangroves, with a tide running fast. Under such conditions it generally took a long time to find it, and a great deal of cutting with the machete."

Brown found one nest of the St. Lucas Swallow (*Tachycineta thalassina brachyptera*) at Pichalique, near La Paz. It was situated in a depression on the face of a cliff among the rocks. It contained two eggs. The nest was made of dried grasses and lined with hair. The eggs are pure white and measure .65×.51 and .66×.50.

Altho he collected a large series of the Frazar Green Heron (*Butorides vires-*

ceus frazari) he only took three sets of eggs of three each. He also took sets of the following species at La Paz: *Guara alba*, *Ardea herodias*, *Egretta candidissima*, *Ægialitis wilsonia*, *Melopelia asiatica*, *Cardinalis cardinalis igneus*, *Auriparus flaviceps*, and *Polioptila cerulea obscura*.

He also found two eggs of the Belding Rail (*Rallus beldingi*). They were badly eaten by mice, the nest evidently having been deserted. Brown collected a series of thirteen of these birds. He writes, "As for the Belding Rail, I found this species a most difficult one to collect on account of its retiring habits in the dense mangrove jungle, where the branches and long roots are interwoven and interlaced. You can not enter a foot without cutting with axe and machete. In my search for the nest and eggs of this Rail I cut trails thru various parts of the mangrove tangle, but was unable to find but an abandoned nest with two eggs which the mice had nearly destroyed. The collecting of this Rail is a question of high tides. At low tide this Rail can not be hunted. He keeps in the depths of the mangrove tangle where he feeds on small crabs, etc.; but when there is a very high tide the water forces him to seek his food more inland, along the shore outside of the swamp; then by careful and patient hunting you can occasionally shoot one, but it is very slow work and requires much time and patience. In fact, for a long time I thought I should be unsuccessful in my search; for altho I hunted faithfully for it over a month I was unable to find one until I thought of the high tide plan."

From August 2 to September 2 Brown collected at Sierra de la Laguna. He took seven sets of the Viosca Pigeon (*Columba fasciata vioseæ*). The last set was taken September 2, and was fresh. These birds lay but one egg. He also collected three sets of the Thick-billed Towhee (*Pipilo maculatus magirostris*); also the Frazar Vireo, Western Warbling Vireo and Green-backed Goldfinch. He collected large series of these birds, and of *Juuco bairdi*, but he was too late for the eggs of the latter.

Laucaster, Massachusetts.

NOTES ON THE BIRDS OF SOUTHWESTERN MONTROSE COUNTY, COLORADO

By EDWARD R. WARREN

WITH ONE MAP

THE following notes have been gathered by the writer during a couple of short trips in April, 1906 and 1908, and are greatly supplemented by notes obtained from Mr. C. H. Smith of Coventry, who has resided there for the past ten years. As practically nothing ornithological has ever been published concerning this region, it has seemed worth while to write up these notes for THE CONDOR, scanty as they may be.

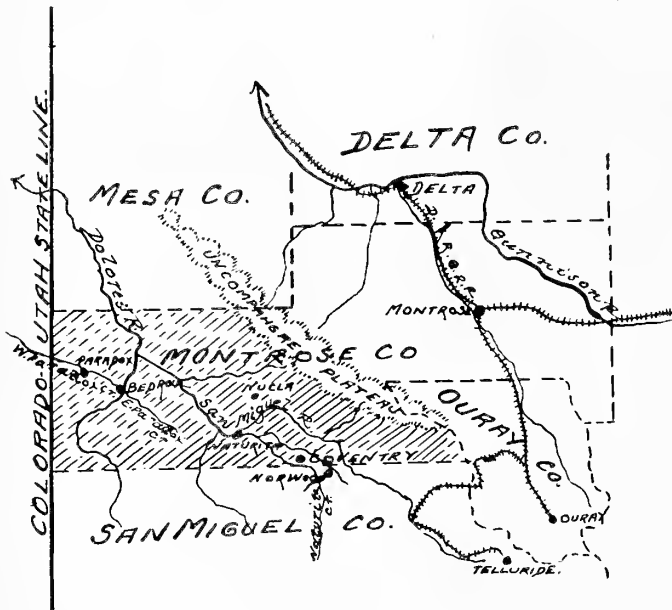
Roughly speaking, the region covered is that portion of Montrose County lying south and west of the Uncompahgre Plateau, as shown on the accompanying map, and a few notes are also given from points in the adjoining portion of San Miguel County, to which county this region really belongs, speaking from geographical relations. It is a mesa, 7000 feet above sea level at the eastern end, but gradually becoming lower to the west. Thru this mesa the San Miguel River has cut its bed in a northwesterly direction, in places several hundred feet below the mesa level, and joining the Dolores River about six miles south of the Mesa County

line, and twelve miles east of the Utah line. The Dolores cuts across the west end of the county in a northerly course, and there are a few other flowing streams tributary to each of the larger ones, and numerous dry channels and gulches which occasionally have water.

On this mesa are large tracts of cedar or juniper (*Sabina utahensis*), and piñon woods, with equally great or greater open spaces covered with sagebrush (*Artemisia*). The cañons of the rivers have cottonwoods, wild cherries, and other deciduous trees and shrubs, while on their slopes are often scrub oaks. At the lower elevations, along the Dolores River, there is much greasewood (*Sarcobatus*) and rabbit brush (*Chrysothamnus* sp.), the latter often taller than a man, and with large woody stems. The rocks exposed in the cañons of the San Miguel and its tributaries are a light grayish sandstone, while along the Dolores, and in both the East and West Paradox Valleys, the country rock is a red sandstone. The soil over almost the whole district is of a reddish color, which has apparently had some

effect on the colors of two or three species of mammals.

A considerable portion of the mesa land is under cultivation, the necessary water being supplied by ditches brought from the mountains. Aside from these ditches, there is practically no water on the mesa, and the fauna and flora are of the desert types. Bird life is thus rather lacking in variety here. In the stream valleys, where there are deciduous trees and shrubbery, there is of course a greater variety, but unfortunately this portion was the least worked. There are some reservoirs, mostly small, for water storage, and these attract



MAP OF PORTION OF WESTERN COLORADO; THE SHADED AREA IS THE REGION COVERED BY THIS PAPER

Copied by permission from a map copyrighted by Clason Map Co., Denver

water birds during the migrations, and the occurrences noted of these birds were practically all about these reservoirs.

In 1906 I spent the last two weeks of April at Coventry. Mr. M. F. Gilman published a few of the notes I took then in "Some Birds of Southwest Colorado", in THE CONDOR, Vol. IX, No. 5; but nothing has been omitted here because of that, for it is desirable that these notes be complete in themselves. In 1908 I spent the first and last weeks of April at Coventry, and the intervening time at Bedrock, 40 miles west on the Dolores River, where the East and West Paradox Valleys join it, at an elevation of 5150 feet: no doubt a good place for a bird man in May and June, but I was after mice and *sich*, and did not stay for the birds.

It should be stated that Mr. Smith has done but little bird collecting, and his notes are largely from ocular observations, but we have gone thru the list carefully and cut out everything about which there is the least doubt.

The absence of the names of many of the small birds, such as Vireos and Warblers, is explained by the non-collecting of specimens, and Mr. Smith makes no pretense of being familiar with most of them in the field. As water commissioner for a large portion of the region his duties take him over a great area in the summer season, much more than I covered. As far as possible his notes are specifically credited to him. It may be of interest to my readers to know that Mr. Smith is an old boyhood friend and chum of E. W. Nelson, and he has many a yarn to tell of the trips and hunts they took together when boys.

Colymbus nigricollis californicus. American Eared Grebe. Common at Coventry in migration; usually a number seen together (Smith).

Larus californicus. California Gull. Smith saw one at Coventry in 1905.

Larus delawarensis. Ring-billed Gull. In April, 1906, Smith mounted one taken near Norwood, in San Miguel County, six miles from Coventry.

Anas platyrhynchos. Mallard. In migration common at Coventry, and that is the only time it is seen (Smith).

Chaulelasmus streperus. Gadwall. Taken at Coventry, in April, 1906.

Nettion carolinensis. Green-winged Teal. The commonest duck at Coventry, tho seen only in migration (Smith).

Querquedula discors. Blue-winged Teal. Not as common as the Greenwing (Smith).

Querquedula cyanoptera. Cinnamon Teal. Quite common at Coventry; breeds on lakes at higher elevations in the mountains (Smith).

Spatula clypeata. Spoonbill. Taken at Coventry, April, 1906; not common.

Dafila acuta. Pintail. Fairly common at Coventry (Smith).

Aythya marila. Scaup Duck. One was taken at Coventry in April, 1906. Smith says it is not common.

Aythya collaris. Ring-necked Duck. One was taken at Coventry in April, 1906; probably rare.

Erismatura jamaicensis. Ruddy Duck. Seen and taken near Coventry, April, 1906; not common.

Branta canadensis. Canada Goose. One or two flocks seen every season (Smith).

Plegadis guarauna. White-faced Glossy Ibis. One was shot near Norwood, September 21, 1907, and mounted by Mr. Smith. I have seen the specimen myself. It seems to me that this is at present the most extreme southwestern Colorado record for this species.

Ardea herodias. Great Blue Heron. April, 1908, one was brought to Smith to be mounted. It was killed near Redlands, a few miles northwest of Coventry. Smith says a few are seen every year.

Ardea candidissima. Snowy Heron. In April, 1906, Smith mounted one killed at Tabeguache Park, 18 miles northwest of Coventry. In 1908 one was sent up from Naturita. Smith says he has heard of one other.

Grus mexicana. Sandhill Crane. Not common; a few seen every year near Coventry (Smith).

Porzana carolina. Sora. Smith has seen a rail a few miles from Coventry which he thinks was this species.

Fulica americana. American Coot. Not common (Smith).

Lobipes lobatus. Northern Phalarope. Common in migration at Coventry (Smith).

Steganopus tricolor. Wilson Phalarope. Common in migration at Coventry (Smith).

Recurvirostra americana. Avocet. From descriptions given him Smith is satisfied this bird occurs at times. Since this was written he writes me that during the past season two avocets were sent to him for mounting, one of which was killed about two miles above Norwood, and the other about a mile above Coventry, both having been taken some time between August 15 and September 15.

Gallinago delicata. Jack Snipe. A few seen each year at Coventry (Smith).

Actitis macularia. Spotted Sandpiper. Common along the streams (Smith).

Numenius longirostris. Long-billed Curlew. Fairly common (Smith).

Oxyechus vociferus. Killdeer. Common summer resident thruout the region in suitable places.

Pediocetes phasianellus subsp. Sharp-tailed Grouse. Some seen every winter; they breed at higher elevations (Smith).

Centrocercus urophasianus. Sage Grouse. Very common in winter. Breeds about 600 to 1000 feet higher than the region covered by these notes (Smith).

Meleagris gallopavo subsp. Wild Turkey. Smith says he saw one in San Miguel Cañon about two miles above Cottonwood Creek in January, 1898, and that he heard of them a year or two after that, but knows nothing definite or reliable.

Zenaidura macroura carolinensis. Mourning Dove. A very common summer resident all over the region. Smith tells me that he once found a nest with one egg and a newly hatched young one on August 16.

Cathartes aura septentrionalis. Turkey Buzzard. Not uncommon in summer (Smith).

Circus hudsonius. Marsh Hawk. A common summer resident (Smith).

Accipiter velox. Sharp-shinned Hawk. Quite common; does not breed in this region, but does in the pines at higher elevations (Smith).

Accipiter cooperii. Cooper Hawk. I shot one in Naturita Cañon near Coventry, April 29, 1908, and another was seen at the same time.

Accipiter atricapillus. American Goshawk. Fairly common in winter (Smith). April 10, 1908, we found the freshly killed remains of one at the upper end of the East Paradox Valley.

Buteo borealis calurus. Western Red-tail. Common summer resident (Smith).

Buteo swainsoni. Swainson Hawk. A hawk which Smith thinks is this species breeds in the region.

Aquila chrysaetos. Golden Eagle. Common; some, at least, are resident (Smith).

Haliaeetus leucocephalus. Bald Eagle. Rare; seen only in winter (Smith).

Falco sparverius phalœna. Desert Sparrow Hawk. A common summer resident thruout the region.

Bubo virginianus pallescens. Western Horned Owl. A common breeder (Smith).

Speotyto cunicularia hypogæa. Burrowing Owl. Seen in April, 1908, in the East Paradox Valley. They are certainly not common, for Smith had never seen them in the region before, and there are plenty of prairie dogs and dog towns.

Ceryle alcyon. Belted Kingfisher. Seen occasionally along the streams (Smith).

Dryobates villosus monticola. Rocky Mountain Hairy Woodpecker. Not common; resident.

Dryobates pubescens homorus. Batchelder Woodpecker. Either four females were seen at Bedrock, or one female was seen on four different days, probably the

latter, as it was always at the same place, in front of the stopping place there. It is most likely a fairly common resident of the region.

Sphyrapicus varius nuchalis. Red-naped Sapsucker. Common about Coventry in summer (Smith).

Asyndesmus lewisi. Lewis Woodpecker. Never seen at Coventry, but has been near Norwood (Smith).

Colaptes cafer collaris. Red-shafted Flicker. Common in summer; a few winter (Smith).

Phalænoptilus nuttallii. Poorwill. Common in summer; breeds (Smith).

Chordeiles virginianus henryi. Western Nighthawk. Common summer resident (Smith).

Selasphorus platycercus. Broad-tailed Hummingbird. Summer resident (Smith).

Tyrannus verticalis. Western Kingbird. A summer resident.

Tyrannus vociferans. Cassin Kingbird. Smith thinks this is the more common of the two kingbirds.

Myiarchus cinerascens. Ash-throated Flycatcher. Seen only in migration (Smith).

Sayornis saya. Say Phoebe. A very common breeder.

Otocoris alpestris leucolæma. Desert Horned Lark. Variable in numbers, sometimes common, sometimes rather rare; resident (Smith).

Pica pica hudsonia. Magpie. Quite common at Coventry in winter, but according to Smith does not breed there, and I saw no nests anywhere about, but I did see both nests and birds while at Bedrock.

Cyanocitta stelleri diademata. Long-crested Jay. Common about Coventry in late fall and winter. I saw some in that vicinity in April, in both 1906 and 1908, and also saw some at Bedrock.

Aphelocoma woodhousei. Woodhouse Jay. A few have bred near Coventry, but it breeds more commonly 500 feet lower, and below. I saw several about Bedrock, and also at Naturita P. O.

Perisoreus canadensis capitalis. Rocky Mountain Jay. Seen at Coventry in late autumn only, and especially if there is a good crop of piñon nuts (Smith).

Corvus corax sinuatus. American Raven. Common resident and breeder. Smith has taken several nests near Coventry, where they breed in the sandstone ledges of Naturita Cañon.

Corvus brachyrhynchos. Crow. Smith says they are not resident, but common in spring and fall. We saw four in April, 1908, about two miles from Coventry.

Cyanocephalus cyanocephalus. Piñon Jay. A very common resident in the piñons and cedars.

Molothrus ater. Cowbird. Common in summer (Smith).

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. Fairly common in spring and fall (Smith).

Agelaius phœniceus subsp. Red-winged Blackbird. A summer resident and breeder; they breed in the alfalfa fields (Smith). I do not know to what form these birds should be referred; the specimens I took at Bedrock have never been worked out. All our Colorado Red-wings need study. Three or four subspecies have been identified from the state, and they all look alike to us poor fellows who collected them!

Sturnella neglecta. Western Meadowlark. A common summer resident, and spends most of the winter (Smith). I found at Bedrock, April 23, 1908, a nest

with five eggs; and the same day, several hundred yards away, found a single fresh egg lying on the grass.

Euphagus cyanocephalus. Brewer Blackbird. A common summer resident.

Carpodacus cassinii. Cassin Finch. Common at Coventry in winter only. I saw it at both Coventry and Bedrock in 1908.

Acanthis linaria. Redpoll. Occasional at Coventry in winter (Smith).

Astragalinus tristis. American Goldfinch. Taken at Bedrock in 1908.

Astragalinus psaltria. Arkansas Goldfinch. Taken at Bedrock.

Spinus pinus. Pine Linnet. Not common (Smith).

Passer domesticus. House Sparrow. At Coventry and Norwood, many at some ranches. They first came to Norwood four years ago, and to Smith's a year ago.

Poœcetes gramineus confinis. Western Vesper Sparrow. A common summer resident; at Coventry the commonest sparrow.

Chondestes grammacus strigatus. Western Lark Sparrow. A summer resident thruout the region; not very common at Coventry. While a number were seen about ten miles west of Coventry, April 24, 1908, none were seen about that place until May 1. The whole intervening time was cold and chilly, and this may have stopped the birds' movements. I should say that during this week I was daily over ground which would be frequented by the birds, and saw none.

Zonotrichia leucophrys and **Z. l. gambeli.** White-crowned and Intermediate Sparrows. A few seen, not common (Smith). He finds it difficult to distinguish between the two in the field, but most likely both occur, tho only during the migrations. The only specimen I took (at Bedrock) was *gambeli*.

Spizella socialis arizonæ. Western Chipping Sparrow. A common summer resident; arrives about the middle of April.

Spizella breweri. Brewer Sparrow. A common summer resident at Coventry, living in the sagebrush.

Junco hyemalis connectens. Intermediate Junco. Taken by myself at Coventry.

Junco hyemalis mearnsi. Pink-sided Junco. Taken at both Coventry and Bedrock. One seen near Coventry as late as April 29, 1908.

Junco phænotus caniceps. Gray-headed Junco. Taken at Coventry in 1906.

Amphispiza bilineata deserticola. Desert Sparrow. Was quite common at Bedrock after April 17, when I took the first, tho I am inclined to think I saw some two or three days previously. It does not get up as far as Coventry, at least Smith does not know it, and he knows the next species well.

Amphispiza nevadensis. Sage Sparrow. A common summer resident at Coventry (Smith).

Melospiza melodia montana. Mountain Song Sparrow. Rather rare (Smith). I saw two in Maverick Draw, about three miles from Coventry, in 1908.

Pipilo maculatus montanus. Mountain Towhee. A common summer resident (Smith). I saw it at Bedrock, Naturita and Coventry.

Oreospiza chlorura. Green-tailed Towhee. Common, especially in migration. The majority breed higher than Coventry (Smith).

Zamelodia melanocephala. Black-headed Grosbeak. A common summer resident, breeds near Coventry (Smith).

Passerina amœna. Lazuli Bunting. Rare; breeds in Naturita and Maverick Cañons (Smith).

Calamospiza melanocorys. Lark Bunting. Not very common; does not seem to breed at Coventry (Smith).

Piranga ludoviciana. Western Tanager. Not very common; not more than fifteen seen at Coventry during ten years residence (Smith).

Petrochelidon lunifrons. Cliff Swallow. A common summer resident (Smith).

Hirundo erythrogaster. Barn Swallow. Common summer resident (Smith).

Tachycineta thalassina lepida. Violet-green Swallow. Common summer resident (Smith).

Bombycilla cedrorum. Cedar Waxwing. Smith saw a flock in the winter of 1907-8, from which he shot one. This is the only time he has seen the bird.

Lanius borealis. Northern Shrike. Occasional in winter (Smith).

Lanius ludovicianus excubitorides. White-rumped Shrike. A common summer resident (Smith). I saw it at Bedrock, Naturita and Coventry.

Dendroica aestiva. Yellow Warbler. Occasionally seen at Coventry (Smith).

Dendroica auduboni. Audubon Warbler. Taken by myself at Bedrock, April 20, 1908, and in Naturita Cañon (San Miguel County) near Coventry, April 29, 1908. It of course goes into the higher mountains to breed, and is only found in this region during the migrations.

Dendroica nigrescens. Black-throated Gray Warbler. Common summer resident in the piñons and cedars (Smith).

Oroscoptes montanus. Sage Thrasher. Common summer resident (Smith).

Mimus polyglottus leucopterus. Mockingbird. Very rare (Smith).

Salpinctes obsoletus. Rock Wren. Common summer resident (Smith). I saw it at Bedrock and Coventry.

Thryomanes bewickii bairdi. Baird Wren. Smith found a nest in a hollow cedar tree, July 4, 1903, containing six fresh eggs, which were identified as belonging to this species by Mr. Fred M. Dille. Mr. Smith says the bird was a very sweet singer.

Troglodytes aëdon parkmanii. Western House Wren. Common summer resident (Smith).

Sitta carolinensis nelsoni. Rocky Mountain Nuthatch. Common. I saw several in 1908.

Sitta pygmaea. Pigmy Nuthatch. Resident; breeds; Smith has found the nest.

Bæolophus inornatus griseus. Gray Titmouse. Not very common (Smith). I have seen it near Coventry and near Naturita P. O.

Penthestes gambeli. Mountain Chickadee. Common; resident about Coventry.

Psaltriparus plumbeus. Lead-colored Bush-tit. Fairly common; breeds; Smith has found the nest in the piñons.

Planesticus migratorius propinquus. Western Robin. Common summer resident.

Sialia mexicana bairdi. Chestnut-backed Bluebird. Not very common and does not breed (Smith). I saw several near Coventry, April 26, 1906.

Sialia currucoides. Mountain Bluebird. Common summer resident (Smith).

Colorado Springs, Colorado.

BIRDS OF THE BIG BASIN

By MILTON S. RAY

WITH THREE PHOTOGRAPHS BY OLUF J. HEINEMANN

I HAVE told in a previous number of THE CONDOR how Heinemann and I tramped from the coast thru the Ben Lomond Mountains to the Big Basin, which was reached on the 13th of June, 1908. The present article tells of our stay of four days in the Basin, and the return journey to the coast.

Our stay, while rather short, still gave us time to visit the principal points of interest and to gain a fair idea of the bird life. Arriving as we did at a later date than in 1907, and in a year of less rainfall, we found that the extreme dampness of the previous year did not now prevail. Bird life in general was most abundant about the settlement known as the Governor's Camp, due no doubt to the fact that the habitations attract many species which, receiving protection as they do here, have no occasion to leave.



COAST JAY FORAGING AROUND CAMP IN BIG BASIN

Thruout the entire Basin the Coast Jay (*Cyanocitta stelleri carbonacea*) is an ever present species and is even more noticeable on account of its noisy ways and deep blue plumage. These jays are the most arrant thieves I know of and were the cause of many a joke on "green" campers. One party arriving from Los Gatos in a motor car brought a cherry limb thickly hung with fruit; but leaving it on the hotel porch for a few moments they found, on returning, they had nothing to show their expectant friends but the green leaves. Bolder birds than these Big Basin Jays I

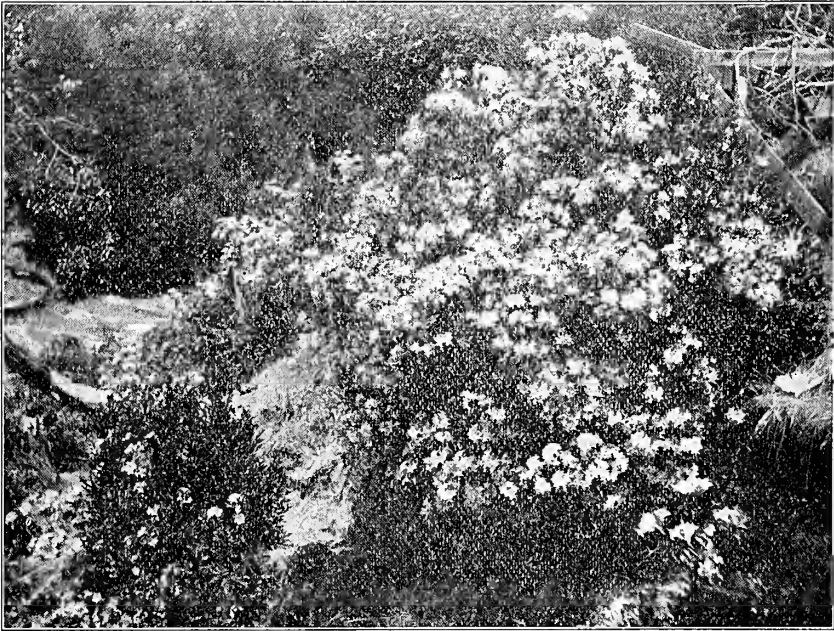
have never seen anywhere, not even excepting the Mainas of Honolulu or the Magpies of Shanghai. When eating our meals on the camp-tables, which were about eight feet long, a jay, or often several, would alight on the far end, and with that wise-acre look and scolding note come sideling up the table. Picking up the nearest eatable handy the bird would fly to a nearby perch to enjoy it; or perhaps, having been noticed by other jays, would be compelled to fly to safety thru the woods with a host of screaming fellows in pursuit. In no way afraid of the camera we were enabled to take pictures as close as we desired; but our camp being in the thick shade instantaneous photographs, for the jay is ever active, were not a great success. The jay rises early, for every morning before the camps were astir the jays, hungry and saucy, paraded thru the grounds peering into every nook and cranny and, alas, farewell to anything eatable lying within their reach. The jay, tho bold, is ever alert, and possesses a remarkable quickness of vision, as many an angered camper, with well-directed tho unavailing missile, is aware.

This bird has one of the most varied vocabularies I know of. Here are some of the most common calls: a quick succession of chep chep, chep, chep, usually

followed by cayad, cayad, cayad, or a high pitched keep, keep keep, or kee-lo, kee-lo, sometimes varied to kid, kid, kid. Nor is this all; for this very versatile bird at times breaks into a melodious sort of whistle which, while not of rare beauty, still is easily the equal of some of the birds termed songsters.

The noisy California Woodpecker (*Melanerpes formicivorus bairdi*), with their loud, merry cry, yay-cob, yay-cob, yay-cob, were most of the time among the tops of the tallest trees, and here a tall tree means two hundred feet or so. Even from this great height, however, their loud call resounding thru the woods was all too plainly heard by those who preferred to linger in the misty shades of dream-land in the early morning hours.

Here, too, in these great redwood timber lands is the home country of the Point Pinos Junco (*Junco hyemalis pinosus*). Attractive but rather shy, these little birds were nearly always about the edge of camp, hunting for stray morsels



AZALEAS IN BIG BASIN

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in a quiet, unobtrusive way. The snow-bird can make no claim as a songster, yet with its dainty ways and pleasing plumage it is by no means the least interesting of the birds in the great forest.

Down along those waterways, the Waddell, Berry Creek and others, that course thru the endless woods, are the haunts of less known forms of bird life. Know you how these silvery streams go laughing thru the forest beautiful? Where great trees line the banks with varied bark effects in grays and browns, and verdant moss-grown rocks and in gayer green the alders, ferns and shrubbery, and azaleas, too, veritable trees! thick with thousands of rich scented, snowy blossoms? This is a fairy land and the home of those feathered fairies, peerless in song, the Winter Wren, Water Ouzel and Hermit Thrush. Nor should comparisons be drawn between their songs; for each in its way is a gem of bird-music. That of the Winter Wren cheery, high-keyed and sweet, lends a charm to every woodland ramble; the

Water Ouzel's sung in unison with the waterfalls is a blending rare of liquid notes. The ever far-away song of the Magician Thrush, secluded and solitary, rich in tone and clear as a crystal bell, gives an added depth and distance and an air of fascinating mystery to these great forest canyons, remembered long after, when much else is forgotten.

Our ramble carried us thru the Basin to all four points of the compass, on the north to Sempervirens Camp, east to Pine Mountain, south along the Waddell



BERRY CREEK FALLS, BIG BASIN: HOME OF WATER OUZELS,
WINTER WRENS AND HERMIT THRUSHES
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favorite haunt of Water Ouzels.

Perhaps the most striking feature of the bird life in this region is the great difference between the birds within the Basin and those in the more or less detimbered country on its eastern edge. A comparison of species in both sections better illustrates this difference. These lists are arranged in order of abundance, the commonest species being number one.

and west to the head of Berry Creek. Nor did we always follow the placarded trails but traveled numberless miles thru the unbroken wilderness, which was often laborious and at times somewhat dangerous. From the top of Pine Mountain, which we ascended on June 15th, we were afforded a view of the entire region. Below the peak, running north and south, lay the great forest lands, the low ranges and valleys extending far north into San Mateo county, while on both sides of the Basin, east and west rose higher but rocky and barren mountain ranges.

The trip to Berry Creek and its many waterfalls was taken on June 16th. Altho somewhat difficult, owing to the thick underbrush and precipitous character of the country, we secured successful views of both the upper falls, Red Bank and Mossbrae, as well as the better known Berry Creek Falls, which is shown herewith. Here, amid the continuous roar of the foaming falls and the shifting clouds of spray, was ever the

SPECIES FOUND WITHIN THE BIG BASIN

1. Coast Jay (*Cyanocitta stelleri carbonacea*)
2. Point Pinos Junco (*Junco hyemalis pinosus*)
3. California Woodpecker (*Melanerpes formicivorus bairdi*)
4. California Purple Finch (*Carpodacus purpureus californicus*)
5. Western Winter Wren (*Nannus hiemalis pacificus*)
6. Santa Cruz Chickadee (*Parus rufescens barlowi*)
7. Olive-sided Flycatcher (*Nuttallornis borealis*)
8. California Quail (*Lophortyx californicus californicus*)
9. Western Flycatcher (*Empidonax difficilis difficilis*)
10. Brewer Blackbird (*Euphagus cyanocephalus*)
11. Monterey Hermit Thrush (*Hylocichla guttata slevini*)
12. American Water Ouzel (*Cinclus mexicanus unicolor*)
13. Western Wood Pewee (*Myiochanes richardsoni richardsoni*)
14. Intermediate Wrentit (*Chamaea fasciata intermedia*)
15. Turkey Vulture (*Cathartes aura septentrionalis*)
16. Western Red-tailed Hawk (*Buteo borealis calurus*)
17. Belted Kingfisher (*Ceryle alcyon*)
18. California Creeper (*Certhia familiaris occidentalis*)
19. Russet-backed Thrush (*Hylocichla ustulata ustulata*)
20. Black-headed Grosbeak (*Zamelodia melanocephala capitalis*)

SPECIES FOUND AT THE BASIN'S EDGE

1. California Jay (*Aphelocoma californica californica*)
2. Green-backed Goldfinch (*Astragalinus psaltria hesperophilus*)
3. California Towhee (*Pipilo crissalis crissalis*)
4. Olive-sided Flycatcher (*Nuttallornis borealis*)
5. California Thrasher (*Toxostoma redivivum redivivum*)
6. California Quail (*Lophortyx californicus californicus*)
7. Western Bluebird (*Sialia mexicana occidentalis*)
8. Intermediate Wrentit (*Chamaea fasciata intermedia*)
9. San Francisco Towhee (*Pipilo maculatus falcifer*)
10. Mourning Dove (*Zenaidura macroura carolinensis*)
11. Western Red-tailed Hawk (*Buteo borealis calurus*)
12. Black Phoebe (*Sayornis nigricans nigricans*)
13. Russet-backed Thrush (*Hylocichla ustulata ustulata*)
14. Belted Kingfisher (*Ceryle alcyon*)
15. Dotted Canyon Wren (*Catherpes mexicanus punctulatus*)

While to the bird-lover the Basin, with its delightful surroundings and varied tho not always abundant bird life, is an ideal place for study, yet, to the oologist the region may prove a disappointment, as nests are alike hard to find and to reach. We found but three nests, two of which were located on the way back from Mossbrae Falls and both were of the Western Flycatcher. The first, an empty nest, was placed among the bark folds of a great redwood, fifteen feet up, along Berry Creek. The second was built where the ground sloped slightly above a footpath and was partially hid by weeds and roots and held three eggs apparently fresh. The two were similarly constructed of moss, stems and spider webs, and lined with redwood bark.

It was on the day we left, the 17th of June, that we found our third nest, an Intermediate Wrentit's. We had emerged from the forest proper and were near its

edge when I noticed a nest laced to an upright alder fork, in a thicket, twelve feet up. It was made of plant fibers and down, and a few weed stems, and contained four very small young. The parents, while they strongly resented my intrusion, did not appear in the least afraid, but boldly returned to the nest while I was still at the foot of the tree.

From the Basin, past Blume's old mill, up the long but gradual grade we toiled. Noon found us on the summit and some hours later the familiar cabins at Boyea Creek Dam appeared below us among the timber. The afternoon and night were passed here, and next morning a hurried march was made to Folger, from where the train was taken to Santa Cruz and Capitola.

Here at Capitola, beneath the great alders, sycamores and willows that shade our camp, I am penning these lines. It is very pleasant here at the mouth of Soquel Creek and on the shore of Monterey Bay, yet, after all, there is no place in all this fair county like that great woodland, the Big Basin Forest.

Capitola, California.

NOTES ON THE HABITS OF *PHAINOPEPLA NITENS*

By HARRIET WILLIAMS MYERS

ON the 22nd of last April (1908) I heard the Phainopeplas in our neighborhood for the first time of the season. The next day I saw a pair of them about, and on the 26th, at 3:40 P. M., I came upon a pair of them nest-building in the same pepper tree where the year before there had been a nest; not in the same place, however, this nest being in an upright crotch, while last year's was in a horizontal one. The nest was not far along—probably only begun that day.

This nest-building in April I consider unusual for these birds—at least in my vicinity (Garvanza). Ordinarily they first make their appearance not earlier than April 22, oftentimes a few days later. Always, also, before this year the males have been observed two or three days in advance of the females, and neither sex has been abundantly represented before the early part of May. The earliest record of nest building that I have before this one is May 12.

Ordinarily there has seemed to be rivalry between the males in the selection of mates, not a little mild dueling being a part of the program. These birds being paired when they first made their appearance has led me to wonder if they came north mated.

As I have previously written for THE CONDOR my previous observations regarding the nest building habit of this species, I shall not dwell upon it in this short record, since it differed not materially from other nests watched.

These birds seemed neither of them to be very shy, nor to mind my watching them. In this they differed from others I have watched, usually one bird, sometimes the male and sometimes the female, minding my presence.

Both birds worked at the nest building, the male, as usual, doing the major part of it. May 3rd, just a week after I had discovered the nest, was a cold day with strong wind and some rain. Up to this time the birds had been seen daily at the nest and it seemed about finished. It was 5 P. M. before I got out to see how things were progressing. As I came in sight of the tree I saw the female fly out

from the nest, but she didn't return tho I watched for eight minutes. About this time I noticed a pair of Phainopeplas building a nest in another pepper tree, perhaps 150 feet away. This nest was near the top of a small branch that grew in an almost perpendicular direction. A small piece of rolled-back bark seemed to be its only support. It seemed an almost impossible place for a nest, but the birds were building industriously despite a high wind.

I did not go to the first nest at this time; but the next afternoon when I went to look at it, it was entirely gone. Not until then did I realize that undoubtedly this second nest was built by the same pair of birds that had built the first. What made them change their nest I could not guess, unless the wind and rain had done so.

All the next forenoon (May 5) the birds were seen working at the new nest. It was noticed that a pair of mocking birds that were nesting near by often bothered them, driving them about and making themselves generally disagreeable. On the afternoon of the 6th, as I passed this second nest tree I noticed a male Phainopepla go down to the nest and fly away again with something in his mouth. This was carried to another pepper tree only a few yards away.

Investigation proved that a third nest was being constructed on a horizontal branch of the tree. There was no crotch and the nest was a flimsy affair; nevertheless the male sat upon it so long that I wondered if brooding had begun. Going back to nest number two I saw that it was almost gone. When, two days later, I again looked for this third nest, like the other two—it had vanished.

Just where the birds went after this I am not sure, but a pair of Phainopeplas were seen in a large oak tree less than a block away. I have always thought that the last two nests were moved because of the action of the mocking birds. This is not the first time that I have known these Phainopeplas to change their nests, but I never knew them to do so, so many times.

Later in the season I found a Phainopepla's nest which contained two well-feathered young. In fact they were nearly ready to leave the nest. One of them seemed quite restless, flirting his short tail, spreading his wings, and calling "scrat" vigorously. This was on July 10, and was, I believe, the second nest of the birds.

Saturday morning, July 11, while I watched at the tree, the restless nestling jumped from the nest onto the branch beside it, paused a moment, turned around, and jumped back. The next morning shortly after eleven o'clock one of the young birds again jumped out of the nest onto the limb and then hopped into the tree above the nest. He flew and hopped about in the tree for twelve minutes and then flew back to the nest and cuddled down beside his companion. While he was in the tree the male fed him once and the bird in the nest also once. The food was nightshade berries carried in bill and throat.

The next morning, July 13, the young were still in the nest, but when I visited it a little before ten o'clock they had both left and were not even in the tree. One of them I found across the street in a pepper tree. The male came to feed him but would not do so while I was near.

All the time that I watched at this nest only the male bird was about. Some ill fate had evidently overtaken the female, leaving the care of the nestlings entirely to the male, no hardship for a bird that does so much of it anyway.

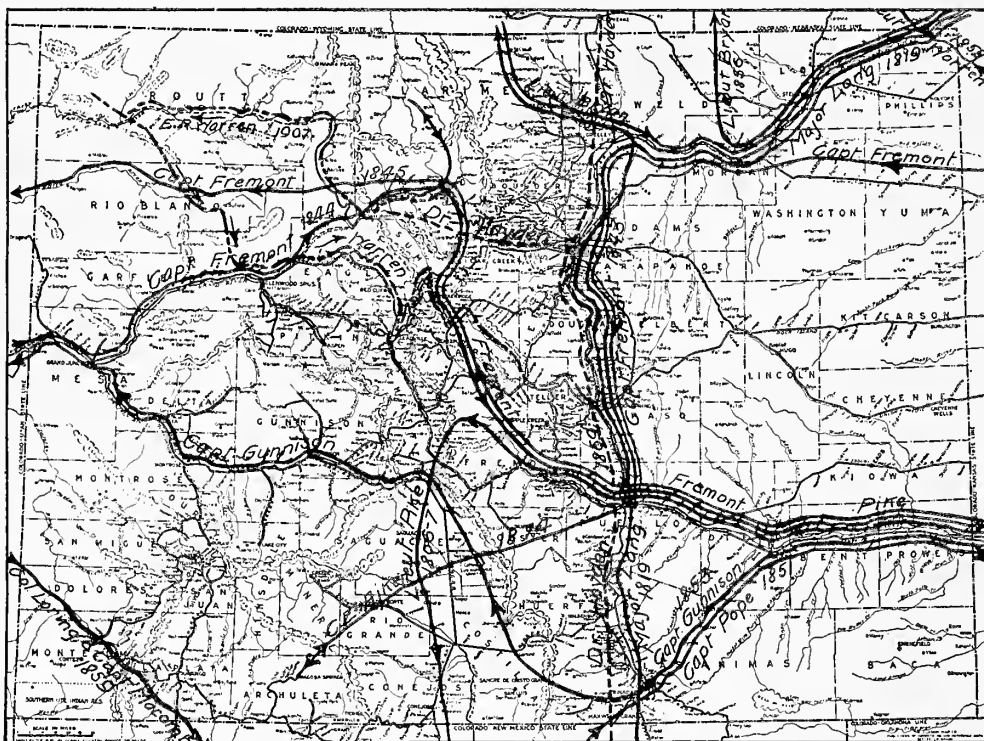
Los Angeles, California.

THE HISTORY OF COLORADO ORNITHOLOGY*

By ROBERT B. ROCKWELL.

WITH TWO MAPS

IN choosing the history of Colorado ornithology as my subject tonight, my desire is to place before my hearers the present status of ornithological knowledge in Colorado, rather than to enter into a discussion of the purely historical phase of the subject. In order to make the present status clear it is necessary to go back to the beginning and trace the gradual development of the subject down to the present time.



MAP OF COLORADO SHOWING THE ROUTES FOLLOWED BY THE VARIOUS EXPEDITIONS WHICH HAVE CONTRIBUTED TO THE KNOWLEDGE OF COLORADO ORNITHOLOGY

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In a state like Massachusetts or New York, where naturalists have been at work for over two centuries, and great masses of data and information on the subject have been published which are not now available, it would be practically impossible to make a close examination of all the contributory elements; but in our own state, where less than half a century has elapsed since the first systematic study of our birds was begun, and where the greater part of the early investigations were recorded in the government reports, the task is much simpler.

The first definite reference to Colorado birds is found in Lieutenant Pike's account of his historic trip thru this state during 1806-7. He mentions the raven,

*Read before the December meeting of the Colorado Biological Society.

turkey, magpie and pheasant; and while in the light of the present knowledge of our native birds, we may be reasonably sure of the species to which he refers, this passing reference is of no value other than one of historical interest.

In 1819-20 the memorable expedition of Major Long was made, and with this party came the first trained ornithologist who entered the boundaries of our state as it exists today. Thomas Say on this trip recorded twenty-one species, eight of which were new to science, and were described in the account of the expedition published in Philadelphia in 1823.

Beginning with the famous Fremont expeditions in 1843-45, the War Department sent into the western country six exploring parties that entered Colorado, and most of these parties contributed more or less to the then meager stock of knowledge regarding our bird life. It is rather interesting to note the routes followed by the various parties, as it gives a very clear idea of the vast scope of country which was not touched by any of these parties.

(1) Lieut. Pike in 1806-7 followed up the course of the Arkansas River to about where Canyon City now stands, thence in a roundabout way thru South Park, San Luis Valley and south into New Mexico.

(2) Major Long in 1820 followed up the South Platte River to Denver, crossed the "Divide" to Colorado Springs, and then went south into New Mexico, while a detachment of his party went down the Arkansas River to Kansas.

(3) Capt. Fremont, coming West in 1843, came from Kansas and crossed to the South Platte, up this to Denver, and over the "Divide" to Colorado Springs and Pueblo, back again over the same route to Denver, north to the Poudre, up the Poudre to North Park, and north to Wyoming. Eastward in 1844 he came into Colorado from Utah, by way of the valley of the Grand River, and spent much of the summer in exploring North, Middle and South Parks; crossed from the latter to the Arkansas, down this to Bent's Fort, and then northeast across the prairie to Kansas.

(4) Capt. Fremont in 1845 came across Kansas westward to Bent's Fort on the Arkansas River, up this river to its source, across into Middle Park, then west to White River, down this to Utah. A detachment from this party under command of Lieut. Abert, went south from Bent's Fort to the headwaters of the Canadian River in New Mexico.

(5) Capt. Pope in 1851 came northwest from New Mexico to La Junta, thence down the Arkansas River into Kansas.

(6) Capt. Gunnison in 1853 followed up the Arkansas River and its tributaries to Trinidad, thence west of old Fort Massachusetts, near the present site of Fort Garland, north over the Continental Divide onto the Gunnison River, thence down that stream and the Grand River into Utah.

(7) In 1855 Lieut. Warren just touched at Julesburg in passing across western Nebraska.

(8) Lieut. Bryan in 1856 followed up the South Platte River to Fort Morgan and then turned north into Wyoming. On the return trip the party entered Colorado from Wyoming near the headwaters of the Cache á la Poudre River, and followed down this stream to its junction with the Platte, and down this latter stream to Nebraska. A detachment explored the district in Colorado north of the Poudre River and east to Crow Creek.

(9) In 1859 Col. Loring and Capt. Macomb passed across the southwest corner of the State in passing from Utah into New Mexico.

The specimens and field notes of the naturalists attached to these various expeditions were worked up under the supervision of Prof. Spencer F. Baird, who was

then Assistant Secretary of the Smithsonian Institute, and incorporated into the ninth volume of the Pacific Railroad Reports. Some additional notes were included in Volume X.

The total number of species recorded for the first time from Colorado in the Pacific Railroad Reports was twenty-three, and these, together with the eleven species recorded by Say, or thirty-four species in all, constituted the entire checklist of Colorado, with the exception of one species added by Baird in 1870, at the time Dr. J. A. Allen visited the State in 1872, and to his untiring efforts while within our State we owe the first important step in the development of our ornithological knowledge. The results of his observations, which were published in 1872 as a Bulletin of the Museum of Comparative Zoology under the caption of "Notes of an Ornithological Reconnaissance of portions of Kansas, Colorado, Wyoming and Utah," contained the first local list ever published of Colorado birds and added eighty-four species not before recorded for Colorado.

Shortly after, and during the same year that Dr. Allen's paper appeared, the vast amount of material and information which had been collected by Mr. C. E. Aiken during several years previous to 1872 were published as Proceedings of the Boston Society of Natural History under the title of "Notes on the Birds of Wyoming and Colorado Territories," by C. H. Holden, Jr., with additional memoranda by C. E. Aiken. This paper was edited by Prof. T. M. Brewer, with the statement that Mr. Holden's notes were taken in northern Colorado and southern Wyoming, but as no precise localities are given in Mr. Holden's notes they are not available as actual Colorado records. Mr. Aiken's notes, however, treat of 142 species, 59 of which are new records for Colorado. It is unfortunate that Mr. Aiken's notes were not published previous to those of Dr. Allen, as many of the species recorded for the first time by Allen were observed by Aiken before they were by Allen, thus depriving Aiken of the honor of their discovery, which, through his unflinching efforts in the interest of ornithology, he so richly deserved. Mr. Aiken's observations constitute the greatest amount of information gathered by any one man on this subject, and the paper just mentioned contains the first account of the winter movement of our birds.

In 1873 Mr. Robert Ridgway published in the Bulletin of the Essex Institute the first list of Colorado birds. This list contains 243 species, of which 59 are recorded for the first time from Colorado. It is purely a compilation, based upon the field notes of various naturalists; the greater part of the list is based upon the notes of Mr. Aiken, while many of the species were included on the authority of Henshaw, whose work did not appear until two years later, and a few species were included upon the strength of their occurrence in the Maxwell Collection, although a complete list of the birds in this famous collection was not published until 1877.

In 1874 Dr. (then Capt.) Elliott Coues published (as a United States Geological Survey bulletin) "Birds of the Northwest," which plays an important part in our subject, as it contains the only published account of the material collected by Stevenson on the trip made by Dr. Hayden's party in 1869. This party started from Cheyenne, worked south as far as Denver, thence west across the range into Middle Park, and back to Denver and south along the edge of the foothills into New Mexico. "Birds of the Northwest" also contains the very complete notes of Mr. T. M. Trippe on the birds of Idaho Springs and vicinity.

In 1873 Mr. H. W. Henshaw made prolonged visits at Denver and San Luis Valley, and in 1874 Mr. Aiken as his assistant made large collections in the vicinity of Colorado Springs, and Pueblo, and from there through the San Luis Valley as far west as Pagosa Springs. The results of these investigations were published in

1875 as United States Geological Survey reports. This work contains specific Colorado records of 170 species of which 14 are recorded for the first time.

In 1877 Robert Ridgway published the first complete list of the birds in the Maxwell collection at Boulder. This wonderful collection gathered and prepared by Mrs. Maxwell contained 234 species of birds, 21 of which were recorded for the first time for Colorado in Mr. Ridgway's list.

In 1878 Coues' "Birds of the Colorado Valley" appeared, but it does not play an important part in our subject as most of the ornithological information contained in it is copied from the Henshaw report of 1875.

Now, in looking back over the work done by these pioneer naturalists, we recognize a steady and comparatively rapid development, which had its beginning in 1823. In this short space of fifty-four years the basis of our present knowledge of Colorado ornithology was firmly laid, and our pioneer ornithology really ends with 1877; for from that year up to date the 108 species which have been added to our list have been recorded separately or in very small numbers, with the exception of Cooke's "Birds of Colorado", published in 1897, which added nineteen new species to the check list. In fact during this period of twenty years no more than nine new species have been recorded for the State at any one time, this being a list by Horace G. Smith published in the *Nidologist* in 1896, which with five new species recorded by him in 1886 makes a total of fourteen species recorded for the first time by him.

Thus it will be seen at a glance that the basis of our present knowledge of this subject may be attributed to Thomas Say, Spencer F. Baird, J. A. Allen, C. E. Aiken, Robert Ridgway, H. W. Henshaw, Horace G. Smith and W. W. Cooke, a group of names of which not only Colorado but indeed North America at large may well be proud.

Up to this point our attention has been focused almost entirely upon the development of the subject thru the addition of new species to our check-list, and as a matter of fact, up to this time, these additions have been the matter of prime importance; but from now on, with the great bulk of native species known and recorded, the addition of new species assumes its proper place as simply an incidental phase of the subject; and the more intricate and important phase of ornithology, the life histories of the birds, takes its place. The stupendous task of working out the breeding range, seasonal movements, migration, food habits, economic value, and subspecific nomenclature had its beginning as far back as our first information on ornithology dates; but these first efforts were very unimportant as compared with the work which has been done since. Not until the time of Aiken and Allen in the early seventies was any systematic work done along these lines; and it is a notable fact that the observations of some of the pioneer naturalists are, even up to the present time, considered the standard works along these lines. Two notable instances of this fact are the field notes of C. E. Aiken and T. M. Trippe.

But with this new branch of the subject come many new names; and instead of a few authorities publishing a few pretentious and more or less comprehensive works, we find a larger number of authorities recording valuable additions to our information on the subject as magazine articles, or in similar ways. Thus from 1877 to 1897 a great deal of data was published by a number of naturalists, much of it being of a purely local nature; but from the fact that it was local it was doubly valuable, in that the sum total of this local work made possible the very comprehensive resume of the subject that was published by Cooke in 1897.

Before turning our attention to the local work two lists must be mentioned as among the important contributions to our state ornithology.

The first was a paper written by Mr. F. M. Drew "On the Vertical Range of Birds in Colorado", which was published in the *Auk* in 1885. This paper, which contained notes on 277 species of which four were new to the State, was by far the most important contribution to our knowledge of bird distribution up to that time, and even up to the present date it remains a standard reference work.

The other paper, entitled the "Birds of Colorado", was written by Mr. Chas. F. Morrison and published in the "Ornithologist and Oologist" in 1888-89-90. I can not do better than to quote Prof. Cooke. Speaking of this list he says, "It is the most extensive list of Colorado birds published up to this time. Begins with No. 1 of the A. O. U. Check-List and closes with No. 570 enumerating 233 species. The list was never completed, owing to the destruction by fire of much of the material. In addition to records of birds already published, the author had the use of a large amount of unpublished notes sent him by local collectors. The list if completed at that time would have shown 326 species, but as the records of some 14 species recorded here have since been ascertained to be incorrect it would reduce the real number to 312 or 35 more than Mr. Drew's list published three years previous."

In the earlier part of our discussion we noted the routes followed by the various exploring expeditions that touched this State and got a fair idea of the scope covered by their reports; but for obvious reasons their observations were of a transient nature, and as a rule contained very little regarding the local status of any given species. Let us now turn our attention to the men who, while not covering such a large scope of country, confined their efforts to some restricted area and worked out the ornithological problem to greater or less completeness.

As I have said before the first real local lists that were published were contained in J. A. Allen's paper published in 1872. This paper contained three lists of importance, one list of 81 species observed in Colorado during July and August, a list of 54 species observed in South Park, Park County, in July, and a list of 36 species observed during the same month on Mt. Lincoln, Park County.

The Henshaw report published in 1874 contains two local lists. One of these is a list of 82 species observed at Denver, and the other is a list of 104 species observed at Fort Garland, Costilla County.

In this same year the very complete notes of Mr. T. M. Trippe on the birds of Idaho Springs and vicinity (Gilpin and Clear Creek Counties) were published in "Birds of the Northwest", but as they are scattered thru the body of the book their segregation into a local list is difficult.

In 1879 W. E. D. Scott published a list of 60 species observed at Twin Lakes, Lake County, and this, so far as I know, is the only published record referring specifically to Lake County.

In 1881 Mr. F. M. Drew published the results of several years' active work in southwestern Colorado as "Field Notes on the Birds of San Juan County, Colorado." This list contains 104 species, including six species new to the State, and gives much valuable information regarding breeding habits, migration and occurrence.

In 1882 and 1884 Mr. D. D. Stone published two short lists of birds observed above 11,000 feet in the vicinity of Hancock, Gunnison County. The first list treats of 16 and the second of 18 species, and while these lists are very small they are of unusual interest owing to the altitude at which they were taken.

In 1883 Allen and Brewster published an annotated list of 134 species observed

in the vicinity of Colorado Springs, and, in connection with the extensive observations of C. E. Aiken at Fountain and other points, covers the bird life of El Paso County thoroly. The Aiken notes mentioned before, which were published in 1873, include 142 species observed in El Paso County.

In 1883 H. D. Minot published a list of 44 species observed in Boulder County (and at Manitou, El Paso County), and this list, together with the list of the Maxwell collection published by Ridgway, and the copious notes of Dennis Gale published in Bendire's "Life Histories", constitute the great bulk of published information regarding the birds of Boulder County.

In 1885 C. W. Beckham published a "List of the Birds of Pueblo County" containing 91 species, to which he added 22 additional species in a supplementary list published two years later. Beside the work of Beckham in Pueblo County W. D. Lowe did much work there, and among other things published a list of the dates of arrival of 70 species. Herman W. Nash, Capt. D. P. Ingraham and P. L. Jones also did valuable field work there, altho very little of the results of their observations was published until they appeared in Cooke's "Birds of Colorado."

In 1886 C. F. Morrison published a list of 31 species observed at Fort Lewis, La Plata County, and two years later he published a "List of the Birds of La Plata County" containing notes on 116 species, which probably included the notes used in the former paper.

In 1889-90 V. L. Kellogg published a list of the summer birds of Estes Park, Larimer County, containing 89 species, and this was followed in 1896 by a list of 76 species observed by Richard McGregor.

In 1894 W. D. Lowe published a list of the birds of the Wet Mountains, Huerfano County, containing 76 species, and giving much valuable information regarding their vertical distribution.

In 1896 Horace G. Smith published a list of 35 species mostly water birds, observed in the vicinity of Denver, nine of which are recorded from Colorado for the first time. Mr. Smith also published in 1893 a list of 32 species observed in the city of Denver.

This in substance was the status of published local knowledge up to the time that W. W. Cooke published his "Birds of Colorado" in 1897. I do not mean to imply that these authorities were by any means the only ones at work in the State, for a number of well known ornithologists were at work in different places, who up to this time had not published the results of their observations in a comprehensive manner. Breninger, W. G. Smith and Osborn in Larimer County, Dille in Weld County, Horace G. Smith at Denver, E. L. Berthoud at Golden, Capt. P. M. Thorne at Fort Lyon, Edwin Carter in Summit and Grand Counties, and several others in various parts of the State were doing systematic field work; but up to this time (that is 1896-7) their notes as a whole were not available to the public. It may be mentioned in this connection that a great deal of this information has not been published up to this time.

In 1897 Prof. W. W. Cooke published as a Bulletin of the State Agricultural College "The Birds of Colorado" which up to the present date is by far the most complete and comprehensive work on Colorado birds. This publication which contains fully annotated records of 363 species is a careful compilation of all the work done in the State and contains, beside this, the first and only complete bibliography of Colorado ornithology, as well as a very comprehensive outline of the history of the subject, to which I am indebted for much of the data contained in this paper.

In addition to the great amount of data mentioned heretofore, Prof. Cooke

with characteristic energy opened an extensive correspondence with ornithologists in all parts of the state with the result that the following additional notes were placed at his disposal and incorporated into his work.

A. W. Anthony: list of 226 species taken in Colorado.

W. H. Bergtold: notes on 20 species taken in Routt County and at Denver.

G. F. Breninger: list of 257 species taken in Larimer County.

R. A. Campbell: list of 40 species noted at Boulder.

E. B. Darnell: notes on 68 species observed in Routt County.

H. G. Hoskins: notes on 58 species seen near Burlington, Kit Carson County.

W. P. Lowe: list of 188 species found at Pueblo and in the Wet Mountains.

Chas. F. Morrison: list of 332 species known to occur in Colorado.

Wm. Osborn: annotated list of 254 species identified by himself and W. G. Smith in the vicinity of Loveland.

Capt. P. M. Thorne: annotated list of 160 species collected by himself at Ft. Lyon during a five year's residence.

In 1898 Prof. Cooke published a supplement to the list, containing eleven additional new species and much valuable information regarding habits, distribution, etc.

A second supplement published in 1900 contains a full account of the observations of Edwin Carter in Summit County and Middle Park covering 184 species, and also much valuable information based upon the more recent work of C. E. Aiken on the "Divide" between Colorado Springs and Denver. The second supplement adds 13 new species to the state list, making a grand total of 387 species recorded for Colorado up to May, 1900.

The bibliography of the two supplements contains 43 additional references to Colorado birds, and Prof. Cooke writes me under a recent date that 106 titles have been added to this since 1900, making a total (with the 182 references contained in the original list) of 331 titles in all up to the present time.

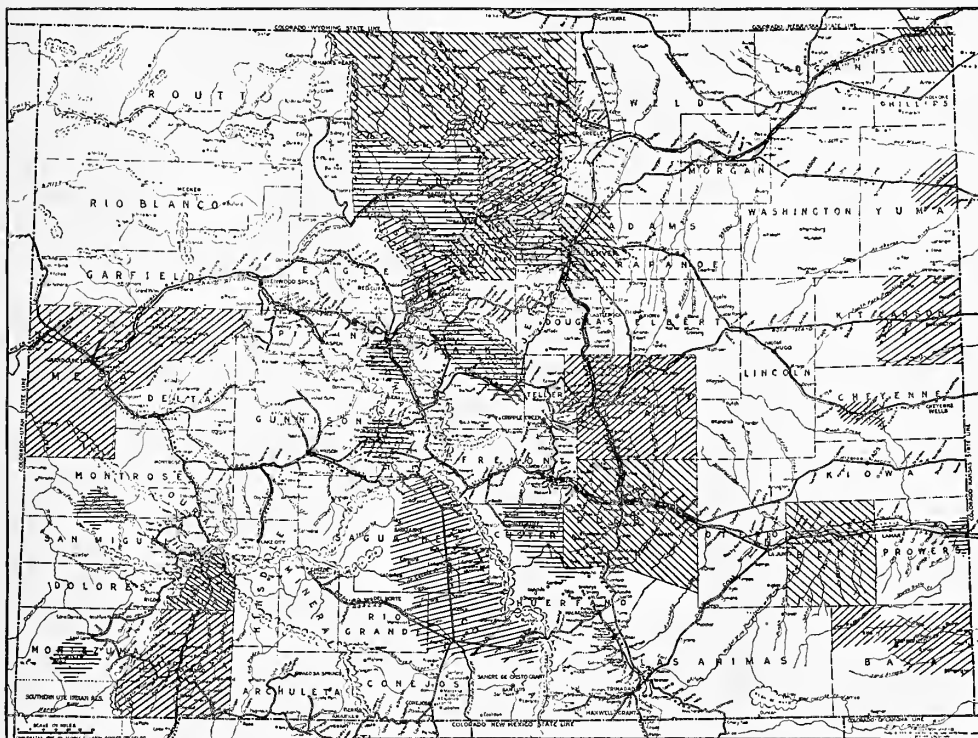
In this connection it might be well to mention the standard works on American ornithology, that contain specific references to Colorado birds. Thus in Baird, Brewer and Ridgway's "History of North American Birds" we find specific Colorado records for 54 species; in Bendire's "Life Histories of North American Birds" of 26 species; in Coues' "Key to North American Birds", 35 species; in Davie's "Nests and Eggs of North American Birds", 77 species; in Fisher's "Hawks and Owls of the United States", 12 species; in Maynard's "Eggs of North American Birds", 22 species; and in Ridgway's "Manual of North American Birds", 34 species. These numerous references however, have no bearing upon the historical phase of the subject, as they are nearly all based upon notes published previously, and mentioned before in this paper. In fact in this entire list of standard works less than half a dozen species are credited to Colorado for the first time, of which three species are given without any authority for the record. Their chief value lies in the wide publicity given these Colorado records owing to the widespread use of these books as reference works.

You are probably aware of the progress of ornithological work in the State during the past eight years. Most of the pioneer naturalists are gone, or are carrying on their observations in other states, and their places have been taken by a newer coterie of students among whom the members of this society are represented. Beside our own members the names of Horace G. Smith, Ferril and Felger at Denver, Henderson at Boulder and a few others are familiar to us all.

The work of Smith and Ferril for the State Historical Society is worthy of especial attention in this connection because it is in accord with a point which I

wish to make later on. These gentlemen are devoting much time to the study of the more remote parts of the state particularly the eastern boundary, where quite extensive observations have been made at Julesburg, Holly, Wray, and Kit Carson. In addition to this the southern boundary has been worked, principally at Water-vale, Trinidad, Las Animas, and Pagosa Springs. A resume of the more important discoveries made by the gentlemen was written by Smith and published in the *Auk* of April, 1908. This article adds four new species to the state list, and gives important additions to our knowledge of the distribution of 35 species of rare occurrence in Colorado.

Among our own members, the list of birds observed by Warren on his extended trip thru north central and northwest Colorado, enumerating 93 species;



MAP OF COLORADO SHOWING LOCALITIES (SHADED) IN WHICH ORNITHOLOGICAL INVESTIGATIONS OF MORE OR LESS IMPORTANCE HAVE BEEN CARRIED ON
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and his list of the birds of extreme southeastern Colorado containing 84 species; the list of birds of southwestern Colorado by M. French Gilman, containing 120 species; and the list of 154 birds of Mesa County by myself, constitute the local lists published during the past two years, all of which appeared in *THE CONDOR*.

In addition to the work done by local students in recent years Mr. Merritt Cary of the U. S. Biological Survey has spent the greater part of three seasons within the state working out life zones, and his notes on the bird life of the various sections visited when published will doubtless contain much of interest.

This outlines in general the more important work that has been done in Col-

orado up to the present time, and brings me to the point which I wish most to emphasize.

A glance at the map will show that by far the greater part of ornithological work in Colorado has been restricted to the central portion of the state: a strip running from the northern to the southern boundary and comprising less than a third of our total area. This leaves the boundaries of our state practically untouched on all four sides, with the exception of the work done by Smith and Ferril, and that done by Warren in the southeast corner; and the surprising discoveries made by these gentlemen, is proof sufficient that it is in these remote parts of the state that our work from now on should be done and that from these places will come the most important additions to our information regarding Colorado ornithology.

No better illustration of this fact could be found than that mentioned by Cooke where he states that in the collection of Frank Bond at Cheyenne, Wyoming, are six species of birds, taken by him at Cheyenne, less than ten miles from the Colorado line that have not yet been recorded from this state.

The eastern base of the foothills and much of the mountainous central portion of the state, were quite thoroly worked years ago; yet I think that most of us must plead guilty of doing over and over the work that has been so well done by those who were here before us. I do not mean to imply that our time is wasted in studying sections that have been thoroly studied, for there is always a great deal to be learned no matter how carefully the ground has been gone over before; but I do maintain that our efforts would be conducive of a greater number of, and more important, discoveries if we turned our attention to those sections whose ornithology has been neglected.

Does this condition of affairs not furnish food for reflection and would it not be a wise move for the active ornithologists of the state to get together and formulate a definite line of work whereby the little studied portions of the state will receive the attention we are now bestowing upon that portion of the state whose ornithology is long past the elementary stage of development?

Denver, Colorado.

FROM FIELD AND STUDY

Microscopic Subspecies: a Reply.—Mr. C. B. Linton (CONDOR, X, 181) raises again the question of the indentification of closely related subspecies taken from a boundary zone—neutral territory where the two intergrade. He also opens a question for answer that is practically the old question so often raised by the beginner in ornithology—"how are we going to name a bird correctly?" To this there is but one answer, I think, and I will endeavor to illustrate.

To begin with, Mr. Linton's caption "Microscopic" is hardly applicable as it stands; he does not state that the subspecific differences recognized between the *types* of the races mentioned are microscopic, but that the differences evident in the particular specimens he had in hand were microscopic; hence he is not warranted in applying the adjective to the race or its types, but should confine it to the specimens he refers to. That a recognizable difference exists between the types he has the authority of the A. O. U. Committee for. Take for instance the colors blue and green; they are certainly distinct when typical, but when we get to the greenish-blues and bluish-greens, there comes a point when no one can say positively what the color is. The same is true of subspecies; the types may be very different, but there comes a point when a specimen must be called intermediate—where one form grades into the other and it is impossible to state definitely to which race the specimen shall be referred.

It is also known that individuals of one race may be taken in the type locality of a closely related race. These individuals wander away from home. An Englishman may go to New York, yet he is still an Englishman!

This brings us to the answer to Mr. Linton's question: It is not always possible to definitely

name an intermediate between two races even tho the types may be very different; the best that can be done is to label the specimen an intermediate, and note to which race it appears most closely related; and it is not unusual to find stragglers of one race on the breeding grounds of a closely related race in winter, as he found *Vireo huttoni oberholseri* and *Vireo huttoni* together in February and March; this is a common occurrence in the genus *Junco* (cf. Kaeding, CONDOR, I, 79).—H. B. KAEDING, *Los Angeles, Calif.*

Some Interesting Colorado Records.—The following records of species but little known to Colorado were made by Mr. J. W. Frey, of Salida, Chaffee County, Colorado, who collected quite faithfully there in the spring of 1908. Salida is situated in a wide valley on the Arkansas River, west of the Grand Canyon of the Arkansas, and with the Continental Divide to the west, and the Sangre de Christo Range to the south. The altitude is a little over 7,000 feet.

Nycticorax violaceus. Yellow-crowned Night Heron. "Killed on Big Arkansas River one mile north of Salida out of a bunch of five, the only one I got and altho I hunted them never saw or heard of the other four. This one was brought to me by a boy whose father killed it that morning. I bought it from him and went hunting for the rest as soon as I could get ready." (Copy of Frey's memoranda.) The label on the specimen, which was a female, gives the date as May 1, 1908. This is the second record for Colorado, and the only one of which we have the exact data. W. W. Cooke, in his "Birds of Colorado," says, "The only recorded specimen is the one in Mrs. Maxwell's collection, and that is known to have been taken in Colorado, but where cannot now be learned": not as satisfactory a record as it might be, which makes the present all the more welcome. The specimen is now in the collection of Colorado College, at Colorado Springs, and was examined by Mr. C. E. Aiken and Mr. W. L. Sclater, as well as by myself.

Dolichonyx oryzivorus. Bobolink. Frey saw ten birds at Salida, May 14, 1908, and secured four, all males. This is a new locality for this species in this state. The bird seems to be very peculiarly and locally distributed in Colorado.

Zonotrichia coronata. Golden-crowned Sparrow. Frey took one April 19, 1908, at Salida, which makes the second record for Colorado. I have the skin in my possession at the present time.—EDWARD R. WARREN, *Colorado Springs, Colorado.*

Correction of Errors.—Two errors in the List of the Birds of Mesa County, which appeared in the July CONDOR, have been called to my attention and I wish to correct them.

Speaking of the Canyon Wren, I credited the only absolute specimen to Mr. Horace G. Smith of the State Historical Society. This record was furnished me by Mr. Smith, but the specimen itself was taken by Mr. Will C. Ferril, of the same society, to whom the credit of the record should be given.

The technical name of the Broad-tailed Hummingbird should read *Selasphorus platycercus* instead of *Trochilus platycercus*.—ROBERT B. ROCKWELL, *Denver, Colorado.*

Tapeworm Epidemic among Washington Seabirds.—Pacific Beach is situated on the northwest coast of Washington, about midway between Cape Elizabeth and Gray's Harbor, and here I located for a short vacation beginning August 20, 1907.

In conversation that evening with the landlord of the small hotel our talk soon drifted to birds, and he asked me to explain the occurrence of numerous birds he had found washed up on the beach during the past week. They were all either dead or dying, but what puzzled him was that they were apparently uninjured in any way.

Next morning I set out at once to verify the above statements, and found matters to be even more interesting than I had expected. In a walk of about three miles along the shore I found some thirty dead or dying birds of the following species: Slender-billed Shearwater (*Puffinus tenuirostris*), White-winged Scoter (*Oidemia deglandi*), Surf Scoter (*Oidemia perspicillata*), Cassin Anklet (*Ptychoramphus aleuticus*), and California Murre (*Uria troile californica*). The shearwaters were by far the most extensive sufferers, next the White-winged Scoters, and so on down to the California Murre of which species I found only one. This was probably owing to the relative numbers of the different birds, the Murre for instance probably being a straggler from the bird rocks on the north or south. It was evident that the epidemic had only recently commenced as the birds found were all comparatively fresh and the ocean was rather plentifully dotted with sick birds, some of them so close in as to be rolled over and over in the breakers.

An external examination showed the plumage to be in perfect condition with no signs of wounds, but the extreme emaciation of the birds showed the cause to be more deeply seated. After making a skin of one of the shearwaters, an examination of the body at once showed the trouble: the intestines from end to end were packed solid with tapeworms. These worms were about three inches long, rather slender, and marked with alternate rings of white and brownish-black. There were many hundreds of the disgusting parasites in every bird, making death from

starvation an absolute certainty. How great the mortality became as the season advanced, and when it ceased, I had no means of ascertaining, since the hotel closed the week that I left. During September of the present season of 1908, friends who were with me last year again visited Pacific Beach, and again found dead birds on the beach. Conditions seemed much the same, altho the mortality did not appear to be so great.

It is of interest to note that certain species of birds seemed to be immune to this plague; for the gulls and cormorants, both of which were very numerous, appeared to go completely unscathed. It is to be presumed, of course, that the root of the evil is to be found in some food that the birds get. What this could be I was unable to discover as, very naturally, the stomachs were all completely empty. Here arises the puzzling question, what do the other birds eat that the gulls and cormorants are unable to get?—J. H. BOWLES, *Tacoma, Washington*.

Albino Eggs of the House Finch (*Carpodacus mexicanus frontalis*).—Unspotted eggs of this species are, as is well known, not uncommon; but I believe that deficiency of pigment in the ground color is comparatively rare. Nevertheless it has been my good fortune to find this season (1908) two sets which, compared with normal specimens, might fairly be called "white", tho when placed beside the eggs of a woodpecker, for example, a very faint bluish tinge is perceptible.

The first set (No. 3258, Coll. T. W. R.) was taken, perfectly fresh, at Coronado Beach, Cal., April 17. The nest was found before completion, and as I passed it daily for some time both birds were frequently observed on or about it; identity is therefore beyond doubt. The four eggs are of normal size and shape and against anything but a dead white background appear absolutely colorless. Nest, 5 feet from the ground, in a small tree.

My second set was found near Bangle, Los Angeles County, Cal., April 24; female flushed and both parents remained in vicinity. I had made it a point to examine all nests of this species since taking my first one, but this one was difficult to reach in a slender sapling and three of the eggs fell out. However, I saw them clearly in the nest and examined the fragments after the catastrophe, and am positive they were all precisely like the fourth specimen which I still possess as a sad memento of my carelessness. This set was unspotted like the first, but the bluish tinge is a little more apparent.—DR. T. W. RICHARDS, *U. S. Navy*.

Oological.—Mr. Herbert Massey's article on "Arrangement of an Oological Collection" contains some novel ideas on this subject, several of which are well worthy of adoption by American collectors.

The round trays seem to me to produce a much more pleasing effect than square or oblong ones, and without going into the mathematics of the question, I should judge that there would be very little difference in economy of space.

The point however which appeals most strongly to me, is the use of *dust-proof* glass tops to the trays, an idea which is entirely new to me, and the greatest improvement imaginable over the use of open trays. The expense of the round glass tops and the work of sealing them onto the trays might be considered an objection; but the perfect protection afforded from careless fingers and falling articles, and the absence of dust and insect pests more than offset the extra labor and expense, and as a matter of fact, the last two items should be negligible quantities in the preparation of any scientific collection.

The custom of placing the data for the set on the *bottom* of the tray, so that the tray has to be removed from the cabinet and turned either partially or altogether up-side-down, when the data is referred to, seems to me an exceedingly dangerous practice, especially in a public museum where people of all classes and ages handle the trays; for no matter how securely the eggs were packed in the tray, a fall from the hand to the floor would undoubtedly be accompanied by dire results, especially in case the glass cover broke.

However Mr. Massey's article is exceedingly instructive and interesting and I am indebted to him for several ideas which I shall put into practice.—ROBERT B. ROCKWELL, *Denver, Colorado*.

A Flight of Shearwaters.—On the 25th of August, for the only time during my stay at Pacific Beach, Washington, the fog lifted sufficiently about an hour before dark to enable one to see for a long distance off shore. To my surprise and extreme gratification an immense flight of Shearwaters was in full progress; for as far as the eye could reach from north to south there was an unbroken ribbon of birds. This ribbon had a width of about ten birds, all flying north and flapping leisurely just above the surface of the water. They were about eight hundred yards off shore, and a strong field glass showed them to be all similar in color to the dead Slender-billed Shearwaters (*Puffinus tenuirostris*) picked up on the beach. I watched the flight from time to time until it was obscured by darkness, but there was no diminution of the numbers, and it was impossible to tell when it stopped or how long it had been going on before I was able to see it. Foggy weather during the remainder of my stay made further observations on this subject impossible.—J. H. BOWLES, *Tacoma, Washington*.

THE CONDOR

An Illustrated Magazine
of Western Ornithology

Publisht Bi-Monthly by the Cooper Ornithological Club of California.

JOSEPH GRINNELL, Editor, - Berkeley, Cal.
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EDITORIAL NOTES

By a new arrangement which it is believed will bring about a convenient handling of CONDOR affairs, Mr. J. Eugene Law will again act as Business Manager, while Mr. W. Lee Chambers will occupy the newly-created position of Assistant Business Manager. Since our magazine has grown to its present size the amount of business to be transacted during a year has become more than one person can conveniently attend to. By dividing the work between two business managers, the drudgery is duly lessened.

From now on, therefore, dues and subscriptions may be sent either to J. EUGENE LAW, HOLLYWOOD, CALIFORNIA, or to W. LEE CHAMBERS, SANTA MONICA, CALIFORNIA.

A new bird club has been organized. On December 19 last, at the home of Mr. W. L. Dawson in Seattle, was held an enthusiastic convention of northwestern bird students. The result was the formation of the "Caurinus Club", having as its emblem the Ancient Murrelet. The following officers were chosen: President, Mr. S. F. Rathbun; Vice-President, Mr. W. L. Finley; Secretary-Treasurer, Mr. W. L. Dawson. Beside those just named, Mr. J. H. Bowles, Mr. Allan Brooks and Mr. J. M. Edson were present as charter members. We wish the new society a very pleasant future.

Mr. Claude Cummings, an active member of the Cooper Club, was accidentally killed at his home in Pinole, Contra Costa County, by the discharge of a gun which he was cleaning. Mr.

Cummings' work among birds was done in Sonoma, Alameda and Contra Costa Counties and tho thru his modesty but little ever appeared in print he was a close and careful observer of the birds and obtained much information of value. It was in Sonoma that the writer first met Mr. Cummings and spent a number of days afield with him. In the death of Mr. Cummings the birds lose a friend and the Club a loyal member.—H. W. CARRIGER.

The sketch maps of Colorado used in Rockwell's article on "The History of Colorado Ornithology", form part of a very complete series of maps owned and publisht by the Clason Map Company of Denver, who generously permitted them to be publisht by THE CONDOR free of charge.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

NOVEMBER.—The November meeting of the Cooper Ornithological Club was held in the Oakland Chamber of Commerce Building, 12th and Franklin Streets, Oakland, on the 21st inst., with ten members present and one visitor.

H. W. Carriger was selected as Secretary *pro tempore*. The minutes of the previous meeting were read, and approved as read.

A communication from the secretary of the Elmhurst Recreation Park Co. was read and placed on file. Applications for membership of Forrest Hanford, 1363 11th St., Oakland, proposed by J. Grinnell, and Stanley G. Jewett, 541 Lexington Ave., Portland, proposed by W. Otto Emerson, were, in accordance with the by-laws, laid over until the next meeting.

The election by the Southern Division of Mr. Clarence H. Luther of Fayetteville, Arkansas, was approved.

Mr. Grinnell moved that in the future, the Club meet monthly, alternate meetings to be held at Stanford, commencing on December 12, 1908; and the motion was carried.

Mr. J. E. Law, desiring to resign as Business Manager, on motion made by Mr. Grinnell, the chair appointed Mr. Lee Chambers of Santa Monica, as Business Manager for the balance of the year. On motion made by Mr. Emerson, the Club extended a vote of thanks to Mr. J. E. Law, retiring Business Manager, for faithful services rendered during the past year, and the Secretary was instructed to write Mr. Law accordingly.

On motion by Mr. Grinnell the Club voted to publish Avifauna No. 5 (a bibliography of California ornithology), provided the Club-at-large be not responsible for any of the costs of publishing the same. Upon further motion Mr. Lee Chambers was selected as a committee of one to take charge of the financing of Avifauna No. 5.

Mr. Grinnell moved, and the motion carried, that the Club resolve to publish a ten-year index of THE CONDOR. Mr. W. O. Emerson was appointed by the Chair to secure the necessary funds to publish the ten-year index.

Nominations of officers for 1909 were held,

with the following result: for President, Dr. F. W. D'Evelyn; Senior Vice-Pres., Mr. H. S. Swarth and Dr. W. K. Fisher; Junior Vice-Pres., J. R. Pemberton and E. W. Gifford; Secretary, J. S. Hunter and Walter P. Taylor.

The business meeting over, Mr. E. W. Gifford read a paper describing what he saw at the home of Prof. C. O. Whitman of Chicago, who is studying pigeons from an evolutionary standpoint. Dr. D'Evelyn read extracts from a report of his friend Mr. Alwin Haagner, secretary of the South African Ornithological Union, in regard to the economic value of birds of prey. From this report it is evident that the residents of South Africa are about as ignorant of the value of our birds of prey as the people of our own country were a few years ago.

Owing to the lateness of the hour, Mr. Emerson's paper on "Nestlings of the California Hawks and Owls" was held over until the next meeting.

Mr. H. L. Coggins, former secretary of the Delaware Valley Ornithological Club, spoke of the work of his Club and expressed himself as being highly pleased to meet with members of the Cooper Club, many of whom he had had the pleasure of corresponding with while at his home in Delaware.

H. W. CARRIGER, *Sec'y pro tem.*

SOUTHERN DIVISION

NOVEMBER.—The November meeting was called to order by Vice-President H. J. Lelande at his office in the City Hall, Los Angeles, Thursday evening, Dec. 3, 1908, with members W. Lee Chambers, Virgil W. Owen, George Willett, H. B. Kaeding, Howard Wright, Pingree I. Osburn, Chester Lamb, Howard Robertson, Willard Chamberlain and J. Eugene Law present; and visiting, Mr. Howard E. Carper.

The minutes of the last meeting, Oct. 1, 1908, were read and approved.

Applications for membership were presented as follows: Howard E. Carper, 5046 Fisher St., Los Angeles, Cal., proposed by H. B. Kaeding; H. E. Wilder, Riverside, Cal., proposed by Joseph Grinnell; Clarence H. Luther, Fayetteville, Ark., by application sent to the secretary; J. Warren Jacobs, Waynesburg, Pa., proposed by J. E. Law.

On motion by Mr. Willett, seconded by Mr. Chamberlain and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership Luther J. Goldman, subject to the approval of the Club-at-Large.

On motion by Mr. Kaeding, seconded by Mr. Chambers and duly carried, Mr. Robertson was appointed a committee of one to assist Mr. Emerson of the Northern Division in raising funds to finance the Ten-year Index of THE CONDOR.

Mr. Kaeding outlined briefly the plan of the Index as follows, exhibiting a sample page:

The index records every record of every species that occurs in the entire CONDOR, whether Latin or vernacular name be used; gives all the authors and their writings ar-

anged chronologically; and abbreviations will be eliminated as much as possible.

The primary idea in typographical arrangement will be to have a page so arranged as to appeal to the eye and to have the most important items in black face type so as to be readily found; with this idea in view, the name of the species will be in blackface type, and the names of the authors also; the volume will be indicated by a small Roman numeral in blackface and the page numbers will be light. Arranged in this way, the first thing that strikes the eye is the name sought; the next thing is the volume number, and then the page reference is easily found. In addition to this, there will be a few special lists, such as all new species in one list, and all albinos in one list, etc. The only abbreviation used will be "rev." for "review". The following excerpt shows style.

BULLETIN

of the

COOPER ORNITHOLOGICAL CLUB

and

THE CONDOR

TEN-YEAR INDEX

1899-1908

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There will be between 40 and 60 pages of index matter, comprising nearly fifteen thousand distinct records; the entire index matter including names and titles and numbers is about thirty thousand words—quite a respectable book; by the time the proof is read I will have put in about 600 hours on it. MS will be ready for the printer December 15.

Mr. Howard Wright exhibited a specimen of *Xantus murrelet* and young a third grown, taken at Coronado Islands June 28, 1908. Ad-journed.

J. E. LAW, *Secretary.*

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THE CONDOR

A Magazine of Western
Ornithology



Volume XI

March-April, 1909

Number 2



W.K.F.

COOPER ORNITHOLOGICAL CLUB

Smithsonian Institution
APR 5 1909
National Museum

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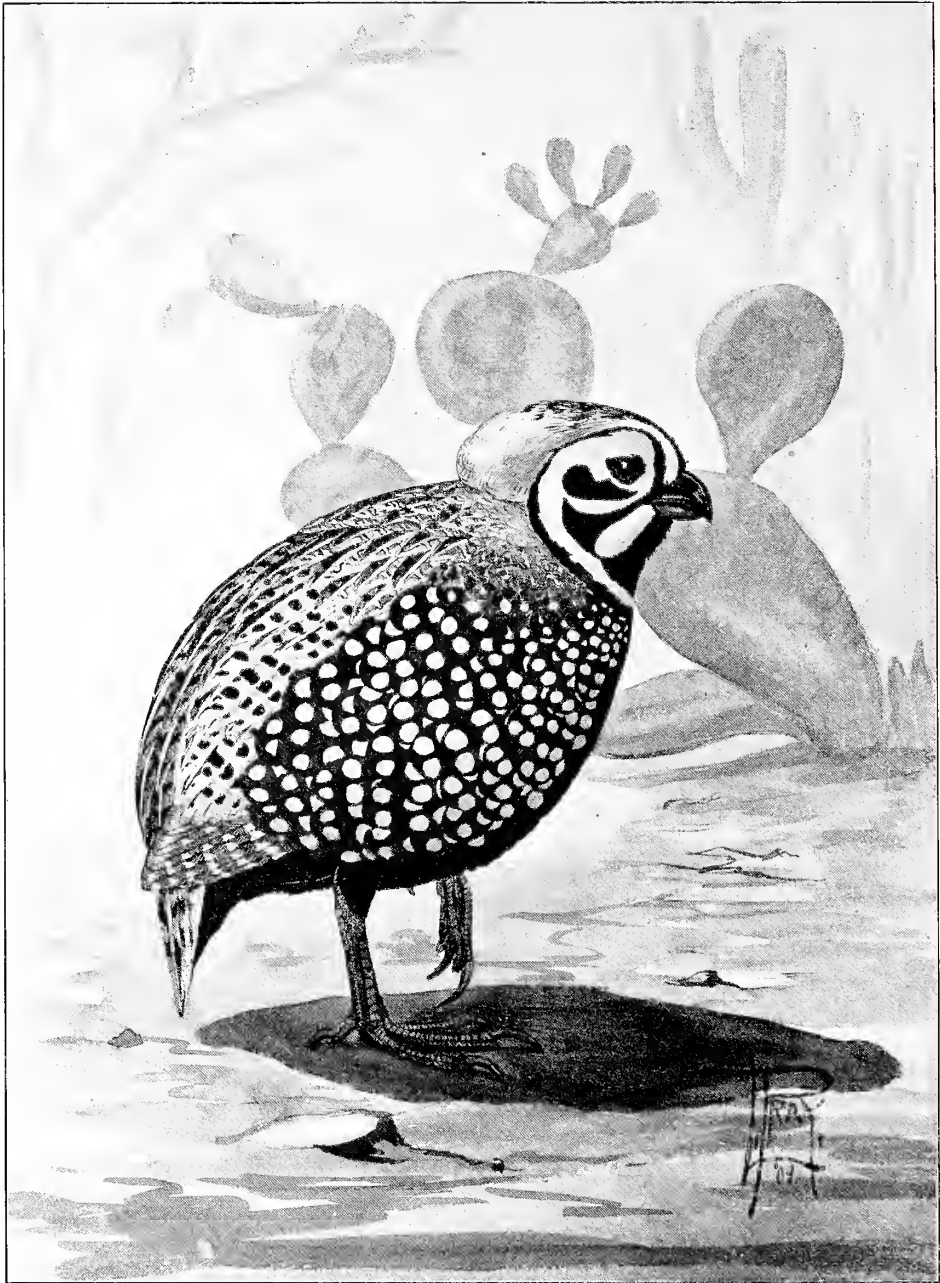
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MEARNS QUAIL (*CYRTONYX MONTEZUMÆ MEARNSI*)

(ADULT MALE)

From painting by Leon Pray

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume XI

March-April 1909

Number 2

DISTRIBUTION AND MOLT OF THE MEARNS QUAIL

By H. S. SWARTH *

WITH FRONTISPIECE, MAP AND THREE PHOTOS

ONE of the most interesting, as well as least known of the North American Gallinæ is the Mearns Quail (*Cyrtonyx montezumæ mearnsi*), known thruout its range in the United States as the "Fool Quail." The vernacular name is derived chiefly from the custom the bird has of lying very closely, and taking flight only when nearly trodden upon, habits greatly in contrast to those of the Scaled and Gambel quails of the same general region, which trust less to concealment than to the speed of their legs. In his own way, however, the Mearns Quail is quite well able to care for himself, sufficiently so that the opprobrious name would hardly seem to be deserved. It has been argued that the habit of lying close, an exceedingly desirable one from the standpoint of the sportsman, common to the Bob-white and other allied game birds, is largely a matter of education; that is, that originally these species had similar habits to most of the quail now inhabiting the wilder southwestern country. I believe it is true of the California Quail, and possibly of other species, that in places where they are much hunted they lie more closely and run less than in wilder regions where they are seldom disturbed. However the Mearns Quail seems to have found the habit of hiding best adapted to his needs in the first place, tho, in Arizona at least, his surroundings are in every respect very similar to those of the Mountain Quail in California, which is so preëminently a running bird that it is very difficult to get a wing shot at it.

Their call consists of a series of notes slowly descending the scale, and ending in a long, low trill, the whole being ventriloquial in effect and most difficult to locate. It is easily imitated, however, and the birds readily answer when one whistles; when the flock is scattered they will sometimes even return, calling at intervals as they approach. The only other note I have heard is a quavering whistle uttered as they take flight.

*Contribution from the University of California Museum of Vertebrate Zoology.

The Mearns Quail is found along a considerable extent of the Mexican Boundary of the United States, being, however, very local and extremely irregular in its distribution. It is a bird of the Upper Sonoran and Lower Transition zones, fond of rough, brushy hillsides, and but seldom venturing out into the open valleys. In Arizona it has been recorded from almost all the higher mountains of the southeastern portion of the Territory, but these are nearly all more or less completely isolated ranges, and there are large tracts of country intervening, not at all suited to the species, where other species of quail occur, *Lophortyx gambeli* and *Callipepla squamata*. The species was found in the Mogollon Mountains by Dr. Mearns, reaching its northern and western limit near Fort Whipple, where Dr. Coues secured two specimens in 1865. Henshaw speaks of it as a common resident in the White Mountains, where he secured adults and young in August and September. Scott found it on the San Pedro slope of the Catalina Mountains, ranging from 4000 to 5700 feet, and at the head of Mineral Creek in the Pinal Mountains. It has also been found in the Chiricahua, Santa Rita, Patagonia, Huachuca, and Rincon Mountains. Thus its distribution in Arizona may be traced with a fair degree of accuracy.



MAP SHOWING UNITED STATES RANGE OF THE MEARNS QUAIL

In New Mexico it has been reported from the head of the Gila River, the Sierra Hachita, and from the Guadalupe Mountains, and probably occurs in many intervening spots. In Western Texas there are records of its occurrence in the Chisos and Davis Mountains, in Crockett, Edwards, and Tom Green Counties, and from the vicinity of San Antonio, probably its eastern limit. Information regarding the distribution of the Mearns Quail in Texas and New Mexico is scanty and unsatisfactory, as is readily seen on trying to apply it to a map; and while the accompanying outline possibly indicates the extreme points of the range, it leaves much to be desired as regards details. I believe, however, that the distribution of the species in Arizona is fairly well indicated tho there are one or two mountain ranges in the same general region, from which there is no data available, and where I believe the bird is sure to be found. The point I wished to illustrate and emphasize is the peculiarly disconnected manner of distribution—the species is non-migratory and in each range is as absolutely isolated as if on an island, the low, semi-desert valleys between forming effective barriers.

The species extends south far into Mexico, but just where the variety *mearnsi*

merges into the true *C. montezumæ* can not well be shown, and I have tried merely to indicate the distribution in the United States.

The vertical range seems to be approximately from 4000 to 9000 feet, but whether it breeds thruout this range I can not say. I have seen quite young birds at something over 9000 feet.

During a visit to the country of the Mearns Quail, finding the species abundant, and in the midst of the autumnal molt, I took advantage of the opportunity to secure a number of the birds, including a series that illustrates very well the manner in which the first winter plumage of the male is acquired. This was in

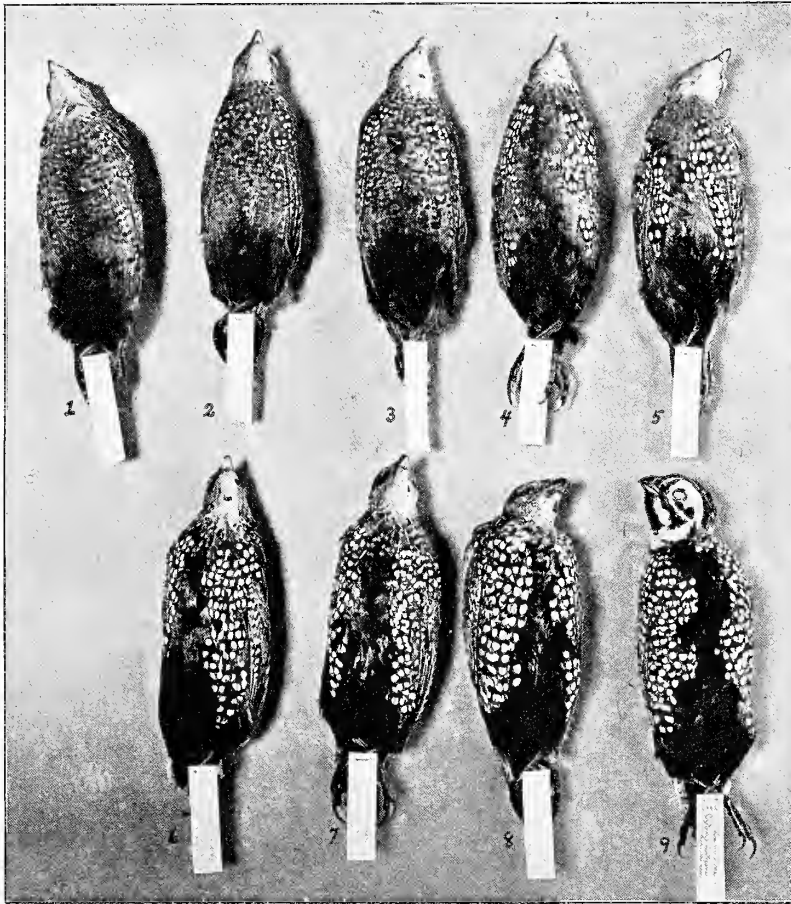


FIG. 1—SERIES OF MEARNS QUAIL, ILLUSTRATING POST-JUVENAL MOLT OF THE MALE

October and November, too late to secure any downy young, the youngest ones seen being in the "juvinal plumage" which is retained in its entirety for but a very short time. Figure 1, including eight immature males in various stages of change, and one adult male in freshly acquired autumnal plumage, shows how the change in the underparts is accomplished. Number 1 is in the juvinal plumage, purely. The back is streaked, much as in the old bird, but head and underparts lack entirely the bold striking markings of the adult male. The breast and lower parts are spotted, but it is interesting to note, that, whereas in the old male the

markings consist, on the individual feather, of a double row of round white spots on a dark background, in the juvenile there is a similar double row of black spots on a light colored feather. The median line of the breast is suffused with cinnamon and the lower abdomen and crissum are dull black.

Number 2 shows a few white-spotted feathers at the upper end of the pectoral tracts, while the remainder of the series illustrates the downward extension of this growth. New, glossy black feathers are beginning to appear on the flanks at the same time that the spotted breast feathers are sprouting; but the rich chestnut of the center of the breast is the last of the body plumage to be acquired, even number 8 (otherwise in perfect plumage except for the head), showing a line of the pale colored juvenile feathers. The changes in the upper parts are much less apparent, number 1 being streaked above, practically like the adult, tho on close examination it is seen to lack, to some extent, the exquisite markings and delicate

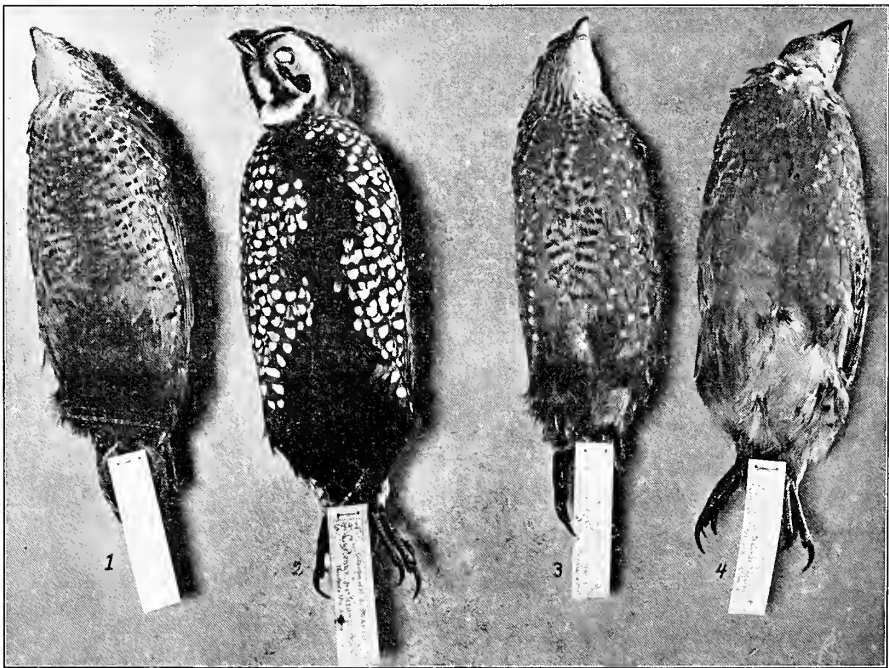


FIG. 2.—MEARNS QUAIL: NO. 1, MALE JUVENAL; NO. 2, MALE ADULT; NO. 3, FEMALE JUVENAL; NO. 4, FEMALE ADULT

pencilings possessed by the latter. It lacks also the black spotted tertials, and blue greater wing coverts, these being nearly perfect in the stage reached by number 8. I secured no specimens illustrating the acquisition of the conspicuous and curious facial markings, and it seems remarkable that the plumage of the other parts, body and wings, should be entirely renewed before there is the beginning of any change on the head. In the young of both sexes the head is marked practically as in the adult female except that the occiput is transversely barred, while in the latter it is marked with longitudinal streakings. There is a rounded occipital crest, similar to that of the adult tho not as full. In those birds which have nearly or quite completed the change in the body plumage, there is a line of pin feathers appearing on the center of the occiput, the beginning of the change on the head.

In the stage reached by number 4 the primaries have quite completed their growth.

Figure 2 shows a male in juvenal plumage (number 1), a male in second winter plumage (number 2), a female in juvenal plumage (with some first winter feathers appearing on the upper breast, however) (number 3) and a female in second winter plumage (number 4).

Dr. Dwight, in a paper on the molt of the North American *Tetraonidae* (*Auk* XVII, 1900, p. 50), speaks of the young of this species as being alike in the juvenal plumage, and resembling the adult female. All the young males I secured have the crissum, flanks, and lower abdomen, dull black (a mark surprisingly conspicuous as the birds take flight), while the middle of the breast is rusty brown, a foreshadowing of the brilliant markings to appear later; while the young females (and adults also) have these same parts white or pinkish.

This species seems to be late with its breeding. The young of *Lophortyx gambeli*, *L. californicus vallicola*, and *Oreortyx pictus plumiferus*, living under very similar conditions, have, by the end of September as a rule, fully acquired their first winter plumage, while I have secured young of *Cyrtonyx m. mearnsi* the first week in November which had hardly begun the post-juvenal molt. It is possible that the heavy summer rains that occur in the regions inhabited by this species destroy many of the earlier sets of eggs, thus forcing the birds to bring out their young later, but the same reasoning would apply to other species not so conspicuously dilatory.

University of California.

THE POPULAR NAMES OF BIRDS

By JONATHAN DWIGHT, JR., M. D.

POPULAR or vernacular names are of two sorts—those very local in their use and those approved by standard authorities for general use wherever the language is spoken. The standard for North American Birds, for over twenty years, has been the A. O. U. Check-List which has as a matter of fact recognized the most widely used local names and only supplied others when no popular name was in vogue. Of late years unfortunately its authority has been impaired by a few radicals who have been agitating certain "reforms", and under the circumstances it may be well to weigh these claims which do not seem to rest on a very solid foundation.

There is no immunity to the germs of fads, and their virulence is attested by every new fashion, every new cult, every new world-language, every new breakfast food that periodically flourishes and claims its victims; and just as some visionaries seek to improve on the natural development of dogs or horses by clipping of ears and docking of tails, so, in much the same spirit, others clip and dock words in the attempt to reform spelling or improve grammar.

Today some of our apostles of vernacular reform wish to throw away the possessive case for the popular names of birds and beasts and substitute the so-called adjectival form;—they would have us say "Audubon Warbler," "Anna Hummingbird," "Wilson Thrush," "Merriam Elk," and so on, dropping the time-honored apostrophe and the "s." Tomorrow, perhaps, it may please them to drop "needless" syllables and thereby attain such agreeable results as Bar Owl, Belt King-

fisher, Chip Sparrow, Horn Grebe, West Gull or North Phalarope. Dropping of capitals has already been tried and we are left to wonder what may be Lucy Warbler, Ross Goose or Brewster Booby, and to dread the possibility of "simplified" spelling which might give us Blak-bild Kuku, Red-id Vireo, or Blak-capt Chikady. Once we begin with "reform" and there is no telling where it may end.

English grammar and usage are, however, not to be lightly set aside, and it is well not to be beguiled by "reform" that offers no adequate advantages. Granted that we may say, for instance, either "Wilson's Thrush occurs" or "the Wilson Thrush occurs," we certainly gain nothing in brevity by using the adjectival form. And after all, the noun used as an adjective is somewhat of a grammatical upstart and his social standing is as yet none too sure. Custom has sanctioned his use chiefly for places, while the possessive has prevailed for persons. So it has been the rule among ornithologists to say "the Labrador Duck," or "the California Jay" when places are concerned, but "Cassin's Bullfinch" or "Smith's Longspur" when persons are honored. This is the way popular names have evolved, and we have merely to stick to what has been customary. Uniformity should be sought, but not at the expense of meaning. The ruling of postoffice authorities and of geographic boards (the chief offenders in "reform") is not the final criterion of language.

The distinction between person and place is an aspect of the subject worth considering, and by preserving in our lists the possessive form for birds or beasts named after persons we shall avoid much ambiguity. For instance, the apostrophe and "s" of "Virginia's Warbler" apprise everybody that the bird is not named after the State of Virginia, whereas the "Virginia Rail" is. In the same way we should know that "Olive Warbler" and "Myrtle Warbler" are not named after girls. But we must look farther than the narrow limits of our North American list to realize the importance and convenience of such a distinction. Contrast names like Stone Curlew with Stone's Caribou, Brown Creeper with Brown's Song Sparrow, Gray Kingbird with Gray's Tanager or White Ibis with White's Thrush and the ambiguity that would follow the loss of the possessive form becomes very evident. Or take such names as Wood Thrush, Field Sparrow, King Eider, Little Gull, Winter Wren, or Marsh Hawk, where the birds might well be named after Messrs. Wood, Field, King, Little, Winter or Marsh. Perhaps these examples are quite familiar to us, but how about such names as Gila Woodpecker, Costa Hummingbird, Lomita Wren, Alma Thrush, Grinda Bush-Tit, Lazuli Bunting, Flores Hummingbird, Rivoli Hummingbird, Cetti Warbler, Brewer Blackbird, Couch Kingbird, Derby Flycatcher, Sandwich Sparrow, Bell Sparrow, Wall Creeper, Bean Goose, Crissal Thrasher, Ray Wagtail, Scops Owl, Green Tody, Black Petrel, or a host of others that might be cited? Would not an occasional apostrophe and "s" be extremely convenient to distinguish at once the birds that are named after persons?

To sum the matter up, then, no reform is needed and educated people will continue to use either the possessive or the adjectival form or both as occasion requires. It is well to be a little conservative in this era of rapidity and there is certainly no overwhelming demand for reform in vernacular names. There has been some previous discussion of the subject and what Mr. Dawson (CONDOR, July-August, 1907, 112) has to say may be read to advantage, although some of his conclusions are rather forced and he has used the word "pronominal" when he means adjectival. It is no difference of opinion between the East and West, as he suggests, but merely the activity of a few individuals who are trying to re-form familiar words under the plea of uniformity. One is reminded of the fable of the

fox who lost his tail in a trap, and wonders whether the plea may not be an endeavor to make fashionable the bob-tailed names that have unfortunately, here and there, got into print.

Then there are "reformers" who would discard a well established name because it is inappropriate. No policy can be more mistaken. What difference does it make if a Purple Finch is not purple or the Louisiana Tanager is not found within the present day boundaries of Louisiana? There is hardly a name on the list that would not be subject to removal if everybody's whims were consulted. Let us at least strive for stability in vernacular names and accept those that have grown into general use. Even modern *Junco* and *Virco*, like some generic names in botany, have gained vernacular recognition.

In the promised new edition of the Check-List we hope to see subspecific popular names as sharply differentiated as are the subspecific trinomials. *Every* race of the Song Sparrow or Brown Creeper or California Jay or Hairy Woodpecker ought to have a trinomial popular name if our list is to be uniform. It will require some ingenuity to meet the details of this problem, but now that the trinomial has come home to roost, the consequences must be met, and the awkward inconsistencies of the old Check-List overcome. It won't do to say "Western Savanna Sparrow" for one race and "Bryant's Marsh Sparrow" for another. In such cases there is room for real reform of a kind that is neither reactionary nor subversive of names that have become household words. Our Check-List must be popular if it is to retain its authoritative position as to vernacular names and the utmost conservatism is necessary if it is to keep in touch with the rank and file of the army of people who take a deep interest in North American birds.

New York City.

NEST OF THE DUSKY POOR-WILL (*PHALAENOPTILUS NUTTALLI CALIFORNICUS*)

By JOSEPH MAILLIARD

· WITH ONE PHOTO BY THE AUTHOR

MY acquaintance with the Dusky Poor-Will, slight at the time and but little closer now, commenced away back in the very early seventies, when as a small lad I used to hunt for game of any sort on the back ranges of the Rancho San Geronimo, sometimes flushing one of these singular birds among the short brush on the rocky hills, or, perhaps, when in camp hearing their plaintive call at dawn or dusk.

Speaking of their call I would like to relate an incident that happened in connection with it. On our ranch is a spot marked on the old maps as "Hunters' Camp," from whence many a large shipment of venison had been made to the San Francisco markets in early days, and even now the best spot in the vicinity for a hunting camp. In the summer of 1876, if my memory serves as to date, my college chums assisted in the building of a log cabin on this spot where we could keep our blankets and cooking utensils and run up to from time to time for a little outing. While building the cabin I had noticed that on two or three evenings in succession a Dusky Poor-Will had commenced to call (to his mate?) at exactly eight o'clock. It happened that the only watch in camp stopped one day, from not having been

wound up the night before, and we were at somewhat of a loss just when to be hungry. But that evening the first call of our friend the poor-will reminded me of his recent regularity and the watch was set at eight o'clock. It happened to be foggy on that particular evening, and on returning to civilization we found the watch ten minutes fast. Yet that was near enough to get hungry by—*in camp*.

Tho rather an oldish boy now, and gray haired to boot, I have never gotten over the deer hunting habit, nor lost interest in flushing a Poor-Will. And yet in all these years, and in all the hunting—for game, cattle and poachers—on the ranges of the Rancho San Geronimo it has never been my good fortune to come across a nest of these birds until July 22nd of this past year (1908). A few days before—on July 14th, to be exact—my brother and I, with a couple of friends, established ourselves in the old camp for a week's enjoyment of out-of-door life



EGGS AND NESTING SITE OF DUSKY POOR-WILL

with a little hunting and collecting as an added zest. Just at dusk on the evening of the 19th, as I was returning to camp along the top of a rocky ridge a Dusky Poor-Will flushed from among some fragments of serpentine rock in a spot from which we had burnt the low, scrubby manzanita brush the previous winter, but, supposing the bird was feeding at the time, I thought nothing of the occurrence, especially at such a late date in the season.

On the morning of July 22nd we broke camp, hunting a little on the way home. While standing on a rock overlooking a long canyon, one of our ranch foremen, passing along a trail about two hundred yards behind me, called out that he had something to talk about and started across the rocky ground thru the burnt brush to come to me. I started to meet him and when we were about 60 yards apart I

saw a Dusky Poor-Will fly up just in front of him and about where one had flushed on the evening previously mentioned. The foreman called out, "Did you see that funny-looking bird?" and a second after as he took another step he exclaimed, "Hello! Here's some white eggs!" Not having had such good fortune in all these many years as to find a nest of these birds it was an interesting moment, and a great fear possessed me that the eggs might be those of some belated pair of Mourning Doves, and that the Poor-Will having been in close vicinity to them was a mere coincidence. A look at the eggs, however, was very reassuring, but to be absolutely positive it was necessary to hide and await the parent's return. This was not a very tedious wait in this case as the female soon appeared and settled most satisfactorily upon her eggs. Having a camera with me I carefully studied how to get her on a plate, but this seemed a hopeless task. She would let me approach to about twelve feet, but that was all. On account of the low rocks near her nest there was only one side from which an exposure could be made.

The weather was foggy, to say nothing of a strong wind, and as no shadows were cast the negative was bound to be flat, with rocks and ground of about the same light values. Despairing of getting anything better under the circumstances I took the best exposure I could make and then "collected" the set. Upon developing these negatives they were found to be extremely flat, as was expected, so, two or three days later—the first day, in fact, that leisure permitted—I rode up on the ridge with the blown eggs, carefully packed you may be sure, prints of the best negatives, and my camera, to try to improve on the first lot.

Replacing the eggs exactly as they were originally I tried for some time to get something more satisfactory. It was again foggy and windy—the fog condensing on the lens of the camera when focusing—and but little could be done in the way of improving over the first attempts. In reality the rock behind the eggs stands up some three feet, the eggs being at the base of it, with two good-sized stones lying in front of them; but the prints all give an impression of an almost flat surface, gently sloping backwards. In the afternoon the sun would have been in the camera's eye, if the fog cleared away, and the wind very strong, so the morning was the only chance for an exposure. Even at six feet, supposing the bird would have allowed so close an approach, it is extremely problematical if she would have been discernable in a negative, as she was just about the color of the charred leaves and small stones surrounding her.

The cut shows a few straws of dry grass a little distance away from the eggs. This is the only semblance of a nest there was. The eggs were placed upon the bare fragments of rock and these straws seemed rather to have been pushed out of the way than brought together for any purpose. The incubation of this set was about one-third along. Query: was this a second set, the first having been destroyed? Or is this the customary date of breeding of this bird in the locality?

San Geronimo, California.

NOTES ON THE CALIFORNIA BLACK RAIL

By FRANK STEPHENS

MANY years ago Mr. H. W. Henshaw told me that he had been informed that California Black Rails (*Creciscus coturniculus*) were sometimes common in the salt marshes around San Diego Bay. In our conversation Mr. Henshaw seemed to be under the impression that these Rails were but migrants at San Diego and that they were most likely to be found very late in the autumn.

In 1886 I was living near San Bernardino. In December of that year I drove to San Diego and spent several days looking for California Black Rails, without success. Some of the local hunters knew of them and one of them a few days later sent me one in the flesh. He wrote that he had killed it near Encinitas, some twenty-five miles up the coast.

My next acquaintance with the species was November 16, 1902, when a young friend brought me one which he said he had caught that day with his hands on the railroad track near the foot of 14th street in San Diego, at high tide. At this place the railroad tracks cross a tide marsh, which is now being filled.

Last spring the manual training teacher here told me that one of his pupils had found the eggs of the California Black Rail in a marsh near National City. This lad told me about where he had found the nests and said the birds were common there. At Mr. Grinnell's suggestion I tried trapping for the Rails with mouse traps set in the marsh vegetation. I kept three dozen traps out a week or so but caught no Rails. I did get several sparrows and a number of harvest mice (*Reithrodontomys*) and meadow mice (*Microtus*). When setting the traps I found an egg, undoubtedly of this species, lodged in the marsh plants where it evidently had floated at high tide. Its contents were thoroly dried, but the egg was otherwise in fine condition and apparently had not been incubated. I suspect that nests are often inundated by extra high tides. As trapping proved unsuccessful I had the lad come and show me just where he found the nests and found that I was not trapping in the best place. May 28th, we tramped thru the marsh two or three hours and flushed one California Black Rail which I shot.

This boy gave me considerable information about the habits of these Rails which I will summarize. He had done much hunting for the nests and thought he was lucky if he found a nest in half-a-day's steady search. The nest seems to be usually situated in very thick marsh vegetation (*Salicornia*, etc.) near the highest limits of the high tide. He carefully turned over all the upper part of the mass of plants foot by foot. He said the nests were always covered, but were usually from an inch to several inches above the ground. I understood him to say that he had found several empty nests, some not yet used, and some which the young birds had left. He said that he had never found any bird at the nest, which might be expected from the nests being so well hidden and the ease with which the bird could slip off and keep out of sight. He said he found eggs about the middle of March and about the 20th of April. Five and six seems to be the usual number but he knew of one set that contained eight eggs. All the eggs he knew of had been found in the last four years in a tract of less than 100 acres. He said that he had heard notes that he believed were made by this Rail and described them as a sort of clicking sound. He thinks that at low tide the Rails hide in crab holes, at times.

In June, 1908, I looked for California Black Rails about False Bay, which is a short distance northwest of San Diego Bay, but within the city limits. The 22d, I was there at low tide, and when passing along a broad tide creek I saw one crouched in the mud a few feet from the bank. It stood perfectly still, with head lowered, as if expecting to be overlooked. It was so near that I killed it with my .32 caliber auxilliary. A few days later I hunted a part of the marsh at high tide late in the afternoon. On my way to camp at dusk in a place where the marsh lay at the foot of a bluff one flushed almost under my feet and lit a dozen yards away among the debris lodged at the foot of the hill and stood there in the open, tho not to be seen distinctly because of the gathering darkness. I fired at it, without effect. The bird flew out over the water and then turned around the

point, where I failed to flush it again. I happened to have a charge of heavy shot in the other barrel and let it go. This is the only long flight I have seen and it reminded me of the flight of a water ouzel. The other two flights I have seen were short and rail-like.

Last November I was camped in the valley of the Tijuana River near the last monument of the boundary between California and Mexico. The lad before mentioned staid with me a few days and was accompanied by his pointer dog. We hunted the marshes several high tides but found but one California Black Rail. This flushed close to the boy's feet and was shot by him at very short range. He presented the skin to the Museum of Vertebrate Zoology and we now have three specimens there. The dog pointed several Clapper Rails (*Rallus lewipes*) but failed to find the small species.

From my own observations and such information as I have been able to obtain from others I think that the California Black Rails are resident in the salt marshes along the coast of southern California, at least as a species; there may be a short individual migration but that remains to be proven. The nesting is probably early, March and April. Sets number four to eight, probably seldom the larger number. The nests are hidden in the *Salicornia* near the highest tide line, a few inches from the ground, and are often merely a few dead bits of *Salicornia* drawn together and tramped into place. It is practically impossible to make a positive identification unless it proves practicable to trap the parent at the nest.

The birds seem to lie very close and must be nearly stepped on before they will flush. I fancy that the species will be found fairly common in many localities when they are looked for carefully in the right places.

San Diego, California.

AMONG THE THRASHERS IN ARIZONA

By M. FRENCH GILMAN

WITH ONE PHOTO BY THE AUTHOR

THE territory in which the following notes were made lies in the Pima Indian Reservation along the Gila River. Observations covered a strip of country about twelve miles long by three miles wide, lying along the south side of the Gila. My two bases of operation were Blackwater, an Indian village of 1362 feet altitude, and Sacaton, where is located the Pima Agency and the Pima Training School. Sacaton has an elevation of 1275 feet and the distance between it and Blackwater is about ten miles.

Half a mile south of the Gila, and flowing parallel with it for about twenty miles is a small stream called the Little River. Along its banks are a few cottonwoods, many willows and much water-mote (*Baccharis glutinosa*). Between the two streams, on the "Island," as it is called, are groves of cottonwoods, and a few Arizona ash trees (*Fraxinus velutina*). In places not cleared and cultivated by the Indians, is a dense growth of mesquite (*Prosopis velutina*), screw-bean (*P. odorata*), and arrow-wood (*Pluchea sericca*), besides a number of scattered plants of squaw-berry (*Lycium berlandieri*) and jujube (*Zizyphus lycioides*).

About three miles south of the Gila runs, parallel, a broken range of large hills or small mountains and on the intervening strip are many species of the cactus family: the sahuaro or Giant Cactus (*Cereus giganteus*), 20 to 35 feet high or

even more; the cholla (*Opuntia fulgida*), tree-like and 12 feet high; the dense woolly cholla (*Opuntia bigelovii*); the bisnaga (*Echinocactus wislizenii*), which furnishes drink to the traveler in extremity; and others too numerous to describe here. The ocotilla with spiny tentacles waving ten or twelve feet in air, each crowned with crimson bloom, is a feature next the foothills. Shrubs seen are the creosote bush (*Covillea tridentata*); two salt bushes (*Atriplex canescens* and *A. lentiformis*); grease wood (*Sarcobatus vermicularis*); and a few others. Trees, so-called, in this stretch of country are the mesquite, screw-bean, ironwood (*Olneya tesota*), two species of palo verde (*Parkinsonia torreyana* and *P. microphylla*), and the crucifixion thorn (*Holocantha emoryi*).

This mixture, of river bottom, sloping upland to the hills, dry sand washes running from hill to river, and the hills themselves, makes a varied bird range, and judging from their numbers a perfect paradise for thrashers. Of these, five species are seen: Sage (*Oroscoptes montanus*); Palmer (*Toxostoma curvirostre palmeri*); Bendire (*T. bendirei*); Leconte (*T. lecontei*); and Crissal (*T. crissale*).

The Sage Thrasher is here only for the winter, and was first noted November 30. The last seen was March 30. They were not numerous at any time and occurred any place from river to hills.

Palmer, Bendire and Crissal thrashers were very numerous, and it is difficult to determine which predominated. The ranges of Palmer and Bendire coincided as near as I could judge, and they were both seen at many points from river to hill. Crissal, with a few exceptions, confined himself to the dense mesquite and other growth near the river bottom. In no case did I find any of the thrashers up any distance on the hills. Too barren and rocky, I believed.

Leconte Thrasher was very rare, only five pairs being seen the past year, and they were in or near the dry sand washes away from the river.

As far as I have observed the four species of *Toxostoma* are resident here. Some of them may leave for a short time in the fall but there seems to be no regular migration. Bendire in particular seems scarce during the latter part of September and during October and November, but is occasionally seen during all that time. It is probably its dormant period, to recuperate from the molt.

In the field it is somewhat difficult to be sure in distinguishing the three species, Palmer, Bendire and Crissal. At close range, or if the birds are near enough together to compare, it is easy enough; but at a distance a single bird may puzzle. In general it may be said that Crissal is darkest, has more curve to his bill and has a bobbing, jerky flight quite similar to that of the California Thrasher. Palmer is a little larger, apparently at any rate, is lighter in color and has much of the same jerky flight. Bendire is smallest and lightest of the three and has a smooth, even flight. Both Palmer and Bendire have obsolete spots on the breast and light tips to outside tail feathers, but Bendire has the more distinct spots and whiter tail tips. At close range, say on the nest, the eye is indicative. Crissal has a straw-colored iris; Palmer, orange; and Bendire, orange red. Leconte of course is unmistakable with his light sandy complexion and fast-running habit.

The Palmer and Bendire seem naturally much tamer than the others and come about homes quite frequently. All summer I placed pieces of watermelon in the shade of a school building—vacation time and no children about—and both these thrashers came freely and ate with a family of scolding Cactus Wrens. But never a Crissal appeared. The Palmer and Crissal dug in the garden and also ate wheat planted near by, and frequented the barn and well. They would come and drink from an iron kettle placed on the ground for the chickens. At the Casa Grande ruins the custodian had a large can placed so water from it dripped onto a milk

and butter cooler. This was against a window under the porch roof and a pair of Palmers would come and catch the drops of water as they fell. At a post trader's store near Blackwater the Palmer would come into a porch and drink from the drip of an olla or water cooler. Both Palmer and Bendire frequently sing from the tops of Indian homes and sometimes from the school house.

As for singing, the Bendire has them all beaten. The others are fine singers indeed, but their repertoire is limited. Not so with Bendire. No two seem to sing exactly alike and some of the songs are quite distinct from others. Not only in variety of notes but in arrangement, are differences noticed. He is a more constant singer than the others and I frequently discovered a nest by the song of the bird. The earliest date of singing was January 3, and I could hardly believe at first that Bendire was the performer. It was a low warbling song with a decided sparrow "burr" to it. I approached as near as the bird would allow, but could not be sure that he was the singer as no throat movement could be detected. When the bird flew, the song ceased and began again after he perched on a post. I repeated this maneuver several times before I was convinced that Bendire was warbling. Next evening I walked under a mesquite tree containing the singer and obtained a good close view of him and his performance.

As the breeding season approached they sang more often, the song becoming louder and with less of the burr, in fact more like the typical thrasher song, if such there be. The songs were all very pleasing, but the variations were often puzzling at first. Whenever I heard a new strain I said, "only another Bendire tuning up." They kept up the music till late in June and occasionally a song could be heard all summer and up to the last of September.

Palmer thrasher came next in frequency of vocal effort, and even during the summer months and September a part of their song might be heard. Crissal thrasher was apparently too busy raising young to sing much after early spring was gone, and rarely uttered his call note unless disturbed or the nest approached.

Molting was quite noticeable the last of July and all of August. Birds would be seen in all stages of undress; some being reduced to one feather for a tail and presenting a ragged appearance generally. When molting was completed and the new suit put on the birds looked fine and the darker shade was very noticeable. As the breeding season had advanced the birds became much lighter, especially the Palmer, tho all three showed a marked difference. And in their new coats the same relative comparison obtained.

During the season of 1908 I made notes on 112 thrashers' nests, apportioned among the four species as follows: Crissal, 45 nests; Bendire, 39; Palmer, 27; Leconte, 1. The respective numbers of nests may be a sort of index to the relative numbers of the species; and Crissal would lead. Judged by other standards the verdict is for Bendire, as his frequent singing keeps him in the lime-light and he is much in the public ear. Next would come Palmer, who talks much more than Bendire tho he sings less. His frequently uttered liquid notes of "queet-eeet" may be heard all seasons of the year, and he is fond of perching in the top of a bush or on a post even when not singing. Crissal is the silent partner of the trio and by keeping to the low underbrush and thickets is seldom seen. His call notes of "queety-queety" are occasionally heard from the mesquites, and sometimes a song. It seems to me that Crissal sings less here than among the mesquites of the Salton Sink country in California. Perhaps it is because he is here in the numerous presence of superior talent, while there the humble Cactus Wren is his commonest competitor. Bendire's call note is a single "queet" and in addition I noticed a scolding note quite similar to that of the mockingbird, only prolonged and slightly

trilled. Occasionally I heard a scolding note from both Palmer and Crissal, something like "chä." Once while a Bendire was singing I saw a Gila Woodpecker fly and alight on the same branch near him. He at once ceased singing and used his "cuss" words and the Gila departed.

As thrashers were always favorites of mine I made extensive notes on the nests seen. The locality was most favorable as the Indians never molest them and hence they were quite tame generally.

The Crissal Thrasher (*Toxostoma crissale*) began nesting earliest of all. The first nest I found was February 29 and contained three eggs about hatched. March 1st I found four nests, three of three eggs each and one containing two young recently hatched. Of the 45 nests noted, one was in February, 27 in March, six in April, ten in May, and one containing two fresh eggs June 10. A list of Crissal's choice of nesting sites may be of interest. Twenty-seven were in mesquites and mostly in typical situation, i. e., close under a large limb, making it difficult in some cases to insert a hand in the nest. One was on top of a stump but hidden by dense, sprouting twigs. Eleven were in "squaw-berry" bushes, four in greasewood, one in a palo verde, one in a mistletoe and one in a low brush fence. The average height of the nest from the ground was three feet ten inches and the extremes were two feet and eight feet. One Crissal nest I saw is not included in the foregoing list. It was in a brush fence three feet from the ground and contained ten eggs of the Gambel Partridge (*Lophortyx gambeli*).

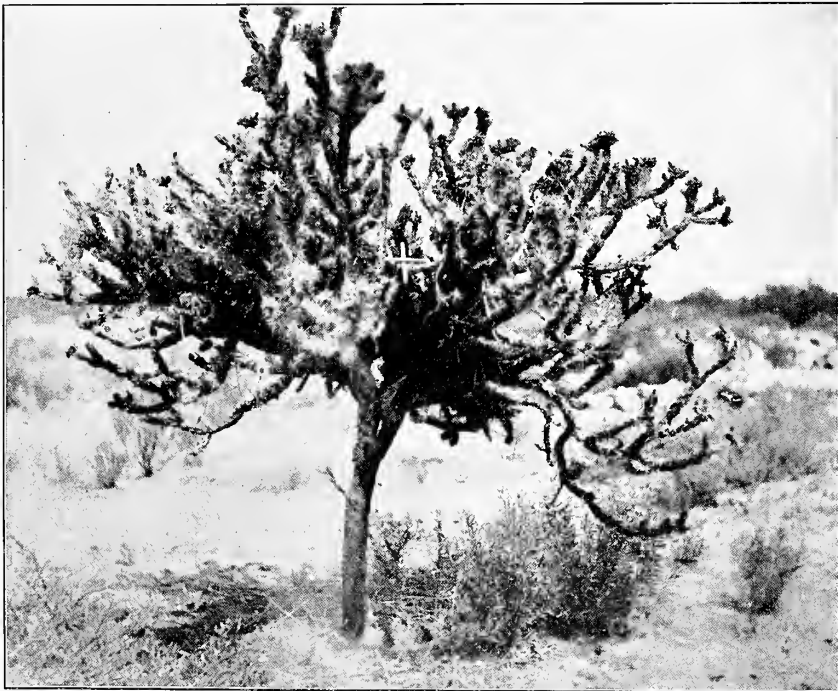
The Crissal is a rather close sitter and I could usually approach near enough to see the extremely curved bill and straw-colored eyes which sufficiently identified the bird. Upon too near an approach she would slip out the other side of the bush and perhaps give either the call or the scolding note, while I counted the eggs or young. If the nest contained young some solicitude was usually shown in which the male bird joined.

As compared with other thrashers here the nest is not much for architecture, being rather shallow and made of twigs and usually lined with fine rootlets. Sometimes a variation is shown, as one found had lining of white horse-hair; another some feathers, hair and grass; and others a little fine bark with the rootlets. I watched a nest from the time eggs were deposited till young left the nest. The set was completed April 6. At 6 A. M., April 20, one young was just out of the shell and the other egg pipped. At 6 P. M., the same date, both young were opening their mouths and trying to swallow my finger. No egg-shell could be found. May 6th both young birds left the nest. In California I found several sets of four eggs, but here three seems the rule and two are often found. None of four were seen. The short time from egg to leaving nest—30 days—probably allows the raising of more than one brood, and would account for such a protracted breeding season: five months, February to June inclusive.

The Palmer Thrasher (*Toxostoma curvirostre palmcri*) showed a decided preference for the cholla cactus as a nesting site. Of twenty-seven nests found, eleven were in the cholla; seven in the jujube, about as spiny as any cactus; four were in mistletoe of mesquite and cottonwood; two in Lycium, two in mesquite, and one in a clematis vine trailing over a shrub. The average distance from the ground was six and one-half feet, and extremes were two and one-half feet and ten feet. One old nest was found, in a mesquite five feet from the ground, containing thirteen eggs of the Gambel Partridge. Fourteen of the twenty-seven nests contained three eggs each; two had four eggs, and the rest two and one, some of the complete sets being two eggs.

Complete sets, partly incubated, were found March 1st. Of the nests noted,

twelve were found in March, ten in April, and five in May, the latest date being May 14. One nest in a cholla contained four young birds about half grown. Three weeks later another nest in the same cactus was found containing three fresh eggs. Possibly it was a second nesting of the same pair of birds. March 7 I removed a set of three eggs from a nest in a cholla, and on the 22d noticed some fresh grass lining in the nest. About a week later the nest contained two fresh eggs. In this case the birds evidently occupied the same nest a second time, something I have rarely seen except among Raptores. Another nest, also in a cholla, was found containing the usual number of three eggs. A second visit to the nest showed two of the eggs broken and nest deserted. I removed the shells and remaining egg and two or three weeks later found the nest again occupied by three fresh eggs, tho no fresh lining or repairs could be detected. About three weeks afterward I investigated and found the eggs addled and nest again deserted. As



CHOLLA CACTUS CONTAINING FIVE OLD CACTUS WREN'S NESTS, AND FOUR OLD AND ONE NEW NEST OF THE PALMER THRASHER

the cactus was only a few yards from a trading post, and a few feet from a well-traveled road, the birds had probably been disturbed too often. This cholla was evidently a favorite nesting place as it contained at the time five old Cactus Wrens' nests and four old and one new nest of the Palmer Thrasher. The entire plant was less than five feet in height.

This thrasher is a close sitter and when disturbed leaves the nest, but soon returns showing much concern. Both parents usually show up, approaching as near as six feet and uttering the usual two-syllabled call, tho sometimes using the guttural scolding note. The nest is a bulky affair but well built. The nest proper is three or four inches deep, inside measurement, and above this is a superstructure or rim from two to three inches high. Several nests seen measured over six inches deep. Rather coarse twigs are used in the construction and the lining is mostly of

rootlets, tho some fine bark, hair or feathers may also be seen in some of the nests. The bird is not too proud to use a foundation already laid, as three nests were found built right on top of old Cactus Wrens' nests. The eggs are quite uniform in size, shape, color and marking, and are much larger than those of the Crissal, tho the birds do not differ much in measurement.

The Bendire Thrasher (*Toxostoma bendirei*) in nesting, as in song, showed more individuality. The eggs showed great variation in size and shape, but the most marked difference was in color and marking. The ground color was all shades between clay color or drab and light green; and the markings from fine specks to almost blotches, of many indeterminate shades. A great range in choice of nesting sites was noticed. Of the thirty-nine nests, thirteen were in *Lycium* bushes; three in mistletoe, in mesquite and catsclaw (*Acacia greggii*); three in palo verde, two in catsclaw, two in *Sarcobatus*, one in screw-bean, and one in a salt-bush. The average hight was five feet, and the extremes three feet and ten feet. Two nests, deserted as far as the thrashers were concerned, were found, each containing an egg of Gambel Partridge. This thrasher nests a little later than the others, the date of first nest and egg being March 7. In March I found seven nests; in April, twenty; in May, ten; and in June, two. The latest date was June 10 when a nest with one fresh egg was seen. The sets were mostly of three eggs, eighteen of that number being found. Only two sets of four were seen and several completed sets of two eggs were noted.

The nests are much finer in material and workbirdship than those of most thrashers. They are smaller, more compactly built and very symmetrical in their cupped shape. Finer twigs are used in the outside and they are fitted closely together. The lining is variously composed of horse-hair, thread, twine, pieces of cloth, grass, weeds, rootlets, fine bark, wool and cotton from bedquilts, etc., etc. Most of them contain more or less horse-hair, and if near an Indian home, as is often the case, twine and material from the bed covers enters largely into the lining. One nest I noticed was built against a Verdin's nest, the wall of the latter in fact forming part of one side of the thrasher's nest. Both nests contained eggs, so the proprietors were on very neighborly terms, even tho I could discover no doorway between the apartments. The Bendires are rather shy about the nest, leaving quietly before a near approach is made. Very few of them show any concern about the nest tho exceptions were noted. The first nest I found was of uncertain identity so I decided to wait for the bird's return. No bird appeared close enough to the nest to prove ownership and I had to make the third visit to the nest before Mrs. Bendire Thrasher was seen leaving home.

The three species seem to get along peaceably together. I found nests of Palmer and Crissal in shrubs only twelve feet apart and a Bendire's nest only a short distance away.

As stated before, the Leconte Thrasher (*Toxostoma lecontei*) seems rare here. One nest was found in a palo verde and contained two half grown young. Two old nests were found in chollas. Their nests are unmistakable to one familiar with them and all had the same lining, a felted composition of a small woolly plant. All the nests I have seen in California had the same lining so when I saw a similar nest here I did not need to await the bird's return. I did so, however, and the Leconte returned to feed the young, but hastily left when I was discovered.

Sacaton, Arizona.

NOTES ON *PARUS RUFESCENS* IN WESTERN WASHINGTON

By J. H. BOWLES

THE pretty little Chestnut-backed Titmice are resident thruout the year almost anywhere that they may be found. Altho nowhere very plentiful, they are most abundant on the west side of the Cascade Range, only a few scattered pairs ever appearing on the eastern slope of these mountains. In fact in four trips thru the eastern part of the state my only record is of a pair that I found with their nest and six eggs a short distance from Lake Chelan, in Chelan County.

In the vicinity of Tacoma these chickadees may perhaps be found in their center of abundance, but even here they are extremely local in their distribution. On the east side of the city lies the Puyallup Valley, a fertile river bottom clothed with willow and cottonwood and running thru fir-clad hills. To the west of the city is the dry, pebbly prairie country, dotted more or less thickly with small and large patches of fir timber, with here and there a fresh-water pond or small brook. In the former locality I have only a few records for these birds, taken only in winter, but in the latter section they may be found in comparative abundance at any season of the year.

In the winter they generally travel in large flocks, seldom associating with the Oregon Chickadee (*Parus atricapillus occidentalis*), but choosing for their companions the Western Golden-crowned Kinglets (*Regulus satrapa olivaceus*) and Red-breasted Nuthatches (*Sitta canadensis*). It is not unusual in winter to see flocks of a hundred or more of the three species above mentioned, busily searching for food thru the dense fir forests.

At the approach of the nesting season the Chestnut-backs retire to the most arid section of the country to be found, the more exposed it is to the sun the better, and it is only in such locations that one may ever expect to find them during the breeding season. The nesting site is chosen about the middle of April, most often in the dead stub of some giant fir or oak. On one occasion only have I found the nest near water, this being in a small willow on the edge of a swamp.

The birds almost invariably dig their own hole, but I once found a nest in the winter burrow of a Harris Woodpecker. One peculiarity about them, which greatly increases the difficulty of finding their nests, is that they almost never start the hole for themselves. Instead they select some place where a fragment of the wood or bark has been split away, or else they will often take the oval hole made by the larva of one of our largest beetles. These holes are not altered at the entrance in any way and, as the dead trees are full of them, it is extremely difficult to locate the one containing the nest.

The habits of these titmice differ in many ways from all others of the genus in my experience, but in no feature is this more marked than in what may rightly be termed the habit of nesting in colonies. In one locality during the spring of 1908 I found no less than seven occupied nests inside a very small area, some not more than fifty yards apart. It was in an extremely dry prairie district that extended for miles in all directions; but I found no other nests during the entire season altho the surrounding country appeared precisely the same. This colony was unusual for the reason that all the nests were very near the ground. The lowest being two feet up in a tiny fir stub, while the highest was only nine feet up in the stump of what was once a majestic oak.

The highest nest I have ever seen in the vicinity of Tacoma was twenty feet from the ground, something very unusual as the average height is not above ten

feet. In the northwestern part of the state, however, it is nothing unusual to find them fifty feet up in the giant fir stubs, remnants of long past forest fires.

The cavity is usually about seven inches in depth, seldom any more, tho occasionally much less. Almost any soft substance to be found in the vicinity is used to make up the nesting material, but there is always a substantial foundation of green moss. Cotton waste from factories, hair of cows, squirrels, rabbits and goats, and small feathers are most often used, one very beautiful nest in my collection being composed almost entirely of feathers from the Kennicott Screech Owl (*Otus asio kennicottii*). No matter how large the bottom of the cavity may be, it is always packed tight, and I have sometimes removed a nest that would easily fill both hands.

The set of eggs is generally completed by the second week of May, and the eggs commence to incubate from the time the first one is laid. This is caused largely, I think, by the bird covering her eggs with the warm nesting material until the full set is laid, which she does every time she leaves the nest. Added to this the nest is always fully exposed to the heat of the sun. Whatever may be the true reason it is always difficult to prepare a large set in thoroly satisfactory condition for the cabinet. It may be of interest to state here that I have occasionally noticed this same habit in the Puget Sound Bush-Tit (*Psaltriparus minimus saturatus*), Tule Wren (*Telmatodytes palustris paludicola*) and Western Golden-crowned Kinglet (*Regulus satrapa olivaceus*).

Seven eggs usually make up the set, six is common, while in twelve seasons I have taken only two sets of eight and two of nine. They may readily be distinguished from those of the Oregon Chickadee (*Parus atricapillus occidentalis*), the only other chickadee in this section, by their greater delicacy in both texture and coloring. The shell is very frail, and the color is a pale milky white, dotted with light red, the markings being mostly confined to the larger end. The eggs vary greatly in both shape and size, some being shaped like a quail's egg, others like a murre's egg. This is frequently the case in the same set. The most common type has a decided tendency to long ovate; but there is such a variation that it would be hard to call anything strictly typical. Three selected eggs taken from ordinary types measure in inches .77x.47, .75x.50, and .76x.46, and an average egg would measure somewhere between these three.

The female is very brave in the defence of her eggs, and frequently cannot be made to leave the nest until it is broken open. In looking into a nesting hole that is occupied by the bird I have never been able to overcome being badly startled by the sudden flutter of wings and fierce cat-like hiss with which she dashes at the face of the intruder when he applies an eye to the entrance of her home. When she is forced to vacate, her complaints always bring up her mate, and then both birds hop about within two or three feet of the bird student, of whom they seem to lose all fear in anxiety over their treasures. Their only note of complaint is a weak, squeaking *peep*, not in the least what one would expect from a true chickadee. On the other hand they have a very pleasing and quite lengthened song, not at all unlike that of the Western Chipping Sparrow (*Spizella passerina arizonæ*). The only season at which I have heard them sing is in the spring, at much the same time as the Black-capped Chickadee (*Parus atricapillus*) has greeted me with his note of *peewee* in Massachusetts.

Collecting eggs of this species is most uncertain work, as, should the nest be examined ever so carefully before the eggs are laid, the birds almost invariably detect the fact and promptly desert. Added to this is the habit before mentioned of

covering the eggs until the full set is laid, so the collector is frequently at his wit's end how to proceed.

Apart from the egg collector, about the only destroyer of their homes is no other than the common black and yellow bumble bee. This insect has a veritable mania for living in holes in trees, and a chickadee nest appears to be the acme of its desires. It seems to like the nesting material and prefers the nest before the eggs are laid, but it will often drive the bird away from an incomplete set, pulling up most of the nesting and leaving the eggs underneath.

Tacoma, Washington.

OBSERVATIONS ON SOME BIRDS FOUND IN SOUTHERN MEXICO

By AUSTIN PAUL SMITH

QUITE the most satisfactory region for study of bird life that I have as yet visited, is the little State of Morelos, situated in southern Mexico. Cuernavaca, the capital, is about fifty miles southwest of Mexico City, but owing to the rough nature of the country traversed the railroad counts seventy odd miles.

Cuernavaca lies at an altitude of 5000 feet, in the Upper Sonoran Zone. The lands surrounding the city are almost entirely under cultivation, supporting various crops, but largely maize. Many kinds of tropical fruits are grown; and no adobe but what boasts an accompanying mango, or avocada. The only uncultivated spots are the barrancas, and rocky knolls. Sometimes these latter harbor abundant growth, in which the tree morning glory is, as a rule, the most arborescent member. The few barrancas to the east of the city are dry, except during the rainy months; several westward, however, contain water at all times—therefore, considerable vegetation and many birds.

Pines come to within six miles of the city limits, thus allowing a transition zone of small extent and mostly consisting of the barrancas where the streams are perennial.

As a beginning, I will name the commonest bird within and near the city. It is the House Finch of the Cuernavaca variety (*Carpodacus mexicanus rhodocolpus*). Thousands roost in the rubber trees growing in the city plaza. During the day these same flocks resort to the cornfields and hedgerows outside of town. Often I pondered on how they found an adequate food supply, as the peon and Indian need to harvest to the last stalk to insure existence. Also among the feathered kind, the House Finch has serious competition, at least during the winter, when seed-eating birds are predominant. The food, tho, of this species is not entirely seed and grain: some birds were examined that showed evidence of exclusive diet of mango buds; and one day I came upon a pair flycatching in clumsy manner. A recent shower had ushered into existence quantities of lace-winged insects that haunted the tree tops, and appearing much like fluffs of cotton when floating in and about the branches, proved easy prey even to such novices.

Two other species of finches were abundant as winter residents: Western Lark Sparrow (*Chondestes grammacus strigatus*) and Western Grasshopper Sparrow (*Coturniculus savannarum bimaculatus*). Both were about in numbers until April 15, and stragglers of each species were found ten days after that date. The Grasshopper Sparrow did not sulk in the manner so usual with it in our own country. Certain of his kin there were tho, that believed in persistent retirement, notably *Peucea botterii*. I never have been favored with the acquaintance of the

Botteri Sparrow in the United States; and if, as authorities state, it occurs only in limited numbers over the line, I can surmise the principal reason why this sparrow is noted so rarely. Besides the ground-sparrow ability to hide, they rival the wren at getting in and out of rock-piles and fences. They often attempt to sing, and then is about one's only opportunity to size them up; noting the buffy under parts, and brown-streaked and black-spotted back, which those that read this can comprehend, when I liken it to nothing so much as a well griddled buckwheat cake for color.

The jauntiest dressed sparrow that dwells about Cuernavaca suburbs is a species which I can give no common name to, unless I call it White-chinned Sparrow. Scientifically it is labeled *Aimophila humeralis*. If on the A. O. U. list, it might have gained distinction, but here has to divide honors with many interesting birds. Not listed until the early days of April, the first I ran across was found singing in an able manner. Later on, the brush along the fence rows harbored the majority. Their appearance was not a daily occurrence—a week might pass without the sight of one, tho on the alert to find them at all times. Never gathering in flocks, three or four were as many as I came across at one time. Allowing a close approach they present an elegant form, having much about them to suggest a junco, especially the members of the *J. phaeonotus* group.

Another sparrow of the same genus dwells in similar locations, but was much shyer, and less frequently observed, *Aimophila rufescens*. When I secured my first specimen, imagination pictured an overgrown Scott Sparrow with Pipilo tendencies. Several miles from town was a secluded and deep barranca, the bottom of which was covered in places by fallen leaves, from trees growing on the rough sides of the barranca. These formed deposits, often knee-deep, that were the special delight of *A. rufescens*. Here they would scratch and delve for worms, that must have occurred numerously, for as a rule appetites were soon appeased and scratching for the pleasure of noise superseded eating. During the latter part of the performance the clickity-clickety note of the bird was uttered. To observe them I had to use great circumspection in approaching, for if alarmed they would seek refuge in the crevices of the rocky sides of the barranca, where it was impossible to dislodge them.

The same barranca harbored a few paltry individuals of *Delatiria henrici brevirostris*, a very large hummingbird with a rose gorget, somewhat resembling the Blue-throated Hummingbird (*Calyptena clemenciae*) of the same territory, but of a little higher altitude. I cannot recall meeting a Blue-throat under 6000 feet, but from that elevation up they could be found in small numbers. A blue Salvia was a favorite flower of this dark giant, and the lure of the plant caused this hummingbird to be very indifferent to human presence at such times. A low, soft pit-pit-pit, slowly uttered, was about their only vocal effort; and this was smothered at times by the heavy hum of the wings. Several species of hummingbirds occurred in numbers in Cuernavaca gardens. Probably the Blue-headed (*Cyanomyia verticalis*) could be classed as most conspicuous, owing to size, and immaculate underparts. Consequently, casual observers might overlook the plain little *Phaeoptila sordida* of equal abundance, and generally associated with the Blue-crowned. Lilliputian in size, but with proclivity for fighting that made him master of Hummerland, was the Lucifer (*Calothorax lucifer*). The Devil ought to be proud of his own; scrapping is the Calothorax emblem, and to find a quiet member was the exception. Lucifer Hummingbird was about the city during January and February, but disappeared about March 6. when I imagined they sought higher country.

Besides the various species of hummingbirds always around flowering trees and shrubs, there were usually several orioles about every native's garden. A dozen Wagler Orioles (*Icterus wagleri*) would now and then assemble in a single tree. It is a longer and more slender bird than any of our North American species. Likely enough this is owing to the habit of most of the tropical Icteri of feeding on the minute insects, attracted by nectar of flowers. All examples of *I. wagleri* secured had the bill and most of the head covered by gummy exudations from the flowers they foraged off. Not more than one male bird in five wore the full plumage, and these were considerably shyer than the younger birds. Scott Orioles (*Icterus parisorum*) appear this far south, altho I presume in limited numbers, as I met with but one, an adult male in January. The Hooded Oriole (*Icterus cucullatus cucullatus*) is resident in fair numbers, but in nothing like the abundance of Wagler Oriole. A few *Icterus c. nelsoni* winter here, as several specimens were taken. In the pines and upper barrancas, Bullock (*Icterus bullocki*) was the only Oriole during the winter months: extremely abundant above 6500 feet, frequenting the great rubber trees of about this altitude, in company with the Orange-headed Tanager (*Piranga bidentata*). Keeping, as both did, to the highest portion of the trees, differentiation between the two was difficult. Several Bullock Orioles lost their lives by my mistaking them for Tanagers.

The Tanager just mentioned is a fruit-eater, not alone taking toll of wild fruits, but of cultivated trees as well. Sometimes a flock of twenty or more will settle down upon a peon's garden, and no doubt were it not for the family vigilance few mangoes or sapotas would survive the onslaught by this handsome species. A few Cooper Tanagers (*Piranga rubra cooperi*) added color to the transition zone. The pines sheltered many Hepatic Tanagers (*Piranga hepatica*), none at this time in high plumage.

The Tyrannidæ seems to be the leading bird group in lower Mexico. It is as a family certainly much more in evidence than either finches or warblers, when all life zones are considered. The most barren spot is the home of the Vermilion Flycatcher (*Pyrocephalus rubineus mexicanus*), which frequents, too, the habitation of man. Conditions of life make the native Mexican home a haven for flies, fleas and lice. That is the reason you so often find this exquisite creature perched upon an adobe roof, or near-by pig-sty. They also find the cultivated plots fine hunting ground, particularly during the dry months, when grasshoppers of great size swarm. It is certainly interesting to watch a three-inch grasshopper disposed of by a six-inch Vermilion.

You cannot be in these parts long before you detect a very peculiar bird note, the author of which may perhaps be detected in the nearest tree; for the Beardless Flycatcher (*Camptostoma imberbe*) is of a friendly disposition at times. Impressions of early acquaintance would class him as a Flycatcher, Vireo, or Titmouse, dependent upon his action at the time of your observation. The flycatcher nature is less in evidence than the other two. In many instances have I watched this mite simulate the Vireo's habit of branch inspection, in the same time-careless manner. And again, I might be startled by a titmouse-like note from the brush near at hand, only to discover a chickadee-mimic in *Camptostoma*. Where observed following the Tyrannidæ instincts, it was from the tops of the tallest trees, when it remained very quiet. I found it the premier seed-eater of the family. The birds' notes are somewhat complex; my translation is seetee-tee-tee-tee, often kept up continuously for five minutes.

In the clumps of original vegetation, dotting the cultivated ground, and to which I referred at the beginning of this article, one or two Wright Flycatchers

(*Empidonax wrightii*) usually held forth during my stay. Here too I could find Mexican Crested Flycatchers (*Myiarchus mexicanus*) and Ash-throated Flycatchers (*Myiarchus cinerascens*); also examples of *Myiarchus nuttingi inquietus*. For a quiet Flycatcher I would choose the Fulvous (*Empidonax fulvifrons*). It found a citadel in the rushes that grow along the small irrigating canals. Now for contrast, I am naming a very noisy bird, *Tyrannus crassirostris*, a Kingbird with enormous bill, and pugnacious disposition; enough to make life strenuous for all hawks and ravens within its habitat. *T. crassirostris* prefers watered barrancas, where both it and the Giraud Flycatcher (*Myiozetetes similis superciliosus*) were nesting by the last of April. The Giraud Flycatcher is one of the few prominently marked members of this family, and has an individuality that cannot be forgotten. You need a side view, with crest erect, to judge it right.

Enumerating some of the other Flycatchers I met with, there were the Cassin Kingbird (*Tyrannus vociferans*), found everywhere except in the pine region; Western Kingbird (*T. verticalis*), occasional; *Sayornis nigricans*, the only Phoebe met with; *Myiochanes richardsoni*, favoring willow-thickets; and the Querulous Flycatcher (*Myiarchus lawrencei querulus*), of the pines. This zone is much frequented by the Brown Flycatcher (*Mitrephanes phaeocercus*), altho it is equally abundant in Transition. Thruout its habitat, the more open spots are favored; often sharing the field or glen with Hammond Flycatcher (*Empidonax hammondi*), and Western Flycatcher (*E. difficilis*). There was a week in February, when these three species associated in enormous numbers—greater than those of the other feathered creatures combined. *Mitrephanes* is sociable for a Flycatcher. I think they have cast aside that solitary disposition, notorious in the smaller tyrants. Always appearing in pairs or more, they take advantage of a sunlit spot in the forest, when the plumage will strike the eye as dull crimson, rather than brown. The under mandible is very distinct on account of the wax-yellow color.

A peculiar, small member of the present family, confining its operations to the larger trees in the most dense growth of higher barrancas, was identified by Mr. Nelson as *Myiopagis placens* but near *M. jaliscensis* of western Mexico. It bears a concealed yellow crown mark; and among the trees, appears decidedly like a Vireo.

Very few of us contemplate a trip to Mexico, without forming a determination to see the Motmot (*Momotus mexicanus*). The resolve is usually consummated, as the bird is well distributed in the land. Many peculiar traits create for it an interest never dulled by time or distance. Whatever you see when locating the Motmot for the initial time, will never fit itself into any bird family you are versed in. So naturally, identity is achieved thru elimination.

Motmots are quiet birds, notwithstanding their vocal possessions; sounding notes to my ear suggestive of rattling shutters. It was seldom that I found any near the city; but tramp a mile or two out, away from man and habitations, find some miniature arroyo, with a dozen or so scrubby trees grouped about, and you generally find *Momotus mexicanus*. It is a pretty hard proposition to secure an allround inspection of one. Whatever ruse is attempted to gain a front view, it ends in failure. The back of the bird is always the portion of the subject within the range of your eye. Contented be: note the large head; apparent lack of neck; slim body and long tail; and, if you have a near view, the bill with saw-edges—an instrument fitted to perfection for holding the great bugs so numerous in tropical regions. Their food in part is flies, moths, katydids, and stray grasshoppers, and never causes our subject much concern. Deliberate in preparation, his execution is as the lightning. Should one alight breast toward you after a catch, it is but the fraction of a second, ere the position be reversed.

I camped for some weeks during February and March in one of the large barrancas, at an altitude of 6500 feet. This barranca was deep and narrow near the site of my tent, and it would be several hours after the sun rose before it reached this spot.

Arising at daybreak, I would make haste to complete my ablutions, at a nearby pool, so as to avoid the chill that was very noticeable at that hour. Little life was in evidence so early, but one species of bird there was that always preceded me at that pool—the White-eared Hummingbird (*Basilinna leucotis*). Here I would find it bathing or else feeding on the nectar of pink-flowered Begonias, that grew with ferns in profusion thereabouts. How distinct the white superciliary line appeared in the dim light! Often they lit on a fern frond within five feet of me, searching the plant most thoroly while perched thus. Later, as the day advanced, they could be found the length of the barranca, feeding from the lowly Cuphea to the great *Fuchsia arborescens*.

Bell Warblers (*Basilcutterus belli*), I found favored the vicinity of that particular pool, where a large quantity of brush debris had accumulated. To attempt to uncover one by beating the brush was always unsuccessful as they act much like a Yellowthroat under the circumstances. However, keeping quiet a few minutes will reassure them, and emerging, they sound their clarion notes: wren-like chips, most barbarously tuned when chasing their own kind; intensely quarrelsome birds, in what I took to be the breeding season; never resorting to high bushes or trees, when under my observation. Duges Warbler (*B. rufifrons dugesi*) looks like a twin brother of the Bell Warbler but is blessed with a quieter nature and more confiding disposition. Rarely found within the zone of *B. belli*, preferring more open situations from 6000 feet altitude down, it was the only common Warbler about the city during the months of my visit.

Several miles out from town, was a most barren piece of ground, that lacked every sort of vegetation, except that within a small depression there grew a forlorn little cedar by the side of a huge rock. Here, a Duges Warbler dwelt contentedly—without kin—in fact all feathered creatures but he, seemed to shun the spot. The bright chestnut-colored head, and clearly defined yellow and white underparts allowed of sure identification.

There was only one place where I met a Yellowthroat (*Geothlypis trichas*, var.?), that spot an irrigated meadow near town. One end was kept very wet, and here the grass grew rank and lush. But I did not secure the bird and the variety remains in doubt. Forms resembling the Yellowthroat, I did obtain there, and found to be Rio Grande Yellowthroats (*Geothlypis polioccephala*). Their numbers were quite limited.

The submerged end of the meadow was grazed upon by cattle, and these in turn, attended by numerous Groove-billed Anis (*Crotophaga sulcirostris*). These Anis spent their time hunting over the animals' hide, and in the long grass, perhaps for ambitionless ticks. I think I might call them the thinnest species in existence! The Ani's movements remind one of long-tailed Grackles, and they have the same manner of spreading the tail.

I do not know if the Morelos sun ever shines on our robin of the north, but it can claim a relative in *Planesticus tristis*, called Gray-breasted Robin in ordinary venacular, I believe. Do tropical conditions account for his superior voice? Anyway they have an advantage over our robin in singing. The song is of a different pitch—finer wrought and better strung. Why this southerner should be named *tristis*—"sad"—I cannot explain. Sing very late in the day it surely does, but the song has no melancholy suggestion. In fact, it is a most pleasant diversion in a

still barranca. How I detested to hear the harsh call notes of the bird, tho, particularly on the occasions when they would mix them with their song. Gray-breasted Robins are active until after whippoorwills and owls stir forth; flocking into the barrancas in the late afternoon, and remaining for the night, and ascending to the pines to feed at daybreak.

There are several bird families in Mexico having no representatives in the United States. One of these groups is the Woodhewer. The only species I have met with is *Picolaptes leucogaster*, inhabitant of the heaviest growth in the barrancas in Morelos. In recalling my first individual, I can see a gigantic brown creeper ascending the trunk of a large tree sheltering my tent. The White-bellied Woodhewer is tolerably abundant in suitable situations within the area treated in this article, altho by reason of their solitary disposition, estimates might show otherwise. Woodhewers were located more than once by the sun playing on the plumage, which is rich brown above, brightest on wings and tail, with blackish crown, spotted buff and white. Altho superficially the bird much resembles a brown creeper in form, its actions and movements are quite different. I cannot recall ever having observed a Woodhewer ascend a tree in the spiral manner, characteristic of *Certhia*; nor have I noted it near the base of a tree. Seldom alighting lower than twenty feet from the ground, a rapid ascent to some favored limb is made; and should the branch happen to be horizontal, they work with as much ease on the under, as on the upper surface. Their long, curved, extremely narrow bill, greatly facilitates search in the particular field of their endeavors—narrow cracks, small knotholes, and the like. The bill is available in any position, be the directing movement vertical or horizontal, or a combination of the two. Their notes are of four or five syllables, of moderate volume, rendered like tree-e-e-e, and uttered just before leaving their position. The nesting was in progress during February, and few females were secured.

Another tropical family represented in that State is that containing the Trogons. I met with a red-billed species, *T. mexicanus*. They are plentiful, but are not conspicuous birds, for all of their brilliant raiment. First suspicion of this species' presence was caused by discovery of bright-colored feathers of peculiar texture, scattered about under such trees and bushes as produce fruits or large seeds. Just a little search and you will find the Mexican Trogon nearby. But I do not mean that it is a stolid, indifferent bird; quite otherwise, and must be approached with caution. They partake in equal quantity of insects and fruits. When feeding, a short note like kee-kay is used; at other times a variety of calls; for instance, a measured cow-cow-cow; and a set of notes in capable mimicry of the Turkey.

A natty attired sparrow about camp was *Buarremon virenticeps*; but let us call him Green-headed Towhee. It is of good size, eight inches or so, but with feet fit for a bird much larger. These feet are the noise-makers, not the weak suggestion of a chirp, always uttered when out of sight. I attempted to gain their confidence, but was never quite successful, even when patience was abundant. The Green-tailed Towhee (*Oreospiza chlorura*) reminds me of *B. virenticeps* so much that I will mention it in connection. Avoiding the timbered regions I found it about the city hedgerows after March 12, and altho the last record for the species in my journal is April 16, I feel sure that I saw it as late as May 1 in the company of Western Vesper Sparrows.

Warblers have many representatives wintering in this section, and some resident species, too, so I will group them, as with the Flycatchers, excepting two species of *Basileuterus* already discussed. The Red-bellied Redstart (*Setophaga*

miniata) was one of the commonest of Transition Zone birds. It might be advertised as a Painted Redstart, with toned-down movements and different note: a clear zee. A few Painted Redstarts (*S. picta*) were seen in company with the above.

Various warblers were found in flocks composed of many species of insect-eating birds, such as Vireos, Kinglets, Flycatchers, Gnatcatchers and Tanagers. Two species that congregate thus are the Red Warbler (*Ergaticus ruber*) and Red-faced Warbler (*Cardellina rubrifrons*). Both are sprites of lasting beauty. The Red Warbler is deliberate when working, searching the more open parts of the tree; while the Red-faced keeps better hid, and searches in a hurried manner. The number of individuals of the Red Warbler were few when compared with the Red-bellied Redstart, or Red-faced Warbler. The highest parts of trees sheltered, during February, large numbers of Townsend (*Dendroica townsendi*), Audubon (*D. auduboni*), Black-throated Green (*D. virens*), and Hermit (*D. occidentalis*) Warblers. Many of the Hermit Warblers were then in breeding plumage. As soon as the barrancas were left, going toward the town, species like Black-throated Gray Warbler (*D. nigrescens*), Tolmie Warbler (*Geothlypis tolmiei*), and Pileolated Warbler (*Wilsonia pusilla pileolata*) were in evidence. Yellow Warblers (*Dendroica aestiva*) wintered in and about the city. The Lutescent Warbler (*Helminthophila cclata lutescens*) was general at all altitudes within our scope.

The Cactus Wren genus (*Heleodytes*) is represented here by the Huitzilac Wren (*H. megalopterus*), found in the Transition Zone. The pattern of plumage is much like that of certain Woodpeckers, and an aptitude for climbing make this similarity still more apparent. In scaling a tree they will climb for five or ten feet, then inspect the surrounding growth, be it moss-covered trunk, branch, or leaf; and after a brief inspection pass on to repeat the movements. Fully-fledged young were secured February 18. These were still being fed by adult birds. Another resident Wren is *Pheugopedius felix grandis*, or Morelos Wren, found most anywhere below the pine region. An ancient lava flow, five miles east of Cuernavaca, that is covered by dense brush, is a very good place to meet with it. They are great singers, like most wrens. Specimens secured vary considerably, and no doubt are near the true *P. felix*. Many Mexican Canyon Wrens (*Catherpes mexicanus mexicanus*) and a very few Mexican Rock Wrens (*Salpinctes obsoletus notius*) were found within the territory covered by this article. House Wrens are referable to *Troglodytes aedon aztecus*, according to Mr. Nelson, after examination of examples of specimens obtained. They were very numerous in the rubble fences of the open country.

The Colaptes of the region is the true *C. cafer*. It and the Yellow-breasted Sapsucker (*Sphyrapicus varius*) were the only Woodpeckers met with. Such Sapsuckers as I shot were in emaciated condition.

Neither Jays nor Titmice came often about my camp. The Jay is *Aphelocoma sieberii*; the Tit, *Baeolophus wollweberi*. When the Jays were in evidence I usually found the Titmice in their wake.

Crepuscular birds were the Texas Night Hawk (*Chordeiles acutipennis texensis*), in the immediate vicinity of the city; and higher up, above 6000' feet, Whip-poor-wills (*Antrostomus vociferus*). One or two Poorwills (*Phalaenoptilus nuttallii* var?) were heard.

Why I failed to find pigeons in the mountains is a mystery. The cultivated sections entice large flocks of Mourning Doves (*Zenaidura macroura carolinensis*), and lesser numbers of White-winged Doves (*Melopelia leucoptera*). The almost domesticated Mexican Ground Dove (*Chamæpelina passerina pallascens*), with the long-tailed Inca Dove (*Scardafella inca*) are about every dwelling. Unfortun-

ately, all four species are considered game by the inhabitants, and only lack of fire-arms, and poor marksmanship, allow the birds to hold their own.

The most valued cage bird in southern Mexico is *Melanotis caerulescens*, a songster that cannot be excelled; also with great ability as a mimic. It must thrive well in captivity, from the numbers possessed by the people. Personally I never found it in numbers sufficient to call common, only running across them now and then in the heaviest of stream-side growth; the clue to its presence was usually the song.

The Solitaire of this region is *Catharus melpomene clarus*. It is another wonderful singer. I have heard it in a high and narrow barranca, where the tones were confined and producing effects that I wish all readers of this could share with me. It is a shy thrush and keeps to cover much, but can be easily recognized by the bright orange bill and golden brown upperparts.

The Western Mockingbird (*Mimus polyglottos leucopterus*) is a native. But they can poll nothing like the numbers that they occur in over the United States border. It frequently loses its liberty in order to adorn some rude wooden cage.

Bird catching is an industry not to be scoffed at in Mexico. Many species are trapped. Even the Cedar Waxwing (*Ampelis cedrorum*) must pay tribute during the short time it spends here. Occurring in flocks of a hundred or more, they are easy victims for trappers. Their monetary value is small, owing to inability to live in confinement for more than a few days. I was offered a pair for thirty-five cents, Mexican currency. Already the length of this article precludes reference to the Raptors and water-birds I met with. In closing, however, I do intend to make mention of a real game bird, *Colinus graysoni nigripectus*—a true Bobwhite. Unlike our native kinds they seldom seek brush cover, preferring the open fields, where nothing could be more inconspicuous, the plumage blending perfectly with the brown earth. A hard bird to flush, they will fly but a short distance, then alight, to repeat the tactics again if necessary.

The Bobwhites of the *C. graysoni* group are black-chested birds; in this variety the throat is white with black chin. The natives are not very well acquainted with it; and I found none in captivity. It probably never could be as popular a game bird as our eastern Bobwhite, owing to the difficulty in securing it, together with its moderate numbers.

Acknowledgments are due Mr. E. W. Nelson and Dr. C. W. Richmond, of the United States National Museum, for identifying many of the species named in this article.

Brownsville, Texas.

FROM FIELD AND STUDY

Chestnut-sided Warbler at Sherwood, Mendocino County, California.—While collecting at the above place in the fall of 1908, I secured on September 21st a Chestnut-sided Warbler (*Dendroica pensylvanica*), juvenal male. It was taken in a pine tree in the edge of the redwood forest and was apparently alone, as no other was noticed. The skin is now in the collection of Dr. L. B. Bishop, New Haven, Connecticut, who identified it, and believes it to be the first record for the State.—HENRY W. MARSDEN, *Witch Creek, California*.

An Ancient Murrelet at San Pedro, California.—On January 23, 1908, I went to San Pedro and spent about an hour on the beach looking for dead birds which had been cast up by the recent storm. I walked about a mile toward Long Beach and in this distance I found several Rhinoceros Auklets (*Cerorhinca monocerata*), several Cassin Auklets (*Ptychoramphus aleuticus*), one Sanderling (*Calidris leucophaea*), one Xantus Murrelet (*Brachyramphus hypoleucus*) and

two Ancient Murrelets (*Synthliboramphus antiquus*). I think this last is a record for San Pedro, as Mr. Grinnell informs me that this is the second record south of Santa Cruz Island, the other being a pick-up near San Diego.

These birds were badly stained with crude oil. I had great difficulty in removing it from an Auklet and an Ancient Murrelet which I saved. I used gasoline for cleaning, without injury to the feathers. The Sanderling was without wings, so was probably killed by some hunter. The other birds were apparently killed by the storm.

On February 8 I went down again and found two Brandt Cormorants, three Surf Scoters, one Ancient Murrelet, one Xantus Murrelet, one Cassin Auklet and one Rhinoceros Auklet. All



NEST AND EGGS IN SITU OF TOLMIE WARBLER IN MARIN COUNTY

Photographed by Joseph Mailliard

but the two Cormorants and one Scoter were in an advanced stage of decomposition and may have been a part of those observed on January 23. The Cormorants were the only ones free from oil.—HOWARD WRIGHT, *Pasadena, California*.

Nest of the Tolmie Warbler.—Mention is often made—as, for instance, twice in THE CONDOR, Vol. X, No. 4, by Gilman writing of New Mexico, and Rockwell of Colorado—of localities where the Tolmie Warbler is abundant, or at least common, in the breeding season; but it has never been my fortune to visit such a spot. Most of my observations on this species have been made at San Geronimo, Marin Co., California, where a few, a very few, pairs breed each year. The shyness of these birds and their habit of building near the ground in thick vines, in bunches of wormwood or thick clusters of tall ferns, make the discovery of a nest with eggs a

difficult matter, especially as they will abandon an uncompleted nest under very slight provocation. Those containing young are, of course, comparatively easy to locate by watching the parents carrying food. Most of my "finds" of this species have been entirely accidental.

The nest shown in the accompanying photograph was rather remarkably situated, and found as usual by accident. Altho these birds are naturally extremely retiring in their disposition, this nest was inside the right of way of the railroad running thru the Rancho San Geronimo and only about twenty-five feet from the track over which four or five passenger and freight trains passed each way every day. We use a wire of the railroad fence for telephonic purposes, and in the spring, when the growth of vines is especially rampant, we have more or less trouble from the grounding of the current by the vines coming in contact with the wire.

In the present instance, while driving along the county road parallel to the track, some three miles from headquarters, I noticed that some wild cucumber vines had clutched our wire in their disturbing embrace, and I jumped out of my buggy to remove them. This nest was on the farther side of the right of way, and it was in crossing from the track to the fence beyond that I flushed the parent by almost stepping on it. Quite a stream runs parallel with the railroad here, and some willows growing on its bank overhang the fence. The nest was placed near the ground in a low patch of wild blackberry vines under the edge of these willows. The instant the parent flushed I drew back and hid, waiting for her to return to the nest. She flew into the willows where she was soon joined by her mate, and their note—so much like the warning "twit" of the California Partridge—was repeated anxiously many times as they hopped about the neighboring trees before they were sufficiently reassured to return to the nest. Finally, however, the female edged toward her particular blackberry bush and all became quiet.

Except for the danger of having one's paraphernalia disturbed by the passing public this would have been an ideal place for a series of photographs as soon as the young were hatched, especially as the birds must have become used to more or less disturbance in such a noisy spot; but unfortunately my time was too much occupied to make the trial. The day after this discovery I brought my camera along with the result herewith submitted. It was necessary to cut away some of the vines on the camera side before the nest could be focussed, as it was practically hidden from sight.

It is more than possible that the noise of the passing trains had made this pair of birds bolder than the majority of their kind, as otherwise it is extremely improbable that they would have returned to their nest at all after the rude disturbance of a full grown man crashing thru their blackberry patch. The necessity of further disturbance from cutting away and disarranging the vines about the nest was too much for them, however, and the set was added to our collection. It was taken May 7, 1908; No. 4000-5-08, collection J. & J. W. Mailliard; incubation one-third. Nest composed of dry weeds and weed bark, lined with a few fine rootlets and a little horsehair; diameters 4 and 1¾ inches, depths 2¾ and 2.—JOSEPH MAILLIARD, *San Geronimo, California*.

The Status of the Hutton Vireo in Southern California.—I have come to the conclusion that *Vireo huttoni oberholseri* does not exist as a race separate from *Vireo huttoni huttoni*. And this, too, after my attempted demonstration to the affirmative conclusion (as presented in THE CONDOR VIII, November, 1906, pp. 148, 149)!

My reversal of opinion is due to the acquisition of more material from southern California, the most valuable of which in this connection are birds in fresh fall plumage from Orange County, and a number of additional specimens from San Diego County. My former statement that the only then available San Diego County example (taken in March) was exceptionally "leadened" was perfectly true. Furthermore I have at hand thru the courtesy of Mr. F. Stephens, three May examples from Witch Creek, the type locality of *oberholseri*; and three more June birds (adult) from the Santa Rosa Mountains. These are all quite appreciably paler than June and July adults from the vicinity of Monterey, the type locality of *Vireo huttoni huttoni*. But (and here is the crucial test) the September birds from Orange County (just as with those from Los Angeles County, as I previously pointed out), and which are in full, fresh plumage, are of exactly the same tints thruout as equally unworn birds from Monterey, Palo Alto and the Santa Cruz Mountains. (It must, of course, be borne in mind here that there is but the single annual molt in this species, in August.) Furthermore (and this clinches the evidence) an adult specimen (No. 2401, U. C. M. V. Z.) from the Santa Rosa Mountains is even paler than any of the Witch Creek birds; yet among the prevailing worn, light-colored feathers of the back are to be seen, just appearing, two or three bright green new feathers of the precise tint of the corresponding feathers in the new-plumaged Monterey birds.

The deduction from this is that the character of *oberholseri*, paleness, is adventitious and due to the greater rate of fading and abrasion to which the southern California birds are subjected.

The atmospheric dryness makes the feathers more brittle and hence hastens the disintegration process resulting from attrition. The more intense and long-continued sunlight bleaches the colors at a greater rate.

The moral again, repeated here for the sake of emphasis, is that the true color characters of birds must be sought in freshly acquired plumages, and not in the "breeding dress" (often in a dilapidated condition) as has been so universally insisted upon.

The above contention that *oberholseri* is not after all a phylogenetic race, is not at all an argument against the recognition of minute differences in nomenclature, as would apparently be urged by Linton (cf. CONDOR X, July 1908, p. 181; and Kaeding, *idem*, XI, January 1909, p. 32), but rather points toward the need for greater care in discriminating subspecies.—J. GRINNELL, *University of California, Berkeley, California.*

The Early Western Surveys.—In Mr. Rockwell's interesting paper on "The History of Colorado Ornithology," in the January-February number of THE CONDOR there are several erroneous citations, which, coupled with a number of similar errors recently appearing in scientific publications, lead to the belief that a general account of several of the western surveys and their publications may be timely. For those who are familiar with the publications referred to, citations are not necessary, and if the references are not correct they are worse than useless to those for whom they are intended.

In the paper just referred to, Coues' "Birds of the Northwest" is attributed to the Bulletins of the United States Geological Survey, instead of to the Miscellaneous publications of the "Hayden Survey" of the Territories; and Henshaw's reports are attributed to the same survey, instead of to the "Wheeler Survey" of the region west of the one hundredth meridian. Ridgway's report on the Maxwell collection was first published, so far as I am able to learn, in 1879, in Mary Dartt's (now Mrs. Thompson) "On the Plains and Among the Peaks," instead of in 1877 as Mr. Rockwell has it. Afterward, according to Professor Cooke, it appeared in 1887 in "Field and Forest," a publication not now accessible to me. Either Mr. Rockwell's date is an error or both Professor Cooke and I have overlooked the earlier publication. However, that is of minor importance. The important item is the confusion of entirely distinct surveys.

The United States Geological and Geographical Survey of the Territories, under Dr. F. V. Hayden, began operations in 1867 and ceased field work in 1878, tho some of its publications did not appear until several years later. Its principal publications are contained in four distinct series, numbered separately, i. e., Bulletins, Annual Reports, Monographs or Final Reports, and Miscellaneous Publications, in addition to some unclassified papers. Each series contains papers on both fossil and recent plants and animals, and should be carefully distinguished to avoid misleading the reader who is not thoroly familiar with them. For instance, Coues' "Birds of the Northwest" cannot be found in the Bulletin of the Hayden Survey, but is No. 3 of Miscellaneous Publications, and is not in the United States Geological Survey publications at all, altho on the title page the words "and Geographical" are omitted, the words "of the Territories," which at once distinguish it from the present survey, being retained.

The United States Geographical [Explorations and] Surveys West of the One Hundredth Meridian (title varying somewhat on different publications), under Lieut. Geo. M. Wheeler, was in the field from 1869 to 1884, its chief publications being Annual Reports, Maps, and seven large quarto Final Reports or Monographs, of which Vol. V is of most importance in the matter of recent zoology and contains Henshaw's reports hereinbefore referred to.

The United States Geological Exploration of the Fortieth Parallel, under Clarence King, was in the field from 1871 to 1878 inclusive, its chief publications being an Atlas, Annual Reports, and several large quarto Final Reports or Monographs, about half of Vol. IV being devoted to ornithology.

The United States Geographical and Geological Survey of the Rocky Mountain Region, under J. W. Powell, published quite a number of special volumes from 1877 to 1880, not numbered in a serial way, such as the "Geology of the Henry Mountains," all of them being confined to geography in its limited sense, geology, paleontology and ethnology. The publications, together with a number of reports by Powell before the organization of the Rocky Mountain Region Survey, are briefly referred to as the Powell Survey Reports.

The foregoing were all western surveys, Hayden and Powell reporting to the Secretary of the Interior, Wheeler and King reporting to the Secretary of War, in accordance with the statutes under which they operated, and were entirely distinct surveys, tho their work to some extent overlapt. In 1879 the present United States Geological Survey, under the Interior Department, began operations; some of the other organizations at once, and all eventually ceasing field work. At the present time nearly all of the strictly geological and paleontological work of

the general government is carried on by the United States Geological Survey, its publications consisting of quite a number of distinct series, numbered separately, such as Annual Reports, Bulletins, Monographs, Professional Papers, Atlas Folios, etc. Since the organization of this survey, the work of the general government in recent botany and zoology has been carried on by the various bureaus of the Department of Agriculture, the National Museum and Smithsonian Institution, the incidental references to recent species become somewhat prominent in such Geological Survey papers as Dr. Arnold's "The Tertiary and Quaternary Pectens of California."

A complete set of the publications of these various surveys constitutes a good sized library, and unless reference to them really points one to the volume intended it would perhaps better be omitted altogether and thus avoid confusing future naturalists and bibliographers and sending them on "wild goose chases" similar to those from which some have recently returned. Anyone who expects to find Coues' "Birds of the Northwest," or Lesquereux' monographs, or Coues and Allen's "North American Rodentia," or Whitfield's report on Black Hills paleontology, in the publications of the United States Geological Survey, is doomed to disappointment. Let's all be careful with citations or omit them.

Bulletin No. 222 of the United States Geological Survey is a very useful table of contents and generalized index of the King, Hayden, Powell and Wheeler publications.

I have said nothing of the Pacific Railway Survey and earlier explorations, because there seems to be no confusion concerning them.—JUNIUS HENDERSON, *Boulder, Colorado*.

Winter Observations in Oregon.—The recent winter has been, for Oregon, one of great severity. The Willamette valley birds were given a sample of real winter; it came in the shape of a snow storm. An excellent opportunity was presented to the city man for bird study, for birds came to the towns in great numbers in search of food. Our usual winter friends of the wood were much in evidence and we were surprised to see, also, many of the birds which do not usually arrive until the spring. I had the pleasure of seeing birds whose habitats are far removed from each other eating crumbs together in perfect harmony. The Flicker came from the depths of his woody retreat to partake of a meal in company with a Meadowlark from the fields.

Chattering Juncos in sudden flurries swept continually by, and the dusky little Song Sparrows, aroused to greater activity than ever, seemed everywhere. Towhees and Robins were seen every now and then and a Jay or two flew over. From the nearby wood came Chickadees, Kinglets and great numbers of Alaska Robins.

The last named bird—known also as Varied Thrush, Flicker and Mountain Robin—is a most voracious fellow. Of course I opened lunch counters for the birds with the coming of the storm, and the Alaska Robins came near breaking me up in business! They prefer apples but there are few bird stuffs which they reject. The Flicker is a queer looker: that is, one cannot tell where he is looking because of a patch of black which surrounds the eyes making those organs invisible to us. The bird resembles the Robin in having a red breast. The male has, like the Woodpecker, a black crescent upon the breast, the neck is brownish yellow and the wings mottled, yellow and black.

It seemed surprising to see our usual summer birdlife here in the depth of winter. Larks drifted in by two's and three's and Horned Larks in bands. But the merry Lark was merry no longer nor did he soar as poets would fain have him to do: he was but a very cold and hungry bird. The Horned Larks trotted, quail-like, about the streets giving their short, unmusical call. The cold made these naturally shy birds almost fearless. Many persons did not recognize this bird as our summer friend. It scarcely looked familiar, we must admit, for the feathers were ruffed up and wings partly extended because of the cold. In summer the bird presents a most spick and span appearance.

Some of the Larks sat apart with heads wellnigh hidden in their bodies, looking most dejected. Not a few birds perished. Great numbers of quail have died. Alighting in the soft snow the birds could find no footing whence to spring out and so floundered about until frozen. Before the snow went off, however, sleet fell, and this, crusting the snow, undoubtedly saved many bird lives.—EARL STANNARD, *Brownsville, Oregon*.

Sterna caspia in Los Angeles County.—December 27, 1908, while rowing in Alamitos Bay, California, I counted eight individuals of *Sterna caspia* (Caspian Tern) resting on the exposed mud flats in company with Royal Terns, Western Gulls and numerous sandpipers. Altho *Sterna caspia* could hardly be compared with *Sterna maxima* by anyone at all familiar with either bird, to avoid possible mistakes I crossed the bay and flushed the entire flock, but did not attempt to secure specimens owing to the proximity of residences—C. B. LINTON, *Long Beach, California*.

A Correction.—I note that Mr. Robert Rockwell has, in his "Annotated List of the Birds of Mesa County, Colorado" (CONDOR, July, 1908, pp. 152-180), used, without permission, a record

of mine (p. 170) pertaining to *Pinicola enucleator montana* (Rocky Mountain Pine Grosbeak). Furthermore, Mr. Rockwell makes it appear by the omission of any name in connection with the record that the record was made by himself. On July 3, 1898, the date on which he records the specimen on South Mamm Peak, Mr. Rockwell was not in that locality; for upon that date I was with him on what was at that time known as the Ballantine and Rockwell Ranch, a distance of about twenty-two miles from South Mamm Peak. The Grosbeak under discussion was shot by me on South Mamm Peak on July 8, 1898, instead of July 3 as reported by Mr. Rockwell, and was subsequently shown to him. It is still one of the specimens in my collection.—A. H. FELGER, *Denver, Colorado; February 8, 1909.*

Dendroica townsendi in Pasadena.—Townsend Warblers were common at my home in Pasadena during January, 1909. Ordinarily one or two is all I have seen during the winter, and sometimes none at all. This year, for some cause, they are abundant.

No Varied Thrushes have been seen or heard in the vicinity of Pasadena this winter. It would be interesting as in previous seasons to ascertain thru the columns of THE CONDOR the distribution of this bird.

Robins, bluebirds, and other winter visitants seem to be present in about their usual numbers.—WALTER P. TAYLOR, *Pasadena, California.*

The Zone-tailed Hawk in California.—*Buteo abbreviatus* was first known as a member of the United States fauna from a specimen taken by Cooper near San Diego, California, in 1862. Since then the species has been ascertained to occur not uncommonly in the southern portions of Arizona, New Mexico and Texas, as well as, of course, south thru Mexico to British Guiana, whence it was originally described in 1848 by Cabanis.

Cooper's specimen (perhaps first recorded in Proc. Cal. Ac. Sc. IV, 1868, p. 7) is now number 4375 in the collection of the University of California Museum of Vertebrate Zoology. Altho the stuffing has been removed, giving it a collapsed appearance, it is still quite a good skin. The original, attached label, tho doubtless considerably faded, is perfectly legible. It is of the characteristic blue, lined, ledger paper; the legend, in ink, is in Cooper's own hand-writing, and reads as follows: "761 Buteo harlani [the latter name crossed out in pencil and 'zonocercus Sclater' written above and beyond, also in lead pencil] ♂ | 20 mi N of San Diego Cal | Feb 23d '62 J. G. C || 20.25 56.50 16.25 I[r]is red brown, Bill | black and whitish horn, cere and feet yellow."

The next record of the Zone-tailed Hawk in California was of an immature ♂ secured by C. B. Linton at National City, near San Diego, November 26, 1906. This example was originally recorded by Linton under the name "*Urubitinga anthracina*" (CONDOR IX, July 1907, p. 110), but this erroneous determination was corrected by him as soon as he became aware of his mistake (CONDOR X, July 1908, p. 181). The specimen is now, I believe, in Mr. Linton's private collection. I had the opportunity of verifying its identity, comparing it with Arizona examples of the species in the collection of G. Frean Morcom, with which it agreed perfectly.

This museum has recently acquired two more examples of this bird, one of them, number 5494, collected by W. J. McCloskey "near the coast, 30 miles north of San Diego," California, September 10, 1907; the other secured by F. Stephens from a local hunter who shot it in "April, 1908," five miles southeast of Tijuana, Lower California, which is less than twenty miles south of San Diego. The former thus constitutes the third record for the state of California.

Of the four examples above noted from the vicinity of San Diego, only the Cooper specimen is fully adult, that is, solid blackish with two-barred tail. The others have much white mottling particularly on breast and back of head, and their tails are many-barred. Mr. Stephens has kindly forwarded me two specimens taken by him in Arizona. Comparison with these as well as with those in the Morcom collection, show California examples of *Buteo abbreviatus* to be in no way different.—J. GRINNELL, *University of California, Berkeley, California.*

That Cooperative Scheme.—With the exception of a very practical article by William E. Ritter which appeared in the November, 1908, CONDOR and one or two personal letters from scientists interested in the subject, the silence following my suggestions on "a plan for cooperative ornithology" would be fairly appalling, were it not for the fact that it was more or less expected.

CONDOR readers may probably be divided into three classes in this connection, viz: (1) those who are in sympathy with the idea and believe in its practicability; (2) those who would be in sympathy with the idea if they were sure of its ultimate success; and (3) those who for various reasons do not admit its feasibility.

Obviously the latter class must be eliminated from our plans and it remains for the others to

carry thru the idea to a successful conclusion, if it is to be undertaken. It now remains to be proven just *who* among the CONDOR readers really *are* interested in the project to the extent of being willing to do some work; and the only way in which this may be found out is for those students to make themselves known and to publish their ideas on the subject for the benefit of other interested parties. There are undoubtedly many CONDOR readers who do not wish their ideas to appear in print, but who are nevertheless in sympathy with the general idea. If that is your position, dear reader, drop a few lines to the editors, just to inform us that you are interested.

An undertaking of this kind is unique in many ways. It will require the personal opinions of a great many before the plan assumes any definite shape, and it rests entirely with the readers to bring about results. This cannot be a one-man, or a ten-man undertaking, for unless the plan meets with general support it would be impossible of accomplishment.

Naturally we look to the members of the Cooper Club for the greater number of expressions on the subject, and the past record of the Club for "doing things" warrants the assumption that they will respond; but it is to be hoped that responses will not be limited to Cooper Club members.

Now, bird lovers, is the time to drop us a line outlining your views upon the subject and if the correspondence overwhelms our worthy editor we will try to arrange for a private secretary. —R. B. ROCKWELL, *Denver, Colorado*.

Random Bird Notes from Chaffee County, Colorado.—On July 15th I left Salida, Colorado (altitude 7050), for a short trip to timberline, my destination being Bass Lake, a typical alpine lake at an altitude of about 11,000 feet.

In the vicinity of Salida, Western Robins, Red-winged and Brewer Blackbirds, House Finches, English Sparrows, Western Vesper, and Western Savanna Sparrows and Black-headed Grosbeaks were very common. One pair of Kildeer were also seen, that were evidently nesting.

About seven miles from Salida I saw several young Mountain Bluebirds just able to fly, and a little further on (at about 8,000) several Magpies were seen. Camp was pitched at Poncha and the next morning, soon after leaving there, I saw several Desert Horned Larks and a Brewer Sparrow on a sage brush covered mesa. From here on, the country is very rough, the hills rising abruptly and no timber occurring except the cottonwood trees in the creek bottoms, until the top of the mesa is reached which is covered with a heavy growth of pine and spruce.

About five miles above Poncha I saw several Broad-tailed Hummingbirds in a small patch of thistles and a little farther on a Green-tailed Towhee. After a long steady climb we reached Garfield, Chaffee County, twenty miles from Salida and at an altitude of about 10,000 feet, and here I saw Gray-headed Juncos and English Sparrows feeding in the streets of the town.

We arrived at Bass Lake about five P. M. and found a very pretty lake, just at timber line, surrounded by very high mountains. From this spot half a dozen peaks in sight were over 14,000 feet high.

On the 17th I flushed a Gray-headed Junco from a cunningly concealed nest under the edge of a juniper bush. It contained four young about a week old. I saw a number of these birds around the lake but found no other nests. Near here in the down timber and rocks I found one small White-tailed Ptarmigan chick, and one Rosy Finch feeding on the shores of the lake. Three Clarke Crows were seen near the lake and on the return trip the only new bird seen was a fine Western Tanager.—JOHN W. FREY.

Unusual Wave of Western Tanagers.—Beginning April 16, 1908, there was witnessed in this county a flight of tanagers (*Piranga ludoviciana*) which seemed most remarkable for this section.

The birds were noted most commonly about a mile north of Auburn, passing by the hundreds in a westwardly direction. The sexes appeared to be evenly divided, tho as they flew from tree to tree it was the bright colored males that attracted the attention of the passer-by. At my ranch, seven miles north of Auburn, the birds were not as numerous, but for two or three weeks they kept moving leisurely westward. As cherries ripened they lingered in nearby pine trees, flying back and forth to the cherries between shots from the auxilliary. Shooting appeared not to decrease the numbers, and it was July 7 before the last bird left. Just how far west they went, and why they took this course, direct from their breeding grounds, would be interesting to know.—ERNEST ADAMS, *Clipper Gap, Placer County, California*.

THE CONDOR

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of Western Ornithology

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EDITORIAL NOTES

By Executive Order No. 1019, dated February 3, 1909, the "Hawaiian Islands Reservation" was established. This national bird preserve includes Laysan, Necker, and adjacent small islands, upon which great numbers of pelagic birds nest, such as Albatrosses, Shearwaters, and Terns. Persistent rumors have circulated in the newspapers of late, to the effect that Japanese were planning to land on the rookeries to destroy every bird obtainable, the feathers to be saved for various commercial purposes and the bodies to be made into fertilizer. The fact that not a few species, which are confined in the breeding season to these small islands would thus be exterminated, makes the establishment of this preserve with little doubt the most important step, from a strictly ornithological standpoint, in the history of bird preservation in this country. The annihilation of *species* was threatened.

For the good work in securing the necessary steps in the accomplishment of this highly commendable act, ornithologists have to thank Dr. T. S. Palmer, of the Bureau of Biological Survey, and Mr. Frank Bond, Chief Clerk of the General Land Office.

It is needless to say that the laws of the United States will be enforced, as gun-boats patrol the Hawaiian waters continually.

It is hoped that, before the next number of this magazine is issued, subscribers will receive their copies of the Ten-year Index. Its compiler, Mr. H. B. Kaeding, is at work on the

revised proofs. However, Mr. W. O. Emerson, who has charge of the financing, states that only about \$100.00 has been raised, whereas the total cost of the Index will be in the neighborhood of \$200.00. This lack of financial support will be the cause of any possible delay. Such casualty *should* not occur.

One of the most enjoyable events in the history of the Cooper Club was the Annual Dinner held at the Bismarck Café in San Francisco on the evening of January 16, 1909. There were twenty-four members present, occupying comfortably the single long table in the Fish Room. Toward the close of the banquet the toastmaster, Dr. W. K. Fisher, announced that this occasion might be fairly considered as a send-off for Mr. Edmund Heller who was about to leave to join the Roosevelt African Expedition. Mr. Heller was introduced and gave an insight into the conditions under which the collector has to work in the "Dark Continent," he having already experienced them as a member of an expedition sent there in 1905 by the Field Museum. President D'Evelyn was then called upon and spoke humorously of the various activities of the Club. State Game Warden Vogelsang gave a most entertaining account of his experiences in carrying on the work of the California Fish Commission. Prof. W. E. Ritter commented further upon the good work accomplished by Mr. Vogelsang, and closed the evening's program by discussing the desirability of the establishment of a public zoological park on this coast something like that in New York City.

PUBLICATIONS REVIEWED

CAMPS AND CRUISES | OF AN | ORNITHOLOGIST | By | FRANK M. CHAPMAN | Curator [etc., 5 lines]. | With 250 Photographs from Nature | by the Author | [vignette] | New York | D. Appleton and Company | 1908. 8vo, pp. i-xvi, 1-432. (Cloth, \$3.00 net.)

Mr. Chapman's latest book is a record of adventure; it presents, too, a great amount of biographical ornithology. The combination results in a volume of extreme interest to the ordinary reader and the ornithologist alike. The photographic illustrations about which much of the narrative centers are of the highest order; they are each one illustrative of some habit or special feature in the habitat of the subject.

The matter incorporated into the "Camps and Cruises" was secured by the author during his expeditions after material for the splendid bird groups executed during the past seven years at the American Museum of Natural History. The opportunities thus afforded are here shown to have been utilized to the very best advantage.

As usual with Mr. Chapman's work the camera played a large part in his field studies. In the "Introduction" we are given new hints as to methods to be employed in securing intimate photographic acquaintance with wary

birds. The "umbrella blind" is illustrated and described as being the most successful as well as convenient contrivance yet devised for the purpose.

Among the "Part" titles, especially indicative of subject matter, may be cited the following:—The Bird-Life of Two Atlantic Coast Islands; Gardiner's Island and Cobb's Island; Florida Bird-Life; Pelican Island, Cuthbert Rookery, etc.; Bahama Bird-Life: The Flamingo, Egg Birds, etc.; Bird-Life in Western Canada: The White Pelican, etc.

Naturally of most interest to us is the Part (VI) entitled "Bird Studies in California", with the following divisions: The Coastal Mountains at Piru; The Coast at Monterey; The Farallones; The San Joaquin Valley at Los Banos; Lower Klamath Lake; The Sierras. Each of these sketches is thoroly enjoyable and seems to be for the most part beyond any reasonable criticism.

The habit of the Northern Phalarope of securing food particles by whirling about in shallow water and thus stirring up the sediment is interestingly described (page 271) and illustrated by two photos. This significance of the Phalaropes' behavior, however, is not new, as implied, for it had been clearly set forth by D. W. Prentiss, Jr., and William Palmer several years ago. [See *Osprey*, Vol. I (new series), July 1902, p. 100.]

We are informed (page 257) that the Desert Song Sparrow "owes its colors to the direct action of the aridity of its environment, and not to a natural selection which has brought it into a fancied harmony with its immediate surroundings." The finality with which this statement is made is not at all justified by any evidence known to the reviewer. Here seems to be another case of unwarranted deduction from Beebe's meager and altogether (as fully admitted by himself) inconclusive experiments with caged birds.

Whatever of further fault can be found in minor points, it must remain indisputable that Mr. Chapman's "Camps and Cruises of an Ornithologist" is the most entertaining bird book we have read for many a year.—J. G.

CATALOGUE OF A COLLECTION OF BIRDS FROM GUATEMALA by NED DEARBORN, Assistant Curator of Ornithology. [=Field Museum of Natural History. Publication 125. Ornithological Series. Vol. I, No. 3; pp. 69-136. 1 plate, 3 maps.]

Following a brief description of localities visited, and route traversed, is a careful systematic account of the 305 species and subspecies of birds that were taken. The collection comprised 1187 specimens, of which Dr. Dearborn himself, in three months, collected one thousand, while the remainder were secured at different times by Messrs. Edmund

Heller and Charles M. Barber. Carefully detailed information is given as to the place and manner of occurrence of each species, and, in many instances, valuable data regarding the moult is placed on record; while the exact information relating to the color, in life, of the "soft parts" of many species, often so remarkable in tropical birds, and usually so altered in prepared specimens, should be of the greatest value not only to the systematic worker as such, but also to the curator who desires to place mounted specimens of such birds on exhibition, and would wish them to have something of the appearance they bore in life.

Saucerottia cyanura guatemalæ, *Diglossa montana*, *Regulus satrapa clarus*, and *Planesticus tristis rubicundus* are described as new, while the known range of several species is considerably extended, noticeably that of *Vireo belli* among United States birds. Maps are given showing the distribution of the races of *Planesticus tristis* and *Calocitta formosa*, there is a plate showing the breast and remarkably developed trachea of the male *Ortalis vetula plumbeiceps*, while a map illustrating the route followed by Dr. Dearborn forms the frontispiece.

The brief notes regarding the life histories of many species are of such interest as to cause one to regret that this phase of the subject was not dwelt on at greater length. As a whole the paper must be regarded as an exceedingly valuable addition to the literature of Central American ornithology, though several unfortunate typographical errors detract somewhat from the appearance of the publication.

One notes with surprise that this paper is only the third of the first volume of the ornithological publications of the Field Museum, one of the largest institutions in the United States, if not in the world, devoted entirely to natural history.—H. S. S.

PARTS II AND III (March and September, 1908) of GODMAN'S "MONOGRAPH OF THE PETRELS" have been received.* As remarked of Part I, reviewed on page 96, Volume X, of this magazine, the above-titled brochure is perhaps the most elegantly gotten up bird publication of recent years. The splendid hand-colored plates constitute the feature of the work, altho the care which has evidently been bestowed upon the text both technically and typographically appeals to the student of ornithology with scarcely any less force.

Part II consists of pages 69 to 152, plates 20 to 39. Two genera are treated, *Cymodroma*, with one species, and *Puffinus*, with 24 species. Of the latter genus the following species are ascribed to the west coast of North America:

*Published by Witherby & Co., 326 High Holborn, London.

P. cuneatus, *P. bulleri* (upon the authority of Loomis), *P. creatopus*, *P. opisthomelas*, *P. auricularis*, *P. griseus*; and *P. tenuirostris*. The extended biographical accounts of some of these Shearwaters are mostly from the published writings of Anthony.

Part III consists of pages 153 to 232, plates 40 to 66. One more species of *Puffinus* is included, and besides, one species of *Priofinus*, one of *Thalassoca*, one of *Priocella*, two of *Majaqueus* and 23 species of *Æstrelata*. Of these latter genera only now and then a straggler visits the shores of North America.

While there was some delay in the appearance of Part III, the remaining two parts are promised subscribers within a reasonably short time.—J. G.

Report on the IMMIGRATION OF SUMMER RESIDENTS IN THE SPRING OF 1907: Also Notes on the Migratory Movements during the Autumn of 1906. By the Committee appointed by the BRITISH ORNITHOLOGISTS' CLUB. October 1908. Pp. 1-202, maps. = Bulletin British Orn. Club, Vol. XXII.

This is the third of a series of annual reports dealing with the migration of birds into the British Isles, issued by the British Ornithologists' Club. In an introduction of thirty-six pages the species treated are divided into four classes, according to the part of the coast on which they arrive, the daily weather conditions from March 14 to May 31 are tabulated, and the details of the chief movements as observed at the various lighthouses are given. In the body of the work thirty-three species are treated in detail, each with a chronological summary of the records, including dates of nesting, all but three with maps showing time and place of arrival, and there is a long list of unscheduled birds treated much more briefly. There are brief notes on the fall movements of 1906, covering twenty-five species, among which we note the House Sparrow (*Passer domesticus*) treated apparently as a migrant, which is rather surprising to those familiar with the species in this country only, where it is resident wherever found.

The report is strictly a tabulation of information received, generalizations being reserved for some future time when a sufficient mass of data shall have been accumulated.—H. S. S.

THE WINTER BIRDS OF COLORADO is the title of an article written by W. L. SCLATER, which appeared in the July (1908) number of *The Ibis*. Mr. Sclater in an easy (tho concise) style which is characteristic of his writings, has succeeded in condensing a great deal of general information concerning the subject mentioned into seven printed pages.

The paper was evidently written to convey a

general idea of the winter bird life of Colorado to English readers, and for a short paper is comprehensive.

It begins with an outline of the topography of the State, and a recapitulation of the total number of species recorded in Cooke's "Birds of Colorado." The body of the article treats of twenty-nine species observed during winter near Colorado Springs, and the paper closes with a list of sixty species of birds resident in El Paso County, and one of eighteen species classed as winter visitors.

Mr. Sclater, who is at present the Curator of the Colorado College Museum at Colorado Springs, was for some years the director of the South African Museum at Capetown, and is the son of Philip Lutley Sclater, the renowned British Ornithologist.—R. B. R.

NOTES ON SOME NORTHERN ARIZONA BIRDS by ALEX. WETMORE. [—Kansas University Science Bulletin, Vol. IV, No. 19; Whole Series, Vol. XIV, No. 19, pp. 377-388; Sept., 1908.]

This is an annotated list of forty species observed from February 24 to April 1, 1907, in the vicinity of Williams, Arizona, and on the lower slopes of Bill Williams Mountain. Examples were secured of all the species observed but one, *Buteo borealis calurus*. Of exceptional interest is the capture of specimens of *Sturnella magna hoopesi*, a species heretofore known only from the extreme southern border of the territory. *Cyanocephalus cyanocephalus* and *Loxia curvirostra stricklandi* were found breeding, or preparing to do so, while no less than five species of Juncos were taken (including the dubious "*Junco annectens*"), tho *J. dorsalis* appeared to be the only breeding species. Identifications of the doubtful species seem to have been made with care, tho the Canyon Wren of the region is referred to the exceedingly unsatisfactory *Catherpes mexicanus polioptilus* Oberholser, on the ground that those taken were "almost identical in coloration with a specimen of *C. mexicanus punctulatus* from Summit, Cal."—H. S. S.

GRINNELL'S BIOTA OF THE SAN BERNARDINO MOUNTAINS.^a—This paper presents the results of a biological reconnaissance of the San Bernardino mountains of southern California. The summers of 1905, 1906, and 1907 were devoted to field work by the author and assistants from Throop Institute, and a considerable mass of material in the form of facts and specimens was garnered. The report is modeled somewhat on the lines of Merriam's

^a The Biota of the San Bernardino Mountains. By Joseph Grinnell. (Contribution from the Museum of Vertebrate Zoology of the University of California) University of California Publications in Zoology, V, No. 1, pp. 1-170, pls. 1-24. Dec. 31, 1908.

"Biological Survey of the San Francisco Mountain Region, Arizona," and is concerned in part with the same problems. In the introduction the author says:

"The San Bernardino mountains proper constitute the largest high mountain group in southern California, and include the highest peak south of Mt. Whitney. The forested area is more extensive than elsewhere in southern California, and promised a more abundant fauna. Furthermore, the isolation of this mountain group from any other of approximately similar altitude afforded an attractive feature. My interest therefore centered in this region, and I carried on investigations, with the purpose of ascertaining the composition of its fauna, and the local distribution of the component species."

The scope of the report is fairly indicated by the table of contents which is as follows: (1) Introduction; Itinerary. (2) Life Zones of the Region, with lists of the plants belonging to each. (3) General Considerations: A discussion relating to bird population and the influences modifying it. (4) Some plants of the Region: A list of important species with notes on their distribution. (5) The Birds: A list of 139 species found in the region with a detailed record of distribution in each case, extended biographical accounts of many species, and critical notes on others. (6) The Mammals: A list of 35 species detected in the region with statements of distribution, habits and measurements of specimens. (7) The Reptiles: A list of 20 species observed, with notes on food, habits and range.

Four life zones are included in this region. The Lower Sonoran zone occupies the Mojave desert plateau to the north, and parts of the much lower San Bernardino valley and San Geronio pass to the south. The Upper Sonoran embraces the vast chaparral belt of the Pacific slope, as well as the pinyon belt of the desert slope. Next above comes the Transition which comprises the major part of the considerable forested area, predominating above the 6500-foot contour. Finally, the Boreal occupies the highest parts of the region, largely above the 9000-foot contour. A colored map and profile of the mountains give an excellent idea of the distribution of these life areas.

The divisions of the Boreal into Canadian, Hudsonian and Alpine-Arctic were difficult to distinguish, and no great wonder for only three trees occur—*Pinus murrayana*, *P. flexilis* and *Populus tremuloides*. Boreal islands of small area are usually difficult to subdivide in proportion as they are distant from some Boreal feeder of considerable extent, although of course aridity and unfavorable soil play a very important part in reducing boreal species. The paucity of species in the present

instance is emphasized if comparison is made with the central Sierra Nevada, where the Canadian has in favorable localities 8 or 9 trees (4 or 5 characteristic) and the Hudsonian 5 or 6 (2 at least confined to that belt). If a count of the shrubs were taken the poverty of the San Bernardino Mountain flora would be even more evident. In the Sierra Nevada the shrubby plants are more valuable, sometimes, than trees for tracing zone boundaries in detail. In the San Bernardino mountains an upper and lower division of the Transition seemed to be more easily distinguishable than the Canadian from Hudsonian, or the latter from Alpine-Arctic.

Under "General Considerations" the author describes some of the influences which modify bird population. In July, when the season of scarcity arrives in the valleys on the advent of the summer drought, many birds that have raised broods in April, May and June, begin to migrate up the mountains, where the season of plenty is just beginning. The highlands are thus a ready refuge when the Upper and Lower Sonoran zones become comparatively barren under the July heat. "Without the mountains to accommodate the excess of bird population, which could not be supported in late summer on the withered lowlands, we would have far fewer birds in the spring." Both the residents and early summer visitants of the valleys, who have availed themselves of the hospitality of the mountains, return to the lowlands in the fall. The visitants thus become transients in the autumn before undertaking the southeastward migration to their winter habitat.

To the regular summer residents of the mountains—those which breed there and whose number is about doubled by the accession of offspring—are added the hordes of summer invaders, with their young, increasing the original population of the mountains at least four fold. The supply of food seemed bountiful enough for an even greater number of birds.

Since the aggregate population probably remains constant from year to year, the annual increase of about half a million (these figures being merely illustrative for the region under consideration) must succumb before the next nesting season. The determining factor, the author believes, is the food supply of the various species in their winter habitat, wherever that may be—either the mountains, in the case of the few permanent residents, or the lowlands in the case of the migratory forms. It is not possible in this short notice to advert to several illustrative examples, nor indeed to consider all the conclusions reached. The chapter is interesting and the points well taken.

Perhaps the rarest find among the birds was a specimen of *Otus flammeola idahoensis* captured June 15, 1905, at Bluff Lake. *Regulus*

satrapa olivaceus was collected, this constituting the southernmost breeding record for California. Forty-eight species are believed to be permanently resident, sixty-eight species summer visitants, and twenty-three transients only.

The avifauna of the San Bernardino mountains "in common with that of the other high mountains of southern California, bears closest resemblance to that of the Sierra Nevada of east central California. A tendency toward increase in size of such San Bernardino species as are subject to geographical variation is quite noticeable; so that in certain cases, such as the hermit thrush and creeper, the San Bernardino birds are somewhat intermediate in the direction of the Rocky Mountain races. Other species, like the Stephens fox sparrow and gray flycatcher, show large size, but are without parallels in the Rocky Mountain region. With variable birds in the mountain systems of California, there seems to be a general increase in size from the north towards the south, a reversal of the case on the Atlantic coast."

Numerous half-tones illustrating the region and its characteristic trees and shrubs add greatly to the interest and value of the paper.

Few regions offer such opportunities as the western United States for the kind of research of which "The Biota of the San Bernardino Mountains" is a good example. Americans have not been loath to take advantage of these opportunities, and it is safe to say also that the results thus far obtained have fully justified the labor. There is much more to do, and the watchword should be quality rather than quantity. We can well afford to make each contribution a careful and well-matured one. The present report certainly fulfills all these requirements and is a most excellent piece of work. Frankly, however, the reviewer can not wholly reconcile himself to the title, the neologistic tendency of which is somewhat academic.—W. K. FISHER.

the next meeting was changed in the minutes from December 19 to December 12, in order that the present meeting might be a regular one. Motion carried and the minutes changed. Otherwise minutes approved as read. Secretary was instructed to cast the ballot for F. Hanford and S. G. Jewett, and in accordance they were elected to membership.

The motion was made by Grinnell that all exchanges received by the Business Manager of THE CONDOR be retained by him for his personal use. Seconded by Richardson.

After considerable discussion by Grinnell, Fisher, Emerson and Hunter, the motion was carried.

It was reported that Lee Chambers was in charge of the publication of Avifauna No. 5, and that the work was progressing rapidly. Two hundred dollars had already been raised.

Grinnell moved that the Ten-Year Index of THE CONDOR be made Avifauna No. 6; seconded by Snyder. Carried and so ordered.

Moved by Grinnell that the nominations for Business Manager be opened. It was explained that Mr. Law had made arrangements whereby he could take charge and would withdraw his resignation. Mr. Law was nominated by Grinnell, seconded by Pemberton.

Mr. Grinnell moved that the Constitution be amended so as to create the office of Assistant Business Manager. Carried and so ordered.

Fisher suggested that the annual Club dinner be held on the evening of January 16. He stated that he would make arrangements and would inform the members.

After the business meeting talks were made by Mr. Dixon on the second Alexander Expedition to Alaska, and by Mr. Richardson on the birds of the region near Mecca, California.

During the discussion of the talks refreshments were partaken of. The meeting adjourned about 1 A. M., and was decidedly one of the most enjoyable that the Northern Division has had for years.

J. S. HUNTER, *Secretary*.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

DECEMBER.—The December meeting of the Cooper Ornithological Club was held at the home of Walter K. Fisher, Palo Alto, California, on the evening of December 12, 1908. There were present: F. W. Weymouth, J. Dixon, W. P. Taylor, C. H. Richardson, J. Grinnell, J. O. Snyder, E. Heller, J. R. Pemberton, Chase Littlejohn, H. W. Carriger, Walter Fisher, H. S. Swarth, W. O. Emerson, J. S. Hunter and S. S. Berry.

The minutes of the previous meeting were read. On motion of Mr. Carriger the date of

JANUARY.—The January meeting of the Cooper Ornithological Club was held in the rooms of the Oakland Chamber of Commerce on the evening of January 9, 1909, President D'Evelyn in the chair. Fourteen other members were present. Minutes of the December meeting were read and approved.

A letter was read by Mr. Emerson from Dr. Palmer regarding the proposed changes in the State Game law, particularly regarding the extending of the open season for ducks. Mr. Palmer asked that the Club oppose any measure of the sort. Mr. Emerson was appointed a committee of one to keep in touch with Sacramento and report any changes that are to be made in the present laws.

Dr. D'Evelyn spoke concerning the change

of the present meadowlark law and asked the members present to work against any change. Cohen thought that the Club ought to oppose any proposed change in the lark law. He moved that a committee be appointed to draft resolutions to that effect and to also keep in touch with the State Legislature. Mr. Cohen and Mr. Emerson were appointed by the chair, accordingly.

A report was called for from the Business Manager, but was not at hand. It was then developed that no report had been made for three years. Mr. Cohen then moved that a report be called for and be made at the next meeting. Mr. Cohen also moved that a committee be appointed to investigate the finances of the Club, and better the same if necessary. The chair appointed Messrs. Carriger, Emerson and Kaeding.

On motion of Mr. Grinnell nominations for officers for the coming year were opened. On account of a change of residence Mr. Taylor asked that his name be withdrawn as Secretary. Mr. Pemberton then nominated Mr. Carriger. Mr. Wheeler was also nominated for the office of Senior Vice-President.

The election of officers was then held with the following result: President, Dr. F. W. D'Evelyn; Senior Vice-President, W. K. Fisher; Junior Vice-President, E. W. Gifford; Secretary, H. W. Carriger.

Mr. Cohen moved that Mr. Lee Chambers be appointed Assistant Business Manager.

After a short discussion the meeting then adjourned.

J. S. HUNTER, *Secretary*.

SOUTHERN DIVISION

DECEMBER.—The December meeting was called to order by President Morcom at the City Hall, Los Angeles, Tuesday evening, December 29, 1908, with members Howard Robertson, H. J. Lelande, C. B. Linton, Chester Lamb, H. T. Clifton, Virgil Owen, H. B. Kaeding, Willard Chamberlain and Howard Wright present.

The minutes of the last meeting, December 3, 1908, were read and approved.

The following application for membership was presented: William Ray Shaw, Long Beach, Cal., proposed by Mr. C. B. Linton.

Messrs. H. E. Carper, H. E. Wilder, C. H. Luther and J. Warren Jacobs were elected to active membership in the Club, the two latter subject to the approval of the Club-at-large.

Nominations for officers for 1909 were made as follows: For President, G. Freaun Morcom; Vice-President, H. J. Lelande; Secretary, J. Eugene Law; Treasurer, W. Lee Chambers.

The Club discussed at length the question of financing the Ten-Year Index, and a communication was read from Mr. Emerson who has

been appointed by the Northern Division to raise funds for the publication.

A newspaper clipping from the Los Angeles *Record* was read by the Secretary, and after a general discussion it was moved and seconded that it be sent to Dr. T. S. Palmer for his perusal. The clipping was headed, "To Make War on the Meadowlarks" and was dated Stockton, December 29. It stated that J. W. Stuckenbruck announces that at the next meeting of the Legislature he will introduce a bill repealing the game law which protects the Meadowlark, as it has increased so much during its protection that it is now proving very destructive to the vineyard growers.

Mr. W. L. Finley's entire series of California Condor photos were then placed on exhibition and the rest of the evening was spent in looking over the finest series of bird photos which have ever been taken. Adjourned.

W. LEE CHAMBERS, *Secretary pro tem*.

JANUARY.—The January meeting was called to order by Vice-President H. J. Lelande at his office in the City Hall, Thursday evening, January 28, 1909, with members H. J. Lelande, George Willett, Loye Holmes Miller, W. Lee Chambers, O. W. Howard, E. A. Howard, Chester Lamb, Virgil Owen, Pingree I. Osburn, H. T. Clifton, Willard Chamberlain, W. P. Taylor, Howard Wright and J. Eugene Law present, and Mr. Austin F. Roberts visiting.

The minutes of the last meeting, December 29, 1908, were read and approved.

Applications for membership were presented as follows: John Rowley, Palo Alto, Cal., proposed by J. Grinnell; H. H. Kimball, Fresno, Cal., proposed by J. Grinnell; Jesse T. Craven, Detroit, Mich., proposed by W. Lee Chambers; Walter B. Barrows, East Lansing, Mich., proposed by W. Lee Chambers; Austin F. Roberts, Pasadena, Cal., proposed by Walter P. Taylor.

On motion by Mr. Willett, seconded by Mr. Taylor and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership William Ray Shaw of Long Beach, Cal.

On motion by Mr. Howard, seconded by Mr. Taylor and duly carried, nominations for officers for 1909 were declared closed.

On motion by Mr. Clifton, seconded by Mr. Miller and duly carried, the Secretary was instructed to cast the unanimous ballot of those present, electing the officers for 1909 as nominated at the last meeting.

The resignation of Mr. E. A. Howard was presented, his absence from the United States in the wilds of Central America for a long period to come making it impossible for him to keep in touch with the Club. There being no objection the resignation was accepted. Adjourned.

J. EUGENE LAW, *Secretary*.

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THE
CONDOR

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Volume XI

May-June, 1909

Number 3



W.K.F.

COOPER ORNITHOLOGICAL CLUB

Smithsonian

JUN 1 1909

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Volume XI

May-June 1909

Number 3

THE WHITE-THROATED SWIFTS ON SLOVER MOUNTAIN

By WILSON C. HANNA

WITH ONE PHOTO BY THE AUTHOR

THE last of December, 1907, found me with a strong desire to find and secure the nest and eggs of the White-throated Swift (*Aeronautes melanoleucus*). This may seem to be an early date to begin to make arrangements, but to tell the exact truth this was not the first time that I had had such a fanciful desire. It was during one of the nice warm days in the above mentioned month that I became convinced that some of these most interesting birds had made their home on Slover Mountain.

Slover Mountain, a land mark of the San Bernardino Valley, is an isolated hill of solid limestone situated about a mile southwest of the busy little city of Colton. It rises to about 500 feet above the floor of the valley, this being about 1500 feet above sea level. Old Slover has always been famous as a look-out point for residents of the valley and no tourist has seen the valley properly without the view from Slover. During the past twenty years this old hill has been the seat of ever growing commercial activity, and with large cement works on two sides of the hill, marble works, lime kilns, quarries, etc., one would scarcely expect to find it the home of the White-throated Swift. The continual blasting in the many quarries and the many holes on the hill have made it so dangerous to visitors that few would care to risk the ascent even if they could obtain permission from the California Portland Cement Company to do so. One of the treacherous places has proved to be a boon to the swifts, and it is with the swifts in this old abandoned quarry on the highest part of the mountain that this article is to deal.

The old quarry is noteworthy not only as being the home of the White-throated Swifts, but as the quarry from which the rock was obtained in the early nineties to manufacture the first Portland cement west of the Mississippi River, and the removal of rock from this quarry consumed the very highest point of the hill. When the cement company abandoned this quarry about 1896 for more accessible workings a couple of hundred yards away, they left a narrow gulch about twenty to thirty feet wide, one hundred and twenty-five feet long, and with two almost perpendicular faces of limestone, as much as seventy-five feet high in some places

on the south face. There are of course, as in other quarries, a few crevices and cracks in the face due to water and to the blasting, and it was in these cracks in the solid rock that the swifts selected sites for their homes.

During the past eighteen years I have been a frequent visitor to all parts of the mountain, but it was in the summer of 1904 that I first noticed the swifts. In 1905, 1906, and 1907, I occasionally noticed them flying above the mountain, sometimes hundreds of them. In December, 1907, while inspecting the old quarry on the top of the hill I decided that the south face would prove to be interesting to an ornithologist and from that time my hours of leisure on Sundays were spent in the quarry. Some days I would find the birds circling about the top of the mountain, making an occasional swoop with bullet-like speed thru the gulch, where their peculiar harsh notes were re-echoed and re-inforced by the rock walls, thus making one expect to see birds much larger than the swifts. Sometimes these rapid swoops would end in the cracks, about ten feet from the floor, in the south face. I say *in* the cracks instead of *at* the cracks, for their aim almost always was so true that the two-inch opening did not seem to cause them to slow up. Some of my visits were not so pleasing to me, for upon several occasions I could find no signs of the birds, while upon other trips I could hear the birds "in the rocks" but could not make them come out. When April, 1908, came around I was convinced that I was observing the correct place; but I did not see any possibility of securing eggs or of even seeing them, for the seams they favored were either so crooked or extended so far that nothing could be seen no matter where the rope was lowered.

During April, I was called to the East, so told the quarryman, Mr. J. J. Matthews, about the birds and asked him to keep his eyes on them when on that part of the hill, because he might be rewarded by finding a nest. Mr. Matthews became very much interested in the quest and as he was an expert in rope climbing a more desirable assistant could not be hoped for.

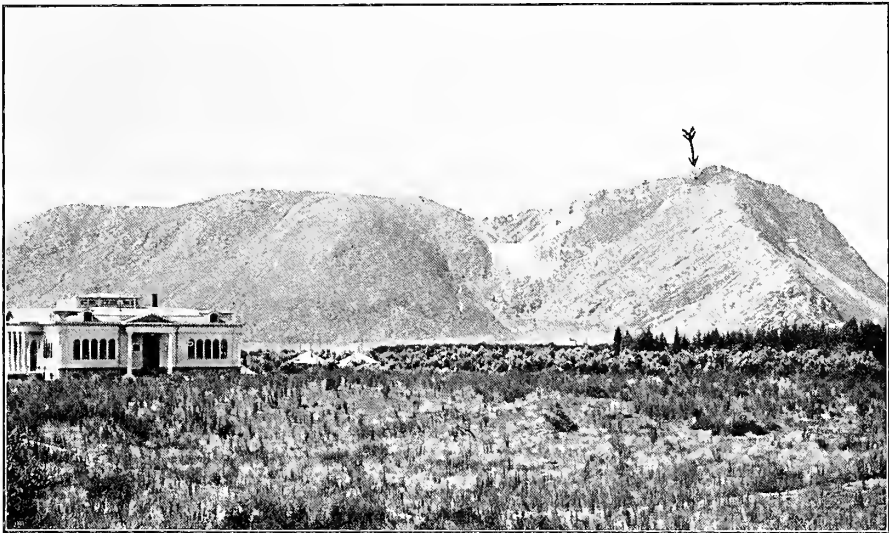
When I returned early in May, Mr. Matthews informed me that he had found a nest of "those rare birds" and better yet that the nest could be seen from the crack in the rock, and best of all that he thought that we would be able to secure the nest by some hard work. This was encouraging news, and armed with permits from the California Portland Cement Co., and the State Board of Fish Commissioners, we made plans to observe the nest regularly and secure some eggs if possible. A walk to the top of old Slover and a rope climb proved to be good exercise, after working hours. The fact that there was so much work connected with the observations made me admire the White-throated Swifts even more than I had before.

Nest no. 1 was reached by throwing a rope from the top of the quarry to the ground and then climbing up the rope from the bottom and working along the face by means of friendly crevices. If the rope had been lowered directly above the nest we would have been several feet from the face and could not have worked to advantage. The nest was about eighteen feet from the floor of the quarry and forty from the top, and was situated in a crevice from one to three inches in width, about four feet long and extending back about two feet. The nest was only about one foot from the face and was firmly glued between the two walls, probably by means of saliva, but some of the weight may have been supported by a few projections from the rocks.

Judging from the rate at which nest no. 1 progressed after we first saw it, we think it was started about April 15. It seemed to be almost done on May 1, but it continued to be improved upon day by day and on May 16 we observed the first egg. More improvements were made during the next few days and on May 19 there were two eggs, and on May 22 another. During most of these observations

no swifts were in sight, but on one occasion a bird was in the crevice and remained there during our examination of the nest. The nest was visited May 23, but the bird was on the nest and would not flush. On May 24 there was another egg and as there were no more on May 28, we decided it was time to secure the nest and eggs if possible.

The first thing to be done was to cut some notches in the rock for a foot-hold, so that we would be able to steady the rope while removing the nest, for of course it would not do to take any risks. The next thing to do was to cut away the rock from below until we could get a hand under the nest. This was accomplished little by little on all of our trips so that on May 28 a half-hour of work was sufficient to get the rock out of the way. The bird was poked off the nest with a stick after several attempts to "shoo" it off, and the nest cut away from the rock with a long stick in the form of a chisel. The nest and eggs were removed from the crevice, placed in a box and passed to Mr. Matthews on the ground by means of a string. As I stood there and observed the nest and four eggs I realized how



SLOVER MOUNTAIN AS IT APPEARS FROM COLTON, CALIFORNIA; ARROW POINTS
TO PLACE WHERE WHITE-THROATED SWIFTS WERE NESTING

lucky I was to secure the eggs of the White-throated Swift and how many ornithologists would envy me.

The nest was composed of straw, feathers, waste, and cotton, without any special lining. There were no sticks or twigs in the composition and it seemed to get most of its strength from the large feathers. It was not artistic or strong but with two solid walls of rock to support the sides it probably would last for more than one season if the insects, with which it was overrun, did not injure it. The dimensions of the nest were one inch deep inside and two inches deep outside; $2\frac{1}{2} \times 2\frac{1}{4}$ inches inside diameter, and $3\frac{1}{2} \times 2\frac{1}{2}$ inches outside diameter. The four eggs are pure white in color, narrowly elliptical in form, one end being slightly smaller. The eggs taken by me are very uniform in size and measure in inches: $.83 \times .55$; $.81 \times .56$; $.83 \times .55$; $.81 \times .56$. Hence the eggs are a little smaller than those described by Mr. Walter E. Bryant in the

September *Nidologist* for 1894, which measured .87×.53; .88×.53; .88×.52; .86×.50.

Nest no. 1 and the set of eggs are now in the Museum of Vertebrate Zoology of the University of California.

Nest no. 2 was discovered June 15, when by moving a rock hanging to the face of the quarry, a crevice was exposed where several feet back in the solid rock out of our reach a nest with three young birds could be seen. I think the birds were a week or ten days old at this time, and they seemed to be of different sizes and without feathers. The birds were feathered on June 25 and on June 27 the nest was empty. The nest was located about fifteen feet from the floor of the quarry and fifty or sixty feet from the top.

Nest no. 3 was also discovered on June 15. Four feet of decomposed rock were moved and a crevice in the solid rock exposed. Several feet back in the crevice we could see part of a nest on a shelf and hear the young. We could see parts of the feathered birds on June 25; but on June 27 the nest seemed to be empty.

Probably there were at least twenty-five pairs of birds nesting in one large crevice in the solid rock, but it extended so far that it would have been impossible to secure the nests or even get a glimpse of them.

I believe that the birds are residents on Slover Mountain during the entire year but they do not seem to be plentiful during August and September. Some days the birds are numerous and on other days not a sign of them can be seen or heard. The birds seem to know that they are safe while "in the rocks", for when I have surprized them in the quarry, I have seen the birds which were at the openings to narrow crevices crawl on out where they could turn around and then crawl back into the crevices out of sight.

When not in the crevices they spend most of their time soaring above the mountain, probably feeding on insects. They can soar with much ease and can remain almost stationary in the air even in a strong breeze. No doubt the White-throated Swifts are the swiftest birds on the wing when they choose to "speed up", and with rapidly vibrating wings and bullet-like speed they seem to enjoy passing within a yard of a visitor to their haunts.

The swifts do not seem to have any musical ability, but their notes or calls are pleasing, especially to one who is studying them. One series of peculiar shrieks is given while the bird is in rapid flight and is suggestive of joyous freedom. Another series of notes is given when the birds are in the crevices, which sound very much like the twitterings of small chickens as they cuddle under their mother's wings, only the swifts' notes are much louder. These twitterings are quite a contrast to the wild shrieks, and they can not help but suggest comfort and satisfaction.

The swifts are not alone on Slover, for many other birds find enjoyment here. Cliff Swallows (*Petrochelidon lunifrons*) and a few Barn Swallows (*Hirundo erythrogaster*) are frequently noticed flying about with the swifts in May and June altho they do not nest on the mountain. Rock Wrens (*Salpinctes obsoletus*) are common on the mountain during the entire year, and on useless trips to the old quarry there was some satisfaction gained when I could see this little wren bobbing on a rock or hear its little song and sometimes find a nest in some convenient pocket in the rocks. Barn Owls (*Aluco pratincola*) monopolized the large crevices in different parts of the mountain and, due to their ignorance in choosing some places, it was not uncommon to smell burning flesh and feathers after blasts in the quarries. Intermediate Sparrows (*Zonotrichia leucophrys gambeli*) are common in the winter time. California Towhees (*Pipilo crissalis senicula*) are

always numerous, and conspicuous among them were several partial albinos. Black Phoebes (*Sayornis nigricans*) and Ash-throated Flycatchers (*Myiarchus cinerascens*) make their homes in an old lime kiln. California Bush-tits (*Psaltriparus minimus californicus*) and Black-tailed Gnatcatchers (*Polioptila californica*) are sometimes seen in the brush; and a frightened Road-runner (*Geococcyx californianus*) occasionally appears. The high rocks serve as good lookout points for stray hawks that happen to pass by that way. In the early days the Turkey Vultures (*Cathartes aura septentrionalis*) made their homes on this old peak but now they only soar around the hill as if to inspect the work of man. Of course hummingbirds and other birds found in the valley are found at the base of the mountain.

Spring is now here again and as I write these notes I feel the longing to visit the birds in their haunts and I am hoping that I may secure some more information concerning the White-throated Swifts on Slover Mountain.

Colton, California; March 1, 1909.

SOME NOTES FROM FRESNO COUNTY, CALIFORNIA

By JOHN G. TYLER

THE Pigmy Nuthatch (*Sitta pygmaea*) is not an uncommon bird in the Sierra Nevada Mountains of this county, but only once during the past eight years has the writer noted its presence here in the San Joaquin Valley.

About two miles south of Clovis is an irrigation canal locally known as the Gould Ditch. Numerous ragged old willows and occasionally a cottonwood are found along the banks, sometimes close together and in other places farther apart but forming practically the only large trees to be found in the immediate vicinity in any numbers. Among this double fringe of trees, with water and good feeding grounds near at hand, many of our birds find suitable nesting places, and here during migration one stands the best chance of seeing some straggler from other regions.

On the first day of November, 1903, while making my way along this canal a Pigmy Nuthatch was seen working over a large cottonwood tree. When first observed the bird was about fifteen feet from the ground and upon seeing me it dodged behind the tree for a moment giving me a chance to approach unobserved, an opportunity that I quickly took advantage of, finally pausing not over eight feet from the base of the tree and remaining motionless. Soon the bird appeared again working around the tree in a sort of spiral fashion, head downward. Nearly half an hour was spent in watching this little visitor from the Sierras in its search for food. So long as I remained quiet it seemingly did not notice my presence, but a sudden movement would cause it to fly to the upper branches only to begin again its up-hill downward climb evidently not having exhausted the food possibilities of that tree; and when I finally went away it was still at work.

The town of Clovis can boast of an elevation of about 340 feet and the nearest foot-hills with their scattering oaks are at least ten miles away, while the heavier timber such as this species generally frequents is not nearer than twice that distance; so the little slate-colored nuthatch seemed to have wandered far from its usual haunts.

Another species for which I have but one record is the Spotted Owl (*Syrnium occidentale*). The ninth day of March, 1908, found me in search of a much needed nest of the Pacific Horned Owl. The place selected was one of the canyons leading down from the hills east of Clovis. A small creek followed the windings of this canyon, its course marked by the usual tall sycamores and cottonwoods with a few willows scattered along at intervals. I knew there were a number of old nests to be found in this canyon and had hopes of finding a pair of the big owls occupying one of them but had failed to rouse an owl of any kind after some hours spent in throwing rocks and sticks until finally, upon entering the upper end of a small but rather dense grove of cottonwoods, a large owl flew from a tree nearby and disappeared. So certain it seemed that my efforts were to be rewarded that a search was begun at once for some old nest which I was sure, when found, would reveal the mate of the bird that had been disturbed. In a very short time a nest was found and almost at the same time my owl was seen sitting motionless on a branch almost directly overhead, and hardly more than twenty feet away, so that only a glance was needed to assure me that the bird was not a horned owl. The round head and absence of ear tufts would alone have made its identity certain, but when I had passed directly under the bird and noted the white-spotted head and neck there seemed no room for doubt, as, with the small glass I carried and with which I had hoped to detect the presence of a downy feather on some old nest, I brought the bird down apparently almost to arms' length and watched it for some moments as it sat quietly on the branch giving me a fine view of its almost chocolate colored upper parts against which the large round white spots were rather conspicuous, while no less distinct were the heavy black bars and blotches on its whitish underparts.

After watching the bird for some time the climb was begun to the nest near which it sat, but which proved to be unoccupied, as was also the only other one in the grove; so after failing to find the bird's mate I left the vicinity and did not return again until April 4 when, late in the evening, a friend and myself made camp about half a mile from the grove. The following morning we made a rather hasty search for the owl but failed to find any sign of it and the two nests were still unoccupied. During the night, however, I several times heard, far down the canyon, the hooting of what was probably a Spotted Owl as the notes were different from those of any horned owl that I ever heard. At times they somewhat resembled the latter and again sounded like the far-away deep baying of a hound. Heard in the stillness of the night the notes were rather weird altho somewhat mellowed by distance. I do not know that the bird was breeding anywhere in that region, but its occurrence there in March and probable presence near the same place almost a month later would seem to indicate that it might have been.

As before stated, there were numerous old nests scattered along the creek for miles, and only a few hundred yards from the grove were the nests of a small colony of Magpies; so there were probably plenty of suitable nesting sites to be found, but at least a two days' search would have been required to cover the ground thoroly and I was compelled to give up the quest. At some future time, however, I hope to be able to give an authentic record of the breeding in this county of the Spotted Owl.

The following record is given to show the persistency with which some birds will continue their attempts at nidification even in the face of most discouraging circumstances. It also proves that the theory of second and third sets consisting of a smaller or the same number of eggs will not always hold good.

During the last few days in March, 1902, a pair of California Shrikes (*Lanius*

ludovicianus gambeli) completed a nest in a large, ragged, old willow, and from this nest I took a set of five eggs on April 8; incubation begun, as was proven by the fact that the set had been left for two or three days and had not increased in number.

By April 23 these birds had six more slightly incubated eggs in a nest not over sixty feet from the first one. It might seem that after collecting this set the birds should not have been molested again; but nevertheless a close watch was kept on them, and the 12th of May is the date on which their third nest was found to contain the largest set of shrike eggs the writer has ever seen, and this set which numbered eight was added to my collection. The experiment was becoming interesting, and as the sets were growing larger I seemed in a fair way to get a record breaker if the birds did not become discouraged and give up nest building for the season. This, however, they seemingly had no intention of doing and moved back to the same tree in which their first nest was built. This fourth nest was apparently just as carefully made as any of the earlier ones and yielded seven eggs to my cabinet on May 31. Seeing that the charm was broken, and feeling somewhat ashamed of my record, I resolved not to molest them again when they, with a perseverance that deserved its reward, began the work of constructing a fifth nest. It has always been a source of regret that circumstances did not permit a visit to this last nest until a day or two after the young had left it, so the number of young they finally succeeded in raising was not ascertained.

Now should any one accuse me of egg-hoggishness I am willing to plead guilty to the charge, but can add that the experiment has never been repeated, even upon a bird that is considered so great a rascal that it is one of the few species to which our State affords no protection.

The last day in February, 1902, it was my good fortune to see a part albino male Brewer Blackbird (*Euphagus cyanocephalus*). The bird was feeding with a large flock on some plowed ground and I had a good view of it at no great distance. The greater part of each wing was white and the bird was quite as conspicuous among his dark fellows as is the occasional Yellow-head that is sometimes seen in these winter flocks of blackbirds.

The only breeding colony of this species that I have been able to discover was at Shaver Lake, in the Sierras, at an elevation of about 5300 feet. During the latter part of May, 1908, about twenty nests were found, and there were no doubt more. They were all built in the old dead pine stubs standing in the lake. Some were placed in deserted Flicker excavations, others behind loose bark or on the ragged, broken-off tops of the stubs, while a few were built against the body of the stub and supported by one or two horizontal branches. The only nest that was examined was found on May 27, and was built in an old excavation about three feet above the surface of the water. The bird flew from the hole, and the nest, which was scarcely more than a circle of dry grass stems lined with rootlets, contained four heavily incubated eggs. The cavity was so shallow that the head of the bird that occupied it was about on a level with the lower part of the entrance.

The region about Shaver proved to be a most interesting one to me on account of the presence of several birds that one would hardly expect to find. One afternoon, while endeavoring to explore a willow-grown swampy area at the head of the lake, I came upon a small colony of Bi-colored Blackbirds (*Agelaius gubernator californicus*) all in very bright plumage. One male especially was unusually handsome and seemed anxious to display his colors to the best advantage, frequently making short flights into the air only to return to the place from which he started. While balancing on a partly-submerged log listening to the blackbirds

a chance glance upward revealed a Turkey Vulture drifting slowly across the sky. It almost seemed that once again I was down in the valley prowling about in the willows and brush along the Gould Ditch; yet I knew of half a dozen nests of Sierra Juncos within a few hundred feet of the lake and only a few moments before had been examining several nests of Western Robins in some small evergreens near the shore.

While standing there in the warm sunshine listening to the characteristic "h'-wak-a-ree" of the blackbirds I was suddenly reminded that the San Joaquin Valley, with its vineyards and canals, was many miles away, for from a clump of small pines nearby burst the harsh scolding notes of a Blue-fronted Jay. A moment or two later the soft but rather melancholy call of a Plumed Quail floated down to me from a pine-clad hillside.

Fresno, California.

THE MOURNING DOVE (*ZENAIIDURA CAROLINENSIS*) IN CAPTIVITY

By E. W. GIFFORD

ON February 15, 1908, I purchased two of these beautiful doves, said to be cock and hen respectively. The smaller of the two, which I took to be the hen, was without a tail when I received her, but soon began growing one. The tail grew very fast, a difference in length being distinguishable daily. The birds were confined to a small summer-house, about five feet in diameter, until about the middle of April. About March 11 they began making their mournful cooing notes.

On April 12 I placed these birds in an aviary with a ground area of four hundred square feet. They seemed quite delighted with the change, and immediately went to feeding with several Barbary Turtle Doves in the short grass. About a week later I saw the smaller of the two, which I had thought was a female, in the act of cooing. Then I awakened to the fact that I had two cock birds. Had I been more familiar with the species I should not have been deceived by the difference in size.

In May and June they cooed incessantly during the day, and often in the middle of the night, especially if it was moonlight. It was also along about this time that the two males were seen fighting in the evenings. Both were in beautiful fresh plumage.

On June 16 I purchased two more of these birds, both proving to be females. Inside of three or four days, one of them became very much attached to one of the cock birds, and it was amusing to see the unladylike manner in which she followed him about and shook her wings. Occasionally he would give chase, only stopping to coo when very close, and that very seldom. The two males would at this date pursue each other with great viciousness.

By June 24 the two females had mated with the two males. At this time one pair had a nest on top of a box placed in a peach tree; it consisted merely of a few sticks and straws. An egg was laid in it on June 23.

The other pair had a nest on a shingle nailed on the beam of a board fence on the west side of the aviary. The males did all the carrying of nesting material in both cases, the females usually sitting on or near the nest. When selecting the nesting site, the male would go to a likely place and squat down, raising the tail and lowering

the head. He would then give a very short coo, gently shaking the wings meanwhile. It seemed to amount to just one note of the many given in the usual call. The females seemed very gentle and loving to their mates. The two males, however, were very savage, carrying on a running fight with each other most of the time, altho sometimes standing their ground. In their blind jealousy they would at times attack the innocent Barbary Turtle Doves.

The pair which nested on top of the box in the peach tree were unfortunate, for on June 28 it was found that one egg had rolled off, and that the other was deserted. At that date it was found that they had started a nest in the lower part of the box which was covered over and had but one side open; no eggs had as yet been laid. Again the male carried all of the sticks and straws for the nest. In the morning the pair nesting on the shingle were found to have one egg; later in the day they had two.

On July 12, the pair nesting on the shingle hatcht a young one. By July 14 the second young bird had hatcht. On that date, however, the cock bird died. For a day or two before, I noticed that its excrement was green in color, while the bird stayed on the ground and appeared very inactive.

At that date, July 14, I did not know whether the eggs of my other pair had hatcht or not, as the parents sat very close, the female doing most of the incubating and the male relieving her for three or four hours in the middle of the day.

On the evening of July 15, I found one of the young of the pair nesting on the shingle dead. It was lying on the roof of a nearby shed, where it had evidently been carried by the mother, probably becoming attacht to her feathers.

On July 16 at least one egg belonging to the pair nesting in the box had hatcht, as I found the shell on the ground. On the 22nd I found a young bird dead in this nest; the other bird was in good condition and growing rapidly.

On the evening of July 25, when I approacht the nest on the shingle, the young bird flew away in alarm, striking the wire some twenty feet away. This bird spent either thirteen or eleven days in the nest. The following morning it left the nest without being disturbed and flew to the roof of the shed. On July 28 the young bird of the pair nesting in the box left the nest, having spent only twelve days in the nest.

On July 31 the hen having the nest on the shingle laid an egg, which I found broken the next day. She had been trying to steal the remaining cock bird from his mate. He seemed more attacht to her than to his mate.

On August 1 the female nesting in the tree laid an egg; this was just four days after her young one had flown. On August 2 the hen nesting on the shingle laid her second egg, which she deserted, however.

On August 14 the pair nesting in the box hatcht an egg. The other proved infertile. The young one developed in the usual time, twelve days. This seemed to close the breeding season; the male cooed little if any after this date, and all of his love and fondness for the two females disappeared.

For a few days after the young left the nests the females were very zealous in protecting them, attacking each other and any harmless turtle dove which came too close.

It was interesting to see how angry the hen nesting in the box became when she found that the widow hen was trying to steal her mate. She gave the widow one or two beatings; this appeared to cure her mate of his infatuation, for he paid no more attention to the widow. They were almost human in their jealousies!

This species seems to be one which could be easily domesticated in this country, if a little trouble were taken with it.

Alameda, California.

A PROBLEM IN INDETERMINATES

By P. M. SILLOWAY

WITH THREE PHOTOS BY THE AUTHOR

GIVEN: a man with a hobby; a box filled with cotton; a camera; and a bright day in the collecting season. Question: what will be the probable results? To the plain, matter-of-fact citizen, whose soul is bound by the chains of conventionality and commercialism, the problem seems impossible and well-nigh incomprehensible. In the first place he can not understand how a man,



TYPICAL NESTING SITE OF THE LONG-BILLED CURLEW

a full-grown, sensible man, can have a hobby. If at length, however, it finally dawns upon him that a man can have a hobby and still be a man, the aforesaid citizen can not possibly comprehend the box of cotton. The idea that a grown-up man should be seen wandering over the prairie or along streamside or thru the woods with a box of cotton (and intentions not so evident), is to the aforesaid citizen prima facie conviction of deep-seated dementia. And the camera, why what on earth is there to be seen worth photographing? The bare idea of a man going around photographing birds' nests—what can you get out of it? And the bright day in the collecting season—what has that to do with the question? And so the problem assumes hopeless proportions.

And yet to you, gentle reader—you who have a hobby yourself, you whose soul

is free to go forth from its sordid surroundings and occasionally invigorate itself by drinking at nature's fountain, you who once at least were not ashamed to be seen afield with a cigar box tucked under your arm or at least a baking powder can stowed away in your coat pocket, you who appreciate somewhat of the pleasures of kodaking and picture-making, you who see everywhere around you many things worth photographing, you who love the birds and flowers and the sunshine and the breezes—to you the problem is not only comprehensible and possible, but easy. Let us consider one solution of it.

It happened last spring that a stranger came to our town—a man with a hobby. Upon his inquiry for anybody in town to sympathize with him, he was

directed to me. Perhaps you know what it means to be a market man in your community—your hobby is your brand, so to speak. Well, I was branded, and so the stranger soon rounded me up; and in our first talk-fest we arranged to get afield, for the stranger actually wanted to get some pictures of nests of western birds. Strange, isn't it, how peculiarly his dementia ran, poor man?—wanted to get pictures of birds' nests. At any rate it turned out that I could accommodate him; peculiar, wasn't it, that a poor demented fellow who wanted to photograph birds' nests should straightaway find some one who could tell him where the nests were?

To be candid I must say that I had been out over the prairie the day before, and had chanced on a nest of Lark Bunting just ripe for photographing, so I was sure of that for him anyway. Moreover I had aroused a male Curlew into swooping angrily at me, and I knew what that meant. You understand, then, that when



NEST AND EGGS OF LONG-BILLED CURLEW

I told my new-found friend I could show him something to photograph, I felt sure of delivering the goods. So we went afield.

My friend didn't know much about birds, for his hobby was *pictures*. A nest of the Lark Bunting was to him as great a prize as a nest of the Curlew. Not so with me, however, and on our way across the bench I explained to him what great opportunity had befallen him; for it is an opportunity to photograph a nest of the Curlew, if one has just dropt into Montana and never even saw a Curlew. In fact, it is not often that a tenderfoot is granted an opportunity to gaze upon one of the greatest treasures of our great Treasure State, a nest of the Curlew; such an experience is reserved only for the initiated—it is one of the rites of the thirty-third degree of bird nesting, so to speak. All this I explained in fullest detail to my fellow-hobbyist, and be it said to his credit that he appeared to grasp the value of the opportunity.

My first objective point was a solitary fence-post, marking the stalking ground

of the male Curlew I had angered on my preceding trip across the prairie. The post, remnant of a removed fence, was in the midst of a long knoll-side, stretching a mile in either direction, and served as a vantage point for the Curlew in guarding his home. I explained to my *particeps criminis* that while the female Curlew is sitting on her eggs, the male is loafing somewhere within sight of the nest, ready to defend the premises in case of threatened danger to his home. We found the male there, feeding carelessly. The first thing, in order to impress upon my friend's mind (that is, such portion of it as was not occupied with picture) the great difficulty in finding a nest of the Curlew if one doesn't know how to do it, I directed him to make a mental note of the place where we first attracted the Curlew, so as to make an estimate of the distance from it to the nest (if we should find it). From the place where the Curlew settled down near us and angrily cackled the first time, my friend afterward guessed the distance to the nest to be over a half mile. And you who live in the west know how deceptive distances are out here.

The general theory of finding a Curlew's nest lies in this fact: the male, while the female is sitting, will follow you if you go toward the nest, or leave you alone if you veer away from the general direction toward it; and the nearer you get to the nest, the more angry and threatening becomes the male in showing his dislike of your presence near it. Now, finding a nest of the Curlew is a trade secret; and while willing to show my friend the nest, it wasn't necessary that I show him *how* to find the nest, for his hobby was *pictures*, you will remember; so why strew one's pearls before the unappreciative? If he ever becomes an egg-crank and wishes me to show him how to find the nests, I shall be glad to offer him the courtesies of the profession. In this instance, however, having ideas of his own, he proposed that we separate, upon my explaining to him that all depended upon the actions of the bird and that we must be guided solely by those; if the Curlew chose to act up, all right; and if not, there was not the remotest likelihood of our finding any nest.

In my own course, separated from him, I followed my usual tactics, gradually getting into closer quarters with the gallant old bird and calling my friend to me often enough to keep him in the fighting and to allow him to draw his own conclusions regarding the *modus operandi* of locating the nest. The knoll, which was only of very slight grade, was crossed by a road about a quarter of a mile from the starting post. We crossed the road and continued the chase in the adjoining pasture. At length, an hour and fifteen minutes after the chase began, I saw the female spread closely upon her nest ahead of us. Ah, there was the picture—no, the reality in every interesting feature—for where can you show an egg-crank a more pleasing sight than a live Curlew hovering her nest? That was the picture we didn't get, and I still believe I saw the real picture, and what we carried back on our plates was a mere suggestion of what the bird-lover saw and carried home. Look at the picture and judge for yourself. As I write this I see in memory that mother Curlew flattened over her eggs, and I long for the days to come again when the Curlews will lead me a merry chase.

Several days later that same old egg-box and camera were concerned in another affair worth mentioning. My fellow-hobbyist was absent, having gone out of town to take some *pictures*; but the original man with a hobby was there. I was wandering along a dry water course, having frequent patches of weeds and sprouts, suggestive of nests of Marsh Hawk or Sharp-tailed Grouse. In fact, I had seen several times a Hawk quartering along over the locality, and I started in to search the rose-patches for a nest. You understand how a fellow, when he once gets

started and doesn't find anything, will keep going. After awhile I found myself far beyond the locality I had spotted for the Hawk's nest, but as it seemed I ought to stumble on a nest of Grouse, or something, I kept going. Nests of the Lark Bunting were there in plenty, but as I had room in my collecting box for only a good set of Hawk or Grouse I didn't bother the Buntings. Once I startled a female Bunting from a nest with seven eggs, and when I saw five males at once settle in the bush in which she took refuge, I was prone to question the code of ethics governing a Bunting household. Then I thought how queer it was that nature is so capricious; if Lark Bunting eggs were quite rare and worth two dollars each in exchange, more than likely the Bunting's nests would be located in the tops of the highest pine trees on the hillsides, and I could never find one in a day's travel. It seems strange that Mr. Emerson omitted this little point from his essay on "Compensation."

As I was saying, presently a little patch of weeds caught my eye, over on the bench. It was just a little patch, no more than eight or ten feet in diameter.



NEST OF THE SHORT-EARED OWL

Disappointed and leg weary, I brusht threateningly against it to alarm any possible tenant; and what happened? A great cloud of grayish brown feathers floated almost into my face from between my feet, and drifted noiselessly away over the bench. My first impression was that the entire patch of shrubbery had taken wing in my startled imagination. Then all the catalog of owls rusht thru my mental vision, and I realized that for the first time in my life—the first time, mind you—I had chanced on the nest of the Short-eared Owl. Yes, I, too, was once a barefoot boy, but I did not experience all the pleasures of life in that limited boyhood; there was something left that had just fallen to my lot—a new experience in bird nesting. No doubt some of you who are getting as gray-headed as I am can imagine something of my exultation as I peered at the opening in the shrubbery at my feet. Eight eggs, large and pearly and shiny—no, that was all in my imagination, for as I examined them I found them dirty and blood stained, yet I knew that a little water would remedy all that. Did I leave them in that damp opening,

hoping that eight little owls would later emerge from that dark cavity and thus augment the bird population of that section? Nay, verily, for I have the eight, now pearly and shiny and clean, where they can do much more good than as well developed and mature owls. To the man with a hobby, a set of eggs in the cabinet is worth more than a flock of birds in the bush.

And now you have two very easy solutions of the proposed problem—a problem in indeterminates, and hence capable of many answers.

Leviston, Montana.

THE USE OF MAGPIES' NESTS BY OTHER BIRDS

By ROBERT B. ROCKWELL

WITH ONE PHOTO BY THE AUTHOR

MUCH has been said (and much has been left unsaid) regarding the manifold depredations of the Black-billed Magpie (*Pica pica hudsonia*), and these incriminating utterances are built on a firm foundation of truth. It is consequently with a sense of relief that we are able to turn our attention to a topic in which this interesting bird does not play the role of heavy villain, and particularly in view of the fact that in this instance he appears as the benefactor of the other birds, a condition of affairs diametrically opposed to his normal attitude.

It is in the construction of a fairly permanent place of refuge for many species of birds that the magpie does much toward counter-balancing his many bad habits, and predatory tendencies. The great heavy nests, so beautifully cupped and lined inside, so wonderfully domed over and walled up outside, and withal so remarkably constructed as to withstand the ravages of the elements for years, constitute a veritable bird palace for a number of species whose natural ability as architects is a negligible quantity.

As a haven of safety during sudden storms or unlookt-for spells of severe weather, there are indeed few species of perching birds that do not find in the abundant abandoned magpie's nests an important addition to the many protected safety stations a wise Nature provides for her feathered children. During severe rain or hail-storms robins, blackbirds, bluebirds, warblers, and in fact all those species that frequent the timbered creek-bottoms in the territory where the magpie is common, make frequent use of these great nests.

A few species utilize the abandoned nests continuously, but these birds are necessarily few in number, as they are birds that restrict themselves to a given locality. To this class belong the Western Horned Owl, the Long-eared Owl and the Rocky Mountain Screech Owl, the two former of which spend nearly their entire time during the day in these welcome retreats, while the latter species makes frequent use of them when not occupying a cavity in a tree. It is a rather amusing spectacle to see a round, fluffy little screech owl (dislodged from his cosy corner in a hollow tree) making desperate efforts to reach the nearest magpie nest before the noisy throng of mischief-loving magpies overtakes him, and even more comical to see the plain look of disappointment and incredulity upon the "countenances" of the pursuers, as the owl reaches the welcome refuge and instantly merges himself into his surroundings; for strange as it may seem magpies will not

follow an owl into an abandoned nest, and seem utterly at a loss to understand the prompt disappearance of the object of their pursuit.

It is, however, in furnishing an ideal nesting site for several species of birds that the magpie bestows his greatest gift upon his bird neighbors.

As has been mentioned before the two species whose occupancy of magpie's nests is most prevalent are the Long-eared Owl and the Western Horned Owl. Both of these birds are notoriously averse to anything that bears a semblance to work, and the substantial last year's nests of the magpie furnish an ideal receptacle for the great white eggs and the fluffy youngsters.

Very little repairing is done to the abandoned structure preparatory to laying the eggs. A few feathers from the parent's breast, and possibly those of some bird which has fallen a prey to the owl, together with the accumulation of dead leaves, dirt and refuse found in old nests, form the "lining" upon which the eggs are laid. Capt. Bendire in his "Life Histories" states that the Western Horned Owl deposits its eggs "occasionally inside but more often on the broken-down roof of these bulky structures." This statement will probably apply equally well to the Long-eared Owl as I have yet to find the first set of these eggs laid in a magpie's nest which was domed over, altho the owls frequently make use of the interior of roost nests as hiding places.

Owing to the nature of the timber thruout a large portion of western America the great majority of magpie's nests range in hight from 15 to 25 feet above ground, altho occasional nests are encountered ranging upward to at least 60 feet above ground. However, the high nests do not seem to be preferred by the above mentioned species, or in fact by any of the following mentioned species and it is safe to say that practically all birds occupying magpie nests utilize nests varying from 15 to 30 feet above the ground.

The Rocky Mountain Screech Owl, like all of the genus *Otus*, nests almost entirely in natural cavities or deserted woodpecker's nests and I have never been fortunate enough to discover a nest in any other situation; but Bendire in his



A MAGPIE'S NEST APPROPRIATED BY A PAIR OF SPARROW HAWKS NEAR DENVER, COLORADO

"Life Histories" states that this subspecies *does* appropriate deserted nests of the magpie for a nesting site and quotes such excellent authorities as W. G. Smith, Dennis Gale and A. W. Anthony in support of the statement, and while he does not describe the nest in detail it is perfectly reasonable to assume that the details of the nesting site would differ very little if any from that of the two preceding closely allied species.

Very similar to the Screech Owl in its habits of nidification is the Sparrow Hawk, and this noisy little tyrant of the woodland, while ordinarily choosing a hollow tree for his nesting site, not infrequently takes possession of some deserted magpie's nest, where after a few very crude repairs are made, the rusty colored eggs are deposited. The Sparrow Hawk, unlike the preceding species, seems to prefer nests which are roofter, and instances where the eggs are deposited in open nests are quite rare. It is of some interest to note that Sparrow Hawks nesting in this manner are much more timid than those nesting in cavities, and whereas it is a common occurrence to find a brooding female so fearless that it is necessary to remove her from her eggs in a cavity, it is seldom that one can approach within thirty yards of a bird brooding in a magpie's nest without flushing it. Apparently the bird does not feel perfectly secure in a location which is not altogether natural to the inherited instincts of the species.

Another bird, similar to the preceding tho not nearly so common, is the Sharp-shinned Hawk, and this bird occasionally lays its eggs in deserted nests of the magpie. Davie in his "Nests and Eggs of North American Birds" mentions a nest found by Chas. F. Morrison at Fort Lewis, Colorado, in a "dilapidated magpie's nest, the arch roof of which had fallen in and formed a hollow, which was lined with a few feathers upon some dead leaves."

Thus far all of the birds mentioned in this connection are raptorial birds, which with the exception of the Sharp-shinned Hawk are practically devoid of the nest-building instinct; but these great nests we are considering furnish a home not only for this class of birds but also for some species in which the nest-building instinct is fully developed. Bendire mentions a nest of the Mourning Dove built on the broken-down top of a magpie's nest at Fort Harney, Oregon, and during the spring of 1908 Mr. George Richards of Littleton, Colorado, found a beautifully constructed nest of the Bronzed Grackle, cosily esconced in the nest cavity of a practically new and well constructed magpie's nest.

During the spring of 1907 a magpie's nest at Barr, Colorado, was regularly observed from the time the first rude platform of sticks was put in place early in March until a noisy and very hungry brood of eight young ones was launched forth into the world in early May. Within a week of the time that the young magpies left the nest, an industrious pair of English Sparrows began the construction of one of their bulky nests in the interior of the magpie's nest, and when, some two weeks later, it was decided, for obvious reasons, that the sparrow family must move we were greatly surprised to find a partially incubated egg of the Cowbird, in the nest of the English Sparrow.

Besides the species here named that are known positively to make use of deserted nests of the magpie, there are several species whose characteristic nesting habits make it entirely probable that they also occasionally make use of such nesting sites. For example the Swainson Hawk is known to make frequent use of deserted nests of the crow, and the Turkey Vulture has been known to utilize old nests of hawks and herons but the species enumerated furnish abundant proof that in one way at least the magpie partially atones for the many sins that Nature has made him heir to.

Denver, Colorado.

SWARMING OF THE RUBY-CROWNED KINGLET

By J. W. PRESTON

WHEN the endless come and go and care and worry of the city has tired one to the point of distraction, every fiber yearns for a change. How welcome the day when care may be cast aside! Such a time came to me last June. Early, while the mists floated leisurely up from a hill-hemmed lake, and mountain shadows fell heavy and long over the lower forests, and the sun touched with glory some distant gleaming peaks, I wended my way across the foothills, up onto the shoulders of the mountains, past towering rocks from whose caves and crannies came the flute-sweet notes of the Rock Wren; while distant, circled a screaming hawk, startled from its nest on a dead fir tree. At the crest of a ridge a brood of Nutcrackers croaked their garrulous scoldings.

There, as the cool mountain winds moved among the dwarfed pines, was a clear view of the city and the river winding far into the great dim mountains. Here a trail led to a deep tangle of thicket and steep, rocky hills where the wild deer live during the summer months. How the crisp mountain air buoys you up with un wonted vigor and energy! What a change from the dust and din, way yonder on the paved and noisy streets!

At this elevation the Clarke Nutcracker nests, and here also a company of Western Evening Grosbeaks were nesting. From here I hastened down into the valley of a little brook which hurried along over stones and roots, in and out of mossy nooks, over which grow a dark mass of hemlock, fir and cedar, making a dense, shadowy dell, with pools and cress beds and mossy stones and logs, over which a Varied Thrush hurried to safety. The song of a Vireo lent charm, while wild flowers added their sweetness.

While quietly seated on a rock, enjoying the scene, I was suddenly *attacked* by a female Ruby-crowned Kinglet showing nest-worn conditions of plumage. She flew at my head in a most determined manner uttering an alarm-ery which for the size of the bird was strong. She most thoroughly *scolded* me and by her persistent crying called up an interesting and interested company of birds: The Olive-backed Thrush, Louisiana Tanager, several species of Warblers, Western Chickadee, Red-breasted and Pigmy Nuthatches, a Brown Creeper, a pair of Rocky Mountain Jays and several Vireos—what a medley of bird voices! Some were scolding for dear life, some were happily singing their sweetest while others merely craned their necks and peered about to see where the trouble was. But the little Kinglet was the most interested of all. From her perch on a dead twig not ten feet from me she showed all the charms of her graceful birdship. If I moved the least, she was right up and after me.

Soon the male Kinglet came, with a moth in his bill. He seemed to think there was no cause for worry and hopped on up a white fir tree, from branch to branch, until, fifty feet from the ground, he stopt at a mossy ball of a nest suspended from the top of a bough six feet out from the tree. Then he was off again in search of food. By this time the mother Kinglet had subsided and was peering here and there among the bunches of needles and under inviting pieces of bark. Gaining a mouthful of moths and bugs, she too ascended the tree to the nest, and back and forth they went in quick succession, for their brood was numerous and hungry.

For an hour I sat watching the interesting family. It seemed to be swarming time at their house. Some of the little fellows had successfully gotten out and down some distance from the nest, while a busy lot were peering out over the rim and grasping onto the sides, but, fearful, they crawled back to the nest shelter, where from seven to eight were trying their first wings all at once, in fear and trembling; this was a charming little episode of bird life. Then as the mountain shadow came chill, all was quiet as the blue sides of the distant hills.

Spokane, Washington.

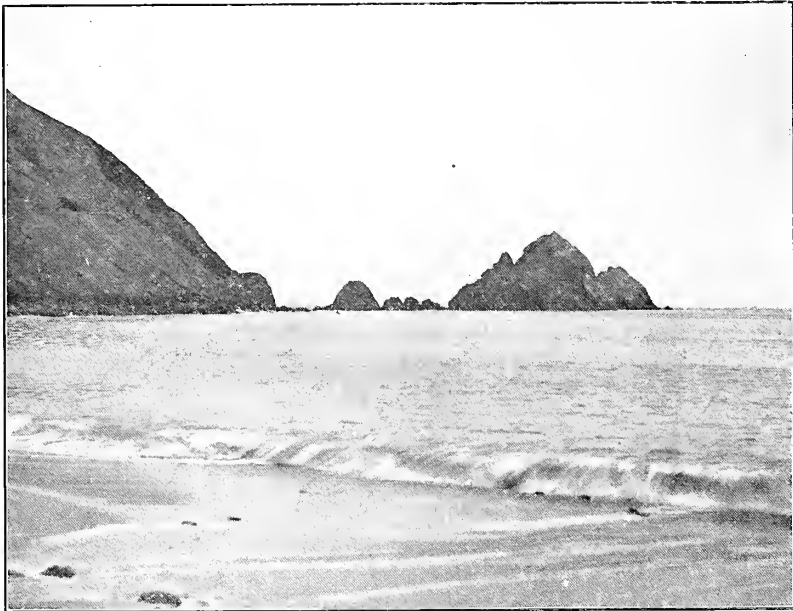
THE PASSING OF THE PEDRO ISLAND SEA-BIRD ROOKERY

By MILTON S. RAY

WITH TWO PHOTOS BY OLUF J. HEINEMANN

WHILE the number of sea-birds which formerly made their summer home on the rocky island which forms the extremity of Pedro Point in San Mateo County, can not be compared to the great Farallone Island rookeries, yet until recently various sea-birds nested here in quite large numbers, and many of the eggs of the California Murre displayed for sale in San Francisco markets were obtained from this source.

It was with a view of learning what birds and what number of birds were nesting on Pedro that we started to journey down the coast on the morning of July 12, 1908, in an open flat-car termed a passenger coach by the "Ocean Shore" man-



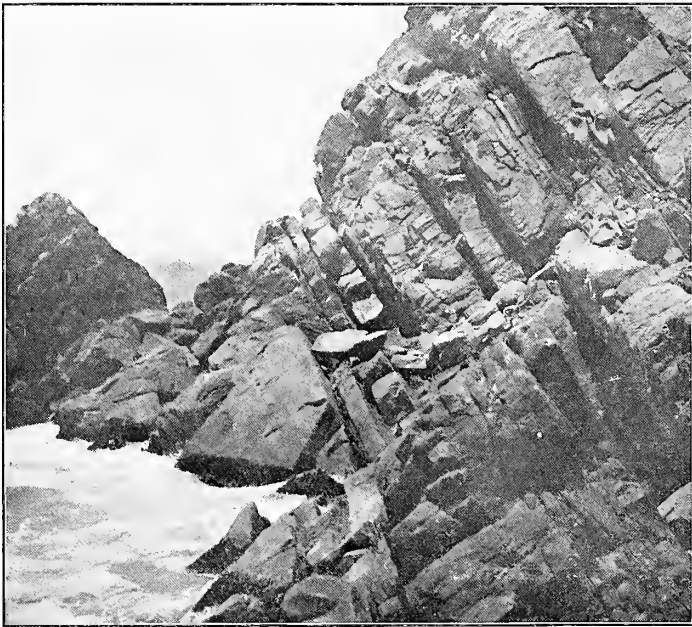
PEDRO ISLAND AS SEEN FROM THE MAINLAND

agement. Our party consisted of H. A. Snow, Oluf Heinemann, and the writer. On leaving the train we walked along the beach to where the point juts out from the mainland. Here we found a number of deep and rather broad sea-channels which separate Pedro Island from the mainland and precluded our reaching it. From the shore we observed a few sea-birds flying about the lofty and precipitous rocks.

Returning to town we engaged a crab-fisherman to take us out in his boat to the island. He informed us that in previous years he had easily collected as many as thirty dozen murre eggs on a trip, but of late the birds had become scarce owing to the continual blasting by the Ocean Shore Railroad Company in its construction work on the opposite mainland near the point. In fact he added that he had made a trip a few weeks before and had found but half a dozen eggs of the murre. After

hearing this we did not expect to find many birds on the island, but decided, however, to make the trip.

Near as the island is to the shore, it was necessary to row about a mile to reach it. The craft was rather small for four people and made slow progress against the waves of an open sea. Our boatman rowed to a spot which he claimed was the best on the island to land. As we neared the great mass of rock rising almost perpendicularly out of the sea it seemed to me that there was but little choice in the matter, for it meant a hard and dangerous climb wherever we disembarked. As I have stated, Mr. Heinemann was one of the party, so it will be understood that we had the usual collection of cameras, tripods and packing cases; these with a rope-ladder, provisions and other necessities made a considerable load. Landing, one at a time, on a wave-splashed rock, between one breaker and another, was exciting if not enjoyable. Then by way of variety came the climb of a narrow and steep



A PORTION OF PEDRO ISLAND; A FLOCK OF SEA-PIGEONS MAY BE DISCERNED ON THE ROCKS AT THE RIGHT MIDDLE

rocky passage to the top of the ridge. It took the combined effort of Oluf and myself to aid the heavy-weight member of our party, Snow, to the top. From here a descent was made to the southern side where traveling was easier. However, the worst was yet to come, for, after a short distance, a steep bluff walled our way which we were forced to ascend, as the cliffs water-wise were as straight as a brick wall.

At the foot of the bluff we lost a member of our party, for Snow found the climbing too difficult and so was left in charge of the commissary department while Oluf and I worked our way to the top. After reaching the summit and wending our way along the ridge we came to a long level ledge which was no doubt in the past the main rookery. Many deserted cormorant nests still remained and in the rocky furrows were scattered egg-shells of the murre. There were but few birds about, however, and these were not nesting. Oluf remained behind to photograph

a flock of sea-pigeons, while I continued along the rocky back-bone to the extreme western point, but without finding any occupied nests and encountering but few birds. The day of the Pedro Rookery was past! The birds had dwindled in numbers so they could be actually counted, and what a meager list the colony gave!

1. *Phalacrocorax pelagicus resplendens* (Baird Cormorant) 24
2. *Phalacrocorax penicillatus* (Brandt Cormorant) 24
3. *Uria troile californica* (California Murre) 20
4. *Pelceanus californicus* (California Brown Pelican) 14
5. *Ccpphus columba* (Pigeon Guillemot) 15
6. *Larus occidentalis* (Western Gull) 10
7. *Lunda cirrhata* (Tufted Puffin) 6
8. *Larus heermanni* (Heermann Gull) 6

While we were dwelling on this serious decrease in Pedro bird statistics, Snow at the foot of the bluff was, from all appearances, making serious inroads on the supply of eatables, and from a distance we could hear, between the roar of the battering waves, the cry of our angry boatman whose idea of two hours and ours materially differed. The reader will acknowledge, with this situation before us, it would have been unwise to extend our investigations further.

After "sliding" down the bluff and taking a hurried lunch, we joined our impatient boatman who told direful tales of what might have happened had we delayed our coming any longer. With the stiff breeze that had come up, he declared, it would have been impossible for him to take us off and we would have been left on the isle with our scanty supply of provisions. But even the boatman did not know how grave a matter this would have been; for he could scarce dream what lusty appetites were possessed by our commissariat and official photographer.

Ornithologically and oologically considered our trip was a failure, and photographically partly so. Newcomers to the isle will no doubt find fewer birds than were noted by our party, for now, with the coming of the railroad and the attendant population along its line, the number of feathered dwellers on these sea-rocks will be less than ever.

San Francisco, California.

AN ORNITHOLOGICAL TRIP TO LOS CORONADOS ISLANDS, MEXICO

By HOWARD W. WRIGHT

WITH THREE PHOTOS BY THE AUTHOR

ON June 20, 1908, with three friends, Mr. J. R. Maclintock, Mr. Frank H. Long and Henry Wetherby, I left San Pedro for Los Coronados Islands, Mexico. It was the longest trip I had ever taken in my sail boat, the "Sea Bird", which is about thirty feet over all.

The trip down was uneventful save for a sixteen-hour calm, during which the swells were rolling mountain high, and which caused a falling off of appetite on the part of my friends, to say nothing of myself. Finally a brisk, stern wind sprang up, and we started at a rapid pace for San Diego, making before dark about eighty miles.

All spirits rose with the rising of the wind and on Sunday night, the 21st, we

reacht San Diego. The bay being reacht only by a very narrow and winding channel we did not enter until the following morning.

There we left Mr. Long to return by rail, and that evening at 8 P. M. we arrived off the South Island of the Coronados group. We sounded and anchored in twenty-eight feet of water. Bright and early the next morning we were up and made for the bay which lay about a half mile from us. We noticed along the cliff facing us quite an area of guano, and many pelicans, cormorants and gulls flying about, indicating a colony.

Arriving in the harbor we were at once struck by the beauty of the little bay, at the back of which rose a sheer cliff 300 feet high. On the right was a small cliff, above which was a steep cactus-covered slope to the summit. On the left was a low cliff, above which was another steep slope. The bay was as clear as crystal and very deep. Having anchored about the middle of this cozy little bay we took the punt and landed on a ledge underneath the cliff, there being no beach on which to land. This was no easy task; we had to watch our chance and go in on top of a wave, jump out, and lift the boat bodily from this ledge to one above. It was still more difficult to launch the skiff, our clothes being drenched both coming in and going out.

These islands are located about fifteen miles south of San Diego. There are three main islands: North, Middle and South. Their names indicate their position. They are very high and rugged, the highest being 672 feet and about a mile long. The only good harbor, and that only suitable for small craft, is the little bay on the northeast side of South Island in which we anchored.

There is no water on these islands. Consequently there is little vegetation—cactus and ice plant being the most abundant, tho there was some kind of a scraggly bush scattered thruout.

The first day was spent in making camp and looking around a bit on South Island. The next day we went to North Island, which is about two miles to the northwest. But when one rows to it, it is about forty. We could not sail on account of the kelp. We stopt at Middle Island to examine a small gull colony, —eight nests with eggs. There were a few cormorants roosting on rocks, and a pair of oyster-catchers circled around us. One of the latter, which we shot, led us a merry chase thru the surf. We then continued our row to North Island on which we found large colonies of auklets with young, and colonies of gulls with young. The young gulls ran all over the island like chickens. There was a large colony of pelicans with almost full-grown young. The number of these we could



PORTION OF COLONY OF FARALLONE CORMORANTS ON
SOUTH ISLAND

not estimate, the island being too rocky. Scattered thru this colony of pelicans were a good number of Farallone Cormorants' nests with fresh eggs. We spent the day on North Island and returned at dark. We spent the rest of our time on South Island and Middle Island collecting, shooting, and taking notes. We did not consider North Island worth visiting again.

Following is a list of birds seen on this trip, with a few notes:

Ptychoramphus aleuticus. Cassin Auklet. A few were seen on the way down, and several colonies were found on North Island containing nearly full grown young. On the return trip I shot into a flock of fulmars, and to my surprise one of the birds which I shot for a fulmar, proved to be an auklet. They were mast into a compact flock with the auklet in its center.

Brachyramphus hypoleucus. Xantus Murrelet. Only two seen—a female with a downy young, about two miles from shore. Several old nests were found with broken eggs, and two of them contained dead birds, killed probably by the cat which inhabits South Island.



PORTION OF COLONY OF CALIFORNIA BROWN PELICANS
ON SOUTH ISLAND

Larus occidentalis. Western Gull. Very common; they are very destructive to the colonies of the other birds, eating eggs and small young. They were a great nuisance around camp, as they were so bold that we had to box everything that was not canned, or they would make short work of it. In a recent Geographical Magazine I read an interesting article about a colony of Brown Pelicans in Florida, in which the writer says that he noticed that the young pelicans in each nest were of different sizes and ages. He could not find any reason for this. I think I can explain

it. Down at the Coronados I found the same thing. The young pelicans and cormorants were of different sizes and ages in one nest. The reason was that when the pelican or cormorant laid an egg it had to sit on it to guard it from the gulls which were always on the look-out for a nest left unguarded. In this way the egg was incubated, so consequently the young birds were hatcht on different dates.

Sterna forsteri. Forster Tern. Several seen on the trip down.

Diomedea nigripes. Black-footed Albatross. A bird which I took to be of this species followed us for some time going down.

Fulmarus glacialis glupischa. Pacific Fulmar. Many seen on the trip; they were very shy.

Oceanodroma. Petrel, sp. ? We observed many petrels, but as we took none we

could not positively identify them. There were none breeding on the islands at that time.

Phalacrocorax auritus albociliatus. Farallone Cormorant. Very abundant on all three islands, tho breeding only on North and South Islands. The Farallone Cormorant colony on South Island was rather scattered in the peliean colony, and contained from fresh eggs to full grown young. They were very noisy, emitting a peculiar croak which sounded like the grunting of a pig. As they made this sound their cheeks swelled up very large, growing smaller as they prolonged the cry. The young were very much inclined to fight and we could not handle them without receiving on our hands scratches and bites.

Phalacrocorax penicillatus. Brandt Cormorant. Common on all three islands, tho the only colony we found was on the southwestern extremity of South Island, containing twenty-two nests, three of which contained eggs; the others contained very small young. The cormorants were very tame and would not flush until we were right among them, but were rather shy about returning.

Pelecanus californicus. California Brown Pelican. During our stay we called on what we had supposed, the first morning at South Island, to be a colony of pelicans; it proved to be better than we expected, being a large colony of pelicans and cormorants combined. It was impossible to estimate the number of nests on the island, as they were very scattered and the island was steep and rugged. Several nests were found in which the eggs were so incubated that the young cried out from within their shells as they were handled, and a portion



TYPICAL NEST AND YOUNG OF CALIFORNIA
BROWN PELICAN

of the little bill protruded from the shell. The young are white when first hatcht, but change to grey as soon as their feathers grow. However, until nearly full grown, much of their nest down remains. We noted that their colors were somewhat nest stained. They were very noisy and attempted to bite us as we passed, shooting their long bills out at us in a very comical fashion, their bills clicking like castanets. After the young are about half grown they gather in flocks and keep close together, probably for protection from their enemies. A queer action was that whenever they were hungry or frightened they disgorged their latest meals, which the gulls were not slow in putting away. For this reason the odor of this colony was frightful.

We found interesting novelties every minute. The most unusual was a young pelican whose wings were lockt behind its back so it could not possibly fly and had great difficulty in getting around at all. I undid the lock and was rewarded with a sharp blow from the bird's bill which it shot out very swiftly—almost sug-

gestive of some human gratitude. The old birds were shy and we had quite a little difficulty in getting photos of them. We arranged it, however, by setting the camera on a nest with a rock to keep it down and pulling the shutter with a long thread. The picture in this article, in which there are several old pelicans, was taken in this way. We spent several days with this interesting colony of cormorants and pelicans, collecting and taking notes and photos, all of which was done with difficulty, as the hillside on which the colony was situated was very steep and slippery from the ice-plant.

Ardea herodias. Great Blue Heron. Several seen but none taken.

Heteractitis incanus. Wandering Tattler. Several seen on South and Middle Islands.

Arenaria melanocephala. Black Turnstone. Several seen on South Island; none taken.

Hæmatopus bachmani. Black Oyster-catcher. Four seen on Middle Island; only one taken.

Lophortyx californicus vallicola. Valley Quail. I went out on the first day and took two before I discovered that there were only about forty on South Island. These specimens are very faded and worn. These birds ought not be disturbed at all.

Falco peregrinus anatum. Duck Hawk. There were three pairs on South and Middle Island, but none taken.

Aeronantes melanoleucus. White-throated Swift. Quite a number on South Island.

Selasphorus alleni. Allen Hummingbird. A hummer which I took to be of this species, I found on South Island quite common.

Corvus corax sinuatus. American Raven. Several seen on South Island.

Melospiza coronatorum. Coronado Song Sparrow. For some reason these birds are very rare and exceedingly shy. I took none, as they kept out of range. We saw a few and heard some singing.

Carpodacus mexicanus clementis. San Clemente House Finch. Very common on all three islands. Their plumage is very light, the head of the males being pale yellow instead of red.

Helminthophila celata sordida. Dusky Warbler. Several old and young seen on South Island. I found one on the ground which was too young to fly; the parent birds were flying around evidently taking care of it.

Salpinctes obsoletus. Rock Wren. Very abundant on South Island, on the hill sides. One old nest found with an addled egg. It was near camp in a natural cavity in the cliff. The wren, for some reason, was going in and out of the cavity when we discovered the nest.

Pasadena, California.

FROM FIELD AND STUDY

Nest of the Western Meadowlark.—The nest of the Western Meadowlark (*Sturnella neglecta*) shown on the next page was discovered, one morning in May as I was riding the range on the Rancho San Geronimo, by my horse nearly stepping on it, frightening the poor owner so that she "looked not upon the order of her going" but fluttered away in great haste. It happened that her temporary domicile was so placed that a slight parting of the grass in front of it would allow the rays of the early morning sun to shine directly upon the eggs. This seemed

such a good opportunity to show the structure of the nest and the customary half-hood over it that the next day found me at the right hour on the spot with a camera, with the accompanying more or less unsatisfactory result. This nest was built in a cow track, faced toward the east, and was on a hill-side in such a way that the opening was up hill. In consequence of this the camera had to be more inclined even than if the ground were level, thus distorting the relative positions. But the structure and hood show fairly well. The photo was taken May 25, 1908, and the eggs were about fresh.—JOSEPH MAILLIARD, *San Francisco, California.*



NEST OF WESTERN MEADOWLARK, SAN GERONIMO,
MARIN COUNTY
Photo by J. Mailliard

Condors in a Flock—On October 1, 1908, about noon, I saw 18 Condors (*Gymnogyps californianus*) at one time at a point about 3 miles southwest of McKittrick, Kern County. In all of my work along the southeastern side of the Diablo and Tumbler ranges during the last two years I have seen but two or three Condors, and this flock of 18 certainly were a surprise to me. As soon as I saw them I laid down on top of a hill and while eating my lunch had an excellent opportunity of observing them. I had my no. 8 binoculars and was able to bring some of them in very close as they circled over me. It was a great sight and one that I will never forget, as the greatest number I ever saw at any one time before was a flock of four which I saw in 1896, I think it was, on my way to Bear Valley, above San Bernardino.—RALPH ARNOLD, *Washington, D. C.*

Scolecophagus carolinus in Colorado.—While returning from a short trip up the South Fork of the Platt River, from Littleton, Colorado, February 20, 1909, I had the good fortune of meeting with a small flock of blackbirds, resembling the Brewer. There were about eight in the flock, males and females. I shot one and attempted to secure more, but they were very wild and escaped. They were in thick cottonwood growth near the river. The weather was mild with no snow on the ground.

Later, the bird taken (a male) was identified by Mr. Horace G. Smith, as a Rusty Blackbird, *Scolecophagus carolinus*, a rare bird for Colorado. The skin is now in my collection.

According to Prof. W. W. Cooke (*Birds of Colorado*, page 95) there are but two other records for Colorado: a pair collected near Denver, December 17, 1883, by H. G. Smith, and one taken by Prof. Wm. Osborn at Loveland, in November, 1889. Note that all these are winter records.—GEORGE RICHARDS, *Littleton, Colorado.*

The Swamp Sparrow on the Lower Rio Grande.—From rush grass growing along the banks of the Rio Grande, near Brownsville, Texas, I flushed three or four birds of this species (*Melospiza georgiana*) on December 23, 1908. One bird being secured proved to be an adult male.

Whether or not the species has been taken previously this far south, I cannot say positively; but the most extreme record I find (for Texas) prior to this note, is near San Antonio.—AUSTIN PAUL SMITH, *Brownsville, Texas.*

The American Redstart in Southern California.—On December 27, 1905, while collecting on the shore of Keweenaw Lake, near Pasadena, California, I found an American Redstart (*Selophaga ruticilla*) female, dead among the tules under a cottonwood tree. As far as I have been able to learn, this is an unusual record for the bird. Upon the suggestion of Grinnell the specimen was sent to Robert Ridgway and was identified as of this species.—PINGREE I. OSBURN, Pasadena, California.

Ancient Murrelet at San Clemente.—During December, 1908, I secured several Ancient Murrelets (*Synthliboramphus antiquus*) about San Clemente Island. Oftentimes while "working" the coasts, I observed the remains of Ancient Murrelets and Cassin Auklets (*Ptychoramphus aleuticus*) among the other victims of the storms. The southern (winter) range of *Synthliboramphus antiquus* includes the entire group of Santa Barbara Islands.—C. B. LINTON, Long Beach, California.

The small American Crossbill in California.—This museum has recently acquired a California-taken crossbill, which is apparently identical with the eastern form—*Loxia curvirostra minor*. It is a ♂ adult (full red plumage, in color exactly like the average of eastern examples); no. 7199, Univ. Calif. Mus. Vert. Zool.; Nicasio, Marin Co., Calif.; Feb. 21, 1909; collected by Louise Kellogg. Measurements: wing, 79.7; tail, 51.7; tarsus, 14.8; culmen, 13.3; bill from nostril, 11.9; depth of bill, 7.9.

This is the first example I ever saw of this form from the State, the usual race being *L. c. bendirei* (or if this be not recognized, *L. c. stricklandi*). A specimen of the latter secured in the same locality, but at another time, has kindly been sent to me by Joseph Mailliard. It is a ♂ adult (full red plumage, but of lighter, pinker hue than in eastern birds); no. 5652, Coll. J. & J. W. Mailliard; Nicasio, Marin Co., Calif.; March 5, 1895. Measurements: wing, 96.2; tail, 63.8; tarsus, 16.6; culmen, 17.8; bill from nostril, 15.8; depth of bill, 10.1.

The great discrepancy in size between the two forms, as shown by the above measurements, is not bridged over by variations in the material at hand. One other example from California referable to *minor* has just come to light (no. 5654, ♂, Coll. J. & J. W. M.). This is very like no. 7199, tho a trifle larger. It seems probable that the small form is merely an irregular winter visitant to the State, in the same role as east of the Rockies. Certainly the resident and breeding bird is always the larger race, judging from many summer birds from various parts of the transition and boreal zones in California.—J. GRINNELL, University of California, Berkeley, California.

Winter Notes from Clipper Gap, Placer County.—*Sturnella neglecta*. The Western Meadowlark has appeared in large numbers the past winter, feeding almost entirely in grain fields. I have heard complaints on all sides as to the damage done by this bird this winter.

Carpodacus purpureus californicus. The purple finch takes the place, to some extent, of the house finch here during the winter months, and this year is more common than usual. I have never found the purple finch breeding here, tho it is reported at Colfax in summer.

Carpodacus cassini. Cassin Purple Finch. Not often noted here; but common during two weeks of cold weather in December, 1908.

Loxia curvirostra bendirei. I took my first crossbill at this elevation (1750 feet) December 16, during a severe snowstorm. A flock of six was noted.

Chondestes grammacus strigatus. Western Lark Sparrow. Feb. 15, I noted a flock of seven of these birds, the earliest spring record I have.

Ixoreus naevius meruloides. The Varied Thrush and Sierra Junco (*J. h. thurberi*) are unusually numerous this winter. The thrush is all over our hills, while commonly restricted to small numbers in the deeper canyons.

Merula migratoria propinqua. Western Robin. Only two or three seen up to January; later they have become more common, tho far below their usual numbers.—E. ADAMS, Clipper Gap, Placer County, California.

Behavior of a Young Rivoli Hummingbird.—During the early part of July, 1908, three young relatives of mine, while camped in Ramsey Canyon, of the Huachuca Mountains, Arizona, had an interesting experience with a young Rivoli Hummingbird (*Eugenes fulgens*) and its mother.

After a heavy rain one afternoon, they noticed a large hummingbird flying about as tho much excited and on investigating found a half fledged and half drowned young one lying on the ground near the creek.

One of the girls picked it up and warmed it in her hands. It soon revived and was fed with honey on the end of a toothpick. The honey was pushed well down its throat and was evidently quite appreciated. To make it open its bill they would tickle it on the corner of

its mouth. It spent the night in some cotton and a handkerchief arranged as a nest in a candy box lid.

Early the next morning they were awakened by the buzzing of wings and found that the mother bird had found her young one and was investigating its condition and surroundings, coming into their sleeping quarters to do so.

On this day she fed it at intervals, perching on the edge of the box lid while doing so. On the next day they were holding it in their hands and feeding it honey when the mother arrived. She was quite puzzled as to what to do, but after some few seconds' hesitation alighted on the tip of the fingers of the hand which held the youngster, and fed it. Afterward she buzzed close to it and pushed it, apparently trying to coax it to fly and being quite vexed because it would not try.

The slightest movement was enough to startle the old bird, but she would return in a moment and alight on the hand which held the young one. The young people held it thus for a couple of hours during which time the scene described was repeated several times.

While the mother bird was away gathering food, the youngster would buzz its wings trying to fly but would not make the endeavor when its mother was present. All three of the people took turns holding it and the mother alighted on their hands without hesitation after her first experience.

They kept the bird for four days in the house. Its plumage, which had been very scant at first, rapidly spread. When found, there were only pinfeathers in the tail and on the neck, back and breast. At the end of four days the bare portions were pretty well covered and the bird could fly a few feet. They then put it out doors and for two days kept close track of it as it flew from one twig to another near by. The feathers seemed very nearly all developed by this time. It could fly well and was seen for several days in the vicinity with its mother. One of the astonishing features was the rapidity with which the feathers burst out.

A weak squeak was its only note, uttered at short intervals, except when its mother arrived when it chipped quite energetically.

Unfortunately, there was no camera present to record these interesting events, which at best can be poorly reported in words.—F. C. WILLARD, *Tombstone, Arizona.*

The Derby Flycatcher (*Pitangus derbianus*) a permanent Resident Within our Boundaries.—Written of as "rather a rare summer visitor in the lower Rio Grande Valley in Texas" in Bailey's Handbook of Birds of the Western United States, we must now alter this statement, and call it a permanent resident, in moderate numbers.

On January 5, 1909, while hunting some four miles up the river from Brownsville, and having entered a dense growth composed largely of the so-called Ebony (*Siderocarpus flexicaulis*) my attention was directed to a water hole, of some forty feet diameter, by the calls of Green Jays (*Xanthoura luxuosa glaucescens*). Upon approaching, a great clatter commenced, which I attributed to the Jays. Perceiving a motion in the brush at the edge of the hole, and without any clear view of a bird, I fired. The victim was a Derby Flycatcher, and it had been co-participant with the Jays in the great uproar. Later I discerned the more usual notes of another Derby, in the same brush, but owing to the density of the particular portion of the scrub in which this individual held forth, pursuit was impracticable. The water hole, about which these flycatchers and various other birds gathered, was garnished with many insects, both dead and alive, which suggest its avian attractions.

Two more of this species were secured on February 10, in the same locality, and likewise in dense scrub, where I was attracted to them by their harsh and persistent notes. However, the Derby Flycatcher keeps so well within growth of this character, both here and in Mexico, that many examples of it might occur in a single locality, and yet comparatively few be noted.—AUSTIN PAUL SMITH, *Brownsville, Texas.*

Flicker Feathers.—Among the curios of the Pacific Coast Indians in the museum in Golden Gate Park, San Francisco, California, is an ornament in the shape of a thin flat belt, six or eight feet long—probably worn over the head—composed entirely, or nearly so, of the tail feathers (rectrices) of flickers (*Colaptes*). The feathers are so placed that the quills are toward the center, the butts overlapping each other, the ends of the feathers being evenly arranged toward the outside, all same side uppermost, and fastened together with fine twine. This ornament must represent a large number of birds and is unique under any circumstances. But one of the most interesting things about it is the fact that every once in a while—say from one to two feet apart—the rectrices of a cross-bred flicker (*cafer* + *auratus*) appear. It seems as if the tails of the birds must have been added as they were killed, for the more or less golden quills of the cross-bred birds appear in bunches of ten or twelve, making distinct breaks in the color scheme, while if the feathers had been indiscriminately mixed before being fastened in the belt these golden shafts would hardly be noticeable. This ornament is locked in a glass case, lying topside uppermost, as it were, and I had no opportunity to examine the underside where the gilding of the feathers would have been much more distinct.—JOSEPH MAILLIARD, *San Francisco, California.*

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EDITORIAL NOTES AND NEWS

The lay bird-student might be lead to believe from the trend of current comment that observations on the habits of birds, unaccompanied by photographs, are now-a-days scarcely considered worthy of publication. This is certainly far from true. We even suspect that articles of an inferior value from both a scientific and literary standpoint sometimes appear in print chiefly because striking photographs are furnished with them. We would not for a moment discourage anyone from the pursuit of bird photography. But we wish to emphasize here that the day is not likely to come when carefully written descriptive essays based upon conscientious and accurate observation will cease to be of much more scientific value than the usual run of illustrations. The manipulation of the camera may even absorb the attention of the operator, and result in his overlooking traits of behavior of the subject, which would be detected by the intent and undistracted observer. Descriptive articles without illustrations (as well as with) are solicited for publication in THE CONDOR.

Correspondents in *Bird-Lore* relative to the cat-question seem to be agreed on the point that cats in general are inimical to bird-life, tho there are instances in which felines have proved quite harmless. We are no more sure of anything than that house-cats (that is "pets"), as well as those "gone wild", cause an

immense mortality among birds, especially in the nesting season. The nature of "tabby" away from home, seems wholly altered. She is shy, alert and blood-thirsty. We will confess to having shot many a cat on our home place in Pasadena, caught in the act of destroying nestlings or immediately after killing a bird, which report subsequently affirmed to have been the cherisht pet of a neighboring household. We are ungracious enough to admit of our joy in having ended the careers of these cats. "Cherisht pets" of a murderous nature should be kept at home. The Audubon Societies could probably pursue a no more effective line of work than the propagation of sentiment against domestic cats, followed up by measures to secure their extermination along with Cooper and Sharp-shinned Hawks.

A party of Cooper Club members left San Pedro on March 26 on Jack London's boat, "The Snark," to cruise among the islands south along the Mexican Coast. Virgil W. Owen, Chester Lamb and Pingree I. Osburn compose the party, and their purpose is to collect reptiles (alive and in alcohol), insects, birds, mammals, and whatever else of interest to the naturalist they may find. The return of the expedition is expected during the latter part of May. It is said that most of the material they get will go to an Eastern museum.

The last of December, 1908, the young bird of the year belonging to the pair of Condors which have their home in the mountains near Pasadena, was shot by a former constable, Samuel L. Wallis. An attempt was made to sell the bird, resulting in this information getting out of its intended channel. Thru the efforts of Cooper Club members and the commendable activity of Game Warden Morgan of Los Angeles, evidence was secured, Wallis was brought to trial, and a conviction was obtained. But the Justice, in passing sentence, neglected to give an alternative of a jail term if the fine (\$50) were not paid; and so, because of the technicality, Wallis smiled and paid not. Now, however, he has been made deputy county assessor; and the Game Warden has discovered another technicality which balances the first: Wallis's pay is garnisheed and out of his first month's salary comes the \$50! The notoriety of this case has become so wide, that it is believed that anyone else possess of the notion that protected birds may be illegally killed with impunity will hesitate long. The bird killed by Wallis was confiscated and forwarded to the State Museum. No permits are issued by the State Game Commission for the taking of Condors by anyone for any purpose whatsoever. The pair of adult birds, to which last year's young one belonged, were, as far as can be ascertained, uninjured, and it is to be hoped that this year's youngster will reach maturity safely. The aerie has been kept a secret by certain Cooper Club members for several years, and every effort made to secure its protection. It was here that Finley and Bohlman made their photographic studies.

J. R. Pemberton and H. W. Carriger are spending the last two weeks of May looking into the ornithology of the mountains back of Kings City.

"Bird News" is the title of a new bird journal edited by Dr. F. W. D'Evelyn from offices at 717 Market Street, San Francisco. Volume I, nos. 1 and 2, January-February and March-April, 1909, are at hand, and show many points of interest. As this is the first magazine to occupy its field (aviculture) in America, there seems no reason why it should not thrive apace. We wish it and its genial editor every success. Those of our readers interested in birds as pets should invest 75 cents in a year's subscription to "Bird News."

The Museum of Vertebrate Zoology of the University of California is represented in the field by the following parties: Harry S. Swarth and Allen E. Hasselborg left Juneau, Alaska, on April 8, in a power boat with convenient equipment, to work the series of islands along the southeastern Alaskan coast between Frederick Sound and Dixon Entrance. Six months will be consumed in this trip, which is known as the 1909 Alexander Expedition. Frank Stephens and assistant left San Diego March 1, and are working in the Colorado Desert. Later they will travel by team slowly north into the southern San Joaquin country, where they will work until the last of October. Miss Annie M. Alexander, with Miss Louise Kellogg, Walter P. Taylor and Charles H. Richardson, has begun a three month's investigation of the fauna of the Virgin Valley region of northern Nevada. This area is probably one of the least known parts of the West from a zoological standpoint, and collections of mammals, birds, and reptiles from there together with the accompanying field-notes are expected to furnish results of exceptional interest.

President William L. Finley, of the Oregon Audubon Society, is active in securing the enforcement of bird laws in his State. His latest coup is the seizure of a great quantity of aigrettes illegally in the possession of some nine millinery dealers of Portland. Arrests were also made, the outcome of which was at last accounts sure to be in favor of the bird-protectors. The particular point in view in the present instance is the stoppage of the destruction of the native Egrets of eastern Oregon, a most worthy cause.

The following courses will be offered in the Summer Session of the University of California, at Berkeley, June 21 to July 31, 1909:

1. The Birds, Mammals, and Reptiles of California.

A course designed to acquaint the student with our common terrestrial vertebrates, and thus of value to teachers of zoology and nature-study. How to identify birds, mammals, and reptiles; their habits and life-histories; beneficial and injurious species; the songs of birds; migration; geographical distribution and variation as exhibited in the fauna of California; preservation of specimens, and the care and use of a school museum. Lectures, laboratory work, and field trips. 2 units.

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The lectures are to be given by J. Grinnell in the Research Room of the Museum of Vertebrate Zoology.

As a result of the April meeting of the A. O. U. Committee on Nomenclature, which cleaned up a large number of pending cases, the manuscript for the new Check-List is now practically finished. We have it from an authoritative source that there will be no further delay, and that the printing will begin very shortly.

Steps are being taken towards the founding of a new scientific organization with headquarters in San Francisco and to be known as the California Zoological Society. Its chief purpose will be the establishment at a generally accessible locality in the San Francisco Bay region of a zoological park in which a representation of the animals of Western North America in particular may be maintained as nearly as possible under natural conditions. The following are some of the names identified with the movement: J. C. Merriam, D. S. Jordan, W. E. Ritter, W. K. Fisher, J. Grinnell, F. W. D'Evelyn, C. A. Vogelsang.

Judging from galley-proofs we have been privileged to examine, R. C. McGregor's Manual of Philippine Birds will be an extremely creditable work. It is to be issued in two parts, the first part being now nearly ready to distribute. The subject matter includes keys, synonymies, distributions and full descriptions of all known species of Philippine birds.

Dr. W. K. Fisher will again this year conduct his popular summer camp for boys near Lake Tahoe. The members go on pack-trips, fishing, deer hunting and mountain climbing,

the camp thus furnishing a healthful vacation recreation full of the intensest of a boy's pleasures.

CORRESPONDENCE

Editor THE CONDOR:—

Will you permit me to lay aside, for the time being, any connection with THE CONDOR it may be my privilege to claim, and to address you simply as a Cooper Club member and reader of this magazine.

Owing to the fact that something over a page of valuable space in the last number of THE CONDOR was devoted to criticism of my statements, and that at least a part of it was not based upon facts, I feel that in justice to myself it is necessary to answer these strictures, much as I dislike to burden yourself and CONDOR readers with a useless argument.

Judge Henderson begins by calling attention to "several erroneous citations" which, when boiled down, are found to number just three, in one of which Judge Henderson is entirely at fault, and in the remaining two his criticism is so far fetched as to be purely a matter of personal opinion. He follows this with an outline of "The Early Western Surveys," with which most of us became familiar about the time we were learning how to use an identification key.

Now I do not intend to enter into a discussion of the merits of Henderson's criticism, because it is not of sufficient importance. I wish, however, to quote my authority for my use of the phrases "a United States Geological Survey bulletin" and "United States Geological Survey reports", using a small "b" and "r" in "bulletin" and "report" respectively. In W. W. Cooke's "Birds of Colorado," State Agricultural College, Agricultural Experiment Station, Bulletin No. 37, page 27, will be found my authority for the first phrase; and on page 31 will be found my authority for the second phrase. At the time I used these phrases I considered them accurate enough *for the use to which I put them*. Since that time I have not changed my mind, and under date of April 8, 1909, Prof. Cooke himself writes me that he is of the same opinion.

Had Judge Henderson taken the trouble to look up the date of the first publication of Ridway's "Maxwell's Colorado Museum" instead of guessing at it, he would have saved himself from making the very error that he accuses me of making. Notwithstanding his statement to the contrary, this list was first published in 1877 in "Field and Forest," and my authority for this statement will be found in Cooke's "Birds of Colorado" on page 45, which is corroborated by Prof. Cooke in his letter of April 8th mentioned above.

Only one objection can be made to Prof. Felger's statements and that is that the facts are not as he has stated them. The Rocky Mountain Pine Grosbeak record *is not* Prof. Felger's record any more than it is mine, and his statement that the bird was taken by him and *subsequently* shown to me is also incorrect. As a matter of fact, at the time the record in question was made Prof. Felger was *my guest* and *he was with me* at the time the bird was taken. Whether he or I happened to kill the bird does not affect the ownership of the record in the least. His statement that the bird was taken July 8th instead of July 3rd, as stated in my Mesa County List, carries very little weight in the absence of proof. My notes are plain on this particular point, and I shall require more than Felger's unsupported statement to the contrary to induce me to recognize his alleged correction. Even admitting that he is correct, for the sake of argument, the spirit which prompted the publication of such a correction is too apparent to call for any remarks.

Now, in conclusion, I wish to state that I at all times welcome criticism and corrections of my work, when it is offered in a friendly spirit and is sincere, and I am continually asking for criticism and advice from those Ornithological friends whom I consider *competent to criticize*, but when one or more persons resort to the columns of a standard magazine as a means of discrediting me before its readers, for the satisfaction of a personal grudge, I feel that it is my privilege and my duty to myself to answer such attacks.

Very truly yours,
ROBT. B. ROCKWELL.

PUBLICATIONS REVIEWED

The THIRD EDITION of BAILEY'S 'HANDBOOK OF BIRDS OF THE WESTERN UNITED STATES' ¹ appeared early in the year and attests to the popularity of the work. It remains our only good local text-book of birds, and we hope that further editions will be warranted in the not distant future.

The third edition of the "Handbook" presents no decided alterations as compared with the first and second. However, all errors discovered have been corrected, many of the photographs of bird-skins have been replaced with drawings, and the forms of *Astragalinus* have been revised in the text to accord with the late rulings of the A. O. U. Committee.—J. G.

BIRDS AND MAMMALS OF THE 1907 ALEXANDER EXPEDITION TO SOUTHEASTERN ALASKA. By JOSEPH GRINNELL, EDMUND HELLER, FRANK STEPHENS, and JOSEPH DIXON. Univ.

¹ Houghton Mifflin Company, Boston; \$3.50.

of Calif. Pub., Zool., V, pp. 171-264: Feb. 18, 1909.

As the first published result of the work of the new University of California Museum of Vertebrate Zoology, under the patronage of Miss Annie M. Alexander, this paper is of special interest. The list of birds is by Joseph Grinnell, who has incorporated, with his own critical notes, the field observations of the collectors, Joseph Dixon, Chase Littlejohn and Frank Stephens. Edmund Heller treats of the mammals and Dixon and Stephens describe the localities visited. The usefulness of the report is further enhanced by a map and several half-tone illustrations from photographs by Miss Alexander. The localities covered include Admiralty, Baranof, and Chichagof islands, Glacier Bay, and several other mainland points, all in the heart of the faunal district known as Sitkan. This interesting region has been explored zoologically but little, although it is in the most accessible part of Alaska and from its position and climatic peculiarities exceedingly attractive.

Ninety-nine species and subspecies of birds are annotated, eighty-one represented in the collection of 532 specimens, and six characterized as new, as follows: *Lagopus alexandrae*, *Lagopus dixoni*, *Buteo borealis alascensis*, *Picoides americanus fumipectus*, *Loxia curvirostra sitkensis*, and *Planesticus migratorius caurinus*. It is doubtful, in these latter days, if a similar expedition to any other part of extra-tropical America could have secured so many ornithological novelties so well characterized as these appear to be.

The field observations relate principally to abundance, food and nesting, and descriptions of the eggs of a number of species are given. The Kittlitz murrelet was found in great abundance in Glacier Bay. The golden-crowned sparrow, curiously, was not observed as a breeder, although it certainly is such at White Pass and at Yakutat in the same general region. The gadwall is recorded for the first time from Alaska, but unfortunately in common with records of several other species this is only "according to Littlejohn's notebook," as specimens were not secured. The cormorant of the region is referred to *Phalacrocorax pelagicus*, the supposed subspecies *robustus* being discredited. The duck hawk, likewise, is referred to *Falco p. anatum*, the specimens secured failing to exhibit the characters of *pealei*. A small series of savanna sparrows is consigned to *Passerculus s. savanna*, which therefore is regarded as having an interrupted range. The questionable subspecies *Dendroica c. hooveri* and *Hirundo e. palmeri* are recognized and the names *Melospiza l. gracilis* and *Sphyrapicus ruber* are used for the northwest coast forms of the Lincoln finch and the red-breasted sapsucker respectively. The treat-

ment of subspecific forms and nomenclatorial questions is rather noticeably at issue with decisions of the A. O. U. Committee on Nomenclature and Classification. This could not possibly be open to objection if sufficient evidence were presented to make it at all likely that the Committee would regard the cases as subject to reconsideration. The reviewer is inclined to the belief that several of these points in this paper are well taken but ventures to suggest that if authors would calmly accept defeat in preliminary skirmishes and bide their time until accumulation of evidence made it possible for them to return in a veritable onslaught, there might be at least uniformity during the interim and we would be spared dribbling protests.—WILFRED H. OSGOOD.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

JANUARY.—A called meeting of the Cooper Ornithological Club was held in the parlors of the Hotel Merritt, Oakland, on the evening of January 20, with nine members present and Mr. Ernest Mailliard as a visitor.

The minutes of the previous meeting were read, and approved as read.

Applications for membership were presented as follows: John Rowley, Palo Alto, Cal., by J. Grinnell; H. H. Kimball, Fresno, Cal., by W. Lee Chambers; Jesse T. Craven, Detroit, Mich., by W. Lee Chambers; Walter B. Barrows, East Lansing, Mich., by W. Lee Chambers; R. A. Bennett, San Francisco, Cal., by W. Lee Chambers; L. J. Hersey, Denver, Colo., by W. Lee Chambers; J. Warren Jacobs, Waynesburg, Pa., by J. E. Law.

Mr. Grinnell stated that he had received a letter from Dr. Palmer in which it was announced that the Island of Laysan had been set aside by the Government as a Federal Reserve.

A statement from Mr. Hunter showing the receipts and disbursements during his term of office was read and the Secretary was instructed to write Mr. Hunter thanking him for a very liberal donation made by him to the Club.

The resignations of C. F. Palmer and H. O. Jenkins were read and on motion accepted.

The resignation of Miss J. Newsom was read, but as the Treasurer reported that there were some back dues unpaid the resignation was laid over and the Secretary instructed to write.

The report of the Executive Committee, and also a copy of the proposed new constitution, were read. The latter did not meet with the approval of the members present and was referred back to the Committee with instructions to confer with a like committee from the Southern Division.

The Executive Committee's report was discussed by those present and placed on the table. Adjourned.

H. W. CARRIGER, *Secretary*.

FEBRUARY.—The February meeting of the Club was held on the evening of the 20th at the home of J. R. Pemberton, 846 Bryant Street, Palo Alto. In the absence of the President the meeting was called to order at 8:15 P. M. by Dr. W. K. Fisher, Sr. Vice-President.

The following members were present: Dr. W. K. Fisher, J. Mailliard, Weymouth, Dixon, Richardson, Pemberton, W. P. Taylor and Carriger. Mr. Rich was present as a visitor.

The regular order of business was changed and the papers were presented first.

Mr. Pemberton read a paper on the nesting of the Rufous-crowned Sparrow and exhibited a set of three eggs and the parent bird.

Mr. W. P. Taylor presented a paper on a hybrid hummer and showed the bird recently taken; also the skins of the Allen and Anna from which it is supposed to spring. Both these papers will appear in print at some future date.

Mr. Pemberton gave a short talk on a trip he and Mr. Carriger took to Pyffe in May and showed several interesting photos taken on the trip.

The regular order of business was now taken up and the minutes of the last meeting were read and accepted.

Applications for membership were presented as follows: Dr. J. C. Hawver, Auburn, Cal., by Mr. E. Adams; Ned Dearborn, Chicago, Ill., by Mr. H. S. Swarth; R. Park Harris, Renton, Wash., by Mr. A. M. Ingersoll; Frank L. Burns, Berwyn, Pa., by W. Lee Chambers; Ed. R. Warren, Colo. Springs, by W. Lee Chambers; W. L. Sclater, Colo. Springs, Colo., by W. Lee Chambers; H. H. Hann, Mt. Hood, Ore., by W. Lee Chambers; Benj. F. Howell, Jr., Troy Hills, N. Y., by W. Lee Chambers; J. H. Riley, Wash., D. C., by W. Lee Chambers; E. B. Richards, Grass Valley, Cal., by W. Lee Chambers; R. L. Jesse, Philo, Ill., by W. Lee Chambers; John T. Nichols, New York City, N. Y., by W. Lee Chambers; Thos. S. Roberts, Minneapolis, by W. Lee Chambers; A. A. Saunders, Bozeman, Mont., by W. Lee Chambers; J. Henderson, Boulder, Colo., by W. Lee Chambers; Mrs. H. B. Wheelock, Evanston, Ill., by W. Lee Chambers; C. O. Whitman, Chicago, Ill., by W. Lee Chambers; Louis S. Kohler, Bloomfield, N. J., by W. Lee Chambers; H. K. Pomeroy, Kalamazoo, Mich., by W. Lee Chambers; C. Bradley Isham, New York City, by W. Lee Chambers; Philo W. Smith, Eureka Springs, Ark., by W. Lee Chambers; A. Wetmore, Lawrence, Kas., by W. Lee Chambers; W. E. Saunders, London, Ont., by W. Lee Chambers; D. D. Stone,

Oswego, N. Y., by W. Lee Chambers; Al. G. Ulrich, St. Louis, by W. Lee Chambers.

On motion duly carried the Secretary was instructed to cast the ballot for the following: John Rowley, H. H. Kimball, J. T. Craven, W. B. Barrows, R. H. Bennett, L. J. Hersey, and Mr. E. Mailliard.

Motion was made and carried that the Club extend to Mr. Lee Chambers its heartiest thanks for work done in bringing in new members.

The resignation of Dr. F. W. D'Evelyn as President of the Club was read and on motion duly carried; the same was accepted with great reluctance.

The resignation of Mr. Silloway of Montana was presented and on motion was accepted.

The following amendment to the Constitution was presented and carried by the Northern Division:

Moved to amend Article XII, by addition of section 4. In case it is deemed inadvisable for the Club to maintain the Library all publications may be disposed of at the pleasure of the Club. Amendment carried by the Northern Division.

Motion was made and carried that the sundry books, pamphlets and magazines which are now in the possession of the Cooper Ornithological Club (both donated books and CONDOR exchanges), except Belding's manuscript Water Birds of the Pacific District, be sold to the highest bidder and the money turned over to the treasurer.

Motion was made and carried that the sale be conducted by the Secretary.

The following resolution was unanimously carried. Resolved: That the Cooper Ornithological Club extend to Dr. F. W. D'Evelyn its heartiest appreciation of his continued efforts in furthering the interests of the Club and especially for his able services as President of the Society.

The following written motion was presented and signed by all present: We the undersigned, take pleasure in proposing the name of Dr. C. Hart Merriam, Chief of the U. S. Biological Survey of Washington, D. C., for honorary membership in the Cooper Ornithological Club.

There being a vacancy in the President's chair Dr. W. K. Fisher, having resigned from the Sr. Vice-President's chair, was nominated for President and unanimously elected.

Mr. W. P. Taylor was nominated and unanimously elected as Sr. Vice-President.

The business being over the Club on motion adjourned and retired to the banquet room where a sumptuous repast was served, and it was long after midnight before the members separated and all voted it as one of the best meetings held for a long time.

H. W. CARRIGER, *Secretary*.

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Volume XI

July-August, 1909

Number 4



W.K.F.

COOPER ORNITHOLOGICAL CLUB

Smithsonian Institution
JUL 20 1909

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July-August 1909

Number 4

AN ANNOTATED LIST OF THE BIRDS OF THE BARR LAKE DISTRICT, ADAMS COUNTY, COLORADO*

By L. J. HERSHEY and ROBERT B. ROCKWELL.

WITH SIX PHOTOS BY THE AUTHORS

IN submitting the following annotated list of the birds of the Barr Lake district, the writers fully realize that it is not a complete list of the species which occur in that section. There have been omitted a number of species that without reasonable doubt occur there, because of lack of absolute identification. Most of the birds included in the list have been taken and identified, and the few that have been included without specimens being taken are birds of positive identification-marks like the Lark Bunting and Black-necked Stilt, not easy to mistake.

For want of natural boundaries, the "Barr Lake district" as here treated, is a circular area fifteen miles in diameter, with the station of Barr as a center. This area is located in Adams County, nineteen miles northeast of Denver, in typical prairie country, and twenty-seven miles east of the foothills of the Rocky Mountains and at an altitude of about 5100 feet. The chain of lakes which furnishes the material for this list is almost entirely artificial, the two large lakes (which, combined, cover an area of about eleven hundred acres) being artificial irrigation reservoirs, and the long chain of lakes or ponds below, being caused by seepage from the main reservoirs. The scope of this list has been arbitrarily determined, and of sufficient size to include a portion of the valley of the South Platte River, the principal stream of northeastern Colorado, and a portion of Box Elder Creek, a typical prairie stream, draining the territory east and south of Barr, and emptying into the Platte.

This we did to enable us to include in our list several species of birds, typical of wooded areas and not found in treeless sections, as for example the Rocky Mountain Screech Owl and the Brown Thrasher.

The point of greatest interest in this list, to the bird student, will perhaps be the avifaunal changes that have taken place as the result of changed environmental conditions. Twenty-one years ago this entire district was covered with sage-brush, cactus and gramma grass, and was good hunting ground for antelope. Probably

* An advance print of 100 copies of this article under special cover was issued from Santa Clara, June 28, 1909.

not two dozen species of birds could have been recorded in the district. The following year water was brought into the district and with the water came birds. Today there is a string of lakes, ponds and marshes, covered with tules, cat-tails, and other vegetation common to such locations, fourteen miles in length, and from one-half to one and one-half miles in width. This forms an ideal summer home for a large number and variety of water birds. Cottonwood groves have been planted and have grown to good-sized trees. Cottonwoods and willows have sprung up along the shores of the lakes, furnishing nesting sites for many species of perching birds. The surrounding country is under cultivation, furnishing abundant food for the seed-eaters. The lakes are teeming with fish and many other forms of aquatic life, and the swamps and marshes are rich in insect life. These varying environmental conditions, together with the well-wooded valley of the Platte on the west, Box Elder Creek on the east, and the vast, dry, rolling prairie stretching away on all sides, furnish a field for bird study almost ideal in every particular.*

It has been our purpose to make this list as brief as possible, especially with reference to the common birds whose status is well established, but to include in it any facts which in our opinion would add to the present knowledge of our subject. We have endeavored to have the nomenclature conform to the latest published rulings of the Committee on Nomenclature of the A. O. U.

Colymbus auritus. Horned Grebe. "Two birds were seen on a small lake northeast of Barr, May 5, 1906. There is no question regarding their identity." (Hersey)

Colymbus nigricollis californicus. American Eared Grebe. Summer resident, common. Nests commonly during May and June, but not as plentifully as the succeeding species.

Podilymbus podiceps. Pied-billed Grebe. Summer resident, very common. Nests abundantly thruout May, June and early July.

Gavia immer. Common Loon. Not uncommon in migration.

Larus argentatus. Herring Gull. "Not uncommon during fall migration." (Hersey)

Larus delawarensis. Ring-billed Gull. This gull, altho resident at Barr having been recorded every month in the year, has not been found nesting. A flock of about 100 birds spend the entire summer on Barr Lake, but a careful search has failed to reveal a nest, and the birds exhibit no signs of nesting.

Larus franklinii. Franklin Gull. "One bird seen October 17, 1907, in a flock of Ring-billed Gulls (*L. delawarensis*).'" (Hersey)

Larus philadelphia. Bonaparte Gull. "One was killed on Barr Lake during the fall of 1907, but was not preserved." (Hersey)

Xema sabinii. Sabine Gull. Four birds were taken at Barr by Hersey on the following dates: One on September 3, two on October 3, and one on October 31, 1908.

Sterna forsteri. Forster Tern. Summer resident, common. Occurs in greater numbers and breeds more abundantly than the Black Tern. A colony of about 100 breeding birds nest regularly on a small lake northeast of Barr. The breeding season lasts from May 15th to July 1st.

Hydrochelidon nigra surinamensis. Black Tern. Summer resident; common. Nests regularly, tho not more than three nests have been found by us in close proximity.

*This list is to be followed by a table of dates of migration recorded for the Barr Lake district.

Pelecanus erythrorhynchos. American White Pelican. Not uncommon in migration. Summer resident of somewhat erratic occurrence. Has been noted at Barr thruout the summer, but has not been found nesting.

Mergus americanus. American Merganser. Winter resident, common. Common in migration.

Mergus serrator. Red-breasted Merganser. Winter resident, not uncommon. Common in migration.

Lophodytes cucullatus. Hooded Merganser. Winter resident, not uncommon.

Anas platyrhynchos. Mallard. Resident, abundant. More common in winter than in summer, altho it is plentiful thruout the nesting season.

Anas fulvigula maculosa. Mottled Duck. "Several of these birds have been



NEST AND EGGS OF FORSTER TERN

killed at Barr during the past fifteen years." (Hersey)

Chaulelasmus streperus. Gadwall. Summer resident, not uncommon. Abundant in migration. A few birds remain thruout the winter.

Mareca americana. Baldpate. Summer resident, not as common as *C. streperus*. Plentiful during migration.

Nettion carolinensis. Green-winged Teal. Resident. Abundant during migration; common during the nesting season and not uncommon during the winter.

Querquedula discors. Blue-winged Teal. Summer resident, abundant. By far the most abundant breeding duck. *Discors* and *cyanoptera* are the last of the migrating ducks to arrive in the spring and the first to leave in the fall.

Querquedula cyanoptera. Cinnamon Teal. Summer resident, common. A common breeder, but not so plentiful in numbers as *discors*.

Spatula clypeata. Shoveller; Spoonbill. Summer resident, common. Abundant in migration. Our observations lead us to infer that it does not nest in as large numbers at Barr as most of the common ducks, altho judging from the number of birds seen it is fully as common as the other species.

Dafila acuta. Pintail. Resident. With the exception of the teal the most abundant breeder at Barr. A few birds remain thruout the winter, and the first spring migrants from the south are usually Pintails.

Aix sponsa. Wood Duck. "I took two of these birds two miles west of Barr Lake during the fall of 1889." (Hersey)



NEST AND EGGS OF CINNAMON TEAL

Marila americana. Redhead. Summer resident, not uncommon. Abundant in migration, and more especially so during the spring movement. Nests in some numbers.

Marila vallisneria. Canvasback. Summer resident, not common. Common during migration, especially during the spring movement. Breeds sparingly.

Marila marila. American Scaup Duck. Migratory; rare.

Marila affinis. Lesser Scaup Duck. Abundant during spring migration. A few nest at Barr.

Marila collaris. Ring-necked Duck. "I have never taken this species at Barr, but it undoubtedly occurs there at times, during migration." (Hersey)

Clangula clangula americana. American Golden-eye. Winter resident, not uncommon. Common during migration.

Clangula islandica. Barrow Golden-eye. Winter resident, not common. Not uncommon during migration.

Charitonetta albeola. Bufflehead. Common in migration.

Oidemia americana. American Scoter. Migratory, rare. "Has been taken at Barr." (Hersey)

Oidemia deglandi. White-winged Scoter. Migratory, rare. "One was shot on Barr Lake near Denver, November 2, 1898, and reported by Mr. Fenton." (Cooke's Birds of Colorado, 2nd App.)

Oidemia perspicillata. Surf Scoter. Migratory, rare. "On October 22,



NEST AND EGGS OF REDHEAD

1899, Mr. L. B. Meek shot a fine male at Barr Lake, near Denver. The female was with it but was not secured. Three other specimens were known at the same place within the next week." (Cooke's Birds of Colorado, 2nd App., p. 196.)

Erismatura jamaicensis. Ruddy Duck. Summer resident, common. Nests rather commonly. Many nests of other species of ducks were found to contain eggs of the Ruddy.

Chen hyperborea. Lesser Snow Goose. Migratory, not common. A few are seen every spring and occasionally in the fall.

Chen hyperborea nivalis. Greater Snow Goose. Migratory, rare. Three birds were seen by Hersey on October 17, 1908.

Anser albifrons gambeli. American White-fronted Goose. Migratory, not common. "Has been taken occasionally at Barr." (Hersey)

Branta canadensis. Canada Goose. Winter resident, common. Common during migration.

Branta canadensis hutchinsii. Hutchins Goose. Not as plentiful as formerly. A flock of seven birds wintered at Barr during the winter of 1908-09 in company with a large flock of *B. canadensis*.

Branta canadensis minima. Cackling Goose. Rare. "Only one bird observed in twelve years." (Hersey)

Olor columbianus. Whistling Swan. Migratory, not common.

Olor buccinator. Trumpeter Swan. Migratory, not uncommon. "More plentiful during migration than formerly." (Hersey)

Plegadis autumnalis. Glossy Ibis. Rare. There is one in the Hersey collection taken in June, 1905.

Plegadis guarauna. White-faced Glossy Ibis. Summer resident. Two birds were seen at Barr on the following dates: May 25, 30 and 31, 1907, and April 4, June 13, 18 and 21, 1908. While these dates would seem to indicate that the birds nested at Barr, we were unable to detect any evidences of breeding. "Two specimens were shot on Barr Lake, near Denver, October 3, 1898." (Cooke's Birds of Colorado, 2nd App., p. 197.)

Botaurus lentiginosus. American Bittern. Summer resident, very common. Breeds in some numbers.

Ardea herodias. Great Blue Heron. Summer resident, abundant. The birds that feed regularly at the Barr lakes nest in a grove of tall trees on the Platte River about eight miles west and south of Barr. The colony in 1908 was composed of about 100 pairs each of Great Blue and Black-crowned Night Herons. On August 4, 1906, over 100 Blue Herons were killed by a heavy hailstorm on Upper Barr Lake.

Ardea egretta. American Egret. The only definite record for Barr is one taken by L. J. Hersey, which is now in the Hersey collection.

Ardea candidissima. Snowy Heron. Summer resident, not common. Two or three birds are seen every summer at frequent intervals, but no indications of nesting have been observed.

Nycticorax nycticorax naevius. Black-crowned Night Heron. Summer resident, abundant. About 100 pairs have nested in a colony in a cat-tail swamp on one of the smaller lakes for a number of years up to 1908; but after the destruction of their favorite nesting site by fire in the fall of 1907 they joined the Great Blue Heron colony on the Platte River.

Grus americana. Whooping Crane. Not common. Seen only in migration, and not at all of recent years.

Grus canadensis. Little Brown Crane. Not common. Seen only in migration.

Grus mexicana. Sandhill Crane. Not uncommon in migration.

Rallus virginianus. Virginia Rail. Summer resident, abundant. Nesting in large numbers. Many remain thruout the winter.

Porzana carolina. Sora. Summer resident, common. Nests plentifully, but not in as large numbers as *R. virginianus*. Has been observed by Hersey every month in the year except December, January, and February.

Fulica americana. American Coot. Summer resident, very abundant. Nests in large numbers. A few remain thruout the winter.

Lobipes lobatus. Northern Phalarope. Common during migration.

Steganopus tricolor. Wilson Phalarope. Summer resident, common. Abundant in migration. Breeds not uncommonly.

Recurvirostra americana. American Avocet. Summer resident, not uncommon. During the springs of 1907 and 1908 about fifteen pairs of birds nested at Barr. In 1908 eleven nests were found on a little island less than two acres in area.

Himantopus mexicanus. Black-necked Stilt. Very rare. The only one seen by Hersey during fifteen years' observation was recorded June 1, 1907.

Gallinago delicata. Wilson Snipe. Resident. A few nest at Barr, and a good many more remain thruout the winter.

Macrorhamphus scolopaceus. Long-billed Dowitcher. Very common during migration.

Micropalama himantopus. Stilt Sandpiper. Very common during migration. The hailstorm of August 4, 1906, mentioned before, killed a hundred or more of them.



NEST AND EGGS OF AMERICAN AVOCET

Pisobia maculata. Pectoral Sandpiper. Common during migration.

Pisobia fuscicollis. White-rumped Sandpiper. Migrant, not common.

Pisobia bairdii. Baird Sandpiper. The most abundant sandpiper at Barr during migration.

Pisobia minutilla. Least Sandpiper. Almost as abundant during migration as *P. bairdii*. Both *bairdii* and *minutilla* have been observed frequently thruout May, and *minutilla* has been observed twice during June, hence it is not unreasonable to expect that one or both may yet be found breeding there.

Ereunetes pusillus. Semipalmated sandpiper. Migratory, rare.

Ereunetes mauri. Western Sandpiper. Migratory, not common.

Calidris leucophaea. Sanderling. Not uncommon during fall migration.

Eight or ten birds were taken during the fall of 1908, and 50 might have been easily secured. One was secured May 31, 1908.

Limosa fedoa. Marbled Godwit. Common during spring migration.

Totanus melanoleucus. Greater Yellow-legs. Abundant during migration.

Totanus flavipes. Lesser Yellow-legs. The most abundant shore-bird during migration with the possible exception of *P. bairdii*. Altho both *melanoleucus* and *flavipes* have been observed at Barr during May, June and July, we have not seen any indication of the birds breeding.

Helodromas solitarius. Solitary Sandpiper. Not uncommon during fall migration.

Catoptrophorus semipalmatus inornatus. Western Willet. Very common in migration, especially in spring.

Bartramia longicauda. Bartramian Sandpiper. Summer resident, not uncommon. A nest containing fresh eggs was found June 28, 1907, one mile east of Barr Lake.

Actitis macularia. Spotted Sandpiper. Summer resident, common. Nests regularly at Barr, but in limited numbers. A few remain until extreme cold weather.

Numenius americanus. Long-billed Curlew. Summer resident, not common. Common during migration.

Numenius hudsonicus. Hudsonian Curlew. Rare. "A few are seen nearly every fall." (Hersey)

Squatarola squatarola. Black-bellied Plover. Very common during both spring and fall migration.

Charadrius dominicus. American Golden Plover. Not uncommon during migration, but not as plentiful as *S. squatarola*.

Oxyechus vociferus. Killdeer. Summer resident; abundant. By far the most numerous nesting shorebird. A few remain thruout the winter.

Ægialitis semipalmata. Semipalmated Plover. Rare. Occasionally observed during spring migration.

Ægialitis montana. Mountain Plover. Summer resident; very common. Nests commonly on the dry prairie back from the lakes.

Arenaria interpres morineila. Ruddy Turnstone. Migratory; rare. One in the Hersey collection was taken at Barr, September 9, 1907. It was collected out of a flock of three.

Colinus virginianus. Bob-white. Resident; common.

Tympanuchus americanus. Prairie Hen. "Locally abundant in northeastern part of the State. In 1907 one pair of birds nested 14 miles northeast of Denver, near Barr, and in 1908 two pairs nested at the same place, raising 18 young." (Hersey) One taken during the fall of 1907 at Barr had 97 grasshoppers, 72 kernels of wheat and four of oats, in its stomach.

Zenaidura macroura carolinensis. Mourning Dove. Summer resident; abundant.

Cathartes aura septentrionalis. Turkey Vulture. Summer resident; not uncommon, but not as plentiful as formerly.

Circus hudsonius. Marsh Hawk. Summer resident, common. Very common during migration.

Accipiter velox. Sharp-shinned Hawk. Common during migration.

Accipiter cooperii. Cooper Hawk. Common during migration.

Astur atricapillus. American Goshawk. Not uncommon during migration.

Buteo borealis calurus. Western Red-tail. Common during migration.

Buteo swainsoni. Swainson Hawk. Summer resident; not common. Not

uncommon during migration. Nests commonly along the prairie streams east of Barr.

Archibuteo lagopus sancti-johannis. American Rough-leg. Common during migration.

Archibuteo ferrugineus. Ferruginous Rough-leg. Very common during migration.

Aquila chrysaetos. Golden Eagle. Winter resident; common.

Haliaeetus leucocephalus. Bald Eagle. Resident; not common.

Falco mexicanus. Prairie Falcon. Migratory; not common.

Falco peregrinus anatum. Duck Hawk. Common during migration.

Falco columbarius. Pigeon Hawk. Rather common during migration.



NEST AND EGGS OF KILLDEER

Falco columbarius richardsonii. Richardson Merlin. Migratory; rare. Only two definite records from Barr that we know of.

Falco sparverius. Sparrow Hawk. Summer resident, abundant. The commonest hawk in the Barr district. Very rare in winter. One was taken near Barr about Jan. 1, 1909.

Falco sparverius phalocna. Desert Sparrow Hawk. Summer resident, not common. (?) A few specimens referable to *phalocna* have been taken at Barr.

Pandion haliaetus carolinensis. Osprey; Fish Hawk. Not uncommon during migration.

Asio wilsonianus. Long-eared Owl. Resident; not common. Nests along the Platte River.

Asio flammeus. Short-eared Owl. Resident; more common in winter than in summer. Still more plentiful during migration.

Glaux acadicus. Saw-whet Owl. "I have never taken it at Barr, but have heard it in the evening on several occasions during spring migration." (Hersey)

Otus asio maxwelliae. Rocky Mountain Screech Owl. Resident; common along all the well-wooded streams.

Bubo virginianus pallescens. Western Horned owl. Resident; common. Breeds commonly on Box Elder Creek only a few miles southeast of Barr.

Nyctea nyctea. Snowy Owl. Winter visitant; rare.

Speotyto cunicularia hypogaea. Burrowing Owl. Summer resident; abundant. A few remain during the winter.

Ceryle alcyon. Belted Kingfisher. Resident; common thruout the State, but rare at Barr.

Dryobates villosus monticola. Rocky Mountain Hairy Woodpecker. Winter resident; not uncommon.

Dryobates pubescens homorus. Batchelder Woodpecker. Winter resident; not uncommon.

Sphyrapicus varius nuchalis. Red-naped Sapsucker. Not uncommon in migration.

Melanerpes erythrocephalus. Red-headed Woodpecker. Summer resident; common.

Colaptes auratus luteus. Northern Flicker. Rare. "Several that have been taken at Barr are referable to *hybridus* of authors, but nearer *luteus* than *collaris*." (Hersey)

Colaptes cafer collaris. Red-shafted Flicker. Resident; abundant. The commonest breeding woodpecker.

Phalaenoptilus nuttallii. Poorwill. Rare; one taken May 18, 1907, is the only definite record.

Chordeiles virginianus henryi. Western Nighthawk. Summer resident; abundant.

Selasphorus platycercus. Broad-tailed Hummingbird. Summer resident; not uncommon.

Tyrannus tyrannus. Kingbird. Summer resident; abundant. Breeds in large numbers around Barr.

Tyrannus verticalis. Arkansas Kingbird. Summer resident; abundant. Breeds in large numbers at Barr.

Tyrannus vociferans. Cassin Kingbird. Summer resident; rare.

Sayornis saya. Say Phoebe. Summer resident; abundant.

Myiochanes richardsonii. Western Wood Pewee. Summer resident; common.

Otocoris alpestris leucolaema. Pallid Horned Lark. Resident; abundant. One of the commonest breeding birds of the prairie.

Pica pica hudsonia. American Magpie; Black-billed Magpie. Resident, abundant.

Aphelocoma woodhousei. Woodhouse Jay. Winter visitant; rare.

Corvus brachyrhynchos hesperis. Western Crow. Summer resident; not common, altho a few breed around Barr. Common during migration, occasionally in very large flocks.

Molothrus ater. Cowbird. Summer resident; common. Large numbers of their eggs are found in nests of the Red-winged Blackbird.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. Summer resident; extremely abundant.

Agelaius phoeniceus fortis. Thick-billed Red-wing.

Agelaius phoeniceus neutralis. San Diego Red-wing. A series of 32 skins collected at intervals of about a week, from October 5, 1907, to June 4, 1908, in the vicinity of Denver was sent to the Biological Survey for identification. Of this number 13 skins were taken at Barr, 12 of which were identified by Mr. Oberholser as *fortis*, while the remaining skin, taken November 28, was labeled *neutralis*. Of the remaining 19 skins, all taken in the vicinity of Littleton, Arapahoe County, 14 were labeled *fortis* and five *neutralis*. All of the skins labeled *neutralis* were fall specimens. Resident, very abundant, but not as plentiful during the summer as *A. xanthocephalus*.



NEST AND YOUNG OF YELLOW-HEADED BLACKBIRD

Sturnella neglecta. Western Meadowlark. Summer resident; abundant. One of the commonest breeding birds of the Barr Lake district. Winter resident; not uncommon.

Icterus bullocki. Bullock Oriole. Summer resident; abundant.

Scolecophagus cyanocephalus. Brewer Blackbird. Summer resident; common.

Quiscalus quiscula aeneus. Bronzed Grackle. Summer resident; not common.

Coccothraustes vespertinus montanus. Western Evening Grosbeak. Winter visitant; not common.

Carpodacus cassini. Cassin Purple Finch. Winter visitant; not uncommon. Common during latter part of March and April.

Carpodacus mexicanus frontalis. House Finch. Resident; very common. Is rather more plentiful during the breeding season than during the winter.

Loxia curvirostra stricklandi (?) Mexican Crossbill. Winter visitant, rare. Owing to lack of material there is some question as to whether these birds are referable to *stricklandi* or *bendirei*.

Acanthis linaria. Redpoll. Winter resident; common.

Astragalinus tristis. Goldfinch. "Seen at Barr only during migrations." (Hersey)

Astragalinus psaltria. Arkansas Goldfinch. Summer resident; not uncommon.

Spinus pinus. Pine Siskin. "Abundant during spring migration some years." (Hersey)

Passer domesticus. English Sparrow. Altogether too abundant everywhere.

Calcarius lapponicus alascensis. Alaskan Longspur. Winter resident; abundant at times.

Poocetes gramineus confinis. Western Vesper Sparrow. Summer resident; common.

Passerculus sandwichensis alaudinus. Western Savanna Sparrow. Common in migration.

Coturniculus savannarum bimaculatus. Western Grasshopper Sparrow. Summer resident; not uncommon and breeds.

Chondestes grammacus strigatus. Western Lark Sparrow. Summer resident; common. Probably the commonest breeding sparrow.

Zonotrichia leucophrys. White-crowned Sparrow. Common in migration.

Zonotrichia leucophrys gambelii. Intermediate Sparrow. "Not uncommon in migration, coming earlier in spring than *leucophrys*." (Hersey)

Spizella monticola ochracea. Western Tree Sparrow. Winter resident; abundant.

Spizella passerina arizonae. Western Chipping Sparrow. Summer resident, and at times abundant.

Spizella breweri. Brewer Sparrow. Not uncommon in migration. Not common summer resident at Barr.

Junco aikenii. White-winged Junco. Winter resident; rare.

Junco hyemalis connectens. Intermediate Junco. Winter resident; not uncommon.

Junco hyemalis mearnsi. Pink-sided Junco. Winter resident, common.

Junco phaeonotus caniceps. Gray-headed Junco. Not uncommon in spring migration.

Peucaea cassini. Cassin Sparrow. Summer resident. About half-a-dozen pairs were seen during the spring of 1907 and one nest with eggs was taken. During the spring of 1908 the birds were much rarer, not more than three being seen.

Melospiza melodia montana. Mountain Song Sparrow. Resident; common. Breeds commonly and occurs in summer and winter in about equal abundance.

Melospiza lincolni. Lincoln Sparrow. Summer resident, not common. One in the Hersey collection was taken April 15, 1907.

Pipilo maculatus arcticus. Arctic Towhee. Winter resident; not common. "Have taken them as late as May 6th." (Hersey)

Oreospiza chlorura. Green-tailed Towhee. Not uncommon during migration.

Zamelodia melanocephala. Black-headed Grosbeak. Summer resident; common.

Calamospiza melanocorys. Lark Bunting. Summer resident; abundant. One of the most abundant breeding birds.

Passerina amoena. Lazuli Bunting. Migratory; rare.

Piranga ludoviciana. Western Tanager. "Not uncommon in migration." (Hersey)

Petrochelidon lunifrons. Cliff Swallow. Summer resident abundant.

Hirundo erythrogaster. Barn Swallow. Summer resident; common.

Riparia riparia. Bank Swallow. Summer resident; common.

Stelgidopteryx serripennis. Rough-winged Swallow. Summer resident; not uncommon.

Lanius borealis. Northern Shrike. Winter resident; common.

Lanius ludovicianus excubitorides. White-rumped Shrike. Summer resident; common. Breeds abundantly on the prairie streams just east of Barr.

Vireosylva gilva. Warbling vireo. Not uncommon during migration.

Helminthophila celata. Orange-crowned Warbler. "Common at Barr during spring migration." (Hersey)

Dendroica aestiva. Yellow Warbler. Summer resident; very common. Breeds commonly around the lakes.

Dendroica coronata. Myrtle Warbler. Very common during spring migration.

Dendroica auduboni. Audubon Warbler. Abundant during migration.

Dendroica striata. Black-poll Warbler. The only record is one taken May 6, 1908, by Hersey.

Oporornis tolmiei. Tolmie Warbler. Common during migration.

Geothlypis trichas occidentalis. Western Yellowthroat. Summer resident; abundant. Breeds commonly in the cat-tail swamps around the lakes.

Wilsonia pusilla. Wilson Warbler. Not uncommon in migration.

Setophaga ruticilla. American Redstart. "One seen in company with several other migrating warblers, May 10, 1908." (Rockwell)

Anthus rubescens. Pipit. Abundant during migration.

Mimus polyglottos leucopterus. Western Mockingbird. Summer resident; not uncommon. Nests sparingly at Barr, and commonly along the prairie streams a few miles east of Barr.

Dumetella carolinensis. Catbird. Not uncommon during migration. Summer resident; not common. "Sometimes nests at Barr." (Hersey)

Toxostoma rufum. Brown Thrasher. Not uncommon during migration. "Summer resident and breeds along the Platte river a few miles west and north of Barr." (Rockwell)

Salpinctes obsoletus. Rock Wren. Not uncommon during migration.

Troglodytes aedon parkmanii. Western House Wren. Not uncommon during migration. "Summer resident and breeds on the Platte River a few miles west and north of Barr." (Rockwell)

Telmatodytes palustris plesius. Interior Tule Wren. "Winter resident; common at Barr and probably nests there. I have taken it every month of the winter." (Hersey)

Certhia familiaris montana. Rocky Mountain Creeper. Winter visitant; rare.

Sitta carolinensis nelsoni. Rocky Mountain Nuthatch. Winter visitant; not common. "Seen occasionally in the late fall." (Hersey)

Penthestes atricapillus septentrionalis. Long-tailed Chickadee. Winter resident; not uncommon.

Regulus calendula. Ruby-crowned Kinglet. Migratory, rare.

Myadestes townsendii. Townsend Solitaire. "Not uncommon in fall migration at Barr." (Hersey)

Hylocichla guttata auduboni. Audubon Hermit Thrush. Migrant; at times abundant during the spring movement.

Planesticus migratorius propinquus. Western Robin. Summer resident; abundant.

Sialia currucoides. Mountain Bluebird. Summer resident; not common. More common during migration.

Denver, Colorado.

NESTING OF *DIOMEDEA NIGRIPES* AND *D. IMMUTABILIS* ON MIDWAY ISLANDS

By DR. T. W. RICHARDS, U. S. Navy

AMONG the smallest and most isolated of this country's outlying territorial possessions is the coral group appropriately known as "Midway". Situated in Lat. 28° 13' N., Long. 177° 21' W., the largest—Sand Island—only measures about one mile in length by half that distance in diameter; almost the entire surface is of barren sand, the highest point being some 75 feet above sea level. Were it not for a light-house and relay station for the long trans-Pacific cable, the entire group would be well-nigh forgotten.

As might be expected we have thus afforded an ideal breeding resort for numbers of pelagic birds, and for several years I tried to obtain some definite information regarding the local avifauna, but without avail until, in 1906 and 1907, two of my naval medical confreres were temporarily stationed at this outpost and, with the greatest pains, most kindly collected, prepared and forwarded to me a number of eggs, with notes, photographs and descriptions of the birds. To Drs. R. A. Campbell and M. C. Baker, U. S. Navy, I am much indebted, and take this opportunity of expressing my thanks and appreciation.

While I was aware that the Laysan Albatross bred on Midway in company with another species, I was surprised and particularly pleased when the photos and descriptions accompanying certain eggs showed beyond a doubt that they were referable to *D. nigripes*, the eggs of which, so far as I am aware, have not hitherto been fully described. I may add that the identification was kindly confirmed by Dr. Charles W. Richmond, of the Smithsonian Institution.

In nearly all published descriptions of eggs of the Diomedidae they are referred to in terms somewhat as follows: "white, sometimes speckled or sprinkled on larger end with reddish brown" (Ridgway), giving the impression that they resemble, on a large scale, eggs of the Stormy Petrel, for example. While this may be true of some species, it would be inappropriate for a great many specimens of *D. nigripes*, tho some are faintly speckled or even immaculate. In many instances, however, these eggs are boldly and handsomely splashed with dark brownish red, in some forming a cap or wreath about one end, usually the larger; in others, extending over nearly one-half the shell; in fact there is as much color, relatively, as on an average egg of any of our larger Buteos, tho it is apt to be more constantly confined to one end. Compared with eggs of *immutabilis* they

average more color, but extremes easily overlap and identity can not be determined from the eggs alone. Ten specimens of each measure in inches as follows:—

D. nigripes: 4.75×2.75, 4.31×2.62, 4.06×2.62, 4.25×2.50, 4.06×2.69, 4.19×2.75, 4.75×2.75, 4.12×2.69, 4.31×2.75, 3.87×2.69. Average: 4.27×2.68.

D. immutabilis: 4.00×2.75, 4.37×2.75, 4.31×2.69, 4.25×2.75, 4.31×2.75, 4.43×2.81, 4.50×2.75, 4.25×2.94, 4.25×2.69, 4.31×2.95. Average: 4.29×2.78.

The sizes are thus about the same.

Regarding the nesting habits, Dr. Campbell noted an interesting point of difference in the two species; both lay in slight hollows scratched in the bare sand, but *immutabilis* usually heaps up this material in a ridge around the "nest". He says "the bird, sitting on the nest and reaching out as far as possible, picks up sand in its bill and deposits same around the edge until it is built up four or five inches. I noticed the difference in contour of nests of the two species, and as a white pair (Laysan) made a nest just beyond my door I was enabled to discover how it was done. The building up of the sides results in making the nest higher and also provides a shallow ditch all around it, which certainly makes it drier when there is rain."

Each pair of birds—and this applies to both species—rarely lays more than one egg in a season, if undisturbed; and if a second egg should be deposited the first is thrown out, leaving but one to incubate. If, as was formerly the case, the nests are systematically robbed, four eggs are usually supplied by each.

In 1906, *nigripes* arrived the first week in November, *immutabilis* following a few days later, and by the 20th of the month both species had deposited eggs. Dr. Campbell believes that the birds pair after arrival, but it would seem that some, at least, may have mated previously.

Incubation lasts about six weeks, both birds taking turns on the nest so that the egg is constantly covered. The young are fed, in the well-known manner, by regurgitation from the throat of the parent, remaining about the Islands until the following June or July, so that the entire reproductive period occupies about one-half the year.

It appears, according to my correspondents, that there are about a dozen species of birds that commonly breed on these islands, but excepting the albatrosses all or nearly all breed during our summer months, chiefly in June and July.

Since May, 1908, the small detachment of marines, formerly maintained at Midway, has been withdrawn, so opportunities for further ornithological observations are limited. The islands, however, now constitute a government bird reserve, under the protection, I believe, of the Audubon Society, and it is to be hoped that they may long afford a harbor of refuge for the feathered wanderers yearly assembled from the Pacific wastes.

Washington, D. C.

THE ONLY KNOWN BREEDING GROUND OF *CRECISCUS* *COTURNICULUS*

By A. M. INGERSOLL

WITH TWO PHOTOS BY THE AUTHOR

DURING the past four seasons, probably more, a small colony of California Black Rails have made their home on a limited area of the weed-covered tide lands of San Diego Bay. These breeding grounds are between National City and Chula Vista.

While searching for the undiscovered eggs of the Large-billed Sparrow, May 4, 1908, I took a few high steps to break my way thru a tangled mass of weeds and was surprised to see rise near my right knee, a California Black Rail. Examination of a dense growth of *Salicornia ambigua* brought to light a well concealed nest with one whole and three smashed eggs. An egg-smearred boot explained the unfortunate destruction of what would have proved a valuable addition to any oological collection. Incubation had commenced in each egg of this small set. This nest, as well as an empty one found in a similar location at a distance of a few hundred feet, was placed from ten to twelve inches above the mud. Having flushed birds directly from two nests, I imagined I should have no difficulty in securing a series of specimens if searched for diligently; time has shown the fallacy of that idea. Extensive field experience thruout this and several other states, warrants the writer in claiming that there is no bird whose nest is more difficult to find than an occupied nest of the species under consideration. Some of our small feathered denizens of the forest effectually conceal their homes in bewildering foliage of tall trees, but the nesting site can usually be located by a sharp-eyed and patient collector watching the birds during building operations.

The California Black Rails inhabit such dense vegetation, in which an abundance of nesting material is close at hand, that work could be carried on at a distance of six feet without one's being aware of the fact. Twenty-five special collecting trips to this colony by the undersigned, has resulted in only one bird and three sets of eggs; on each occasion two to six hours was spent in a most painstaking search for specimens. I have seen but ten birds. Five of them were flushed by a young man and his dog; one was captured by the same party seizing it with his hand as it endeavored to escape from the dog by running, and the others were flushed by myself. The dog would point the Rails and as they glided away beneath the weeds, would follow along sniffing rapidly. On catching sight of a little fugitive skulking from one shadowy retreat to another, he would bite at it, in one instance nabbing out most of the tail feathers. These biting acts seemed to be of a playful nature and reminded one of a cat playing with a captured mouse.

The salt weeds of this marsh are of an evergreen character and perennial, varying little from season to season. Old clumps of *Salicornia* become more or less matted down, forming an ideal retreat for this secretive little bird. A favorite nesting site is one formed by an old top-heavy weed falling over a growth of previous years in such a way as to leave a shelf-like space between the layers of stems and foliage. Away from the glaring sun on such a platform, is concealed a flimsy nest of fine dry weed stems. These weeds are too brittle to admit of weaving, and fall apart on being lifted from the sustaining platform. Nests that are built on the ground are sometimes as much as two inches thick in the center. Even the best constructed nests partially fall away on removal from the supporting weeds and earth. By sewing a round piece of paper to the bottom and making many stitches thru the balance of a nest, one can preserve about three-fourths of the original material. Of course the natural shape of a sewed specimen is changed, rendering it unsatisfactory to the careful student of nature. An excellent way of taking fragile nests of this character from the ground reasonably free of stones, is to remove a good sized piece of earth containing the nest and surrounding vegetation.

An example of my method is shown in one of the photographs accompanying this article. This nest was obtained in the following manner. The cover and bottom were removed from an eight-by-twelve-inch wooden candy box; strips of tin having one edge bent at a right-angle, were attached with small nails to each end and one side of the box, at proper distance to form a groove-like runway for the bottom to

slide in. A piece of tin was arranged with suitable holes to be secured on the front side of the box after it was filled, thereby supporting the bottom and locking it in place. This coverless box with bottom withdrawn, was placed over weeds and nest. By carefully cutting all roots and mud along the edge, the box was caused to settle until the top was about level with the surface. A hole was dug at front of box sufficiently large to permit the bottom board being placed in the groove. Roots and earth were gradually cut away as the bottom was shoved into place. This nest was situated in an exceptionally exposed place, and the eggs could be seen thru the low *Monanthochloe littoralis* that grew closely around the nest.

The eggs were warm to the touch when found. Judging from that fact, the setting bird had sneaked off on my approach. I surmised that an opportunity to



NEST OF THE CALIFORNIA BLACK RAIL AS IT APPEARS AFTER REMOVAL TO THE AUTHOR'S COLLECTION

photograph her at the nest would soon occur. Weeds were cleared away from the more open side that I might have an unobstructed view from my selected place of concealment. I decided after an unsuccessful and tiresome wait of one hours duration, to be contented with photos of the nest and eggs only. Wishing to shoot the parents of this first set of my own discovery, I endeavored to flush them by repeatedly returning as quietly as possible. The nest was also approacht by running up to it from different points of the compass. Notwithstanding most of the weeds within a distance of forty feet had been carefully kickt over, no birds up to this time were seen or heard. While packing the eggs a tuft of cotton was blown from my fingers; on making a quick grab, my hand was thrust into a clump of weeds causing one of the elusive birds to rise and fly feebly thirty or forty feet, then with

a sort of boomerang flight, hover and return to within sixteen feet (actual measurement) of the starting point. The bird flew so slow it seemed to have difficulty in keeping in the air; this appeared to be a flight of observation. The bird turned its head and scrutinized me with one of its red eyes while flying off. The legs were hanging down until the turning point was reached. They were then drawn up to the body, and dropt as she settled out of sight in a tangled mass of weeds.

The whitish eggs have a scarcely perceptible tinge of pink. They are finely speckled with bright reddish-brown and obscure lilac dots. The average measurement of the eggs is .95x.71 inches. The eggs exhibit great variations in size and shape but are rather uniformly marked. I believe the eggs of this species could not be mistaken for those of any other bird. The shells are of close-grained hard texture. They possess greater durability than any eggs of similar size that I know



NEST AND SET OF SIX EGGS OF THE CALIFORNIA BLACK RAIL, LOCATED NEAR
SAN DIEGO, APRIL 8, 1909

of. One year's exposure to the elements is not enough to destroy the shell. In 1908, there were many eggs of the California Black Rail floated out of the nests by the high tides, probably by those of March 30 and 31. I examined upwards of thirty "floaters" during May of that year. They were then rotten and partially dried up. Fourteen "floaters" that were whole and perfectly dry were picked up during the present season; most of them were bleached entirely free of markings. A few that had lodged beneath the vegetation were still speckled. These dry eggs were at least ten months old; possibly the salt water acted as a preservative. Sixteen old nests were found in the immediate vicinity of "floaters." On several occasions, eggs were found lodged in weeds at a higher elevation than the nest from which they had floated. About one third of the nests were built on or within two

inches of the ground. I am informed of one nest being placed at a height of eighteen inches.

An accurate estimate of the number of birds in this colony is of course impossible; but judging from the number of floaters and old nests, I should say that in 1908, thirty pairs of birds resided there at that time. I am at present unable to describe any of the notes of the California Black Rail. All the birds observed were flying, and of course voiceless, like other members of the rail family, while on the wing. The stomach contents of the birds shot were indeterminable by me and I lack knowledge of their food habits.

To Mr. Park Harris, a former resident of San Diego, is due the credit of discovering the first eggs of the California Black Rail. Mr. Frank Stephens killed a California Black Rail on May 28, 1908, and recorded the fact in March-April, 1909, CONDOR. This is the earliest known summer record. All previous records are of birds taken out of breeding season. Most of these birds have been recorded from points five hundred miles north of National City.

Thru the courtesy of the State Board of Fish Commissioners, I was granted permission to take six specimens of the California Black Rail and also two nests and sets of eggs.

San Diego, California.

NEST OF THE CALIFORNIA BI-COLORED BLACKBIRD

By JOSEPH MAILLIARD

WITH ONE PHOTO BY THE AUTHOR

PRESENTED herewith is a photograph of a nest of the California Bi-colored Blackbird (*Agelaius gubernator californicus* Nelson) taken at San Geronimo, Marin County, California, May 25, 1908. A few of these birds breed here every year in some meadows that are somewhat swampy in the spring and early summer. This particular nest was situated on the bank of a very small streamlet which meandered slowly thru the meadow, and was built in a bunch of sedge a few inches above the water. It was probably a second laying at such a late date as above. Whether some of these birds are late breeders and others early, or whether some of them raise a second brood in the season is problematical, and I have no opinion on the subject. The fact is that it is no unusual thing to see young birds flying about and yet find nests with fresh eggs in the same meadow in the last week of May.

Speaking of this species reminds me how difficult it is at times to maintain what seems to be the proper point of view pertaining to many matters. For instance I personally endeavored to assist in the recent—and successful—effort to prevent the state legislature from passing a bill removing the protection of the law from the meadowlark, and possibly other birds, on the plea that these birds were very destructive to certain crops. My point of view was that the meadowlark was a bird whose usefulness was great in comparison to the amount of damage of which he is known to be sometimes guilty, and that, with the blackbird mentioned above, he is the farmer's friend.

Now it happened just as our fight in the legislature was over that I had some fifty acres of oats planted in some moist bottom-land on our ranch in Stanislaus County, California. The oats came along beautifully—and so did the blackbirds.

The latter remained to breed, but the oats vanished. A cleaner sweep could hardly be imagined. As fast as an oat sprout would reach the surface there was a black-bird—some with such beautiful crimson epaulettes—waiting for it, until the last one was gone. And yet this was early in March when there was apparently a great abundance of food for even these rapacious appetites. In this work crows and meadowlarks assisted to the best of their ability, but they were few and the black-birds were many.

Now what has happened to my point of view? Well, it is a little bent, and somewhat wobbly, but probably will straighten out again when I see these same birds carrying thousands of fat green worms and other destructive but luscious insects away from the alfalfa fields to feed their clamorous young. Still I *did* hate to see a hundred tons or so (to be) of fine oat hay most brazenly stolen in this way—and by a supposed friend!!

San Francisco, California.



NEST OF THE BI-COLORED BLACKBIRD. SAN GERONIMO, CALIFORNIA

THE LITTLE BROWN CRANE IN CALIFORNIA

By J. GRINNELL

IN the year 1903 I saw, mounted, in the taxidermy shop of Roth Reynolds in Los Angeles, a specimen of the Little Brown (*Grus canadensis*). I was told that it had been secured in the vicinity; but I failed to follow up the matter at the time.

I wrote Mr. Reynolds lately in regard to the bird I saw in his shop, and under date of December 27, 1908, he writes me as follows: "I sold the Little Brown

Crane a year ago. I think it was about ten or twelve years ago that I killed the bird out of a flock of possibly 25 or 30 at Newport not far from Santa Ana [Orange County]. I saw another big flock at the time, probably 100 birds. I can not give you any measurements; but you and I both know it was much smaller than the ordinary Sandhill in all measurements."

I recently mentioned the subject to Harry S. Swarth, who tells me that he used to see small cranes in the Los Angeles markets. They were said to have been shot on the Centinela ranch, southwest of Los Angeles some twelve miles. Mr. Swarth bought two of these market birds and made them into skins. These were subsequently disposed of to Mr. Outram Bangs.

I wrote to Mr. Bangs early this year, as to the whereabouts of the Swarth specimens. Under date of February 9, 1909, I received the following reply: "The two cranes you speak of are in my collection, and are as follows: No. 11,441, Bangs Coll.; bought in Los Angeles market, fresh, March 21, 1904; ♀ im.; wing, 470 mm.; tarsus, 178; culmen, 94. No. 11,440, Bangs Coll.; bought in Los Angeles market, fresh, March 21, 1904; ♂ ad.; wing, 505; tarsus, 201; culmen, 91. The bills are just about the same length in both, but the roughnesses of the forehead in the older bird come down a little more onto the base of the culmen, making this measurement a little shorter." As the above measurements conclusively prove, the birds in question were *Grus canadensis*.

Altho the present seems to be the first definite record of the species for the State, there is little doubt but that many of the sight records of the "Sandhill Crane" really apply to the Little Brown Crane. In 1902 (Pac. Coast Avifauna no. 3, p. 76) I stated that, "altho it is almost certain that this species (*Grus canadensis*) is a common spring and fall migrant thru the State, specimens seem to be as yet lacking." Now that specimens have been identified it seems all the more probable that this Crane is of regular occurrence during the migrations, and perhaps also during the winter, in the southern part of the State.

The Sandhill Crane (*Grus mexicana*) is undoubtedly the species—as correctly recorded in many places—which summers in various parts of California. The Little Brown Crane summers far to the northward of us.

Berkeley, California.

NESTING OF THE ARIZONA JUNCO

By FRANK C. WILLARD

WITH ONE PHOTO BY THE AUTHOR

OF the several Juncos which visit the Huachuca Mountains, Arizona, during migration, but one, *Junco phaeonotus palliatus*, remains to breed. From the summit of the mountains down to an altitude of 6000 feet on both slopes, the Arizona Junco may be found nesting. As early as May 8, I have seen fully fledged young following their parents and being fed by them. From the middle of May till the last of July fresh eggs of the second brood may be found.

The nest is placed on the ground, and under a stone so often that the natives speak of it as "that little bird which builds under a stone". I have also found its nest under a loose piece of pine bark lying on the ground, under an exposed root overhung by dry grass, under a bunch of weeds, a pile of brush, a clump of ferns, etc. The photo shown herewith is of a nest taken May 25, 1907. It was located

a few feet from the trail in Miller Canyon at an altitude of 8000 feet, and was placed under a bunch of ferns and grass. The female sat close and was very tame after being flushed, coming within a few feet of me. These are common characteristics of the species, particularly when the eggs are incubated, as in this instance.

Both birds come around when a nest is disturbed and are very noisy. Their outcries frequently bring other species to their assistance. On one occasion a pair each of Plumbeous and Western Warbling Vireos, Red-faced and Black-throated Gray Warblers, Bridled Titmouse, Western House Wren and a small female hummer responded and added their voices to the clamor.

The Juncos build their nests very fast, gathering the material nearby and carrying it in huge mouthfuls to the nest. The female alone does the nest building and, as far as I have observed, assumes all the duties of incubation. The nest is



NEST AND EGGS OF ARIZONA JUNCO

always well concealed, no hint of its presence showing from the outside.

In feeding on the ground they usually go in couples, hopping around under logs, stones and brush, uttering an occasional contented "chip". They also feed warbler-like in the trees, usually singly. They possess a very pretty little song, the strongest part of which closely resembles the song of the Olive Warbler. This is most noticeable when heard at such a distance as to lose the softer passage. When singing they frequently sit motionless on a lower branch of a pine or fir, uttering their short song from time to time with such ventriloquistic effect as to completely deceive the listener as regards their position and distance.

The birds are quite fearless and will come right up to a person who remains still. Their confiding ways make them great favorites with the prospectors who frequently feed several pairs around their camps. The Juncos get along well with the other birds but are quite quarrelsome among themselves.

The eggs, three or four in number, are usually plain white with a tinge of blue which seems to get darker as incubation advances. Frequently one or more of the eggs have some small brown spots scattered over their surfaces. The birds do not readily desert a nest and seem to return to the same locality year after year.

Tombstone, Arizona.

NESTING HABITS OF THE RUFOUS-CROWNED SPARROW

By HARRIET WILLIAMS MYERS

WITH TWO PHOTOS BY THE AUTHOR

ON the afternoon of April 10 a friend stopt to tell me about a bird that she did not know which was nesting on the side hill of their property. Being anxious to see the nest I visited the place with her and found the bird to be a Rufous-crowned Sparrow (*Aimophila ruficeps*), a species which I had never before seen.

The hill where the nest was situated is an uncultivated one just outside the Los Angeles city limits, overlooking the Arroyo Seco, and is overgrown with the usual vegetation—clumps of sage brush, wild oats, clover, grasses, and many varieties of wild flowers. The nest was placed directly on the ground under a clump of grass over which white convolvulus was twining; owl clover, brodiaeas, and lupines were blooming in the same clump. The nest itself resembled in shape and size the Song Sparrow's nest, being made of brown grasses, lined with finer fibers and a few horse hairs. It contained three large pure white eggs. The noticeable thing about them was their size, they more nearly comparing with a Towhee's egg than with that of a Song Sparrow. The female was brooding and allowed me to come within three feet of her in my inspection before she flew off the nest. Then she stationed herself on a weed nearby and scolded me in a most musical way. One note that she used sounded like "dear, dear", and reminded me of one note of the Wren-tit tho it was more plaintive. This I found to be the common call note of these sparrows. But the note which exprest the greatest disapproval of my presence was a short, sharp one given as rapidly as possible. As soon as we stept back from the nest the bird was quiet and flew to a bush farther up the hill where she preened herself before returning to the nest.

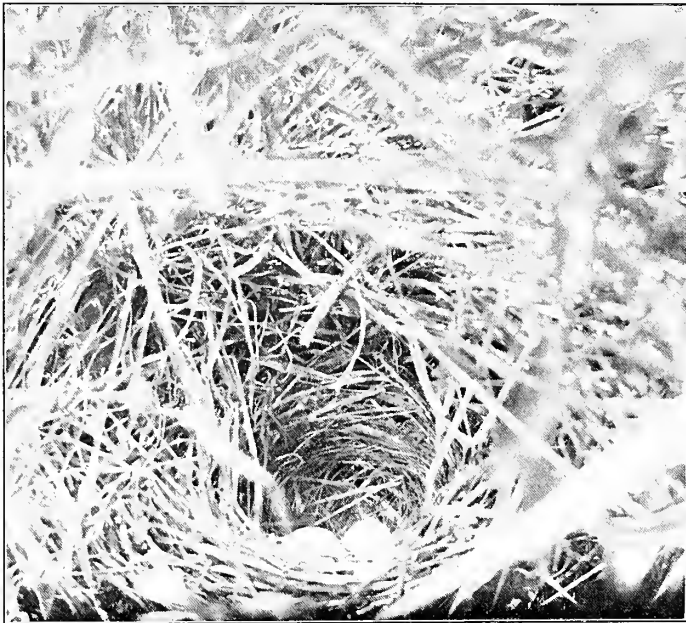
The next morning I was at the nest at ten o'clock. The bird was not brooding and was nowhere in sight. At 10:23 she came to the top of a stake that stood just above the nest. From there, or a nearby bush, she gave me a vigorous scolding, using the single high-pitcht note given rapidly, varying it once or twice with the slower, more plaintive, "dear, dear, dear". In ten minutes she ceased her scolding and flew about below me until 10:49, twenty-three minutes after her coming, when she slipt thru the grass and onto the nest. Ten minutes later I saw and heard another bird of this species way up on the hillside. He did not attempt to come down to the nest, but gave the single call note which the female on the nest answered with a low "sit". In a few minutes the bird on the hillside flew away. This was the only time during incubation that I saw other than the brooding bird about.

At 11:33 the brooding bird left the nest and went to a nearby bush where she

preened herself, said "dear, dear," deliberately, and in four minutes flew directly up the hillside and out of sight. At 11:55 she returned and alighted on the pole back of the nest. My presence evidently distressed her, for she gave her call several times and flirted her tail. I moved farther away, but still in sight, when she was quiet, and in four minutes from the time of her coming went to the nest. For one hour and thirty-one minutes after the bird took the nest I sat and watched it, and when at 1:30 I left, she was still brooding.

The next day I took my camera hoping to get a picture of the brooding bird; but the presence of the camera so disturbed her that I gave up the undertaking.

Two days later, at 1:12, I found the bird brooding. For an hour and forty-six minutes she stayed on the nest, not once turning or moving. When she left the nest she did so quietly, slipping thru the grass, then onto a bush, and from there flying directly up the hillside, a route she invariably took. In twenty-nine



NEST AND EGGS OF RUFOUS-CROWNED SPARROW

minutes she returned, resting on the stalk back of the nest and calling "dear, dear" at me; I moved farther back and she took the nest. It seemed that once she had the courage to take the nest she felt safe, and my presence did not disturb her even when I was only a few feet from her; but she was always somewhat shy about going on when I was very close. She did not mind if I was at least ten feet away.

Late Thursday afternoon—the 15th—when I visited the nest the eggs were not hatched. Friday forenoon three young were found in place of the eggs. Saturday afternoon a little before six o'clock I made a trip to the nest. The orange-skinned nestlings were partially covered with tufts of black down. In ten minutes an old bird came to a nearby bush, an inch-long green worm dangling from its bill. I was about ten feet from the nest. After giving the plaintive call-note twice the bird carried the worm to the nest. From where I stood I could not see just

how this worm was fed and in my effort to get a better view the bird flew out, a small part of the worm still in the bill. The mate had almost immediately followed the first bird to the nest and when the first one flew out this other one went at once to the nest with his bill filled with a small dark-looking substance. This was fed to each nestling, not with the pumping motion of regurgitation, but rather as tho emptying the bill and mouth. The more I study newly hatcht birds the more convinced I am that the supposition that all, or nearly all, birds feed for the first few days by regurgitation, is a fallacy.

On the morning of the nineteenth when the young were three days old, at 9:27, I found a bird brooding. The morning was cloudy, with cool wind. The brooding bird lookt browner and I thought had more stripes on its back than the bird that had brooded the eggs. The dark stripe leading from eye was also more pronounced and led me to wonder if this bird was not the male. One marking both birds had which I did not find mentioned in the description of them: On



ADULT RUFOUS-CROWNED SPARROW AT NEST JUST AFTER FEEDING YOUNG

each side of the rufous crown-patch, starting from the bill, was a light stripe; from the center of the patch-starting, from the bill was a third stripe which, however, did not continue over the head and was scarcely more than a spot. As the brooding bird lookt out from the darkened nest and down on me, she seemed to have a striped crown because of this central light spot.

At 10:15 I heard the note of a Rufous-crowned Sparrow up the hillside. At 10:23—fifty-six minutes after my arrival—the brooding bird left the nest, slipping thru the grass and making his way to a weed stalk where he preened himself and gave a sharp note, a sort of "sit" that I have heard given by a number of species nesting near the ground.

When the bird had left I set up the camera about two feet from the nest, covering it with a large green cloth over which I put sprays of sage. With a fifteen-foot tube attachment I could stand, or sit, far enough away so as to be partially screened by the bushes.

In twelve minutes this bird flew up the hillside. Twenty-two minutes later I

heard a bird call on the hillside and soon one appeared with something in its mouth. Tho the two birds were so much alike that it was hard to tell them apart, one was much more shy than the other and I believe the shy one was the female. This bird would not go to the nest while the camera was there but flew about giving the call note. When at 11:25 the other bird, which I believe was the male, came, the first bird swallowed the food she carried and flew away. This last arrival carried a long green worm in his bill. This he took to the nest and fed to one young bird. I could see the green sticking up in the youngster's throat as he still kept his mouth open, evidently not fully appreciating that anything had been deposited there. Finally he gave a little swallow, the worm disappeared and he closed his mouth, satisfied. The old bird rested on the edge of the nest about three minutes and I took a bulb exposure. After that he flew up the hillside. Fifteen minutes later both birds came with worms. One went to the nest and fed, but one, as before, would not go to the nest while the camera was there.

Thirty-five minutes later, 12:25, the bird which I took to be the male appeared with an immense wasplike fly dangling from his bill, the body down and head held in mouth. This was fed to more than one young. When the bird had fed this time, I crawled under the camera and green cloth in an effort to get a better view of the bird at the nest. At 12:53 I heard a bird call on the hillside. At 1:06 and 1:10 he called from nearby and gave the scolding note. Evidently I was discovered. At 1:25, however, he came to the nest and fed to one young. As I peekt thru a small hole I saw him resting on the edge of the nest and prest the bulb. As the camera clickt he raised his eyes as if to see whence came the noise, but otherwise was motionless. As before, I gave a bulb exposure and the bird did not stir until it was over, when he flew up over the camera.

At this time the young birds were still quite naked—the only indication that they would ever be otherwise being that the wing quills were just pricking thru.

It was four days before I was again able to visit the nest. Before I reacht the nesting site I was told that the nest was empty. The night before, the family had heard a great commotion among the birds; but not realizing that they might be in distress they paid no attention to it. The next morning, the 23rd, they found the nest empty and the old birds nowhere in sight. The young would have been one week old, but did not leave the nest of their own accord I am sure. I doubt not that they were the victims of a skulking feline. So many of our birds are destroyed in this way that I sometimes wonder that any of them ever grow up. Not until our cats are licensed, or some way provided whereby the surplus strays can be disposed of, will our birds receive the protection that should rightfully be theirs.

Los Angeles, California.

NOTES ON THE BIRDS OF LOS CORONADOS ISLANDS

LOWER CALIFORNIA

By PINGREE I. OSBURN

WITH ONE PHOTO BY THE AUTHOR

DURING the spring of 1908, it was my privilege to make two trips to the Coronado Islands, a group lying twenty miles due south of San Diego, California, and ten miles from the Mexican coast.

South Island, the largest, is two and a half miles long by one mile wide, and

about five hundred feet high. It is covered on the eastern slope with a sparse growth of cactus and ice plant, and occasional patches of grass and low brush. The western slope is devoid of vegetation. This island is more heavily overgrown with brush than the others and consequently contains more birds. The Quail are found here only, and would undoubtedly be quite numerous were it not for the depredations of a wild house-cat, and the occasional visits of excursionists carrying guns.

The easternmost of the two middle islands is about three-quarters of a mile north of South Island, and is merely a large jagged rock covered with low brush and guano. The other is twice as large and lies a short distance to the westward. It contains nothing of interest and is unimportant.

About three-quarters of a mile northwest is North Island, the most interesting of the group. This island is one and a half miles long and three-quarters of a mile wide, and about seven hundred feet high at the highest point. The sides are very steep and are only accessible at the amphitheater-like slope near the eastern extremity. The entire island is overgrown with ice plant, which in the ampli-



NESTING SITE OF NANTUS MURRELET IN CAVE AT EXTREME RIGHT OF
OPPOSITE SHORE; NORTH ISLAND, LOS CORONADOS

theater covers up a soft powdery earth. While digging out Auklets our clothing became saturated with the sticky fluid from the ice plant, and coated with mud, which made our work very much harder. However, this was not the only strenuous part of our collecting, for during my last trip we were caught in a heavy wind while three miles south of North Island. With the wind and current against us our task was by no means an easy one; but these experiences, if not too serious, lend interest to a trip.

On April 4, 1908, Mr. R. H. Beck and the writer made our first trip to the islands. The little launch "McKinley" took us out and landed us at the cove near the north end of South Island. We stayed on the Island one week, making side trips to North and Middle Islands to photograph and collect in the rookeries there.

Two months later, on May 30, with a friend, Mr. Chester Lamb, I made the second trip. This time we camped on North Island at the base of the cliff on the eastern end.

By making two trips at these different dates I was, therefore, able to ascertain with some certainty the breeding habits of the sea birds of the islands. On the

first trip we visited the immense colony of *Pelicanus californicus* on North Island and *Phalacrocorax penicillatus* on Middle Island. On June 1st, we camped in the heart of the Auklet colony, and within a few yards of the colony of *Larus occidentalis*.

Besides birds we found reptiles in abundance on South Island and a mouse (*Peromyscus*), species unknown, very abundant on North Island. Mr. Beck collected a large series of lizards, and six rattle snakes and Mr. Ad. van Rossem one gopher snake.

Acknowledgements are due Mr. Henry B. Kaeding for identification of doubtful species and general help on the biota of the Islands.

The following is a complete list of the birds we found on the Islands, covering a period from April 4 to June 6.

Ptychoramphus aleuticus. Cassin Auklet. North Island was completely covered with burrows of this species. During our week's stay Mr. Lamb and I explored it carefully and the approximate census was between six and eight thousand burrows. On April 6 most of the burrows were empty, only one out of every five that we examined being occupied, but on June 1 nearly every burrow examined contained either young in the down or incubated egg. A few fresh eggs were found. The nests most accessible were in the rocky soil in the Pelican colony where simply overturning a rock would disclose the egg. We found the eggs sometimes covered with soft sediment, a method of concealment perhaps. The eggs were smooth, and varied in color from a pure white to dark brown from nest stains. There was usually one egg to a burrow; in a few cases we found two birds occupying the same burrow. The burrows ranged in length from eight inches to five feet. The nest was usually lined with dry grass and frequently small sticks and feathers.

Brachyramphus hypoleucus. Xantus Murrelet. The first note of this species nesting on the Coronados was made by Mr. Beck on April 4, 1908. He found two sets high up on the side of South Island. I collected two females and one male June 1, 4, and 5. A complete account of this species as nesting on Los Coronados Islands is found in the CONDOR, Vol. XI, no. 1, pages 8 and 9.

Larus occidentalis. Western Gull. Hundreds of Western Gulls were flying over the Pelican colony on April 16 and would destroy the eggs at every opportunity. They had not yet begun to lay, but during the week of May 31 to June 6 nearly all the nests contained young in the down or incubated eggs.

Larus californicus. California Gull. Three birds of this species were noted April 6 near South Island.

Puffinus opisthomelas. Black-vented Shearwater. A small flock was seen resting on the water off South Island April 8.

Oceanodroma socorroensis. Socorro Petrel. Found nesting on Middle Island. Several adults collected and one fresh egg secured by Mr. Lamb June 4.

Phalacrocorax auritus albociliatus. Farallone Cormorant. Nesting scatteringly in the California Brown Pelican colony on North Island. Adults in full breeding plumage were taken. On June 1 we found fifteen pairs nesting (incubated eggs) in the Pelican colony which was then practically deserted.

Phalacrocorax penicillatus. Brandt Cormorant. This was by far the most abundant Cormorant on the islands. On April 8 we found a colony of over one hundred pairs nesting on Middle Island. The nests were made of dried seaweed and covered with guano. The sets ranged from three to five, four being the commonest. Only one set of five was noted. On June 1 we located a colony of ninety-five pairs on an outlying rock on the west end of North Island which joins the main island by a

natural bridge. The eggs averaged smaller than the ones taken in April, and all eggs were incubated.

Phalacrocorax pelagicus resplendens. Baird Cormorant. Two pairs were nesting on North Island on April 8, but their nests were inaccessible. One dead adult was found in the surf May 31.

Pelecanus californicus. California Brown Pelican. About five hundred pairs nested on North Island April 8. The colony extended from the south end to within one-half mile of the north end. The majority of the nests contained sets of three, very few two, but none with more than three. On the first of June we made a careful survey of the colony and found only four sets of eggs, altho many nests of the first setting contained large young.

Totanus melanoleucus. Greater Yellow-legs. One shot on South Island April 11 by Beck.

Heteractitis incanus. Wandering Tattler. One taken April 8 and one April 9, both females; not common.

Actitis macularia. Spotted Sandpiper. Very rare; one male taken on North Island June 1st.

Arenaria melanocephala. Black Turnstone. Common; several taken.

Haematopus bachmani. Black Oystercatcher. Fairly common on all the islands. Seen only at low tide. Three skins taken, one April 6 and two June 4, showing signs of breeding.

Lophortyx sp.? Quail. Fairly common on South Island. A few specimens secured, but status of the species undetermined.

Falco peregrinus anatum. Duck Hawk. Three pairs were nesting on South Island, and two pairs on North Island. All nests were inaccessible. Three specimens were secured.

Falco sparverius phalæna. Desert Sparrow Hawk. One bird, probably of this species, was seen hovering over North Island April 8.

Asio accipitrinus. Short-eared Owl. One flushed from a bush on North Island April 8.

Ceryle alcyon. Belted Kingfisher. One seen fishing near camp on South Island April 10.

Aeronautes melanoleucus. White-throated Swift. A few seen flying over-head on South Island April 5, and over North Island June 2. One secured by Beck.

Calypte anna. Anna Hummingbird. Not common; only seen on the largest island.

Sayornis saya. Say Phoebe. Seen on North Island April 8.

Empidonax difficilis. Western Flycatcher. Fairly common on the hillside of North Island.

Empidonax traillii. Traill Flycatcher. One taken June 4 on North Island.

Corvus corax sinuatus. American Raven. Saw about six individuals during week of April 4 to April 11 on South Island.

Carpodacus clementis. San Clemente House Finch. These birds were abundant on all the islands. The males were of bright fine plumage, the coloration on the breast and head varying from a bright red to a yellowish orange.

Zonotrichia leucophrys gambeli. Gambel Sparrow. One taken on South Island April 4 and several seen on North Island April 8.

Melospiza coronatorum. Coronado Song Sparrow. Fairly common on all the islands. Three young just able to fly were seen on Middle Island April 8.

Spizella passerina arizonae. Western Chipping Sparrow. Noted April 8 on North Island; rare.

Pipilo maculatus subsp.? A Towhee was seen several times on South Island.
Helminthophila celata. Lutescent Warbler. Rare; two seen on North Island April 8.

Salpinctes obsoletus. Rock Wren. Common; noted on all the islands. By watching a pair of these birds I located their nest near camp on South Island April 5. It was ten feet from the tent and about sixteen feet above the water. The nesting cavity was lined with sticks and pebbles, but contained no eggs.

Polioptila caerulea obscura. Western Gnatcatcher. A few were seen on South Island flitting about in low bushes near the top of the ridge. About ten individuals were seen.

Pasadena, California.

FROM FIELD AND STUDY

The Northern Spotted Owl in California.—There is in the Univ. Calif. Mus. Vert. Zool. collection a specimen (no. 5941) of the Spotted Owl, ♀ adult, taken by F. W. Bancroft on Mt. Tamalpais, Marin Co., California, May 23, 1896. This appears to make the first record of the species in California north or west of Big Trees, Calaveras County, where found by Belding (Land Bds. Pac. Dist., 1899, 49). Furthermore, a comparison of the Tamalpais owl with examples from the San Gabriel Mountains of Los Angeles county, shows the former to belong to a separate race, very probably meriting the name *Strix occidentalis canrina*. The name *Syrnium occidentale canrinum* was applied by Dr. C. Hart Merriam to a race discovered in the Puget Sound Region. The characters pointed out by him (*Auk* XV, January, 1898, p. 39) seem to hold in every respect for the Tamalpais bird, tho evidently in a less degree. I have never seen an example of the Northern Spotted Owl from the Puget Sound region; but Merriam's description leaves me in little doubt but that I am safe in using his name for the race in the extreme southern end of the same continuous humid coast region. Briefly, the Tamalpais Owl, as compared with southern specimens, has the white-spotting everywhere, especially on top of the head, reduced; the dark areas, therefore, extended, and darker; the tipplings of the wing and tail feathers not pure white, but dusky marbled; and the plumage of the feet more heavily dark marked.—J. GRINNELL, *University of California, Berkeley, California.*

Sumichrast Blackbird in Tamaulipas, Mexico.—Mr. E. W. Nelson has identified as belonging to this species (*Dives dives*) a skin in my collection (no. 11219; ♀ ad.; near Tampico, Tamaulipas; Dec. 18, 1908; A. P. S.) taken by one of my assistants on the open plain about halfway between Tampico and Altamira, Tamaulipas. It was the only individual of the species secured at the time. This somewhat extends the range of *Dives dives* as given by Ridgway in his *Birds of North and Middle America*, Part II, page 254.—AUSTIN PAUL SMITH, *Brownsville, Texas.*

Note on the Nesting of the Cliff Swallow.—On April 29, 1909, I found a set of seven eggs of the Cliff Swallow (*Petrochelidon lunifrons*). The nest was of the usual type, one of a colony under the eaves of a barn. Is not a set of this number unusual?—D. I. SHEPARDSON, *Los Angeles, California.*

Some Unusual Records from Portland, Oregon.—Black-crowned Night Heron (*Nycticorax n. naevius*): A young male secured on July 29, 1908, on Government Island in the Columbia, twelve miles east of the city.

Mountain Chickadee (*Penthestes gambeli*): An adult female taken December 10, 1908, along the Columbia; it was in company with a flock of *P. atricapillus accidentalis*. I believe this is the first record from this vicinity.

Pileolated Warbler (*Willsonia pusilla pileolata*): A juvenile male taken December 11, 1908, east of the city, was in company with a large flock of Oregon Chickadees, Winter Wrens and Gairdner Woodpeckers, feeding among the willows along the river. A very unusual time of year for this summer warbler considering the cold stormy weather we had had for the past two months.

Arctic Horned Owl (*Bubo virginianus subarcticus*): A male taken during the blizzard in January, 1909.

Vaux Swift (*Chaelura vauuxii*): Two pairs of this swift have used a chimney in an old farm house near here for their nesting site for several years. It is to be hoped they will be undisturbed and thus become civilized like their eastern cousin, the Chimney Swift.

The unusual cold of this past winter was hard on our resident birds. During January I found dead birds in the snow of the following species: Mallard, Varied Thrush, Oregon Towhee, Rusty Song Sparrow, Western Meadowlark, Northwestern Flicker and Mountain Quail. The China Pheasants stood the cold remarkably well altho they became much emaciated, and I know of several being caught alive and cared for until the snow disappeared. Resident birds are much scarcer this spring than they have been for the past five years.—STANLEY G. JEWETT, *Portland, Oregon*.

Two Waders of Note from Santa Catalina Island.—Records of the following two species from California are yet not so numerous but that additional ones are of interest. The Grinnell collection contains a male in juvenal plumage of the Baird Sandpiper (*Pisobia bairdii*) taken at White's Landing, Santa Catalina Island, California, September 1, 1907. The same collection contains a juvenal male of the Ruddy Turnstone (*Arenaria interpres morinella*) taken at Howland's Landing, Santa Catalina Island, California, September 3, 1907. Both birds were secured by Mr. Howard W. Wright.—J. GRINNELL, *Berkeley, California*.

A Correction.—In THE CONDOR, March-April, 1909, p. 60, paragraph 2, read Baird Flycatcher (*Empidonax difficilis bairdi*) in place of Western Flycatcher (*Empidonax difficilis*); careful examination of specimens secured show their affinity to the first-named subspecies.—AUSTIN PAUL SMITH, *Brownsville, Texas*.

Further Notes on the American Crossbill in California.—In the last issue of this magazine, page 102, I neglected to state that the second example of *Loxia curvirostra minor* referred to had also been obtained at Nicasio. The exact date is not known, but it was many years ago and doubtless in winter.

Under the name *minor*, Mr. F. S. Daggett has recorded six Crossbills as taken December 26, 1898, in Pasadena (Bull. Cooper Orn. Club 1, May 1899, p. 51). At my request Mr. Daggett has sent me the measurements of these specimens, now in his collection at Oak Park, Illinois. With very little doubt, the form they represent is also *L. c. minor* just as originally recorded. Perhaps others of our winter records for the state pertain to the small race. Collectors having specimens should re-examine them.—J. GRINNELL, *Berkeley, California*.

A Correction.—My attention has been called to the fact that in my recent catalogue of Boulder County birds I omitted to credit the Red-eyed Vireo record to Mr. Horace G. Smith, who recorded it in the *Auk* in 1908. I certainly had no intention of claiming any credit for the record and do not know how the omission occurred.—JUNIUS HENDERSON, *Boulder, Colorado*.

Queries.—The published literature relating to California ornithology, altho relatively voluminous, still fails to inform us definitely of many apparently easily-obtainable facts we are continually wanting to know. The following are some instances in point; and it is highly probable that every one of these queries can be answered by various observers from personal experience. As the replies will be of general interest and value I suggest that each be written up as an article, either brief or extended, for the "Field and Study" department of THE CONDOR.

(1) What is the status of the "Olive-backed Thrush" in California? It should occur as a migrant. Has anyone specimens? (2) Is there a definite instance of the nesting of the Lead-colored Bush-tit in California? It should be found along the east side of the Sierras. (3) Does the Wren-tit occur at any point east of the Sierran divide? (4) Does the Audubon Warbler breed anywhere in the "Humid Coast Belt"? (5) Does the Brewer Sparrow nest anywhere west of the Sierra Nevada? (6) Has the Western Martin begun to nest about buildings extensively, as with the Eastern Martin? (7) There are very few nesting records of the Bank Swallow in California. What is its breeding range in the state? (8) Has anyone found any subspecies of the Fox Sparrow in summer in the Humid Coast Belt of California? (9) What is the status of the Junco reported from the coast region north of San Francisco Bay? (10) Does the Bicolored Blackbird intergrade with the San Diego Red-wing? (11) What is the subspecific identity of the Cowbird reported as breeding in the southern San Joaquin Valley?—J. GRINNELL, *Berkeley, California*.

THE CONDOR

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EDITORIAL NOTES AND NEWS

Pacific Coast Avifauna no. 5 (Bibliography of California Ornithology) and no. 6 (Ten-year Index to THE CONDOR) have been mailed free to Honorary Members of the Cooper Club and to all Active Members *not in arrears* for dues. If you have failed to receive your copies it *may* mean a mistake on the part of the management, or it *may* mean that you haven't paid up your 1909 dues! Our Business Managers announce that they will not send out either THE CONDOR or Avifauna to delinquent members. Nor will delinquent subscribers receive this magazine longer than one issue beyond the expiration of their subscriptions. This seems a drastic measure, but prompt payments are essential to our keeping above water, financially.

As bearing on a particular case we have in mind, where in a local list a species is published as "undoubtedly occurring" in the region under consideration, tho actual records are yet lacking, we quote the following appropriate remarks made twenty-five years ago by Stejneger (*Luk* I, October 1884, p. 359): "Conjectures as to distribution are always dangerous. The next step is, that an uncritical author takes up the statement as an undoubted fact, the assertion goes into other works, and future writers will have the greatest difficulty in tracing it back to its original source. There is no need of extending the

geographical range of a species before actual facts are at hand."

A distinctly retrograde step is that which we understand the A. O. U. Committee has just taken: to retain the apostrophe and "s" in common possessives. This is not a matter governed by any code of nomenclature, and the committee is clearly open to the grave charge of arbitrarily making the ruling (to be followed in the forth coming Check-list of North American Birds) contrary to a consensus of opinion among ornithologists. It will be recalled that we put this very point to a vote of CONDOR readers (which include all ornithologists in America), and it resulted unequivocally in the support of our custom to discard the useless "'s." Any lay bird student is just as well qualified to pass judgment upon convenience in vernacular names as any member of the A. O. U. Committee, perhaps better; and the latter should keep in mind the preferences of the majority when preparing the Check-List which must serve as our guide to bird names for probably the next decade.

We regret that certain bird students in Colorado have gone so far in their differences of opinion as to bring in the personal element. In other words, what was originally ornithological has gradually developed into a personal quarrel without general interest, and we have been compelled to refuse space for the latest "communication." We believe large good may result from argumentative discussions, and all such, relating to ornithology, we are glad to publish. But when a controversy, such as the one referred to, becomes merely personal, a magazine with the purposes of THE CONDOR is not the place for its exploitation (excepting as advertising, at regular rates!).

The Hon. Dean C. Worcester, Secretary of the Interior for the Philippine Islands, delivered two popular lectures on birds before the Philippine Teachers' Assembly for 1909. This Assembly is held, during April and May, at Baguio, Province of Benguet, the summer resort of the Islands. Mr. Richard C. McGregor, assistant in the Bureau of Science, Manila, was an instructor at the Assembly, and gave a course in the identification of birds, and the preparation of specimens.

Word comes from Harry S. Swarth, that his explorations in the archipelago of southeastern Alaska are bringing results of unusual interest. Three species of birds have been found entirely new to the avifauna of Alaska; and several hitherto unvisited islands have been found to harbor peculiar associations of bird-life not met with previously.

Wilfred H. Osgood, for nearly twelve years identified with the important work of the Biological Survey, has withdrawn from that institution, to accept the position of Assistant Curator of Mammalogy and Ornithology at the Field Museum, Chicago. His new duties began July 1st.

E. R. Warren is occupied with an all-summer collecting trip thru central Colorado. He reports that his "bird list is growing rapidly."

At the April Northern Division meeting the eggs of the White-throated Swift described in the May number of this magazine were exhibited, and proved a novelty to most of those present. This is probably one of the rarest of Californian bird's eggs. Altho the birds themselves are in many places abundant, the difficulty of access to their nests has usually prevented even a glimpse at the eggs. The set in question, obtained by W. C. Hanna, has been generously added by him to the collection of the State Museum of Vertebrate Zoology.

Owing to ill health, Mr. Frank Stephens has been compelled to withdraw from field-work, and is again at his home in San Diego. His work up to the end of June was on the edge of the Colorado Desert and in the Salton Sea district.

We wish to call special attention to Mrs. Meyers' article in this issue on the nesting habits of the Rufous-crowned Sparrow. This is an admirable example of a type of work which it is possible to undertake without recourse to a collection or library. Biographical accounts of this kind are still lacking in the literature of many of even our commoner birds, such as the Lazuli Bunting, Black Phoebe, Western Kingbird, etc.

The University of California Summer Session is more largely attended this year than for several years previously. In the course in the Birds, Mammals, and Reptiles of California, as outlined in the news columns of our last issue, there are twenty-two students. The study of birds in the field is exciting particular interest; altho it is not a part of the prescribed work outside time is freely appropriated for frequent class trips.

There is an increasing need for a convenient manual of colors, something after the plan of Ridgway's "Nomenclature of Colors," but more extended. The latter work is long out of print; our own copy, for example, has been put to such good use that it is becoming sadly dilapidated; and there is a fear that some of the colors have faded. Of course the demand for such a work is limited, and its publication could be expected only from some public institution able to stand the heavy cost. Here is an opportunity for some one properly situated to do systematic naturalists an invaluable service.

Mr. R. H. Beck who for the past year has been engaged in securing series of water birds in the San Joaquin Valley for the California Academy of Sciences, is now contemplating a visit to the Hawaiian Islands for the purpose of collecting pelagic birds for the same institution.

CORRESPONDENCE

Editor THE CONDOR;

There are two matters about which I wish to call the attention of those interested in bird protection. The first is, that the opening of the quail season is far too early in the high Sierras. Previous to September 1st, in the vicinity of Lake Tahoe, I took many tramps thru the mountains studying the birds and their habits. Just a day or so before September 1st I noted dozens of pairs of Mountain Quail with small young which had *just emerged from the egg*. No doubt a few also were still sitting on eggs. Yet *two days later the season opened*, and sportsmen from Tallac and other resorts, and also many hunters from the ranches about, were hunting in this very region, viz, Star Lake Canyon, the elevation of which is but little more than that of Lake Valley, which is 6220 feet.

Grouse, while they breed earlier than the quail in this region, are not always fully grown by September 1st either, as I observed juveniles at Mountain Meadows, elevation about 7500 feet, on August 24th. I feel that what is true concerning this region applies to the entire length of the Sierras, and as these birds are principally found only in the higher ranges I think for their protection, and for the ultimate benefit of the sportsman as well, the season for Mountain Quail should begin October 1st, and for Grouse, September 15th. I have always been puzzled to know why the season for these birds opens so much earlier than that of the Valley Quail which breeds considerably earlier than they do.

My experience has led me to believe that dogs on the Farallone Islands do more injury to the bird colonies there than any other agency. As other visitors to the islands have reached the same conclusion it seems that something should be done to have a law framed prohibiting any one with dogs landing on the island and prohibiting the keeping of any dogs or cats by those residing on the island. As they are all government employes it seems to me it would not be a very delicate matter. It may even be that at the present time no dogs are kept there, but most people going to the islands have found one or more. During my visit the dog kept by Keeper Kineen did untold damage to the colonies of almost every

species of bird breeding on the island, wrecking hundreds of nests.

MILTON S. RAY,
San Francisco, California.

April 29, 1909

[The above letter was sent to the State Game Commission, and the following is the substance of the reply.—ED.]

You will observe that in the new fish and game laws, there is a prohibition on the killing of Mountain quail and grouse up to Sept. 1st, 1911. The Mountain Quail have not recovered from the awful demands made upon them by the market hunters, when the quail were allowed to be sold in the market. Two years of close season should show a great improvement, but it is my opinion that the sheep have had much to do with destroying the nests of both the quail and grouse. My observation regarding Mountain Quail is that in the northern part of the state, especially in Siskiyou and Shasta Counties, they are well able to take care of themselves by September 1st; in fact, the people of that region tried to have the law open on August 15th. The Mountain Quail has a wider range than is generally supposed; I have seen them in Sonoma County, also in Mendocino at an elevation not to exceed 1500 feet. One reason why there is a difference in the seasons has been the influence brought about by the people living in the Sierras who claimed that unless they were allowed to shoot quail by the 1st of September, they got none at all, as their migrations commence shortly after; but these problems will work themselves out. Our people are becoming more accustomed to the restrictions and there is a better sentiment all over the state. In fact, the improvement has been most marked in the last four years and thru the Legislature we can accomplish more now than we could five years ago.

With regard to the Farallone Islands, that is territory over which we have no jurisdiction. It is a Federal Reservation, just the same as the Presidio. The Treasury Department at Washington exercises control over the Islands. Having been a witness to the damage done by dogs, a letter from you to the Treasury Department at Washington calling attention to the matter, or to the National Audubon Society at New York, might result in some order being issued that would tend to check this abuse.

Yours respectfully,

CHAS. A. VOGELSONG

Chief Deputy Fish and Game Commission,

Thayer Museum,
Lancaster, Massachusetts.

Editor THE CONDOR:—

My collector, Wilmot W. Brown, Jr., is still in the Cape region of Lower California. His letters are so interesting, I thought the readers of the CONDOR might enjoy them, therefore I

decided to publish them. The collecting of so many sets of such a rare bird as Craveri Murrelet and the description of their nesting habits is indeed interesting.

JOHN E. THAYER.

(Letter no. 1): *La Paz, Lower California, Mexico, January 20, 1909*: From La Paz I went by sea to Buena Vista and from there by mules to Eureka which is on the coast and lies seven miles south from Buena Vista. At Eureka I made a small collection while waiting for the mules from Miraflores to arrive. The most interesting species were a series of the Belding Maryland Yellowthroat, an Elf Owl and a Burrowing Owl. On the way to Miraflores I made a short stay at Santiago and collected a fine series of the Belding Maryland Yellowthroat in the laguna there. Also took several Marsh Wrens and a Carolina Rail. At Miraflores I spent over two weeks collecting while waiting for mules. I finally secured mules for the expedition to El Sauz a Sierra, about two and one-half days' trip with pack mules from Miraflores. El Sauz being the objective point of the expedition and an excellent region for the rare Laguna Sparrow, *Aimophila ruficeps sororia*, we pitched camp near a small mountain stream. We found it very cold up there, our tent many nights being stiff and heavy with ice. To get water for cooking purposes we had to break the ice. The elevation above the sea is about 4,000 feet. We camped there for about 16 days and secured a large series of Laguna Sparrows. It was sometimes difficult work in collecting them as they were found in very steep places. The species is not common there, as six specimens a day was the best I could do. Also collected three specimens of the very rare Xantus Screech Owl, and other interesting species of the Sierras. All are in excellent plumage. From El Sauz we returned to Miraflores where a short stay was made and two more of the Xantus Screech Owls were collected and several specimens of the Elf Owl also.

From Miraflores we took the pack mules to Santiago and camped at the Laguna within fifteen feet of the tules, and shot Belding Maryland Yellowthroats out of the back door of the tent. Also secured two more rails and some Marsh Wrens. But the most interesting were two fine full-plumaged *Megascops xantusi*. My cook getting the malaria or fever we struck camp and returned to Eureka with pack mules and from there to Buena Vista; and two days later by sea to La Paz in the schooner "Laurita." The collection is packed in 5 cases and numbers over three hundred and seventy-five specimens. It contains every species of owl recorded from Lower California—that is from the Cape Region as covered by Mr. Brewster's book. Of the Screech Owl there

are nine fine specimens. It may not be out of place to mention the fact that Messrs. Belding, Bryant, Frazar and Nelson did not meet with it on their expeditions in Lower California. There is also a very fine specimen of the Pigmy Owl from a new locality—Miraflores. As you know this is a very rare bird in collections. But what pleased me most of all on this expedition is a series of eight specimens of the tiny Micropallas or Elf Owl from several localities. It seems the only skins in existence from Lower California are two specimens in the U. S. National Museum at Washington! Messrs. Xantus, Bryant, Frazar and Nelson failed to meet with it, so it must be pretty good. Of the Dwarf Horned Owl there are two fine specimens. Also three Barn Owls, two Short-eared Owls and three Burrowing Owls. From Miraflores and El Sauz there is a general collection of birds.

On December 26, at El Sauz, I found a nest of *Columba fasciata vioscae*, with an egg. The nest was a platform of twigs, etc. In the mountain stream nearby the ice was nearly an inch thick! Several other nests were found but contained young ones.

(Letter no. 2): *La Paz, Lower California, Mexico; March 10, 1909.* I arrived here a few days ago from the islands of San Jose, San Francisco and El Callo. On San Francisco I took a series of Neotoma which may be new. The object of the expedition to the Islands was to make a search for the eggs of *Brachyramphus craveri*, the Craveri Murrelet. I am pleased to write you that I took over 40 eggs of this species on a rock that lies about two miles from San Jose Island. I also took a series of 35 skins. We found the Murrelets nesting in the crevices among the rocks of the bluff. The nest in all instances was a slight depression in the earth at the end of the crevice and generally contained two eggs, but some nests only contained one. The young take to the sea two days after being hatched! Twenty-two days is the period of incubation. The males help in the act of incubation, many males being taken on the eggs in the day time. In the early morning hours, particularly about an hour before dawn, there was much activity among the Murrelets, they at this time being seen in pairs chasing each other, and making much noise among the rocks. Our tent was at the foot of the bluff and it was impossible to sleep, the Murrelets made so much noise; for when they fly there is a loud whirring sound. Towards the end of our stay they learned that the walls of our tent were soft and seemed to take delight in butting into it in their amorous frolics. One pair in the excitement must have hit it head on, for they dropped to the ground with a thud and fluttered together under the side of the tent into my bed, where

I was trying to sleep. I caught them by throwing my blanket over them. This is the first collecting I have ever done in bed! They proved to be male and female. In the day time I did not observe any in the waters around the island. They seem to feed far out to sea, for with the exception of the setting birds in the crevices, I did not see any in the vicinity of the Islands in the daytime. But in the early hours of the morning the rocks of the bluff seemed alive with them; they all disappeared on the approach of dawn. This species has three distinct notes, the one of displeasure being very harsh. According to Mr. Brewster's book, it seems only one set of eggs of this species has been taken and that was on the Island of Raza in 1875, and was taken by Dr. Streets. The Island of Raza is over 300 miles north of San Jose Island.

On the Island of San Francisco, on a high headland overlooking the sea I found a Bald-headed Eagle's nest. The nest was a bulky structure and contained two eggs. This set seems to be the first recorded from Lower California. Also took a set of eggs of the Fish Hawk. On a Mangrove Island in a lagoon on the Island of San Jose I found a colony of Great Blue Herons breeding. I took about 25 eggs, and three sets of four eggs and three sets of three eggs. If I am not mistaken this is the first colony of Great Blue Herons discovered in Lower California.

Also took some more Snowy Herons, Oystercatchers, Mangrove Warblers, and Brewster Boobies. The above collection was made under difficulties. We camped on El Callo Rock at the foot of a bluff. With the exception of a few days the wind blew a gale during our stay there and threatened our tent with destruction. I had two sailors with me. On the second day on the Island one of them deserted me and returned to La Paz, for it was cold and very windy. I saved the tent by throwing up a wind break of rocks. During the gales we were literally prisoners on the rock, for we could not venture out in our boat, the sea being too rough.

Very truly yours,

W. W. BROWN, JR.

PUBLICATIONS REVIEWED

BIRDS OF THE BOSTON PUBLIC GARDEN, By HORACE W. WRIGHT, with an Introduction by Bradford Torrey and illustrations. Boston, Houghton Mifflin Company, 1909; pp. i-xx, 1-238; cloth, \$1.00 net.

This book contains the record of nine seasons' observations made in a city park and is a very interesting example of what may be done by one pursuing the study by way of pastime in

producing something of value by reason of the careful and regular attention given it.

As a local list, it would form a complete guide to those needing some help in making a beginning in the field of ornithology; as a migration record, it has a certain value to the advanced student, both as one of the few examples of published field notes and for the care and appreciation with which the field has been covered.

To one who has felt the same kindling of enthusiasm in the field set apart by such observers as Mr. Torrey and Mr. Wright, that of ornithology without a gun, the words of Mr. Torrey's introduction are particularly interesting. May these words indeed "set many another man upon the same delightful quest," and, so doing, give him that happiness which comes from sitting "in the saddle of a pet hobby horse, ambling at his ease, morning after morning, over the pleasant malls", if only of a quiet city garden.

The book is published in this well known firm's usual style with pleasing binding and careful printing.—H. T. C.

AN ANNOTATED LIST OF THE BIRDS OF BOULDER COUNTY, COLORADO, by JUNIUS HENDERSON. University of Colorado Studies, Vol. VI, No. 3; Boulder, Colorado; April, 1909.

This list which, according to the introduction, includes 216 species of birds known to occur in Boulder County, is a compilation based upon the published and unpublished observations of a number of ornithologists who have worked within the confines of the county at various times.

The introduction deals with the topography of the county, and is followed by a bibliography, which is only partially complete. The remarks under each species in the annotated list proper are exceedingly brief, only enough being said to establish the status of the species.

Taken as a whole, the list, which is 23 pages in length, altho written by a paleontologist, is quite comprehensive, and aside from the usual quota of errors in citation, omissions, etc., and a few rather surprising statements (e. g., the Lesser Scaup recorded as a "rare migrant") the list is well written and a timely contribution to Colorado Ornithology.—R. B. R.

BIRDS OF THE WORLD [a Popular Account by] FRANK H. KNOWLTON, Ph. D. [etc., 7 lines] | The Whole Edited by | Robert Ridgway | [one line] | with 16 colored plates and 236 illustrations | [monogram] | New York | Henry Holt and Company | 1909. Royal 8vo, pp. i-xiii, 1-873, ill. and col. pl. (as above). [\$7.00].

Not since the final edition of Cones' Key have we received a book already proving itself so generally useful as the one of the above

title. Of course its scope is so totally different that one does not think of it in the same connection as the several purely systematic works appearing lately. The text is popularly written, in the sense of being well-worded in complete sentences, and the matter shows itself to have been culled out so as to present the sort of information desired by the mass of its intended readers. Yet there is no carelessness in the way of inexact statements, and as far as we have read scientific correctness seems to have been the ambition of the author well realized. The convenience of having at hand abridged accounts of foreign birds we hear of frequently, makes the book one to keep on the reference shelf along with Newton's "Dictionary of Birds." The chapter on classification, giving an "Outline of the Classification of Birds," as adopted by Dr. Knowlton, and approved of by Mr. Ridgway, is a valuable feature. While the colored plates are rather poor, the text figures are good, tho few are new.—J. G.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

APRIL.—The April meeting of the Northern Division of the Cooper Ornithological Club was held in the lecture room of the Museum of Vertebrate Zoology at Berkeley on the 20th inst. The meeting was called to order at 11:30 A. M. with Pres. W. K. Fisher in the chair and the following members present: W. K. Fisher, J. Grinnell, Jos. Mailliard, R. S. Wheeler, J. Rowley, J. R. Pemberton, W. P. Taylor, F. E. Newbury, M. S. Ray, O. J. Heinemann, Carriger, Miss Alexander, Mrs. Grinnell, Mrs. Burnham and Dr. Ella Cool Walker.

The minutes of the last meeting were read and approved as read.

The motion was made and carried that the secretary cast the unanimous ballot of those present electing to active membership all those whose names were presented at the last meeting. [See list of names and addresses in last CONDOR.]

The motion was made and carried that the Secretary make a list of the publications in the Club's library to be disposed of and mail same to C. O. C. members.

On motion the club adjourned and thru the courtesy of Miss Alexander those present were enabled to examine the extensive collections contained in the new museum. After this all assembled beneath a large tree near the museum where a group photo was taken; a walk was then taken up a nearby canyon and lunch was enjoyed beneath the trees lining the stream.

H. W. CARRIGER, *Secretary*.

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THE CONDOR

A Magazine of Western
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Volume XI September-October, 1909 Number 5



W.K.F.

COOPER ORNITHOLOGICAL CLUB

Smithsonian Institution
SEP 27 1909

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Volume XI

September-October 1909

Number 5

SOME OWLS ALONG THE GILA RIVER IN ARIZONA

By M. FRENCH GILMAN

WITH FIVE PHOTOS

DURING the season of 1908 and 1909 I made the following notes on the owls found at the points here named, on the Pima Reservation in Arizona: Blackwater, 1362 feet altitude; Sacaton, 1275 feet; and Agua Caliente, 380 feet. Up to date six species have been noted: Western Horned Owl (*Bubo virginianus pallescens*), Barn Owl (*Aluco pratincola*), Spotted Screech Owl (*Otus trichopsis*), Burrowing Owl (*Speotyto cunicularia hypogaea*), Ferruginous Pigmy Owl (*Glaucidium phalaenoides*) and Elf Owl (*Micropallas whitneyi*).

Of these the Western Horned is most in evidence, both to eye and ear, tho perhaps not more numerous than some of the others. The Pima Indians call this bird Chú koot, and say it is the soul, spirit, or reincarnation of some of their dead. Their ideas on the subject seem rather hazy, and it is hard to get at just what they do believe on the question. Since a certain interview with a very intelligent Indian in California, I have been rather skeptical in regard to what Indians tell about their peculiar beliefs and notions. I was commenting to this Indian about a certain paper that had appeared wherein he was quoted concerning some Indian superstitions, etc. He laughed heartily and said, "Oh, when those people ask us a lot of fool questions we tell them most anything; we give them a good fill!"

Western Horned Owls are found mostly in cottonwood trees along the river, and at night range out on the alfalfa fields in search of gophers. I have seen them also in bluffs and cliffs on the rocky hills a few miles from the river. At Blackwater and Sacaton they are very numerous, but at Agua Caliente only one was seen, that on a rocky hillside. A favorite perch of the bird is the roof of a building, and there they sit and murder sleep in the most approved fashion, along about 2 A. M. I have been obliged to get up repeatedly and go out and throw rocks at them in order to get my normal amount of slumber.

The eggs are often placed in an old nest of the Red-tailed Hawk, in a cottonwood tree or a giant cactus (*Cereus giganteus*). The photo, taken by S. C. Mason of the Department of Agriculture and used by his courtesy, shows a nest in a big

cactus, and a careful scrutiny reveals an Owl's head projecting above the rim of the nest.

February 28, I found two eggs in an old Redtail's nest, 60 feet up in a cottonwood tree. Both old birds were at home but made no demonstration when I climbed to the home. A Redtail that perched in the top of a neighboring tree did not escape so easily tho, as the male owl savagely attacked him, and drove him off. March 14 another nest was found containing two eggs. This nest was merely a decayed hollow in the forks of a big cottonwood tree, 15 feet from the ground. The nest was discovered by throwing a club into the tree, when the bird flew out.



GIANT CACTUS (*CEREUS GIGANTEUS*); A WESTERN HORNED OWL IS TO BE SEEN ABOVE THE EDGE OF THE NEST IN THE FORKS

Nothing had been visible, but the tree looked owlish, and a bombardment brought results.

For at least four years a pair of these owls have nested in the pre-historic Casa Grande ruins; see photo by Frank Pinkley, the custodian. Mr. Pinkley told me the birds raised a brood each year in the old building, and had never been molested except once, when one of them developed a decided taste for prize Wyandot chickens. This was his undoing, but his widow secured another mate very soon and went on keeping house as tho nothing had happened.

Barn owls are rare in this locality, as I have seen only four of them in two years here; and one at Agua Caliente. The Indians call this bird Er-er-tvá-ho-tum, and say it is a blood-sucker or vampire. I helped capture two of the owls in the bottom of a dry well; another was seen in an old adobe building, while the fourth was in a cottonwood tree near the river. At Agua Caliente the owl was in a clump of mesquite trees at the base of a Mal Pais hill.

The Spotted Screech Owl is rather numerous, living in natural cavities and Gilded Flicker holes in cottonwood and willow trees. The Indians would give me no name for this owl; one man said it had a name but he had forgotten it; another looked puzzled and said he thought it had a name but he had never heard it. They all knew the bird however. The Screech Owl I believe is responsible for the disappearance of many of the smaller birds, and some of the larger ones. I have frequently found feathers in their nests, and last year saw remains of a Bluebird and an Oriole in one of their nests. Woodpeckers frequently fall victim as I have found remains of the Gilded Flicker, and Gila and Texas Woodpeckers in and near their nests and



CASA GRANDE RUINS WHICH A PAIR OF WESTERN HORNED OWLS MADE THEIR HOME FOR SEVERAL YEARS

retreats. The safety of birds nesting in holes near the home of these owls may depend on the food supply or on the temper of the destroyer. That they do not always molest birds near them is proven by the fact that nests of young birds may be found in holes very close to them. I saw a nest of young Flickers in a hole only three feet from the nest of an owl, and saw others only a few feet away. In holes in a dead cottonwood stump 25 feet high I found the following happy family: a Sparrow Hawk in the top story; a Gilded Flicker next; then a Screech Owl; and last a wood-rat.

March 29 was the earliest date of nesting, and the four eggs were about half incubated. April 12 was the latest date, with four fresh eggs; and on that date were also seen nests with young recently hatched. A hole in a low willow stump contained a dead owl on three addled eggs. One nest of young contained two partly eaten mice and some frog legs; but most holes showed signs that small birds figured largely on the bill-of-fare. Four eggs seem to make up the usual set, as the majority of nests contained that number; while sets of three were occasionally

found. Nests ranged from seven to twenty-five feet from the ground and were mostly in Gilded Flicker holes, tho sometimes a natural cavity was utilized. In most cases the sitting female seemed to be in a trance and made no resistance when taken from the nest. One bird when lifted from three downy young seemed completely dazed, and sat on my hand for a minute or more, then gravely tumbled back into the nest. A pair have nested for two years in a willow tree in a front yard here at the school. In the evening they are quite noisy and fly back and forth from the nest tree to a certain other tree nearby. The old ones seem to provide for and look after the young for some time after maturity of the latter.

Burrowing Owls, or, more properly, Ground Owls, are rare in this immediate vicinity, tho said to be more numerous on down the Gila river. I have seen only four here; one was dug out of a hole on the school farm by Indian boys; and another flew up in the face of my team one evening nearly causing a runaway. The Pimas call this owl *Kau-kau-hä'*.



AN ADULT FERRUGINOUS PIGMY OWL

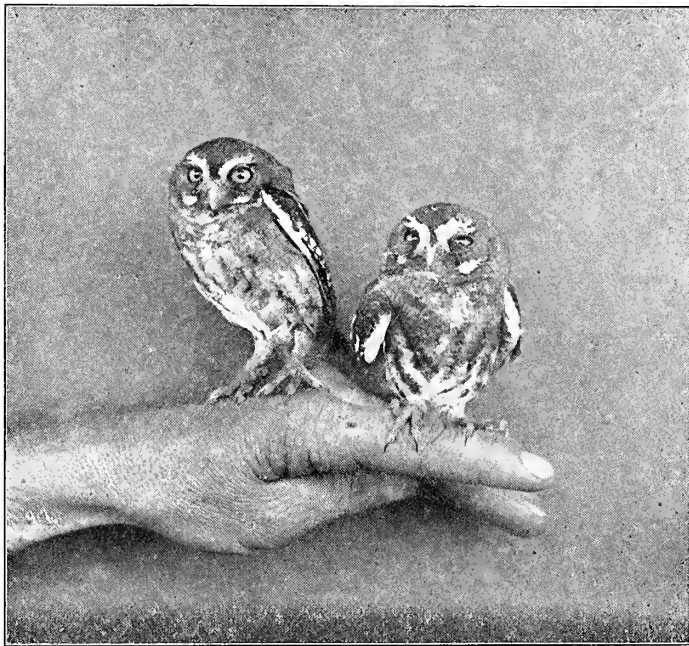
The little Ferruginous Pigmy Owl is fairly numerous and may be seen flying about in the daytime. They are not wild and the observer may approach as near as ten or fifteen feet before flight is taken. The bird will sit quietly with eyes staring at you, all the while impudently jerking his tail from side to side in a most undignified and un-owl-like manner. His call, given usually in the evening, is a diminutive hoot, repeated at short intervals. The only complete set found contained four eggs, and was discovered by seeing the bird leave the nest while I was a short distance from the tree and before any alarming demonstra-

tion had been made. She was very shy about returning to the nest. After returning, she hesitated some time before venturing into the hole, and when she did enter, she came out at once for a look around. At my first movement she hastily left the nest again, and when she came back her mate accompanied her. This nest was in a deserted Gila Woodpecker's hole 20 feet from the ground in a cottonwood tree. While they are sitting on a tree in plain sight they are not shy, but when in a hole they are very timid, afraid of being captured I suppose. A few times I have seen a head stick from a hole but every time the bird got out before I could approach very near.

At Agua Caliente I heard one of the owls hooting repeatedly one hot day, and investigating, found two hummingbirds busily attacking him as he sat in a mesquite tree. I began to look for his mate and soon saw a promising looking Gila

Woodpecker hole some seven feet up in a palo verde tree. Wishing to capture Mrs. Pigmy if she were at home I softly crept to the tree and stepped up on a low branch in order to reach the hole. At the first noise the bird attempted to leave, but a hand clapt over the hole stopt her. A big handkerchief was thrust down the hole while I enlarged it sufficiently to insert my hand and arm. When my hand reached the bottom I thought it was in contact with a live wire, and I was absolutely sure I had "grabbed a live one."

When the hand was withdrawn the owl came along quite easily. One claw was thru the nail of my little finger, another imbedded in big finger, while her beak was thrust deep into my thumb. Blood was running from all three wounds, and the bird hung on like a bulldog. It took no little diplomacy to remove her without forming an entangling alliance with the other hand, but she was finally safe in a handkerchief. I will back one of these owls in a rough and tumble fight with any-



ADULT PAIR OF ELF OWLS

thing twice the size. The nest contained one egg, a small matter to put up such a big fight about.

A cage was provided for Lady Bite-'em, and experiments in diet began. She freely ate the bodies of small birds collected, and was properly patriotic in that she showed a savage delight in assimilating English Sparrows. I kept her about six weeks and her appetite improved all the time, any small fry being grist for her mill. She usually began eating at the head, and while she ate freely in the daytime, she disliked being watcht at her meals. I handled her frequently, at first with gloves on, in order to prepare her for a photograph. She objected to posing, but after some difficulty a picture was secured by Mr. E. W. Hudson, in charge of the U. S. Experiment Station here at Sacaton. When I releast her, she made off at once, her powers of flight not at all impaired by the weeks of captivity.

The tiny Elf Owl by reason of his strictly nocturnal habits is rarely seen. My

first one was flushed from a hole by rapping on the base of a tree. I collected him, and returning, climbed the tree to another promising-looking hole higher up. Cutting into this I secured the female. The first bird had been shot at long range, and suffered only an injured wing, so I took them home and kept them in a cage for a short time. They freely ate what few crickets and grasshoppers I could secure for them, but refused to eat small birds. Mice were not procurable, and the supply of insects running short, I had to add them to my collection of skins. During the day they remained very quiet, but at night made a choice assortment of noises, which, as I kept them in my room, were very entertaining, especially about midnight. One note very much resembled that of the Western Bluebird, and another sounded like the squeak concealed in a rubber doll. At no time did they bite or scratch, and were very easy subjects to pose for a photograph. I am indebted to Mr. Hudson for the pictures of these owls as well as for that of the Pigmy.



ELF OWL

May 10, I cut into a woodpecker's hole in a cottonwood tree and secured an owl and one egg. I took the bird home and in the night she laid another egg, and as a reward I turned her loose. Out driving one day I noticed an Elf head stuck from a hole in a giant cactus some 16 feet from the ground. I drove the wagon close to the tree, and by standing up on the back of the seat could reach the first limb. Up the cactus I scrambled and scratched my way, while Mr. Hudson applauded and took a snap-shot with his camera. By standing on top of a branch I could reach the hole, but found no eggs to compensate for time afterwards spent in removing spines from various portions of my anatomy.

The Pima Indians seem to make no distinction between the Elf and the Pigmy Owls, calling them both *Koó-ah-kohld*. I showed both species to them, and pointed out the difference, but it was all one to them. So I have to be content with their specific names for only four of the six owls found here.

Sacaton, Arizona.

THE NESTING OF THE HEERMANN GULL

By PINGREE I. OSBURN

WITH TWO PHOTOS

IN the spring of 1909, it was my privilege to be one of a party to make a cruise down the west coast of Mexico in search of interesting forms of bird and animal life. The primary object of my trip was to discover, if possible, the nesting place of the Heermann Gull (*Larus heermanni*). Every year these birds have migrated south in the spring and were generally supposed to breed somewhere in the Gulf of Lower California. After a sea voyage of over 1500 miles (from San Diego, California) they were located breeding on a remote rock off the coast of the State of Jalisco, Mexico, in about the parallel 18° N.

Prior to the time of the visit of our party little or nothing was known of the habits of these birds in their breeding grounds, and the observations taken in this colony have brought to light many facts.



NESTING GROUNDS OF THE HEERMANN GULL: ISLANDS OFF
COAST OF JALISCO, MEXICO

No Heermann Gulls were seen on the trip until found at their breeding grounds, nor were any noted flying about at any distance from the nests on the rock, which would indicate that they do not wander away from their colony in the nesting time, as do the Western Gulls (*Larus occidentalis*). When approaching a colony of Western Gulls its nearness is evidenced by occasional individuals sailing about for miles on all sides of their nesting grounds. Not so with *Larus heermanni*. They were not seen farther than one-half mile from the colony. Possibly this is one reason why their nesting grounds are easily overlooked. This fact was impressed upon me clearly while getting acquainted with the species in its native haunts. We were anchored two days near the nesting rock before the first bird was seen.

My first glimpse of the birds was when an adult flew near enough to our schooner for identification, and I at once determined to make an effort to find more; for what was an adult doing in these waters at the height of nesting time, April 10? The next morning (April 11) I noted a few flying about over a low flat rock a little distance from our anchorage. It was here that I first found them breeding

and here that the majority were nesting, altho there were about nine pairs on another rock lying fifty yards to the north, and a few scattered individuals which I will mention later.

As our boat neared the island a few more, beautifully plumaged adults came out to greet us, and when I climbed over the top of the cliff which surrounds the rock, I came in view of the entire colony.

The rock was about twenty-five feet high and fifty by one-hundred-and-fifty feet across, with a plat of coarse bunch grass a foot high in the center, and along the edge a barren strip of white rock broken up here and there with crevices and boulders. The rock contained thirty-one pairs of breeding birds, ascertained after a careful count. The birds in the nesting grounds behaved in much the same manner as the Western Gulls, but were tamer, swooping down within a foot of my head and alighting nearby, while I was photographing in the colony.

Their cry was an oft-repeated "cow-awk", "cow-eek", given when high in the air, and a rapid guttural "caw-ca-ca-ca" when hovering near the nest.

No adults were noted eating other gulls' eggs, nor did I see them disturb the Blue-footed Boobys (*Sula nebouxi*) which were nesting on a nearby island. They were beautiful with graceful flight and striking plumage.

The plumage of the adult birds is too well known to warrant a description here. Of the series now in my collection (one skin of which was taken by Mr. Chester Lamb, my companion and co-worker on this trip) both sexes are identical, with pure white heads. One downy young was taken on my second visit to the rock, three days later, April 14. At this age the bird shows a soft downy coat, of a light creamy color on the underparts, which merges into vinaceous cream buff on the mantle and nape; crown and occiput slightly speckled with black; nape clear cream; entire back and rump heavily spotted with blackish slate color; wings, under side plain white, upper parts spotted with blackish; flanks pale cream spotted with blackish. Measurements in millimeters, length 148, wing 30, bill 17. Bill hooked, nostril near middle, section on upper mandible back of nostril dark, remainder light brownish. A few immatures were seen flying near the rock. Their entire plumage was soft, sooty gray, except blackish on tail and wing quills.

A cursory survey of the rock showed that it was steep on all sides. The birds undoubtedly preferred the level ground for a nesting place, as only one set was found on this cliff.

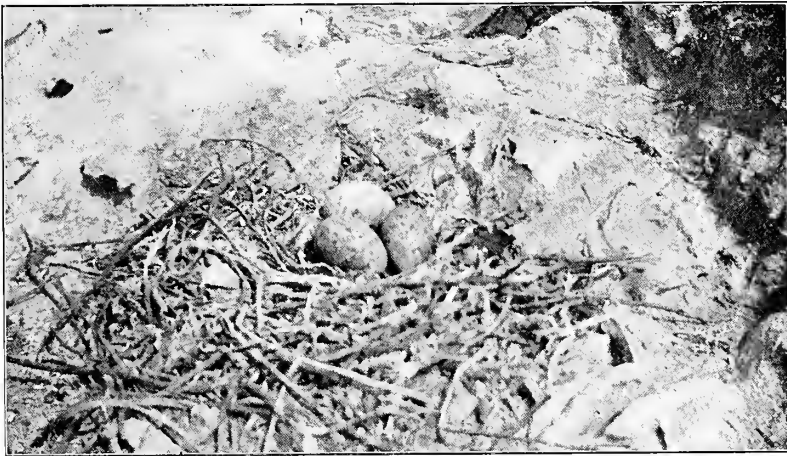
The nests were located usually between boulders, or nestled down in the bunch grass in the center of the rock. Those in the grass were usually well made of sticks, dry grass and weeds, and sometimes with a slight lining of feathers. They were much better made and more compact than those of the Western Gull. Several nests in my collection still show their original shape and construction; also retain the strong odor peculiar to these birds on their nesting grounds. A few sets were found with almost no nest, simply a cup-shaped cavity scantily lined with shells and a stick or two. The nests were well scattered about over the rock, no close grouping being evident. The measurements of the nests average, in inches: outside width 10; depth $2\frac{1}{2}$.

No other species of Gull was seen in company with the Heermann Gulls, and none within hundreds of miles of these islands.

The eggs of this species are unlike those of other Gulls, and can be distinguished with a series. My series show the usual variation in color and size so common in eggs of the genus *Larus*. In shape they are in general identical with others of this genus. Sets vary considerably in size, and average smaller than those of *Larus occidentalis*. The first visit to the rock was on April 11. At this time about one-

third of the eggs were heavily incubated. The remainder were in all the lesser stages. The sets contain two and three eggs in about equal numbers, with a possible majority of three. Extreme sets measure in millimeters: 63×44 ; 61×41 ; 60×42 (this was the largest); the smallest measures 58×41 ; 56×42 ; 53×36 (this last egg was the smallest of the series). Of the series of sets of three the average measurements are: 58.1×41.3 ; 58×41.4 ; 57×40.2 ; the largest set of two is 60×43.2 ; 59.2×42.1 ; and the smallest measures 58.4×41 ; 56.1×41.3 ; average for sets of two, 59×40 ; 58×40.3 . The average sized egg is 58×40.2 .

The eggs show the greatest variation in color. The general ground color is pearl gray with a very slight creamy tinge. In some the ground color is ashy gray and in others light bluish gray. All the eggs are spotted and blotched, the markings showing no particular rule for location at one end or the other. They have faint lavender spots which are covered with smaller but more distinct spots of grayish brown, umber, grayish blue and dark lavender. They are very rarely scratched with fine lines, but occasionally the spots and splashes show a trend to a lengthwise direction. A few examples also have faint wreaths about the large end. Where



TYPICAL NEST OF THE HEERMANN GULL

this occurs the area inside the wreath is usually void of heavy markings and decorated only with faint irregular lavender spots. In extreme examples the eggs range from one egg, which is indistinctly speckled with cinnamon brown and marked evenly with faint lavender, to an egg which has a ground color twice as deep as the egg just mentioned, and heavily spotted with dark olive and dark lavender. There is also one set of three which is especially unlike the others in that the eggs are smaller and more elongated, both ends of the egg being almost identical in shape. This set is differently marked also. The spots are dingy and not clearly defined as in the remainder of the series. In all, they are the handsomest eggs of any species of this genus which I have ever seen.

Besides the colony described, which was the most prominent, there was a small one of nine pairs on a rock fifty yards north of the main rock. There were also a few individuals nesting in remote locations on another rock. These nests were difficult to locate and this was only possible by watching the bird until she hovered near the nesting site. It seemed unusual to find Gulls nesting in separate pairs, while a colony was near.

The islands are rocky and barren except for occasional bunches of grass and wild pineapples, and are a wild, picturesque habitat for the Heermann Gull.

Pasadena, California.

FALL NOTES FROM EASTERN KANSAS

By ALEX. WETMORE

THE material upon which this paper is based, consists of nearly six hundred skins, collected by Mr. Charles D. Bunker and myself on two collecting trips in the same region.

This locality is known as Washington Creek, and lies about eight miles in a direct line southwest of Lawrence, Kansas, in the edge of the hills, and is back from the main traveled roads running into the hills. The draws are timbered with oaks and elms, with a thick undergrowth of buck-brush and briars in places. There are two creeks here: Washington Creek, and a smaller one known as Hasty Creek, both lying to the west. One line of hills is bare of timber, being covered with sumachs and tall scattering weeds, with numerous rocky points projecting from it, and a level valley lying below. Along Washington Creek are some fair-sized growths of heavy bottom timber.

Our two trips were made from September 14 to 21, 1907, and September 11 to 18, 1908, and were made in the interests of the Kansas University Museum, our object being to collect birds mainly, together with what mammals offered themselves. Camp was made both times in a draw where it widened between two hills, and a tent was pitched to sleep in, while we used an old two-roomed cabin for a work room. The mornings were spent in collecting and the afternoons in preparing specimens.

During 1907 we had very poor weather, as the wind blew almost constantly from the southwest, and it was excessively hot. On only two or three days was it quiet, and the birds in consequence remained well under cover. We had one light rain during the night, which, however, did not hinder our field work. The second year the weather was more in our favor, as what wind there was came mostly from the north, and favored rather than hindered migration. One light rain fell during this year also.

Most of our collecting was done within a radius of three miles of camp, and in this territory we had a great variety of ground, ranging from small marshes to barren hill-tops. The tall trees about camp attracted the birds, and many of our meals were interrupted by a chase after a desirable specimen, which frequently was pursued into the nearby timber.

It is a matter of some interest to note the difference in the results obtained on the two trips. During 1907, with the strong southwest winds, migration was practically almost at a standstill, and a great share of the birds obtained were the resident species. Several of the residents, such as *Hylocichla mustelina*, *Spiza americana*, and *Setophaga ruticilla* were taken, while *Ictinia mississippiensis* could have drifted up from the south under the impulse of that same wind. The season seemed less advanced, too, as was shown in the plumage of the birds, many of those taken being in full molt.

The next year this was entirely changed. Many of the smaller migrants were

taken, and the total number of species was half again as great as on the preceding year. The plumage of the birds was also better as a whole, and farther advanced. Small bands of migrants were frequently seen in the morning and evening, working toward the south, something that was entirely lacking the year before. A list of the species taken on each of the two years is introduced here for the sake of comparison.

1907

<i>Bartramia longicauda</i>	<i>Passerina cyanea</i>
<i>Porzana carolina</i>	<i>Spiza americana</i>
<i>Colinus v. virginianus</i>	<i>Piranga erythromelas</i>
<i>Zenaidura m. carolinensis</i>	<i>Piranga r. rubra</i>
<i>Cathartes a. septentrionalis</i>	<i>Riparia riparia</i>
<i>Ictinia mississippiensis</i>	<i>Vireosylva olivacea</i>
<i>Accipiter cooperi</i>	<i>Vireosylva g. gilva</i>
<i>Otus a. asio</i>	<i>Lanius v. s. solitarius</i>
<i>Coccyzus a. americanus</i>	<i>Vireo g. griseus</i>
<i>Dryobates v. villosus</i>	<i>Comothlypis a. ramalinac</i>
<i>Dryobates p. medianus</i>	<i>Dendroica a. aestiva</i>
<i>Melanerpes erythrocephalus</i>	<i>Geothlypis t. brachydactyla</i>
<i>Centurus carolinus</i>	<i>Icteria v. virens</i>
<i>Antrostomus vociferus</i>	<i>Setophaga ruticilla</i>
<i>Colaptes a. luteus</i>	<i>Dumetella carolinensis</i>
<i>Chordeiles v. virginianus</i>	<i>Toxostoma rufum</i>
<i>Chaetura pelagica</i>	<i>Thryothorus ludovicianus</i>
<i>Sayornis phoebe</i>	<i>Sitta c. carolinensis</i>
<i>Nuttallornis borealis</i>	<i>Bacolophus bicolor</i>
<i>Myiochanes virens</i>	<i>Penthestes a. atricapillus</i>
<i>Cyanocitta c. cristata</i>	<i>Penthestes a. septentrionalis</i>
<i>Corvus b. brachyrhynchos</i>	<i>Hylocichla mustelina</i>
<i>Quiscalus g. aeneus</i>	<i>Planesticus m. migratorius</i>
<i>Astragalinus t. tristis</i>	<i>Sialia s. sialis</i>
<i>Cardinalis c. cardinalis</i>	

1908

<i>Butorides v. virescens</i>	<i>Chaetura pelagica</i>
<i>Colinus v. virginianus</i>	<i>Archilochus colubris</i>
<i>Zenaidura m. carolinensis</i>	<i>Tyrannus tyrannus</i>
<i>Cathartes a. septentrionalis</i>	<i>Myiarchus c. crinitus</i>
<i>Otus a. asio</i>	<i>Sayornis phoebe</i>
<i>Coccyzus a. americanus</i>	<i>Nuttallornis borealis</i>
<i>Ceryle alcyon</i>	<i>Myiochanes virens</i>
<i>Dryobates v. villosus</i>	<i>Empidonax flaviventris</i>
<i>Dryobates p. medianus</i>	<i>Empidonax virescens</i>
<i>Melanerpes erythrocephalus</i>	<i>Empidonax trailli alnorum</i>
<i>Centurus carolinus</i>	<i>Empidonax minimus</i>
<i>Colaptes a. luteus</i>	<i>Cyanocitta c. cristata</i>
<i>Antrostomus vociferus</i>	<i>Corvus b. brachyrhynchos</i>
<i>Chordeiles v. virginianus</i>	<i>Quiscalus g. aeneus</i>
<i>Chordeiles v. henryi</i>	<i>Astragalinus t. tristis</i>
<i>Chordeiles v. sennetti</i>	<i>Spizella p. pusilla</i>

Cardinalis c. cardinalis
Passerina cyanea
Piranga erythromelas
Piranga r. rubra
Vireosylva olivacea
Vireosylva g. gilva
Lanius s. solitarius
Vireo g. griseus
Vireo b. bellii
Mniotilta varia
Vermivora r. rubricapilla
Vermivora c. cclata
Compsothlypis a. ramalinuae
Dendroica virens
Sciurus auropallidus
Oporornis agilis
Geothlypis t. brachydactyla

Icteria v. virens.
Wilsonia p. pusilla
Wilsonia p. pilcolata
Setophaga ruticilla
Dumetella carolinensis
Toxostoma rufum
Thryothorus ludovicianus
Troglodytes a. parkmani
Sitta c. carolinensis
Bacolophus bicolor
Penthestes a. atricapillus
Penthestes a. septentrionalis
Regulus c. calendula
Hylocichla f. salicicola
Hylocichla u. swainsoni
Planesticus m. migratorius
Sialia s. sialis

In the 1907 list there is a notable absence of many common summer residents of the region, as: *Sturnella m. magna*, *Euphonia virens*, *E. acadicus*, *Agelaius phoeniceus*, *Pipilo erythrophthalmus*, *Lanius l. migrans*, etc. The individuals of the species listed were not at all common and were very retiring. A few of the large Raptores were seen, but as none were taken they are not listed. Three species only, *R. riparia*, *L. solitarius* and *I. mississippiensis*, can be classed as true migrants, and of these the latter is a straggler from the south. Any of the others might have been breeding birds in the immediate vicinity. In fact as stated before there was during the period no appreciable migrational movement.

In the 1908 list the following common summer residents were taken, which were not found the previous year but which might be expected to occur regularly in comparative abundance: *C. alcyon*, *B. v. virens*, *M. c. criuitus*, *E. virens*, *S. p. pusilla*, *V. b. bellii*, and *T. a. parkmani*. *T. tyraunus* was merely a belated migrant and *A. colubris* is at best of uncertain occurrence in this locality.

The main part of the other birds, not taken the previous year, were the smaller migrants, which should occur regularly at this season and consisted in great part of the warblers. Conditions were particularly favorable for the migration of these birds, and on several occasions considerable flights of them were found. The other birds were more or less numerous, and more active also, and were easier to find, and on several cool mornings the birds were almost as noisy as they are in October.

This list is offered merely to give some idea of the avifauna of this part of Kansas in the early fall, and as much credit for it is due to the efforts of Mr. Bunker as to myself. There are many other species which can be added in succeeding years, but for the two periods in question, I believe it to be fairly complete. Collecting at this time of the year is rather disagreeable work anywhere, but we found it especially so. The heat made struggling thru the dense thickets, with the luxuriant growth of vegetation found there, exceedingly hard work, and when we worked the timber, the cobwebs caught on our faces and hands in the most exasperating manner.

Specimens were taken of all the species listed.

1. **Butorides virescens virescens.** Green Heron. A few of these birds were seen

along Washington Creek, but they were not at all common. One was also taken at the edge of a pond in the weeds, where it was feeding on frogs.

2. *Porzana carolina*. Sora. One taken Sept. 19, 1907, in a small marsh, was the only one seen. We were rather surprised to find it here, as it was a dry marsh, far from water, and there had been no rain for some time.

3. *Bartramia longicauda*. Bartramian Sandpiper. A single bird taken in an open field on top of a hill on the morning of Sept. 22, 1907. It had apparently just come in, and was looking for a place to light.

4. *Colinus virginianus virginianus*. Bob-White. During 1907 there were one or two pairs of quail along the side-hill south of camp, where they could be heard calling during the morning and evening. The next year there were at least three coveys within a radius of a mile; but the nearly grown birds were hard to flush. The birds here were probably from first settings, and were larger than those found in the river bottoms, whose first nests were destroyed by the heavy June floods.

5. *Zenaidura macroura carolinensis*. Mourning Dove. Common in suitable localities along Hasty Creek. We were sure of finding from two to a dozen during the morning and evening, near a ford, where they came for water. During the morning they sat around in the trees a good deal, and frequently came flying swiftly into water, while we were watching. Several young birds were taken in the immature plumage. The birds were seen usually two, three, or four together, showing that the male, female, and their young had remained in company after the nesting season.

6. *Cathartes aura septentrionalis*. Turkey Vulture. During 1907 there were three or four of these birds in the vicinity, but the next year the number had increased to twenty-five. They spent most of their time around the hills to the south, but shooting disturbed them, and when we were out in that direction they usually soared off across the valley. One or two, and sometimes the whole flock, were in sight from camp nearly all day long.

7. *Ictinia mississippiensis*. Mississippi Kite. During 1907 a flock of a dozen of these birds was found every day feeding over the bare hills south of camp. There was a long ridge here, with a series of points projecting from it, the whole covered with sumach bushes and tall weeds. In this cover there were great numbers of a species of cicada, on which the kites were feeding. They hunted back and forth in long circles, soaring and turning, hardly ever getting very far from the earth. Occasionally one swooped down over the brush, and captured an insect, and sailed off eating it while flying. We never saw the birds in trees during our whole stay, but always on the wing. The first day they were tame, and came right around us, and it was a minute or two before we realized what they were. We had several good shots, but had no loads heavy enough for them, and so were forced to come back later on. We got one that afternoon (Sept. 14, 1907) and two others later (Sept. 15 and 16), but the birds had become wilder and were hard to get. We had to remain quiet hidden in the weeds until the birds drifted around close enough for a shot.

They appeared to roost somewhere to the east, as they always came from that direction in the morning, and went that way in the evening. Those taken had all eaten nothing but the cicadas, and were exceedingly fat. They were gone by September 20, and were not seen again. We looked for them carefully the next year, but failed to find them. This is, so far as is known, the farthest north that they have been taken in the state, tho they are reported as nesting near Baldwin, Kansas.

8. *Accipter cooperi*. Cooper Hawk. These hawks were fairly common tho wild, and were seen nearly every day. One specimen in immature plumage was taken September 19, 1907. It was flying around the trees above camp just at daylight, calling "kek-kek-kek-kek" and was shot by Mr. Bunker after some trouble in locating it.

9. *Otus asio asio*. Screech Owl. Common all around camp but only one or two seen. In the evening they were quite noisy, and it was a pleasure to hear their tremulous notes, while we were sitting around in the dusk, smoking, reading or telling yarns after a hard day's work. We could never tell whether the notes came from the trees above us, or from farther away, and we tried several times to locate the birds without success. One night about nine o'clock while I was sitting on a stone wall watching for whip-poor-wills, an owl swoopt down at my head several times. It was very dark and I could only see a shadow as it went by, but by a chance shot, I secured it with the auxiliary barrel.

10. *Coccyzus americanus americanus*. Yellow-billed Cuckoo. This species was common in the timber everywhere, and its loud notes were often heard. They were rather shy, however, and while we were moving around we only saw a few, most of our birds flying in on us, when we were motionless. They were excessively fat, and the greater part of them were molting, so that they made poor specimens. Occasionally we heard their notes at night.

11. *Ceryle alcyon*. Belted Kingfisher. One or two seen occasionally along Washington creek, but the streams in the neighborhood were too small to attract many of the birds. The only one taken was excessively fat, showing that there was an abundance of food, as would naturally be expected; but the Kingfisher appears to prefer larger streams as a whole, and does not wander far back along the smaller creek.

12. *Dryobates villosus villosus*. Hairy Woodpecker. Common everywhere thru the timber, and a number were taken. All were in fine plumage, and most of those secured were shot in the trees above camp.

13. *Dryobates pubescens medianus*. Downy Woodpecker. These little birds were common everywhere in the timber, and numbers were seen. They appear to have about the same habits the year around and are always trusting and confiding. They are one of the most abundant birds in this vicinity, taking the year as a whole, and are more numerous than in any other locality where I have ever collected. Forty-one specimens were taken.

14. *Melanerpes erythrocephalus*. Red-headed Woodpecker. These birds were met with as stragglers in the edges of the timber on both years, and one or two were taken around camp. Stragglng flocks occurred along Hasty Creek, where the birds kept to the tops of the smallest trees. They were in company with the flickers, and like them, made long flights across the fields. Of twelve specimens, only three are adult, and, of the immature birds, the females appear to be slightly paler in color than the males. One immature bird shows a few red feathers on the crown and throat.

15. *Centurus carolinus*. Red-bellied Woodpecker. These woodpeckers occasionally came into the trees about camp, but most of them were found in the timber. One or two of the adults taken are in very highly colored plumage.

16. *Colaptes auratus luteus*. Northern Flicker. These birds were fairly common along the edges of the timber, and in the creek bottoms, but were wild and hard to secure. They did a great deal of flying back and forth between the hills, and the high trees above camp proved a tempting resting place for them. *Colaptes c. collaris* appears to occur here only during the fall and winter.

17. *Antrostomus vociferus*. Whip-poor-will. These birds were common both years, but were seen only a few times. Promptly at dusk they began to call, and sometimes half a dozen could be heard at once, in the different draws near camp. We always noticed that the birds began calling from the hillsides away from where we had hunted during the day, and so inferred that they flew ahead of us, and thus avoided being seen. Considerable time was spent in looking for them the first year, but none were taken. The second year as we were finishing supper one evening, a single bird flew into a big tree above camp, and sat there for a few seconds, chucking harshly. As it flew out it was shot. I have no doubt it was attracted by the unusual sight of the tent under the trees, and came down to investigate it.

18. *Chordeiles virginianus virginianus*. Nighthawk. Nighthawks were fairly common during both years, but not as much so as in a more open locality. The greater part of them past to the west of our camp, outside of the line of hills, and we noticed them often in the evenings in that direction. Sometimes, however, a flock would pass directly thru the camp, and several were taken in the daytime from the limbs, where they were resting until it was time for them to feed again.

19. *Chordeiles virginianus henryi*. Western Nighthawk. Three of the specimens taken in 1908 have been referred to this form.

20. *Chordeiles virginianus sennetti*. Sennett Nighthawk. Two specimens taken September 12, 1908. They were shot from a flock which past thru camp just at daylight, and remained to feed around the edges of the timber for a few minutes. This is the first authentic record of this species for the state, to my knowledge, but I think that they will be found to be regular migrants, at least during the fall. Others taken from the same flock were referred to *C. v. henryi*.

21. *Chaetura pelagica*. Chimney Swift. These birds were migrating daily during both years. Most of them past over high up going either south or southwest, but by getting up on the bare hills south of camp, we were able to observe them closer, as here they frequently came down almost to the ground. Sometimes a small flock would stop to feed around some clumps of trees near the base of one hill, and we secured several here. A south wind checkt their migration somewhat, but not entirely. They were seen more often during the forenoon and late afternoon.

22. *Archilochus colubris*. Ruby-throated Hummingbird. During the fall of 1908 these birds were fairly common, but the preceding year none were seen at all. They were feeding around the thistle patches and by walking around these, we secured a number. They were most active in the warmer part of the day, and were seemingly indifferent to the blazing heat of the sun. This is the only time that I have remarkt many of them in one locality within the state. We collected them with the aux, and after a bird was shot, it was usually a problem to find it in the dense tangle of weeds, briars, and thistles, above which they were feeding.

23. *Tyrannus tyrannus*. Kingbird. One taken September 18, 1908. This is rather a late record, as most of the birds leave about September 1. The bird taken was found in an old pasture, some distance from camp, and was the only one seen.

24. *Myiarchus crinitus crinitus*. Crested Flycatcher. A few birds of this species noted in the timber during the second year, and two taken.

25. *Sayornis phoebe*. Phoebe. Phoebes were found scattered along the more open portions of Hasty Creek, where they percht usually above the water. All those taken were fine specimens in fall plumage. Only a few were seen on each year, and all were observed in the same locality. During the spring and early summer, they are not so local in their distribution.

26. *Nuttallornis borealis*. Olive-sided Flycatcher. One bird taken each of the two years. They were silent, and were found on the edge of the timber in one of the draws near camp. This species appears to be a rare spring and fall migrant, in the vicinity of Lawrence.

27. *Myiochanes virens*. Wood Pewee. These birds were fairly common in the bottom lands along Washington Creek, and several specimens, principally in immature plumage, were taken.

28. *Empidonax flaviventris*. Yellow-bellied Flycatcher. One immature female taken September 14, 1908. These birds are rare migrants here, and I have always found them in the draws in the edge of the hills.

29. *Empidonax virescens*. Acadian Flycatcher. One taken September 15, 1908, was the only one noted. The time of the year, however, was rather unfavorable for the flycatchers, and only a small number of each of the other species was observed.

30. *Empidonax traillii alnorum*. Alder Flycatcher. One immature female, taken September 15, 1908, was the only one noted.

31. *Empidonax minimus*. Least Flycatcher. Two of these little flycatchers were taken in the draw back of camp. In the afternoons towards evening, these, and the other species of *Empidonax* found, were feeding in this draw, when everything was still, except for the shrilling of the cicadas. The flycatchers would fly a few feet, making an audible flutter with their wings, and then perching, remain still for perhaps five or ten minutes, so that it was very hard work to locate them. This probably accounts for the small number taken.

32. *Cyanocitta cristata cristata*. Blue Jay. Very common, both in the timber along the creek bottoms, and in the oaks along the side-hills. A large series of these birds was taken as the stomachs were wanted to determine the food habits. They were nearly all in very poor plumage, especially about the head. Some, however, were in perfect fall dress, and were very handsome. Around camp we found them shy; but in the mornings when we had gone, they always came down to investigate, and probably to pick up food among the camp refuse. In the timber, they were feeding upon acorns and ground beetles. All those taken the second year, were in much better plumage than the year before, showing that the season was farther advanced.

33. *Corvus brachyrhynchos brachyrhynchos*. American Crow. Crows were common everywhere. The side-hills and draws near camp are favorite nesting places with them in spring, and young crows were seen and heard continually. Most of them were in very poor plumage, and we only made eight skins. One morning I shot a crow on the wing, as it flew high over camp, and for the rest of the day, seven or eight of the birds lingered around the point of a hill, a short distance away, cawing and watching, as if wondering what had become of their companion.

34. *Quiscalus quiscula aeneus*. Bronzed Grackle. In Lawrence there is a large grackle roost to which the birds begin to resort in July, and by September are fully assembled. In the morning they start out in long lines over the country, in search of feeding grounds, and the vicinity of our camp, especially during the fall of 1908 was a favorite place with them. They usually came in about eight in the morning, and began the return flight about five in the afternoon. First we would see a few straggling flocks coming in from the northeast, and following these a long black line, undulating and twisting, always following the exact turns made by those in the lead, but preserving, on the whole, a straight course. They usually alighted in some clump of trees, and poured in until the limbs were black,

and the confusion of their notes filled the air like the tumult of a great waterfall. If they were startled, and all arose at once their wings made a loud roaring noise, and the birds wheeled around until decided which way to go. Usually in the early morning they fed for a time in the oak woods in the draws, but later on spread out in the cornfields in the bottoms. We secured quite a few of them by random shots into the large flocks. The adults were just completing the molt, but the young birds were in good plumage. A curious habit, alluded to above, was that of the long flocks following every dip and turn made by the leader. Frequently I have seen one flock following another at a distance of a quarter of a mile, suddenly dip downwards at approximately the same place, as that at which those in the lead had performed the same evolution. On one occasion, this led to disaster as one flock dodged under a wire, while the flock following miscalculated the distance, and one bird was struck down to the ground, stunned and disabled. I have noted the same habit in other species of the Icteridae: in *A. phoeniceus* and *E. carolinus*.

35. *Astragalinus tristis tristis*. American Goldfinch. Fairly common during both years. Usually they were seen flying overhead, but several times we encountered a flock near a ford on Hasty Creek where they came for water. Two, of the six taken, are immature birds in brownish plumage, and the rest are adults just beginning the molt.

36. *Spizella pusilla pusilla*. Field Sparrow. These little sparrows were in a bad state of molt, and some of them were hardly able to fly. We tramped them out of the weeds, on the hills to the south, and for a while I was uncertain as to their identity on account of their plumage. The first one secured, however, settled the matter. One partial albino was taken, having patches of white on the feathers of the scapulars, interscapulars, and rump. Three of the immature birds are in the juvenile striped plumage. They were seen only during 1908, none being encountered the previous year.

37. *Cardinalis cardinalis cardinalis*. Cardinal. All those taken were badly molting, and some of the adult males especially, were in very ragged plumage. A number of young were taken with dusky instead of red bills. Two were secured that had barely left the nest, and were just able to fly. One of these was taken September 19, 1907, and the other September 16, 1908, which indicates very late nesting for them. The birds were very shy and secretive, and were silent, except for their customary sharp call notes.

38. *Passerina cyanea*. Indigo Bunting. This species was common in the weed patches along the borders of the fields, and at the edge of the timber along the creeks. Quite a number were taken, both adults and young, the former being in a bad state of molt. One young bird, just out of the nest, was taken September 18, 1908. This is the first time I have noted such late nesting in this bird. The adult males were heard giving the flight song on several occasions.

39. *Spiza americana*. Dickcissel. One taken September 19, 1907, from a flock of three in a small marsh. A few others were seen flying overhead, but they were not at all common, and most of them had left for the south. None were noted the second year.

40. *Piranga erythromelas*. Scarlet Tanager. A few found in the bottom woods, along Washington Creek, working thru the trees with the other smaller migrants.

41. *Piranga rubra rubra*. Summer Tanager. Fairly common during 1907, but only a few seen during 1908. They were found in the oak timber only, and we heard their queer notes often, coming from a draw east of camp. Usually two were together, tho for what reason I could not guess.

42. *Riparia riparia*. Bank Swallow. A single bird taken from a small flock of other swallows September 19, 1907, was the only one noted.

43. *Vireosylva olivacea*. Red-eyed Vireo. This was the commonest of all the vireos, and was found in the timber everywhere. Great numbers of them were mixt in with the migrating flocks of warblers, and they also past thru the trees above camp. They gave their usual call note frequently, and it was possible to trace them up by that, as they were not at all wild. This is a common breeding species here.

44. *Vireosylva gilva gilva*. Warbling Vireo. This species was fairly common both seasons, and several were taken, mostly in the heavier timber. So far as noticed they were silent, and were found with the migrating flocks of warblers.

45. *Lanivireo solitarius solitarius*. Blue-headed Vireo. Three specimens of this bird were taken, and this is the first time that I have noted it personally in Kansas. They are probably a regular but rare migrant, occurring along the streams. Two of our birds were taken in 1907, and one the year following.

46. *Vireo griseus griseus*. White-eyed Vireo. This bird was found in the dense thickets on the hillsides, and was very hard to locate. We heard their notes and songs on every visit to these localities, but the birds themselves remained so well hidden, that we succeeded in getting them only after long watching.

47. *Vireo bellii bellii*. Bell Vireo. There were a few of these birds in the thickets on the brushy hillsides during 1908, but they were shy and hard to locate. Only one was taken, on September 15, 1908; but we heard their notes and an occasional song nearly every day.

48. *Mniotilta varia*. Black-and-White Warbler. One adult male taken September 14, 1908, from a flock of migrating warblers, and none others seen.

49. *Vermivora rubricapilla rubricapilla*. Nashville Warbler. This is a regular tho rare migrant in this vicinity. We found them during 1908, in the dense brush and tangled grape-vines along Hasty Creek, where they could be secured only by patient watching. They were very quick and active, and usually when seen were too close to shoot without entirely destroying them.

50. *Vermivora celata celata*. Orange-crowned Warbler. One taken September 14, 1908. The fall migration is rather a poor time for warblers in this vicinity, and only a few scattered examples of most of the species were observed.

51. *Compothlypis americana ramaïnae*. Western Parula Warbler. Found in the heavy bottom timber along Washington Creek. Several specimens of this small warbler were secured from flocks of migrants, and more were seen on both years.

52. *Dendroica aestiva aestiva*. Yellow Warbler. One taken September 20, 1907, from a flock of other migrating Warblers and Vireos.

53. *Dendroica virens*. Black-throated Green Warbler. One bird taken September 16, 1908, from a small flock of warblers in the trees above camp. This bird appears to be of regular tho rare occurrence, during both spring and fall migrations.

54. *Seiurus aurocapillus*. Ovenbird. One taken from a considerable flock of warblers September 14, 1908, was the only one seen. The breeding birds had all left for the south.

55. *Oporornis agilis*. Connecticut Warbler. One taken September 14, 1908, in a brushy thicket near camp where it was in company with numerous other warblers. This bird is rather rare in this vicinity, and but few specimens have been taken.

56. *Geothlypis trichas brachydactyla*. Northern Yellowthroat. All of these

birds taken were found along a line of hedge thru a hay field. They were fairly common but were hard to secure, as they were silent and kept hidden in the thick base of the hedge. I saw the flight song given on one occasion. Those taken are intermediate in measurements between *brachydactyla* and *occidentalis*, but apparently belong to the former, as they agree closely with the eastern race in color, and the wings and tail do not average long enough for the western.

57. *Icteria virens virens*. Yellow-breasted Chat. These shy birds were fairly common along the hedges in the fields. They were entirely silent and we only secured them by beating the hedges carefully, one on each side. Usually they slipped ahead of us to the end of the hedge, and then we could locate them. All those taken were exceedingly fat.

58. *Wilsonia pusilla pusilla*. Wilson Warbler. One taken in a hedge September 14, 1908. It is an immature male in fresh plumage.

59. *Wilsonia pusilla pileolata*. Pileolated Warbler. An immature female taken September 17, 1908, from the same locality as the preceding, is referable to this form. To my knowledge this is the first published record of the occurrence of this variety within the state.

60. *Setophaga ruticilla*. American Redstart. Rather rare both seasons. The nesting birds had nearly all left and only a few stragglers remained. We shot one that dropt into the creek, and while we were watching it, and debating how to secure it, a big bull-frog swam up from the bottom and gobbled the bird whole, disappearing with a splash, thus settling the matter and the bird as far as we were concerned.

61. *Dumetella carolinensis*. Catbird. Very common in the thickets on the hillsides, where we secured quite a series of them. One bird was still in the juvenile plumage, with rufous markings showing on the abdomen and lower breast.

62. *Toxostoma rufum*. Brown Thrasher. These birds were common in the thickets, and along a gully which ran thru camp. We secured a good series of them, and all were in clear, fresh plumage. They were rather shy, but were more easily secured than the smaller birds. While we were beating the thickets they frequently flew up into the tops of the smaller trees, and scolded us.

63. *Thryothorus ludovicianus*. Carolina Wren. During the first year the only birds of this species noted were seen along Washington Creek, more than a mile from camp; but in 1908, three or four had their haunts in a gully that ran past the camp, and we heard them every day. Usually at daylight a pair would waken us by their loud scolding notes just outside the tent, but later in the day they were more secretive, and we secured only one specimen after considerable trouble.

64. *Troglodytes aedon parkmani*. Western House Wren. Not common. A few found along stone fences and brush piles during 1908, and one taken. They were rather shy and silent, as usual at this time of the year, and could have been easily overlooked.

65. *Sitta carolinensis carolinensis*. White-breasted Nuthatch. Several of these birds were taken, all in the larger bottom woods along Washington Creek; but they are not at all common at any time here, and would be easily overlooked by one not familiar with their notes.

66. *Baeolophus bicolor*. Tufted Titmouse. Common everywhere in the timber. Several birds of the year and a good many adults were taken. These birds were not as noisy as they are in the winter.

67. *Penthestes atricapillus atricapillus*. Chickadee. These birds were abundant everywhere in the timber, and a large series of them was collected. They were

usually found in small flocks. The greater part of the specimens I referred to *P. a. atricapillus*, tho they do not agree closely with eastern specimens. The greater part of them are intermediates, verging toward the western form, *septentrionalis*, and in many cases it is difficult to decide where they belong. About eighty per cent can be referred to the eastern variety, and this is apparently the dominant breeding bird.

68. *Penthestes atricapillus septentrionalis*. Long-tailed Chickadee. Several birds of this variety were taken, and they appear to be of regular occurrence in this vicinity, as mentioned in the notes under the preceding variety. Ninety skins were made of the two varieties.

69. *Regulus calendula calendula*. Ruby-crowned Kinglet. On several mornings I noticed one or two of these birds feeding in some willows near the tent, and one immature female was taken September 18, 1908. None were taken during the preceding year.

70. *Hylocichla mustelina*. Wood Thrush. One taken September 20, 1907, was the only one seen. The rest had already gone south in the fall migration.

71. *Hylocichla fuscescens salicicola*. Willow Thrush. Two of these birds were taken, one September 12, and one September 16, 1908. They were found in rather open thickets, one being taken on the side-hill, and the other in the ravine near camp. I have one other specimen in my collection, taken September 28, 1907, in this same locality, and these three constitute the only records for the state to my knowledge. I have been confidently expecting to secure them sooner or later, however, as they have been taken so much further east.

72. *Hylocichla ustulata swainsonii*. Olive-backed Thrush. A single one taken September 17, 1908, was the only one seen. Thrushes, other than robins, were rare during both years, and only a few were taken.

73. *Planesticus migratorius migratorius*. American Robin. During 1907 robins were more abundant than the succeeding year, and were found in the thickets on the hillsides, and along the creeks. Some of those taken were still in the spotted juvenile plumage, but most of them had almost completed the molt to the adult plumage, some of the birds showing a full winter dress. All those taken the second year were much more advanced in molt, and in better condition than the year previous.

74. *Sialia sialis sialis*. Bluebird. Common in flocks of from six to a dozen along the country roads. These flocks mark family groups, and frequently contained spotted individuals and others just molting out of the juvenile plumage. Twenty-five specimens were taken.

Denver, Colorado.

CLIFF CLIMBING FOR PRAIRIE FALCON EGGS

By GEORGE RICHARDS

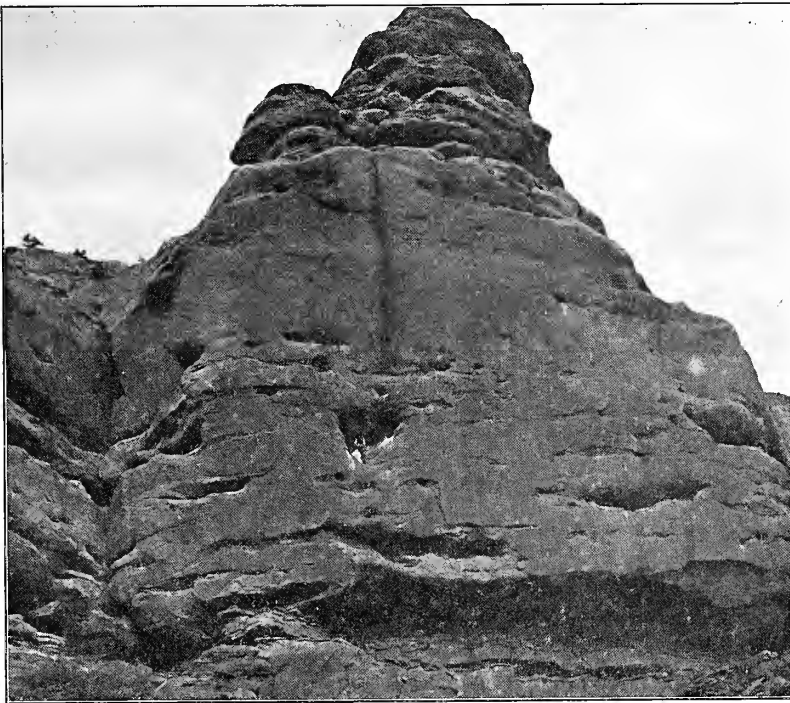
WITH TWO PHOTOS

CLIFF climbing can hardly be termed a sport in spite of its many thrills and pleasures. This is especially true when the climbers are amateurs and equipment limited. Even when a rare or interesting set of eggs leads one to make the attempt, his nerve suffers a queer sensation when he looks down the one

hundred feet of sheer rock wall to the sharp-edged stones below, and thinks what would happen to him if he should make a slip.

Such were our feelings when we stood peering over the side of a red sandstone cliff nearly one hundred feet in high and slanting in near the base. This cliff is situated among the foothills about twenty miles to the southwest of Denver, at the canyon known as Deer Creek. One of the party, Mr. Harold Durand, had noticed that for two years before, a pair of Prairie Falcons (*Falco mexicanus*) nested there; so, on this day, May 2, 1909, we resolved to explore the face of the cliff.

A little more than a third of the hight from the bottom was a cave-like opening about six feet high, four wide, and three back. Here the falcon had located her nest, soon to be disturbed by this party of egg seekers, with Mr. Durand as climber to represent them.



NESTING SITE OF PRAIRIE FALCON NEAR LITTLETON, COLORADO

As the rope went over the side of the cliff Mrs. Falcon could stand the excitement no longer and left the cliff protesting loudly. On looking over the edge the climber decided that he would rather climb up from the bottom than risk going over the top. Loops were tied in the rope about every ten feet so that he might rest. As he drew up opposite the opening, the cheering word came down to us, "five eggs." After a few pictures had been taken from below, the camera was sent up to the man in the cave for the photographing of the eggs. When this had been performed the camera returned and up went the egg box, each of the party below sending up some special directions, by wireless, as to the packing of the eggs. Now in order to correctly identify the eggs it was necessary to collect either or both of the birds. We had one shell left, and held our breath as Mrs. Falcon sailed over within range. The gun crackt. A piercing scream came from the bird.

She descended involuntarily to the earth. A shout of joy arose from every member to celebrate the end of a perilous but successful day. The eggs were well advanced in incubation; the average measurement was 2.03 inches. The reader's attention is called to the similarity of this nest to that described by Mr. Peabody in the November number of the CONDOR, 1907.

Littleton, Colorado.



NEST AND EGGS OF PRAIRIE FALCON, IN RECESS IN FACE OF SANDSTONE CLIFF

NESTING NOTES ON THE LUCY WARBLER

By M. FRENCH GILMAN

THIS trim little gray warbler with chestnut rump and crown patch (*Vermivora luciae*), might properly be termed the Mesquite Warbler, as his favorite shelter, home and playground seem to be furnished largely by the mesquite, and insects about the bloom of the tree loom large on his daily menu. It is very numerous about the mesquite groves and other growth along the Gila river bottom and seems to be the only warbler nesting in this locality.

The few notes here presented were made during the seasons of 1908 and 1909 at points along the Gila river in Arizona. Observations were made at Blackwater, 1362 feet elevation; Sacaton, 1275 feet; and Agua Caliente, 380 feet elevation. At the latter point, about 100 miles down the Gila river from Sacaton, I spent two weeks last April and found the Warblers more plentiful than at the other places mentioned.

The Warblers appeared at Blackwater and Sacaton, both seasons, the last of March, and soon began nesting. The full quota of birds seemed to arrive at once; as the first day I saw any—March 29—they were apparently as numerous as at any time afterwards. They are very active little sprites, flitting about usually in the extreme tops of the trees, whether mesquite, cottonwood or willow. They are most numerous in groves of mesquites not far from water, tho this may be from the fact that more trees and other cover are found not far from the river.

They utter a cheerful little call note, and during nesting, a rather pleasing song which recalls, without really resembling, that of the Yellow Warbler. The song has the effect of impressing the idea of extreme heat upon the listener, the same as that produced by the noise of the cicada on a hot, breathless day.

In nest-building the female seems to do all the work, her mate sometimes accompanying her on trips to and from the tree, but more frequently flitting about the tops of adjacent trees, occasionally uttering his little warble. One pair I watcht had a nest in a Texas Woodpecker hole in a palo verde tree about 15 feet from the ground. The female brought material to the nest three times in two minutes, then a seven minute interval, followed by two trips in three minutes. The male accompanied her on two trips and then made himself scarce. He indulged in no singing and both birds were silent, tho in many cases one or both birds gave the call note at intervals.

Shyness about the nest seems to be a characteristic of these birds. It was rarely I could see the bird leave the nest when approacht, and only two nests were discovered by flushing the female from the tree. In one case I brusht against a mesquite stump that had been cut back and had started a new growth, and the bird darted out so near the ground that I did not think much about a nest. But force of habit made me look carefully and a nest was discovered only 18 inches from the ground. By carefully concealing myself and waiting, the birds would return to the nest; but sometimes quite a wait was necessary.

The male birds were erratic in their behavior about singing. I found that they did more singing during nest-building than after completion or during incubation. They took good care not to sing in the nest-tree, preferring to confine their performances to trees some distance away. The male would frequently meet me several rods from the nest and flit from tree to tree singing at short intervals. Once I made a complete circuit of the nest tree and he accompanied me the entire distance. This was an exceptional case of course. While going from tree to tree and singing, the bird usually tried to keep hidden as much as possible and was rather successful in the effort. In about half of the cases coming under my observation the male bird sang somewhere near the nest. In the other half no song was heard, and in some instances no sound at all.

In three cases only, did the parent birds show what might be called the proper amount of solicitude when the nest was approacht. Some of them seemed rather touchy about their nests, leaving them if the nest were toucht even so lightly. The first nest I found was easy of access and I put my finger on the rim in order to depress it sufficiently to look inside. A later visit showed the nest deserted, tho it was about completed at my first trip. Another nest had one egg when found and was not disturbed other than by looking into it, but another visit showed it deserted. It may depend on the individuality of the bird, as another nest found containing one egg was not deserted, tho I had to enlarge the opening in order to see into it. Another incomplete nest was cut into and upon concealing myself the bird went on with her work. A later visit showed three eggs. It is either the personal equation, or else some other disturber visits the nest after the first time.

Four general types of nesting sites were noticed, in the following order of frequency: in natural cavities, under loose bark, in woodpecker holes, and in deserted Verdins' nests. Of 23 nests observed, 12 were in natural cavities, 4 under loose bark, 4 in woodpecker holes, and three in the Verdin's nests. Natural cavities were of various kinds. Some were where a limb had been broken off; others in the crack made by a large branch splitting from the trunk; and again a decayed spot furnished a sufficient hollow to conceal the nest. In all cases the site was in a sheltered or protected position; that is, the trunk leaned enough to shade the entrance from above. A mesquite tree was usually selected, tho others were taken. Of the nests observed, 15 were in mesquites, 5 in palo verde, 2 in ironwood, and one in catsclaw. And speaking of ironwood, I have the most profound respect for the perseverance, endurance and bill-power of the little Texas Woodpecker who drills his nest hole in one of these trees. After cutting into one with a pocket knife, I am willing to give him all possible credit.

The nests were usually not far from the opening of the cavity, three or four inches in most cases, tho exceptions were noticed. One nest was in a deep crack about seven inches from the entrance, and another was six inches deep. The woodpecker hole chosen must have been incomplete as the Warblers nest was only three inches below the entrance. The Verdins' nests used were male winter nests re-lined to suit Mrs. Warbler, and were about six feet from the ground.

Usually a tree standing out by itself was selected, and in no instance was the nest found in a thicket or dense grove. One bird had the home in a dead palo verde, the only dry tree I saw so used. Generally the home tree was not far from water, tho some nests I found were two and three miles from a drink.

The nests were small and compact and well hidden in their cavity. Only twice did protruding material betray the location. In one case nesting material protruded from a woodpecker hole, and the other was a bulky nest that showed from each side of a split branch. This last nest I thought must belong to a House Finch, but investigation showed warbler ownership. Nests were made of bark, weeds, and mesquite leaf-stems, and lined with fine bark, horse and cow hair, a few feathers, and sometimes a little rabbit fur. The site averaged six and one-half feet from the ground, the lowest being 18 inches and the highest 15 feet.

The earliest completed nest found was April 10, and the latest, May 15. Complete sets of 3, 4, and 5 eggs were found. In June and July, family groups of the Warblers were seen about the mesquite trees, tho at the present writing, July 16, the groups seem to be breaking up and scattering.

Sacaton, Arizona.

NOTES ON SOME BIRDS OF KERN COUNTY

By HARRY H. SHELDON

A MINING trip last summer (1908) took me into a region where I found bird life to be exceptionally interesting, for the reason that the country was in two district faunas. A desert-like country abruptly cut into by a mountain range caused the desert and mountain species to mingle in peculiar association. The notes obtained were mostly taken at random as I had but little time to devote

exclusively to bird work. But from the fact that this part of the country is a new field for the ornithologist, my notes altho incomplete will I trust be of interest.

We were about twenty-five miles northeast of Bakersfield, in Kern County, in a rocky little gulch of the Long Tom mining camp. This is in a chain of foothills known as the Poso Range, which is the dividing line between a vast expanse of barren buttes and mesas, and the big timber country of the Green Horn Range, a part of the Sierras. About the mine the country is rolling and barren except for numerous outcropping granite ledges. But to the north of us, with the increasing altitude, which is about 500 feet along the range, a scant growth of scrub oak commences to relieve the monotony of the country. Occasionally a spring would give nature a chance to decorate the dry surroundings with a clump of willows, and in such places a variety of birds would be found nesting.

In one instance when I was on my way to the Granite Station post office, a six mile walk from Long Tom, I made an unusual discovery. It was a hot day in August, about 110 in the shade, and visions of a tall cold glass had already commenced to make that desert thirst seem unbearable, when the quarrelsome chatter of several Kingbirds compelled me to change my course in the direction of a clump of willows standing alone in a little piece of desert country and shading a small herd of cattle. The cattle, a bunch of wild two-year-olds, stampeded in a body at my approach, causing considerable excitement among the bird residents. These proved to be of more than one variety. In the five trees, three of which were willows and two cottonwoods, I counted fourteen nests. Seven were of different species. The Kingbirds' I noticed first in the top branches of one of the cottonwoods; three families were in evidence, one brood still in the nest. A California Cuckoo next attracted my attention to one of the willows; and I found a nest belonging to this species, with the remains of a dead young one and some egg shells. It seemed probable that the bird seen was one of the parents, as the contents were of recent date. Evidently the mate had met death in some manner, with the result that the nest was deserted. The nest was six feet from the ground, placed on a large branch about five feet from the body of the tree. Several dead limbs and surrounding twigs gave it a sheltered appearance. In this same willow, where a mass of old leaves and dead branches had collected between the center limbs, was a nest of young Towhees. In the cottonwood with the Kingbirds were two Doves' nests, one with half-feathered young; and a Lark Sparrow's nest also contained young. In the remaining willows were two nests of the Bullock Oriole with the young about the trees, and three Doves' nests. And last but not least, in the center of the other cottonwood was a big black bunch that proved to be an old nest of a Red-tailed Hawk; and when I started up to investigate, out flopt a Barn Owl, which awkwardly circled into the air and laboriously flew in the direction of a dead oak far away on the range above. It was evidently just a good roosting place, for nothing denoting the presence of an owl family was seen.

Of course, such an unusual nesting occurrence was infrequent. Only in one other case did I find as many nests together. Two cottonwoods standing by the well at Long Tom contained sixteen nests, of which eleven were Bullock Oriole's; one Lark Sparrow's; two Kingbirds' with young; one Dove's nest and one House Finch with young. More than half of the Orioles' had been occupied that year and three contained young in July.

I found the Rufous-crowned Sparrow to be quite plentiful along the range, inhabiting the wild gooseberry thickets in the canyons and in such patches growing among the rock piles on the hills. On several occasions I noticed young birds with their parents, and recently occupied nests in the vicinity possibly belonged to this species. The birds were not uncommon, and owing to the bareness of the

country they select for a breeding place, it would be comparatively easy to locate their nests in the proper season.

The most conspicuous bird about us was the Rock Wren, and altho I found an occasional nest in a niche or crevice of a rock wall or boulder, their favorite haunts about the mines were the entrances to old diggings, shafts and tunnels where between the timbers and the wall was afforded fine shelter for a nest. In such places I found several nests, but all vacated. The birds were tame and would frequently roost between the rafters of our cabin. One little fellow was bold enough to come thru the roof of our kitchen and help himself to anything in his line. He seemed to know just the right time to call, for when I would return from the mine to prepare lunch, I would invariably get a glimpse of his tail feathers disappearing thru a hole in the roof; and the tell-tale footprints in the "hold-overs" of the previous meal gave evidence of the Rock Wren's doings. Many good things have been said of this bird and he is certainly deserving of them. His pleasing characteristics and inspiring song helpt much to leave me a pleasant memory of the comparative desolation of Long Tom.

Poso Creek, about three miles from Long Tom as the crow flies, is the real mecca for bird life of this region. At a point directly at the foot of the Long Tom gulch is the most picturesque part, as it passes thru a narrow gorge with perpendicular cliffs rising some three or four hundred feet in places. Huge boulders which in some decay have slid or dropt from the hills above, form the creek bed, and together with a thick growth of sycamores and cottonwoods with their handsome foliage, make a picture one would hardly imagine seeing in the dry barren country that bounds the creek on either side. A miniature stream with just enough water to give one a satisfactory drink, trickles down the rocky formation of the creek bed, but eventually disappears in the sand where it leaves the gorge.

From here on, the trees and thickets of blackberry vines, impenetrable patches of nettles and other underbrush, mark its course thru the buttes and mesas to the San Joaquin Valley. And from the pine wood country at its source at Poso Flat, to its termination in the San Joaquin, is a stretch of collecting ground that should reveal some surprizes for the ornithologist.

Thru the kindness of Mr. Grinnell the identity of a few species taken was made certain, particularly the new record for the Black-throated Sparrow. The following list includes a majority of the birds seen in the region of Long Tom.

Oreortyx pictus plumiferus. Mountain Quail. One was flusht on Pine Mountain three miles north of Long Tom. The species is very rarely seen as low as this, but is plentiful in the Greenhorn Range.

Lophortyx californicus vallicola. Valley Quail. Abundant, more so than I have ever seen them elsewhere in California. Not seen south of Poso Creek.

Zenaidura macroura carolinensis. Mourning Dove. Plentiful, breeding anywhere near water.

Cathartes aura septentrionalis. Turkey Vulture. Common.

Accipiter cooperi. Cooper Hawk. Seen once near Poso Creek.

Buteo borealis calurus. Western Red-tail. Common everywhere.

Buteo swainsoni. Swainson Hawk. Seen once.

Aquila chrysaetos. Golden Eagle. One day I saw a pair making great sweeps toward the earth from a terrific hight. They were almost directly above me and the performance was the greatest spectacle of flight I have ever witnest. They would poise for a second, close their wings and then shoot downward like meteors for a hundred feet or more; then swerve up, repeating the same thing over and over until they reacht terra firma. It seemed as tho they just did it for fun, one

trying to beat the other to earth. They separated upon reaching a short distance from where I was standing and disappeared over a hill. In a few minutes a familiar screeching whistle echoed up the canyon and, sneaking down to a turn some hundred yards below, I saw one of them perched on a cliff a hundred feet from me. I pictured a fine mounted specimen for my den. But then it is probably better that the gun had been left behind.

Falco peregrinus anatum. Duck Hawk. One seen about the cliffs above Poso Creek, and a female taken August 16 in the Long Tom gulch.

Falco sparverius. Sparrow Hawk. Common everywhere.

Aluco pratincola. Barn Owl. Common in the rocky canyons and about the mines.

Otus asio bendirei. California Screech Owl. Heard at Poso Creek.

Bubo virginianus pacificus. Pacific Horned Owl. Common along the Cliffs of Poso Creek and in the canyons of the foothills. A female taken August 14.

Speotyto cunicularia hypogaea. Burrowing Owl. Common south of Poso Creek.

Geococcyx californianus. Roadrunner. Common on Poso Range. A specimen taken July 19. In one of the large steel water-tanks at the mine I found two young birds which had fallen or jumped in for a drink and were drowned. There were four of these tanks, which proved to be death traps for many birds and mammals. Twice I picked out ground squirrels in a dying condition which had fallen or jumped into these half-filled tanks. Cottontails, squirrels, mice, bats and birds made up the list of unfortunates that came to grief in this manner.

Coccyzus americanus occidentalis. California Cuckoo. A few seen in willows at springs in the foothills.

Dryobates villosus hyloscopus. Cabanis Woodpecker. A few seen in the pine country at the head of Poso Creek.

Dryobates nuttalli. Nuttall Woodpecker. Fairly common. One taken at Long Tom.

Melanerpes formicivorus bairdi. California Woodpecker. Seen in pines at head of Poso Creek.

Asyndesmus lewisi. Lewis Woodpecker. Common on the oak flats on the north side of the Poso Range.

Chaetura vauxi. Vaux Swift. Common along Poso Creek where first seen September 16.

Archilochus alexandri. Black-chinned Hummingbird. Several seen on Poso Creek.

Calypte anna. Anna Hummingbird. Common along Poso Creek and about springs in the foothills.

Tyrannus verticalis. Western Kingbird. Breeding commonly.

Sayornis saya. Say Phoebe. Common; nests found about Long Tom on beams in old cabins and mills.

Sayornis nigricans. Black Phoebe. Fairly common along Poso Creek, and a few around Long Tom.

Myiochanes richardsoni. Western Wood Pewee. Breeding along Poso Creek.

Otocoris alpestris actia. California Horned Lark. Common everywhere.

Corvus corax sinuatus. Western Raven. About ten birds were seen all told, usually in pairs.

Corvus brachyrhynchos hesperis. Western Crow. Quite abundant along Poso Creek.

Sturnella neglecta. Western Meadowlark. Fairly common.

Icterus bullocki. Bullock Oriole. Common along Poso Creek and about

springs in the foothills. Beautifully constructed nests were found in barren gulches hung in wild tobacco plants not more than 5 to 8 feet high.

Euphagus cyanocephalus. Brewer Blackbird. Common along Poso Creek.

Carpodacus mexicanus frontalis. California Linnet. Abundant everywhere.

Chondestes grammacus strigatus. Western Lark Sparrow. Common everywhere; especially so along Poso Creek.

Passerculus sandwichensis alaudinus. Western Savannah Sparrow. A few seen near the head of Poso Creek and two taken.

Spizella breweri. Brewer Sparrow. Large flocks appeared in September on the oak-covered hills.

Amphispiza bilineata deserticola. Desert Black-throated Sparrow. Two birds together near the head of Poso Creek, and one was secured. This is a record for the species, being the first known instance of its occurrence inside the San Joaquin Valley.

Aimophila ruficeps. Rufous-crowned Sparrow. Fairly common on brushy hills and in canyons. Two specimens taken.

Zamelodia melanocephala. Black-headed Grosbeak. A few seen at Poso Creek.

Guiraca caerulea lazula. Western Blue Grosbeak. Two males seen at Poso Creek.

Piranga ludoviciana. Western Tanager. A few seen at Poso Creek in September.

Tachycineta thalassina lepida. Northern Violet-green Swallow. A flock of several hundred flew up the Long Tom gulch one evening and disappeared over the range. Two immature birds were secured.

Lanius ludovicianus gambeli. California Shrike. Fairly abundant about the foothills.

Vireosylva gilva swainsoni. Western Warbling Vireo. Seen occasionally at Poso Creek.

Vermivora rubricapilla gutturalis. Calaveras Warbler. One specimen secured in September, when the species appeared to be abundant about springs in the canyons.

Dendroica aestiva brewsteri. California Yellow Warbler. Fairly common at Poso Creek; occasionally seen at Long Tom.

Dendroica nigrescens. Black-throated Gray Warbler. A few seen in the latter part of September and one specimen taken.

Wilsonia pusilla chryseola. Golden Pileolated Warbler. Common along Poso Creek; occasionally seen around Long Tom.

Mimus polyglottos leucopterus. Western Mockingbird. A few seen in rocky canyons at Long Tom. Also at Poso Creek.

Salpinctes obsoletus. Rock Wren. Very common; nests plentifully about Long Tom.

Catherpes mexicanus punctulatus. Dotted Canyon Wren. Fairly common along Poso Creek; two taken.

Sitta carolinensis aculeata. Slender-billed Nuthatch. One seen running up the side of our cabin at Long Tom.

Baeolophus inornatus. Plain Titmouse. Fairly common along north side of Poso Range.

Psaltriparus minimus californicus. California Bush-tit. Fairly abundant in the foothills.

Poliptila caerulea obscura. Western Gnatcatcher. Very common about the hills and at Poso Creek.

Sialia mexicana occidentalis. Western Bluebird. A few small flocks seen in September along Poso Creek.

San Anselmo, California.

FROM FIELD AND STUDY

The Wilson Phalarope at Santa Barbara.—On the morning of the 30th of April, 1909, while scanning a flock of small sandpipers in the muddy flats near the railway track at Santa Barbara, my glass fell upon a bird which at the second or third glance I saw to be a Wilson Phalarope (*Steganopus tricolor*), a female in handsome plumage; and presently I discovered nearby her plainly drest small mate. In the afternoon I found the pair in the same place, and watcht them at short range as long as I pleased. Both birds were still present May 2d, 4th, and 6th. On each of the next three days I saw the male only, and on the 10th I left home for two months. It amused me to notice how to the very last I involuntarily thought of the bright large female as the male, and *vice versa*.—BRADFORD TORREY, *Santa Barbara, California*.

Limonites ruficollis in Alaska.—I have bought from time to time a good many bird-skins of Mr. A. H. Dunham, of Nome, Alaska. He usually spends his winters in his old home at New Haven, Conn., leaving Alaska early in the autumn. He has on several occasions brought back with him a number of rather rare birds, such as the Kittlitz Murrelet, Emperor Goose, Spectacled Eider, etc.

On his last trip he had a large number of skins, some rare ones and some of little interest. Among the lot were a pair of Sandpipers and two of their young, which he had shot at Nome, July 10, 1908. He "threw these in" with the other birds I bought, saying, that he "remembered my telling him to collect a few nestlings." The skin of the female was such a miserable, greasy thing and so wretchedly made (most of Dunham's skins are very poor) that I threw it away without examining it. On looking over these Alaskan skins one day, I found that I couldn't make out what this Sandpiper was. I sent the remaining adult skin to Mr. Outram Bangs, who sent it to Professor Ridgway, who identified it as *Limonites ruficollis*.

This is, I think, the first record of this bird being taken in Alaska, and that it bred there is also interesting.—JOHN E. THAYER, *Lancaster, Mass.*

The Allen Hummingbird at San Diego in Winter.—On January 26, 1908, I found an adult male Allen hummer (*Selasphorus alleni*) in a small hollow in the city park at San Diego, feeding upon the blossoms of the tree tobacco. The place was close upon the Fifth Street sidewalk, within a five minutes walk of my hotel, and for three weeks I saw the bird almost daily. To be precise, I listed it fifteen days between the date of its discovery and the 16th of February, the day on which I left the city. On one occasion Mr. Frank Stephens was with me. I am told that there is no previous record of the wintering of this hummingbird on the mainland of California.—BRADFORD TORREY, *Santa Barbara, California*.

Red-eyed Cowbird at Sacaton, Arizona.—May 28, 1909, I noticed one morning a new-looking bird strutting about the barnyard; and a near approach showing his flaming eyes, I decided he was a Red-eyed Cowbird. Later in the day I saw him again, this time accompanied by a mate to whom he was very attentive. I collected him, the female escaping, and found he was the Red-eyed Cowbird (*Tangavius aeneus involucratus*). I saw the female several times the next two or three days, and June 1, a pair of the birds were in evidence. Later, by several days, I noticed a male making violent love to some lady Dwarf Cowbirds, but they were not responsive to his courtship. I have seen the pair nearly every day since, and they are here yet, July 16. I am certain of having seen at least two pairs and believe there were six pairs of them.

This locality is rather far from their reputed range, and I have been carefully examining all the nests of the Sonoran Redwings here to see if the cowbirds are breeding. As before stated they showed indications of mating, and it would be very interesting to determine if they ever do breed in this territory.

Since recording these notes I have received the July *Auk*, and notice Mr. S. S. Visher, Carnegie Laboratory, Tucson, Arizona, reports capturing a male, and seeing several others of the birds.—M. FRENCH GILMAN, *Sacaton, Arizona*.

The Blue-winged Teal at Santa Barbara.—Between January 21 and May 1, 1908, I saw drakes of this species (*Querquedula discors*) on fourteen days and in two places, an artificial lake at Hope Ranch and the ditches and pools near the freight station of the Southern Pacific Railroad at Santa Barbara. The two places are perhaps four miles apart. I cannot assert that I ever saw more than one bird in either place, tho on several occasions the drake was accompanied by a female which it seemed fairly certain was of the same species. The following winter the birds were again in both places, and were listed seven times between December 6, 1908, and March 16, 1909. I had no doubt that at least one male spent both winters at Hope Ranch, where

beds of tules and cat-tails furnish it abundant cover, so that its being seen on any given visit was largely a matter of accident.—BRADFORD TORREY, *Santa Barbara, California*.

Notes from Placer County.—I note a query you make in the last CONDOR regarding the nesting of the Western Martin (*Progne subis hesperia*). The only places I have met them in this county—nesting—were at the pottery in Lincoln and at the Court House at Auburn. There appear to be but a few pairs at each place. I was told that from three to eight pairs nested at Lincoln for about twenty years, but succeeding years do not see them increasing in numbers, altho the nests were not disturbed.

Mr. Ray's "correspondence" (CONDOR XI, page 141) is all right, but does not affect us here; *but we have the dove*. Hunters have been slaughtering the doves for two weeks and still I know of several nests today (August 1) on my place which contain young birds. A large number of doves here lay their first set of eggs on the ground in grain fields, and many are destroyed by cats and more by the mowing machine. Frequently the dove will remain on the nest until the knives kill her. The dove seems to hold its own in numbers, but it seems a pity to begin killing so *early*—at least. Each year the various gun clubs make a bigger spread over their *first* dove shoot.—ERNEST ADAMS, *Clipper Gap, California*.

The Ruddy Turnstone at Santa Barbara.—On the 26th of July, 1909, while watching the motions of a Black Turnstone on the beach at Santa Barbara, I suddenly found my glass resting on two Ruddy Turnstones (*Arenaria interpres morinella*) the first that I had ever seen on the Pacific Coast. They were turning over pieces of seaweed, in company with their black relative, —seeming to have no color prejudice,—and allowed me every opportunity to admire their patchwork costume and the bright deep orange-red color of their legs. And by the bye, I could wish that there were a law requiring all makers of ornithological manuals and hand-books to include this point—the color of legs and feet in live specimens—in their technical description of at least all water birds. It is too often omitted—for lack of knowledge presumably. But it should be the duty of such authorities to *have* knowledge.—BRADFORD TORREY, *Santa Barbara, California*.

Notes on the Nesting of the Bank Swallow.—In answer to the query of our Editor in the last issue of the CONDOR as to nesting data on the Bank Swallow (*Riparia riparia*), I submit the following notes from personal observation.

A small colony was nesting in the bluffs near the long wharf, Port Los Angeles, during May and June, 1907. Three pairs were nesting in a bank near a drain ditch about one-fourth mile from Hansen's old slaughter house, Los Angeles, in May, 1907. A large colony was nesting on Dead Man's Island, and in the banks near the lumber yards at San Pedro in April, May, and June, 1908 and 1909. A colony was nesting along the coast near Huntington Beach; observed June 13, 1908, and May 28, 1909.—D. I. SHEPARDSON, *Los Angeles, California*.

The Sage Thrasher at San Diego.—On the 3d of February, 1908, I was surprised to find a Sage Thrasher (*Oroscoptes montanus*) in the most frequented corner of the large city park at San Diego. It remained there till February 16, and I know not how much longer, as that was my last day in the city. I lookt for it daily, and only five times failed to find it,—and then only for lack of patience, I have no doubt. My only previous acquaintance with the species was on the desert at Tucson, Arizona, where it was wintering in good numbers.—BRADFORD TORREY, *Santa Barbara, California*.

Sparrow Hawk Nesting in a Bird Box.—It is a common experience of the western ornithologist to find birds of desert or otherwise treeless regions, resorting to all sorts of expediences for nesting sites.

The resourceful Flicker is responsible for some unusual records and we expect something of him in this line. I was, however, surprised this summer by a Sparrow Hawk (*Falco sparverius*) who occupied, with his family, a pigeon box on the west end of a cow barn in a very populons barn yard in Modesto, California. Another box, but a few feet away, housed a family of pigeons at the same time.

Hudson, in his "Naturalist in La Plata," discusses the ability that non-predatory birds display in discriminating between Falconidae dangerous to themselves and those that are either unable or indisposed to do them harm. We have here, possibly, a case of discrimination on the part of the pigeon and of resourcefulness on the part of the Sparrow Hawk.—LOVE HOLMES MILLER, *Los Angeles, California*.

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of Western Ornithology

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EDITORIAL NOTES AND NEWS

As CONDOR readers make use of the Ten-Year Index, they are sure to run across errors. We hope errors are few, but it is safe to say there was never yet published a perfect index or catalog. The compiler of our Index, Mr. H. B. Kaeding, proposes to issue an errata-slip, to be mailed to all members and subscribers. And to the end that this may approach completeness, he invites everyone to send to the Editor of this magazine a memorandum of whatever errors have been found, whether one or many.

As announced by our Business Manager on inside back cover of present issue, Cooper Club members are entitled to space in THE CONDOR to use in letting their wants be known in the line of exchanging books, photos or specimens. We hope this feature of our magazine will be recognized, and made use of.

We assume the privilege of quoting the following passages of general interest, from a personal letter (dated August 20) from Dr. Chas. W. Richmond, Acting Curator of Birds in the United States National Museum at Washington: "We are going over the new building next week! After living for 20 odd years on this gallery, we are about to move into new quarters, where all of our collections can be brought together. When the Division of Birds was moved from the old South Tower (five flights up from the ground) to its present quarters, our catalogs had about 95,000 entries, and the collections were all contained in cases on the gallery, ex-

cept the large species which were stored in the basement. Since that time we have expanded until the eggs occupied one room (in 70 cases) in a far corner of the "old" Museum building; the Picarian and some other groups filled a room in the north tower of the Smithsonian building; and the waders, water birds, game birds, and other large birds filled the west basement. Our catalog entries now run up into the 212,000's, meaning that we have received over one hundred thousand specimens in this time. In a few weeks we will have all our material together, including about 12,000 duplicates which have been in storage for several years. We are very much elated over the occasion!" And naturally enough. We offer congratulations not only to those immediately connected with the National Museum, but to ornithologists in general. For our national collection of birds is by far the most important one, as far as America is concerned, in existence, as it has been used most widely. Its adequate housing has been a desideratum for many years; and now that this is accomplished, the accessibility and consequent value to bird people at large becomes still greater.

A correspondent in another column of this issue describes a published Code of Colors which it is urged is an improvement in its method of designation over that employed by Ridgway in his widely used "Nomenclature of Colors." We have just secured a copy of the new work in question. Its sole point of superiority, to our mind, lies in the much greater number of tints and shades presented. But their designation by number is certainly not an advantage. For a color description would only be comprehensible in the presence of the Code itself, unless a person had had long enough experience with it to remember the color-groups by number. "Lavender" brings to one's mind a more vivid realization of the tint so called, than "496"! So with russet (= "103"); sea green (= "382"); orange-vermillion (= "81"); etc. Of course the new system *could* be mastered. And it *might* lead to more exact color-definition in scientific descriptions. But at the same time it would render these descriptions useless to the multitude of amateurs who, as a rule, would not bother to secure a copy of the key. We still hope for an enlarged nomenclature of colors, after the style of Ridgway's. We have heard a rumor to the effect that Ridgway, himself, is at work on a new and improved edition of his book. This would be ideal. If an American nomenclature does not materialize shortly, we will *have* to use the Frenchman's "Code des Couleurs"; for the few copies of Ridgway's old "Nomenclature of Colors" accessible are just about worn out; and, as previously hinted, fading is feared.

A useful feature of our magazine is the publication from year to year of the "Directory of Members of the Cooper Ornithological Club", as in the present issue. Members who see where corrections should be made, should inform us accordingly, so that our card list can be kept up to date, preparatory for next year's Directory.

PUBLICATIONS REVIEWED

THE BIRDS OF WASHINGTON | A Complete, Scientific and | Popular Account of the 372 Species of Birds | Found in the State | By | WILLIAM LEON DAWSON, A. M., B. D., of Seattle | Author of "The Birds of Ohio" | assisted by | JOHN HOOPER BOWLES, of Tacoma | Illustrated by more than 300 original half-tones of birds in life, nests, | eggs, and favorite haunts, from photographs by the | author and others. | Together with 40 drawings in the text and a series of | full-page color-plates. | By ALLAN BROOKS | ——— | Large Paper Edition | with photogravures and special photographs. | Sold only by subscription. | ——— | Volume I [-II] | ——— | Seattle | The Occidental Publishing Co. | 1909 | All rights reserved.—large 4to, vol. I: 5 ll., pp. i-xviii, 1-458, 3 ll.; vol. II: 5 ll., pp. i-vi, 459-996, 4 ll.; illustrations as indicated in title.

This long expected work reached us in August, a month of dullness to those who are compelled by circumstances to pass the season in the office, far from the refreshing mountains and forests. In our case, no more pleasurable, vivifying sensation ever pervaded us than when we had unpacked the two massive volumes and began to cut and turn the pages. The wonderfully clear scenic views, the accurate bird portraits, the vivid accounts, all tended to bring us thrillingly close to the realities depicted.

"The Birds of Washington" is the most impressively adorned bird book we have ever handled. From the fly-leaves, with their unique gull-pattern to Brooks' beautifully rendered Duck Hawk portrait, the work is an ideal of artistic taste and elegant book-making.

The text is chiefly popular in style, the technical matter being condensed into brief descriptions, and statements of range. A set of identification keys, prepared by Lynds Jones, is appended to Volume II. The numerous life histories are well told; many of them we recognize as the results of Bowles' careful field work. In fact a large part of the scientific value of the work was evidently contributed by this observer, as fully acknowledged by the author in the introduction.

The accounts of species are vivacious portrayals of their subjects, in the pleasing Dawsonian style. They are chuck full of clever allusion, from Bobby Burns to the Bible. As is clearly explained by the author the book is written to meet the approval of the majority of its readers. Probably 90 percent of the subscribers are very slightly or not at all familiar with previous ornithological literature. It looks a trifle out of place to announce the book as a "complete, scientific" as well as popular treatise, altho we recognize this as customary with publishers. The impression is satisfactorily corrected, however, by the author, who in

the preface shows his attitude to be one of commendable modesty.

The State of Washington is part of a region of wonderful zonal and faunal diversity and for the working out even of the rougher distribution of its birds, a vast amount more of field work will be necessary. While the author is clearly not in sympathy with unlimited collecting of specimens, he exhibits the proper attitude in his having overcome his qualms in many cases, by resorting to the gun to secure proper identification of species. We would suggest that with such birds as the Red-wings, Song Sparrows, Savanna Sparrows, and Jays, collecting in quantity will be necessary before their statuses are satisfactorily worked out. Such work as this (besides also the very large biographical phase of ornithology) awaits the activities of the Caurinnus ("northwestern") Club, to which body of ornithologists the "Birds of Washington" is dedicated.

We feel that what we have tried to say in praise of Dawson's "Birds of Washington" is quite inadequate. There is within us a growing feeling of resentment, not towards the author, but towards the "fate" that lead Mr. Dawson to select Washington for his field of ornithological labors, rather than *California!* —J. G.

MR. LOVE HOLMES MILLER has recently named* a new fossil bird from California under the title: PAVO CALIFORNICUS, A FOSSIL PEACOCK FROM THE QUATERNARY ASPHALT BEDS OF RANCHO LA BREA. The locality is near Los Angeles where have also been found other interesting bird remains yet to be described. In association with these fossil birds have been unearthed such mammalian forms as the saber-tooth tiger, and a lion even larger than the present-day African lion. The new peacock is recognized from a tarso-metatarsus bearing a spur-core, as in males of the common domesticated peacock. The fossil material is minutely described by the author, and compared with its persisting allies.

"Students of Ornithology have in general laid minor stress on paleontological evidence in the determination of centers of distribution." This has been of necessity, for very little fossil material has been found representing existing bird groups. The discovery of a peacock, therefore, so far from the present native range of the family (the Indian Region) assumes a very large importance. Fossil peacocks have been found previously in Europe and India. Because of the still imperfectly disclosed record, Mr. Miller refrains from advancing any theories as to the course of dissemination of the group, or its place of origin.

As to the influences which have resulted in the disappearance of the phasianines from our fauna, while the quails are today so abundantly

* Univ. Calif. Publ. Geology V, pp. 285-289, pl. 25; issued Aug. 14, 1909.

represented, the author suggests that a change in physiographic conditions may be called into account. Thus a forested area, more like the jungles of India, may have preceded the present-day treeless condition. As the latter condition became prevalent, conspicuous birds dependent upon cover would naturally fall prey to such animals as the coyotes.

It is, of course, not known that *Pavo californicus* was ornately endowed, as in the existing peacocks. But the inference is that it was. Unless the feather development could be adapted or modified, it would become an impediment to cursorial power. In this connection Mr. Miller asserts his belief that the great length of the rectrices in the Roadrunner are "unquestionably of use in guiding the swift movements of the bird in its efforts to escape enemies, or in pursuit of its active prey." Our own observations would scarcely lead to this conclusion, altho we would hesitate to ascribe any other function to the Roadrunner's elongated tail.—J. G.

CORRESPONDENCE

Editor THE CONDOR:

The July-August number of THE CONDOR was received a day or two ago and I noted among the editorials one in which you state the need of a new manual of colors, and the bad state of your copy of Ridgway's Nomenclature.

I have just received today a book called: *Code des Couleurs*, a l'usage des Naturalistes, Artistes, Commerçants et Industriels. 720 échantillons de couleurs classés d'après la méthode Chevreul simplifiée, par Paul Klincksieck et Th. Valette; Paris, 1908. It can be had from G. E. Stechert & Co., 129-133 West 20th St., New York, for \$2.58 postpaid.

I think it is a *better* color book than Ridgway's, barring the fact that it is written in French and has a different color nomenclature. The book has 25 plates of blockt colors, like Ridgway's, 720 blocks.

"Ce Code doit sa naissance aux Champignons. Malgré ce point de départ, son application n'est nullement limitée à ce sujet; il doit au contraire trouver son emploi dans toute circonstance où l'on a besoin de préciser une désignation de couleur."

There are 32 pages of text in which is taken up: (Pt. I) 1. Origine du Code des Couleurs. 2. Mode d'emploi du C. C. 3. Solidité des Couleurs et du papier du C. C.; and (Pt. II) 1. des couleurs au point de vue physique. 2. Sources de lumière.—Lumières colorées. 3. couleurs matérielles ou pigments colorés. 4. Classification des couleurs. 5. Code des Couleurs à l'usage des naturalistes. 6. Confection du Code des Couleurs. 7. Examen des couleurs complémentaires. Contrastes.

The colors are on heavy paper, and I think the book is more durable than Ridgway's.

There are 62 colors under *vert bleu*. The system of *numbering* is just as convenient and sensible as Ridgway's *names*. There is nothing, I think, significant or advantageous in writing *Van Dyke Brown* instead of *Orange 118*.

The authors express the hope that some system of color nomenclature may become international, and I don't see why a system like this is not pretty good.

F. GRINNELL, JR.

Pasadena, Calif., July 27, 1909.

Directory of Members of the Cooper Ornithological Club

Revised to August 1, 1909.

(Residence in California unless otherwise stated. Year following address indicates date of election.)

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Belding, Lyman, Stockton. 1896.
Merriam, Dr. C. Hart, 1919 16th St., Washington, D. C. 1909.
Ridgway, Robert, 3413 13th St., N. E., Brookland, D. C. 1905.

ACTIVE MEMBERS

Adams, Ernest, Box 21, Clipper Gap, Placer Co. 1896.
Alexander, Annie M., 1006 16th St., Oakland. 1908.
Anderson, Malcolm P., Menlo Park. 1901.
Appleton, J. S., Simi, Ventura Co. 1901.
Arnold, Dr. Ralph, 726 H. W. Hellman Bldg., Los Angeles. 1893.
Bade, Wm. Frederic, 2616 College Ave., Berkeley. 1903.
Bailey, Henry F., 94 Pacific Ave., Santa Cruz. 1902.
Bailey, H. H., 321 54th St., Newport News, Va. 1903.
Bailey, Vernon, Dept. of Agriculture, Washington, D. C. 1904.
Bales, Dr. B. R., 151 West Main St., Circleville, Ohio. 1906.
Barnes, R. Magoon, Lacon, Ill. 1908.
Barrows, Prof. Walter B., Box 183, East Lansing, Mich. 1909.
Bay, J. Cliff, Ingot, Shasta Co. 1903.
Beal, Prof. F. E. L., Dept. Agriculture, Washington, D. C. 1904.
Beck, Rollo H., Berryessa. 1894.
Bennett, R. H., Room 503, 149 California St., San Francisco. 1909.
Bent, A. C., Taunton, Mass. 1909.
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Bishop, Dr. Louis B., 356 Orange St., New Haven, Conn. 1904.
Black, Lester, Bloomington, Ind. 1908.

- Blain, Merrill W., 1321 Glendale Ave., Tropic. 1909.
- Bliss, J. G., 3281 Briggs Ave., Alameda. 1908.
- Bohlinman, Herman T., 46 N. 9th St., Portland, Ore. 1903.
- Bolander, L. P., Jr., 462 Fair Oaks St., San Francisco. 1907.
- Bolt, B. F., 1421 Prospect Ave., Kansas City, Missouri. 1909.
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- Brewster, William, 145 Brattle St., Cambridge, Mass. 1904.
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- Bryan, Wm. Alanson, Bishop Museum, Honolulu, Hawaiian Islands. 1905.
- Burnham, Dr. Clark, 2335 Warring St., Berkeley. 1907.
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- Burns, Frank L., Berwyn, Pa. 1909.
- Carpenter, Nelson K., Box 127, Escondido. 1901.
- Carriger, Henry W., 200 Devisadero St., San Francisco. 1895.
- Chamberlain, Willard, 226 S. Bunker Hill St., Los Angeles. 1906.
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THE CONDOR

A Magazine of Western
Ornithology



Volume XI November-December, 1909 Number 6



COOPER ORNITHOLOGICAL CLUB

Smithsonian Institution
DEC 13 1909
National Museum

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Volume XI

November-December 1909

Number 6

SOME BIRD ACCIDENTS

By WILLIAM L. FINLEY

WITH THREE PHOTOS BY HERMAN T. BOHLMAN

TRAGEDIES are common in bird and animal life, but I rarely come upon them. The end is generally tragic and not from natural causes. The weak falls a prey to the strong; the sick bird is captured by a cat or some other animal. Several times I have found birds that have suffered a tragic end, but seldom have I witnessed the tragedy itself.

One day I was watching a pair of Yellow Warblers in the orchard. They were flitting about a vine-covered fence. I think they were building a nest, or just about to build one in the vicinity. The first thing I noticed, the male paused on the fence, fluttering his wings. His mate flew down beside him. He tried to fly to the limb of a nearby tree, but fell short and wavered to the ground. His wife was right beside him, chirping all the time. I went nearer for a closer view. He lay flat on his back, writhing in pain. I could see he was dying. His wife was on the fence scarcely a yard from my hand, fidgeting and calling for him. He died in my hand almost instantly, stricken by I know not what.

I had a closely similar experience one rainy afternoon when I was walking along the street in Berkeley, California. A male English Sparrow fluttered down almost at my feet. He floundered about in the water on the sidewalk and finally over into the gutter, where he died almost instantly. Three or four other sparrows were flying around, chirping in excitement, as they watched their fallen comrade.

Telephone and telegraph wires are the cause of many deaths among birds. A good example of this has been given by Mr. W. Otto Emerson in *THE CONDOR*, vol. VI, no. 2, page 37 (March-April, 1904). He tells of many Northern Phalaropes and Western Sandpipers that are killed, especially during the migrating season, by flying against the wires across the marsh.

During the spring of 1904 while making the trip out thru this region with Mr. Emerson and Mr. Bohlman, I saw a number of phalaropes along the road under

the wires. Some were dead, others wounded. A little later I saw a small flock flit across the road ahead of us. I saw the end of a wing fly in one direction and the wounded bird went fluttering to the ground. He had struck the wire with such force that the last joint of the wing was completely severed. Otherwise he was unharmed. These dead and wounded birds furnished foraging for neighboring cats. At another time, Bohlman and I saw several Western Sandpipers that had been killed in the same way out on the Alameda marshes.



DEAD SONG SPARROW WITH FOOT WEDGED IN BETWEEN
THE WOVEN WIRES OF A FENCE

During the summer of 1908 while traveling thru eastern Oregon, we came upon a Horned Lark that evidently in full flight had caught its wing on the barb of a wire fence, for it was hanging dead. At another time I found the body of a thrush hanging to the barb of a wire fence. The wire ran straight across the top of a zigzag fence, and the bird in full flight had just skimmed the top of the rail to go full force into the wire before it was seen. The barb had caught in the

neck, and the force had swung the bird's body over the wire from below, locking it in a death grip.

In *THE CONDOR*, vol. VIII, no. 2, page 40 (March-April, 1906), I told of an accident where two young Night Herons were hanging dead in the tree-top. In the heron colonies it is not uncommon for a young bird to get its foot caught in a crotch and thus hang itself. Several years ago we took the picture of a Song Sparrow that was hanging dead in a wire fence. In some way the foot had been caught between the two twisted wires and the bird could not release itself, for the leg was wedged and broken.

During the past summer, we found a female Rufous Hummingbird hanging



DEAD HORNED LARK WITH WING CAUGHT ON THE
BARB OF A WIRE FENCE

dead in one of the lilac bushes in the yard. The bird was merely hanging upside-down with both feet clutching the limb and locked in a death grip. I do not know whether it died in the natural upright position and turned over afterward, or whether it died with head downward. After taking a photograph I examined the bird, but could find no cause of death. The tiny branch was bruised where the feet clutched it, showing that the grip had been, and remained, perfectly tight.

This incident reminds me of an experience that Mr. Bohlman had with a hummingbird several years ago. It was a cold rainy day and he was wandering thru the woods. He came to a hummingbird that was sitting apparently sound asleep in a small bush. He touched it, but the bird showed no signs of life. He cut

the branch carefully and carried the bird almost a mile back thru the woods to his house. In the meantime, the weather brightened, and as he was standing on the porch, the sun came out and shone upon the bird. To his amazement, the little fellow opened his eyes with a start and flew away. The bird was evidently an excellent sleeper. In my own experience with hummingbirds, I know that the sun-



THE DEATH OF A HUMMINGBIRD: HANGING WITH FEET
CLUTCHT TO TWIG OF A LILAC BUSH

shine is an important factor in the life of these midgets. The hummingbird is as devoted to his idol as any sun-worshiper of old. I have often seen the feathers of a hummingbird puff up and the bird get dumpy the minute the sun was hidden by a cloud. I have no doubt it is hard for the hummers to endure cold weather or a prolonged season of rain.

Portland, Oregon.

BIRD NOTES FROM THE COAST OF SAN LUIS OBISPO COUNTY

By G. WILLETT

NORTH of Port Harford, in San Luis Obispo County, the coast for about fifteen miles is very rough and broken. A range of high, pine-covered hills comes down to the ocean's edge and is abruptly cut off forming bluffs and rocky precipices, in many cases high and overhanging. From the surf-line out to about a mile are occasional small, rocky islands which have from time to time been detached from the mainland by the action of the water.

The coast here being unprotected from the swell of the ocean, the surf runs very high; and the bird student finds that in order to cover the territory to any great extent he must lay himself liable to frequent drenchings by a cold and un pitying ocean, and numerous bruises and cuts from sharp-pointed rocks. Indeed he may call himself fortunate if he escapes broken bones. I verily believe that I left nearly as much of my cuticle on the rocks up there as I brought home with me.

The above locality was chosen by me as an ideal place to spend my 1909 vacation of fifteen days.

Accompanied by Mr. Antonin Jay of the Cooper Club, the writer with his family left Los Angeles on May 5 for San Luis Obispo, taking a full camping outfit. On the morning of May 6 we left San Luis Obispo by wagon and after a long day's journey over rough mountain roads, made almost impassable by recent rains, we finally pitched camp on a small creek about a half mile from the ocean. This creek, by the way, was fairly alive with trout, and being well supplied with fishing tackle we were not slow to take advantage of this fact. Between trout, rabbits, mussels and abalones, we were plentifully supplied with fresh meat during our entire stay.

I had previously visited this locality in 1895; but my stay at that time being limited to two days, it was practically a new territory to me. This year, however, we managed to go over the ground pretty thoroly, and I do not think that many species of birds that were breeding here escaped our notice.

I believe this is the most southern point in California where the seabirds breed in any numbers on the mainland coast. Of the large land birds the Golden Eagle, Turkey Buzzard, Western Redtail, Duck Hawk and Raven were common; but, altho the location seemed ideal for Bald Eagles and Fish Hawks, none of these latter were seen.

The commonest of the smaller land birds was the Nuttall Sparrow (*Zonotrichia leucophrys nuttalli*) which was breeding abundantly in the low brush from the water's edge to a mile or more back into the hills and canyons. Horned Larks, House Finches, Song Sparrows, Lazuli Buntings, Willow Goldfinches, California Jays, Mourning Doves, Brewer and Red-winged Blackbirds, Anna and Allen Hummers, Flickers, Willow Woodpeckers, Wren-tits, Russet-backed Thrushes, Yellow and Pileolated Warblers, Western Flycatchers, and other common species were breeding abundantly.

The Willow Goldfinches were breeding almost entirely in the low brush on the hillsides altho there was plenty of willow timber along the creeks. Barn, Cliff, Bank and Violet-green Swallows were breeding commonly and at least two pairs of Kingfishers (*Ceryle alcyon*) were feeding young in holes in the creek banks. White-throated Swifts were frequently seen in the canyons, and two specimens taken May 15 were evidently about to breed.

Of the seabirds we found breeding the Western Gull, Brandt and Baird Cormorants, Tufted Puffin, Pigeon Guillemot and Black Oystercatcher. Tattlers,

Phalaropes, Curlew, Spotted Sandpipers, and some other waders were seen in migration. The Western Gulls (*Larus occidentalis*) were scattered out, breeding on the small islands and detached portions of the bluff. The largest colony found did not number over twenty-five pairs, and frequently only one pair would be breeding on a rock. We noticed that the nests built on the soil among the weeds and grass were rather flimsy in construction; while those built on the bare rock were bulky and well made.

The commonest breeding water-bird was the Baird Cormorant (*Phalacrocorax pelagicus resplendens*) which was abundant on the mainland cliffs as well as on the steep sides of the small islands. Some of the nests of this species were easy to reach while others were practically inaccessible. The number of eggs laid was from two to four, generally three or four.

Several colonies of Brandt Cormorants (*Phalacrocorax penicillatus*) were found on flat-topped rocky islands. In one such colony 81 nests containing eggs were examined. Three of these contained five eggs each, the others mostly containing four which is, I believe, the usual complement. After watching these two species of cormorants at their nest-building we concluded that the moss composing the lining of the nests is all brought up from deep water, as the birds could be seen energetically diving for it in the deeper water altho it was plentiful in the shallows and on the rocks.

As to the breeding plumage of these two species, from our observations it is not nearly complete when incubation is begun. In four specimens of the Brandt Cormorant which I took with half-incubated eggs, the filaments on the sides of the throat were so small as to be practically unnoticeable altho those on the back were well developed. In three breeding specimens of the Baird Cormorant taken, the filaments on sides of neck have not developed; while in one female taken on the nest, the white flank patches are absent.

The Sea Pigeons (*Cephus columba*) commenced to breed the first week in May; and by May 20 their breeding season was at its height. Their eggs were deposited in crevices in the sides and roofs of caves some of which could be entered dry-shod at low tide. The nesting burrows were from six to fifteen feet above high water. The eggs were generally two in number, and were laid on the dirt which accumulated in the nest cavity. In two cases I found birds incubating one egg. From one of these nests I took the female bird and found on dissection that she had finished laying; so I believe that occasionally only one egg is laid. If the first set is taken, the birds will usually lay a second set in the same nest. The birds when disturbed give a peculiar whistle which resembles that of the male Anna Hummingbird in mating time, and seems singularly out of place coming from a bird of the size of the Guillemot.

Altho I took several eggs of the Tufted Puffin (*Lunda cirrhata*) in this locality in 1895, only a few pairs were noticed this year. They were evidently breeding on a rocky island about three-fourths of a mile out, as we watched them thru a glass going and coming from their nesting burrows. As no boat was obtainable and the water was too rough for so long a swim we were unable to inspect the nests.

The rarest of the breeding water-birds in this locality, and the one in which we were most interested, was the Black Oystercatcher (*Haematopus bachmani*). Along this fifteen miles of coast there were probably a dozen pairs breeding. The nests are difficult to locate, and even more difficult to reach after they are located. This bird, like the Killdeer, makes the greatest outcry at a point considerably distant from the nest, and the brooding bird will quietly slip from the nest at the first

intimation of danger and will appear on a point of rock some distance away, where she will be joined by her mate. Altogether we collected four sets of this species. Three of these were of three eggs each and one of two eggs.

To secure two of these sets I had to swim thru a dangerous surf and land on jagged rocks; and the other two were on the top of rocky pinnacles which were all but inaccessible. The nests are placed on the lea side of a rock or projection sheltered from the prevailing wind, sometimes only a few feet above high water and at other times far above the reach of the flying spray. They are shallow cavities in the rock or thin soil, thickly lined with sharp chips of rock evidently carried by the birds. Numerous scratches on the shells of the eggs show that they are frequently turned over by the birds who probably rely to some extent on the heat of the sun as an assistance in incubation.

The birds subsist principally on mussels and limpets, and the ease with which they pry them from the rocks with the sharp, chisel-like bill furnishes a striking example of the natural law of adaptation to surroundings. The rocks around the nesting sites are covered with the shells of molluscs brought there by the birds.

The statement that this species nests on gravelly beaches is erroneous as regards this locality. The first set of eggs was taken May 14, and was about half incubated. It was situated on a large flat-topped rock very difficult of access. There were breeding on the top of the same rock four pairs of Western Gulls and a colony of Brandt Cormorants; while on the precipitous sides were numerous nests of the Baird Cormorant; and in the caves at the base of the rock were two or three pairs of Sea Pigeons. The other three sets were taken on May 15, 16 and 17, respectively, and were on isolated rocks, the Oystercatchers being the sole inhabitants.

In ground color the eggs vary from grayish olive to greenish, spotted and blotched with black and dark brown, with lavender shell markings. Thirteen eggs measure in inches: Maximum, 2.38×1.58 ; minimum, 2.08×1.45 ; average 2.24×1.52 .

Los Angeles, California.

A LIFE HISTORY OF THE NORTHERN BALD EAGLE

By JOSEPH DIXON

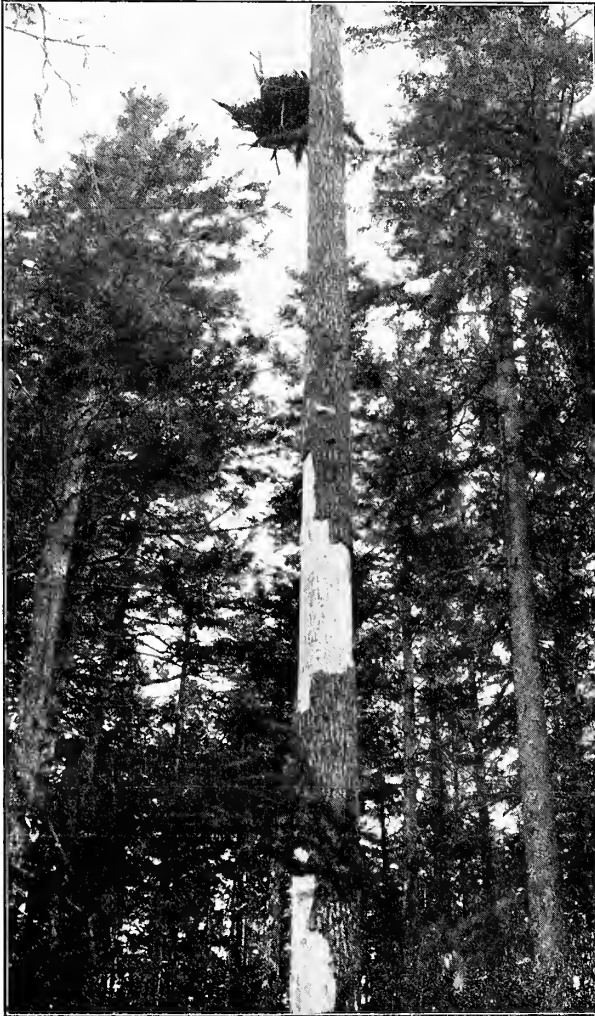
WITH FOUR PHOTOS BY ANNIE M. ALEXANDER

I KNOW of no other Alaskan bird which seems to be more in keeping with the country than the Northern Bald Eagle (*Haliaeetus leucocephalus alascanus*). While this bird is by no means restricted to the shore line of the Pacific between the southern boundary of Alaska and the base of the Alaska Peninsula, still I believe that it may be truthfully stated that nowhere else does it find a more congenial home or breed in larger numbers than along this thousand-mile stretch of islands, inlets and glacier-scoured coast.

In size, this eagle is considerably the superior of its cousins in "the states", since it is not uncommon to find female eagles that are more than thirty-seven inches in length, with a spread of seven feet and a half, or better. The males are, of course, quite a little smaller than the females and rarely equal the smaller females in size. The largest female that I secured had a spread of seven feet and nine inches; length, thirty-seven inches. The males seemed to average about a foot less than this in spread, and were about thirty-six inches in length. I was inter-

ested in watching to see if this greater size of the female was accompanied by a corresponding courage when I invaded the nest; and in those cases where I had positive means of identification I usually found that it was the female that proved the most threatening, altho she might be away from the nest hunting when the male gave the alarm.

The dark bodies of the eagles blended very well with the dark green conifers



NEST OF NORTHERN BALD EAGLE ON ADMIRALTY
ISLAND, ALASKA

in which they often perch; and the birds would have been past by many times had it not been for their white heads. This feature was the most useful recognition-mark about the bird, as it could be seen at three hundred yards, when the dark body could not be distinguished from the surrounding foliage. We once saw more than fifteen eagles sitting in a single spruce tree waiting for a school of herring, and at a distance it appeared like a magnolia tree in blossom because only the white heads were discernible.

In the early spring the feathers on the head and tail are clean and white, but as soon as the salmon begin to run they become greasy and yellowish from coming in contact with the fish when the bird is feeding.

The plumage of these birds forms a very efficient protection against the rain. I watcht one pair of birds during a storm that lasted a week; and altho it rained every day, the birds were able to care for their young. Most of their time, however, was spent perching in the top of a dead spruce tree, since they hunted very little during the storm.

The molting period seems to extend over a considerable time in these birds, so that even in the midst of the molt they are apparently in good plumage. One bird that I secured in the middle of August, had two new primaries coming in on each wing, and several new secondaries were just beginning to show up among the other feathers. There were not so many new feathers coming in on the body; and judging from this individual, the

feathers of the wings begin to molt first. I had no means of determining the exact length of the molting period.

An alarm note is the commonest vocal expression of this eagle during the



NEST OF NORTHERN BALD EAGLE (AT TOP CENTER) ON HAWKINS ISLAND, PRINCE WILLIAM SOUND, ALASKA

breeding season and consists of a series of short guttural sounds uttered in quick succession. It always seemed to me as tho the bird was chuckling, even in spite of

the evident tinge of anxiety in the note which became more intense as one approacht the nest. During the frequent quarrels over fish, the eagles often gave forth lusty screams; and they sometimes announced in the same manner their arrival at the nest when they returned from the bay with a fish.

Perhaps as much as any of the other Alaska birds, the bald eagle is confronted with feasts in the summer-time and frequent famines in the winter. After the fore part of July, when the salmon begin to run, no eagle need be without food. The brown bears may levy the first tribute on this numberless host from the ocean but the eagles will often be found congregated about the mouths of the larger streams even before the salmon begin to run. The Glaucous-winged Gulls are fastidious about their salmon and will often pick the eyes out of a fish that gets stranded on a shoal, and may not even stop to kill it. The eagle is not guilty of this as far as I have been able to discover, but feeds on decayed or partially decayed fish almost as readily as on live ones that could readily be caught. The fact is, he is too lazy to catch fish when dead ones are lying about, and he does not care if they are somewhat tainted. The stomach capacity of this bird was a revelation to me. One large female that I shot weighed fifteen pounds; but I found that about three pounds of this was salmon, which, altho it had just been swallowed, was anything but fresh. This feasting upon salmon lasts until the gigantic table-spread, the first snow, is laid over the salmon strewn gravel bars in the rivers. By this time the eagles have become as oily, fishy and plump as the natives themselves.

From October to April the eagles have need for the fat that has been laid up by salmon feastings, as they have to live on what few water fowl and fish they can catch. I have been told that two or three of these eagles sometimes kill half-starved deer during the coldest, hardest part of the winter; and since my friend, whose truthfulness has never been doubted during two years of close association, was well acquainted with the birds, I do not discredit the story.

The agility and watchfulness of the bird was well illustrated by one which swoopt after a wounded Old-Squaw that fell just out of gunshot of the boat. The wounded duck escaped temporarily by diving; but the eagle was waiting every time that it came up and finally the dives become shorter and shorter until at last there were none and the eagle carried the duck off to the timber. Judging from the amount of duck feathers in and about a nest on April 30, these birds must live largely on ducks during the migrations.

By the first of May the eagles are on the lookout for schools of herring that usually make their appearance about this time. One afternoon I noticed a commotion out in the bay where a flock of loons were fishing, then an eagle left a nearby perch, swoopt down, struck a fish in the water and returned to his perch where he gave a shrill scream. At the sound, eagles began to come from all directions to the spot where he had secured his fish, and within five minutes there were more than twenty eagles assembled. Only the first ones secured fish, as the fish which had evidently been driven to the surface of the water by the loons, went down again; the eagles returned to their perches to begin another vigil and soon all was quiet again.

The accounts that I had read, and the few photos that I had seen, led me to picture in my mind a large bald eagle's nest placed, preferably, in some dead and decaying tree that stood out in the exposed portion of some wooded point. This may be the case in parts of the country, but it certainly does not apply to the bald eagle in Alaska. In the first place dead trees do not last long there. They are comparatively scarce and do not afford much protection from the wind. In the second place the birds rarely build at the extreme end of a point of timber, but go

back in the woods for fifty yards or so in order that the nest may be sheltered from the gales that rage at times. In addition to this the nest must be well placed and firmly supported; for it must bear up several hundred pounds of snow during the winter. Out of twenty-five nests observed, only two were in dead trees and one of these is shown in the first illustration accompanying this article.

The second photo shows a nest of this bird on Hawkins Island, Prince William Sound, Alaska. This nest was located in a large hemlock tree sixty-two feet from the ground. It will be noticed that the nest is not in the top of the tree, where it would be exposed to the full force of the wind. This was an immense pile of wood even for an eagle's nest. These are the actual measurements taken with a steel tape: outside diameter, eight by ten feet; depth, four feet; nest cavity, twelve by twelve inches; depth, four inches. The nest was firmly supported by an eight-inch forked limb; but the lower portion of the nest was fast moldering away, and a



YOUNG NORTHERN BALD EAGLES PHOTOGRAPHED IN NEST

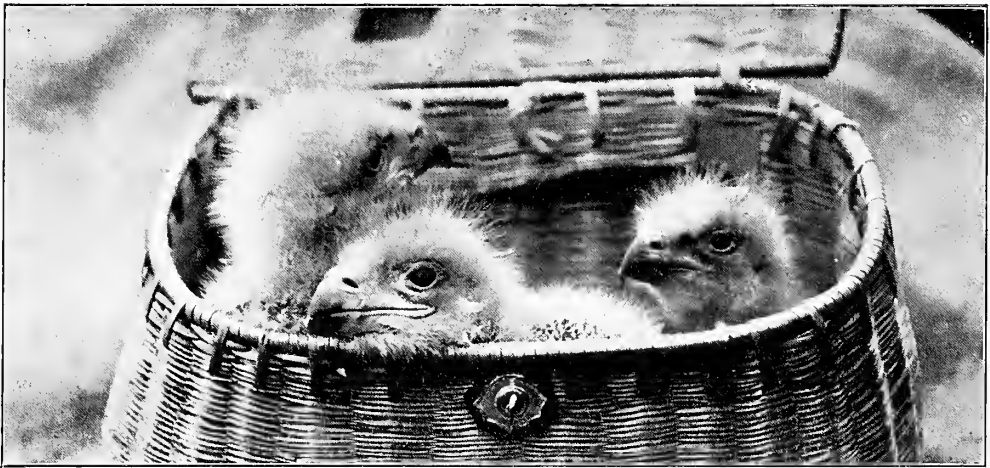
green currant vine had become firmly anchored in the rotting wood and twined its graceful green tendrils around one side of the nest. The nest was practically level across the upper surface, which was carpeted with moss. The nest cavity was lined with gull feathers and fine dry moss. I stretcht out across the narrowest diameter of the nest but my arms and legs extended were not visible from below. This nest must support at least a ton of snow during the winter, so I had no hesitancy in venturing out upon it.

Another nest, at Windfall Harbor, Admiralty Island, Alaska, was situated in the highest branches of a broken-topt spruce tree one hundred and sixteen feet from the ground. This nest was not so well built, but measured six feet four inches, by six feet eleven inches over-all, and the outside depth was four feet.

The nest cavity was lined with duck feathers, dry moss and grasses. It measured sixteen inches in diameter and was four inches deep.

As far as I could learn both birds shared about equally the duties of nest-building and incubation. I watched one pair of birds with a telescope and found that the female occupied the nest most of the time, but the male was not far away at any time. One thing that has always puzzled me was the comparative scarcity of breeding birds in southeastern Alaska in the spring of 1907. During the latter part of April and the first of May it was no uncommon sight to see fifteen or twenty eagles together waiting for a school of herring. I do not know that these birds did not breed later on; but I do not think that this was the case, as I found numerous nests, most of which were not occupied.

Two eggs is a normal set with these birds; and I have been led to believe, from the nests that I have examined, that not more than one set in ten consists of three eggs. A set of two eggs taken at Windfall Harbor, Alaska, on April 30, 1907, are rounded ovate in shape; the shell is rough, clear white and slightly nest-stained. These eggs are unusually large, measuring 78×58.5 and 75.5×60 millimeters. At



YOUNG NORTHERN BALD EAGLES ABOUT THREE WEEKS OLD; HAWKINS ISLAND, PRINCE WILLIAM SOUND, ALASKA

this date the eggs were practically fresh. I do not know the exact length of the period of incubation. The earliest nesting record that I have is April 30, and the latest about May 25.

The third illustration shows three young eagles in the nest on Hawkins Island which is illustrated in the second cut with this article. This photo was taken June 21, 1908, and I took the young birds to be about ten days old at this time. They were clothed in white natal down. Two freshly caught fish about a foot long were lying beside them. The young eaglets evidently took me for the old eagle when I invaded the nest; for they stuck up their heads uttering a rasping sound thru their wide-open mouths, and tried to swallow the end of my finger when it was inserted into their mouths. It might not be out of place to mention here that while I was thus employed, both parent birds were circling overhead uttering the chuckling alarm note; and altho seemingly much concerned about the fate of their young they made no effort to attack me and at no time came nearer than fifty yards. I have never known these birds to fight for their young and I believe that the valor

of this as well as that of the golden eagle, in protecting their young, has been unduly emphasized.

After photographing these young birds in the nest, I lowered them to the ground in a fish basket and kept them with me for some time so that I had a good opportunity to watch the feather development. They ate heartily many times a day, but were the most avaricious set of individuals that I ever had anything to do with. When they were taken from the nest there was a noticeable gradation in size, and the largest one immediately took advantage of this. Every time that I went to feed them he would peck and maul the other two until they stuck their heads down; then he would gobble everything in sight. I could not teach him better; and as soon as I removed him, the second largest one began to persecute the smallest one in the same way. Together the two larger ones killed the smallest one, and I think that this would probably have taken place in the nest in the natural course of events.

The white natal down began to give way to a sooty down when the birds were about three weeks old and this plumage was kept until it was replaced by the dark feathers of the immature bird. This dark immature plumage is not molted in the fall by the birds of the year but is kept at least until the following fall, so that the birds with the white heads and tails are two or more years old.

Palo Alto, California.

FURTHER NOTES FROM SAN CLEMENTE ISLAND

By C. B. LINTON

DURING 1908 I added the following species to my early list of the birds of San Clemente Island, California. (See CONDOR, vol. x, no. 2, p. 82.) I wish to tender my sincere thanks to Mr. Charles T. Howland, lessee of San Clemente Island; and to Mr. Robt. Howland and the "boys" of Mr. Howland's various ranches, for the many favors extended to myself and party while working this island.

Gavia pacifica. Pacific Loon. A few individuals were noted during the winter months; not common.

Cerorhinca monocerata. Rhinoceros Auklet. Two specimens collected. Among the skeletons strewn along the rocky beaches were several of this species.

Synthliboramphus antiquus. Ancient Murrelet. During November and December, 1908, several Ancient Murrelets were seen and two collected.

Brachyramphus hypoleucus. Xantus Murrelet. One specimen, only, was secured here, December, 1908.

Larus occidentalis. Western Gull. By an oversight this species was not recorded in my previous records. Common; several pairs breed near Northwest Harbor.

Puffinus opisthomelas. Black-vented Shearwater. Noted near the island.

Puffinus griseus. Sooty Shearwater. Noted near the island.

Mergus serrator. Red-breasted Merganser. Several stragglers observed.

Oidemia perspicillata. Surf Scoter. Several seen.

Porzana carolina. Carolina Rail. While hunting in one of the deep canyons near Mosquito Harbor I found the partly-eaten remains of a Sora! The wings and

many of the feathers still adhered to the dried skin and skeleton. This I labeled and preserved. I have found numerous partially devoured remains of auklets, cormorants, etc., in the gorges a mile or more inland. These were victims of the small grayish foxes which are abundant upon this island.

Pisobia minutilla. Least Sandpiper. During December, 1908, I observed flocks of this species near Northwest Harbor; specimens shot.

Ereunetes mauri. Western Sandpiper. Noted with foregoing species; specimens shot.

Calidris leucophaea. Sanderling. Common winter visitant.

Catoptrophorus semipalmatus inornatus. Western Willet. Seen at Northwest Harbor and Smuggler's Cove; December, 1908.

Oxyechus vociferus. Killdeer. Several seen with flock of Sanderlings and Western and Least Sandpipers; one shot.

Accipiter velox. Sharp-shinned Hawk. Several seen in the wooded gorges near Mosquito Harbor. One shot but lost in the brush, December, 1908.

Asio wilsonianus. Long-eared Owl. One secured, December, 1908. Three seen in the wooded canyons.

Euphagus carolinus. Rusty Blackbird. While making up skins in my tent door, Mosquito Harbor, December, 1908, I was greatly surprised to see a blackbird busily engaged in catching insects in the kelp along the beach. My surprise was doubled when, upon picking up the specimen, I discovered it to be a Rusty Blackbird, in fine plumage.

Passerculus sandwichensis alaudinus. Western Savannah Sparrow. Several seen, December, 1908.

Spizella passerina arizonae. Western Chipping Sparrow. Two specimens collected, December, 1908.

Spizella atrogularis. Black-chinned Sparrow. One female secured in December, 1908.

Passerella iliaca unalaschensis. Shumagin Fox Sparrow. One female specimen secured November 30, 1908. Determined to be this subspecies by Grinnell, but not typical.

Pipilo maculatus oregonus. Oregon Towhee. One adult female secured December 4, 1908. This is the southernmost record of this subspecies.

Dendroica coronata. Myrtle Warbler. Fairly common winter visitant.

Dendroica townsendi. Townsend Warbler. One specimen secured. First observed flycatching in the kelp along the beach, Mosquito Harbor, December, 1908.

Sialia mexicana occidentalis. Western Bluebird. While collecting near Howland's Ranch, on the mesa above the Isthmus I was astonished to see a bluebird rise from a clump of bushes. I secured the specimen which was an adult male in beautiful plumage.

Long Beach, California.

SOME SIERRAN NESTS OF THE BREWER BLACKBIRD

By MILTON S. RAY

WITH TWO PHOTOS

IN CERTAIN localities about Lake Tahoe, the Brewer Blackbird (*Euphagus cyanocephalus*) is a very common species. I found it in the greatest numbers at the southern end of the lake, and south, at various points in the lowlands, thru Lake Valley. Most were nesting in groves of small tamarack pines and

almost invariably bordering streams, swamps or boggy meadows. This year (1909), my fifth season in the region, they were as abundant as ever, and more so than usual about Bijou. Here there were half a dozen colonies along the meadows and lake shore, with from about ten to thirty pairs in a colony. Altho the altitude is high here (6220 feet) the birds nest quite early, and while the majority begin to lay about the middle of May, yet, as is usual where birds nest in large numbers, some nests were found with fresh eggs as late as early June.



NEST OF BREWER BLACKBIRD ON PILE AT LAKE TAHOE

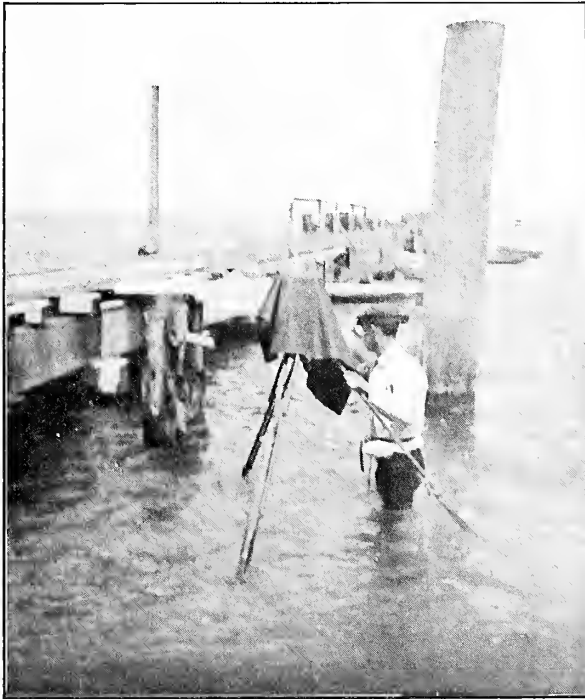
On my arrival at Bijou, on May 25, I noted numerous nests about camp, most of which held eggs in an advanced stage of incubation. During the next few weeks I examined a great many nests, nearly all being placed in small tamarack pines, often mere saplings, from four to fifteen feet up, and but poorly concealed. One description will practically answer for all of these: A rather bulky structure of rootlets, grasses and weeds with some mud, and lined with horsehair. Five was the usual complement of eggs, tho often four or six, and sometimes only three. The large number of eggs I examined showed great variation in size, shape and

coloring, which I have described at some length in the article termed "A Defense of Oology," to be published in a future CONDOR.

A strange departure from the usual tree-nests were those placed on the ground. These were in swampy meadow-land, which, when the birds start to nest in May, affords practically no concealment as the grass is very short. That many of those birds nesting on the ground come to an untimely end I feel, is quite certain, for I found about a dozen of these terrestrial nests deserted; and nearby a scattered bunch of the dark feathers of *Euphagus* testified to the sudden end of one of the owners. Along the beach front between Bijou and Lakeside this condition was particularly noticeable; for five nests were found in this state. Various mammals, especially the smaller species, are extremely common in this region; and the sitting birds, on

a poorly-concealed nest and being of conspicuous plumage, no doubt fall an easy prey.

Some years ago I mentioned in *The Auk* (vol. xx, no. 2) finding several nests of the Brewer Blackbird at Rowlands built in piles out in the lake, one being above where the water was twenty feet deep. This year my attention was called to one in a similar situation at Bijou by Mr. Wilton Young. The pile in which the nest was placed formed a part of the main wharf. A portion of the side had been torn away leaving sufficient space for the bird to construct a nest. As it was some distance from the top of the pile and faced lakeward it was unnoticed by those who were continually passing thru the day within a foot or so of it.



HEINEMANN'S METHOD OF DEEP-WATER PHOTOGRAPHY

Desiring to photograph the nest and eggs *in situ* when Mr. Oluf Heinemann arrived, I collected the set of four eggs, on June seventh, they being then well along in incubation. The nest was a frail structure (conditions did not allow, nor was it necessary for it to be otherwise) of rootlets, grasses, weed stems, a few pine needles, and lined with horse-hair. It was placed thirteen inches above the water which was three feet deep. On June 19, after more pressing work had been done, Heinemann and I assembled with the various photographic paraphernalia on the beach at a time when the light came at a proper angle and proceeded to take the picture. Of course the usual tripod legs were far too short for this class of work; but these were easily lengthened by some long poles we found lying handy. It was likewise necessary for Heinemann to don a bathing suit in order to take the picture which is shown herewith. The smaller view by the writer shows Heinemann and his method of deep water photography.

San Francisco, California.

THE NESTING OF THE BROAD-TAILED HUMMINGBIRD

By ARETUS A. SAUNDERS

ON JUNE 28, 1909, a friend showed me a nest of the Broad-tailed Hummingbird (*Selasphorus platycercus*). The locality was Squaw Creek, in the West Gallatin Canyon, Gallatin County, Montana. The nest was placed on a dead branch of an alder, overhanging the stream and was composed of cottonwood down and covered with bits of lichen. It contained two eggs which my friend said had been there more than a week to his knowledge, so that incubation must have been well advanced.

We sat down under the nest to watch for the bird, and had but a short time to wait before she appeared. She did not appear to notice us at all but flew immediately to the nest, perched a moment on the rim and then settled on the eggs. I stepped around to another position to get a stronger light on her, as I was at first a little uncertain of the species. I found that she was quite brilliantly marked for a female and had quite a large patch of metallic color on her throat. She was a very restless sitter, seldom staying on the nest for more than a minute at a time, but never going far away and always returning quickly.

I had my camera with me and hoped to get a picture. The situation was not good, however, as the sunlight reached the nest only for a few moments just before sunset, and then only thru the branches of surrounding trees. The nest was too high up to use a tripod, so I set a ladder against a neighboring tree and by climbing it was able to hold the camera within a few feet of the nest. The bird was very tame and gave me several opportunities for a picture without seeming to mind my presence at all. The pictures proved partial failures because of the poor light.

On July 13, I was again in the vicinity and visited the nest. It now contained two well-grown young. The mother bird was not in sight, so I sat down to wait for her. It was fully half an hour before she appeared. She seemed much less tame than before, and flew about from one perch to another for fifteen minutes before she finally went to the nest. She then perched on the rim, hesitated a moment, then fed the young in turn, ramming her bill down their throats and regurgitating the food in the usual hummingbird fashion.

On August 13, 1909, I found another nest of this species in Bear Canyon, Gallatin County. This one was also beside a stream, placed on a projecting root under an overhanging bank, and was composed of the same materials. No bird was to be seen and the cold eggs had evidently been deserted for some time. I found the contents somewhat dried and incubation so far advanced that I was unable to save the shells.

Anaconda, Montana.

AN EARLY COLORADO ORNITHOLOGIST—WILLIAM G. SMITH

By WILLIAM L. BURNETT

WITH ONE PHOTO

WE of the younger school of bird students in Colorado cannot help looking back with envy upon the early ornithological workers, those sturdy scientific pioneers who laid the foundation upon which the history of Colorado ornithology is built: a foundation not laid upon the sands of inaccurate

observations, but built on the solid rock of facts, cemented together by the scientific training of brilliant minds.

Think of the golden opportunities that lay before them! How well they took advantage of those opportunities are matters of record in various ornithological publications. Some are still with us and are as active as of yore; but many have past away, and with the exception of Denis Gale, whose biography has been so ably written by Judge Henderson, how many of us know anything of the individual life of those that have gone beyond?

A sketch of the life of any ornithologist who has become prominent either world wide or locally, and especially those who were engaged in that work in our own State, has always been a matter of great interest to me. The subject of this



WILLIAM GILBERT SMITH: BORN JUNE 20, 1841;
DIED MAY 12, 1900

sketch, William Gilbert Smith, can justly be called the pioneer ornithologist of Larimer County. Born June 20, 1841, at Sandwich, England, he spent the first thirty years of his life at his birthplace, and coming to this country in 1871, he settled at Rochester, New York, where he followed his trade of stair-building. He also did considerable taxidermist work and bird study during his spare moments. It was while living there that he joined the Society of American Taxidermists and met many men of national fame. He counted W. T. Hornaday and the late Professor Ward among his most intimate acquaintances. The Society about the year 1880 conducted an exhibit, and Smith entered some of his work. One piece, "The Story of Cock Robin," illustrated by a group of animals grotesquely mounted, was awarded a certificate of merit.

Smith left Rochester in the fall of 1881 and came to Denver, where he opened a bird store and museum on Larimer Street between 15th and 16th streets, which he kept until the first of the year 1883 when he sold out to Mr. H. H. Tamman.

He spent the year 1883 collecting in Platt Canyon and Buffalo Park, where he secured many specimens of birds, eggs, insects, and mammals. At that time he donated some rare specimens to the Smithsonian Institution at Washington, among which was a set of three eggs of the Townsend Solitaire, at that time almost unknown to science.

In 1884 he took up a homestead about six miles northeast of Loveland, Colorado, where he lived until the fall of 1892, when on account of failing

health he returned to England. He died at Deal, May 12, 1900, of Bright's disease.

It was while living at Loveland that his work among the birds created an epoch in the history of Colorado ornithology. I find he wrote very little about his achievements, seemingly content to leave that to the pens of others. From 1886 to 1891 the following appeared from his pen:

"Winter Birds in Larimer County, Colorado."—Random Notes III, 1886, p. 13.

"Nest of Rock Wren."—Random Notes III, 1886, p. 17.

"Nest and Eggs of *Myadestes townsendii*."—Random Notes III, 1886, p. 25.

"Notes from Colorado."—Random Notes III, 1886, pp. 66 and 67.

"Hybrid Ducks."—O. & O. XII, 1887, p. 169.

"Nesting of Audubon's Warbler."—O. & O. XIII, 1888, p. 114.

"Nesting of Ruddy Duck."—O. & O. XIII, 1888, p. 132.

"Nesting of Water Ousel."—O. & O. XIII, 1888, p. 149.

"Breeding Habits of the Mountain Plover."—O. & O. XIII, 1888, p. 187.

"Nesting of Pied-billed Grebe."—O. & O. XIV, 1889, p. 138.

"Nesting of the Cinnamon Teal."—O. & O. XIV, 1889, p. 77.

"Sabine's Gull."—O. & O. XIV, 1889, p. 176.

"Nesting of Eared Grebe."—O. & O. XV, 1890, p. 140.

"Nesting of the Flammulated Screech Owl."—O. & O. XVI, 1891, p. 27.

Probably the most interesting of the above articles is the record of three sets of the Flammulated Screech Owl, all taken in the year 1890; the first, a set of three, the second, a set of two, and the third, a set of four.

He furnisht the late Major Bendire with a great many notes on the nesting of Colorado birds, which appeared in his "Life History of North American birds," and his estimate of Smith's work is found in Volume I in the following words: "Well known as a good ornithologist and a reliable collector."

He was not only a student of birds, but an all-round naturalist, doing a vast amount of work with the insects and mammals of the locality around his home. Most of the specimens were sent to the National Museum, and in their publications several types of new species are credited to him.

He was also an amateur painter, and some of his back-grounds for his bird groups were really works of art. He had several of these on exhibition at the Larimer County (Colorado) fair in 1887. I remember one as especially good: a landscape scene with a pair of Bob-whites in the foreground. However, the birds were his especial study, and in that line we, who are left to follow after him in our humble way, like best to remember him.

Loveland, Colorado.

THE FLAMMULATED SCREECH OWL

By F. C. WILLARD

WITH FIVE PHOTOS

ON May 17, 1909, I left Tombstone for the Huachuca Mountains with a good supply of collecting paraphernalia, a list of species whose nests I had not yet taken, and a determination to shorten this list. With this in mind, May 18 found me climbing every likely-looking tree and stub near the summit of the mountains at the head of Ramsey Canyon.

I was looking for *Otus flammeola*, one of the most desired species on aforesaid list. As I reached my hand into an old Flicker's hole and touched a bunch of feathers a premonitory thrill made me feel sure my quest was successful. Enlarging the opening somewhat I was able to reach under the bird and felt eggs. On bringing the bird to view I was jubilant to find my premonition correct, and slipped her between the buttons of my shirt. Her claws, as she climbed toward my neck, made



NESTING SITE OF FLAMMULATED SCREECH OWL; NEST IN
SECOND HOLE FROM TOP OF STUB

me regret their location; but there was no other available place to put her and I needed both hands, so I made haste to secure the three eggs and descend. With both hands free, I promptly secured her owlishness, her needle-like claws making ineffectual attempts to hang onto my shirt and the skin beneath.

My camera next came into use and I secured one of the pictures shown herewith, holding the owl in one hand and operating the instrument with the other. The

most striking feature to me was the mild look of her face, which appeared very different in aspect from that of other owls I had met with. Presently I discovered that this was due to the eyes, which, instead of having a yellow iris as in other owls, were a dark chocolate brown. Dr. Coles makes no mention of this feature, and I



FLAMMULATED SCREECH OWL (AT LEFT) AND PIGMY OWL (AT RIGHT),
SHOWING DARK-COLORED EYES OF FORMER



FLAMMULATED SCREECH OWL; NOTE BLUNTNESS
OF PLUMICORNS

do not know whether it is included in any description as yet. The photograph shows this very plainly, the difference being easily noticed when compared with the Pigmy Owl shown in the picture to the right. The photograph also shows the stubbiness of the plumicorns.

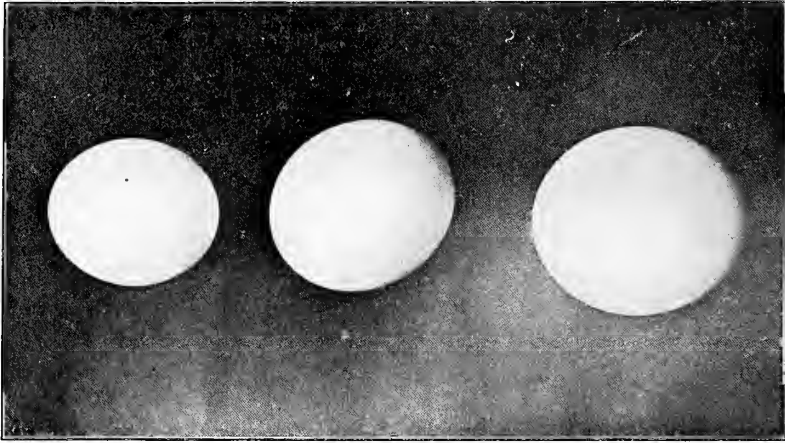
The eggs in the set were fresh and were lying on the chips in the bottom of the cavity, which was twenty-five feet up in a pine stub. The growth at this point consisted of scattering pines and firs. The altitude was 7700 feet.

On May 30 I startled another female *flammeola* from her nest in a Flicker's hole, twelve feet up in an oak tree growing in the bed of a canyon on the west slope of the Huachucas, at an altitude

of 6000 feet. I left the two eggs and returning June 11 secured the full set, incubation well along. The bird left the nest as I climbed up, and alighted on a drooping branch near the entrance. I dropt down and, picking up my camera,

secured a snap shot at a distance of eight feet, immediately after which she flew away. It was a very comical picture she made as she sat there, opening first one eye and then the other, like a sleepy child, in an endeavor to accustom herself to the glare of the bright sun. The snap shot secured shows how excellently the silver gray plumage serves as a protective color.

In size, the eggs are about half-way between those of the Pigmy Owl (*Glauucidium gnoma*) and those of the Mexican Screech Owl (*Otus a. cineraceus*). The photo herewith shows their relative sizes very nicely.



EGGS OF PIGMY OWL (TO LEFT), FLAMMULATED SCREECH OWL (MIDDLE), AND MEXICAN SCREECH OWL (TO RIGHT), SHOWING RELATIVE SIZES

My scanty acquaintance with this owl scarcely justifies any general conclusions. However, it appears more easily aroused and frightened from its nests than the Pigmy Owl, but less easily than the Mexican Screech Owl.

Altho I have camped where these owls were located I have never heard their cry at night, unless it is the counterpart of that of *G. gnoma*, which I have heard and found in the same localities. I hope this year's introduction will make it less difficult for me to secure further notes on this species.

Tombstone, Arizona.

A COLLECTION OF BIRDS FROM FORTY-MILE, YUKON TERRITORY, CANADA

By JOSEPH GRINNELL.

THE Museum of Vertebrate Zoology of the University of California contains a collection of bird-skins which were obtained in Alaska and Yukon Territory by Chas. L. Hall during the period from 1894 to 1901, inclusive. During the last three years of this time Mr. Hall was in charge of the Alaska Commercial Company's store at Forty-mile, Yukon Territory, and occupied his leisure

hours in gathering collections of natural history and ethnological specimens. These, together with others secured at different points in Alaska, have now come into the possession of the University; and the birds and mammals are cataloged as part of this Museum.

Forty-mile is situated on the Upper Yukon River where the latter is joined by the Forty-mile River. It is about twelve miles east of the Alaska-Canadian boundary. Mr. Hall has informed me that the birds (markt "40-mile") were all obtained on the Canadian side in the immediate vicinity of the post, that is, within four or five miles. In the following list I include only such species as were taken on Canadian ground, reserving the Alaskan records for another paper. I believe that the simple record of these birds will afford facts of considerable value in the matter of definite locality and dates of occurrence. In many of the migrant species the specimens of early date, so Mr. Hall tells me, were the first for the season to be observed. The numbers employed to denote specimens in the following list are those of the bird catalog in this Museum. I have added critical comments where I could see that such are warranted.

Colymbus holboellii (Reinhardt). Holboell Grebe. Adult male (no. 4925), June 6, 1899.

Colymbus auritus Linnaeus. Horned Grebe. Female immature (no. 4875), September 20, 1898; male adult (no. 4874), May 20, 1899.

Gavia immer (Brünnich). Common Loon. Adult female (no. 4927), May 28, 1899; female immature (no. 4928), September 25, 1900.

Gavia pacifica (Lawrence). Pacific Loon. Adult female (no. 4883), May 28, 1899; wing, 289; tarsus, 60; culmen, 50; coloration, as far as I can see, exactly like two adults from Alaska.

Gavia stellata (Pontoppidan). Red-throated Loon. Adult male (no. 4879), June 15, 1899.

Rissa brevirostris (Bruch). Red-legged Kittiwake. Immature (?) female (no. 4909), October 15, 1899: wing, 296; tail, 114; tarsus, 30.3; middle toe with claw, 45.5; culmen, 23; bill from nostril, 12.6; depth of bill at base, 9.6. Aside from the wings and mantle the bird is pure white, except for a slaty crescent close in front of the eye, a slaty auricular spot, a slight gray wash across nape, and a transverse area on the hind-neck in which the feathers are blackish-tipt; mantle, mouse gray, the outer, middle and lesser wing-coverts narrowly tipt with whitish, and secondaries tipt with white to a width of 13 mm or less. Outermost (first) primary with shaft and both vanes black, except for a light gray margin on the inner vane, which widens nearly across vane towards base and terminates narrowly (2 mm wide) 53 mm short of the tip of the feather; this gray area ends distally 2 mm from the inner edge of the vane, so that the black extends around its end and separates it from the actual margin of the vane 21 mm down the vane; second primary the same, but inner light gray area broader and extending within 43 mm of tip of feather; third primary the same, but gray area ending 39.5 mm short of the tip of the feather; fourth primary the same, but tipt with whitish (1.5 mm), outer vane narrowly and outwardly margined with gray towards base, and inner web with pale gray area so broad as to nearly touch shaft, and broadly rounded distally within 32 mm of tip of feather; fifth primary light gray, with irregularly white tip (averaging 6 mm wide), preceded by an irregular black bar (averaging 19 mm wide) double-rounded proximally; sixth primary grayish outwardly, white inwardly and distally, black spot 8 mm long on outer web to within 7 mm of tip of

feather, the shaft being whitish distally and slaty towards base; rest of primaries white, palely gray outwardly towards base.

As shown by the above description, both in size and primary-pattern, the bird in question does not agree with current descriptions of the species. As I have no other specimens of *R. brevirostris* at hand for examination, I am not able to draw any direct comparison. It may represent a variable young stage in plumage. The bird was found dead on the shore of the Yukon River near Forty-mile. Mr. Hall tells me it was the only one of its kind that ever came under his notice. It affords a record station far east of any previously known place of occurrence, and the first for Canada. That this pelagic species should be thus found far inland is proof enough of the abnormal nature of the occurrence.

Mergus americanus Cassin. American Merganser. Adult female (no. 5037), October 5, 1900.

Marila affinis (Eyton). Lesser Scaup Duck. Adult male and female (nos. 4854, 4855), May 20, 1899.

Clangula clangula americana Bonaparte. Golden-eye. Adult male (no. 4846), May 2, 1901.

Charitonetta albeola (Linnaeus). Buffle-head. Adult male and female (nos. 4843, 4844), May 2, 1898; adult male (no. 4845), May 11, 1901.

Lobipes lobatus (Linnaeus). Northern Phalarope. Adult female (no. 4798), May 3, 1901.

Gallinago delicata (Ord). Wilson Snipe. Three adult males (nos. 4767-4769), May 4, 5, and 16, 1898.

Pisobia maculata (Vieillot). Pectoral Sandpiper. Two adult males (nos. 4775, 4776), May 16, 1898.

Pisobia minutilla (Vieillot). Least Sandpiper. Male immature (no. 4740), August, 1, 1894; male adult (no. 4741), May 14, 1898.

Totanus flavipes (Gmelin). Lesser Yellow-legs. Three immatures (nos. 4730-4732), August 1, 1894, and August 18, 1900; seven adults (nos. 4725-4729, 4733, 4734), May 8 to 13, 1901, May 3 and 14, 1898.

Helodromas solitarius cinnamomeus (Brewster). Western Solitary Sandpiper. Four adults (nos. 4719-4722), May 8, 1901, and May 16, 1898.

Charadrius dominicus dominicus Müller. Golden Plover. Five adults in full summer dress (nos. 4749-4753), May 22 and 27, 1899. These do not approach *C. d. fulvus*; their wing-lengths are, respectively: ♀, 174.6; ♂, 187.3; ♀, 179.4; ♂, 180.7; ♂, 178.1.

Aegialitis semipalmata (Bonaparte). Semipalmated plover. Adult male (no. 4759), May 23, 1901.

Canachites canadensis osgoodi Bishop. Alaska Spruce Grouse. Three adults (nos. 4517-4519), September 19, 1900, and September 27, 1899.

Bonasa umbellus umbelloides (Douglas). Gray Ruff Grouse. Seven adults (nos. 4505, 4508, 4509, 4511-4513, 4515), October 12 to November 15, 1899.

Lagopus lagopus lagopus (Linnaeus). Willow Ptarmigan. Seven adults (nos. 5009-5016, 5038), in winter plumage, October 5 to March 30, 1898 to 1901. The birds of October 5 and 20 show dark feathers persisting about the head and neck. No. 5016 is marked ♀, February 18; it has a patch of colored feathers on the hind-neck; but there is no sign of active molt, and I consider it a case of abnormally held-over estival plumage.

Circus hudsonius (Linnaeus). Marsh Hawk. Two adult males (nos. 4958, 4957), May 1 and 8, 1898.

Accipiter velox (Wilson). Sharp-shinned Hawk. Full-grown juvenal male (no. 4959), August 19, 1901.

Astur atricapillus (Wilson). Goshawk. Adult female (no. 4964), August 18, 1901; two full-grown juvenal males (nos. 4955, 4956), July 31, 1894 (wisps of natal down still adhere to the tips of the secondaries and rectrices); immature female (no. 4952), May 7, 1898; immature female (no. 4953), October 10, 1900; immature female (no. 4965), August 18, 1901.

Aquila chrysaetos (Linnaeus). Golden Eagle. Two adult females (nos. 4503, 4504), April 5, 1901, each "caught in marten trap". These are larger than California birds. They measure respectively: wing, 648 and 660; tail, 390 and 395; tarsus, 104 and 110; outside chord of hind claw, 55 and 54.5; chord of culmen from cere, 43.3 and 43.8.

Falco peregrinus anatum Bonaparte. Duck Hawk. Pair of immatures (nos. 4961, 4962), September 15, 1899; streaking below, heavy; colors, dark.

Falco columbarius Linnaeus. Pigeon Hawk. Immature male (no. 4960), August 10, 1898.

Asio flammeus (Pontoppidan). Short-eared Owl. Adult female (no. 4938), May 2, 1898; adult male (no. 4939), May 16, 1898; pair of immatures (nos. 4936, 4937), October 10, 1899. The light markings in all these specimens are slightly whiter than in most examples from California.

Scotiaptex nebulosa (Forster). Great Gray Owl. Adult male (no. 4972), February 15, 1898; immature male (no. 4973), September 10, 1900; adult female (no. 4974), December 10, 1900.

Cryptoglaux funerea richardsoni (Bonaparte). Richardson Owl. Six adults (nos. 4929-4934), of following dates, respectively: October 28 and 25, and December 10, 1899; October 20, November 20, and December 18, 1900.

Bubo virginianus lagophonus (Oberholser). Ruddy Horned Owl. Adult female (no. 4970), June 10, 1899; adult female (no. 4971), October 15, 1900. These two birds are very different in coloration: the first is of a light type, the second very dark; the first has the face chiefly whitish, the second has the face heavily marked with black and deep buff; the first has the feet nearly immaculate, the second has the feet heavily but finely barred with black and buff. The lighter example is apparently indistinguishable with Oberholser's *lagophonus*. (See Proceedings U. S. Nat. Museum XXVII, January 1904, pp. 177-192.) But the dark one meets his description of *B. v. saturatus*, even as an extreme of that form. But Forty-mile is far out of the range of *saturatus*; and Horned Owls are presumed to be permanently resident wherever they occur. At any rate Forty-mile is in the wrong direction to account for the occurrence of the present specimen as a migrant. I would rather consider it an individual variant or "phase" of the resident race of the Yukon Valley, which normally presents the characters of *lagophonus*. In the above-cited paper Mr. Oberholser leaves the reader in a hazy state of mind as to how and when to distinguish "phase" characters from true subspecific characters.

Surnia ulula caparoch (Müller). Hawk Owl. Seven adults (nos. 4941-4947), with following dates: May 27, October 15 (two specimens) and November 8, 1899; October 15 and November 10, 1900; April 25, 1901.

Dryobates villosus leucomelas (Boddaert). Northern Hairy Woodpecker. Adult male (no. 4550), November 5, 1900: wing, 134.7; tail, 100; tarsus, 26.5; culmen, 36.5; bill from nostril, 32; depth of bill, 8.8.—Large; brilliant white and black; scarlet nuchal patch broadly divided by black, the latter, therefore, continuous from crown over hind-neck.

Picoides americanus americanus (Swainson). Alaska Three-toed Woodpecker.

Nine adults (nos. 4700-4708), October 10, 15 and 17, 1899, November 5, 1900, and January 20, 1901. These are uniform in the characters of the Alaskan-interior race; they have an extreme of white, both in the matter of extent and clearness.

Sayornis saya yukonensis Bishop. Yukon Phoebe. Adult male (no. 4594), May 5, 1901; wing, 107.5; tail, 83.6; culmen, 14; bill from nostril, 11.7; width of bill at base, 7.1. This example, as compared with *saya* from California, has longer wing and tail, relatively broader and shorter bill, and very slightly darker coloration. These differences appear to me to indicate a well-marked northern race of *saya* as pointed out by Bishop (Auk XVII, April 1900, p. 115).

Otocoris alpestris arctica Oberholser. Alaska Horned Lark. Adult female (no. 4593), May 10, 1898.

Pica pica hudsonia (Sabine). Magpie. Adult female (no. 4524), October 15, 1899. This bird appears to me to be identical in size and in every other respect with Black-billed Magpies from eastern Oregon and Nevada.

Perisoreus canadensis fumifrons Ridgway. Alaska Jay. Six adults (nos. 4538-4543), October 12 and 15, 1900, November 5, 1899, and March 29, 1898.

Euphagus carolinus (Müller). Rusty Blackbird. Eight adults (nos. 4553-4560), May 1, 1898, May 2, 1901; immature female (no. 4561), September 15, 1900.

Pinicola enucleator alascensis Ridgway. Alaska Pine Grosbeak. Four adults (nos. 4562-4565), April 8, 1898, April 12, 1899, and October 15, 1900.

Loxia leucoptera Gmelin. White-winged Crossbill. Eleven skins (nos. 4573-4583), March 28, April 8, May 1 and May 2, 1898. No. 4581, May 1, is a full-grown juvenal.

Acanthis linaria linaria (Linnaeus). Common Redpoll. Male adult (no. 4615), April 20, 1898; female (age?) (no. 4616), October 17, 1900; immature female (no. 4623), November 5, 1900.

Acanthis hornemannii exilipes (Coues). Hoary Redpoll. Adult pair (nos. 4621, 4622), April 20, 1898, and November 5, 1900.

Plectrophenax nivalis nivalis (Linnaeus). Snow Bunting. Seventeen specimens (nos. 4663-4679); fourteen of these were taken on May 1, 1901, one March 30, 1898, one October 25, 1900, and one November 15, 1899.

Calcarius lapponicus alascensis Ridgway. Alaska Longspur. Five skins (nos. 4656-4660), April 25 and May 10, 1898, September 20, 1900, and April 15, 1901.

Passerculus sandwichensis alaudinus Bonaparte. Western Savannah Sparrow. Two adult males (nos. 4599, 4600), May 7, 1898.

Zonotrichia leucophrys gambellii (Nuttall). Intermediate Sparrow. Adult male (no. 8025), May 10, 1898.

Spizella monticola ochracea Brewster. Western Tree Sparrow. Adult pair (nos. 4638, 4639), May 10, 1898.

Junco hyemalis hyemalis (Linnaeus) Slate-colored Junco. Two adult males (nos. 4641, 4642), May 3 and 7, 1898.

Melospiza lincolni lincolni (Audubon). Lincoln Sparrow. Adult male (no. 4640), May 8, 1898.

Lanius borealis invictus Grinnell. Alaska Shrike.

No.		Date	Wing	Tail	Tarsus	Bill from Nostril
4525	♂ im.	Aug. 23, 1900	116.5	108.2	28.3	14.6
4526	♂ im.	Sept. 10, 1900	117.9	114.0	27.9	13.8
4527	♂ ad.	Oct. 12, 1899	117.3	116.2	26.6	13.1

As contrasted with comparable examples of *L. b. borealis* from the northeastern

United States (taken in winter), the adult is larger, with much more white on wings and tail; the rump is conspicuously and clearly white; the scapulars and extreme forehead are more whitish; and the lower surface is whiter, and more lightly vermiculately barred.

Dendroica aestiva rubiginosa (Pallas). Alaska Yellow Warbler. Two adult males (nos. 4604, 4605), May 16, 1898.

Dendroica coronata hooveri McGregor. Alaska Myrtle Warbler. Two adult males (nos. 4611, 4612), May 7 and 3, 1898.

Seiurus noveboracensis notabilis Ridgway. Alaska Water-thrush. Adult male (no. 4601), May 20, 1901.

Anthus rubescens (Tunstall). American Pipit. Adult pair (nos. 4588, 4589), May 14 and 3, 1898.

Cinclus mexicanus unicolor Bonaparte. American Dipper. Adult male (no. 4711), November 15, 1900: large; wing, 95; tail, 49; tarsus, 30.2; culmen, 15; bill from nostril, 12.4.

Planesticus migratorius migratorius (Linnaeus). American Robin. Five skins (nos. 4529-4533), May 3, 5 and 14, 1898, May 8, 1901, and August 19, 1901.

Ixoreus naevius meruloides (Swainson). Northern Varied Thrush. Female (?) immature (no. 4551), September 12, 1900.

Saxicola oenanthe oenanthe (Linnaeus). Wheatear. Male in first winter plumage (no. 4592), August 18, 1901.

FROM FIELD AND STUDY

Western Robin at Novato.—On April 25, 1909, we saw several *Planesticus migratorius propinquus* at Novato, Marin County, California. Is not this a rather late date for their presence in this locality?—J. R. PEMBERTON and H. W. CARRIGER, *San Francisco, California*.

The Golden Plover at Coronado.—On January 12, 1908, I came upon a Golden Plover (*Charadrius dominicus*) on the inner bay shore not far from Hotel del Coronado. It was a very bright specimen and was found in the same small cove on the 15th and again on the 20th. On all three occasions it was feeding by itself and was seen perfectly at short range. It could not be found on my next visit to the spot, January 24th.—BRADFORD TORREY, *Santa Barbara, California*.

Brewer Sparrow in Ventura County.—I note a query made in the July number of THE CONDOR regarding the nesting of the Brewer Sparrow (*Spizella breweri*) west of the Sierra Nevada, and I submit the following from personal observation.

The first set was taken from a silk oak tree on May 15, 1908, and contained three eggs. This set is still in my possession. The second set was taken from an apricot tree on May 17, 1909, and contained four eggs. This set is now in the possession of Mr. C. W. Crandall of New York.—LAWRENCE PEYTON, *Sespe, California*.

Wilson Phalarope near San Francisco.—On September 9, 1909, I saw an individual of (*Steganopus tricolor*) wading in a shallow Lake near the Cemeteries in San Mateo County, California.—J. R. PEMBERTON, *Palo Alto, California*.

Two Records from Eastern Kansas.—While Mr. Chas. D. Bunker and myself were collecting birds on Washington Creek, eight miles southwest of Lawrence, Kansas, November 7, 1908, we secured a single specimen of the Lewis Woodpecker (*Asyndesmus lewisi*). The bird was in an oak tree near an old cabin when Mr. Bunker first saw it. He did not recognize it and shot it, wounding it. The bird flew across a field to the edge of some timber, as I came around the cabin, and I knew it at once. We followed and after a short search discovered the bird, motionless, on the side of a tree, and secured it. It was an adult female in full plumage. The length in the flesh was 266 mm.

On January 9, 1909, we took an adult female Western Robin (*Planesticus migratorius propinquus*) from a tree in a hedge, two miles south of the University at Lawrence, Kansas. It was a cold foggy day, and several other robins of the eastern variety were taken, this one however being alone.

Both of these birds were mounted and are now in the collection of the Kansas State University Museum at Lawrence.—ALEX WETMORE, *Denver, Colorado.*

Some Unrecorded Species from Los Coronados Islands, Mexico.—This spring (April 3 to 10, 1909) while collecting on the Coronados, off San Diego, with J. B. Dixon, we secured the following birds new to the Islands.

Circus hudsonius. Marsh Hawk. One female taken April 6.

Aluco pratincola. Barn Owl. One was flushed April 9 from a crevice in the cliffs.

Asio wilsonianus. Long-eared Owl. Dixon flushed one from a low bush on North Island, April 7.

Speotyto cunicularia hypogaea. Burrowing Owl. One female taken April 8.

Selasphorus alleni. Allen Hummingbird. Very common all the week.

Tyrannus vociferans. Cassin Kingbird. A pair stayed about camp for four days.

Icterus bullocki. Bullock Oriole. One male taken; others seen.

Dendroica auduboni. Audubon Warbler. Very common.

Catherpes mexicanus conspersus. Canyon Wren. One taken.—A. VAN ROSSEM, *Pasadena, California.*

The English Sparrow in Santa Barbara.—I returned to Santa Barbara a few days ago, after an absence of two months, and find today (July 13) a flock of English Sparrows (*Passer domesticus*) in and about the garden of the Potter Hotel. I have never before seen them here.—BRADFORD TORREY, *Santa Barbara, California.*

Notes on the Nesting of the Western Martin.—A colony of Western Martins (*Progne subis hesperia*) have made their summer home under the eaves of the Hotel Maryland of this city, each year for the past four seasons. The birds are regular summer visitants to the mountains six miles back of Pasadena where they may be seen most any day in the early summer months; but they are uncommon in the surrounding country outside of the colony mentioned. This colony is on a principal thoroughfare, at a height of 60 feet above the street, and is inaccessible. The nests are built in the holes in the concrete trimmings under the broad extended eaves. The year of their arrival brought only a few birds, but each succeeding summer the numbers have increased until now the colony numbers about thirty pairs. As my observations have been entirely with the western form of this species I do not know whether this is a comparatively large or small colony, but it is of interest here from its unusual situation.—PINGREE I. OSBURN, *Pasadena, California.*

The Knot in Southern California.—While duck-hunting at Anaheim Landing, Orange County, California, October 3, 1909, I noticed a good-sized sandpiper flying up one of the sloughs immediately behind a small flock of Western Willets. The former was secured and has since proved to be a male *Tringa canutus*, kindly identified by Mr. J. Grinnell.—CHESTER C. LAMB, *Los Angeles, California.*

THE CONDOR

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of Western Ornithology

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EDITORIAL NOTES AND NEWS

Next thing in value to precise locality in the record of the occurrence of an animal, is the statement of the exact date of the observation. A perusal of some recent bird lists shows evidence of carelessness or laziness on the part of the respective authors not consistent with the scientific tone otherwise assumed. We regret the opportunity to point to a particularly virulent case in the present issue of this magazine, where a rare bird is recorded as secured in "December, 1908." The record would have been of decidedly more use, and would have impressed the reader as having been better considered by the author, if the day of the month had been included.

It may now be announced authoritatively that the Museum of Vertebrate Zoology of the University of California has adopted a commendably broad policy as regards the use of its research collections. Material of any sort—birds, mammals, reptiles—will be loaned to any responsible investigator anywhere, providing, of course, that there be no conflict in interests; that is, if a certain group has already been selected by someone for study, it is not to be expected that the material in question be called in for transference to the later applicant. But the possibility of such trouble is remote. The feature to be emphasized is that the new Museum is not a cold-storage concern, but that it proposes to render its collections of widest possible use. No restrictions are imposed, save that the borrower is expected to

pay transportation charges, and to exercise reasonable care in the proper preservation of the specimens while in his keeping. The National Museum, as well as certain others of the foremost eastern institutions, has consistently pursued this generous policy, certainly without injuring either their standing or, to any material extent, their collections.

We are very glad indeed to receive direct information to the effect that there is to be a new edition of Ridgway's "Nomenclature of Colors" and this right soon. Attention is called to the letter published beyond under "Correspondence" in which Mr. Ridgway announces the scope of the work. To the systematic student of almost any group of animals, such a manual is of inestimable value; and we will all have Mr. Ridgway to thank for providing that which we have begun to need so pressingly.

Mr. Malcolm P. Anderson has again gone to the Orient to collect mammals for the British Museum. He is accompanied by an assistant and is now on his way into Central and Western China. His work will ultimately take him into Tibet.

Mr. Harry S. Swarth returned home on October 8 from an absence of over six months' duration occupied in exploring the islands of Alaska between Juneau and Dixon Entrance. His collections of birds and mammals were obtained for the California Museum of Vertebrate Zoology, in which institution Mr. Swarth is Assistant Curator. This material will be worked up by him during the winter, and will form the basis of a special report on the animals of southeastern Alaska.

We wish to forcibly remind subscribers to this magazine that, under the new postal regulations, we are compelled to stop sending out copies as soon as subscriptions have become delinquent. Therefore, if it is wish to avoid any break in the receipt of THE CONDOR, dues should be paid up promptly.

PUBLICATIONS REVIEWED

BIOLOGICAL INVESTIGATIONS IN ALASKA AND YUKON TERRITORY. By WILFRED H. OSGOOD. (=North American Fauna No. 30, Washington, October, 1909, pp. 1-96, 2 figs., plates I-V.)

The three separate reports comprising the paper deal with neighboring localities on the upper Yukon River, one in Alaska, the other two in Yukon Territory, Canada. Carefully detailed accounts are given of the physiography and flora of the various regions, while the bulk of the paper is devoted to annotated lists of the mammals and birds met with during the summers of 1903 and 1904. The greatest interest attaches to the accounts of the "big game" of the region, their habits, manner of occurrence, etc., being given in the greatest detail; in fact, more attention is paid to this portion of

the report than to any other, the birds and many of the smaller mammals being listed in a somewhat perfunctory manner.

While the lists, both of birds and mammals, are long ones, a surprisingly large number of species are included which were not met with by the parties at all, but are put in apparently because they *ought* to occur in the region covered. The value of such "records" may be fairly questioned—such as this of *Sciuropterus yukonensis*: "This fine flying squirrel doubtless inhabits the region in which we worked;" or this of *Mustela americana actuosa*: "Martens can scarcely be absent from the region, but no signs of them were observed by our party;" or this of ? *Buteo borealis calurus*: "Altho not positively identifiable at a distance, several of the hawks seen by us on the lower Pelly were apparently redtails"—to quote a few of the many. Surely it is not necessary to formally incorporate a species in a faunal list in order to say that it was not met with—that might fairly be taken for granted.

Under *Aquila chrysaetos*, as occurring in the Ogilvie Range, Yukon Territory, we find the statement that "young lambs of the mountain sheep were abundant and these birds doubtless secured one now and then;" which would appear to be a gratuitous slander, on these particular birds at any rate, for no evidence is produced to support the accusation. It is strange how the association of ideas always brings up the helpless lamb whenever the eagle is mentioned—both in poetry and prose he is supposed to be subsisting largely on such a diet, just as the "chicken hawk" of the populace is continually on the lookout for poultry. Possibly there is as much ground for the one supposition as the other.

Some of the bird notes are of great interest, such as those on the Western Solitary Sandpiper (page 35), on the Spotted Sandpiper and Northern Shrike (page 36), on the Wandering Tattler (page 86), and many others besides, tho most of the species are dismissed with the bare mention of their occurrence. *Myadestes townsendi* and *Junco hyemalis montanus* were secured for the first time in Alaska, while adults and young of *Leucosticte tephrocotis* were secured in midsummer on Glacier Mountain, Alaska, adding another to the very few localities in which the species has been found breeding. In the treatment of the birds the rulings of the A. O. U. Committee have been strictly adhered to in every case.

On reading the paper thru it is evident that the author's greatest interest lay with the "big game" and the fur-bearing mammals; and while no one will feel inclined to quarrel with him on that account, for they are most ably and interestingly treated, it seems a pity that the smaller fry from such an interesting region

should be dismissed with such scant notice.—H. S. S.

CORRESPONDENCE

Editor THE CONDOR:

Being under the impression that practically everyone interested in the subject knew that I have been engaged, "off and on," for about twenty years, in the preparation of a work to supercede my old "Nomenclature of Colors" (long out of print, and manifestly seriously defective in the inadequate number of colors represented, their unscientific arrangement, and the bad method of their reproduction), your note in the last number of THE CONDOR was somewhat of a surprise to me. It seems proper, therefore, that I should formally announce the final completion of the laborious task begun so long ago, that the work is now in the hands of the firm who is to reproduce the plates, and that the book will be published sometime before next spring.

The new work has been very carefully planned and executed, and I have every reason to believe will fully meet all the requirements of those who have use for it. There will be about 1350 colors (instead of the 186 of the old work), and these will be reproduced by a method which insures not only a correct copy of the originals but absolute uniformity thruout the entire edition. Altho it will manifestly be impossible to name all the colors, those which are not named, and *also the intermediates*, both as to hue and tone, may be easily designated by an exceedingly simple system of symbols, which is practically equivalent to the representation of more than 5300 colors sufficiently distinct from one another to be readily differentiated by the normal eye. The standards of the "Nomenclature of Colors" of 1886 are of course preserved. The book will be the same size as the old one except for thickness which will not be very much greater, since all the text and plates of the old work which do not pertain to color are eliminated and the text re-written. Notwithstanding the great expense of its preparation and publication and the fact that there are more than seven times as many colors represented, the price will be but little more.

Very truly yours,

ROBERT RIDGWAY

Washington, D. C.; September 6, 1909

Editor THE CONDOR:

I notice that I have been quoted as taking a stand against the recognition of minute differences in naming races (CONDOR XI, no. 2, pp. 66-67). My intention in said instance (CONDOR XI, no. 1, p. 32) was entirely the opposite. Mr. Linton seemed to be decrying the inability to distinguish minute racial characteristics and I endeavored to show that the adjective "microscopic" was perhaps applicable only to the

individual specimens he had in hand and in no sense to the types of the races. As a fact, I am, and always have been, in favor of recognizing subspecifically by name any race based upon a *constant* difference that is localized geographically, no matter how slight the difference may be. My reply, quoted by you, was, I think, entirely an abstract statement and certainly not to be taken as referring to the status of *Vireo huttoni oberholseri*, a race I am not familiar enough with to discuss.

Sincerely,

H. B. KAEDING

Los Angeles, Calif.: September 18, 1909

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

JULY.—The July meeting of the Club was called to order at 9 P. M. in the lecture room of the Museum of Vertebrate Zoology, Berkeley, with vice-president E. W. Gifford in the chair. Minutes of the last meeting were read, and approved as read.

Applications were received from the following:

Winifred N. Wear, 2448 Monterey Street, Fresno, by Mr. Grinnell; Herbert Massey, Manchester, England, by W. Lee Chambers; W. E. Clyde Todd, Pittsburg, Penn., by W. Lee Chambers; Waldron DeWitt Miller, New York City, by W. Lee Chambers; John K. Strecker, Jr., Waco, Tex., by W. Lee Chambers; Oscar P. Spielman, Chicago, Ill., by W. Lee Chambers; P. A. Taverner, Highland Park, Mich., by W. Lee Chambers; Jos. E. Gould, Norfolk, Va., by W. Lee Chambers; Richard S. Follett, Boston, by W. Lee Chambers; R. J. Hazard, Peace Dale, Rhode Island, by W. Lee Chambers; Clarence Birdseye, New York City, by W. Lee Chambers; Henry W. Henshaw, Washington, D. C., by W. Lee Chambers.

On motion the applications were laid over for one month. Mr. L. J. Cole, thru Mr. Grinnell, presented the idea of tagging birds with the view of finding their winter range. The subject was discussed by those present and all agreed that the idea was good; and any member of the Club that is in a position to tag any birds should do so and keep a record of the same. Mr. R. H. Beck who has been collecting among the water and shore birds around Los Banos, California, gave an interesting talk about work that he had done the past year.

Nothing further offering, the meeting adjourned and the members proceeded to examine the birds sent in from the field workers in southeastern Alaska; and also the eggs in the Museum's collection. The Museum has adopted the method used by Herbert Massey (see CONDOR X, p. 223), and anyone desiring their

eggs to show to the best advantage would do well to look into this method.

H. W. CARRIGER, *Secretary*.

SEPTEMBER.—The September meeting of the Northern Division of the Club met in the lecture room of the Museum of Vertebrate Zoology in Berkeley on the evening of the 18th instant. Meeting was called to order at 8:30 P. M. with first vice-president W. P. Taylor in the chair.

Applications from the following were presented: H. D. Meister, Swanton, Ohio, proposed by Frank Stephens; Prof. C. A. Kofoid, University of California, by W. P. Taylor; Alfred Shelton, Stoney Point P. O., Calif., by H. F. Duprey.

Motion was made and carried that the Secretary cast the unanimous ballot of those present electing to active membership all those whose names were presented at the last meeting.

Mr. Otto Emerson, as chairman of committee having in charge the collecting of funds for the Ten-Year Index, submitted a report and on motion the same was laid over till the next meeting. Letters from Dr. D'Evelyn and Dr. Ella Cool Walker expressing their regrets at being unable to attend the meeting were read and placed on file. The advisability of sending out meeting notices to distant members was discussed by those present and all approved of notifying everyone, whether within reach or not.

Mr. Roswell Wheeler gave a very interesting talk about his trip abroad. Among other things he stated that the scarcity of birds in Italy was particularly noticeable. In making a journey of several hundred miles he at no time saw more than two birds at once. Mr. Wheeler was not favorably impressed by the arrangement or condition of the study collection of birds and eggs in the British Museum.

Mr. Wheeler was the guest of our fellow member, Mr. Herbert Massey, Didsbury, England, and speaks in the highest terms of the extensive collection which Mr. Massey possesses. Of the birds breeding in England Mr. Massey has eggs of practically all, and most of them in large series. Among the very interesting things mentioned by Mr. Wheeler were a series of *pink* eggs of the Herring Gull. It seems that a pair of Gulls on a certain part of the northern coast laid eggs with a decided pink color; and Mr. Massey was fortunate in securing the eggs from these birds for several seasons. Three eggs of the Great Auk are in Mr. Massey's collection.

Mr. O. Heinemann, who spent the past season with Mr. M. S. Ray in the high Sierras, exhibited a collection of attractive photos, and was complimented by those present on the excellent work shown in some enlargements. Adjourned.

H. W. CARRIGER, *Secretary*.

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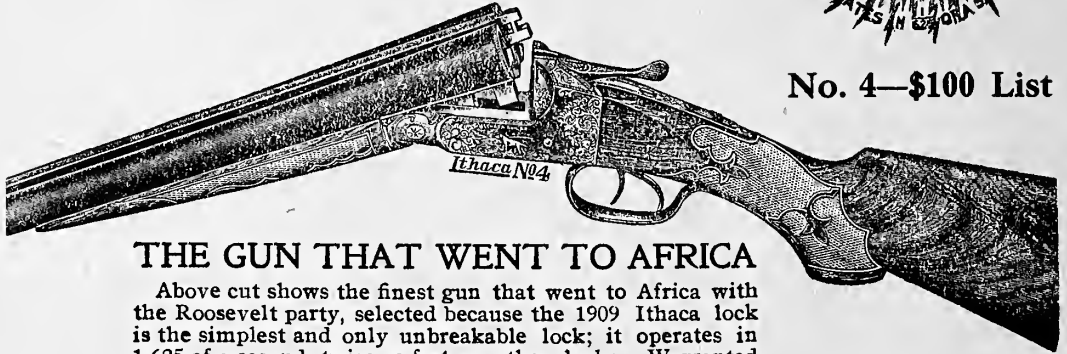
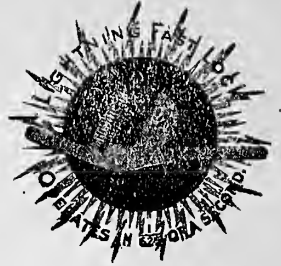
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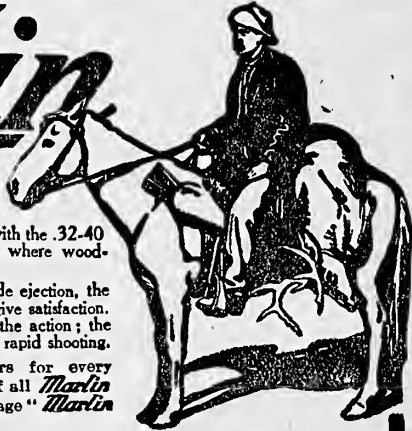
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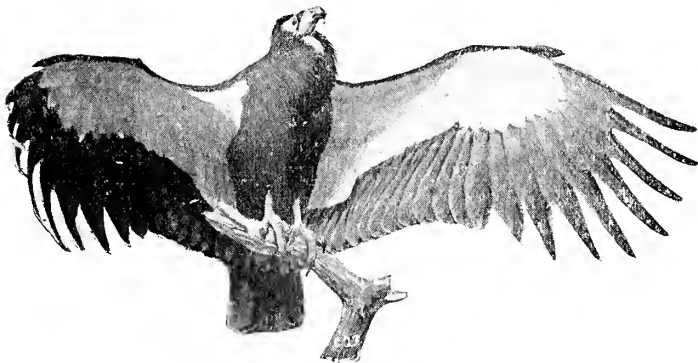


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Fig. 1. THE OLD CONDOR AT HOME IN THE MOUNTAINS OF SOUTHERN CALIFORNIA. IN COOL WEATHER THE LONG FEATHERS OF THE NECK ARE RUFFED UP CLOSELY ABOUT THE HEAD

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Volume XII

January-February 1910

Number 1

LIFE HISTORY OF THE CALIFORNIA CONDOR PART IV.—THE YOUNG CONDOR IN CAPTIVITY

By WILLIAM L. FINLEY

WITH SIX PHOTOGRAPHS BY HERMAN T. BOHLMAN

IN the November issue of THE CONDOR for 1906, I gave an account of finding the nest and egg of the California Condor (*Gymnogyps californianus*). In the issue for January, 1908, I gave some historical data and facts about the range of the bird. In the March, 1908, issue, I related the observations we have collected on the home life of the pair of condors we have studied. In the present paper I shall tell something of the young condor in captivity.

Altho the California Condor in the wild state likely lives quite a long time, the bird in captivity as a rule does not survive many years, nor does it have the brilliancy of color found in the wild specimens. At present I know of but four of these birds in confinement. One, named General, of whom I shall write, is at the New York Zoological Park. During the winter of 1906 I saw four at the National Zoological Park in Washington, but last winter there were but three, as one had died. A few years ago a condor was kept at the Soldiers' Home, at Sawtelle, California, and another at the Zoological Park in Philadelphia, but both of these are now dead. I saw one in 1903 at Golden Gate Park, San Francisco, which was brightly colored. I did not know its age at the time, but it died a year or so after that. The New York Zoological Society secured one of these birds March 14, 1905, but it died October 17 of the following year as the result of swallowing a rubber band that had been given it by some visitor.

We had found the condor's nest on March 10, containing one egg. This egg hatched on March 22. We studied and photographed the young condor in his nest at different intervals up to the 6th of July. Then, when about two-thirds grown, he made the journey from his home in the mountains to Portland, Oregon. We gave him good care on the way and he stood the trip very well. On July 10 he arrived in Portland and, for the time being, was given quarters in the back yard. He weighed fifteen pounds. He was fed twice a day with about a pound of raw meat and given plenty of water. Once a day he was given the freedom of the back yard

when he would flap for exercise, or go jumping across the yard, using his wings to help him along.

When the young condor was at home within the rocky walls of his cave he was very savage. Whenever we went near he lunged about, striking with his bill. Soon after he was taken from his home, his ferocity gave way to fear and then to gentleness. One day when the dog was lying asleep in the yard, the bird walkt up and nabbed him by the ear. At every opportunity he would pounce upon the dog with a flap of his wings, but the dog never remained to fight. One afternoon the bird climbed the back steps where the cat was sitting. Pussy didn't see the condor till



Fig. 2. GENERAL, THE YOUNG CALIFORNIA CONDOR, AT THE AGE OF SIX MONTHS

he reacit the top step and was about to take a bite, when she suddenly awoke with a fit and jumpt backward into space.

In order to study the young condor under favorable conditions and to watch him closely day by day, we took him to our summer camp up the Willamette River. We placed General, as we called him, in an enclosure of about twelve by fifteen feet that we made under the trees. We gave him the stump of an old apple tree to perch on, but the primordial freedom of his race lingered within him, for he did not like the idea of being closed in. We let him out a part of each day so he could get plenty of evercise, take his bath in the creek and warm himself in the sun. If he were not releast at the usual time, he became restless and soon attracted our atten-

tion by climbing up and poking his nose thru at the gate. The minute I opened it he stalkt out, but always stopt cautiously a moment or two outside the gate to look about. He did nothing without deliberation. With several hops he went half way across the yard, flapping his big wings. Then he went thru a regular dance, as if celebrating his freedom. He stretcht his wings and jumpt straight up in the air several times in succession, like an Indian on the war path; but he never said a word.

Contrary to expectation, General was cleanly in habits. He had been fed on clean fresh meat since he was taken from the nest, and soon he would take nothing else. Several times we tried him on stale meat, but he never took it unless compelled by hunger. His preference was undoubtedly for clean fresh beef. If a piece



Fig. 3. GENERAL WAS OFTEN FED BY HAND; HE WAS ALWAYS GENTLE WHEN TREATED KINDLY

dropt on the ground or was the least bit dirty, he refused it. Several times we tried him on wild game, such as squirrel and rabbit; but he would not touch it if he could get fresh beef. One time I gave him nothing but wild game for two days and when I got some beef he made a glutton of himself. The instant I went near with the beef, he smelled it and began reaching for my hand. He gulpt down two or three pieces and then I slipt I a bite of squirrel, but he threw it out. I tried mixing the two, but he pickt out all the beef. He was very fond of a good bone, which I often nailed to the perch. He gnawed it with as much eagerness as a dog, till not a bit of meat was left.

Fresh, running water was a luxury to the young condor. He pattered along

in the creek for an hour at a time. He was especially attracted by any small white object, such as a light-colored rock, a bit of broken china, or a piece of paper. He liked to play about the hydraulic ram. When he decided to bathe, he got under the spouting water and wallowed in the pool. He never seemed to feel thoroly washt, for when he was soakt thru, he stept out for a moment and then suddenly decided to go in again. He kept this up till he could hardly walk, or until I drove him out of the water.

General was as playful as a pup. In the morning after I gave him his breakfast he wanted to play. Down he jumpt and pounced upon a stick or a leaf, shook it in his bill, dropt it, just to jump upon it with both feet and toss it up again. He became hilarious the minute he got out of the enclosure; he seemed so much so he could hardly control himself. He was extremely fond of pulling on a rope. We often played with him in this way. He snatcht the rope in his bill and sat back on



Fig. 4. GENERAL SUNNING HIMSELF; HE OFTEN SAT ON HIS PERCH BY THE RIVER WITH WINGS SPREAD FOR TEN OR FIFTEEN MINUTES AT A TIME

his haunches with a jerk that almost sent one sprawling; then, finding that he was making no headway, he jumpt up and down, flapping with considerable strength.

When he was first let out, he generally made straight for one of the tents to grasp a rope and pull back till he threatened to demolish the whole thing. He often amused himself in this way for some time, and he lookt very comical in such antics. When I pulled a rope along the ground, he watcht it like a kitten after a string and ambled along to catch it. When he got tired of romping, he always came up to get his head rubbed and roll about on the ground. He had to be nibbling all the time and liked to tug at my shoe-strings or anything else that he could pull. If one of us was sitting in the sun, he would lie flat on the ground, letting his wings fall loose, and nose about in perfect content.

We set up a perch for General out on the river bank just beyond our camp, and there he loved to sit in the sunshine. He seemed to enjoy watching the buzzards

that almost daily sailed overhead, and the crows that flapt past. The birds that flew above him were always intensely interested. The buzzards sailed around and around, turning their heads to watch, but never seemed to understand why he stayed there. The crows were always greatly alarmed and often perchd in the willows and alders nearby to caw in curiosity, while he sat as if in revery, watching every move they made.

He was always shy when visitors were about unless he could climb up on one of his perches out of reach. Ordinarily he played about the yard, paying no attention to our presence, but the minute he saw a stranger coming, he made all haste to climb one of the perches. He was usually afraid of strange women, which we thought was due to their manner of dress or the brighter colors that they wore. He knew the three members of the family in their camp clothes, and a change of dress



Fig. 5. THE CONDOR SMILE

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always made some change in his attitude.

The camera was a bore to General. Ordinarily I could walk up to him any place about the yard, but when I approacht to take a picture he began to edge away as far as possible. Perhaps he remembered the instrument from his early days when he was hauled out of his nest and when he hist in defiance at being set up before the camera. He was in a savage state then and fought like a demon. It was evident he still retained the hatred of his younger days.

Whenever I took the ax and went across the creek to split wood, General was eager to follow. When he saw me chopping sticks and throwing them in a pile, he showed great interest. He hopt along till he was standing by my side, or he jumpt on one of the blocks and waited till I finisht. If I were sawing wood, he wanted to climb on top of the saw and help. If I returned to camp, he sometimes climbed

one of his perches for a time, but he soon got tired of being alone and came ambling back where we were.

One might think a person could have little attachment for a vulture. There is nothing treacherous or savage in the condor nature. General undoubtedly felt a strong love for society. He liked to be petted and amused. He preferred to be near me rather than alone. His intelligence was surprizing at times. He soon learned to follow me about and come when called. If I walkt over to the apple tree and patted it, he climbed up immediately. His instinct to climb was strong. The minute I set a ladder up against a tree, up he would hop. He liked to climb to the top of a stump and fly off. One of these stumps was ten feet high. He was



Fig. 6. GENERAL WITH WINGS OUTSTRETCHT, SIDE VIEW

just learning the use of his wings and seemed to enjoy the sensation. He flew to the ground only to climb up and try the same experiment. At times he flapt his wings with such energy that he lifted himself into the air. But this was only practice, for he was still timid about trusting his wings.

The old condors had shown great love for each other and for their single nestling. The young condor soon lost his wildness when taken from his native haunts, and he was now gentle and fond of those who cared for him. We had fed him by hand on small bits of raw meat, from the beginning, and he showed an intelligence that was as markt as in any pet we have ever had. He loved to be petted and fondled. He liked to nibble at my hand, run his nose up my sleeve, and bite the

buttons on my coat, and he was gentler than any pet cat or dog. Every move he made was with care as if afraid of being too rough. Of course, if he were scared or struck at, he would strike back. But there was never the least indication of savageness when he was well treated. If I held meat in my hand, he nibbled to get it, but never once did he bite.

A young condor is the incarnation of ugliness to most people. He is known only as a degenerate and a carrion-eater. But there is more than this in the condor nature. He readily adapts himself to better conditions and rises above the position that nature has forced him to occupy. The instinct for cleanliness was strong; he wanted fresh clean meat and fresh running water.

In the condor home far back in the mountains I saw the display of a deeper love and affection than I have ever seen in bird life. In the absence of his own kind, General took human companionship not passively, but he showed that it pleased him. Why should such a creature be revolting? He was not ugly to me. It was not only the outward appearance but the inner nature of the bird that we learned to know. He was not stupid, contrary to some writers. He saw everything. He had a temper and showed anger when there was cause. At other times he was gentle and always ready to be petted. Behind his rough exterior and his appearance of savageness, this young condor showed a nature that was full of love and gentleness.

By the middle of August, General was well fledged except that his breast was still covered with gray down. By another month this was replaced by brown feathers. With wings extended, he measured over eight feet. He weighed twenty and a half pounds and was forty-six inches in length. The wing feathers were strong, but they could not yet support his heavy body, for as yet he could fly but a few yards.

After a continued and close study of over six months, the young condor had grown almost to maturity and we had carried our observations as far as the conditions would allow. On September 29, 1906, General left Portland, Oregon, to take up more commodious quarters in the New York Zoological Park. During the summer he is kept in the flying cage where he has room to fly about and get plenty of exercise. During the winter he has been kept inside as a protection from a climate much colder than that of his native land.

When General first arrived in New York, he was placed in the cage with another California Condor which was then at the Park. The two immediately became fast friends and both seemed to enjoy company. But in less than two weeks after that, the first bird died, so up to the present time General has had no companion of his own kind.

During the month of December, 1906, while I was in New York, I went out to see General and was allowed to enter the cage with him. The minute I got near enough, he began nibbling my buttons and putting his head under my arm.

I did not see the young condor again until December 6, 1908, when I was in New York. I again entered his cage and found him as friendly and affectionate as ever. He nibbled the buttons on my coat and wanted to be petted. I was very much surprised to find that he showed no signs of bright color about his head, as it was covered with short gray down. He had been in good health, but at the age of almost three years he had not acquired the bright coloring of his parents. It is interesting to note that the head of a newly-hatched condor, as well as that of the old bird, is perfectly bald; yet the head of the immature condor for the first few years is covered with a thick coat of furry down.

FOSSIL BIRDS FROM THE QUATERNARY OF SOUTHERN CALIFORNIA

By LOVE HOLMES MILLER

PROBABLY no more unique or interesting deposit of vertebrate fossils was ever made known to science than the Quaternary beds recently designated by Dr. J. C. Merriam "The Rancho La Brea Formation." Almost certainly no deposit of similar area has yielded greater numbers of that group so sparingly preserved to the paleontologist—the class Aves.

Ten miles west from the center of Los Angeles, California, the great acreage of Rancho La Brea, one time grain and stock ranch, has within a decade or so assumed a new value. The evidence exposed there from Quaternary time has recently been interpreted and a forest of oil derricks has sprung up, to yield a million dollars' worth of oil annually. But the particular kind of evidence indicating the deep-lying oil strata becomes of interest to the scientist because of its long exposure and the fact that man was not the only animal persistently heedless of its true nature. The heavy asphalt-bearing oil, forced to the surface thru overlying strata, accumulated in the natural depressions as small lakelets of oil which, as the more volatile constituents evaporated, became masses of plastic and marvelously tenaceous, tar-like substance.

These tar-pools, when undisturbed, possess the mirror-like surface of water and, especially at night or in the half light of dusk, would readily be mistaken for such; yet the bird whose wing-tip touches the innocent looking surface, or whose foot plashes into its margin, is as surely doomed as tho caught in the jaws of a more active enemy. In rainy season the depression becomes further filled by the addition of a super-stratum of water which may cover the tar surface to a depth of several inches, remaining fairly pure water for some time before it becomes polluted by the rise of the lighter constituents of the oil layer. Animals, small and large, wade rashly into the treacherous trap thus baited with that rare luxury of the region, water. The struggling victim becomes again bait for the predatory forms and all in turn tempt the final captive, the carrion feeder.

Today, as in ages past, the trap is at work. Barn Owls, Great Blue Herons, Meadowlarks and other birds have been noticed in the surface pools, still in the flesh.

The tar pools of Quaternary time have been by the slow process of natural distillation, converted into masses of stiff asphalt seamed here and there by softer seepage cracks like the resin pockets of raw pine timber. This matrix is quite preservative and fairly easy to work, and specimens taken from these beds are easily cleaned with gasoline, tho they retain the dark discoloration of the asphalt. It has been the writer's privilege thru the courtesy of the ranch owners, to collect somewhat in this interesting locality. Also the whole of the bird material in the collections of the University of California has been placed at his disposal by Professor Merriam for careful examination. The task of describing this great mass of material is little more than begun, but enough has been determined to show the importance of the field.

Two papers descriptive of three new species of birds were published in the University Press ¹. To these the reader is referred for detailed descriptions; the aim here is to present some of the points of more general interest.

Much has been said of the remarkable mammalian forms of the Quaternary, remarkable no more for peculiarity of form than for peculiarity of distribution as

¹ Publ. Univ. Calif., Geology, vol. 5, nos. 19 & 20.

regards mammals of today. In the asphalt of Rancho La Brea there have been found the gigantic ground sloth, the saber-toothed tiger, camel-like forms, the great mastodon and the extinct Pacific horse. If such changes have been wrought in the mammalian fauna of the region, what may we not look for among birds? The antiquity of the group precludes the likelihood of discovering in the Quaternary, any form which might be considered as ancestral. The interest of expectancy then centers in the main in questions of distribution and in the occurrence of unusual extinct forms. The following is a list of species thus far identified, with the number of individuals of each found in a certain un-assorted part of the University collection.

- Gymnogyps californianus*. California Condor, 11
Catharista occidentalis. Western Black Vulture, 21
Cathartes aura. Turkey Vulture, 20
Aquila chrysaetos. Golden Eagle, 33
Buteo borealis. Red-tailed Hawk, 8
 Indeterminate buteonid, 3
 Indeterminate falconid, 4
Circus hudsonius. Marsh Hawk, 3
Aluco pratincola. Barn Owl, 2
Asio. Long-eared Owl, 2
Asio accipitrinus. Short-eared Owl, 2
Speotyto. Burrowing Owl (?), 2
Bubo virginianus. Great Horned Owl, 1
Anser. sp.? Brant, 1
Branta. Canada Goose?, 1
Ardea herodias. Great Blue Heron, 1
 Indeterminate Stork, 4
Grus. Indeterminate Crane, 2
 Indeterminate Pheasant, 5
Pavo californicus. California Peacock, 6
Corvus corax. Raven, 2
Teratornis merriami, 6

Owing to the conditions under which the specimens were entombed, this list does not represent the balanced avifauna that probably existed in the region at the time. Three classes will be noted to predominate—predaceous or scavenging forms, water birds, and ground dwellers. Of these three, the first shows the greatest number of species as well as individuals. An explanation of this anomalous condition was offered in the second of the papers referred to above (vol. 5, no. 20). I transcribe as follows:

“The large preponderance of raptorial species will at once be noted in this list. * * * A similar relation between predaceous and non-predaceous species is noted by Professor Merriam² among mammals from this formation. Numerous writers on the Golden Eagle as it exists today have commented on the carrion habit of the species. Its abundant occurrence in the asphalt trap of Rancho La Brea bears evidence of the long standing of the habit of preying upon either dead or disabled animals. The specimens average large and possibly represent birds in old age. The left tarsus of one individual shows an abundant exostosis due to some diseased condition which caused the loss of the entire foot. Merriam noted among mammals a preponderance of young individuals accompanied in the case of

² Merriam, J. C., Science, N. S., vol. 24, p. 248; 1906.

carnivores by a large number of individuals with worn or broken teeth. He ascribed this condition to the inexperience of the young or to the extremity of the aged. Possibly among predaceous birds, cared for in infancy and taught by instinct to seek an active prey not perceived by the sense of smell, it was mainly the old or otherwise disabled individuals which resorted to this ignoble feast."

The absence of small passerines is perhaps explainable by their possible destruction during a certain degree of differential motion of which these beds give evidence. The struggle of the larger mammals entrapt, the slow sinking of their carcasses, the upward counter-current produced by the rise of gas bubbles or of semi-liquid material, all conspired to effect a pretty thoro churning which resulted in the breaking of mammalian bones of considerable size. Recent passerines are certainly not infrequent victims of the deceptive asphalt. Their bones in matted masses were found in a recent deposit. Their bodies still in the flesh have been noted as stated above. A workman in the oil fields told me that he once counted the dead bodies of seventy-five swallows that had come to gather "mud" on the margin of an oil reservoir built by the levee of a natural depression. On the streets of Berkeley, California, during the past summer, the street railway company spread a thin layer of crude oil late one afternoon. The next morning at eight o'clock, the author saw an English Sparrow that had fallen victim—feet, wings, breast, feathers and finally nostrils, completely smeared with the viscid oil.

Interesting records bearing on the range of present species have been made in several cases. The discovery of a true Peacock is perhaps the most startling. Mr. Grinnell in a very charitable review of the author's paper on this form, has already called attention of CONDOR readers to the instance. Another case is that of *Catharista occidentalis*, a new vulture slightly larger than *C. atrata*, with different proportions in the limb segments. The interesting question of the southward and eastward range of the new form next presents itself, truly an almost hopeless task, it seems, in view of the rarity of avian fossils. Other cases of equal or greater interest will doubtless come to light as the work progresses.

The distal end of a tibia in the collection shows that a Caracara (*Polyborus*) was a member of our fauna at that time, tho specific determination has not yet been accomplished. A Stork larger than the Wood Ibis (*Tantalus*) further allied us with the present Mexican or tropical American fauna. What could be more logical in view of the relation of Quaternary mammals to the present South American fauna? During Quaternary time the physiographical barriers between North and South America are considered to have been less complete than those at present existing. Thus a blending of mammalian faunas of the Quaternary was permitted. Will enough other semi-tropic avian species be found with *Catharista* and *Polyborus* to indicate the absence at that time of climatic barriers or climatic differences? Has a gradual change in the climate of southern California caused a recession southward of the ranges of the two genera *Polyborus* and *Catharista*?

The search for the unusual has been rewarded to the full in the new form *Teratornis*. This form is striking to the layman as well as to the ornithologist. Eagle-like in its contours, unquestionably a bird of raptorial habit at least, yet it has a brain case exceeding in width that of the Ostrich, and is armed with a compressed, hooked beak almost twice the depth of that of a large female of the Alaska Bald Eagle. If the association of body parts found with the skull be correct, and every evidence points to the propriety of such assumption, the bird was a flying bird, tho a sailing and not a flapping flier. The clavicles are less powerful in proportion than those of the Condor, but are far from being the weak structures seen in flight-

less birds. The characters of the sternum and the humerus suggest those of the sailing fliers.

Those California bird students who have seen the Condor towering above the Turkey Buzzards group about a carcass probably have a good mental picture of the way this great bird must have appeared among the Condors gathered about the vulture feast at the asphalt beds during Quaternary time.

ABNORMAL BIRDS' EGGS

By A. M. INGERSOLL

WITH FOUR PHOTOS BY THE AUTHOR

OLOGICAL abnormalities are occasionally found by all collectors; but few, probably, have had the experience of examining a set of eggs showing such gradual variation in size as is illustrated in figure 7, accompanying this article. The seven eggs measure in inches, $1.06 \times .81$, $1.04 \times .76$, $.96 \times .76$, $.93 \times .73$, $.84 \times .69$, $.82 \times .68$, $.81 \times .65$. Each egg appeared to contain the usual proportionate amount of yolk. This Red-shafted Flicker, being inexperienced in nest building or too lazy to excavate a proper home, took possession of a large decayed-out hollow in an immense cottonwood tree. The entrance to this natural cavity was large

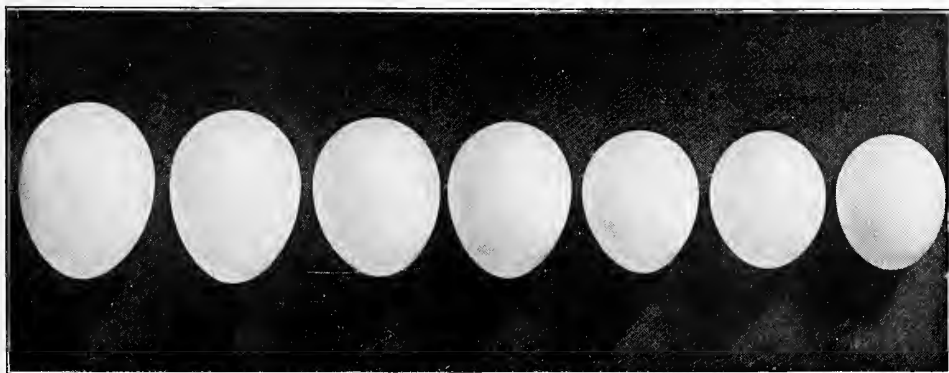


Fig. 7. SET OF SEVEN EGGS OF THE RED-SHAFTED FLICKER, COLLECTED AT RAMONA, CALIFORNIA, APRIL 25, 1888

enough to admit my head. This set of freaks were followed by eggs of normal size in the same nest.

Runts are commonly infertile. The yolk is generally present but sometimes much reduced in quantity and occasionally entirely lacking. Barring out species laying but a single egg to a set, I can only recall three instances in which a runt was positively the first egg deposited. It seems reasonable to believe such runts as are laid at the commencement of a set to be eggs of young birds, and those that are laid at completion of a set to be the final product of old birds on the verge of barrenness or enfeebled by excessive laying. I have never known of a set with runts, or such deformities as lopsided eggs, granulated shell texture, wrinkled or warty shell, to be followed by others containing similar abnormalities. This would seem to indicate that such malformations are not caused by a permanent individual peculiarity of the parent bird, as apparently is the case when certain individuals habitually lay eggs departing from normal in coloration, size or

shape. Physical characteristics cause some birds to produce eggs differing from the average eggs of their species to such an extent that distinguishing peculiarities can easily be traced thru set after set for a number of years.

Speckled eggs of a species normally laying unmarkt eggs are of less frequent occurrence than are immaculate examples of those which commonly lay spotted or markt specimens. Of the former, I once examined a set of three pipt eggs of the Western Blue Grosbeak that were sprinkled with freckle-like specks of yellowish-brown and obscure blotches of lilac. Another time, I found a Robin's egg that was well spotted with olive-brown, chiefly around the large end. This, and the following remarkable instances, occurred in New York State.

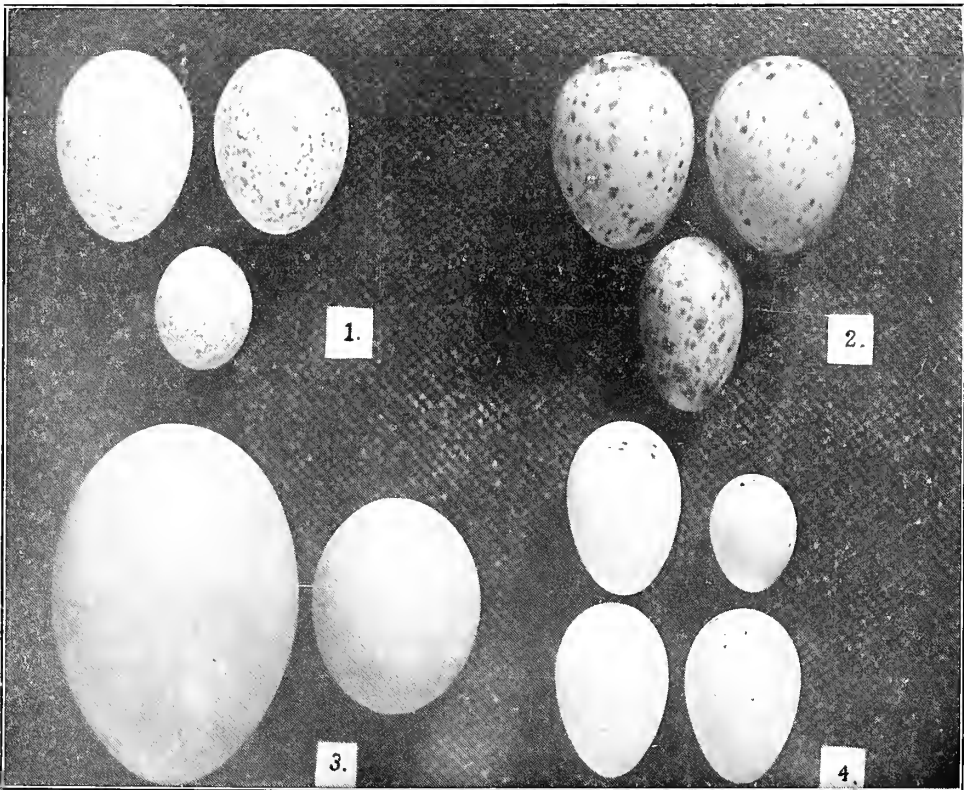


Fig. 8. ONE RUNT EGG IN EACH SET: NO. 1, LONG-TAILED CHAT; NO. 2, RUSSET-BACKT THRUSH; NO. 3, AMERICAN EARED GREBE; NO. 4, HOUSE FINCH

One August day, as I approacht a large tree having long, drooping branches, I was startled by an American Goldfinch flying near my face. On looking up, a typical nest of this species was seen within reach of my hand. It contained several young birds and one well-spotted egg, the shell of this egg being dented and the partially formed embryo dried up. The next year a set of four spotted eggs were found in a nearby tree by a friend of mine. These were taken by him, and were unfortunately destroyed by a playful dog on reaching home. I was agreeably surprised later in the season, to find a handsome set of four spotted eggs of the Goldfinch on the original branch of the first tree. All nine eggs were rather uniformly speckled with various shades of light reddish-brown. The shades of color,

distribution of markings and ground tint of the four specimens taken by me, were almost exactly like spotted eggs of the Indigo Bunting that were collected by the writer during the same season. The Goldfinches' were smaller than the Indigo

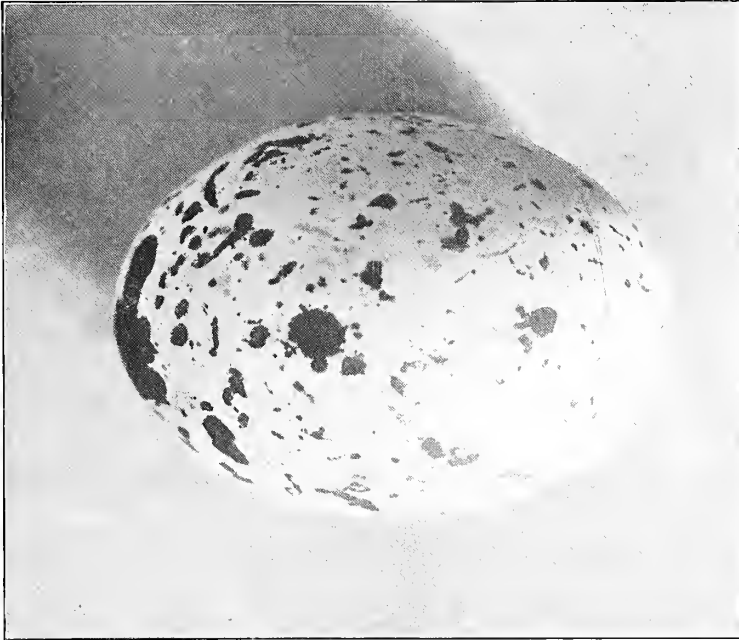


Fig. 9. EGG OF CALIFORNIA MURRE, ABNORMAL IN SHAPE

Bunting's, but otherwise the similarity of one set to the other was so great as to be easily notist by any collector. The Indigo Bunting's referred to are shown in

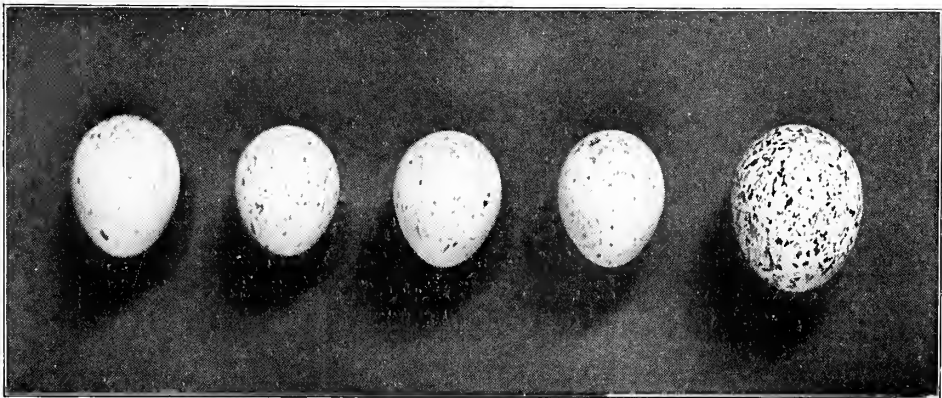


Fig. 10. A SET OF SPOTTED EGGS OF THE INDIGO BUNTING; COWBIRD'S EGG AT RIGHT

figure 10 (also a Cowbird's egg that belongs to the set). They were collected at Ithaca, N. Y., June 17, 1879. I have not seen any other spotted examples of either species since that remote date

SOME BIRD NOTES FROM VENTURA COUNTY

By J. R. PEMBERTON

DURING June and July of this year the writer was engaged in geological work in Ventura County, California. The haunts of rocks and birds are identical and no amount of conscientiousness of a man toward his job will keep him from dropping a fossil now and then, and spotting some old or new feathered acquaintance. Such, indeed, was my experience, and even if I did miss a few geological landmarks I hope it may in a way be justified by the following bird notes. Birds in this region were numerous, and in great variety. An extended account would for the most part be a repetition of known facts, so I give only the interesting, at least to me, notes which I took.

Observations were made upon several species of birds which one would hardly expect to find summering in Ventura County. These few species are regularly transient in this region, but pass on in the spring for the Sierra Nevada where their summer home is made. The migration is, no doubt, because of the instinctive desire for the peculiar conditions in which breeding must take place. It is interesting to speculate upon the conditions necessary to cause birds of this kind to remain.

The interesting stragglers are natives of the Transition zone. The higher parts of the Santa Ynez Mountains are in this zone and it is in these mountains and along the edges that the following birds were noted.

Dendroica nigrescens. Black-throated Gray Warbler. Frequently seen along the Rincon Creek, from Stanley Park, with an elevation of 400 feet to the summit of the Santa Ynez Mountains, elevation 4900 feet. At the summit, amid a thick growth of *Pseudotsuga macrocarpa*, surroundings were found which were apparently identical with those at the home of this bird in the low Sierras. On June 23, 1909, a male bird was watcht for some time as it carried food to a brood of young. The nest was built among the leaves of a fir, at the end of a limb about 30 feet above the ground. The female was not seen. The characteristic song of this species when heard, would immediately impress one by the apparently perfect happiness of this bird, so far away from its usual summer home.

Dendroica auduboni. Audubon Warbler. A single male was watcht several minutes and carefully identified on July 3, 1909, on the headwaters of the Santa Ynez river, at an elevation of 2500 feet.

Lanivireo solitarius cassini. Cassin Vireo. This loud-calling Vireo was seen and heard in many places in Matilija Canyon, on Rincon Creek, Coyote Creek and Santa Ana River in numbers nearly equaling *Vireosylva gilva swainsoni*. While usually given as a summer resident of the Sierras, this Vireo has been found nesting at several localities in the Coast Ranges. Cohen records it from Lexington, Santa Clara County; Beck records it from near San Jose; Mailliard from Paicines, San Benito County, and the writer has later to record it from the Santa Lucia Mountains in Monterey County. Ventura County, however, is the most remote place in the Coast Ranges where this bird has been found in numbers in summer.

Piranga ludoviciana. Western Tanager. The commonest of the unusual birds met with in Ventura County. All along the fir-covered tops of the Santa Ynez Mountains this bird was encountered. At our camp in Stanley Park, on Rincon Creek, at an elevation of 450 feet, a fine male bird used to pick bread crumbs from the ground around the table, and even from the table itself. The Japanese cook finally caught this bird and kept it some days, when it finally died. The female was never seen. This was on June 23, 1909.

Aeronautes melanoleucus. White-throated Swift. Plentiful along the summit of the Santa Ynez range and down among the rocky cliffs of the Matilija Canyon. Numerous cliffs were seen with cavities in and out of which Swifts flew; but the adventurous spirit was not strong enough in me to attempt a nest robbery under the conditions.

Nuttallornis borealis. Olive-sided Flycatcher. Common around the Santa Ynez Mountains; one nest was seen in a fir. The birds were seen well down the slopes toward the sea.

Ardea herodias herodias. Great Blue Heron. A lone Blue Heron was seen a quarter of a mile from shore, out in the ocean, standing placidly on a mass of kelp!

Gymnogyps californianus. California Condor. To any ornithologist, the first sight of this wonderful bird, and the first entry of that name in one's note book, is certainly a moment of great satisfaction. I was wearily ascending the last hundred feet of Divide Peak, in the Santa Ynez Mountains, and thinking of all the reviving agents known to man, when I suddenly came on three of these great birds, sitting stolidly upon a great boulder upon the very top of the mountain. It seemed, then, that without any other motion than a lazy stretching of their wings, and the posing anew of the whole body, that they could change from a bird to a speck, and then vanish. No bird can equal that exhibition of aviation. (That is a late word, but applies here very well.)

The same Condors, no doubt, were the ones which different members of our party saw almost daily around the same spot. Eight were seen in all, the other five occurring as follows: One on Red Mountain; three near Sulfur Mountain, and one near Matilija. The three birds of Divide Peak seemed always to stay together. From all the accounts of the natives of the mountains, the Condor is a rather common bird, and its presence is to be expected in all the spurs of the main mountains of Ventura County. It is reported as numerous in the vicinity of Devil's Gorge on the Sespe.

One day I witness a competitive flight between a Condor and a Turkey Buzzard. What a world of difference between the respective grace and speed of the two birds! And the Turkey Buzzard is a first class performer on the wing, at that.

A DEFENSE OF OOLOGY

By MILTON S. RAY

WITH ONE PHOTO BY OLUF J. HEINEMANN

BEFORE giving my views to the readers of *THE CONDOR* I wish to state I consider oology an inseparable part of ornithology, but, as it has been separated by some and completely divorced by others, I am forced to use the term.

The first point I wish to take up is: Is oology scientific or popular ornithology?

In the opinion of some, perhaps many, the structure and classification of birds is considered the more scientific; in fact a division has been made, terming this "scientific ornithology" and relegating the study of eggs, young, nests and all else to another division termed "popular ornithology." It would seem to me that inasmuch as the eggs are produced by the bird's anatomy and hold new life, they are

in a sense a part of the bird's anatomy, and that, if any such separate classification is to be made that birds and eggs should come together rather than eggs and nests. As further proof I feel quite sure if some bird, a thrush for instance, of one section produced *invariably* plain bluish-white eggs and that of another section produced *invariably* entirely different eggs, say green heavily blotched with brown, I doubt not that the two birds would soon be separated even if *no* apparent difference could be found in the birds themselves. However, it is not my opinion that any such separation of the study of eggs, birds or nests is necessary, as the gathering of all *facts* in the study of them in my idea, is scientific and is ornithology. Nature has drawn no clear cut lines that I can see, and I consider it as *important* to note that the Cliff Swallow constructs its nest of mud as that a hundred specimens of the bird show some slight variation in wing measurement.

A prominent ornithologist some time ago informed me that he did not consider the geographical variation of species as important as most have deemed it, and that all Song Sparrows in his collection were simply labeled such, accompanied with the usual data. Personally I do not endorse this method, believing all differences discernible should be recognized. I also believe variation in eggs, or any other scientific fact concerning them, important as well, for to me all appear to be but links in a great chain. It seems to be the desire of some, however, to disconnect these "links", claiming that the so-called scientific ornithology is the more important, as it is a component part of the science of life. To me it would seem that equally as much of the science of *life* can be learned by a close study of the birds' habits, their eggs and nests, as by the study of their structure and their classification.

The second point is: Have eggs been scientifically studied or described?

I maintain that truly scientific descriptions of eggs, treating of their texture, size, shape and coloration is a part of ornithology that has been neglected and offers material for a monumental work. Take the eggs of the Brewer Blackbird (*Euphagus cyanocephalus*) for instance. I wish to ask any collector familiar with a series, if there are not many specimens that one unfamiliar with the species would have difficulty in identifying if he depended solely on the written descriptions of a writer like Davie for instance, who states that the eggs are marked "with dark brown * * * and some with a lighter shade." Could anything be more indefinite? Why, this season, which I spent at Lake Tahoe, I examined perhaps as many as a hundred nests of this bird, mostly with eggs, and I can say instead of Davie's two shades of brown, there are nearer twenty! In fact with the exception of the California Murre (*Uria troile californica*) I know of no Californian eggs subject to wider variation in color. The markings run thru various shades of brown, from light grayish, yellowish and reddish, to a blackish-brown that is almost if not quite black. On some the light purplish-gray markings, which are usually sparse and obscure, predominate and form another type. I noted several sets unmarked except for scrawls and blotches of blackish-brown and purplish-gray around the larger end; being not greatly unlike some specimens of the Redwing Blackbird I have seen. Others again were uniform chocolate-brown with sometimes a blackish scrawl or so on them. The ground color, almost white in some, was usually greenish-white, tho sometimes a pure light green. In shape they varied from almost globular to elongate-ovate.

In further connection with egg variation might it not be possible that closer study will reveal that food, environment, and other conditions affect eggs and their coloration? Perhaps somewhat more worthy of notice, because more unusual, are the occasional distinct types among the eggs of common birds, as, for instance the spotted eggs of the Lazuli Bunting (*Passerina amoena*); of which, I have taken

but a single set, or the very remarkable "purplish eggs" of the California Jay (*Aphelocoma californica californica*) which are so entirely different from the usual brown-spotted green specimens. I happen to have found but two sets of this type. Mr. H. A. Snow of Newark also terms them rare, while Mr. H. W. Carriger states he has found them commonly in the vicinity of Sonoma. In 1894 I collected a set of eggs of the Black-headed Grosbeak (*Zamelodia melanocphala*) of a type I have never seen since, having an almost white ground color lightly spotted with bright rusty-brown. In 1890 I took an egg of the California Towhee (*Pipilo crissalis crissalis*) which for glossiness I have never seen equaled among eggs of this species. In fact the texture and thickness of egg shells should also be looked into more carefully; for it seems that altho the food of birds is widely different, yet each species is enabled to secrete sufficient material for a protective covering for



Fig. 11. TWENTY EGGS OF THE BREWER BLACKBIRD, SELECTED FROM NINE SETS TO SHOW VARIATION IN COLOR AND SHAPE; SOMEWHAT REDUCED IN SIZE

the embryo. Whether this lime-shell material is in some cases derived solely from food, or from water alone is an interesting question. In some sections, as the higher Sierras, the water being snow-water is almost *pure*. Analysis of the foods of birds would perhaps show what percentage of lime could be obtained from them. From my own observation I would say that the thickness of egg-shells seems solely due to the intention of Nature, for I have failed to discern any difference in eggs of the same bird from different localities; while on the other hand, as in the case of the Cliff and Rough-winged Swallows, we have both hard and soft-shelled eggs in birds of the same family—breeding in the same locality and living on the same or very similar diet. I am not aware whether it is a common characteristic of them or not, but the eggs of the Rock Wren (*Salpinctes obsoletus*) which I took on the

Farallone Islands in 1904, were the thickest shelled eggs of their size I have ever collected; as likewise, among larger eggs, are those of the domesticated Guinea Fowl.

Runt and double-yolkt eggs are also deserving of notice. In all I have ever read, tho, of the taking of runt eggs, the writer always failed to state whether or not he observed any *trace* of incubation in them. This I consider an important point and worthy of investigation. Of double-yolkt eggs I can only personally record a single instance, that of a Western Tree Swallow (*Tachycineta bicolor*). The egg, which I found at Rowlands, on Lake Tahoe (June 18, 1903), was all the nest held and was elliptical oval in shape, measuring .84×.54. It held two perfectly formed embryos *equal* in size.

The indelibility of egg-markings in some species and the lack of it in others, as the Bicolored Blackbird, Bullock Oriole and others, without going into detail, is also an important part of bird study. Should it receive more attention it may be found perhaps that all pigment has equal indelible qualities, and that the difference lies in the lack of a porous quality in shell texture. Most collectors have noticed the tendency of the ground color to fade in certain eggs. Some, that seem impervious to water, fade to a certain extent after being kept in a closed cabinet. I am not speaking of open cabinets, for these it seems will in time bleach almost any specimen. The late Walter E. Bryant once told me of some eggs formerly kept in the Woodward's Gardens Museum which after being displayed for years in a bright light faded to almost white.

We need, I think, more Sherlock Holmesism in the study of birds and eggs. Too many collectors of the latter pay too little attention to dependent conditions and too much to the thumbing of some egg-dealer's price-list. The publishing of these, should be prohibited, stimulating, as they do, egg-commercialism at the expense of true science. These lists, even as a table showing comparative rarity, are valueless.

My third point is: Why is the study of eggs given such a prominent place in bird magazines and yet so neglected in our scientific institutions? (Of the latter I can only speak of those on the coast.) I remember that the California Academy of Sciences, before the fire, had, in connection with the magnificent collection of mounted birds and bird-skins, but one lonely little case of eggs containing not more perhaps than would be taken by the average collector in a season; and at the present time, in a prominent museum across the bay, I have been informed that eggs are deemed of little importance: in other words are considered a mere "side-show" to the collection of birds. To me, the fact that two classes of people, the small boy and the commercial collector, have brought odium on egg-collecting, can in no way detract from its importance; and neither does the fact that eggs are more or less dependent on the birds, inasmuch as often the identity of the parents must be determined before that of the eggs can be established. - I believe it time to sound a note of warning, for sometime in the future, eggs will be given their proper place in bird study and the coast Museums should have adequate space reserved for their accommodation. In fact, I think a California Museum equip with proper cabinets would soon accumulate quite an extensive collection thru the donations of club members and others, and some day, should the interest that has been taken in geographical variation extend to eggs, we will not have to send east of the Rockies to borrow specimens; for it is a well known fact that the finest collections of Californian eggs are not where they should be, here in California.

SOME CENTRAL, COLORADO BIRD NOTES

By EDWARD R. WARREN

IN JUNE, 1909, I left Colorado Springs on a "mouse hunt", one of my principal objective points being the region about the San Luis Lakes, in the San Luis Valley. I was accompanied on the trip by Harold R. Durand of Littleton, Colorado, who not only acted as cook and horse wrangler, but also assisted in collecting and taking care of specimens; and I must express my appreciation of his help and unfailing good nature under various trying circumstances. I should say that the trip was made in a wagon, drawn by mules, when I started; of the mules more will be said hereafter.

For the first three days out, from Colorado Springs to Cañon City, we had the pleasure of the company of Mr. Charles E. Aiken, who may be termed Colorado's pioneer resident ornithologist; for though others had done bird work in the state prior to, and at about the time when he first became a resident here, he was practically the first ornithologist to reside here permanently. He has lived nearly all the time since 1871 in Colorado, and during all this period he has spent much time in the study of our birds. Most of his early work was done in the region covered by the first three days' drive, and his reminiscences of the early days which he related to us were mighty interesting, both about the birds and the people. In 1874 he visited the San Luis Valley as naturalist for one of the parties of the Wheeler Surveys, and was in the same region for which I was bound; the following year he made a trip there on his own account, and it was regretted by all hands that he was not able to accompany us there this year. Henshaw's Report on the Ornithology of the Wheeler Surveys is about the only publication on the birds of most of the region traversed, excepting such notes as are contained in Cooke's "Birds of Colorado." There are also a few scattered references to individual species in various ornithological magazines.

I should say that but comparatively few bird skins were taken, but no bird has been admitted to this list unless I was absolutely sure of its identity. Whenever necessary to identify a bird, it was collected, if possible to do so. Many of the birds were seen and the notes taken, as we were driving along, and no doubt many species were missed which might have been seen if we had made longer stops at some of the localities.

Some account of the route and itinerary may be of interest. Leaving Colorado Springs June 4, we drove that day as far as Van Andert's Spring on a branch of the Little Fountain. The road had taken us around the base of the mountains at first, and then climbed into the foothills; but no great elevation was reached, only a trifle over 6000 feet, not much more than Colorado Springs. The trees where we camped were broad- and narrow-leaved cottonwoods, scrub oaks and cedars. The next day was along the foothills, over a rather rolling country, in which were a good many yellow pines, as well as other trees. Our road took us past a ranch formerly owned by Mr. Aiken, and where he lived when he first came to the state, and where his first collecting was done. No one lives there now, and there are only some of the logs left of his house; but the spring is still there, and we all had a drink from it. The land is now part of a large ranch and used as a pasture. Our camp that night was on Beaver Creek, near Glendale, at an elevation of 5300 feet, we having made quite a drop during the day. Many birds were about the cottonwoods and bushes by the creek here, and our day's list was quite a long one.

The next morning, Sunday, we only drove to Cañon City, arriving about noon,

having gone over a rather uninteresting country, dry and barren. Aiken left us that afternoon, taking the train for home. Durand and I stopped there until next morning, and then took a road which went around through the hills to the north, and finally brought us back to the Arkansas River, about half a mile below Parkdale station, and above the Grand Cañon of the Arkansas. The road had taken us up through a somewhat rocky, dry cañon, and then through Eight Mile Park, mostly open country, with scattered cedars, piñons, and yellow pines, which grew

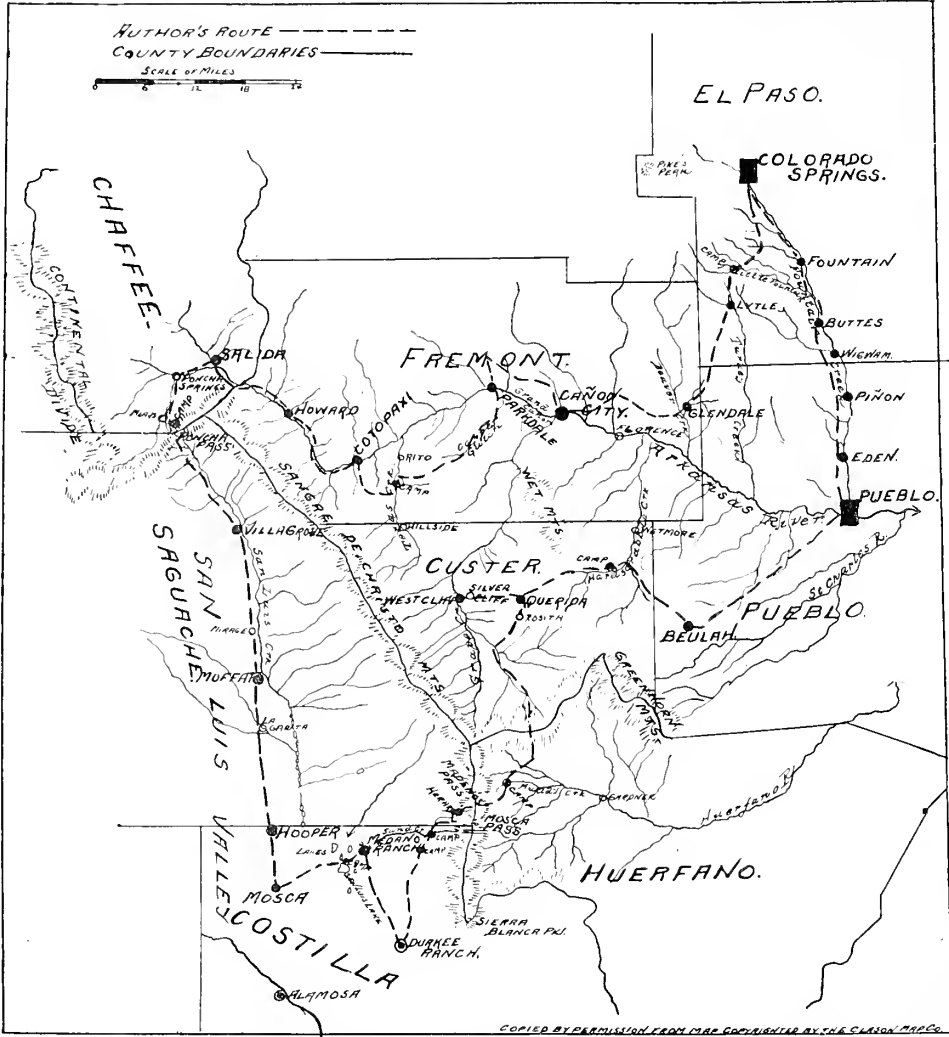


Fig. 12. MAP OF PORTION OF COLORADO COVERED BY E. R. WARREN IN HIS COLLECTING TRIP DURING THE SUMMER OF 1909

more abundantly on the hills a little distance away from the road. We crossed the river at this place, and camped close by early in the afternoon, and explored the country thereabouts, though interrupted for a while by a very heavy shower. On the low hills near camp were cedars and piñons, with a few pines; and on the open ground grew yucca, a small tree cactus, and rabbit brush (*Chrysothamnus* sp.).

The next day we traveled at first a few miles in open country, and then turned up Copper Gulch, which was followed for several miles. This was mainly

a dry gulch, but there were either springs in it, or else an intermittent stream of water, for we kept coming to water here and there. Not many birds are seen in such localities by a person driving along the road, though we did see many Mourning Doves. From the gulch we came out on the divide between it and Texas Creek, and went down to the latter stream, reaching it somewhere between Rito and Hill-side stations, and, driving up a short distance, made camp under a high granite bluff, which, though not very desirable, seemed the only available spot. The next day we almost immediately left the Texas Creek watershed, crossing another divide (an easy thing to find in Colorado), and returned to the Arkansas at Cotopaxi. Here I telephoned J. W. Frey, who had accompanied me on my trip through northwestern Colorado two years ago, and who lived at Salida, to come down to Howard on the train and camp with me for a day or two, which he promptly agreed to do.

We drove the twelve miles to Howard just in time to see the train pull in, and there were John and Carlo, another partner of two years ago, when a ranchman at Yampa gave him to us. This was on the ninth. We spent the whole of the next day at Howard doing some trapping and bird collecting. The whole region through which we had lately traveled was rather similar, largely low hills, or perhaps one could call it a rolling mesa country, when away from the river bottom, and with the usual piñons and cedars found at this altitude, and a certain amount of yellow pine. One usually finds more or less loose rock at the bases of the hills which border either side of the stream valleys, if indeed he does not find low bluffs and ledges of the rock outcropping. These are good places for mice and rats, and such small deer, and are among my favorite trapping grounds. There were some of the low tree cactus at Howard, but that is nearly its western limit in the Arkansas Valley; I regret to say that I did not take notice just where the last was seen the next day when we went on up to Salida. Along the river were cottonwoods, and some other deciduous trees.

On the 11th we drove up to Salida and camped in Frey's back yard, turning the mules loose to crop his lawn for him, a very convenient arrangement. I must say those mules were very good about staying near camp; they seldom strayed far from the wagon. The following day we moved up to Poncha Pass, camping a little below the summit on the Chaffee County side, near a nice little stream, and with plenty of wood handy. This was at about 8750 feet (the summit of the pass is 9049 feet). Close by were aspen trees, and farther up the gulch were red spruce, while on a dry hillside were yellow pines and a few cedars; sage brush (*Artemisia*) covered much of the open ground. I was rather disappointed with this camp, at least I did not find as much in the way of either birds or mammals as I had hoped, and nothing out of the ordinary. We spent the whole of the 13th here, water freezing in the bucket both nights.

The next day we crossed the pass, and went on down to Villa Grove. As soon as we got down off the hill on the south side of the pass we were in the San Luis Valley which extends southward nearly a hundred miles to the New Mexico line, and is from 40 to 50 miles wide. The *Artemisia* practically ended at the foot of the hill and its place was taken by a species of *Chrysothamnus*, or rabbit brush, though most of the people locally refer to it as "sage brush". This covers much of the uncultivated portion of the Valley, except where, as will be noted later, greasewood takes its place. At Villa Grove the conditions were rather unfavorable for collecting, and we found but little in our overnight stop.

When we left there next morning we could see Moffat, our next stopping place, 18 miles away, so there was no danger of getting lost. This shows how level is the Valley. There was nothing but grass and rabbit brush, and as we neared

Moffat, greasewood or chico (*Sarcobatus*) began to appear; below Moffat it in many places entirely replaced the other shrub. At Moffat we came to the artesian well belt, where every ranch boasts its own artesian well. I cannot say I cared much for the water at most of these wells, for it was usually strongly charged with sulphur, smelling strongly of H_2S . However, even sulphur water beats going without, and has the reputation of being healthy. But the mules turned up their noses at it, and would hardly taste it. At Moffat the wind was blowing a gale, and there were but few birds about, and especially few, as immediately about the town, near which we camped so as to have the benefit of one of the aforesaid wells, there was but little brush, it being mostly grass land.

At Moffat I took my first specimen of the San Luis Pocket Gopher, *Thomomys talpoides agrestis*, recently described by Merriam from a type taken by Merritt Cary at the Medano ranch; and on the way to Hooper the next day the first Cary's Chipmunks were seen, also described by Merriam from type taken at the same locality as the gopher. But of these I secured no specimens that day; they were the liveliest things of the sort I ever ran across, and almost invariably took to their heels as soon as the wagon hove in sight, and disappeared in the brush. Cary had written me that he had instructed his namesakes to keep out of the way of all collectors, and I could well believe it from their actions.

From Moffat to Hooper and Mosca, at which latter place we arrived at noon of the 17th, we had the same sandy soil, and greasewood and rabbit brush, with a certain amount of cultivated land, mostly between Hooper and Mosca. The characteristic birds of this region were Sage Thrashers and Brewer's Sparrows, as well as Horned Larks. The morning of the 18th we drove to the lakes, making camp about noon near a small lake a few hundred yards north of the large or San Luis Lake. There was an artesian well here with water which did not have quite as much sulphur as some of them. Here we stayed until the morning of the 21st, and explored the country about the lakes. It is certainly a peculiar place in some ways. There are low sandy hills all about, and among these are the lakes, many of them so hidden that one is not aware of their presence until he comes upon them suddenly on going over one of these hills. Even the large lake, a mile or more in length, and half as wide, is thus hidden from most points. Its shores were barren and sandy, and it was not much frequented by the water birds, though there were always some there. The small lakes and ponds scattered about here and there were those most frequented by the waterfowl, though I must say that we were rather disappointed on the whole with the number of such birds seen, for we had expected a much greater amount of life of this sort. However, we spent one or two afternoons, or portions thereof, with much interest, watching birds about the water. Some of the small ponds were partly dried up, and showed much alkali about their shores, others had but little. Outside of the water birds, not many birds were found here.

The morning of the 21st, we moved camp to the Medano Ranch, a few miles away, and still in the lake region, and remained here until July 5. This ranch is owned by a company, and has a very large acreage, several square miles I should think, and is entirely devoted to hay. The meadows, at the time we were there, were mostly being irrigated, and were alive with mosquitos, which were also abundant about the houses and camp; and, to make things a little more interesting, there were swarms of little gnats almost too small to see, and horseflies altogether too easy to see, and to feel when they tried to bite a chunk out of one's face or hand. And the sun shining on the light-colored sandy soil made it so hot that our faces burnt and peeled. Verily, the life of a naturalist in the field is not always a happy one!

The reason I made such a long stop at this place was that I was endeavoring to secure specimens of the Mountain Harvest Mouse, *Reithrodontomys montanus*, which has the interesting history of having for many years been known only from a single specimen taken by a Pacific Railroad Surveying expedition in 1853 somewhere in the San Luis Valley, and to the northward of this place. However, Cary secured a series here two years ago, and I did my best to get more, but, though I covered the country with traps, and caught all kinds of mice except those most wanted, I failed to secure a single specimen.

Where the land was not in hay, the soil was a light sand, and with the same old greasewood and rabbit brush. There were no trees close by, but, along Sand Creek, three miles to the northward, were a number of cottonwoods. Each of us took a walk over there, but found comparatively few birds. Owing to this lack of trees, bird life, so far as species went, was rather limited around this camp, and our daily lists were repetitions of the same old names until we began to get decidedly tired of them, and gladly welcomed an occasional addition. Savannah Sparrows and Meadow Larks were abundant in the meadows, Sage Thrashers and Brewer's Sparrows among the brush away from them, and various other birds here and there in the localities they most favored.

Finally I tired of trying to catch those Harvest Mice, and we left the morning of July 5, and began by taking a wrong road almost at the start, which led us several miles out of our way. However I do not specially regret this as we saw one or two interesting things we would otherwise have missed, and it made me familiar with the location of the "Durkee Ranch", which will be referred to later. We had a long hard pull that morning over a sandy road, on which the mules hardly made over a mile an hour. The road in the afternoon was better, and we made nearly to Mosca Creek before camping. To the northwest of this place are the sandhills or dunes which are locally rather noted, a low range of them, nothing but sand, and constantly changing form with the wind. The next morning our trouble began. The lady mule of the team behaved in a very unladylike manner, ate her oats too greedily, and choked herself. However she apparently recovered, and we hitched up and started. Going up a little hill she got sick and gave out entirely, and we had to unhitch and let the wagon set right there, halfway up the hill. There was a very sick mule in camp, and we were afraid she would die. Of course we improved the time while waiting for her to do so, by collecting. Perhaps that was the reason she did not die, as we did not show her the respect proper at such a sad time, and so went on living from pure cussedness. This was at the mouth of the gulch up which the road to Mosca Pass went. This is the pass over which the travel formerly went, but the road having been washed out and impassable for two years, we were heading for Madenos Pass a few miles farther north.

The next day finding the mule still alive, but unable to work, I started out afoot for a ranch on Madenos Creek to see if I could get a team to help me out. It was six miles over a very sandy road, and we learned that 1500 pounds was considered a load for a four horse team, and judging from our experience it is. The following morning I took a pair of horses back to camp with me, and we started out. We hitched the well mule with one of the horses, and by pulling from the saddlehorn with the other horse we managed to make a mile an hour, and it was not up hill either; though there were little ups and downs, much of the road was quite level.

In spite of the sandy soil there was a fine, somewhat scattering growth of yellow pine along the road, and many Lewis's Woodpeckers were seen among them. We made camp in Madenos Cañon, about a mile above Herard postoffice, on the

morning of the ninth, and prepared to rest a few days. I ought to say that while the names Medano and Madenos seem to be pronounced much alike, I have spelled the former as it was given me at the ranch, and the latter as it is spelled on the Huerfano Park Sheet of the U. S. Geological Survey, though it seems likely one may be a corruption of the other. This Madenos Cañon camp was at an elevation of 8700 feet, and we were glad to be getting back into the mountains again. It is hardly necessary to say that we collected there, but without any specially notable results. We made a trip to and above timberline one day, each going in a different direction, and a few alpine birds were seen.

Finally on the 14th, the mule having recovered sufficiently to work a little, we crossed the Sangre de Christo Range by Madenos Pass, elevation 9700 feet, and dropped down to 8300 feet on the other side to that night's camp on Muddy Creek. Thence we went directly to the Wet Mountain Valley, going first to Querida, where we spent several days, and then moved down to Westcliffe. Querida is the location of the noted old Bassick Mine, and the tailings dump of the old mills is being worked by a cyanide plant in which a friend is interested, hence my visit there and to him. It is an altitude of 9000 feet, a country of low rounded hills, with a rather limited growth of red spruce, yellow pines, and aspens, mainly on the northerly slopes. I also spent a couple of weeks there last February.

Westcliffe is at an elevation of 7800 feet, and in the main portion of the Wet Mountain Valley, one of our large mountain parks, the bottom lands of which are mostly under cultivation, mainly in hay. Our camp was a short distance outside the town, near some of the meadows, and with the dry, unirrigated, and uncultivated land lying back of us, and extending to the foothills. This was dry and barren, with a low growth of rabbit brush.

At Westcliffe I disposed of the mules and purchased a pair of horses, and no sooner was this done than we took our departure, going first back to Querida, and thence down Hardscrabble Cañon, one of the wildest we had been through, and where we camped overnight. Thence around to Beulah, and over a hill or two which tried the pulling powers of the new team; but they were all there, and made nothing of them. From Beulah to Pueblo, and thence northward home was the balance of our route, and we arrived at Colorado Springs at lunch-time August third, just the proper time to arrive, seeing that I had taken the precaution to telephone from a few miles down the road that we would be on hand for lunch.

We traveled nearly 400 miles, and went through portions of eight counties, as follows: El Paso, Fremont, Chaffee, Saguache, Costilla, Huerfano, Custer and Pueblo. I have included in this paper some notes taken at Villa Grove in January, 1907, and at Mosca in January, 1908, during some short trips I made to those places, and also such notes as I made on the visit to Querida in February which I have already mentioned. Notes and references to some species not seen by me are also made, but these explain themselves.

Colymbus nigricollis californicus. Eared Grebe. We saw several June 20 on one of the small lakes near the large or San Luis Lake.

Podilymbus podiceps. Pied-billed Grebe. One seen on the same lake as the preceding species, and at the same time. It would seem as if grebes should have been seen more frequently, but this was the only occasion when we noted them, though we visited other ponds as well suited to them.

Larus delawarensis. Ring-billed Gull. A flock frequented the upper end of San Luis Lake in the early morning and late afternoon. Where they spent the rest of the day I do not know, for we never saw them anywhere else.

Anas platyrhynchos. Mallard. This bird was seen on several of the smaller lakes, both near San Luis Lake, and at Medano Ranch. It seemed rather common.

Chaulelasmus streperus. Gadwall. Seen on some of the smaller lakes though not as common as the preceding.

Mareca americana. Baldpate. Two or three were seen on one of the small lakes one afternoon. (Unless otherwise stated all notes of water birds refer to the San Luis Lake and Medano Ranch region.)

Nettion carolinensis. Green-winged Teal. Two or three seen among other ducks one afternoon.

Querquedula discors. Blue-winged Teal. Two or three pairs were seen on a small lake, and we noted others at other times and places.

Querquedula cyanoptera. Cinnamon Teal. The most common Teal, if not the commonest of all the ducks we saw. One of the ponds near the Medano Ranch had several pairs on it, how many it was difficult to tell, but half a dozen or more, I am sure.

Spatula clypeata. Spoonbill. One seen each of two afternoons, and at different places. Apparently not common.

Dafila acuta. Pintail. A number were seen at different times; it seemed fairly common. Near Medano Ranch, July second, I saw a female accompanied by four one-third grown young.

Marila americana. Redhead. Durand saw one near the Medano Ranch. We thought we saw others elsewhere about the lakes, but were not sure.

Erismatura jamaicensis. Ruddy Duck. This species was seen on the same lake as the grebes, and at the same time.

Guara rubra. Scarlet Ibis. It is interesting to note that the only specimen of this Tropical species recorded from Colorado, and one of the very few known from the United States, was taken by a Mr. Livesy on Grape Creek, in the Wet Mountain Valley, Custer County, in May, 1876, and probably in, or at any rate very close to the region traversed by me. It was recorded by W. P. Lowe, *Auk* XI, 1894, p. 324.

Ardea herodias. Great Blue Heron. Durand saw one at a small pond on the Medano Ranch.

Nycticorax nycticorax naevius. Black-crowned Night Heron. One evening, when we were at San Luis Lake, 4 or 5 Night Herons came to the little lake near which we were camped, and fed there. A few days later Durand found a colony on a lake at Medano Ranch, and from the indications thought they must nest there. The first of July I saw several in a flooded meadow while driving to Hooper.

Fulica americana. Coot. A common bird, seen on nearly every lake we visited.

Steganopus tricolor. Wilson's Phalarope. Seemed rather common on ponds about Medano Ranch.

Recurvirostra americana. American Avocet. Avocets were very common at San Luis Lake, though we saw none at Medano Ranch. We saw them daily while camped at the lake; they fed both about the large lake and about the small lakes; we used to see them feeding in the pond close to camp, especially in the early morning and late afternoon and evening. Henshaw states that the Black-necked Stilt, *Himantopus mexicanus*, was equally common with the Avocets, and Aiken tells me the same thing, but I saw none whatever.

Limosa fedoa. Marbled Godwit. An interesting note is that the first Colorado record for this species is one taken by Aiken at San Luis Lake, October 1, 1874.

Actitis macularia. Spotted Sandpiper. This species was seen but a few times, at Parkdale, at San Luis Lake, and at a small reservoir near Fountain on the last day of the trip.

Oxyechus vociferus. Killdeer. We saw some the first day out a few miles from Colorado Springs, but no more until we got to Moffat, where we saw some, also at Hooper and Mosca. Killdeer were very common at the lakes and at Medano Ranch, and were also seen at the Durkee Ranch. The next and only other place where they were seen was Westcliffe.

Podasocys montanus. Mountain Plover. June 19, a mile or two north of the San Luis Lake, we ran across a pair of Mountain Plover accompanied by at least two young; Durand succeeded in catching one of the latter; it was about half grown, with the feathers just beginning to appear, especially on the wings. July fifth, as we were driving along the road on the east side of the Valley, from the Durkee Ranch to Mosca Creek, we saw a Mountain Plover walking along not far from the road, accompanied by three half grown young. I was watching them with the field glasses when I saw a Horned Lark come up behind the old bird, pass around in front, and face it in a decidedly pugnacious attitude. There was some pretty sparring and threatening for a moment or two, the lark half spreading its wings and dancing about as if it intended to attack the plover, but the latter kept steadily on her way and finally passed by. I cannot conceive what it was about, unless the lark had a nest or young close by, and feared the plover might harm them.

Callipepla squamata. Scaled Quail. Seen near Red Cañon, not far from Glendale, and a man at Glendale told Aiken they were quite common. On the way home, going north from Pueblo, we saw them near Piñon and Buttes stations. Scaled Quail seem to be increasing in this part of the state, and would become abundant if the protective law was more strictly enforced. As it is, the foreign section hands on the railroads kill many, and I suspect that others who are neither foreigners nor section hands help in the good (?) work.

Lagopus leucurus. White-tailed Ptarmigan. Durand saw two at timberline near the head of Madenos Creek.

Zenaidura macroura carolinensis. Mourning Dove. From the time we left Colorado Springs until we returned, there was hardly a day when we did not see Doves, for they were everywhere we went, and very common at some localities. June 21st, at San Luis Lake, I found a nest with a single young bird. This nest was in a greasewood bush, about a foot above the ground.

Carthartes aura septentrionalis. Turkey Vulture. A dozen or more were seen roosting in the trees near Beaver Creek, at Glendale. Mr. Aiken said they used to roost there over thirty years ago. Some were seen flying a few miles west of Texas Creek; we saw some several times while at Westcliffe, and saw 3 about halfway between Beulah and Pueblo.

Accipiter velox. Sharp-shinned Hawk. Durand saw one in Hardscrabble Cañon (our camp was about 7 miles above Wetmore).

Accipiter atricapillus. Goshawk. One or more were seen near Mosca, January, 1908.

Buteo borealis calurus. Western Red-tail. It is rather strange that we saw this hawk, one of our commonest species, at but two localities, the upper part of Madenos Creek, and at Salida. While the San Luis Valley itself would not be a particularly good place to find it, we did pass through considerable territory where it should have been seen.

Buteo swainsoni. Swainson's Hawk. A bird which appeared to be this species was seen near San Luis Lake, and one which I have no doubt about, at Medano Ranch, and one at Mosca Creek.

Archibuteo ferrugineus. Ferruginous Rough-leg. One seen at San Luis Lake,

and one collected at Sand Creek, 3 miles north of Medano Ranch, and one seen at Westcliffe.

Falco sparverius phalœna. Desert Sparrow Hawk. Seen several times between Cañon City and Salida, also between Villa Grove and Moffat; one was seen at Medano Ranch, and one near Mosca Creek, also in Madenos Cañon. Some were seen near Westcliffe; one or two east of Querida; a dead one seen near Beulah. Some were seen along the road north from Pueblo, and one near Fountain, that is, I thought it was a Sparrow Hawk, while Durand was sure it was a Sharp-shin—it might well have been either in that locality. I have listed all these as Desert Sparrow Hawks, though no specimens were taken.

Asio wilsonianus. Long-eared Owl. At our camp at a deserted ranch, just outside the town of Hooper, Durand found the dead bodies of one adult, apparently a female, and three young Long-eared Owls, and one living young bird, the latter perched in a tree; it was able to fly. I secured several photographs of it, all taken



Fig. 13. YOUNG LONG-EARED OWL, PHOTOGRAPHED NEAR HOOPER, COLORADO

on the ground. I found a pair with one young one at Sand Creek, near Medano Ranch, June 24, at an old Magpie's nest. The youngster was not as well grown as the one at Hooper. Durand also saw an owl of this species near Westcliffe.

Asio flammeus. Short-eared Owl. I killed one near Mosca, January 22, 1908.

Otus flammeola. Flammulated Screech Owl. Although no specimens of this species were taken or seen by me, I have thought it best to include it in this paper in order to correct some errors of locality in previous papers. Deane, Bull. Nutt. Orn. Club., IV, p. 188, 1879, records a specimen taken by C. E. Aiken, June 15, 1875, and gives the locality as Poncha Pass. In conversation with Mr. Aiken he tells me that this bird was not taken on Poncha Pass, and as a matter of fact he never was at Poncha Pass. He took the specimen, together with one egg from a hollow tree, while traveling by wagon from the Arkansas River, just below where Parkdale is now (the same place where I crossed it this year) to the Wet Mountain Valley. After examining the road map, and talking it over with me to refresh his

memory, I having traveled over a part of the same road this season, he says the bird was taken on the divide or mesa to the south of Copper Gulch, which is traversed by the road to the Wet Mountain Valley, and from 3 to 5 miles from where the road leaves the gulch. Mr. Aiken kept the bird alive for several days, and finally killed it when camped in the mountains near the head of the Valley, fearing it might escape from him. He sold this specimen for \$25.00, and it became a part of the collection of the late Greene Smith of Peterboro, N. Y., a wealthy dilettante collector, being numbered 1314 in that collection. He also sold the egg to the Smithsonian Institution for \$25.00, it being the first of the species ever taken.

Mr. Aiken also informs me that the giving of Mosca Pass as the locality of the specimen taken by Dr. Walbridge (Ingersoll, B. N. O. C., V, p. 121, 1880), is likewise an error. That this, and also one recorded by Brewster from the same locality (B. N. O. C., VIII, p. 123, 1883), were taken at what was, and still is, known as the Durkee Ranch, 15 miles southwesterly from Mosca Pass, and 10 or 12 miles southeasterly from the Medano Ranch, on the east side of the San Luis Valley. That Dr. Walbridge spent some time at this ranch, and collected in its vicinity. The other specimen was brought to Mr. Aiken in the flesh by Mrs. Ady, who was interested in, and lived part of the time at least, at the ranch. This bird had been found dead. The skin is now in the Colorado College Collection.

Bubo virginianus pallescens. Western Horned Owl. One seen in the evening at Moseo Creek, on a tree near our camp.

Speotyto cunicularia hypogaea. Burrowing Owl. This species was seen on three occasions only; between Alder P. O. and Villa Grove; one was shot by Durand in a meadow at Medano Ranch; and two were seen a few miles south of Butte station.

Ceryle alcyon. Belted Kingfisher. One seen at Glendale and one at Westcliffe.

Dryobates villosus monticola. Rocky Mountain Hairy Woodpecker. A pair were taken near Poncha Pass, and one at the upper part of Madenos Creek. No Downy Woodpeckers were seen by either of us, which seems rather strange, as one usually runs across them frequently.

Sphyrapicus thyroideus. Williamson's Sapsucker. Two seen, and one taken near Poncha Pass; a dead male found by the roadside on the Huerfano County side of Madenos Pass; a pair seen near our camp on Muddy Creek, and one male shot at Querida. This bird was moulting, and minus its tail, and had many new feathers coming in the wings. The Red-naped Sapsucker was not seen, though it should have been.

Melanerpes erythrocephalus. Red-headed Woodpecker. Abundant near our camp at Glendale, June 5-6. Not another one was seen until we got to Pueblo, where Durand saw one in the city, and after we got about 15 miles north of that place they were very common, seen often among the trees along Fountain Creek.

Melanerpes lewisii. Lewis's Woodpecker. Seen among the pines in the foothill country during the first two days of the journey. They were common in the pines near the road between Mosca and Madenos Creeks. One was seen a few miles east of Beulah, and they were common from Piñon Station north to Colorado Springs.

Colaptes cafer collaris. Red-shafted Flicker. Seen at various places between Van Andert's Spring and Poncha Pass; at Villa Grove; near Mosca Creek, and in various places in Madenos Cañon, nearly to the head; south of Rosita; at Querida and Westcliffe, and in Hardscrabble Cañon, and near Buttes Station. I saw one at Mosca, January 17, 1908.

Phalaenoptilus nuttalli. Poorwill. I found one, presumably a female, with two young, on a high ridge to the northward of Madenos Pass. The young, which

were as large as an ordinary week or ten days old chick, were squatting perfectly motionless on the ground about a foot apart, each in the shade of a plant of some sort. Their feathers were quite well developed. They kept perfectly quiet, and made no move when I picked them up, but opened their eyes, heretofore kept closed, when replaced on the ground. There were a few dead pines and a few aspens about the place, but no thick growth.

Chordeiles virginianus henryi. Western Nighthawk. Seen constantly from the time we were at Parkdale until we returned. About four o'clock of the afternoon of August second, when a few miles south of Buttes Station, we saw what appeared to be a migratory movement of these birds. Altogether we saw anywhere from 50 to 100 of them, all flying southerly in a leisurely manner, and not hunting insects. They were not in a flock, but came along in a scattering fashion, by ones, twos and threes, or more.

Aeronautes melanoleucus. White-throated Swift. Two or three were seen June 5 near the Glencairn Ranch on Turkey Creek, and two days later some were seen just outside of Cañon City.

Selasphorus platycercus. Broad-tailed Hummingbird. Hummingbirds were seen at Poncha Pass, Medano Ranch, Mosca Creek, Madenos Cañon, Westcliffe, and in Hardscrabble Cañon. Only two specimens were taken, both at Mosca Creek, and both Broad-tails. Such others as were seen close enough to be identified were of this species, but one which flew past me at Westcliffe, travelling like a bullet, seemed undoubtedly to be a Rufous-backed (*S. rufus*), but of course I cannot be positive with the glimpse I had. The Broad-tail is so much the most common species in this state that it is quite safe to put a hummingbird down as such unless one has evidence to the contrary. When running traps at the Poncha Pass camp I saw a female hummer take cotton from some which I had twisted around a twig to mark a trap, so I suppose she was building a nest.

Tyrannus tyrannus. Kingbird. Kingbirds were seen at various places between Colorado Springs and Salida, and were not uncommon. A single bird was seen at Westcliffe. From Benlah to Pueblo, and thence to Colorado Springs they were seen quite frequently, though not nearly as common as the next species.

Tyrannus verticalis. Western Kingbird. Seen occasionally between Colorado Springs and Villa Grove, and next seen at Westcliffe. Between Beulah and Pueblo, and especially between the latter place and Colorado Springs they were very common and continually seen along the roadside. Halfway between Beulah and Pueblo a pair had a nest at a fence corner, where two posts stood side by side, being placed on the posts, and behind a sort of framework nailed on the side of the post next the road; a cardboard election notice had once been nailed on this frame, and the greater part of it still remained, and served to screen the nest from the road. There were three young in the nest, fully fledged, and able to fly a little. Family groups were frequently seen along the Pueblo-Colorado Springs road.

Tyrannus vociferans. Cassin's Kingbird. One was killed June 7, near Parkdale.

Myiarchus cinerascens. Ash-throated Flycatcher. One seen June 6, near Glendale, and one taken June 8, in Copper Gulch.

Sayornis saya. Say's Phoebe. Seen at various places between Colorado Springs and Salida. At Glendale a pair had a nest in a poultry house at a ranch near our camp. A nest at Hooper contained three eggs June 17; birds were seen from Hooper to Mosca, at San Luis Lake, Medano Ranch, Sand Creek, Durkee Ranch, Westcliffe, Querida, Hardscrabble Cañon, and thence at various places until we arrived at Colorado Springs.

Myiochanes richardsoni. Western Wood Pewee. Seen at Glendale, Howard, Durkee Ranch, near Rosita, and Hardscrabble Cañon. At the Durkee Ranch a pair were building a nest in a cottonwood tree; the nest was saddled on a limb at a point where it forked into three branches; I saw one of the birds, most likely the female, working upon it, the material used being cotton from the cottonwood trees, much of which was blowing about. This nest was extremely inconspicuous, and, if I had not seen the bird go to it, I would not have discovered it.

Empidonax difficilis. Western Flycatcher. One taken at Poncha Pass and two at Mosca Creek.

Empidonax trailli. Traill's Flycatcher. This bird was seen at Glendale, at Coaldale, Howard, near Salida, at Westcliffe, and Hardscrabble Cañon.

Otocoris alpestris leucolaema. Desert Horned Lark. Horned Larks were seen, but not very abundantly, at various localities between Colorado Springs and just beyond Parkdale. They were very common all through the San Luis Valley, and one of the characteristic birds of that region. They were common along the road in the southern part of Custer County, and about Westcliffe, and from east of Beulah as far north as Buttes station. It is probably more chance than any other reason that we did not see them north of the latter point. At the Medano Ranch the last of June young just out of the nest were frequently seen, with their parents feeding them. Horned Larks were seen at Villa Grove, January, 1907; at Mosca, January, 1908; and at Querida, February, 1909, and were fairly abundant at all those places at those dates.

Pica pica hudsonia. Magpie. Seen frequently between Colorado Springs and Villa Grove; south of the latter point there are no trees along the road, so none were seen, except some fully fledged young at La Garita station between Moffat and Hooper, and there were nests in some cottonwoods at the abandoned ranch near Hooper where we camped; birds were seen at Sand Creek and at Mosca Creek; a nest or two were seen on Madenos Creek, but no birds; birds were seen on Muddy Creek; they were common at Westcliffe, and between that place and Colorado Springs. I saw Magpies at Villa Grove in January, 1907, and at Querida February, 1909.

Cyanocitta stelleri diademata. Long-crested Jay. This species was not seen as frequently as I would have expected. Birds were encountered near Salida; in Madenos Cañon; on the Huerfano County side of Madenos Pass; in Hardscrabble Cañon, and on the Beulah road. I saw one near Villa Grove, January, 1907.

Aphelocoma woodhousei. Woodhouse's Jay. Seen at our Texas Creek camp and near Howard.

Corvus corax sinuatus. Western Raven. Half a dozen were seen at Medano Ranch, July first, one of which Durand shot. I saw two near the head of Madenos Creek, and thought I saw one near Westcliffe. The stomach of the bird killed at Medano Ranch had the remains of some nestling birds in it. I preserved this stomach, but have not yet had it examined.

Corvus brachyrhynchos hesperis. Western Crow. Half a dozen Crows were seen July 31 on the South Hardscrabble road just above its junction with the main road, and two or three were seen in a field a mile or two east of Beulah.

Nucifraga columbiana. Clarke's Crow. A number seen at Mosca Creek; some were seen in Madenos Cañon, and some at Querida.

Cyanocephalus cyanocephalus. Piñon Jay. Seen between Parkdale and Texas Creek; at Howard and between there and Salida; at Mosca Creek; at Muddy Creek; and at Querida. The last mentioned place is very high for this species, over 9000 feet, and it is their post-breeding wanderings which take them to such an elevation.

Molothrus ater. Cowbird. Seen at Hooper, Mosca, San Luis Lakes, Medano Ranch, Durkee Ranch, Querida, and near Colorado Springs. An egg was found in a Savannah Sparrow's nest at Medano Ranch.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. This species was seen at some of the small lakes near San Luis Lake, and at Medano Ranch, nesting in the bushes and cat-tails. Durand saw one at Querida, another instance of post-breeding wandering. I also saw one a few miles south of Westcliffe.

Agelaius phoeniceus fortis. Thick-billed Redwing. Seen a few miles south of Colorado Springs; near Cañon City; near Texas Creek; at San Luis Lake; abundant at Medano Ranch, and in the meadows near Westcliffe. Also seen near Buttes Station.

Sturnella neglecta. Western Meadowlark. Often seen from Colorado Springs to the Durkee Ranch, very common in the San Luis Valley; next seen on Muddy Creek; common at Westcliffe; seen occasionally between Beulah and Colorado Springs.

Icterus bullocki. Bullock's Oriole. Seen near our Texas Creek camp; at the Durkee Ranch; and a few between Pueblo and Colorado Springs. Much of the country visited was not specially favorable for these birds, and much of course was not carefully examined. They are no doubt more abundant than these notes would indicate.

Euphagus cyanocephalus. Brewer's Blackbird. Seen everywhere between Colorado Springs and the Durkee Ranch, and a very common bird at many places; seen at Muddy Creek; at Westcliffe, late in July, they were beginning to gather in flocks as is their habit after the breeding season. Seen near Beulah. At San Luis Lake, June 18, I found a young one panting under such shade as a greasewood bush afforded in the middle of the day; it was able to fly a little; the birds must nest on the ground here, or in the greasewood bushes, for there are no trees.

Quiscalus quiscula aeneus. Bronzed Grackle. Seen at Glendale and Cañon City.

Carpodacus cassini. Cassin's Finch. This bird was seen at Querida only, where it was rather common about the town.

Carpodacus mexicanus frontalis. House Finch. One seen in Frey's yard at Salida, and one at Mosca. I cannot persuade myself at present to adopt the new A. O. U. name of "California Linnet", for it seems to me that it conveys the impression that the species is peculiar to or characteristic of California, and I think that can hardly be said to be the case with a bird which "Breeds from western parts of Kansas and Texas to the Pacific, and from Oregon to northern Mexico". Bailey, Handbook of Birds of Western United States. As long ago as 1874 Coues used the name House Finch in the Birds of the Northwest, so that it is not a newly invented name. I realize that some of the vernacular names present a more difficult problem than the scientific, as so many birds are known by different names in different localities, and it is hard to decide on the most appropriate, but in this case I think the Committee had better have let the old name stand until they could find a really good one.

Leucosticte tephrocotis. Gray-crowned Rosy Finch. In February 1, 1909, there was a very large flock of Rosy Finches about Querida, and 10 out of 18 collected were Gray-crowns.

Leucosticte tephrocotis littoralis. Hepburn's Rosy Finch. One was taken at Querida February 5, 1909.

Leucosticte atrata. Black Rosy Finch. One taken at Querida February 5, 1909.

Leucosticte australis. Brown-capped Rosy Finch. Six out of the 18 taken at Querida in February were this species.

Astragalinus tristis. Goldfinch. Seen at Beulah and at Fountain. It is of course possible these may have been *A. t. pallidus*, but as no specimens were collected the point cannot be decided.

Spinus pinus. Pine Siskin. A small flock were seen in Salida; one or two were seen about six miles south of Westcliffe, and some were seen on the road to Beulah.

Passer domesticus. House Sparrow. These birds were almost everywhere where there were habitations, including the Medano Ranch, except possibly Querida, where it was rare, if present at all; I can only say that I thought I saw one.

Poocetes gramineus confinis. Western Vesper Sparrow. Fairly common from Colorado Springs to a few miles west of our Texas Creek camp; it was fairly common from Poncha Pass down the San Luis Valley to Mosca, but did not seem to be about San Luis Lake, and but few were seen at Medano Ranch; it was quite common in the dry region along the road in the southern part of the Wet Mountain Valley when going to Rosita and Querida; it was common at Querida and Westcliffe, and between the two places, and a few miles east of Beulah. Near Westcliffe, July 23, I found a nest containing three eggs; it was on the ground, amongst a little bunch of low rabbit brush. This was most likely a second set.

Passerculus sandwichensis alaudinus. Western Savannah Sparrow. This bird was first taken at Salida; it was very common in the meadows at Medano Ranch, and many were seen daily; June 25, Durand found a nest containing three eggs, two days after there were four, one being a Cowbird's. The female belonging to the nest was collected, and it was found on dissection that the full complement had been laid; very possibly it was a second set. The nest was a deep cup amongst the grass. The species was also common in the meadows near Westcliffe.

Chondestes grammacus strigatus. Western Lark Sparrow. Seen occasionally along the road from Colorado Springs to Texas Creek. Some were seen a few miles south of Westcliffe; they were seen quite frequently between Beulah and Colorado Springs, indeed, they were common in many places along the road here.

Zonotrichia leucophrys. White-crowned Sparrow. Seen in a high basin just above timberline at the head of Madenos Creek, and one seen near the foot of Madenos Pass.

Spizella monticola ochracea. Western Tree Sparrow. Seen at Mosca, January 19, 1908, and at Querida, February 10, 1909.

Spizella passerina arizonae. Western Chipping Sparrow. Taken in Eight Mile Park, west of Cañon City; seen at our Texas Creek camp, at Howard, Mosca Creek, near Rosita, at Querida, 6 miles south of Westcliffe, on the Beulah road, and south of Fountain. Most of these localities were those where there were piñon or pine trees, and the birds do not seem to frequent, in the breeding season at least, the more open brush covered country.

Spizella breweri. Brewer's Sparrow. Aiken collected one about halfway between Glendale and Cañon City. It was very common indeed in the San Luis Valley to about midway between the Medano and Durkee Ranches. Seen near Muddy Creek, and along the road in the southern part of Custer County. It was common in the dry country about Westcliffe. A small sparrow seen near Eden Station, north of Pueblo, may have been this species, but it was quite as likely to have been an immature Chipping Sparrow; it was not collected, and was not seen

very clearly. A nest containing three eggs was found at Hooper, June 16, built in a greasewood bush a few inches above the ground.

Junco aikeni. White-winged Junco. One or two seen at Querida, February, 1909. The rarest of the three Juncos seen there.

Junco mearnsi. Pink-sided Junco. Common about Querida, February, 1909.

Junco phaeonotus caniceps. Gray-headed Junco. Seen near Poncha Pass, in Madenos Cañon (specimens collected at both localities), 4 miles south of Rosita, at Querida, and in Hardscrabble Cañon. It was common at Querida in February, 1909.

Melospiza melodia montana. Mountain Song Sparrow. Seen at Glendale, near Salida, and at our Poncha Pass camp. At Westcliffe I took a full grown young of the year, July 24.

Melospiza georgiana. Swamp Sparrow. Merritt Cary took one at the Medano Ranch, October 23, 1907 (*Auk*, xxvi, p. 182, April, 1909). Both Durand and myself looked industriously for the bird, but failed to find any, so I am much inclined to think Cary's bird was a straggling migrant.

Pipilo maculatus montanus. Mountain Towhee. Seen near Cotopaxi, Howard, and Badger, all being points along the Arkansas River.

Pipilo fuscus mesoleucus. Cañon Towhee. One was taken west of Cañon City, just east of Eight Mile Park, and one seen near Piñon station.

Pipilo aberti. Abert's Towhee. The single record of this species for Colorado is based on what one cannot help thinking decidedly unsatisfactory evidence, a nest containing two eggs which Henshaw found at the San Luis Lakes, and which he says he compared with specimens in the Smithsonian and considered them to belong to Abert's Towhee. No birds were seen at the nest, and he says it had evidently been deserted a short time before. Mr. Aiken tells me that the next year after Henshaw was there, 1874, he saw a bird he supposed was this in the same locality, but had only a glimpse of it, and was unable to shoot it. I saw no Towhees of any kind at the lakes.

Oreospiza chlorura. Green-tailed Towhee. Taken near Poncha Pass, and at Durkee Ranch; seen at Mosca Creek, in Madenos Cañon, near Rosita, at Westcliffe, and in Hardscrabble Cañon. The one shot at Durkee Ranch was quite high up in a cottonwood tree working about among the branches in what struck me as an un-towhee-like fashion, so much so that I was puzzled to know what the bird was until I picked it up. It may be a well known habit, I can only say I never noticed it before.

Zamelodia melanocephala. Black-headed Grosbeak. Taken on mesa east of Beaver Creek; seen in Copper Gulch, near Texas Creek, between Salida and Poncha Springs, at Muddy Creek, in Hardscrabble Cañon, and at Fountain.

Calamospiza melanocorys. Lark Bunting. One or two were seen near Turkey Creek; a mixed flock of 15 or 20, males and females, old and young, were seen near Westcliffe, and some were seen at various places between Beulah and Colorado Springs.

Piranga ludoviciana. Western Tanager. Seen but once during the whole trip, in Copper Gulch.

Petrochelidon lunifrons. Cliff Swallow. Seen at Coaldale, about Moffatt, Hooper, and Mosca. At the latter place is a grain elevator, about which the birds were in swarms; I counted 108 nests on one side under the eaves, and there seemed to be as many on the other side; this would mean over 400 adult birds, to say nothing of the young. There were many at the Medano Ranch, and they were seen at Muddy Creek, Querida, Westcliffe, and near Beulah.

Hirundo erythrogaster. Barn Swallow. Seen at a ranch south of Colorado

Springs the first day out; near Texas Creek; at Coaldale; north of Villa Grove, between that place and Moffat, at Hooper, Mosca, San Luis Lake, Medano Ranch, and Westcliffe.

Tachycineta thalassina lepida. Violet-green Swallow. Seen practically everywhere we went between Parkdale and Beulah, and everything considered the most abundant of the swallows. At Querida, July 30, the swallows were beginning to gather in flocks. At Mosca Creek, birds of this species were seen entering old woodpecker's holes in aspen trees, and no doubt had nests there, as they often use them.

Lanius borealis. Northern Shrike. One seen at Mosca, January 19, 1908.

Lanius ludovicianus excubitorides. White-rumped Shrike. Seen quite commonly from a little above Moffat to Mosca; it was at San Luis Lake, where Durand saw $\frac{2}{3}$ grown young June 20, and was also at Medano Ranch. Seen at Westcliffe, near Beulah, and between Pueblo and Buttes station.

Vireosylva gilva swainsoni. Western Warbling Vireo. Taken at Van Andert's Spring, Glendale, Howard, Durkee Ranch, and seen at Mosca Creek.

Dendroica aestiva. Yellow Warbler. Seen at Glendale, near Cotopaxi, Howard, Poncha Springs, Villa Grove, and at Durkee Ranch.

Dendroica auduboni. Audubon's Warbler. Taken near Poncha Pass, seen on Madenos Creek, and on Muddy Creek. A female seen on Madenos Creek, at about 10,000 feet elevation, July 11, acted in a very disturbed manner, as if she had a nest or young, but I could find neither.

Oporornis tolmiei. MacGillivray's Warbler. Durand took one at Mosca Creek.

Geothlypis trichas occidentalis. Western Yellowthroat. Seen at Glendale; Yellowthroats were rather common among the cat-tails at one of the small lakes at the Medano Ranch.

Icteria virens longicauda. Long-tailed Chat. Several seen at Glendale.

Anthus rubescens. Pipit. One was taken at Durand on a high mountain at the head of Madenos Creek; I also saw one in the same general locality.

Cinclus mexicanus unicolor. Water Ouzel. Seen on Madenos Creek, and in Hardscrabble Cañon.

Oroscoptes montanus. Sage Thrasher. A very common bird all through that part of the San Luis Valley visited by me; two were seen about two miles north of Muddy Creek, in Huerfano County; they were very common at Westcliffe, where family parties were seen the last of July; one was taken, others seen, about ten miles west of Pueblo. Immediately after we made camp at the Medano Ranch I discovered a nest containing three newly hatched young, and an egg, which had disappeared the next day. This nest was in a greasewood bush. I watched it closely, intending to take some photographs as soon as the young were large enough, and the morning of July 4, knowing I was going to leave next day, went to see if everything was all right, intending to take the pictures at once, but there was only a single dead, much bedraggled young bird there, and I could find no trace of the other two. It had rained very hard the night before, but though this might account for the death, it does not account for the missing. The next morning, July 5, I found about halfway between the Medano and Durkee Ranches a nest containing four eggs, about which the parents were very anxious, so I think it probable incubation was nearly complete. This was in rabbit brush about a foot above the ground, the other nest having been three feet from the ground.

Mimus polyglottos leucopterus. Western Mockingbird. Seen between Glendale and Cañon City; near Copper Gulch; at Hooper, San Luis Lake, about half

way between Beulah and Pueblo, and rather frequently between Eden and Buttes stations.

Dumetella carolinensis. Catbird. Several seen at Glendale, and Durand took one in Hardscrabble Cañon.

Salpinctes obsoletus. Rock Wren. Seen at favorable places between Colorado Springs and Texas Creek; between Mears and Poncha Pass; near the roadside, in northern Huerfano County; at Querida, where family parties were seen; about ten miles west of Pueblo, and between Eden and Piñon stations.

Troglodytes aedon parkmani. Western House Wren. Seen at different places between Colorado Springs and Howard; at Durkee Ranch; Mosca Creek; Muddy Creek; in Hardscrabble Cañon one was caught in a mouse trap set under the overhanging creek bank; also seen near Buttes.

Cistothorus stellaris. Short-billed Marsh Wren. Cary took one at Medano Ranch, October 23, 1907 (*Auk*, XXVI, p. 182, April, 1909). We made a careful search for the bird, especially at the small lake where we were told he obtained his specimen, but no birds were found, and no nests were to be found about the cat-tails and rushes where they would have built if they had been there, so I have come to the same conclusion as in the case of the Swamp Sparrow, that Cary's bird was a straggling migrant.

Telmatodytes palustris plesius. Interior Tule Wren. Henshaw, in his report, records three specimens from the San Luis Lakes, taken in May and June, 1873. While I did not know of this when at the lakes, the search for the Short-billed Wren should have revealed this species if it had been there.

Sitta carolinensis nelsoni. Rocky Mountain Nuthatch. Seen at Howard, and at Mosca Creek. Also taken at Querida, February 6, 1909.

Penthestes atricapillus septentrionalis. Long-tailed Chickadee. Seen at Herd's Ranch, Madenos Creek.

Penthestes gambeli. Mountain Chickadee. Taken at Howard and Querida; also at latter place, February, 1909.

Psaltriparus plumbeus. Lead-colored Bush-tit. Taken near Parkdale; seen at Texas Creek, and at Howard.

Myadestes townsendi. Townsend's Solitaire. One seen on a high ridge near the head of Madenos Creek.

Planesticus migratorius propinquus. Western Robin. Seen constantly from Colorado Springs to Villa Grove; after that none were seen until we got to the Durkee Ranch, and from there on seen at every locality until we reached Colorado Springs.

Sialia mexicana bairdi. Chestnut-backed Bluebird. Seen about a mile west of Texas Creek, and Durand saw four or five near our Madenos Creek camp.

Sialia currucoides. Mountain Bluebird. Seen almost everywhere from Colorado Springs to Beulah. After the middle of July many young birds were seen.

FOR THE BETTER DETERMINATION OF *AGELAIUS TRICOLOR*

By JOHN W. MAILLIARD

WITH TWO PHOTOGRAPHS BY JOSEPH MAILLIARD

WITH only a limited reference library available, it is perhaps unwise to undertake the betterment of the determination of a species; and yet our own doubts, coupled with those expressed by many of our ornithological friends,

as to the constant characteristics of the species in question, more especially as regards the females, seem to warrant the offering of the results of a careful study by my brother and myself of a large series of *Agelaius tricolor*, *A. phoeniceus*, and *A. gubernator*, during which, however, no attempt was made to differentiate the two latter.

Before setting forth these supposedly heretofore unnoticed characteristics of *tricolor*, it seems advisable to enumerate in composite and elaborated form such

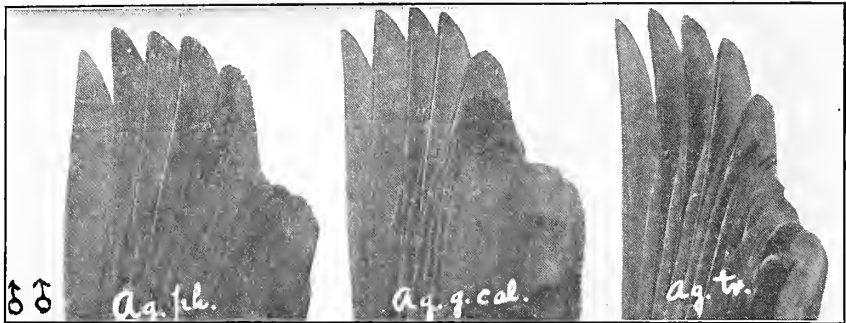


Fig. 14. WING-TIPS OF MALES OF *AGELAIUS PHOENICEUS*, *A. GUBERNATOR* AND *A. TRICOLOR*, SHOWING RELATIVE LENGTHS OF PRIMARIES IN THE THREE FORMS

constant factors as we have been able to confirm of those laid down for this species in the Key to North American Birds, 4th and 5th editions, of Coues, and Birds of North and Middle America, Ridgway, the best authorities at our command during this work, as follows:

Male, lesser wing-coverts dark red (like venous blood) bordered by middle wing-coverts of pure white during the period of breeding, and of old ivory white to



Fig. 15. WING-TIPS OF FEMALES OF THE THREE FORMS, AS ABOVE

light buff during the fall, winter and spring months, and immaturity; occasionally partially or wholly black in the latter phase.

Male and female, plumage more glossy and of silky texture to the touch: only approacht by *phoeniceus* and *gubernator* during immaturity.

Male and female adults in other than breeding plumage, and immatures, show grayish brown feather edgings; when present in *phoeniceus* and *gubernator*, such edgings are always rusty or rufous.

Male and female, bill more slender than in the other forms of this genus.

In addition to these, we now call attention to the following:

Male and female, 4th primary *always* shorter than 1st (outer). This characteristic of *tricolor* has proved constant in the examination of our series of 23 males and 19 females and a few other available specimens, and in markt distinction to *phoeniceus* and *gubernator*, the examination of 146 specimens of these showing the 4th primary to be equal to, or longer than, the 1st, usually longer.

In the above mentioned material, in *tricolor* the minimum difference between the 1st (outer) primary and the 5th was found to be materially greater than the maximum difference in the other forms, and as shown in millimeters in the following table:

	Average		Maximum		Minimum	
	♂	♀	♂	♀	♂	♀
<i>A. tricolor</i>	10.74	11.00	14.00	13.80	7.70	8.10
<i>A. phoeniceus</i> { <i>A. gubernator</i> }	3.47	4.24	7.50	7.10	0.00	1.50

In submitting the accompanying photographs of wings, attention is also called to the markt difference in the gradation from the primaries to the tertiaries in *tricolor* as compared to that in the other two forms. As these photographs were taken from dried skins, they do not show the wings to the best advantage, but sufficiently so for the purposes of this article.

MISCELLANEOUS RECORDS FROM ALASKA

By JOSEPH GRINNELL

THE Museum of Vertebrate Zoology of the University of California contains a considerable proportion of Alaskan birds. Some of these, from particular regions, have already been reported upon in special papers, and some, from well-known localities, are not considered worthy of record. But there remain the following listed species which, because of interesting date or locality of capture, appear to deserve record. These selected specimens are from a variety of sources, chief of which are the natural history collections obtained by Chas. L. Hall¹ from 1894 to 1901 at various points in Alaska and at Forty-mile, Yukon Territory. The birds from the latter place I have listed in a separate paper (CONDOR XI, 1909, pp. 202-207). There are also a number of birds secured by Allen E. Hasselborg in the spring and fall of 1908 in the Yakutat Bay district. All the species enumerated herewith are from points in Alaska.

Limosa lapponica baueri. Pacific Godwit. Six adults (nos. 4815-4820), St. Michael, May 20 and 22, 1896; two adults (nos. 4821, 4822), Unalaska, May 29 and June 4, 1894; C. L. Hall.

Limosa haemastica. Hudsonian Godwit. Adult female (no. 4823), St. Michael, May 22, 1896, C. L. Hall; two immature females (nos. 7105, 7106), Kenai, July 26, 1906; A. Seale.

Totanus melanoleucus. Greater Yellow-legs. Full-grown juvenal male (no. 7111), Kenai, July 26, 1906; A. Seale.

Canachites canadensis osgoodi. Alaska Spruce Grouse. Four adults (nos. 4523, 4521, 4516, 4520), Russian Mission, lower Yukon, October 12, 26 and 28, 1894; adult (no. 4522), Nulato, October 2, 1894; C. L. Hall.

Bonasa umbellus umbelloides. Gray Ruff Grouse. Adult male (no. 4514), Russian Mission, lower Yukon, October 11, 1894; two adult males (nos. 4507, 4510), Fort Yukon, September 24, 1895; C. L. Hall.

Buteo borealis calurus. Western Red-tailed Hawk. Two, two-thirds-grown juvenals (nos. 4966, 4967), Yukon River, Alaska, 60 miles below Forty-mile, Y. T., July 28, 1894; C. L. Hall. This appears to be the first record of this race from Alaska, and the first known occurrence of any Red-tail in Alaska north of Glacier Bay.

Aquila chrysaetos. Golden Eagle. Adult male (no. 4502), Russian Mission, lower Yukon, April 19, 1895; C. L. Hall. "Red squirrel in crop."

Falco gyrfalco rusticolus. Gyrfalcon. Immature(?) male (no. 4963), Russian Mission, lower Yukon, April 18, 1895; C. L. Hall.

Asio flammeus. Short-eared Owl. Male (no. 4940), St. Michael, October 12, 1895, C. L. Hall; female (no. 7084), Anklin River, Yakutat Bay region, September 29, 1908, A. Hasselborg. The former is pale, the latter very dark.

Bubo virginianus algistus. St. Michael Horned Owl. Adult female (no. 4969), St. Michael, November 20, 1895; C. L. Hall.

Bubo virginianus subarcticus. Arctic Horned Owl. Adult male (no. 4968), Russian Mission, lower Yukon, December 20, 1894, C. L. Hall; adult female (no. 7085), Yakutat Bay, May 15, 1908, J. Dixon. The latter I forwarded to Washington where Mr. H. C. Oberhölser named it *subarcticus*! But this subspecies, as restricted, does not belong in Alaska, much less in the Yakutat region in *May*! The other specimen is to me indistinguishable from it, and the two constitute the first records of *subarcticus* for Alaska (unless they be light "phases" of some other form!).

Bubo virginianus lagophonus. Ruddy Horned Owl. Adult male (no. 7113), Kenai, August 5, 1906; A. Seale.

Surnia ulula caparoch. Hawk Owl. Adult female (no. 4949), Russian Mission, lower Yukon, April 22, 1895; C. L. Hall.

Dryobates pubescens nelsoni. Nelson Downy Woodpecker. Three adults (nos. 4647-4649), Russian Mission, lower Yukon, October 23 and November 9, 1894; C. L. Hall.

Picoides arcticus. Arctic Three-toed Woodpecker. Adult female (no. 6461), "Yukon, Alaska", (no date); J. H. Turner. This probably means somewhere on the Yukon River, not necessarily Fort Yukon.

Picoides americanus americanus. Alaska Three-toed Woodpecker. Juvenal male (no. 4709), Rapids, Yukon River, July 21, 1894; adult female (no. 4710), Russian Mission, lower Yukon, October 21, 1894; C. L. Hall.

Perisoreus canadensis fumifrons Ridgway. Alaska Jay. Adult female (no. 7109), Lake Skilak, Kenai Peninsula, August 10, 1906, A. Seale; juvenal male (no. 4546), Russian Mission, lower Yukon, May 30, 1895, C. L. Hall; three adults (nos. 4544, 4545, 4547), Russian Mission, Andreiefski Post, and Fort Yukon, April 21, 1895, November 14, 1894, and August 23, 1894; C. L. Hall.

Euphagus carolinus. Rusty Blackbird. Adult male (no. 4552), Russian Mission, lower Yukon, May 5, 1895, C. L. Hall; immature male (no. 7075), Anklin River, Yakutat Bay district, October 15, 1908, A. Hasselborg.

Pinicola enucleator flammula. Kadiak Pine Grosbeak. Adult males (nos. 7073, 7074), Anklin River, Yakutat Bay district, October 12 and 13, 1908; A. Hasselborg.

Pinicola enucleator alascensis. Alaska Pine Grosbeak. Seven adults (nos.

4566-4572), Russian Mission, lower Yukon, March 31, April 21 and 30, and May 10 and 21, 1895; C. L. Hall.

Leucosticte tephrocotis littoralis. Hepburn Rosy Finch. Adult (no. 7077), Anklin River, Yakutat Bay district, June 10, 1908; A. Hasselborg.

Acanthis linaria linaria. Common Redpoll. Juvenal female (no. 4617), Koserefski, lower Yukon, July 16, 1894; adult male (no. 4618), Russian Mission, lower Yukon, May 30, 1895; C. L. Hall.

Plectrophenax hyperboreus. McKay Snow Bunting. Adult males (nos. 4644, 4645), Kuskokwim River ("same latitude as Russian Mission, on lower Yukon"), April 30, 1895; C. L. Hall (shot by an Indian).

Calcarius lapponicus alascensis. Alaska Longspur. Three adults (nos. 7078-7080), Setuck and Anklin rivers, Yakutat Bay district, April 6 and 16, 1908; A. Hasselborg.

Zonotrichia coronata. Golden-crowned Sparrow. Adult male (no. 7076), Anklin River, Yakutat Bay district, May 7, 1908; A. Hasselborg. Mr. Hasselborg asserts positively that this species is only a transient in the Yakutat Bay region, and not a breeding bird, as thought by Osgood (CONDOR XI, May 1909, p. 107).

Spizella monticola ochracea. Western Tree Sparrow. Two specimens (nos. 7081, 7082), Anklin River, Yakutat Bay district, October 15 and 13, 1908; A. Hasselborg.

Passerella iliaca unalascensis. Shumagin Fox Sparrow. Adult male (no. 4585), Unalaska, June 4, 1894; C. L. Hall. No Fox Sparrow has been previously secured from Unalaska "unless the Aoonalaska Bunting of Latham really came from there" (Ridgway, Bds. N. & Mid. Am. I, 1901, p. 389). So that the present specimen assumes a decided importance. This bird bears out all the characters of the race called *unalascensis*, as defined by Ridgway, and doubtless indicates the westward limit of the range of that form.

Iridoprocne bicolor. Tree Swallow. Adult male (no. 4633), Aphoon mouth of Yukon River, July 13, 1894; C. L. Hall. Wing 122.4 mm: much longer than in California birds!

Tachycineta thalassina lepida. Violet-green Swallow. Adult male and female (nos. 4634, 4635), Fort Hamlin, Yukon River, May 27, 1898; C. L. Hall.

Lanius borealis invictus. Alaska Shrike. Adult female (no. 4528), Fort Yukon, May 23, 1898; C. L. Hall.

Dendroica aestiva rubiginosa. Alaska Yellow Warbler. Adult male (no. 4606), Aphoon mouth of Yukon River, July 13, 1894; C. L. Hall.

Dendroica coronata hooveri. Alaska Myrtle Warbler. Adult males (nos. 4613, 4614), Russian Mission, lower Yukon, May 5 and 30, 1895; C. L. Hall.

Dendroica striata. Black-poll Warbler. Four adults (nos. 4607-4610), Kotlik and Russian Mission, lower Yukon, June 4 and May 29, 1895; C. L. Hall.

Seiurus noveboracensis notabilis. Alaska Water-thrush. Juvenal male (no. 4602), Aphoon mouth of Yukon, July 13, 1894; C. L. Hall.

Hylocichla ustulata swainsoni. Olive-backed Thrush. Adult male (4620), Rapids, Yukon River, July 21, 1894; adult male (no. 4619), Fort Hamlin, Yukon River, June 2, 1898; C. L. Hall.

FROM FIELD AND STUDY

The Alaska Longspur in California.—On October 2, 1909, I was hunting rails in the tide marshes of False Bay, San Diego County, California. At the edge of the marsh I saw a sparrow on the Salicornia that lookt like a lark finch in molt. As this was so unusual a place for that species I flushed the bird. It rose to some height but soon came down alighting near the place from which it started. In flight it showed so little white in the tail that I followed it to observe it further, when it flew again, passing over me and alighting in weeds at the foot of the slope outside the Salicornia, where I shot it. The bird was an adult female in winter plumage, and has been identified by Robert Ridgway as the Alaska Longspur, *Calcarius lapponicus alascensis*. I believe this is the most southern record for the Pacific coast.—FRANK STEPHENS.

Limonites ruficollis (Pall.) as an American Bird.—In the September number of THE CONDOR I see an interesting record by Mr. John E. Thayer of *Limonites ruficollis* (Pall.) breeding in Alaska, at Nome.

When working over the second part of my Russian work on "The Limicolae of the Russian Empire" (sub-family *Tringinae*), I went in 1903 to Warszawa, Poland, as some questions could not be properly resolved without examining skins that served the late Dr. L. Taczanowski for his "Faune Ornithologique de la Sibirie Orientale". Here in the ornithological museum of Count X. Branicki, especially rich in South American skins, I found, among specimens of *L. minutilla* (Vieill.), an adult sandpiper in full winter dress, labelled "Tr. pusilla, Wilson. America septentrionalis."

As I had just minutely studied a large number of *Tringinae* and their allies, including *Ereunetes*, the identification of this skin presented no difficulties: it was a specimen of *Limonites ruficollis* (Pall.). The history of this specimen could not be traced, but as it was bought from a dealer, and the first known American specimen of *L. ruficollis* of course could fetch a much higher price than so common a bird as *Ereunetes pusillus* (L.), there could be no possible fraud.

Dimensions of this specimen are: wing, 102.5 mm.; tail, 43; exposed culmen, 18; tarsus, 19; middle toe with nail, 20. The shaft of the first primary does not differ in coloring from the several next ones, all being brownish near the bases and at tips, and whitish in pre-apical parts; lower throat quite unstreaked; feet, of course, not webbed, black.

This fact was recorded in my work "Limicolae of the Russian Empire" Pt. II, p. 133, Moskva, 1905.—S. A. BUTURLIN.

Additions to Grinnell's List of Birds of the San Bernardino Mountains.—*Porzana carolina*. Sora Rail. I saw one of this species which was shot by a camper at Bear Lake, June 20, 1907.

Columba fasciata. Band-tailed Pigeon. During the first half of June, 1906, I found the Wild Pigeon not rare around Mountain Home and in the Santa Ana Canyon up to about 8000 feet.

Asio wilsonianus. Long-eared Owl. I have a female of this species which I took near Bear Lake at about 7000 feet elevation, June 15, 1907.

Tyrannus verticalis. Western Kingbird. I took an adult male of this species at the east end of Bear Lake, June 24, 1907.

Baeolophus inornatus murinus. San Diego Titmouse. I saw a pair of this species feeding young near Seven Oaks, June 12, 1906.

Chondestes grammacus strigatus. Western Lark Sparrow. I found a nest of this species containing four young, on the ground near Bear Lake, June 16, 1907.

Sialia currucoides. Mountain Bluebird. This species, altho not so common as the Western Bluebird, was breeding commonly in the timber around Bear Lake in June, 1907.—G. WILLETT.

The Pectoral Sandpiper at Santa Barbara.—On the morning of September 17, 1909, I found and watcht at my leisure a single bird of this species (*Pisobia maculata*), feeding in and about some small muddy pools here at Santa Barbara. The next day it was still there, and after some time another one walkt into sight from behind a bunch of reeds. This second bird was more brightly buff on the breast than the first—a younger bird, I suppose. Number one would not allow number two to remain beside it, but chased it away as often as it approacht, sometimes on the wing, sometimes on foot. Then both birds, once more well separated, resumed their feeding. In the same place were three Northern Phalaropes, a Greater Yellow-legs, a Green Heron, a Spotted Sandpiper, and a mixt flock of Western and Least Sandpipers, all more or less pestered by a flock of Brewer Blackbirds. The Pectoral Sandpipers, feeding, bathing, and preening their feathers by turns, allowed me the closest kind of approach, in a perfect light, so that all details were abundantly seen: the greenish legs, the parti-colored bill, the black rump, and the immac-

ulate chin. It was perhaps ten years since my last sight of birds of their kind—at Ipswich, Massachusetts—and naturally I observed them with much interest. They neither bobbed nor teetered, but had a plover-like trick of half squatting, or crouching, when startled. In running, and now and then when standing still, they assumed a peculiarly erect attitude, which gave them the appearance of being, for sandpipers, uncommonly long-necked.

On September 20, three birds were present, and on the 21st and 23rd a single bird was seen.

In Mr. Grinnell's Check-List of California Birds, 1902, the status of the Pectoral Sandpiper is given as "rare migrant; known only from the record of J. G. Cooper of its occurrence at San Francisco Bay"; and Messrs. Dawson and Bowles, in their Birds of Washington, mark it as "casual during migrations."—BRADFORD TORREY.

An Albino Magpie.—The accompanying half-tone is from a photo of a remarkably fine mounted specimen of an albino Magpie (*Pica pica hudsonia*). This bird was one of two albino birds, in a brood the balance of which was normal in every respect.

The other albino bird was captured and kept in captivity by Mr. Brown of Littleton for some time. It was very wild even after being in captivity for some time, and repeated attempts to secure a satisfactory picture of the live bird failed.



Fig. 16. ALBINO MAGPIE, ONE OF TWO IN AN OTHERWISE NORMAL, BROOD, IN COLORADO

In color both birds were pure white save for a slight creamy tint which may have been due to soiled plumage. The bird photographed was mounted by Jonas Brothers, Taxidermists, of Denver.—R. B. ROCKWELL.

Notes from Sacaton, Arizona.—October 25, 1909, I noticed a flock of about 75 small birds flying above a field of grass and alfalfa. At first glance I thought they were House Finches in a fall flock, but the distance was several hundred feet and their actions were not orthodox for the finches or linnets. The flock remained in one spot too long, and other indefinite indications made me question their identity. While watching them a Cooper Hawk gave chase and secured one of the birds in mid-air. I secured a gun and went back to the field for a specimen. They allowed me to approach very near before taking flight, as close as twenty feet in some cases. While on the ground they were very hard to distinguish, as the grass clumps were about dry and the birds remained motionless when I got near them. One was at last seen distinctly, and a shot brought down that one and another near by but unseen. A peculiarity which impressed me was the fact that the whole flock did not rise at once, but as I approached close enough a few would fly at a time. As they would wheel in the air the white of the tail showed in a striking manner. Three were obtained and identified as Chestnut-collared Longspurs (*Calcarius ornatus*) in winter dress.

Last March, the 28th, a friend brought me a live Yellow Rail (*Coturnicops noveboracensis*). He had caught it out on the desert about eight miles west of Sacaton and several miles from water. As I was flat on my back suffering with erysipelas I was unable to do anything with the bird, and the man released it on the bank of a small stream.

October 29 I heard a new bird note in some cottonwoods along an irrigating ditch, and at once thought *Chickadee!* But the note was not the same and had a suggestion of Pipit about it. I heard it several days before the bird was seen, a short sight of him one day being sufficient to call him Bridled Titmouse (*Baelophus wollweberi*). For two weeks I heard the notes nearly every day but only twice was the bird seen. November 10, the song was heard in some Baccharis along a small stream and two of the birds seen. My gun was along that day and the two birds were secured and identification made sure. In a residence here of more than two years this is the first time this bird has been seen or heard, so it is not of common occurrence.

The Red-eyed Cowbird which I recorded in THE CONDOR for September, 1909, as *Tangavius aeneus involucratu*s has been submitted to Mr. Wells W. Cooke, of the Biological Survey, who pronounces it *Tangavius aeneus aeneus*, similar to the form from Western Mexico, and an addition to the A. O. U. Check-List. These birds remained around Sacaton up to the middle of August when I left for California. On my return, September 21, I looked for them, but without success.—M. FRENCH GILMAN.

Mortality Among Young Hummingbirds.—During the time that I was able to devote to field work in the spring of 1908, I found fourteen Hummingbirds' nests that I was able to keep track of. Almost all of these were near Santa Barbara, and were chiefly of the Black-chinned (*Archilochus alexandri*), with a few Allen (*Selasphorus alleni*). Of these, five either were destroyed by some unknown cause, or, as in the case of two of them, the eggs were deserted. Of the remaining nine nests, only one brood was successfully reared. In every other case did I discover the young hummers dead at an average age of four or five days. Seven of these nests were placed over the dry bed of a certain stream near Santa Barbara, so I am unable to judge whether their deaths were due only to some local cause or otherwise. The weather was good during this time, so the only solution that I can see to the problem, is that the young birds may have been fed on the dead insects gotten by their parents from flowers that had been sprayed with poison. This is only a guess of course. Has any one else discovered a large mortality among young hummers in the State during the past year or two?—A. B. HOWELL.

The True Home of the Spectacled Eider.—*Arctonetta fischeri* (Brandt) is commonly treated as a "rare American bird". Indeed the bird is rare in America, as northwestern Alaska just touches the outskirts of the true breeding range of this handsome bird.

In 1905 I spent a year in northeastern Siberia, and satisfied myself that between the months of Indigirka (about 148° E. of Greenwich) and Chauna bays (about 172° E.) *Arctonetta fischeri* is actually the commonest of all the Eiders (tho *Somateria spectabilis* is also numerous, and *Henicomettes stelleri* not rare). Farther east and west it becomes scarce, tho it attains to the mouth of the Jana, and the New Siberian Archipelago, and northwestern Alaska.—S. A. BUTURLIN.

Rodgers Fulmar in Southern California.—I have two specimens of *Fulmarus rodgersi* which I found dead on the sand near Sunset Beach, Orange County, March 1, 1908. Several others were seen at the same time in different stages of decomposition. This species is probably a regular migrant along our coast, well out at sea.—G. WILLETT.

The Scott Oriole in Los Angeles County.—This large oriole (*Icterus parisorum*) occurs as a fairly common summer visitant to the desert on the northeast side of the San Gabriel mountains. June 20 to 23, 1904, I found it common in the tree-yucca belt near Fairmont, in Antelope Valley. The orioles were then in full song and were doubtless nesting in the immediate vicinity. The song was loud and full, better than that of the Bullock Oriole. It reminded me of the best efforts of the latter bird, and yet bore a strong resemblance in its quality to the song of the Western Meadowlark. An apricot orchard near Fairmont was freely patronized by the Scott Orioles from the neighboring yuccas. Two shot there had their gullets distended and faces smeared with apricot pulp.

The Scott Oriole seems to occur only as a straggler on the Pacific slope of the County. We have so far but three records, two of occurrences in spring and one in late fall, all of male birds. Mr. H. S. Swarth saw one near Los Angeles on April 19, 1895. Mrs. Hilda Wood Grinnell procured one, original number 54, now in the Grinnell collection, shot by her brother from an olive tree at Glendora, May 6, 1904. Mr. W. B. Judson secured a specimen on November 2, 1903, near the sign-board station of Garnsey in the southern part of the San Fernando Valley. This specimen is now no. 4191 of the Swarth collection.

In view of the above instances it would not be surprising if the Scott Oriole should be found to occasionally remain all summer in some of the hot, Lower Sonoran washes along the southern base of the mountains.—J. GRINNELL.

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EDITORIAL NOTES AND NEWS

The task of the reviewer is not one that attracts the average ornithologist. We have asked a number of well-qualified persons to write reviews of current books and articles for this magazine, but we are invariably met with either outright refusal on one ground or another, or subsequent evasion. The review of all current ornithological literature, especially that pertaining to Western North America, would be a valuable feature of THE CONDOR. It would furnish to our readers an index of whatever else is being done in our field, and it would give them an estimate (at least from the standpoint of the reviewer) of the current articles outside of our own magazine. Furthermore, such recognition of their work is due all authors.

The present editors of THE CONDOR have at times in the past endeavored to present notices of all relevant publications. But we are now becoming convinced that it is impossible for us alone to adequately handle this phase of the work. Moreover, it is not to be expected that a single individual have the time or appropriate knowledge to enable him to digest and summarize (let alone critically analyze) brochures pertaining to all phases of the subject. The ideal would be for one person, who is himself working in that field, to handle the literature on life histories, another to handle systematic papers, another, paleontological, and so on. WANTED: REVIEWERS.

In connection with the foregoing we take this opportunity of calling attention to the very great value to American ornithology of the review department in *The Auk*. We who have constant need for securing information as to the gist and appraisal of articles not immediately at hand, have only to refer to our files of *The Auk*. We have come to feel assured that practically nothing has escaped notice in its review columns; and if the review notice that we are after and do find, is critical and above the initials, "J. A. A.", with what close attention is it read.

We owe the profoundest gratitude to Dr. J. A. Allen for his thirty years and more of tireless, consistent reviewing, not merely from the bibliographical standpoint, but because of the wide-reaching influence he has exerted in maintaining a balanced advance in American ornithology. How fortunate that such a facile pen, and the opportunity for reviewing, should have been backed up by the philosophical mind and the wide general knowledge. We believe we make no mistake in referring to Doctor Allen as the most powerful exponent of ornithology among Americans during the past twenty-five years. And it has been in very large measure thru his reviews that current opinion has been tempered, perhaps directed in some cases. Certain published works have appeared which were distinctly on the wrong track in their conclusions, and it devolved upon *The Auk* reviewer to give the mass of more or less amateur ornithologists the cue. Only one abreast of and ahead of, the times, could serve in such a capacity, without proving a hindrance rather than an incentive to progress. To Dr. J. A. Allen we owe a very great deal. No small proportion of his service lies in those thirty years of reviews.

We confess that we may be rightly accused of editorial inconsistency in this issue. But we beg to offer the excuse that said inconsistency is the result of the granting of the special request, by the author of the article in question, that old-fashioned usage in the matter of possessives and spelling be retained. From the editorial standpoint it is, of course, desirable that authors conform to our custom in all regards. The general appearance of our magazine demands this, too.

The Southern Division of the Cooper Club has decided that hereafter their monthly meetings be held regularly (excepting during June, July and August) on the last Thursday evening of each month, in room 1 of the City Hall, Los Angeles. This will make it possible for distant members who might find it convenient to attend, to know far in advance when and where to expect to find the club in session.

Mr. John Rowley has recently been appointed Curator of Mammals in the California Academy of Sciences. His work will lie chiefly in the preparation of habitat groups of large mammals, this to be the main feature of the exhibit to be installed in the new building for which plans are drawn up. Mr. Rowley will also begin the accumulation of material towards the formation of a research collection of mammals.

We are pleased to announce the addition of a new name to the list of active bird men resident in California. Mr. J. H. Bowles, late of Tacoma, Washington, has removed to Santa Barbara, which he will make his home. As a result of his bird work in the vicinity we may expect some ornithology along new lines, at least for that region. Mr. Bowles is an intensive student of life histories, and an accurate and vivid writer.

PUBLICATIONS REVIEWED

A second new fossil bird from the asphalt beds near Los Angeles is described by Mr. LOVE HOLMES MILLER in a paper entitled *TERATORNIS A NEW AVIAN GENUS FROM RANCHO LA BREA*.^{*} The species is, of course, new, as well as the genus and is called *Teratornis merriami*, in honor of Professor John C. Merriam of the University of California, thru whose efforts the Rancho la Brea fossil beds have been brought to the attention of paleontologists.

The description is based on coracoids, sternum, and nearly complete skull. The fragments so far secured represent at least four individuals. The bird is related to the Birds of Prey, and was of immense size, much greater than any existing flying bird. It is found difficult to assign the new form to any existing family, tho vulture-like characters predominate. Since the limb bones and feet are still unknown final conclusions as to relationship are postponed; yet it appears probable that a new family will have to be established for it. This discovery is in the greatest degree of importance and interest, probably more so than any previous one among fossil birds for two decades.

In the same paper there is also described a new species of vulture, larger than the Turkey Buzzard, closely related to the Black Vulture of the South Atlantic States. This is called *Catharista occidentalis*. As Mr. Miller's work on the fossil birds of the Rancho la Brea beds continue, we may expect further discoveries of extreme interest in the light that they shed on the history of the avifauna of southern California.—J. G.

THE HABITAT GROUPS OF NORTH AMERICAN BIRDS IN THE AMERICAN MUSEUM OF NATURAL HISTORY. By FRANK M. CHAPMAN, Curator of Ornithology. (= Guide Leaflet Series, no. 28, New York, February, 1909, pp. 1-48).

As indicated in the title, this is an explanatory manual of the beautiful series of habitat groups of North American birds now on exhibition in the American Museum. Each one is figured, and to nearly every one about a page of text is devoted, explaining the figures in the group, and the mode of life of the species treated. A map indicates the localities represented—"From the Bahamas to the Gulf of St.

Lawrence, from the Atlantic to the Pacific"—and each group, we are told "is the result of a special Museum expedition in charge of the Curator of Ornithology." The subjects are well chosen, and, judging from the illustrations, the work is magnificently carried out. He is indeed a fortunate man who can bring an undertaking such as this to a successful conclusion.—H. S. S.

Mr. ERNEST ADAMS has recently published a local list of decided interest to Californians entitled *LAND BIRDS OF PLACER COUNTY* (= Placer County Institute Research, October 12, 1909, pp. 27-46).

In this paper 158 species are formally mentioned, and brief notes are given as to relative abundance, seasonal occurrence, and local distribution. Of particular interest to the reviewer is the record of two Cedar Waxwings in the County as late as June 19. The author does not, however, give his opinion as to whether or not this may indicate the nesting of the species in the region. It seems probable, in our mind, that it is merely a late date of departure. Another record of note is that of the Phainopepla, on September 8.

The list is a large one, for the land birds of a single county; but it must be remembered that Placer County includes a transection of the Sierra Nevada from the western lowlands to Lake Tahoe. All of the life zones with their characteristic species, are thus represented in the County.

Lists, of the nature of the present one, are always of value locally. School teachers and others interested in an amateur way will find Mr. Adams' list of decided aid. And further, those more advanced bird students interested in general distribution will find in this paper much data of value.—J. G.

THE BIRDS OF NEW JERSEY. By WITMER STONE, Curator, Academy of Natural Sciences, of Philadelphia. (= Annual Report of the New Jersey State Museum, Part II, Trenton, N. J., 1909, pp. 11-348, pll. 1-84). The object of the present report is "to present keys and descriptions that will enable anyone to identify birds that he may see, to give a brief sketch of the more characteristic habits of the common species, and at the same time to include such facts and records on the distribution of all species as will make the report a thoroughly up-to-date list of the birds of the State." All this it appears to do, clearly and concisely, while the author's name is sufficient guarantee of the care and accuracy with which the work is carried out. There are chapters on the destruction and protection of birds, and on distribution and migration, while the report closes with a bibliography of the principal books and papers treating of New

^{*}Univ. Calif. Publ. Geology V, pp. 305-317, figs. 1-11; issued Sept. 10, 1909.

Jersey ornithology, and also with a glossary of the technical terms used. The numerous plates are taken from a variety of sources, mostly from the works of Audubon or Wilson, tho there are some photographs of museum specimens, and many drawings by Fuertes and Horsfall, which, however, have already appeared elsewhere. Typographically the work appears to be excellent, so much so that the curious blunder by which the name *Vermivora leucobronchialis* is attached to two species on the same page (Brewster Warbler and Lawrence Warbler), strikes one with additional force.—H. S. S.

THE BIRDS OF THE LEEWARD ISLANDS, CARIBBEAN SEA, by CHARLES B. CORY, Curator of Department of Zoology (=Field Museum of Natural History, Publication No. 137. Ornithological Series, Vol. 1, No. 5, pp. 193-255, 1 plate (map), Chicago, October, 1909). Tho based primarily upon collections of birds made for the Field Museum by Dr. N. Dearborn and Mr. John F. Ferry, in 1908 and 1909, this report may be taken as a summary of all ornithological work done upon the Leeward Islands up to the present time. Each of the eleven islands, or groups of islands, is treated separately, and in each case the list of birds is preceded by a bibliography of the ornithological literature pertaining to the place; while thruout the paper pertinent comment is made upon the results attained by previous workers in the field, as compared with the collection in hand. No less than eight new species and sub-species are described—*Coereba lowii* and *Dendroica ruficapilla obscura* from Los Roques Islands, *Conurus aeruginosus tortugensis*, *Tiaris tortugensis*, and *Coereba ferryi* from Tortuga, *Holoquiscalus orquillensis* from Los Hermanos, and *Conurus neovenus* and *Platycichla venezuelensis atra* from Margarita.—H. S. S.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

SEPTEMBER.—The September meeting of the Northern Division of the Club was held in the lecture room of the Museum of Vertebrate Zoology on the evening of September 30, with the following members present:

J. Grinnell, R. Wheeler, W. F. Sampson, W. B. Sampson, H. F. Duprey, M. S. Ray, H. S. Swarth, W. P. Taylor, O. Heinemann, H. W. Carriger, E. W. Gifford, Joseph Dixon, and Miss Alexander, while Miss Kellogg, and Mr. Storer were present as visitors.

The meeting was called to order at 8:30 with Vice-President W. P. Taylor in the chair. Minutes of the previous meeting were read and approved as read. The application of J. Claire Wood, Detroit, Mich., proposed by Mr. Grin-

nell, was presented and laid over till our next meeting. On motion duly carried the Secretary was instructed to cast the unanimous ballot of those present electing to active membership those whose names were presented at our last meeting. Mr. Emerson's report which was presented at the last meeting was again laid over for one meeting. A report from Mr. Lee Chambers who was a committee of one to finance the publishing of Avifauna no. 5 was read, and on motion the same was accepted. The Secretary was instructed to write Mr. Chambers thanking him on behalf of the Club for the excellent work done in securing the necessary funds for publishing this Avifauna.

Mr. H. S. Swarth gave a very interesting talk about his recent trip to southeastern Alaska. By means of a launch he was able to visit many of the islands of the coast, and a good collection of birds and mammals was secured. The scarcity of birds in certain sections of the country was very noticeable. The islands are all heavily wooded and as they rise abruptly from the water, traveling was at times very difficult. A curious Indian legend relative to the hooting of the Sooty Grouse was related by Mr. Swarth. The Indians believe that the Raven is the lord of all the birds, and also that at one time both the Sooty and Spruce Grouse hooted, thus making a great noise in the woods. The Raven did not fancy so much noise so he forbade the Spruce Grouse to do any hooting and it has forever since remained silent.

Mr. M. S. Ray presented a paper on "A Defense of Oology" (see this issue of the CONDOR, page 19) and the same was discussed by those present. Adjourned.

H. W. CARRIGER, *Secretary*

SOUTHERN DIVISION

FEBRUARY.—The February meeting was called to order by President Morcom at the City Hall, Los Angeles, Thursday evening, February 25, 1909, with members John Lewis Childs, H. J. Lelande, George Willett, W. Lee Chambers, O. W. Howard, Howard Robertson, P. I. Osburn, Chester Lamb, V. W. Owen, Willard Chamberlain, Howard Wright and J. E. Law present.

The minutes of the last meeting, Jan. 28, 1909, were read and approved. The following applications for membership were presented: J. A. Munk, Los Angeles, proposed by W. Lee Chambers; Lawrence Huey, San Diego, proposed by F. Stephens; Miss Elizabeth Day Palmer, Los Angeles, proposed by W. Lee Chambers; D. I. Shepardson, Los Angeles, proposed by O. W. Howard; and R. M. Perez, Los Angeles, proposed by O. W. Howard.

The resignations of Mr. C. L. Newcombe and

Mr. C. F. Palmer were accepted, and Mr. A. F. Roberts was elected to active membership. The chair was instructed to appoint a committee of three to investigate a plan of extension of the scope of the Club and the CONDOR, so that an eastern membership would be a feature. The chair appointed, on the suggestion of Mr. Robertson, Messrs. Morcom, Law and Chambers.

Four papers were read, which have subsequently appeared in the CONDOR. Adjourned.
J. E. LAW, *Secretary*.

MARCH.—The March meeting was called to order by President Morcom at the City Hall, Los Angeles, Thursday evening, March 25, 1909, with members O. W. Howard, H. J. Lelande, E. H. Skinner (of the Northern Division), Chester Lamb, Howard Robertson, L. A. Test, W. L. Chambers, P. I. Osburn, Alphonse and Antonin Jay, Willard Chamberlain, V. W. Owen, A. F. Roberts and Prof. L. H. Miller present. Mr. H. Robertson was appointed Secretary pro tem.

The minutes of the last meeting Feb. 25, 1909, were read and approved. Miss Elizabeth Day Palmer, Los Angeles, and Messrs. J. A. Munk, Los Angeles, Lawrence Huey, San Diego, D. I. Shepardson, Los Angeles, and R. M. Perez, Los Angeles, were elected to active membership.

A paper by Isaac Motes of Kansas City, Mo., "In Defense of the English Sparrow" was read and discussed.

HOWARD ROBERTSON, *Sec'y, pro tem*.

APRIL.—The April meeting was called to order by President Morcom at the City Hall, Los Angeles, Thursday evening, May 9, 1909, with members, H. J. Lelande, O. W. Howard, W. Lee Chambers, H. Robertson, Alphonse Jay, W. Chamberlain and J. E. Law present. The minutes of the last meeting, Mar. 25, 1909, were read and approved, the resignation of Mr. Carroll Scott of San Diego was accepted with regret, and, on motion by Mr. Robertson, seconded by Mr. Chambers and carried unanimously, Dr. C. Hart Merriam was elected to honorary membership in the club, subject to approval of the northern division. Adjourned.

J. EUGENE LAW, *Secretary*.

MAY.—The May meeting was called to order by President Morcom at the City Hall, Los Angeles, Thursday evening, May 27, 1909, with members H. J. Lelande, George Willett, O. W. Howard, C. B. Linton, Willard Chamberlain, Howard Robertson, Evan Davis, Otto J. Zahn, Alphonse and Antonin Jay present. The minutes of the last meeting, May 6, 1909, were read and approved. The balance of the evening was spent in general discussion. Adjourned.

HOWARD ROBERTSON, *Sec'y, pro tem*.

OUTING MEETING.—The annual outing meeting of the Southern Division was called to order by Vice-President Harry J. Lelande on July 7, 1909, on board the good ship Flyer somewhere between Santa Barbara and San Nicolas islands, with the following members present: O. W. Howard, W. B. Judson, A. P. Howard, H. J. Lelande, C. B. Linton, Otto J. Zahn, Antonin Jay, Chester Lamb and Howard Robertson; also the following as visitors: C. A. Caldwell, H. A. Gaylord, H. F. Hossick, Emerson Knight, H. Linton, H. N. Lowe, W. S. McQuilling, Capt. Graves, Mate Grannis, and Cook Vic.

Secretary Law being absent Howard Robertson was elected Secretary pro tem.

Mr. C. B. Linton proposed the names of Herbert N. Low and W. S. McQuilling, and O. W. Howard proposed the name of H. A. Gaylord for membership.

The party left Long Beach on Friday evening, July 2, for a three days' trip to Santa Barbara and San Nicolas islands. Santa Barbara Island was first visited, the party arriving early Saturday morning; and most of the day was spent on the island where the gull and auklet colonies were examined. Many young of the Western Gull were seen running about the nesting colonies. None of the young observed were able to fly, but all used their legs to good advantage. Two nests of the Western Gull, containing two eggs each, were found but as they appeared to be badly incubated they were not molested. A nest and four eggs of the Island Horned Lark was taken by Mr. Antonin Jay and Mr. Lelande reported finding the San Clemente House Finch breeding.

Leaving Santa Barbara Island about 3 p. m. the trip was made to San Nicolas Island, reaching the sand spit at the southeast end of the island about 8 p. m. Sunday, July 4, was spent on the island by most of the party, some of whom walked around the island and examined the Cormorant rookeries and the Indian burial grounds. On returning to the landing it was found that the sea was so rough that it would be impossible to land a skiff, so all hands turned to and collected firewood, and were soon comfortable with a roaring fire in one of the caves above the tide line. A hearty repast was made from one five cent package of chewing gum, and while a more substantial meal would have been appreciated by the 11 left on shore, no one complained of the lack of food; but all were unanimous in their desire for drinking water. However, no one suffered, all taking it good naturedly as tho it was part of the days' work. Monday morning, the wind having gone down, the skiff was landed easily and we reached the launch with little trouble. After a hearty breakfast, much enjoyed by all, Mr. Linton and O. W. Howard returned to shore

to find Linton's father who was camping at Northwest Harbor. We expected this would take but a short time, but, as it developed, it took all day, and as the wind again blew as strong as the day before, they were compelled to stay all night on shore.

On Tuesday, July 6, after picking up Linton and Howard we started for Northwest Harbor and there found Linton, Sr., and, after taking him aboard, started for Long Beach, which was reached about 10 p. m.

Many birds were found on both islands. On Santa Barbara Island several nesting colonies were visited of both Western Gull and Cassin Auklet, while on San Nicolas Island many gulls and cormorants were found, but no auklet burrows were discovered. A large number of Island Horned Larks, San Clemente House Finches, and a song sparrow of some species were noted on both islands.

Eighteen species of birds were seen on Santa Barbara Island, and fourteen on San Nicolas, besides six additional species observed at sea.

HOWARD ROBERTSON, *Sec'y, pro tem.*

SEPTEMBER.—An informal meeting of the Cooper Ornithological Club was called to order by Vice-President Lelande in the Clerk's Office, City Hall, Los Angeles, Thursday evening, Sept. 2, 1909, with members Evan Davis, Wm. B. Judson, Pingree I. Osburn, Chester C. Lamb, Howard Robertson, Prof. Loye Holmes Miller, H. J. Lelande, Ozra W. Howard, Antonin Jay, Alphonse Jay, W. Lee Chambers, Geo. Willett, and J. E. Law present, and, as a guest, Dr. A. K. Fisher, who is in charge of the Economic Investigations of the Bureau of Biological Survey, United States Department of Agriculture.

The evening was spent in an informal talk by Dr. Fisher, outlining his work. Interesting data was given in regard to extensive experiments for extermination of destructive rodents. Interesting data concerning bird destruction has accumulated from the entire world 225,000 bird skins in 55 years. Careful data indicates that in one storm more than 2,000,000 birds were destroyed in an area of 20 miles, and yet subsequent years showed no apparent decrease in the number of individuals of the species killed in this area. Some years ago, the Bluebird was almost exterminated in the eastern states by severe weather. In a few years the Bluebird was as abundant as ever. Statistics prove that the domestic cat destroys more birds than all natural enemies combined. These statistics bear directly on the tendency to-day of so restricting ornithologists that intelligent research is almost prohibited. The 5,000 or 10,000 birds accumulated in a life-time by the average sincere ornithologist can make no impression whatever on the bird population. It

seems only reasonable that ornithologists be protected in their collecting privileges. Adjourned.

J. EUGENE LAW, *Secretary.*

SEPTEMBER.—The September meeting was called to order by President Morcom, with members W. Lee Chambers, Will Judson, Dr. J. A. Munk, Howard Robertson, Prof. Loye Holmes Miller, Otto Zahn, Antonin Jay, Chester Lamb, Willard Chamberlain, Pingree I. Osburn and J. E. Law present.

The minutes of the June outing meeting were read and approved, and Messrs. Low, McQuilling and Gaylord proposed at the June meeting were elected to active membership.

Applications for membership were presented as follows: Merrill W. Blain, Tropic, Cal., by W. Lee Chambers; Chas. Camp, Sierra Madre, Cal., by J. Grinnell; Lawrence Peyton, Sespe, Cal., by W. Lee Chambers; Adriaan Van Rossem, Pasadena, Cal., by J. Grinnell.

The resignation of Mrs. Mary G. Donnelly was accepted with regret on motion by Mr. Miller. Mr. W. Lee Chambers read his report as committee for raising of funds for Avifauna No. 5, and on motion by Mr. Robertson, seconded by Mr. Chamberlain, the report was accepted, and ordered spread upon the minutes.

Six hundred copies of Avifauna No. 5 were printed, at a total cost of \$431.40, as follows: Nace Printing Co. \$364.20; ½ mailing envelopes \$7.00; 1 M stamped envelopes \$21.12; Postage \$33.58; 1 M letterheads \$5.50; total, \$431.40. Total amount subscribed, \$451.00; balance on hand \$19.60, turned into CONDOR fund.

Avifaunas nos. 5 and 6 were mailed together, thus making the postage item higher by about seven dollars than it would otherwise have been. This amount should have come out of the Avifauna no. 6 fund.

In closing Mr. Chambers thank the Club members, and some others who are not members, for the liberal manner in which they assisted in the publication of this, the largest single work that the Club has yet attempted. Three papers were read by the secretary.

J. E. LAW, *Secretary.*

OCTOBER.—The October meeting of the Southern Division of the Cooper Club was held on Thursday evening, October 28, 1909, at Room 1, City Hall. The meeting was called to order by President Morcom, with the following members present: Messrs. Morcom, Lelande, Alphonse Jay, Antonin Jay, Zahn, Lamb, Miller, Judson, Chambers, Robertson, and Lawrence Peyton; and with Mr. H. J. Kofahl present as a visitor.

In the absence of Secretary Law, Howard Robertson was elected Secretary pro tem.

The minutes of the September meeting were read and approved, and Messrs. Blain, Camp,

Peyton and Van Rossem, proposed at the September meeting, were elected to active membership. The following names were proposed for membership: Mr. H. J. Kofahl, Hollywood, Calif., by Mr. W. Lee Chambers; Dr. W. L. Holt, Banning, Calif., and Mr. W. W. Brown, Jr., San Diego, Calif., by Mr. J. Grinnell; and Mr. U. S. Grant, Jr., (4th), San Diego, Calif., by Chapman Grant.

On motion of Mr. Chambers, seconded by Mr. Lelande, the following motion was unanimously adopted: That future meetings of the Southern Division be held on the last Thursday of each month (excepting the months of June, July and August when no meetings shall be held), at Room 1 of the City Hall at Los Angeles, and a notice thereof be published in the CONDOR.

Mr. Chambers discuss the question of obtaining permits from the State Board of Fish Commissioners for the collecting of specimens for scientific purposes; and on motion of Mr. Miller, seconded by Mr. Lelande, and duly adopted, the President was authorized to appoint a committee of three to confer with the Fish Commissioners, or their representatives, at Los Angeles, with relation to the granting of such permits. The President appointed Messrs. Robertson, Chambers and Lelande as such committee. Four papers were read. Adjourned.

HOWARD ROBERTSON, *Secretary, pro tem.*

NOVEMBER.—The November meeting of the Southern Division of the Cooper Club was held on Thursday evening, December 2, 1909, at Room 1, City Hall. The meeting was called to order by President Morcom, with the following members present: Messrs. Lelande, Howard, Miller, Robertson, Willett, Antonin Jay, Alphonse Jay, Wright, Van Rossem, Shephardson, Perez, and Law.

The minutes of the October meeting were read and approved, and Messrs. Kofahl, W. L. Holt, W. W. Brown and U. S. Grant, Jr., 4th, were elected to active membership. Adjourned.

J. EUGENE LAW, *Secretary.*

DECEMBER.—The December meeting of the Southern Division of the Cooper Ornithological Club was held on Thursday evening, December 30, 1909, at Room 1, City Hall. The meeting was called to order by President Morcom, with the following members present: Messrs. A. M. Ingersoll, A. B. Howell, R. M. Barnes, Evan Davis, Judson, Shephardson, Perez, Blain, Wright, Owen, Robertson, Lelande, Willett, Chambers, Antonin Jay, Alphonse Jay, and Law; and as visitor, Mr. F. H. Stith. The minutes of the November meeting were read and approved. The name of Allyn G. Smith, Redlands, California, was proposed for membership by Mr. Chambers.

On motion by Mr. Willett, seconded by Mr. Lelande, and duly carried, the resignation of Wm. A. Bryan, of Honolulu, H. I., was accepted with regret.

The Club then proceeded to nominate officers for 1910, and nominations were made, as follows: President, G. Fream Morcom, proposed by Mr. Robertson; Vice-President, H. J. Lelande, proposed by Mr. Willett; Secretary, J. E. Law, proposed by Mr. Shephardson; Treasurer, W. L. Chambers, proposed by Mr. Willett.

The committee appointed to interview the Game Warden with regard to permits for club members reported that the attitude of the Board of Fish Commissioners is reasonably liberal, and that those who want permits for the serious purpose of bird study, will have little trouble in obtaining them. The Board of Fish Commissioners, however, will not countenance any abuses of the permits, and asks that the Club co-operate in minimizing bird slaughter. On motion made by Mr. Robertson, seconded by Mr. Lelande, and duly carried, the Secretary was instructed to write Mr. Grinnell concerning progress on the Los Angeles County list; and to see if Mr. Grinnell cannot in the very near future get the manuscript ready for publication as an Avifauna. The Southern Division feels confident that it will be able to finance such a publication thru private subscription.

Two papers were read by the Secretary, one written by Mr. J. W. Preston—"Notes on the Northwestern Crossbill"; and the other by Mr. J. Grinnell—"A new Cowbird of the Genus *Molothrus*." Mr. R. Magoon Barnes, one of our Eastern members, of Lacon, Ill., gave a short talk of decided interest to the members, dwelling particularly on his aviary of wild ducks. The members plied Mr. Barnes with questions, and he very good-naturedly answered them all.

Mr. Barnes has succeeded in raising a large number of wild ducks from the eggs; and, in keeping them in confinement, he finds the Wood-duck easiest, but Mallard, Black Mallard and all pond-ducks readily adjust themselves to domestic conditions, and become very tame. He has also raised the Wild Geese, and finds them all fairly sensible, excepting the Canada Geese, which, he says, have not sense enough to go under shelter even when the thermometer is 20 degrees below zero. He says they seem to pick the coldest, windiest spot they can find, and just stay there. No artificial heat is required until the thermometer goes beyond 10 degrees below zero; and in the very cold weather, that is when more than 20 degrees below, the ducks are not allowed to go into water. Dampness seems to be a great deal more fatal than cold. Adjourned.—J. E. LAW, *Secretary.*

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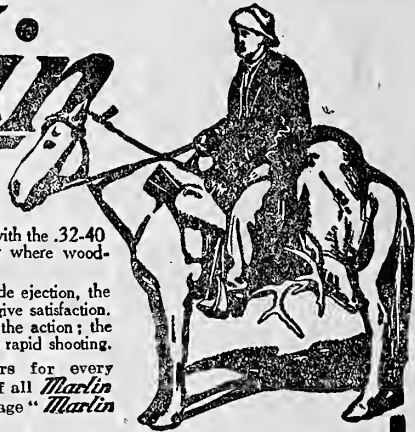
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THE CONDOR

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March-April, 1910

Number 2



W.W.F.

COOPER ORNITHOLOGICAL CLUB

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National Museum

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THE EFFECT OF NATURAL ENEMIES ON THE NESTING HABITS OF SOME BRITISH HONDURAS BIRDS

By MORTON E. PECK

WITH FOUR PHOTOS BY THE AUTHOR

DURING some two years of scientific investigation in British Honduras, the writer had occasion to study somewhat the nesting habits of the birds of that region, and was strongly impressed as any observer might well be, by the great variety and ingenuity of the devices employed evidently to baffle the attacks of natural enemies. Considering the great abundance of food, the absence of destructive storms, and other obviously favorable conditions, we might expect the birds of that section to be correspondingly plentiful; nevertheless, while species are sufficiently numerous, individuals are much less so than in most temperate regions where the numbers have not diminished thru the operation of artificial agencies. Taking these facts into account, we must conclude that enemies are far more abundant and destructive in the tropics than in higher latitudes, and that the struggle for existence is even sharper, tho of a somewhat different nature. Let us consider the subject more in detail.

It would be but a moderate estimate to say that thru two seasons of observation by the writer one-half of the nests found while being built were robbed by natural enemies before the incubation period was half over. These enemies may be divided into four classes: first, predatory birds, which comprise a comparatively large proportion of the avian fauna; second, reptiles, of which species and individuals are extremely numerous; third, small mammals, of perhaps a dozen species; fourth, insects, especially several species of ants. These four classes differ greatly in degree of importance, the reptiles—snakes and lizards—being probably the most destructive.

As regards their structure and location, the nests of birds may be placed under four groups as follows: First, open above and supported from beneath, on the ground, in grass-tufts, bushes or trees; second, in cavities of trees, rocks or banks; third, open above and pendant from a horizontal branch or leaf tip; fourth, roofed

over, that is, entered by a hole at the side, either on the ground, on a horizontal branch, in an upright fork, or pendant from some support. The first group is the simplest in form, the last most highly specialized.

For the sake of illustration we may compare the nests of the birds breeding in one of our more northerly states—Iowa will do as well as any, as presenting about an average set of conditions—with those of British Honduras birds, so far as the latter are known, making the comparison in accordance with the above classification. Placing it in tabular form, and letting the numbers express the per cent of the total number of species whose nests fall within each group, we have the following:

LOCATION	Nests open above supported from below	Nests in cavities	Nests open above, pendant	Nests with side entrance
Iowa	69	20	6	5
British Honduras	54	28	7	11

These per cents, it is true, are not exact, as the nesting habits of a considerable number of British Honduras birds are totally unknown. It is doubtful, however, if a knowledge of the life history of all would materially affect the proportions given.

If now we leave out of account the nests of Raptorial, Gallinaceous and Anserine birds, the Herons and a few other large forms whose size, warlike disposition or nidifugous habit place them largely out of danger of such enemies as smaller and weaker species must provide against, we obtain still more suggestive results:

LOCATION	Nests open above supported from below	Nests in cavities	Nests open above, pendant	Nests with side entrance
Iowa	65	21	8	6
British Honduras	43	32	10	15

It is evident that nests of the first type, tho the most numerous, are more exposed to danger from enemies than any of the others; therefore, the much smaller proportion of nests of this form in the tropics than in temperate regions doubtless indicate that the abundance of these enemies has brought about numerous instances of modification of what is plainly the most primitive type of nest.

Protective adaptations in nests of the first class are numerous among British Honduras birds, as they are also among ours, and in many cases there is strong similarity; this class, therefore, calls for little comment. The following may be noted: the nests of many flycatchers and hummingbirds are covered with lichens in imitation of the branches on which they rest; those of certain tanagers are made to resemble masses of green moss; the curious Manikin *Scotothorus verraepacis* builds a nest that closely resembles a small mass of half-decayed leaves lodged in a tussock of sedge; the large Rail, *Aramides albiventris*, builds a loose nest of shreds of palmetto leaves and coarse sedges, and places it on a low branch over a stream, so that it can hardly be distinguished from a quantity of such material left there by a freshet; and many more examples might be given.

Several birds that build nests of the ordinary type frequently choose a situation that is inaccessible to reptiles and small mammals. For example, the two tanagers, *Phoenicotherapsis salvini* and *Eucometis spodocephala*, and the grosbeak, *Cyanocompsa conercta*, favor certain small palms which are densely clothed with long, slender, needle-like spines.

Nothing need be said in regard to nests placed in cavities, either natural or

excavated by the birds, except in those curious instances where the nest of a species of termite or "white ant" is used for this purpose. These nests are conical to nearly spherical in form, and from a few inches in diameter to the size of a barrel. They are commonly built on large branches some distance from the ground. In these structures, which are composed mainly of fine particles of wood cemented together to form the walls of small, intricately winding passages, the two trogons, *T. massaena* and *T. melanoccephalus*, excavate holes for their nests. The hole is begun near the bottom and leads upward to about the center of the cone, where it expands into a large chamber. The birds are absolutely dependent on the insects for their nesting sites, which are remarkably safe from the attack of enemies. Without some such fortunate means of securing a rapid increase it is difficult to see how birds so feeble and of such low intelligence as these trogons could long survive. The nest of the same species of termite also furnishes homes occasionally for certain parrots and apparently always the Paroquet, *Conurus aztec*, tho these species excavate from the top instead of the bottom of the nest, and it is doubtful whether they do not sometimes occupy holes made in the termite's nests by other animals.

Most nests of the third type, such as those of the *Virconidae* and species of *Icterus*, require no special mention. Tho not precisely of this type, we may place here the wonderful nests of the Oropendolas, *Gymnostinops* and allied genera. Perhaps no birds' nests of tropical America are better known than these; it is, therefore, sufficient to say that probably they are absolutely untroubled by enemies if we except the parasitic Rice Grackle, *Cassidix*.

Manikins of the genera *Manacus* and *Pipra* make small, shallow nests of extremely slight structure, and in the case of *P. mentalis* several dry leaves are hung loosely on the outside, which serves as a very effectual disguise. In both instances the nest is usually suspended near the end of a long, slender branch, inaccessible to most reptiles.

Two hummingbirds of the genus *Phaethornis* suspend their nest from the

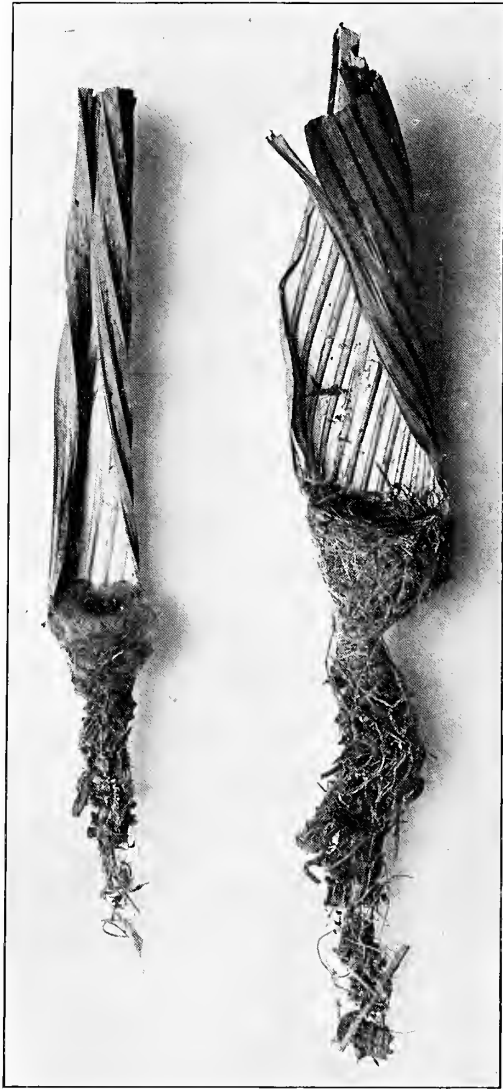


Fig. 17. NESTS OF HUMMINGBIRDS, *PHAETHORNIS ADOLPHI* ON THE LEFT, AND *P. LONGIROSTRIS* ON THE RIGHT

under side of a drooping palm leaf near the tip of one of the terminal pinnules. These are somewhat concave, so that the nest is attached by about one-half its circumference along one side, the other side remaining free. In such a position even the nimblest lizard would find it very difficult to reach; yet a further precaution is taken by attaching to the bottom of the delicate structure, by means of spider webs, shreds of coarse bark, dry leaves, bits of rotten wood, etc., so that the



Fig. 18. NESTS OF TROPICAL FLYCATCHERS, *RHYNCHOCYCLUS CINEREICEPS* ON THE LEFT, AND *TODIROSTRUM CINEREUM* ON THE RIGHT

whole nest is sometimes more than half a foot long, and closely resembles a bit of loose rubbish caught on the end of the leaf. (See Fig. 17.)

It is in nests of the fourth class that we find the most striking examples of protective adaptation, and these for the most part in the great family of *Tyrannidae*.

The nest of the splendid Royal Flycatcher, *Onychorhynchus*, is no less remarkable than the bird. It is a fusiform structure, sometimes two feet in length suspended by the top from a long drooping branch or trailing liana, usually over a

stream, from four to fifteen feet from the water. The greatest diameter is a little below the middle, and at this point the cavity is situated, which is entered by a small hole. The nest is composed of coarse fibrous material and covered over the outside with dry leaves, leaf stems, and large twigs, some of the last a foot or more in length. The whole affair in almost every detail so closely resembles a small mass of debris left by a retreating flood, as to deceive the keenest enemy. Furthermore, the location assists greatly in the disguise, the nest appearing to be but one among thousands of such masses entangled in the vegetation overhanging the stream. Add to this the difficulty any reptile or mammal would experience in reaching it, even were its nature known, and we have a most striking example of protective adaptation.

Todirostrum cinereum and some other *Tyrannidae* make nests of precisely the same style as that of *Onychorhynchus*.

That of *T. cinereum* is much less frequently built over a stream and is composed of finer material, often with so much cottony substance interwoven as to give it the appearance of a colony of "tent-caterpillars." (See Fig. 18.)

The nests of two other small flycatchers, *Todirostrum schistaceiceps* and *Oncostoma cinereigulare*, are also suspended by the top from small branches and entered by a hole at the side, but are somewhat pear-shaped. They are built but two or three feet from the ground, and if they are as inconspicuous to the reptilian as to the human observer, they are comparatively safe. (See Fig. 19.)

Rhynchocyclus is a genus of small flycatchers of obscure coloring and ordinary habits, noteworthy only for their curious nests, which are perhaps among the most remarkable examples of protective adaptation known. The nest of *R. cinereiceps* is built from ten to thirty feet above the ground, or water, as it frequently overhangs a stream. In shape it resembles an old shoe, or rather moccasin, suspended by the top with the entrance at the toe, and a narrow passage leading over the instep to the heel, where the main cavity is situated. It is composed of some kind of aerial roots—long, fine black fibers resembling horse hair. It usually hangs from a long, slender branch of one of those myrmecophilous acacias, whose stout double spines are hollow and inhabited by ants. The thorns are very numerous and the ants are extremely irritable and armed with formidable stings, equal in effectiveness to that of the bumble bee. The thorns alone would make the ascent of the tree by an animal of any size very difficult, but the presence of the ants renders it absolutely impossible. But this is not all. A species of hornet frequently makes its nest, a large conical or oval structure, in the same tree, and



Fig. 19. NEST OF THE SLATE-HEADED TODY FLY-CATCHER, *TODIROSTRUM SCHISTACEICEPS*

the nest of the bird and that of the insects may often be found within three or four feet of each other. The protection, however, is not always so complete. A curious variation of the situation occurs when a tree with leaves closely resembling those of the acacia is selected, and the nest is placed beside that of a species of ant, which at first sight would probably be mistaken for a hornet's nest, so similar are the two in appearance. (See Fig. 18.)

The nest of the Beardless Flycatcher, *Camptostoma imberbe*, is built in a small species of palmetto, in the upper angle formed by the juncture of a leaf-stem with the trunk. The trunk is very shaggy with the frayed margins of the fibrous sheaths, and the nest can be reached without difficulty by any climbing animal. The danger from such enemies, however, is greatly reduced by the structure and material of the nest. Except for the soft cottony lining it is composed entirely of fibers obtained from the trunk of the palm, which are deftly interwoven with those fringing the sheaths, so that one might easily mistake the whole structure for a mere tangled tuft of loosened fibers. The small hole at the side by which the cavity is entered is turned directly away from the trunk and would not be likely to attract the notice of any reptile climbing it.

Many other instances might be cited of similar adaptations in nests of this class, as in the case of the wood wrens, *Pheugopedius*, the Passerine genus *Arremon*, the Cotongine genus *Pachyramphus*, a small Rail, *Creciscus ruber*, etc. but further illustrations are unnecessary.

Most of the protective adaptations thus far considered are characteristic of species inhabiting forests or dense thickets, where the principal enemies to be guarded against are reptiles or small mammals. In the more open sections of British Honduras, known as pine ridges—flat, grassy tracts with a scant sprinkling of low pines—the case is quite different. Here the chief enemies are jays, especially *Psilorhinus*, hawks and probably vultures. Several of the common species inhabiting these localities have adopted a means of protection eminently suited to their circumstances. In studying the nesting habits of the bird fauna of the pine ridges, one of the first phenomena noticed is the tendency of several species to nest in close proximity to each other. The colonies thus established are composed of widely separated forms, mostly tanagers and flycatchers, which may be found nesting peacefully within a few yards of each other. If a number of the colonies are examined it will invariably be found that the nests of the other species are grouped about that of the splendid Derby Flycatcher, *Pitangus*. This bird is one of the most powerful and warlike, as it is one of the handsomest of the great Tyrannine group. It is never known, however, to molest weaker species, permitting them to make their nests undisturbed within a few yards of its own.

Doubtless the courage and "magnanimity" of this species have caused it to become the unconscious protector of its weaker neighbors. The most common of these are the two tanagers, *Tanagra abbas* and *T. cana* and the flycatchers, *Myiozetetes similis*, *Legatus albicollis*, *Elaenia martinica subpagana*, and even the large but weak and sluggish *Megarynchus*. It is worthy of note that those forms that gather about *Pitangus* to nest are such as would be most likely to become the victims of hawks, jays, etc., both on account of their weakness and the exposure and conspicuousness of their nests. Many of the common pine ridge forms, for example, *Tyrannus melancholicus*, and species of *Myiarchus*, do not regularly associate themselves with these little communities, for the obvious reason that a strong and pugnacious species like *T. melancholicus* is amply able to defend its own, while those that nest in cavities of trees, like *Myiarchus* are beyond the reach of most of the common enemies. Whenever the location of one of these

colonies permits of such a choice, *Myiozetetes* and *Legatus* invariably and even *Pitangus* occasionally build their nests in one of the small acacias with hollow thorns inhabited by stinging ants; it is, therefore, not unusual to see the nests of two or three species of flycatchers in a single small tree.

A few words may be added here regarding the relation of ants to the nesting habits of British Honduras birds. In several instances referred to their presence is employed by the birds as a means of defence from larger enemies, but they are by no means always beneficial. The writer once found a nest of *Myiarchus*



Fig. 20. NEST OF THE CINNAMON BECARD, *PACHYRHAMPHUS CINNAMOMEUS*

mexicanus containing a newly hatched bird just breathing its last and covered with small red stinging ants that had evidently attacked it as their prey. Such cases are doubtless common. The fierce driver ants of the genus *Eciton*, which move in vast hosts thru the forests, destroying every living creature that remains in their path, can not fail at times to come upon nests that are placed on or near the ground. These ants do not usually ascend far into the trees nor go out to the ends of long branches; it may be partly for this reason that some of the manikins and

other small birds nesting near the ground place their nests on long, slender twigs.

To some of the foregoing examples as illustrative of protective adaptation, it may be objected that individual cases occur where the very element is wanting which renders the peculiar structure or location of the nest protective. For instance the nest of *Ouychorhynchus* does not always overhang a stream, and may even be placed far above the level of the highest flood; the nest of *Rhynchocyclus* is not always in a thorny acacia; *Myiozetetes* and *Tauagra caua* sometimes build their nests far from that of *Pitangus*, etc. It can only be answered that in analogous cases of adaptation thruout nature we will find the same sort of exceptions; and that the positive evidence is so largely in preponderance of the negative as to be obvious to any ordinary observer.

Anyone who has given the slightest attention to the breeding habits of birds is familiar with the fact that there is a wide range of individual variation within the limits of almost any species; and it is no less true that in cases where highly specialized nonstructural adaptations of any kind occur, the range of individual variation is likely to be still wider. We cannot in any of the foregoing cases regard the protective adaptations as dependent on perfectly rigid and definite laws of action, as in the case for instance with the migration of birds. Natural selection is still, doubtless, pre-eminently operative in compelling conformity to a set of peculiar conditions, whose very complicity implies immense variations in the effort, conscious or unconscious, to meet them. Whether these variations are dependent on slight structural differences, age, mere accident, or some other circumstances, is a matter very difficult to determine.

NESTING OF THE WESTERN EVENING GROSBEEK

(*Hesperiphona vespertina montana*)

By F. C. WILLARD

WITH ONE PHOTO BY THE AUTHOR

IN 1904 we were sufferers from an unusually dry winter and spring. The unusual conditions seemed to affect the migratory birds to a great extent and when I reached the Huachuca Mountains on May 11 the Western Evening Grosbeak was still present in small flocks of from six to a dozen individuals. A few days later, with O. W. Howard as a companion, I left for the Santa Catalina Mountains near Tucson. While spending a couple of days here among the pines at the summit, we found the flocks of grosbeaks making their rendezvous at Bear Wallow Spring, the only spring in that vicinity which had not gone dry. Ruby-crowned Kinglets were also present in considerable numbers, tho more often heard than seen.

The Kinglets seemed to be nesting and while looking for them we saw a pair of Grosbeaks fighting a Long-crested Jay which they presently drove away. The female Grosbeak promptly disappeared in the top of an immense fir tree where Howard's sharp eyes soon located the nest. We collected the set of three well incubated eggs the day following. The nest was eighty-six feet from the ground and twenty feet out from the trunk of the tree, near the tip of a horizontal branch.

This was my first experience with one of our rarest birds and, tho I kept a

careful watch for the next few years, I was only fortunate enough to see one pair. That was the last of May, 1908 in Ramsey Canyon of the Huachuca Mountains.

The spring of this year opened with two heavy snow storms on March 10 and 16, during the height of the migration of many northern birds. This delayed some of them several weeks and occasional pairs of several species which usually pass on entirely stayed to breed. The Western Evening Grosbeak was one of the species thus affected. Several Pine Siskins and one pair of Townsend Solitaires were also present and evidently nesting.

On May 30, while returning from a long tramp on the west slope of the mountains, I heard the unmistakable note of an *Hesperiphona* and saw a pair fly into a large pine tree which stood by itself in the bed of the canyon. They soon flew down into the brush, to the ground, and then back to the pine, the male following the female. I watched them make several trips and was then compelled to leave them and hurry on toward my distant camp. They were building, the female carrying all the nesting material. I made a note to return for the set in ten days.

My chief occupation now became a watch for this rare and beautiful bird.



Fig. 21. NEST OF THE WESTERN EVENING GROSBEAK

June 1, while investigating a small side canyon in quest of Buff-breasted Flycatchers I heard the Grosbeak again and saw a pair flying off up the mountain side. They went over the ridge and out of sight. I sat down to rest a bit and await results. In about ten minutes I heard the female again and saw her fly into a small pine about one hundred yards below me. She alighted on one of the lower branches and sat perfectly still for some five minutes, neither moving nor making a sound. Then she walked along the branch and disappeared. I was promptly on foot and soon stood at the base of the tree. The nest with the bird on it was in plain sight thirty-five feet above me.

Strapping on my climbers I started up the tree with my camera and rope but she flew before I got up, and would not return. I placed my camera in position about twelve feet from the nest and descended, but a strong wind came up and I was afraid the eggs would be thrown from the nest; so after about fifteen minutes' waiting for her to return I climbed up again and took a picture of the nest and eggs alone, also a snapshot of the female as she sat on the dead top of a pine tree about fifty feet away. She was very noisy and restless, flying about from tree to

tree. It was some time, however, before her calls attracted the notice of the male. When he did arrive he seemed to scold and blame her and tried to drive her onto the nest.

The wind became so very strong I was forced to collect the nest and the four fresh eggs it contained, accomplishing it successfully with the aid of my rope, tho the shallow nest was none too safe a place as it was tost about at the end of the branch. The nest is well built for one of this species. It is made of pine twigs and lined with rootlets.

June 11, in company with Master Newton Wolcott, I collected the nest found being built on May 30. Incubation was well begun. The nest was well concealed among the thick bunches of needles at the tip of a branch fifty-five feet up. It was twenty feet out from the trunk and the female would not leave, tho I jarred the nest a good deal in roping the branch up to make the nest accessible. She did not leave until I almost touched her. The position of the nest was such that I could not photograph it. It was composed of twigs on the outside, then grass and rootlets with finer material for a lining.

While in the act of collecting this set a forest ranger came along and in his capacity as a game warden, questioned my right to collect. Persuasive talking on my part as I sat percht above him, and a promise to send him my permit, which I had left in camp, finally overcame his objections and I was soon displaying my prize to him. We parted very good friends but I made up my mind to have my authority handy in the future.

On June 2, while watching some warblers in a clump of very tall fir trees I heard Grosbeaks again and saw a pair fly into the extreme top of one of the trees. The beginning of a nest was visible even at that distance. The female flew into an adjoining tree and proceeded to select and break off a suitable twig. Her powerful beak made the breaking of the twig seem easy. She made numerous trips while I watcht. One twig was so large it interfered with her flight and I could hear her wings strike it. She could not reach the nest with it so alighted some distance below and made several short flights till she reacht the nest and deposited her burden.

The male followed her all the time and "talkt" to her. When percht he used the loud call note, a single very loud staccato note which I am unable to describe. When in flight the soft note was used. Reduced to syllables it sounded like "Chéwey, chéwey, chéwey" with the accent on the first syllable.

The female also possesses these same notes but does not use them so frequently. On June 12 I collected this set. The female did not leave the nest until almost toucht. Perhaps the lateness of the hour, for it was after six in the evening, accounted for her reluctance to leave. The eggs were fresh. This nest proved to be ninety-five feet from the ground.

When busy feeding the birds are rather quiet. They walk along the branches from cone to cone and extract the seeds which seem to form the major portion of their bill-of-fare. Occasionally both birds sit motionless for many minutes apparently just resting.

The male seems much shyer than the female. He is very uneasy when the nest on which his mate is setting is approacht, and flies from tree to tree, uttering his loud call note a few times at each place of alighting. The eggs are strikingly similar to those of the Redwinged Blackbird. Three or four eggs seem to constitute the normal clutch.

I am in hopes that some more unusual spring weather will enable me to make a more intimate acquaintance with this interesting rarity.

THE STATUS OF THE CALIFORNIA BI-COLORED BLACKBIRD

By JOSEPH MAILLIARD

WITH TWO PHOTOS BY THE AUTHOR

TWO species of a genus must possess at least some one characteristic which is of an absolutely distinct type, form, size, or color in each—no matter how slight it may be, provided that of the one species does not overlap or intergrade with in any degree, that of the other. This characteristic may be the measurement of some certain part or parts, the color of some particular feather or of all the feathers, or the shape of them, no matter how slight the difference provided it is unmistakable and permanent. If there is any proof of intergradation the specific difference falls to the ground, and the more or less varying forms are, for want of a better system, at present described as subspecies.

The status of the genus *Agelaius* does not seem to be a very settled one, and it looks so far as if an insufficient number of specimens—or perhaps it would be better to say specimens from too few localities—had been compared to define the forms with certainty.

The following analysis of the descriptions of the various forms of *Agelaius* was originally made out by the author of this article for his own assistance in studying the group and with the view of making clear the subject as represented. But it is so difficult to approach this matter unaided by something of the sort that it seemed advisable to embody this analysis in the text of this paper. Absolutely nothing in it, however, is meant as a criticism of the work done by others, and all quotations are made for the sole purpose of getting at the facts.

This genus has of late proved extremely interesting to me, but it has been impossible to make the descriptions in the different authorities at my command fit all the cases under observation. First came the difficulty of saying which specimens taken in southern California belonged to the form *Agelaius p. neutralis* (supposedly the southern California form), and which did not. Then a greater difficulty arose in defining where the ranges of *A. gubernator californicus* and *A. phoeniceus neutralis* adjoined in central California. As practically all the other authorities to which I have had access coincide with Mr. Ridgway, who apparently has gone into the matter further than the others, I have selected his "Birds of North and Middle America", Bulletin of the U. S. National Museum, No. 50, as the best to follow in the endeavor to solve these problems.

But let us see how much this work will help us out. In the key to the species of *Agelaius*, p. 322, Part II, leaving out those paragraphs which apply only to *A. tricolor* paragraph *dd* applies to all that follow, so we will commence at paragraph *c* which concerns only the *gubernator* group. This says "middle wing coverts mostly black: or else wing 130 or more", the number referring of course to millimeters. As the paragraphs *f*, *g*, and *gg* apply to the other forms of *gubernator* only we will not consider them at the present moment.

Now, in the first place, what does the expression "middle wing coverts mostly black" mean? Are most of these coverts individually and entirely black? Or are all these individual feathers mostly black? From the text in the actual descriptions it seems proper to adopt the latter interpretation, tho some of the specimens under observation have one or more of the innermost coverts wholly or partly black with no black whatever on any of the others. Then comes "or else wing 130 or more". In this case the word *else* can mean either that less than half (numerically) of the feathers of the middle wing coverts are entirely black, that but few or none are

entirely black, that none are *mostly* black, or that there is less than half the area, or but little or no black on any of them. But if the middle wing coverts are *not* "mostly black" and yet the wing is *less than 130* what happens? Would not such a bird, according to the definitions in the "key", be of another species?

Paragraph *ee* applies to the different forms of *phoenicencs*, and says "middle wing coverts entirely buff, ochraceous or tawny, or if partly tipped with black the wing less than 130 (usually less than 127)." Does not the expression "if partly tipped with black" correspond rather closely with "middle wing coverts mostly black or else" of paragraph *e*? So that it comes down to the proposition that when a specimen is found with the middle wing coverts partly tipped with black, if the wing is over 130 mm. it belongs to the *gubernator* group, and if under 130 in the *phoenicencs*. But if this means that this figure is an *average* is it not rather a slight matter upon which to establish a specific foundation? And if this figure is a limit in itself is it not still allowing rather a slight margin? And does it not show that there is every probability of intergradation somewhere? Farther on in the text, under the actual descriptions of the forms, no mention is made of any black tipping whatever in *phoenicencs*, nor to the above quotation from paragraph *ee*, with the exception of a foot note under the description of *A. p. neutralis*, p. 340, where Mr. Ridgway says "Specimens from southern California and northern Lower California seem to be somewhat different from the Great Basin examples, but I do not venture to separate them, the series of specimens being scarcely satisfactory. In adult males of this form many specimens show more or less black tipping to the middle wing coverts, this being observable in some specimens from the interior (Nevada) as well as some of those from the coast (San Diego County, etc.)". Then follows a table of measurements of such specimens, all of the wing averages being under 130. The extremes are not given, nor are the dates on which examples were taken, tho in wing measurements of this genus this is a very important matter, the amount of abrasion in a dry windy climate being so great that but little dependence can be placed upon the wing measurement of specimens taken in late spring or summer in any of our dry valleys where the trade wind blows strongly. My observations in the field lead me to believe that this abrasion is also affected by the food supply, in that where the birds gather their food upon the ground when walking thru dry stiff grass the amount of abrasion will be much greater than where the birds feed in swamps, alfalfa fields or green pasture lands.

Now it happens that the measurements of the different forms of *phoenicencs* and *gubernator* are the only differences given save the black or no black on the middle wing coverts and more or less streaking of the females, mostly on the under parts. As for instance, the description given of *A. gubernator gubernator*, "Birds of North and Middle America", p. 326, is as follows: "Similar to *A. phoenicencs phoenicencs*, but adult with middle wing coverts black or with black tips: the adult female with under parts of body uniform black or sooty and upper parts nearly or quite uniform dusky: wing and tarsus longer, tail, bill, and middle toe shorter".

But every measurement given overlaps those of *A. p. phoenicencs* in the extremes with the single exception of the wings of the females. The number of specimens from which the measurements were taken in this last case being so small, however, (7 in one case and 10 in the other) that there is but little doubt that these also would overlap if a larger number were measured. Now, if all these measurements overlap can they be used in differentiating a *species*? It would seem not, according to the prescribed rules. So that the difference between the two species, in the males, comes down to the matter of black, or no black, on the middle wing coverts and streaking or no streaking on the females, *and nothing else!*

And this is all the distinction that there is to be found in the later manuals and keys—especially those written for the Pacific Coast. There are so many shades of crimson to orange on the lesser wing coverts, and of buffy brown to buffy white on the middle coverts, that the color of these can hardly be considered as a matter of specific determination. In southern California we have the form described as *A. phoeniceus neutralis*, the San Diego Redwing. Let us turn to the description of this form. We will find that it is (Birds of N. & M. Am. p. 339,)—"similar to but smaller than *A. p. sonoricensis*;" but this form is similar to but larger than *richmondi*, which is similar to but slightly smaller than *floridanns*, which is similar to but slightly smaller than *phoeniceus*. Hence, when boiled down, as it were, *A. p. neutralis* is similar to (but smaller (?) or larger (?) than) *A. p. phoeniceus*. As this last form is described as having the "middle wing coverts wholly buff or ochraceous buff" it should follow that *A. p. neutralis* would have this same characteristic. Yet in the foot-note before mentioned is the proof that this characteristic is not constant in *A. p. neutralis*. Is not this a step toward the form called *gubernator*?

As the measurements of *grandis*, which is "similar to *A. g. gubernator*" overlap some of the subspecific forms of *phoeniceus*, and as the description of *grandis* will apply equally well to many specimens of *A. p. neutralis*, which the author has examined most critically, is not this a step toward *phoeniceus*? And are not these steps so decidedly in each other's direction that there is every probability of their colliding with considerable force?

I will state here that we have in our collection (Coll. of J. & J. W. Mailliard, San Francisco, Calif.) several males of *phoeniceus* from Colorado, one from Massachusetts, and one—shown in the accompanying photograph—from South Carolina, loaned by the U. S. National Museum, which show more or less black on the innermost coverts.

The similarity of the two forms, *phoeniceus* and *gubernator*, has evidently been a stumbling block to every one who has endeavored to solve the questions involved, and several authorities in the past have called attention to this. For instance Spencer F. Baird, in the Report of the Pacific Railroad Survey, IX, 1858, p. 526, speaking of *phoeniceus* says: "The middle wing coverts are sometimes uniform brownish to the very tips; sometimes some of these middle coverts are tipped at the end with black, but these black tips are usually of slight extent." Again, *ibid*, p. 529, speaking of the male of *A. gubernator (californicus)* "the bases of the middle wing coverts are brownish yellow, but the exposed portion is black instead of being brownish yellow as in *phoeniceus*, or white as in *tricolor*. Sometimes, however, by the elongation of the yellowish basal portion, some of this color shows beyond the red, as in *phoeniceus*." And "It was at one time considered that the female of *gubernator* was the darker, but there are 3 specimens before me, (4598, 4599, 4600), which in the amount of light color beneath approximate to *A. phoeniceus*."

Then again, in "North American Birds", Baird, Brewer and Ridgway, Vol. II, p. 160, under *A. phoeniceus*, occurs the following: "The middle wing coverts are usually uniform brownish yellow to the very tips: sometimes some of these middle coverts are tipped with black, but these black tips are usually of slight extent, and indicate immaturity, or else a transition of hybridism or race to *A. gubernator*."

Dr. Elliot Coues, in his "Birds of the Northwest", p. 187, goes further than any of the others, saying: "The so-called species, *A. gubernator*, has not the slightest claim to specific rank—in fact it can hardly be rated as a fair variety.

Of the same size and shape as ordinary *phoeniceus*, with the same scarlet carpus, it only differs, in extreme cases, in not having this red bordered with tawny. This is produced by the restriction of the brownish yellow of the middle wing coverts (in *phoeniceus* occupying the whole length of these feathers) to the basal portion of the feathers, their projecting ends being black, and so failing to produce a tawny bordering to the red. But every imaginable stage is a matter of observation in different specimens, from one extreme to the other, * * *."

In all this confusion of ideas and descriptions there seems to be a missing link, which, when discovered, should smooth out the discrepancies and show us the real status of this species, or at least help us to approach it.

It has recently been my good fortune to come across a large breeding colony of *Agelaius* in central California—Stanislaus County—and to be able to take specimens from time to time from March to November. It happens that except for the habitat of *A. g. californicus* being given as extending into the San Joaquin Valley the whole interior valley land of California—a vast area—is "sidestepped", as it were, in giving the habitat of *Agelaius*. This omission is due without doubt to a paucity of specimens from this region. The series of specimens we have obtained from Stanislaus County were taken not far from the real head of San Francisco Bay (Central Coast region) which is the dwelling place of typical *A. g. californicus*. But these specimens incline mostly to the south-of-Tehachapi form, which is described as *A. phoeniceus neutralis*. Yet, while they conform in this way to the southern race—in size, color, habits, etc., with the exception of a thicker bill than any form given—the males have a decided and in most cases quite extensive black tipping to some or often even to all the feathers of the middle wing coverts during the breeding season, before the tips are badly abraded, and the females, as a rule, have the heavy streaking of the southern bird. Yet both male and female individuals have been taken there which are absolutely indistinguishable from breeding specimens of *A. g. californicus* from the San Francisco Bay region and others which are also indistinguishable except for a slightly thicker bill. There is no reason why two species may not use a common breeding ground, it is true, but when one can obtain from the same flock individuals that are almost typical of either species, and others that vary thru all intermediate grades of coloration, streakings, black or but little black on the middle wing coverts, and all dependable measurements thereof overlapping in both directions, it looks as if the missing link has been found—that *gubernator* is directly connected with *phoeniceus* and that *A. gubernator californicus* is rightly *A. phoeniceus californicus*.

Following are some tables of measurements of California birds:

	Col. J. & J. W. M. 7032. Stanislaus Co., Cal. Apr. 24.	Col. J. & J. W. M. 7014. Stanislaus Co., Cal. Apr. 1.	Col. J. & J. W. M. 2472. * Marin Co., Cal. June 6.	Col. J. & J. W. M. 6968. Stanislaus Co., Cal. Mar. 11.	Mus. of Vert. Zool. U. of C. 693. Riverside Co., Cal. Mar. 31.	U. S. Nat. Mus. South Carolina Feb. 24.
Wing	104.2	104.0	109.0	108.5	105.1	100.9
Tail	77.6	76.8	78.1	82.2	80.0	76.2
Culmen	19.5	19.6	19.0	19.6	19.8	21.2
Depth of bill	11.1	11.5	9.5	10.9	10.1	11.0
Width of bill at base	9.1	8.6	8.2	8.3	8.2	9.8
Width of bill at middle of culmen	4.0	4.0	3.9	4.0	4.1	3.9

In the photograph of six females the specimens are arranged to show the gradation of the streaking on the under parts. Note that the two with least streaking

(nos. 1 and 2) are from Stanislaus County (interior valley region) while no. 3, quite heavily marked, comes from Marin County (central coast region) tho it is supposed to be *A. g. californicus*, and should have but little or no streaking. In fact it is a late spring bird with the feathers badly worn, and must have been much more heavily marked earlier in the season.

The fourth bird from the left (no. 4) is from Stanislaus County also, and is nearly as heavily streaked as are the next two, one of which is from Riverside County, southern California (no. 5) and the other from South Carolina (no. 6). This streaked specimen from Stanislaus County is about an average of the females taken there and is indistinguishable from the majority of females from southern California, while the first specimen on the left, (no. 1) without streaking, is rather

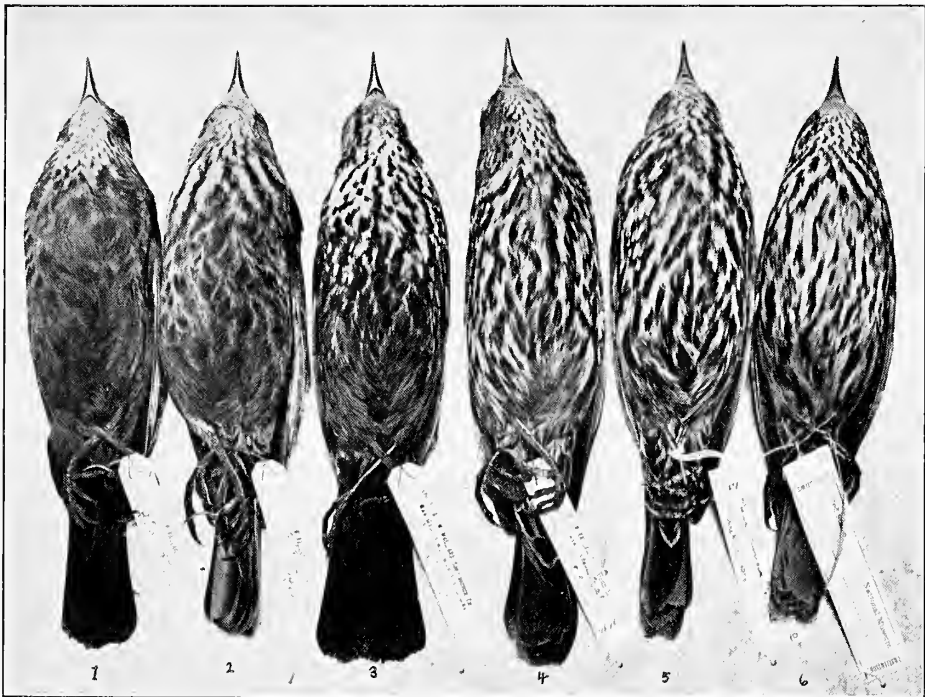


Fig. 22. SERIES OF FEMALES OF *AGELAIUS* ARRANGED TO SHOW THE GRADATION OF STREAKING ON THE VENTRAL SURFACE

rare among the Stanislaus birds but is about the average in the San Francisco Bay region. (See Fig. 22.)

In the photograph of the middle wing coverts of three males the idea was to show the coverts alone. I found this a difficult matter, as it was a delicate operation to part the feathers in such manner as to get the results without damaging specimens which were only loaned. But while the result is rather rough looking the idea itself seems to be carried out sufficiently for the purpose of demonstration. The bird on the left, (no. 1) supposedly *A. gubernator californicus*, showing only black middle wing coverts is from the San Francisco Bay (central coast) region, the center one (no. 2), showing the innermost coverts entirely black and the rest with a decided black tipping is an average bird from Stanislaus County (interior valley region) while the one on the right (no. 3) is from southern California,

described as *A. phoeniceus neutralis*, and shows black innermost coverts with some slight tipping and spotting on the others. Now what are we going to call the middle bird from Stanislaus County? The Marin County bird has a slightly smaller bill than the other two in this photograph, but many specimens overlap in measurements, which intergrade just as much as the coverts in the males and the streakings in the females. (See Fig. 23.)

In these tables the principal measurements are the wing and bill measurements. While the former is not to be altogether depended upon I have used it to some extent, discarding those cases where the primaries seemed to be so badly worn as to be valueless for comparison. I have included the tail, but this was no criterion of any great value, and in the breeding season is generally very badly shortened by wear. The birds from Stanislaus County show a peculiar thickness of the upper

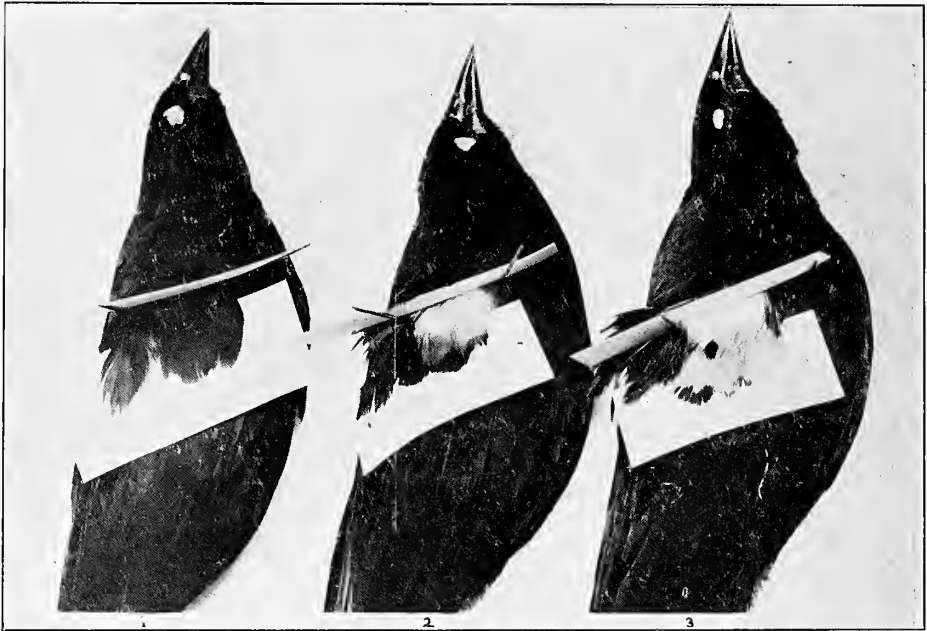


Fig. 23. THREE MALES OF *AGELAIUS* ILLUSTRATING THE VARIATION IN THE MARKINGS OF THE LESSER WING COVERTS

mandible in most cases, and I have endeavored to show this in the form of a measurement by taking the width of the bill at the *center* of the culmen. In order to do this a little instrument was rigged up, with a horizontal ring which could be raised or lowered above a plane surface, to which it was parallel, by means of a screw, the ring being adjusted at half of the culmen as each individual was measured, the bill inserted perpendicularly therein and the width taken by means of a parallel ruler, so arranged that the sharp edges faced each other, laid flat on top of the ring with the bill between the thin edges. As the bills of this species vary so greatly this measurement does not exactly express the differences in heaviness it was intended to show, but it helps to give the idea.

The depth or width of a bill from base is a difficult matter to obtain correctly in bills that are of such conical shape as in *Agelaius*, and probably no two persons would get exactly the same figures, but with care they would come very near doing

so. In these tables all the measurements were taken by myself, according to Mr. Ridgway's rules as given in "Birds of North and Middle America", and gone over twice for the sake of extra accuracy, and yet the more unstable ones are given more for the sake of comparison than as absolute figures.

The measurements of the tarsus, and middle toe without claw were taken in a large number of cases, but, while the averages differed somewhat in specimens from different localities, the extremes varied so little that there was no evidence of these measurements being of value save to show that the southern California birds were a trifle larger than those from the central region of the state.

I had intended to make some comparisons and draw some conclusions from the tables of measurements, when this article was commenced, but beyond the fact that the extremes are constantly overlapping, that the larger number of specimens one examines the greater will be the extremes, great as the variation appears even from the accompanying tables, and that with different series and numbers of specimens from those examined by Mr. Ridgway, in many cases the measurements are very close to his averages, I have only one conclusion to make. That is that the measurements are not to be depended on as a dividing line between *gubernator* and *phoeniceus*.

But if, as has been shown above, the only other differing characteristic, the middle wing coverts, fails to differentiate is there any dividing line?

		<i>Agelaius gubernator californicus</i>					?	Ag. p. neit.	
MALES		13 adts Marin	10 adts	7 adts	5 adts	29 adts	7 adts North-	36 adts	
Breeding plumage		& San Benito	Sonoma	Solano	Santa	Stanis-	ern Santa	South.	
		Co., Cal.	Co., Cal.	Co., Cal.	Clara	laus Co.,	Barbara	Cal. Los	
					Co., Cal.	Cal.	Co., Cal.	Cal. Los	
							Aug. & c		
Wing	Average	125.0	127.1	126.0	126.7	126.6	125.2	124.4	
	Max.	130.8	134.6	130.8	133.5	133.4	128.6	132.7	
	Min.	118.2	122.3	119.8	123.3	120.5	122.6	117.6	
Tail	Av.	87.8	88.6	87.2	88.6	91.3	90.3	much	
	Max.	92.6	98.0	95.0	92.0	96.6	92.4	worn.	
	Min.	78.3	83.5	79.4	86.3	83.4	84.6		
Culmen from base.	Av.	21.7	22.5	22.9	21.5	22.1	22.8	23.0	
	Max.	23.1	24.4	24.3	22.3	24.8	23.3	25.3	
	Min.	20.5	20.9	21.6	20.5	20.3	22.2	21.1	
Depth of bill at base.	Av.	11.8	11.2	11.6	11.1	12.7	12.8	12.6	
	Max.	12.1	11.9	12.1	11.4	13.9	13.6	14.1	
	Min.	11.2	10.3	11.2	10.3	11.3	12.2	11.3	
Width of bill at base.	Av.	9.3	9.1	9.1	9.1	10.0	10.0	9.9	
	Max.	9.9	9.6	9.6	9.3	11.7	10.6	11.1	
	Min.	8.3	8.6	8.8	8.9	9.3	9.4	9.2	
Width of bill at mid. of culmen	Av.	4.2	4.2	4.0	4.5	4.9	4.5	4.5	
	Max.	4.6	4.5	4.3	4.8	5.7	4.7	5.4	
	Min.	3.7	4.0	3.6	4.3	4.4	4.3	4.4	
FEMALES		13 adts	8 adts	2 adts	4 adts	18 adts	2 adts	6 adts	
Breeding plumage									
Wing	Av.	105.6	104.8	104.9	104.9	102.9	badly	101.3	
	Max.	108.9	109.4	105.7	106.5	109.5	worn	105.2	
	Min.	101.5	102.1	104.1	103.9	98.8		96.5	
Tail	Av.	72.6	73.9	73.5	72.2	75.0	badly	73.3	
	Max.	78.9	75.9	76.7	75.4	82.3	worn	78.4	
	Min.	68.0	72.6	70.3	69.9	68.2		67.7	
Culmen from base,	Av.	18.5	18.9	19.4	18.6	19.3	19.8	19.5	
	Max.	20.6	20.1	19.7	19.2	20.3	20.1	20.4	
	Min.	17.6	18.1	19.2	17.8	17.8	19.5	19.1	

FEMALES		13 adts	8 adts	2 adts	4 adts	18 adts	2 adts	6 adts
Depth of	Av.	9.5	9.8	10.1	9.5	10.5	10.3	10.1
bill at	Max.	10.3	10.6	10.6	10.0	11.5	10.4	10.7
base.	Min.	8.3	8.6	9.7	8.9	9.6	10.2	9.6
Width of	Av.	7.8	8.1	7.8	7.7	8.4	8.4	8.3
bill at	Max.	8.3	8.5	8.0	8.5	9.1	8.6	8.8
base.	Min.	7.5	7.5	7.6	7.3	7.6	8.3	8.1
Width of	Av.	4.0	3.8	3.4	4.0	4.6	3.9	4.1
bill at mid.	Max.	4.3	4.2	3.6	4.3	5.0	4.2	4.3
of culmen	Min.	3.6	3.4	3.3	3.8	4.1	3.7	4.0

Of the thirty-six adults in spring and early summer plumage from southern California nine were molting more or less of the middle wing coverts. On the remaining twenty-seven the black tipping to the middle wing coverts is as follows: heavily tipped, two; considerably, seven; slightly, eight; on one or two of the inner feathers only, eight; spotted only, one; partly black but not tipped, one; with absolutely no black, none.

While some of the specimens from the San Francisco Bay region measure very close to some of those from the San Joaquin Valley, the former seem to have slightly heavier tipping to the middle wing coverts, and the bills of the specimens, from Marin County anyway, are more slender than those from the valley. For example the measurements of two specimens are as follows:

Coll. of J. & J. W. M. no. 3300, San Geronimo, Marin Co., Cal., wing 125.9, tail 90.3, culmen 22.5, depth of bill 11.8, width of bill at base 9.4, width of bill at middle 4.2, no. 7009, Modesto, Stanislaus Co., Cal., wing 125.9, tail 87.4, culmen 22.1, depth of bill 11.4, width of bill at base, 9.2, width of bill at middle 4.2.

These two specimens measure very close to each other, but the San Joaquin (Stanislaus Co.) specimen has a bill that looks heavier, tho there is no way of showing this by measurements unless with very delicate instruments, and while the black tips are heavy in each they are more so in the Marin County bird.

HABITS OF THE BLACK-CAPT VIREO (*VIREO ATRICAPILLUS*)

By C. D. BUNKER

WITH ONE PHOTO BY THE AUTHOR

THE range of the Black-capt Vireo includes south-western Kansas, Oklahoma, central and western Texas, and extends well into Mexico, keeping to the gypsum canyons, or their vicinity, where the bird feeds on a little black beetle found on the under side of leaves, and which, I believe, occurs only in such localities.

In May, 1903, I collected thirty of these birds in Blaine County, Oklahoma, and preserved the stomachs of all of them. There seemed to be but one species of beetle in every stomach. I afterward sent the stomachs to an eastern entomologist, for the purpose of determining the food contents, and to learn if the beetle was peculiar to any certain locality, but: unfortunately they were lost and the knowledge not obtained.

Ridgway in his "Birds of North and Middle America" says: "Writers differ as to whether the sexes agree in color, or not. The series examined, which

however, includes only one adult female (there are eighteen adult males) if the sex has been correctly determined in all cases, shows that the sexes are alike and that the presence of black on the head or its extent is probably a matter of age. The grayer headed specimens invariably have the whites of the under parts less pure, in this respect being more or less like young birds in their first autumn which lends probability to the theory that the relative age is the true explanation of the variations noted."

As for myself, however, I think that Mr. Ridgway lacked sufficient material for examination, and has been led astray by the mistakes of collectors in determining the sex correctly in some of the specimens. I spent three weeks with the Black-caps at their breeding time, when they were in full plumage, and had ample time and opportunity to study them. I watched them build their nests, incubate their eggs and feed their young. I dissected over thirty of them, and can say that the sexes *are not alike*, and that the female *does not* have a distinct black cap at any age. This matter, as to whether the sexes of *Vireo atricapillus* are different in plumage or not, has been discussed by several writers since the year 1878, and both conclusions have been reached. For several years I have been of the opinion that the sexes *are* different, and after an examination of nearly forty skins I am firmly convinced that such is the case.

The material on which I base the following conclusions numbers nineteen specimens, six adult males taken in July 1901, seven adult males and five adult females in May, 1902, all taken in Blaine County, Oklahoma; and one adult male taken in Comanche County, Kansas, in May, 1885.

When compared with the males, it is at once apparent that the females have a distinct buffy tinge on the under parts, strongest on the breast, and nearly, if not entirely, absent from the throat and abdomen. Above, the olive-green tint of the back averages duller in color than in the males, though this character is not strongly noticeable in some instances. The wing bars and the light edgings to the tertials are also paler—nearly white—in place of the yellow of the males. The same is true, to a less extent, of the light greenish edgings of the rectrices. In the males the head and neck—except the throat, loreal streak, and an orbital ring of white—are clear black, while the same region in the females is slate-gray. (See Fig. 24.) The white of the loreal and orbital region is clearer in the male, though

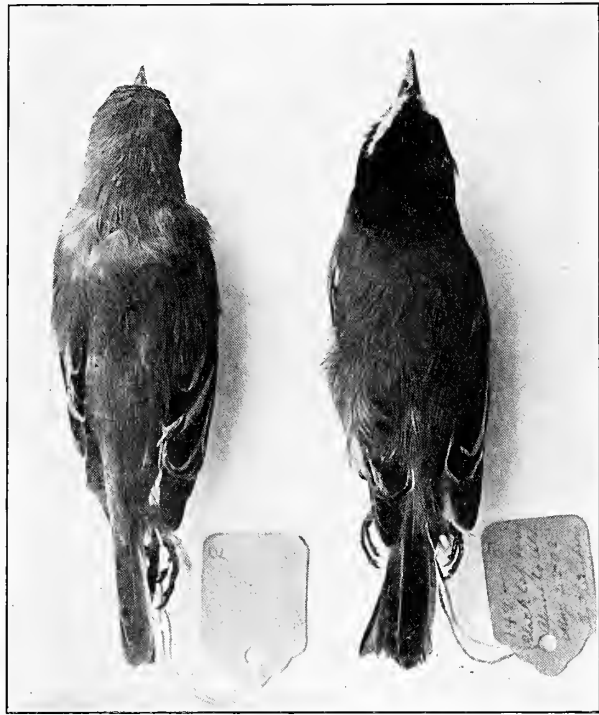


Fig. 24. DORSAL SURFACE OF MALE AND FEMALE BLACK CAPT VIREO, ILLUSTRATING SEXUAL DIFFERENCES IN COLORATION AND MARKINGS

When compared with the males, it is at once apparent that the females have a distinct buffy tinge on the under parts, strongest on the breast, and nearly, if not entirely, absent from the throat and abdomen. Above, the olive-green tint of the back averages duller in color than in the males, though this character is not strongly noticeable in some instances. The wing bars and the light edgings to the tertials are also paler—nearly white—in place of the yellow of the males. The same is true, to a less extent, of the light greenish edgings of the rectrices. In the males the head and neck—except the throat, loreal streak, and an orbital ring of white—are clear black, while the same region in the females is slate-gray. (See Fig. 24.) The white of the loreal and orbital region is clearer in the male, though

the distinction here is very slight. Eighteen of these specimens were collected by myself and the sex carefully determined, so there can be no doubt on that score. I wish to thank Mr. H. H. Lane for his kindness in sending me the series in the University of Oklahoma for examination.

In the locality of which I speak, the canyons were about three hundred and twenty feet deep, with outcroppings of gypsum rock from bottom to top, with a strong salt stream running at the bottom. The only fresh water for miles was a spring on the ridge, a quarter of a mile above the head of the canyon. The canyon walls, and gulches leading to the canyons, were studded with clumps of bushes, mostly dog-wood, scrub-oak and similar shrubs, forming ideal cover for vireos, of which *Vireo belli* was not uncommon. On one occasion the nest of a Bell Vireo was found in the same bush with that of a Black-cap.

The nesting habits of the Black-cap are unlike Bell's, in that it always builds in the center of a bush or rather in a clump of bushes instead of on the outer edge, slips away upon the approach of an intruder, and if singing or scolding in a bush, you may depend upon it, that the nest is nowhere near. I cannot remember of finding a nest in a clump of bushes from which the male was singing. His song is clear and bell-like and is never to be mistaken if one comes to know it.

The nest resembles Bell's in appearance and structure, and is usually about eighteen inches from the ground, hanging from a forked twig. The eggs are four in number and pearly white, unmarked. When blown, they resemble a small woodpecker's egg. Cowbirds frequently lay in the Black-caps' nests, and on one occasion a nest was found containing two eggs of the Black-cap and three of the Cowbird. The former were discolored and had the appearance of being deserted. I watched the nest nearly an hour and as no bird appeared, I finally took it.

They do not build over water, but they have no choice as to the lay of the ground. Nests were found at the bottom of canyons, and steep canyon walls, uplands, and little draws leading to the canyons. They nested in jack-oak, dog-wood, wild plum, China berry and like shrubs. No matter where the nest was built, on bottom lands, or ravines, the bush in which it was placed was always above high water mark. I had a splendid opportunity to observe this as the highest water ever known in this locality, occurred while I was camped there in the canyons. Although nests are usually placed in sheltered spots, many had their eggs shaken out by a severe storm. About fifty such cases were observed and the birds immediately went to work to repair the damage, and take up their family duties again.

The Black-cap is a restless little thing, and rarely stays in one place long enough for a shot, or to be observed. The song is composed of many notes, one resembling the Wood Thrush in miniature, and when disturbed it can hardly find time to scold. The female is much shyer than the male and one seldom gets a glimpse of her unless concealed near her nest. In one case a female allowed me to approach within two feet of her nest without being alarmed, but when I carefully tried to cover her with my hand, she slipped away without a sound. Upon examination I found that the eggs were just hatching.

Male and female share alike in the duties of providing for the young, but in no case have I seen the male sit upon the eggs or assist in building the nest. I was fortunate enough to watch the construction of one nest from start to finish. The weaving was accomplished after the fibers had all been attached to the forked twig, and hung down like a fringe. The female would dart down from a nearby twig, catch the end of a fiber in her bill, fly up to the opposite side of the fork,

draw up the fiber a little at a time, turning her head from side to side, as if studying her work, and then secure it.

A nest collected measures as follows: Outside diameter 57 mm., inside diameter 43, outside depth, 65, inside depth 41. The diameter of the rim of the nest is distinctly less than that of the inside of the nest at its greatest width. On one occasion a nest was found to be empty on the evening of May 24 and contained two eggs at noon on the twenty-sixth.

Average measurements in millimeters of a small series are as follows:

	Length	Wing	Tail	Culmen	Tarsus
Thirteen adult males from Kansas and Oklahoma	109.5	56.2	43.4	9.4	16.6
Three adult females from Oklahoma	108.2	54.1	43.0	9.1	16.0

THE NESTING OF THE FRAZAR OYSTER-CATCHER

By PINGREE I. OSBURN

ON EASTER Sunday, April 11 1909, while lying at anchor off Cape Corrientes, State of Jalisco, Mexico, Mr. Thompson, a friend, brought me the news that he had found the Frazar Oyster-catcher (*Haematopus frazari*) nesting on one of the islands we were visiting. This group of islands, known as the Tres Marietas group, is unusually far south for this bird to be found breeding, but the news was not surprising to me as I had noticed individuals of this species flying along the rocky coast on several different occasions.

Upon inquiry and investigation I found that the nest was on the pebbly beach about fifteen feet from the high water mark, back in a sheltered recess under a low overhanging cliff. It was unlined, except for a few bits of shell and consisted of a mere depression in the pebbles. The eggs were fresh, but thru the carelessness of a Mexican sailor I was able to save but one. They were finely marked specimens. An example before me is light cream buff in ground color, and is irregularly spotted and blotched with varying shades of brown, lavender, and pale pearl grey, principally at the larger end. It is oval in shape, with one end pointed, and measures 2.21×1.50. It has a smooth texture.

The birds were extremely wild, like most of their kind, and were approached with difficulty. I made several efforts before they were finally secured. Two other birds were seen on this island but a thoro search failed to reveal their nest.

The two birds belonging to the set described are clothed in conspicuous black and white, the white areas being more extensive in this pair than in birds of this species taken off the coast of Lower California, far to the north. Unfortunately no photographs were secured, as the eggs were disturbed before I heard of their discovery.

It is interesting to note the great difference between the nesting sites used by these birds and the Black Oyster-catcher described by Mr. Willett in his article in the November CONDOR.

The references available to me at this time, tho somewhat limited, are all similar in their statements, and give the breeding range of this species as "both coasts of Lower California". The peninsula of Lower California is several hundred miles north and west of the Tres Marietas Islands, and at this extreme south latitude even individual birds of the species are a comparative rarity, I believe.

A GLIMPSE OF BIRD LIFE ON THE WEST COAST OF MEXICO

By CHESTER LAMB

ON MARCH 27, 1909, the writer was one of a party of three that embarked from San Diego on a little wind-jammer, bound for San Blas, Territory of Tepic, Mexico, some 1200 miles southeast of Los Angeles. On account of some misunderstanding about our quarters we were compelled to share them with two cows and a dozen chickens, which, as some of us were suffering from mal-de-mer at first, was not very pleasant. Just at dusk we passed the Coronado Islands, the northernmost known breeding place of the Xantus Murrelet, (*Brachyramphus hypoleucus*) and the recipient of an occasional visit from the Frazar Oyster-catcher (*Hacmalopus frazari*).

The first few days out Western Gulls (*Larus occidentalis*) and two or three Black-footed Albatross (*Diomedea nigripes*) were following in our wake, but on the 31st, just off Magdalena Bay, our last gull left us, and we did not see another till we reached San Blas, and then only three or four individuals. We saw the last albatross just before we past Cape St. Lucas. Before we reached the Cape, Cassin Auklets (*Ptychoramphus aleuticus*), Black Petrels (*Oceanodroma melanica*) Least Petrels (*Halocyptena microsoma*), shearwaters and a few migrating shore birds going north, were frequently observed. We did not make acquaintance with the Frigate Bird (*Fregata aquila*) till the day after we past the Cape; from then on our hopes were high that we would become acquainted with many birds new to us, and we were not disappointed, altho we met many of our California friends as well.

On April 4, while about seventy-five miles from the Tres Marias Islands a couple of Red-billed Tropic Birds (*Phaethon aethereus*) flew slowly over us, the only ones I saw on the expedition. The next day Blue-footed Boobies (*Sula nebouxi*) could be seen on all sides busily fishing. They fish much like a tern, plunging from a great height head first into the water. Brewster Boobies (*Sula brewsteri*) were not plentiful but those seen evinced considerable interest in us, flying about the ship and trying to alight in the rigging. My first impression of them was of their awkwardness in alighting. One finally managed to perch on the fore-castle. After carefully photographing him we thought we would see how close we could get to him without his flying, and were indeed surprised when he allowed us to pick him up. He could not rise from the deck but after hopping around for awhile finally succeeded in climbing up on the railing, where he sat for awhile before he flew away.

On the tenth day out we reached San Blas, and, landing at just about dusk, our ears were greeted with a terrible din and some melody, as if we were in an enormous aviary. After investigating we found the source to be great numbers of Colima Boat-tails (*Meqaquiscalus major obscurus*) and Mexican Crows (*Corvus mexicanus*). The Boat-tails were present in great numbers and it seemed as if they were all trying to use the same tree to roost in. They are very bold and cause considerable annoyance by coming into the houses and carrying off food. The Crows are much smaller than ours and have quite a pleasant and peculiar call. The next most conspicuous birds are the Black Vultures, (*Catharista urubu*) with an occasional Turkey Vulture, (*Cathartes aura*) flying around, tho they do not infest the market places as I have seen them in Acapulco, several hundred miles farther south. On April 7 I found a young Black Vulture about two days old, in a ruined stone building near the town. After the vultures in noise if not in numbers are the

parrots, parakeets and Mexican Caciques (*Cassiculus melanicterus*). The birds are not hard to approach, tho the parrots and parakeets are somewhat wild.

We stayed in San Blas two days this time, which was spent in getting acquainted with and skinning birds. On the ninth of April we embarked for the Las Marietas Islands, some sixty miles south and four miles from the mainland, known for their considerable guano supply and immense numbers of Blue-footed and Brewster Boobies. The guano is found in large caves and is not the product of our present day birds or bats. The guano of the boobies is considered worthless and on this coast it is the cormorant guano that is sought. As we approached the islands they seemed to be literally covered with boobies, the Brewster greatly exceeding the Blue-footed in numbers. This group of islands consists of two main islands, one of which is about a mile and a half in diameter, composed mostly of piled-up lava. The other, slightly smaller, has a large flat grassy plain and a small spring of fresh water, a few small trees and some patches of cactus. There are several small outlying rocks and it was on these rocks that we found Heerman Gulls (*Larus heermanni*) nesting.

On these islands the Brewster and Blue-footed Boobies have distinct nesting habits. No Blue-faced Boobies were seen. At the time of our visit Brewster Boobies were all thru their nesting, the young being well able to fly about and fish for themselves. These Boobies make their nests on the high parts of the islands and on the hillsides among the rocks, while the Blue-footed seek the flat plains. Brewster Boobies construct a well-made nest of grass, while the Blue-footed simply scratches a hole in the bare earth and deposits her eggs without any lining to the nest. The captain of the ship told me that when he was there, about the 6th of January, Brewster Boobies had young and eggs. We found Blue-footed Boobies with eggs and young in all stages of development. Their colonies never encroached on those of Brewster's and the two boobies did not seem to associate with each other. Sets of their eggs consist about equally of two or three eggs, and out of hundreds examined only three nests containing four eggs were noted. A singular thing is the large number of runts, and the difference of size of the eggs in the same nest. The eggs when first laid are identical in appearance to those of the cormorants, but soon become badly nest stained.

Altho there were hundreds of Frigate Birds about during our stay of five days I did not see any attempt to rob the boobies of their fish, tho when we moved around the colonies the brooding birds would vomit quantities of small fish before flying, which the Frigate Birds would be on the alert to pick up. The boobies do considerable fishing at night and, as the water gave off a phosphorescent light when disturbed, it gave the appearance of flashes of flame when the birds made their dives. The Frigate Birds had their nests in a large tract of wild pineapple plants, which, being exceedingly prickly, made their nests well protected, at least from us. After some very careful work and many stabs I managed to reach a few of the nests and there found young and eggs in all stages of development. The single egg is placed on a platform, flimsily made of twigs and it is a marvel to me how the bird can brood without destroying it. The white downy young often fall victim to their own indiscretion, by falling out of the nest, and once among that wild pineapple death is inevitable, as testified by many mute witnesses.

Tho we made careful search for that exceedingly dainty and graceful bird, the Red-billed Tropic Bird, the only evidence of one was a dried up dead one on the beach. Old friends such as Great Blue Heron, (*Ardea herodias*). California Brown Pelican, (*Pelecanus californicus*) and Heermann Gull were nesting. At this date eggs of the Great Blue Heron were fresh, California Brown Pelican were

considerably incubated and Heermann Gulls were both fresh and advanced in incubation; one chick just hatched was found on April 14. Other birds that pass the southern border of the United States, found nesting there, are Audubon Caracara (*Polyborus cheriway*), Mexican Ground Dove (*Columbigallina passerina pallescens*) and Frazar Oyster-catcher. The Caracaras were so abundant in Mexico only one nest was located, found by Mr. Virgil Owen on April 10. A few Yellow-crowned Night Herons (*Nycticorax violaceus*) were observed but were not nesting. Mr. Pingree Osburn shot a Laughing Falcon (*Herpetotheres cachinnans*) with a Ridgway Noddy (*Anous stolidus ridgwayi*) in its talons, the only ones of either seen. One Duck Hawk (*Falco peregrinus anatum*) was seen.

On the 15th we left the islands in a little yawl for Las Penas situated on Banderas Bay and some twenty miles away. We spent three weeks there where practically all our collecting was done. At Las Penas the hills come right down to the beach and back of the hills rise mountains some 4000 feet in elevation. To the north of the town is a flat country in which there are several rivers and many sloughs or esteros and considerable forest, mostly of cocoanut and other tropical trees. We found this wet flat land ideal for the herons and they were well represented in both species and numbers. Here we made acquaintance with the Roseate Spoonbill (*Ajaia ajaia*), a bird of which I believe we have only two records for California. Only fourteen were seen. A pair or so would come down to the river mouth early in the mornings to feed; in feeding they are very graceful and exceedingly quick. We could not locate their breeding grounds as the swamps were simply impenetrable.

The Wood Ibis (*Tantalus loculator*) was present tho sparingly. Mr. Owen took one and I had the good fortune to witness several in their flights. That curious heron, the Boat-bill (*Caucroma zeledoni*) occupied every bog hole in company with the Black-crowned Night Heron (*Nycticorax nycticorax naevius*) Anthony Green Heron (*Butorides virescens anthonyi*) Louisiana Heron (*Hydranassa tricolor ruficollis*) and Little Blue Heron (*Florida caerules*), while the Great Blue Heron seemed to keep more to the beach. American Egrets (*Herodias egretta*) and Snowy Herons (*Ardea candidissima*) were quite rare. A few were seen in secluded swamps. Anhingas (*Anhinga anhinga*) Mexican Cormorants (*Phalacrocorax mexicanus*), White Ibis (*Guara alba*) White-faced Glossy Ibis (*Plegadis guarauna*) were present in large numbers, tho the first two were solitary in their habits. The latter two fed in flocks, the two species not intermingling however. Mexican Grebes (*Colymbus dominicus brachypterus*), Mexican Jacanas (*Jacana spinosa*), Blue-winged Teal (*Querquedula discors*) and American Coots (*Fulica americana*) were common. The only rail seen was the Mexican King Rail (*Rallus tenuirostris*) a single specimen being taken by Mr. Osburn at San Blas. Going from the swamps to the beach at the river mouth, old familiar friends could be found such as Royal Terns (*Sterna maxima*), Least Terns (*Sterna antillarum*), Black-necked Stilts (*Himantopus mexicanus*) Least Sandpipers (*Pisobia minutilla*) Greater Yellow-legs (*Totanus melanoleucus*), Yellow-legs (*Totanus flavipes*), Western Willets (*Symphemia semipalmata inornata*), Hudsonian Curlew (*Numenius hudsonicus*), Long-billed Curlew (*Numenius longirostris*), Killdeer (*Oxyechus vociferus*), Snowy Plover (*Aegialitis nivosa*) and Spotted Sandpipers (*Actitis macularia*). Two Black Skimmers (*Rynchops nigra*) were seen together on one occasion, and one was secured.

In the cocoanut groves and around the mangoe trees were the homes of Finsch Parrots (*Amazona finschi*), White-fronted Parrots (*Amazona albifrons*), Red-and-blue-headed Parakeets (*Comurus canicularis*) and the Military Macaw (*Ara mili-*

taris), a bird always in evidence by its loud cries. The Macaws usually go in pairs and when flying keep up a regular, frequent and very loud call that sounds like the word wah-cah, with the accent on the last syllable, repeated two or three times, and hence receives the name of Waca by the natives. The Mexican Double-yellow-headed Parrot (*Amazona oratrix*) we did not see on the mainland but it occurs commonly on the Tres Marias Islands. The natives have many in captivity and they are said to be the best talkers of the Mexican parrots. The parrots nest in holes, usually cocoanut trees. On May 10 a Mexican boy brought me two young White-fronted Parrots about two days old. He said two were all that were in the nest. A few days later a boy brought us four young Red-and-blue-headed Parakeets all of which he said came out of the same nest in an old ants' nest. Of these young I successfully raised one parrot and Mr. Osburn one parakeet. They were fed on mashed ground corn while we were in Mexico but on reaching home their diet was changed to the more modern Cream of Wheat and they seemed to thrive on it. The Parakeets make their nests in deserted ants' nests. These nests are great globular masses more or less round, composed of what appeared to be chewed up wood cemented together. The Parakeets bore into this and make a cavity near the center. I flushed a bird from one but upon digging it out found no evidence of a nest lining.

The Mexican Cacique, a black and yellow oriole with a crested head, and about the size of a California Jay, is very common and its inimitable call is one of the familiar sounds. It builds a nest in shape like a California Bush-tit, tho from three to three feet and a half long usually situated at the end of a limb in a tree covered with thorns. I might say that I only made one attempt to climb such a tree. Where we were the Chachalaca (*Ortalis vetula maccalli*) was not common. One of these birds can make enough noise to shame a whole flock of Guinea Fowls. The first time I heard it I was in a dense growth of brush and to say that I was startled would be mild indeed. The night before a Mexican had told me that frequently a jaguar visited that tract. The San Blas Jay (*Cissilopha san-blasiana san-blasiana*) was a conspicuous bird of the open places, and the Long-tailed Blue Jay (*Calocitta collicii*) a very handsome bird, about two and a half feet in length, tho mostly tail, was rather common among the banana groves and ranches.

The kingfishers, Texan (*Ceryle cabanisi*), Belted (*Ceryle alcyon*) and Great Rufous-bellied (*Ceryle torquata*) could all three be frequently seen at the same time, their favorite haunts being the running streams rather than the swamps. Their near relative the Mexican Motmot (*Momotus mexicanus*) was of an exceedingly retiring disposition, or else very rare, for often a whole day's search in their favorite haunts would fail to reveal one. Citreoline Trogons (*Trogon citreolus*) and Coppery-tailed Trogons were birds more of the higher hills than where we were; however, three of the former and one of the latter were identified. At dusk Nighthawks (*Chordeiles acutipennis texensis*) commenced to fly and were very numerous. On May 14 I flushed a Parauque (*Nyctidromus albicollis*) from her nest containing one egg. The next day I went back to get the full set and the parent but both were gone; however, later, Mr. Osburn got two birds at San Blas. Hawks seemed to be particularly abundant and easy to secure. Audubon Caracaras seemed to be the most abundant, followed by the Mexican Black Hawk (*Urubitinga anthracina*), Harris Hawk (*Parabuteo unicinctus harrisi*) and Mexican Goshawk (*Asturina plagiata*). Owls could frequently be heard at night. Elegant Woodpeckers (*Cculturus elegans*) and Mexican Pileated Woodpeckers (*Ccophlocus scapularis*) could be seen on every trip to the groves, while of that woodpecker-like bird in habits, tho belonging to a different order, the Swainson Woodhewer (*Dendrorhynchus flavigas-*

ter), only two were seen. Inca Doves, Mexican Ground Doves, White-winged Doves and Mourning Doves were all abundant except the first mentioned, and for the most part frequenting the open roads and fields. The only pigeon seen was the Red-billed (*Columba flavirostris*). On April 29 I found one incubating a single egg on a frail platform of twigs in a clump of bushes. Mocking Birds (*Mimus polyglottos leucopterus*) were not uncommon but a peculiar thing was that they did not do any singing, tho I watcht them for some time on different occasions. Bronzed Cowbirds (*Tangavius aeneus aeneus*), Groove-billed Anis (*Crotophaga sulcirostris*) and Brewer Blackbirds (*Euphagus cyanocephalus*) occupied every field where there was any stock. Colima Ground Sparrows *Aimophila acuminata* and Mexican Goldfinches (*Astragalinus psaltria mexicanus*) were mainly evident as roadside birds. A very rare and shy bird, two seen, was the Rufous Cuckoo (*Piaya mexicana*), a slightly larger bird than ours and very much longer tailed.

Wrens were noticeably absent, the only ones noted being the Happy Wren (*Phlegopedius felix*) and an unidentified species. Our familiar friend the Western Gnat-catcher (*Poliophtila caerulea obscura*) was present tho not at all common. Scarlet-headed Orioles (*Icterus pustulatus*) were numerous, and a few individuals of Painted Redstarts (*Setophaga picta*), Hepatic Tanagers (*Piranga hepatica*) and Arizona Hooded Orioles (*Icterus cucullatus nelsoni*) were observed. The natives had many Tres Marias Cardinals (*Cardinalis cardinalis mariae*) in cages, which they got from the Tres Marias Islands some fifty miles off the coast. We were disappointed in not finding hummingbirds present in numbers and species. Only the Rufous (*Selasphorus rufus*) and another of undetermined species were seen. Mr. Osburn secured one Xantus Becard (*Platypharis albiventris*), the only one seen. White-rumped Swallows (*Tachycineta albilinea*) were nesting in fence posts May 10. The flycatchers were very abundant and well represented by the Derby Flycatcher (*Pitangus derbianus*) the largest and noisiest and particularly haunting the streams, Cassin Kingbird (*Tyrannus vociferans*), Giraud Flycatcher *Myzocetes similis superciliosus*, Ash-throated Flycatcher (*Myiarchus cinerascens*) Vermilion Flycatcher (*Pyrocephalus rubineus mexicanus*) and Least Flycatcher (*Empidonax minimus*) the latter being rare.

In passing Natividad Island, what I took to be Sooty and Black-vented Shearwaters, Brandt and Farallone Cormorants were numerous. One Farallone Cormorant was observed at San Blas. Other birds seen, not mentioned above, were Douglas Quail (*Lophortyx douglasi*), Purple Gallinule (*Ionornis martinica*), Cuernavaca House Finch (*Carpodacus mexicanus rhodocolpus*), Lincoln Sparrow (*Melospiza lincolni*) and Pigmy Owl, (*Glaucidium phalaenoides*). Many other birds were seen that were not identified, the most prominent among which was a large black tree duck, another species of Mexican duck, a large white-headed hawk with a rufous colored body, and a large owl.

The Tierra Caliente or Hot Lands offer much in the way of collecting, but also considerable hardship in so doing. If collecting eggs, the trees selected by the birds for a nesting site, if not the slippery and tall cocoanut trees or the thorn trees, are very large around the base with the first limbs starting at some distance from the ground; besides the enervating climate makes about one such tree climbed, a day's work. The swamps are well nigh impenetrable, tho one does not have to watch out for venomous snakes. The only snakes I saw were sea-snakes which remain well out to sea. Woodticks are especially numerous and a sort of a jigger, called by the natives Wenas, are very rapacious. If allowed to get under the skin they frequently make very painful and troublesome sores, and if out in the brush much it is impossible to keep them from boring into the skin. A very small gnat

also helps to make things unpleasant, but all these things can be endured when one has the opportunity to meet so many birds so rare or unknown to us in California.

These observations cover three weeks at Las Penas, three weeks at San Blas and five days on the Las Marietas Islands. On account of missing steamer connections at San Blas we were compelled to wait there three weeks; and as we did not figure on this extra time our ammunition gave out, so little or no collecting was done. We left Mexico just before the rainy season started, May 26. The natives and what few Americans we interviewed assured us that the birds were much more numerous in the rainy season. Specimens were taken of all birds mentioned in this sketch, with the exception of the following, the greater number by Mr. Osburn.

Species seen, of which no specimens were secured: Cassin Auklet, Xantus Murrelet, Western Gull, Black-footed Albatross, Sooty Shearwater, Black-vented Shearwater, Least Petrel, Black Petrel, Farallone Cormorant, Brandt Cormorant, Blue-winged Teal, White-faced Glossy Ibis, Purple Gallinule, Long-billed Curlew, Mourning Dove, Turkey Vulture, Black Vulture, Duck Hawk, Desert Sparrow Hawk, Pigmy owl, Coppery-tailed Trogon, Texas Nighthawk, Brewer Blackbird, Cuernavaca House Finch, Painted Redstart, Western Gnatcatcher.

FROM FIELD AND STUDY

A Pink-Legged Tern.—On December 6, while walking along the beach, near Santa Barbara, California, with Mr. Bradford Torrey, he called my attention to a peculiar looking tern just ahead of us. It was standing on the sand in company with several Royal Terns (*Sterna maxima*), but was at once distinguishable from them by its intensely pink legs, in marked contrast with the black legs of the Royal. A long examination at close range with our binoculars seemed also to show that it was a trifle smaller than the others, with if anything a rather more pronounced crest.

Our inference pointed to its identification as the Elegant Tern (*Sterna elegans*), but none of our books offered any clue as to the pink legs. Any information will be most sincerely appreciated.—J. H. BOWLES.

The Western Winter Wren (*Nannus hiemalis pacificus*) in the Yosemite.—On the 18th of May, 1909, while in the footpath below Vernal Falls, I caught the sound of a Winter Wren's voice. The bird sang for some minutes ("full of music" my pencilled note says), but the place was difficult, and an attempt to see him was unsuccessful. However, a sight of the bird could have added nothing to my assurance of his identity.

On the 14th of June in the same place, I heard the song again, tho this time the bird seemed to be farther away, while the river was fuller and noisier, so that the notes came to my ear rather faintly, and if this had been my only hearing of them I should hardly feel justified in recording the bird's presence. But thirteen days later (June 27) I was again there, and after long silence the bird struck into song. Now he was close at hand, and presently I discovered him on one of the lower branches of a small maple where he sang repeatedly with my glass focussed upon him. I am told that there is no previous Yosemite record for this species.

I have had an acquaintance of many years with the New England bird, but I had met with the western form only once before this,—under the big redwoods at Santa Cruz. It may have been the effect of prejudice, but in both places I seemed to perceive that the westerner's song was a shade less beautiful than the easterner's, tho the difference between the two, if there really is any, is certainly very slight.—BRADFORD TORREY.

The Ring-neck Duck (*Marila collaris*) in Colorado: A Correction.—In a paper on the birds of southwestern Montrose County, Colorado (Condor, XI, Jan, 1909, p. 13), I recorded a specimen of the Ring-neck Duck as taken at Coventry, April, 1906. This bird was a female and turns out to be a female of the Lesser Scaup (*Marila affinis*.) While the original identification of the specimen as a Ring-neck was made by one in whose knowledge I had confidence, yet I am myself much to blame for not checking it up by reference to descriptions; and of course now regret very

much that I did not do so, for an error of this sort is very annoying in the case of a bird which is as rare as is the Ring-necked Duck in Colorado, while the bird which it turned out to be is common. This, however, makes a published record for the Lesser Scaup in that portion of Colorado. As a slight excuse for my error I would say that my personal experience with the various ducks is very limited.—E. R. WARREN.

The Little Brown Crane in California.—In the August number of THE CONDOR (XI, 1909, p. 129), Mr. J. Grinnell records a specimen of the Little Brown Crane (*Grus canadensis*) killed some ten or twelve years ago near Santa Ana, and adds, that "the present seems to be the *first* definite record of the species for the State" (italics are mine).

In fact it *is not*, as the late Mr. Vosnessensky procured several specimens of *Grus canadensis* in California in the forties (a ♂ ad., February 23 in Northern California, ♀ ad. January 10, St. Raphael Mission, Northern California, and juv. November, Herba Buena, San Francisco Bay) and this fact was recorded, with full measurements of these specimens, in my paper in *The Ibis*, April, 1907, pp. 364-365.—S. A. BUTURLIN.

The Bobolink in Idaho.—Last July, near Meridian, Idaho, (ten miles from Boise), while driving in the country I saw several male Bobolinks (*Dolichonyx oryzivorus*) in a field formerly given over to alfalfa. It had been plowed up and sown to wheat, making a mixed meadow-growth in which the birds seemed to be making themselves very much at home. Residents of Meridian were not aware that the bird occurred there, and I did not see it in any other locality.—H. C. TRACY.

A Booby (*Sula sula*) on the West Coast of Mexico.—While taking our evening dip in the sea the evening of May 21, 1909, at San Blas, Tepic, Mexico, a "moso" brought us a Booby which he said he had captured alive a mile down the beach. The bird from all appearance was the *Sula sula* and if so a very rare record for the western coast of Mexico. This was the only one of this species noted during two months of continual observation.—PINGREE I. OSBURN.

The Bluebird (*Sialia sialis*) in Park County, Montana.—On October 24, 1908, I saw an adult male of this species in Cinnabar Basin, a few miles north of the Yellowstone National Park, Park County, Montana. The bird was in company with a male Mountain Bluebird and both birds were observed closely. I believe that this is the furthest west that this species has been recorded in Montana.—ARETAS A. SAUNDERS.

The Cinnamon Teal (*Querquedula cyanoptera*) Wintering at Santa Barbara.—In Mr. Grinnell's Check-List of California Birds the Cinnamon Teal is put down as a common resident only. It may be worth recording, therefore, that for two years, at least, a few birds have wintered at Santa Barbara, where I have seen them in all three of the winter months. To be more exact, I have the species listed on the following dates: February 20, December 5, 6, 29, 1908; January 20, February 9, December 13, 17, 19, 24, 27, 1909; January 7, 1910. Mr. John H. Bowles kindly allows me to add that he saw the species here January 4, 1910,—a single bird, in salt water! All identifications, both mine and Mr. Bowles', were of adult males.—BRADFORD TORREY,

Accidental Trapping of Raptures.—On the morning of November 22, 1906, while going the rounds of my mammal traps I was surprised to find a Saw-whet Owl (*Nyctala acadica*) caught in a trap set for *Neotoma* in a swampy river bottom. The locality, Pinte Mts. California, was rich in small mammals, and Mr. Charles Richardson and myself had the vicinity of our camp well covered with traps. It was to this fact that I attribute the accident. The bird was caught on the side of the body, one wing being pinioned beneath the wire of the trap. The elevation of this valley is about 7,000 feet.

The only other record of this kind that has come to my notice was near Los Penas, Jalisco, Mexico. Referring to my note book for April 23, 1909, I find the following,—“In one trap by a fence on the bank of the estero premier I found a large hawk of peculiar plumage. The steel trap was sprung, the bait taken, and the hawk was lying at the base of a tree over a yard to one side.” This bird is now in the collection of Dr. Jonathan Dwight, Jr., and at this writing is yet undetermined.—PINGREE I. OSBURN.

Singing of the Female Slate-colored Fox Sparrow.—On April 17, 1909, I was watching a pair of Slate-colored Fox Sparrows in a willow thicket near Bozeman, Montana. At first I believed, from their actions, that the birds were mating, but later, when I noticed that both birds sang alternately, I decided that they must be rival males. The songs were very similar in every way except that one was somewhat weaker than the other. I finally secured the bird with the weaker song and was much surprised when, on later examination, it proved to be a female.—ARETAS A. SAUNDERS.

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of Western Ornithology

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EDITORIAL NOTES AND NEWS

The first expedition for 1910 to take the field in the interest of the University of California Museum of Vertebrate Zoology, left on February 13. The party is headed by Mr. J. Grinnell, who is assisted by Messrs. F. Stephens, J. Dixon and H. Jones; the field of their endeavors is the valley of the Colorado River, between Needles and Yuma. After a short stay at Needles boats were procured, and the party started down the stream, the plan being to collect at intervals on both sides of the river; proceeding by easy stages to Yuma, which will be reached about May 15. The same trip was made by Dr. Elliott Coues, years ago, when the country was new and unknown; and it is decidedly suggestive to note that the list of birds he saw along the river includes several species that have not since been observed in Arizona—to such an extent has this region been neglected by naturalists. The present expedition promises much in the way of results.

We are in receipt of an announcement of the organization in New York City, on December 8, 1909, of the American Bird Banding Association, the object of which is "the banding of wild birds and the recording of accurate data on their movements." The migrations of birds are thus studied by the placing of numbered, address, metal bands upon their legs,

a record being kept of the same. This method of study, tho new in this country, has been pursued in Europe for some time. It promises interesting results, and there are doubtless many Cooper Club members who will be desirous of assisting in the work. Full information may be procured from the president of the society, Dr. Leon J. Cole, Peabody Museum, New Haven, Connecticut.

John Farwell Ferry, member of the Cooper Ornithological Club, died at Chicago, Illinois, February 11, 1910, of acute pneumonia. Mr. Ferry was born on October 12, 1877 and graduated from Yale in 1901. In his preparatory work at Andover, Massachusetts, he was one of the most popular young men in the school. His strong Christian principles and his thoro work as Secretary of the Y. M. C. A., and Editor of the school paper at Andover, are still spoken of by the officers of that institution.

Mr. Ferry was fast winning distinction as an ornithologist. He had made numerous expeditions, in Arizona, and, for the United States Biological Survey, in the Coast Ranges of California. His latest and most notable trips were several expeditions to Central and South America, made in the interest of the Field Museum, of Chicago. His last trip was to some of the islands of the Caribbean Sea, of which little or nothing was known ornithologically, and he obtained an immense number of specimens, among which were several species and varieties new to science. The results of this trip are embodied in a report by C. B. Cory on the Birds of the Leeward Islands of the Caribbean Sea, (Field Mus. Pub. no. 137, Orn. Series, Vol. 1, no. 5).

His sterling qualities of heart and mind endeared him to all his friends and acquaintances. During my association with Mr. Ferry for twenty years, I have never heard him say a depreciating word against any man no matter how great an injustice may have been done him. Men of this splendid character are rare and it behooves us to take advantage of their lives as an example for future guidance.—F. M. W.

PUBLICATIONS REVIEWED

THE HOME-LIFE OF A GOLDEN EAGLE. By H. B. MACPHERSON. With thirty-two mounted plates. London, 1909, pp. 1-45.

The account here given of the life of a young eagle, during the eleven weeks between its birth and the time of its departure from the nest, is one of greatest interest. The writer's unusual opportunities for photography and study were evidently taken advantage of

to the utmost, and the resultant report discloses the domestic life of the king of birds to its uttermost details. The nest under observation was built on a cliff in a deer forest in Scotland, and a blind was constructed near by, affording concealment to observer and camera, where many long hours must have been spent in watching the daily progress of the young bird. The account is written in most simple and convincing style, with none of the imaginative flights that so often mar such observations, and is a substantial and valuable addition to our knowledge of the life history of a most interesting bird.

The accompanying photographs are beautiful and interesting, almost telling the story by themselves. Considering the large amount of dark, rainy weather encountered during the period of observation, the photographic results seem really remarkable.—H. S. S.

ANNOTATED LIST OF THE WATER BIRDS OF WELD, MORGAN AND ADAMS COUNTIES, COLORADO, SOUTH TO THE FIRST SECTIONAL LINE BELOW THE FORTIETH PARALLEL. BY A. H. FELGER. With three maps. (From *The Auk* XVI, no. 3, July, 1909, pp. 272-291).

The list is a long one, especially so for a section of the country that we are not accustomed to think of as being particularly well situated for the abundant occurrence of water fowl. The recent abundance of these birds is attributed largely to the settlement and farming of the country, with the attendant construction of reservoirs and irrigating systems. Besides the author's personal observations on the birds of the region during eleven years—1898 to 1909—he has drawn upon all the published sources of information available, making the list authoritative and apparently quite complete.

Many species of waders known to breed only in the far north were observed in varying numbers thru the summer, giving rise to the suspicion that they might be found nesting in the region. While this may prove to be true in some instances we believe it to be unsafe to assume as much from the mere occurrence of the birds during the summer months. Individuals of even such northern species as the Western Sandpiper and the Northern Phalarope are known to spend the summer as far south as southern California, and such of these as have been collected have always proved to be non-breeding birds.—H. S. S.

ECOLOGY OF THE HOATZIN. BY C. WILLIAM BEEBE [=Zoologica, vol. 1, no. 2, Dec., 1909, pp. 45-66, Figs. 7-19]. This contribution to the life history of an exceedingly curious and little known bird contains much of great interest. A bird with its crop replaced by a "gizzard," that uses its wings as hands and has

claws on its "fingers," that has the large, heavy feet of a ground dweller and still lives in the tree tops, but can swim and dive if need be, is enough of an anomaly to somewhat prepare us for the author's conclusion, startling as it appears, that the Hoatzin is very imperfectly adapted to its surroundings. This appears to be true to such a degree that it is only the total absence of active enemies that enables the bird to survive.

The numerous excellent photographs add greatly to the interest of the paper. Some of these depict the Hoatzin in life. Others from prepared specimens, show peculiarities of structure, such as the curiously modified sternum, clearly illustrating the feeble flying powers of the bird, and the claw-armed wings of the immature bird, used in clambering thru the branches.

A map illustrates the distribution of the species as known at present, and a bibliography of pertinent literature is appended to the paper.—H. S. S.

RACKET FORMATION IN TAIL-FEATHERS OF MOTMOTS. BY C. WILLIAM BEEBE [=Zoologica, vol. 1, no. 5, January, 1910, pp. 141-149, figs. 43-47]. The strange habit of voluntarily mutilating their tail feathers, peculiar to the Motmots, has long been a subject of interest to ornithologists, the mathematical regularity with which the trimming is done, and the object of the peculiar ornamentation, being alike food for speculation. In the present paper Mr. Beebe tells of certain experiments carried out on a living bird, which seem to cast much light on some phases of the question. As remarked by the author, the fact that before the denudation the feathers at the point of trimming are narrower than elsewhere, has been cited as a possible example of the inheritance of acquired characters, the theory being that generations of trimming have produced narrower feathers, which would, presumably, in further generations, be gradually replaced by others entirely bare at that point. On the face of it this theory appears to explain the existing conditions very plausibly, but Mr. Beebe's experiments seem to show that the acceptance of such a belief is but placing the cart before the horse—a complete reversal of cause and effect.

Lack of space forbids our giving an outline of the experiments carried out, but the conclusions reached are briefly as follows: that a certain portion of the central rectrices shows a congenital degeneration of barbs and barbules; that these barbs are strong enough to adhere to the shaft during the growth of the feather, but too weak to survive the manipulation received during preening. Hence that the regularity with which the trimming is done is entirely involuntary on the part of the bird, and not at

all indicative of an "artistic eye"; and that the narrowing of the vane at the subsequently denuded portion of the retriix is but one feature of the degeneration of that part of the feather, rather than the result of voluntary mutilation carried on thru many generations.

It is a subject of great interest, most attractively presented, and to the reviewer at least, the conclusions are most convincingly demonstrated.—H. S. S.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

NOVEMBER.—The November meeting of the Northern Division of the Club was held on Saturday evening, November 20, at Berkeley, in the lecture room of the Museum of Vertebrate Zoology. The meeting was called to order by President W. K. Fisher. The minutes of the October meeting were read and approved as read. A communication from Mr. Wm. Dutcher, of the Audubon Society, was read and placed on file. The resignation of Dr. Lu Ella Cool Walker was read, and on motion was accepted. The motion was made and carried that the Club hold an annual dinner.

Nominations for officers for 1910 were declared in order and the following nominations were made: President, J. Grinnell; Senior Vice-president, R. S. Wheeler; Junior Vice-president, J. Dixon; Secretary, H. W. Carriger; Treasurers, J. Eugene Law and W. Lee Chambers.

Mr. Grinnell gave a very interesting talk on the Gray Vireo and the Dusky Warbler, illustrated by skins of the warbler, and nests, eggs, skins, and photographs of the vireo. Mr. J. Mailliard, who has been working on the Tricolored Blackbird, gave a talk on the subject, illustrated by a number of skins. Adjourned.—H. W. CARRIGER, *Secretary*.

JANUARY.—The January meeting of the Northern Division of the Club was held on Saturday evening, January 22, in the lecture room of the Museum of Vertebrate Zoology. The meeting was called to order with Senior Vice-president W. P. Taylor in the chair, and the following members present: J. Grinnell, L. M. Loomis, E. W. Gifford, Ernest Mailliard, Joseph Mailliard, H. S. Swarth, J. Dixon, M. Ray, O. Heinemann, and H. W. Carriger. Messrs. H. C. Bryant, R. P. Shields, and H. C. Tracy were present as visitors. The minutes of the last meeting were read and approved as read. A motion was made and carried that the Secretary cast the unanimous ballot of those present electing to active membership the following, whose names were presented at our last meeting: John J. Dalgleish, Morton E. Peck, Earle R. Forrest, F. B. McKennie, E. Arnold, and L. B. Howsley.

The following names were proposed for membership by W. L. Chambers: C. S. Day, West Roxberg, Mass.; W. C. Braislin, Brooklyn, N. Y.; V. Burtch, Branchport, N. Y.; F. S. Wright, Auburn, N. Y.; C. J. Pennock, Kennett Square, Penn.; B. S. Bowdish, Damarest, N. J.; B. A. Arnold, Albany, N. Y.; W. L. Burnett, Loveland, Col. Also G. R. Rossignoe, Jr., Savannah, Ga. by H. F. Duprey; H. L. Bigelow, Chestnut Hill, Mass., and C. I. Clay, Eureka, Cal., by H. W. Marsden; Dr. F. H. Knowlton, U. S. National Museum, by C. W. Richmond; Coleman Jonas, Denver, Col., by R. B. Rockwell; and C. L. Dewey, Whitestone, Long Island, N. Y., by H. S. Swarth.

Nominations for officers for 1910 were declared open. There being no further nominations the election was proceeded with, after which the chair declared the following elected: President, J. Grinnell; Senior Vice-president, R. S. Wheeler; Junior Vice-president, J. Dixon; Secretary, H. W. Carriger; Treasurers, J. E. Law, and W. L. Chambers. The chair was then taken by Mr. Grinnell. The resignation of F. B. Rodolph was presented, and accepted. A proposal to elect Dr. J. A. Allen to honorary membership in the Club was presented, signed by seven active members.

A report from Mr. W. Lee Chambers was read and accepted, and the Secretary was instructed to write Mr. Chambers extending the thanks of the Club for the able work he has done. A letter from Mr. Wm. Dutcher of the Audubon Society was read, relative to the alleged destruction of sea birds on the Farallones by dogs belonging to the light-house keepers, and the Secretary offered to attempt to secure further information on the subject.

Mr. Joseph Mailliard read an interesting paper on the blackbirds of California, illustrated by photographs and specimens, which was afterward discussed by the members present. (See *antea*, p. 63.) Adjourned.—H. W. CARRIGER, *Secretary*.

SOUTHERN DIVISION

JANUARY.—The January meeting of the Southern Division of the Cooper Ornithological Club was held on Thursday, January 27, 1910 at Room 1, City Hall, Los Angeles. The meeting was called to order by President Morcom and in the absence of Secretary Law, Howard Robertson was elected Secretary pro tem. The minutes of the December meeting were read and approved. Allyn G. Smith, Redlands, California, was duly elected to active membership. The name of Gaylord K. Snyder, Stanford University, California, was proposed for membership by V. W. Owen. The resignation of Lester Black of Bloomington, Indiana, was read and action thereon was postponed until the February meeting.

The following officers were duly elected to serve during 1910; President, G. Fream Morcom, Vice-president, H. J. Lelande, Secretary, J. E. Law, Treasurer, W. Lee Chambers.

A communication from Joseph Grinnell relating to the revision of the "List of Birds of the Pacific Slope of Los Angeles County, California", wherein a proposed plan for such revision was suggested, was read and discussed. Upon motion of Mr. Robertson, seconded by Mr. O. W. Howard and duly carried, the President appointed a committee of three consisting of Messrs. Robertson, Willett and Miller to devise a plan for the revision of the aforesaid list and submit the same for consideration at the February meeting.

Mr. A. M. Ingersoll spoke of the collecting of various species of the rarer birds of San Diego County, notably the Black Rail, and after informal discussion the meeting adjourned.

HOWARD ROBERTSON, *Secretary pro tem.*

FEBRUARY.—The February meeting of the Southern Division of the Cooper Club was held on Thursday evening, February 24, 1910, at Room 1, City Hall, Los Angeles. The meeting was called to order by President Morcom, with the following members present:—Messrs. Childs, Lelande, Willett, Robertson, Miller, Owen, Davis, Antonin Jay, Alphonse Jay, Chamberlain, Perez, Shepherdson, Van Rossem, Blain, Peyton, Osburn, Law, and with Howard Peyton, as visitor.

The minutes of the January meeting were read and approved. On motion by Mr. Willett, seconded by Mr. Miller, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present, electing to active membership Mr. Gaylord K. Snyder. On motion by Mr. Robertson, seconded by Mr. Willett, and duly carried, the resignations of Messrs. Lester Black and C. H. Gilbert, were accepted with regret. The following applications for membership were presented by W. Lee Chambers: Bradford Torrey, Santa Barbara, California, H. C. Burt, Santa Paula, California, John C. Fortiner, Jr., Brawley, California. On motion by Mr. Robertson, seconded by Mr. Chamberlain, and duly carried, the Southern Division approved the election of Dr. J. A. Allen to honorary membership in the Club. Mr. Robertson, Chairman of the Committee appointed at the last meeting to consider the matter of publishing a new bird list for Southern California, reported that the Committee recommended a new list to comprise all that portion of Santa Barbara, Ventura, Los Angeles, Orange, San Diego, San Bernardino, and Riverside counties which are on the Pacific Slope of the coast ranges; and to include the islands along the coast of these counties; that the list

be segregated, one covering lowland birds, concerning which we have liberal data, and a supplementary list comprising the high mountain birds; the list not to be annotated as completely as Grinnell's San Bernardino list; and that the compilation be put in the hands of one person. The list, when completed, to be submitted to the Southern Division for discussion; and, when approved, to be issued as one of the Avifauna series of the Cooper Club. On motion by Mr. Robertson, seconded by Mr. Miller, and duly carried, it was decided to compile such a list in accordance with the above suggestions. On motion by Mr. Miller, seconded by Mr. Alphonse Jay, and duly carried, the task of compiling such list was assigned to Mr. George Willett. Mr. Willett, in accepting this undertaking, said that he would expect to call on any and all Club members for all the data of value that they had, and intended to spend some time with each one going over his collection for data of value. Mr. Willett expects that at least a year will be required in getting together sufficient data, and reviewing literature, and asks that each Club member begin right now and collect specific data with regard to migration and nesting habits for the coming season. We are particularly lacking in dates of migration and breeding.

Mr. Robertson, reporting with regard to the progress of the Southern California Museum to be erected in Agricultural Park, outlined the policy to be pursued by the Board of Supervisors, and said that the charge of the Museum would be placed in the hands of a Board of Governors to consist of nine members, to be elected by specified organizations, of which the Cooper Club was to be one. The County will make a liberal appropriation, supplying all equipment necessary, provide curators, etc., and will expect the Southern Division of the Cooper Club to take charge of the Ornithological Exhibit. On motion by Mr. Lelande, seconded by Mr. Willett, and duly carried, the President and Secretary were authorized to sign the agreement with the Board of Supervisors of Los Angeles County accepting this proposition. On motion by Mr. Lelande, seconded by Mr. Miller, and duly carried, Mr. Howard Robertson was appointed the representative of the Cooper Club on the Board of Governors for 1910. On motion by Mr. Willett, seconded by Mr. Chamberlain, and unanimously carried, a vote of thanks was extended to Mr. Robertson for his interest and activity in procuring so satisfactory an arrangement for the bird exhibit. Dr. John Hornung exhibited a small series of Mexican bird skins, altho he himself was not able to be present. Adjourned.

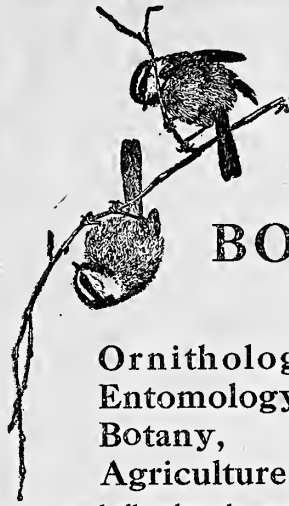
J. E. LAW, *Secretary.*

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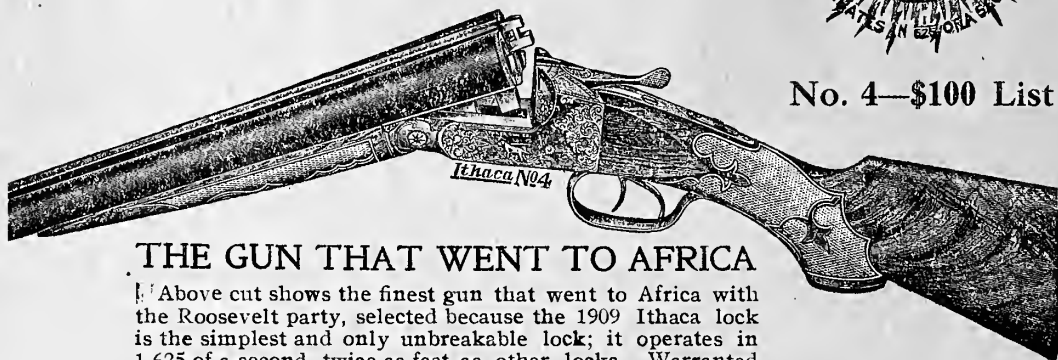
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THE CONDOR

A Magazine of Western
Ornithology



Volume XII

May-June, 1910

Number 3



W.K.T.

COOPER ORNITHOLOGICAL CLUB

Smithsonian Institution
MAY 31 1910
National Museum

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THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume XII

May-June 1910

Number 3

FROM TAHOE TO WASHOE

By MILTON S. RAY

WITH TWO PHOTOS BY OLUF J. HEINEMANN

IN PLANNING the season's field work at our 1909 base, Bijou, Lake Tahoe, the trip to Washoe Lake, Nevada, was one that very favorably impressed us, as not only the lake itself but the country intervening, promised much to the student of bird-life.

On the morning of June 22 we left Bijou in our motor-boat, which took us as far as Glenbrook, Nevada. Glenbrook was formerly a town, in fact the principal one on the lake. The place now, however, is merely an obscure summer resort. The surrounding mountains, once magnificently timbered, now show but a sparse second-growth, with here and there a great gnarled pine or fir which give some idea of their former grandeur. At half past ten Heinemann and I, each with a pack of about forty pounds, set out on the Carson Road. The day was warm, and the road, except where crossed by some stream bordered by willows and aspens, was unsheltered. On reaching Spooner we took the Marlette Lake Road, this being the best route to Washoe. About Spooner, which is situated on the summit of one of the lower ranges at an elevation of 7,000 feet, are tracts of country typically Nevadan, being dry, rocky and brushy. In these patches we found the Brewer Sparrow abundant, and I was fortunate in discovering a nest along the road in the top of a sage bush two feet up. It was made of weed stems and bark strips, lined with fine, reddish rootlets and a few horsehairs, and contained two small young and an infertile egg. *Spizella breweri* evidently possesses no marked vocal ability and its dull plumage matches the arid region it inhabits.

Leaving Spooner, the road, after some preliminary bends and turns, finally sallied forth up a long, narrow, wooded canyon through which coursed a small stream of limpid water. The road, following the waterway, led through pines and firs, thickets of willow, and wonderfully beautiful aspen groves. Several nests of the Western Robin (*Planesticus migratorius propinquus*) were found, which either contained, or had recently contained, young. Although we were continually ascend-

ing, yet, as a condition which prevails on the Nevadan side of Tahoe, birds of much lower levels were not uncommon. Above Spooner a small colony of Red-wings (*Agelaius phoeniceus neutralis*) was noted nesting in a swampy meadow; and here, well up the canyon, at an elevation of 7500 feet, where patches of snow still lay on the road, was the Black-headed Grosbeak (*Zamelodia melanocephala capitalis*) tossing exhilarating melody from the tree-tops along the brook.

For five miles or more we followed the narrow canyon until, after a sharp turn, we reached the top of a snow-covered ridge, than from which perhaps there is no rarer view in all the region, for directly below, surrounded by virgin forests, is Marlette Lake, and rising farther back, that lofty snow-peak, Mount Rose. About the lake the altitude, 8000 feet, was evidently a little too high for *Agelaius* and *Zamelodia*, and all the species noted were typically high Sierran and were as follows: Sierra Grouse (*Dendragapus obscurus sierrae*), Red-shafted Flicker (*Colaptes cafer collaris*), Olive-sided Flycatcher (*Nuttallornis borealis*), Western Wood Pewee (*Myiochanes richardsoni*), Blue-fronted Jay (*Cyanocitta stelleri frontalis*), Clarke Nutcracker, (*Nucifraga columbiana*), White-crowned Sparrow (*Zonotrichia leucophrys*), Sierra Junco (*Junco hyemalis thurberi*), Western Warbling Vireo (*Vireosylva gilva swainsoni*), Ruby-crowned Kinglet (*Regulus calendula*), Sierra Hermit Thrush (*Hylocichla guttata sequoiensis*).

After taking some views of Marlette we descended with the road to the lake shore, along its edge for some distance, and then, ascending the opposite mountain-side, we found ourselves on the eastern summit of the Sierras. Far below lay the foothills and valley lands, and farther eastward the numberless barren mountain chains. Such deep snow covered the road, however, that we lost all trace of it and had to cut across the country as best we could. We met the road again at Hobart Creek Reservoir, a muddy lake in the open country, after a down-grade tramp which gave more of experience than pleasure. At the villa near the Hobart Pumping Station we spent the night and early next morning started down the long winding road which leads straight to Washoe Lake. Desiring to secure a good photograph of the lake we focust from numerous turns of the road but Washoe does not lend itself well to the camera, for we either had too much or too little lake or mountain, and once, when the view was fair, a great dead tree persisted in occupying half the plate. From a pictorial point too, each curve of the road below appeared better than the one we were on, and in this way, altho we failed to get a picture of Washoe we soon reached the level valley lands, where we made a short cut thru grainfields and orchards towards the lake. By a small brook we came upon a colony of American Magpies (*Pica hudsonia*), and, altho knowing this bird to be a very early breeder, I inspected some half dozen nests in willow trees, but in each case the young birds had left. Crossing some wide pasture lands where countless cattle were grazing we came to the shores of Washoe.

This lake with its murky water and surrounded by desert ranges, tule tracts or swampy pasture lands, is a striking contrast to Tahoe with its deep, clear water, and its great forests that run up lofty mountains and end in the snow. But I am not at all sure that Tahoe is richer in marsh and water birds. The Al Tahoe marsh (formerly known as Rowlands) is the only swamp of consequence at Lake Tahoe, where most of the shore line is either sandy or rocky, and it is smaller in extent than the great tule fields at the northern end of Washoe Lake.

As we crossed the pasture lands, we found the Killdeer (*Oxyechus vociferus*) exceedingly common, in fact I know of no place where I have found them equally so, and our first nest (found by Heinemann) was of this bird with four well incubated eggs. The latter were placed on a bed of even-sized pebbles, in a slight

hollow. Bird life became more and more abundant as we walkt towards the northern end of the lake, Red-winged Blackbirds (*Agelaius phoeniceus neutralis*), Yellow-headed Blackbirds (*Xanthocephalus xanthocephalus*), and Wilson Phalaropes (*Steganopus tricolor*) being especially common. One of the latter fluttered along the ground almost at our feet, but a careful search failed to reveal the nest. We soon realized, however, that not much could be accomplisht without the use of a boat, and as all those about were securely chained, and, to reach the boat-house meant a walk of twenty miles, with the chance of finding no one in, our prospects for a series of views of water-bird homes were not very bright.

After wading some distance among the tules, from where coot and various ducks and grebes headed out, we began to appreciate the wealth of Washoe's water bird-life, and felt that a region so rich as this deserved the work of a summer's



Fig. 25. OUR FIRST VIEW OF MARLETTE LAKE

vacation rather than the short time we were able to give it. Consulting our watch, we found we had been at the lake two hours and a half, and that we still had ample time to catch the train to Carson City. Leaving the great marsh almost untoucht we walkt west to the railroad station at Franktown, but even in this short span of territory a number of interesting nests were discovered. The first, that of a Brewer Blackbird (*Euphagus cyanocephalus*) was in the top of a sage two feet up, made of weed stems, and grasses and lined with horsehair. The four eggs it held appeared to be in a condition of advanced incubation.

Not far from here in a grain field, altho the growing grain offered no concealment, being but little above the ground, I found a nest of the Dusky Horned Lark (*Otocoris alpestris merrilli*), made of weed-stems, with two eggs which to my surprise showed incubation had already begun. In a thick patch of clover along an irrigation ditch a Cinnamon Teal (*Querquedula cyanoptera*), was flusht;

and disclosed five fresh eggs lying in a grass lined hollow; while a little farther on in an alfalfa field which was being almost flooded by irrigation I found a nest of the Mountain Song Sparrow (*Melospiza melodia montana*) with the large complement of six eggs. The nest, of grasses and weed stems with a lining of horsehair, was placed on slightly higher ground, and was well concealed by the thick alfalfa. The eggs were in a state of advanced incubation.

A short journey from Franktown, on the train, brought us to Carson City, the State Capital, a very pretty little town with countless shade trees lining every road and lane and tempering the torrid heat of the Nevada summer sun. The altitude of Carson is 4,675 feet being about 350 feet lower than Washoe Lake, and the bird-life noted was about what we expected to find. The following were the most common species: Western Wood Pewee (*Myiochanes richardsoni*), Western Meadowlark (*Sturnella neglecta*), Bullock Oriole (*Icterus bullocki*), House Finch (*Carpodacus mexicanus frontalis*), English Sparrow (*Passer domesticus*), Western Yellow Warbler (*Dendroica aestiva brewsteri*), Western Robin (*Planesticus migratorius propinquus*).

The following morning we made the trip by rail to Virginia City. After traveling thru the mountains of California, this region, like that between Franktown and Carson, must impress everyone by its lack of timber. Rocky, brush-covered ridges rolled by in unvarying succession. In some places there were small, scattered trees but the highest of these did not appear to be over fifteen feet. The only exceptions were the thickets of willow, cottonwood and other trees along the muddy Carson River, which the train followed for a considerable distance. Here we noted from the car-windows three birds as being especially common, the Mourning Dove (*Zenaidura macroura carolinensis*), the Arkansas Kingbird (*Tyrannus verticalis*) and the American Magpie (*Pica hudsonia*).

After a long, slow, up-grade grind the train pulled into historic Virginia, once a great city but now in ruins. Located at an elevation of about 6,000 feet on the side of a steep mountain and not far from its summit, it is hardly the place where one would expect to compile an extensive check-list. We found bird-life not entirely wanting however. Two characteristic birds were the Slate-colored Sparrow (*Passerella iliaca schistacea?*) and the Rock Wren (*Salpinctes obsoletus*). The rich song of the former came wandering down from the brushy brookless gullies, while in the town itself we heard the wren's wild sweet melody. In one of the many deserted buildings, where uneven stones cemented in '49 style formed the wall, we found the pebbled pathway which led to an unseen nest. Among the few scattered trees in the town the Bullock Oriole and the House Finch were noted, and, in an empty frame building, a pair of Mountain Bluebirds (*Sialia currucoides*).

On our return to Carson, altho it was late in the afternoon, we still had time to tramp quite a way on the Tahoe Road, and nightfall found us well up in the foothills, encamped in the hay-barn of a friendly farmer. The ingenious architect of the structure we occupied had saved considerable lumber in its construction by leaving a generous space between each of the side-boards, thru which the night winds entered with remarkable freedom. This, coupled with the fact that we were able to find but little hay to soften the board floor on which we unrolled our sleeping bags, caused us to arise at a very early hour. We arranged our pack beneath the paling stars, and, at the first faint streak of dawn were on the road.

King's Canyon Road, the route by which we were traveling, while not possessing the scenic attractions of the Marlette Lake Road still leads thru much pleasant scenery of the lower altitudes. Spooner, at the end of the road is at its

highest point, and the ascent all the way from Carson is remarkably gradual. The timber, characteristic of the eastern slopes of the Sierras, is rather sparse and the majority of it second growth. The prevailing species of birds noted were the American Magpie, Mourning Dove, Thick-billed Sparrow (*Passerella iliaca megarhyncha*), and the Woodhouse Jay (*Aphelocoma woodhousei*). The latter was especially interesting on account of its close resemblance in song, habits and color-



Fig. 26. NEST OF KILLDEER PLOVER ON SHORE OF WASHOE LAKE

tion to our common California bird. We met with the species up to an elevation of at least 6,500 feet, the last bird being seen just below Spooner.

Leaving the latter place, we reacht Glenbrook, on the lake, at the very time we had left it three days previously. From here we telephoned to Bijou for our motor boat, and it was not long before we caught sight of it rounding the pine-fringed point. As we had a strong head wind returning, however, it was a considerably longer time before we reacht Bijou, the end of our journey.

NOTES ON THE NORTHWESTERN CROSSBILL

By J. W. PRESTON

WITH TWO PHOTOS

FOR ten years past I have occasionally gone into regions inhabited by this interesting bird, whose movements are erratic in the extreme. Reports of their nesting have consequently been misleading. I had been taught that one should expect sets of their eggs in February, and it required almost the ten years to learn that such is not *always* the case, if ever in this region, Spokane, Washington.

From a bird which sports crost mandibles and chews its food we might expect some eccentricities, and the subject of this sketch certainly possesses them! A careful study of a large number of the birds as well as of their general habits, nests and eggs, would seem to prove the propriety of separating this form. If there is wisdom in the separation of a multitude of recognized forms, this one should by no means be an exception. In this northwestern region the male Crossbill is indeed a "red bird" and handsome as is his modest mate.

From late Autumn until the next June they appear in large flocks, coming down from their northern breeding range at the appearance of snow, and remaining in certain localities where pine nuts are plentiful, as that is their principal food supply. All winter long they may be seen moving about over the forests from place to place, frequently settling onto a large cone-covered pine to feed. I have seen large trees literally covered with them, and it was a lively sight, what with the rattling of the dry scales of the cones as they bit out the nut, the continual "peet-peet-peet" and the flying from cone to cone. Then all at once, at a quick call, every bird would fly away and the flock had gone.

The song is a series of clear, loud, sparrow-like notes, and pretty whistling effects which come riffing down from some pinnacle of a great tall pine tree. An occasional note resembles a quick, clear passage in the song of the rock wren—a rich, clear, single whistle-note. Another resembles a rich portion of the Baltimore Oriole's song. But the common note of the Crossbill is an energetic, strong, metallic "peet-peet" which is uttered on all occasions, and one seldom sees a Crossbill without also hearing this note. A male bird will gather a flock about him by means of this call. Another effort is like the twittering of the Goldfinch. Most of their movements are accompanied by the "zeet-zeet-zeet" in a sort of whizzing tone, or "chink-chink-chink," "peet-peet-peet" or "pit-pit-pit", metallicly. But the real singing is from the tree-tops and it is a happy, cheerful song. At times the male will float about overhead, singing, much as the Horned Lark does.

The latter part of June they separate into small colonies, and resort to remote mountain regions, at an altitude of from two thousand to four thousand feet, where, in a social way they rear their young. The food consists largely of pine nuts and fir seed. At nesting time fir seed is green and soft and these birds will feed by the hour in the top of a tree, cutting off a cone and holding it in the claws while dexterously extracting the seeds which they seemingly chew. On this nutritious substance the young birds are fed. No wonder they are strong and energetic. These birds are literally reared in the tree tops, and rocked by the rough winds that surge down over the hills from the mountain sides. While the Crossbill loves the lonely retreats he is by no means a wild bird, and I have seen them perch on dwelling houses and about stables. When the pine nuts have fallen,

they will come onto the city lawns and pick up the nuts right at ones feet, and I have had them come down and drink where I was watering the lawn. They are especially fond of salt, and a large flock of them was frequenting the salt-licks at the head of the Middle Weiser River, Idaho, when I was there some years since. They will eat the soil for the salt wherever they can find it.

The nest is built of dead tamarack twigs for a foundation and outer walls, interwoven with much dry fine grass and a few dry pine needles. The lining is an abundance of long, black moss from tamarack trees, and a few soft feathers, making a good, warm nest, placed in the divergent small branches of a horizontal branch from four to eight feet out from the tree-trunk. One was directly in the center of a heavy bunch of long needles at the very tip of a ninety-foot pine and

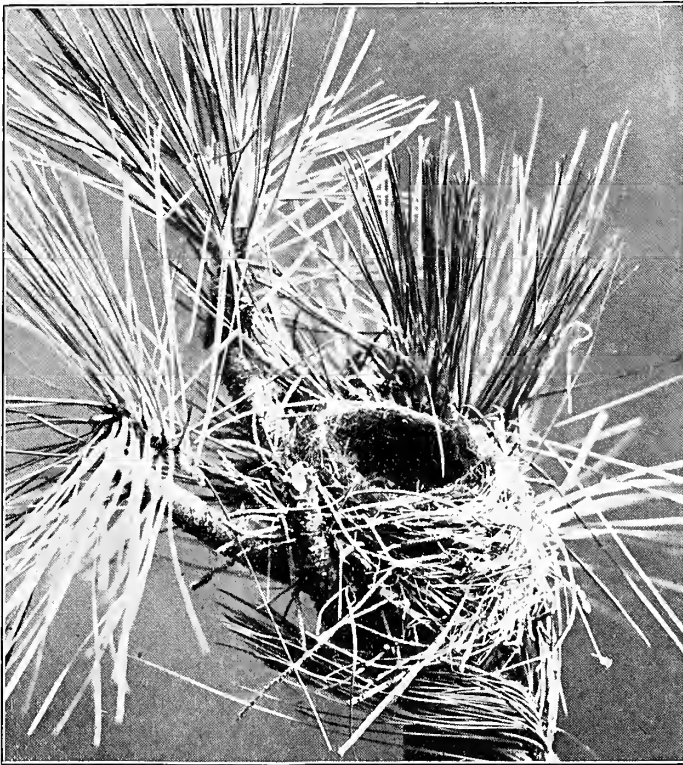


Fig. 27. NEST OF THE RED CROSSBILL

was so concealed by the denseness of the growth that the nest was not visible. The climber begged to come down, believing there was no nest there, but I had spent too many hours locating it to come away without it. It was no mean task to secure this nest, but my climber is an expert lineman. All these nests were built among the needles, so as to be perfectly concealed, and if the bird did not reveal the place, it would be impossible to locate it. All the nests were in pines and next to inaccessible. Measurements for one nest are sufficient, as they are as like as peas in a pod. Outside diameter, four by five inches; inside, two and one-half. Outside depth, three; inside, one and one-half. With the settings it is very artistic. The photos show how well hidden the nests are.

There are three sets of these pretty eggs before me, with their respective nests.

These eggs are plainly much larger than those of the eastern bird. Set number one contains four splendid eggs, measuring as follows: .85x.60, .86x.61, .87x.62, .88x.62. All are of quite uniform size, all plainly and plentifully marked about the larger end with irregular, kinky strokes and spots, varying from faint purplish to dark chestnut, over a dull greenish white ground somewhat clouded by the weak chocolate flush, which is present in some of these specimens. One egg of this set has the marks somewhat lengthwise giving it a waved or marbled appearance, with no marks darker than cinnamon brown. These extend well over the surface except the point. Three eggs of the set have the subdued purplish at the larger end approaching a wreath.

The eggs of set number two have a clear, bright greenish-white ground color, uniform over the entire surface. They measure: .79x.57, .85x.58, .83x.58. One egg is almost plain at the point, with small specks and spots of faint cinnamon over



Fig. 28. ANOTHER VIEW OF THE NEST SHOWN IN FIG. 27

the larger part of the surface. The other two are almost alike, being sparsely flecked with cinnamon, with little of this below the center, but heavily specked with seal brown in an irregular wreath at the larger end. There are also a few kinky lines of the same color. These eggs have an exceedingly fragile shell, which may be said of all the sets, possibly caused by the character of food.

The eggs of set number three measure as follows: .86x.62, .87x.62, .90x.60, being decidedly elongated. The ground color is a dull greenish, with the markings, mostly at the larger end, consisting of splashes and specks of faint chocolate and cinnamon, forming a washed surface in form of a broad, dull wreath about the large end which is bare at the point, except in one egg in which the blotches extend over the entire surface. Then there is on each of these three eggs a delicate chocolate hair line encircling a small portion of the larger end. Hanging on

these lines are a few tear shaped dots of black. In all these sets there is a resemblance to eggs of the Orchard Oriole. In several eggs there is a faint flush of subdued purplish stain.

The flight is swift and strong, accomplished with quick beating of the wings, there being a peculiar, pent-up energy in their movements. They will start from a perch with an almost bullet-like swiftness. Their sociable nature is marked. They even feed together during the nesting season, there seemingly being no ill will among them. The scattered breeding colonies extend far into the wilderness. The past season I located three colonies which were nesting, and they did not vary in the time chosen nor in the selection of a nesting site; always in wild, mountain places, and the nests well hidden in the high branches of pine trees.

The nest-building began about the 10th of July and finished about the 20th. In their late nesting they resemble the goldfinch which postpones the nesting duties until July and August. One might believe that this was simply a second nesting, but the large flocks do not break up until late in June, no young birds can be found until late in summer, there are no young birds in the summer colonies where they nest, and that they do not settle to work until July, has been my observation. I have worn out more than one pair of "mountain" shoes looking for February and March nests in this country, but have learned to stay away during that portion of the year. Another peculiarity of the Crossbill is its propensity for changing its place of abode. Where they are abundant one season they may be entirely wanting the next. While my climber was at one of the nests the mother bird tried a number of times to come back onto her eggs, even venturing within two feet of him. The male came very close also. There were several pairs near about, which did not scold as many birds do, but seemed almost stupid.

The birds of this region seem to be quite constant in size and in the brighter coloration, being larger than the eastern race and of brighter plumage. Adult males are bright enough to pass as "red birds", by which name they are known. As we came from the place when the twilight glow was fading and dim shadows shrouded the mountain world, we could hear the gentle twittering from the nests far above us.

MISCELLANEOUS BIRD NOTES FROM THE LOWER RIO GRANDE

By AUSTIN PAUL SMITH

THIRTY years can bring as many changes in a bird community as into one composed of men. You can have an instance of this by perusing the published observations of Merrill or Sennett, appearing approximately that number of years ago—and then visiting the lower Rio Grande Valley. Today you will find it necessary to make some careful search to locate the Chachalaca (*Ortalis vetula maccalli*) near Brownsville, while it would be hopeless to expect to discover a Wild Turkey (*Meleagris gallopavo intermedia*), or a Fulvous Tree-duck (*Dendrocygna fulva*). However it should be balm for regret, to realize that while these several species have gone, or are disappearing from the Valley's avifauna, at least a corresponding number of forms, have appeared. To this latter class belongs the Chestnut-bellied Scaled Quail (*Callipepla squamata castanogastris*) that now roams within a few miles of town. Along with this instance could be cited the

cases of several small birds that I will not take the time to specify. Cultivation is, of course, the prime cause of this transformation. Most of the heavy brush for many miles up, and the few miles that are wooded, down the river, has been removed, to make way for cultivated fields, that are quite a net work of irrigating canals. Hundreds of settlers have come into the Valley of late, to take up these lands, generally with mistaken ideas of a very new country, and liberally provided with guns. Of course they were more or less disappointed, tho it has (or did have) as great a variety of feathered game as any part of the United States. Unfortunately, this very condition may lead to a partial extermination of many species, for many of the settlers have an idea that the number of ducks, plover, quail, etc., is so unlimited that no closed season is necessary. So the game laws are liberally interpreted—and as laxly enforced.

Nearing the Gulf Coast, going eastward from Brownsville, one approaches an open country comprising sand-dunes, and inundated flats, the latter caused by the seasonal overflow from the river. These swampy areas are the homes of many species of water-birds during the entire year; but especially so in winter when myriads of ducks, geese, herons, plovers and sandpipers resort to it. Near the mouth of the Rio Grande, along the coast, is a little fishing-village named Point Isabel, peopled principally by Mexicans. It is the terminus of a railroad from Brownsville, being twenty-six miles distant therefrom. I made this coast hamlet my headquarters for several months during the fall of 1908, and on several occasions, for brief periods since then.

I do not care to put an estimate on the number of species of birds that could be found at one season or another within the territory I have just referred to, tho I imagine it could produce a list greater than most Californian localities. Rather, I will in hap-hazard manner proceed to speak briefly of the characteristic species of the Valley; also of some of the more interesting migrants.

I believe, well I am sure—that the bird I wanted to find most of all, was the one, that as yet, I have failed to meet within our borders. It is the Jacana (*Jacana spinosa*). Many a time I have discovered a spot suitable to its requirements along the river, but no Jacana appeared. So I conclude, that we can only include it on our lists as a casual summer visitor; for I know of but one taken here during the past two seasons. This example was secured along the river, half way to the coast by an old Mexican gunner, who had never shot a bird like it previously, in the many years he had hunted here. He brought the bird to the city, and sold it to a local merchant who had it mounted. I examined this bird in the flesh, and recorded the date of its capture—June 2, 1908.

After the Jacana, it was the Chachalaca that reigned in my thoughts—and I had better fortune in this case, meeting it possibly a month after my arrival. Working thru some heavy brush one cloudy day, I was startled by a prodigious flapping of wing, accompanied by chuckling, turkey-like notes, all issuing from above. Lo, behold!—sitting not fifteen feet over my head, in a patriarchal ebony tree, were ten or more of as stupid looking aves as ever I gazed upon. My presence had caused this commotion, but no flight was resorted to, until I had shot into the flock. As already stated, the Chachalaca is no longer a common bird near here; and one may ride the country roads for many an evening, before its nocturnal notes sound in the ear. It is now seldom brought into market in numbers for sale, as was the case at the time Dr. Merrill wrote. The few that we do find for barter are live birds, mostly having been hatcht under a domestic hen—that being the fate of the eggs of any nest of the kind discovered here. Indeed, there must be more domesticated Chachalacas, varying in degrees of intermixture, than wild

ones, in the Valley today. It is a mystery what the inducements are for their domestication. I would prefer Mudhen at any time as food. The farmyard fowl and Chachalaca interbreed freely, at least in the first instance, and the resultant hybrids surprise one by their variety. The Chachalaca keeps close to brush most of the time. A favorite location is heavy growth surrounding a resaca (old river-bed ponds) where water can be found easily. The muddy edge of the resaca usually yields ample proof of the past presence of the birds in the countless imprints of feet. Old residents claim that the cold wave of 1898 had something to do with the present scarcity of the Chachalaca. On that fated day in February, when the temperature fell to 11 degrees above zero, and snow covered the ground for the entire day, thousands of Chachalacas perished, along with unnumbered other wild and domesticated animals.

The Bobwhite of the region (*Colinus virginianus texanus*) is common thruout the Valley, even entering the city limits when the bottoms are flooded; but it is not sought after as game to the extent that the pigeons and doves are. Six species of *Columbae* are represented, and their great abundance is subject for comment. Immense flocks of Mourning Doves (*Zenaidura macroura carolinensis*) arrive from the north, in late fall, to winter. The Ground Dove (*Chamaepelia passerina pallescens*), and the White-winged Dove (*Melopelia asiatica*) also winter in greater or less abundance. But the White-fronted Dove (*Leptotila fulviventris brachyptera*) appears to be absent during the months of November, December and January. This dove approaches the true pigeons in bulk, but is more eminently terrestrial than any of the several pigeons, I am acquainted with. The White-fronted Dove is a slow moving bird on the ground and quite unsuspecting; and as it generally prefers to feed under growth of some sort, proves an easy target for the pot-hunter. They seldom flock, rather preferring to remain in pairs at all times. They feed almost entirely on small herb and grass seed, rarely partaking of the mesquite or ebony bean. I have found them to breed only during May.

The Green Jay (*Xanthoura luxuosa glaucescens*) ranks above all its North American cousins in plumage, tho not in bearing. I have yet to find a species of crestless jay that is free of cowardly disposition or sneaky manner. It is born in them. The crested members of this group, as most of us well know, are no disciples of uprightness, but they can hide their faults, in large degree, by a dignified appearance. Unluckily, for the Green Jay, his feathers seem to accentuate his sins. It is a common bird west of Brownsville, but to the east of town is quite scarce—and I have never heard of it at the coast. Northward it extends to the Rio Coloral in limited numbers. It is another resident species, most at home in heavy growth along the river; altho from there it will often wander on foraging expeditions, even inspecting rural barnyards when hunger be pressing. The Green Jay is the worst gourmand in its family; and this failing often causes it to lose its liberty. Its plumage makes it very attractive as a cage bird, and to secure one only requires a wicker cage, set in a conspicuous place and baited with meat of some kind; fitted with a trap door worked by a string held by some hidden Homo, who possesses the instinct to pull the string at the opportune moment. Captivity does not curtail the Jay's appetite, and they have been known to accept food immediately after being trapt. Indeed, this bird will eat all the time if food be accessible; and the indulgent owner finds it a matter of difficulty to keep the bird alive more than a week, but such individuals as are fed with discretion, live to make interesting, altho noisy pets. In a wild state, the Green Jay is suspicious as becomes the tribe, tho as a rule it falls to a ruse quite easily. If one be shot, the balance set up a din that can ordinarily only be stopt, either by shooting them all or decamping from the

neighborhood. What do they forage on? Well, during the nesting time for small birds I judge upon Thrashers, Orioles, Sparrows, Wrens, Chats, Mockingbirds, etc., both in the embryo and down; at other seasons, mostly on seeds and insects. In winter the seeds of the Ebony (*Siderocarpus*) is the main reliance; also in less quantity the fruit of the Palmetto, to secure which they will travel far into the open. The only other bird of doubtful scruple here is the generally but sparsely distributed White-rump Shrike (*Lanius ludovicianus excubitorides*). Its presence is only conspicuous during the winter months—when bird life has reached a low ebb; a condition that should be comprehended as referring to a section, where aggregate numbers at minimum, at least equal the maximum of a northern area, excluding therefrom the migratory element. This shrike shows the usual characteristics of its tribe, altho there can be small doubt that it destroys fewer birds at the southern edge of its habitat than at its northern extension, because, even in winter insects in numbers are active here—and bug provendor is much preferred.

While yet a boy I came into possession of a copy of "Coues' Key" in which, as you may be aware, he alludes to the Audubon Oriole (*Icterus m. auduboni*) as distinguished by superiority of voice, and wealth of plumage. For many years I could recall the description there given of the species, but eventually as the years crept on, the account grew dim. Several years spent in the southwest and Mexico failed to bring the bird to light; so it remained a stranger to my eye until one breezy day last January, when it whistled announcement of its presence from a tall hackberry—and then it was, that I could count a personal experience with all of our American orioles. A student with limited time for observation, might include it in a list as "not common"—and yet, with adequate opportunity to gain a knowledge of its habits, one may uncover the bird in its haunts at any time. A thick mesquite growth is the ideal location here; failing that, any grove that contains a number of hackberry trees, the fruit of which all Orioles seem to like. The mesquite harbors several insects—moths and beetles, dependent for substance and life on this tree alone; and these furnish an ample and agreeable food for the Audubon Oriole, both in winter and summer months. Several times I have discovered seeds of mesquite in this bird's stomach; and in winter the plumage of the head is much smeared by nectar from some flower (perhaps mesquite). They visit the Ash, (*Fraxinus*) frequently when the tree is flowering. The Audubon Oriole is somewhat difficult to approach out of the mesquite, but within it, quite otherwise. They are usually seen in pairs, and if one be shot and but wounded, its mate generally comes hurriedly to the call of distress, and evinces such devotion that, if one be disposed, it can easily be secured. As yet I have no basis upon which to eulogize their singing. True, they have a whistle that is clear and penetrating, like a majority of the Icteridæ, but few real vocal attempts have been witnessed. It is claimed to be a favorite cage bird—maybe so, altho I would like to know just where. I think I can recall seeing several in captivity in Mexico, and a few more in and about Brownsville, but there are twenty other species of birds found in the native's homes more often than the Audubon Oriole. Sennett has pretty well described its breeding, tho I have found it usually to be nesting in early April, and the mesquite is selected as a nesting site.

The Sennett Hooded Oriole (*Icterus cucullatus sennetti*) is an intrepid little bird, with a fondness for both urban and rural conditions, which is very fortunate, as allowing our townspeople daily opportunity to appreciate the handsome creature. After arriving, which is about March 13, they spend five or six weeks enjoying life, before settling down to housebuilding. They prove conscientious parents, raising at least two, and sometimes, three broods during the season. The palmetto

usually holds the nesting site, and wherever there is one growing within town, it is pretty sure to be drafted as a Hooded Oriole's domicile. During the period between May and October, they are the most conspicuous, and among the commonest birds of town. To raise eight to twelve young during a season, means hustling for parent birds, and I attribute the scarcity of 'bugs' in our city garden to a pair of these Orioles.

A word or two of the other three Orioles that can be listed from here. The Baltimore (*Icterus galbula*) is strictly a migrant, appearing for a few days only—this year, on April 24 to 27. The Orchard Oriole (*Icterus spurius*) arrived ten days earlier, and was very abundant for two weeks; then the majority past on. Examples taken of the Orchard Oriole were in all conditions of plumage; and it is worthy of note that some extremely small males were secured in adult plumage. These may possibly have been birds that would have nested here. The Bullock Oriole (*Icterus bullocki*) is rare at Brownsville, tho fairly common at Hidalgo, and from there up the river.

If a visitor arrives in the Rio Grande country during the late fall or winter, or even in early spring, he will find blackbirds the most conspicuous feature of the landscape. In Brownsville he will early notice the Great-tailed Grackle (*Megaquiscalus major macrourus*) or Jackdaw, as the populace calls it, in possession of the streets, competing with the somewhat awed, and as yet, not numerous English Sparrow, as scavengers of the roadway. It is a very noisy bird, but with most amusing actions at times. I can recall nothing in bird life appearing more ridiculous than a male Grackle strutting about on a windy day, with his super-abundant length of tail blown to right angles with the body. They do much damage to the agriculturalist, but they also work him a great deal of good. He is similar in habits to the Crow of the north, but possesses considerable more bravery, and shows not the least fear of man. During the breeding season the Grackles are almost entirely absent from the city, but at the date of writing (October 1) have returned in numbers. Just now, several are sharing with us the nuts of a pecan tree growing in our yard. They are able to crack the nuts easily by hammering them against the trunk of the tree. They also love figs, and about country homes take heavy toll. Corn too, falls within their bill of fare. However, I would allow them to go free on this charge, as they balance up accounts by following the plow of the farmer and destroying the many dormant insects then uncovered, that might prove destructive later in the year. We have Grackles by the thousand, but Red-winged Blackbirds by the tens of thousands. This assemblage might be supposed to breed in this section. I have made it a point during the past year to secure a series of Redwings, which were forwarded to the U. S. National Museum for identification, and all were returned labeled (*Agelaius phoeniceus richmondi*). The breeding range of this subspecies within our boundaries comprises only this valley and adjacent coast so it is very possibly a case of reversion of the usual direction of migration which brings many of these birds to us each winter from Tamaulipas, and other parts of eastern Mexico. The great majority have disappeared by the middle of April.

Many Cowbirds join with these hordes of Redwings, and are mostly composed of the common eastern species (*Molothrus ater*) and its western subspecies (*M. a. obscurus*); but about March, such individuals of Red-eyed Cowbird (*Tangavicus aeneus involucratus*) as have remained are heavily reinforced by southern immigrants, and a month later it becomes the most abundant Cowbird. The Red-eyed Cowbird haunts corrals and barnyards much as other cowbirds do but they make a finer appearance with their erectile neck-ruff. Sometimes, in early spring morn-

ings, before the dew condensed on the roofs of the city buildings has been dissipated by the sun, I have observed them searching for the minute insects that the moisture held confined.

Meadowlarks (*Sturnella*) are fairly numerous during the warm season, and very abundant in winter months. During the cold season, both Western (*S. ueglecta*) and the Texan (*S. magna hoopesi*) Meadowlarks occur in large flocks, but as a rule, the species remain separate. Most of the Western Meadowlarks disappear in April, as also does a good percentage of the Texan variety, but the individuals of the latter species that remain outnumber the other twenty to one. Three or four crippled Meadowlarks, that were taken last winter all showed a condition of semi-melanism.

An intense interest is aroused in studying the giant flycatcher of our North American list, the Derby (*Pitangus sulphuratus derbianus*)—firstly because it is a really imposing bird, and brightly adorned for a flycatcher; and secondly, a bird possessing a large degree of individuality. While not ultra-pugnacious like the Kingbird, still they do not particularly prize a peaceful atmosphere, sometimes taking the offensive for the sole pleasure of it. They rarely quarrel among themselves, but maybe this is only on account of their being too thinly dispersed within our territory to impinge upon each other's rights. On one occasion this year, a Derby Flycatcher was noticed far from timber, pursuing insects from a fence running parallel with the public road—but such instances are rare. Apparently it is the only flycatcher that breeds in heavy brush or timber within this Valley, unless certain of the Empidonaces are found to be local breeders. Preliminary attempts at nest-building consume a month in time before the real work begins; which must nearly exhaust their energies, judging from the size of nest they build. The Derby Flycatcher is another of our perennially mated species, noisy during the breeding season, but rather quiet thereafter. Generally speaking, whenever I have come upon them it was to find them with head feathers erected. They appear no more suspicious of man's presence than the smaller tyrants; and when disturbed are likely to seek a new perch but a few feet distant from their former position.

I have found only three species of flycatchers here during the winter months, the Derby Flycatcher, the eastern Phoebe (*Sayornis phabe*) and its western congener the Say Phoebe (*Sayornis saya*). Both species arrive almost simultaneously during the last days of October; and each take to their particular type of hunting ground—the Say Phoebe to the open semi-arid tracts, while the common Phoebe hovers about edges of copses and gardens. The Say Phoebe while here proves the shyer of the two species, and is also the least numerous. Both leave quite early, the departing dates this year being February 19 for the Say, and March 29 for the eastern species. It is possible that the Vermilion Flycatcher (*Pyrocephalus rubinus mexicanus*) and Least Flycatcher (*Empidonax minimus*) may also be found in winter, especially the last named bird, as a record exists of its having been taken at Point Isabel on February 7, 1880. But my careful search for it as such has as yet proved fruitless; in fact I find the genus entirely unrepresented here for more than six months of the year. The Green-crested Flycatcher (*E. virens*) the first representative to appear in spring, did not appear this year until May 7. The Valley is a meeting ground for both Pewees (*Myiochaus*) but the eastern species (*M. virens*) is the prevailing type, and the only one to breed, I believe. *M. virens* appeared this year on April 8. Pewees, however, are seemingly not numerous at any time, outside of a few weeks in April. One of the tardiest migrants this past spring was the Olive-sided Flycatcher (*Nuttallornis borealis*) which crossed the Rio Grande into our country on May 12. The number of them was consider-

able, every tree with a dead top, quartering one or two for the two days they spent with us. The genus *Myiarchus* opened the present season on March 12, when the Great-crested Flycatcher (*M. crinitus*) appeared. A single individual was seen, that died to verify a record that would otherwise have been open to doubt, owing to the Valley also being within the habitat of the Mexican Crested Flycatcher (*M. magister nelsoni*). This species was not recorded until April 24, tho there appears good reason to suspect that it really was present before this, but owing to the abundance of Great-crests by that date, was lost sight of. By the first of May the prevailing *Myiarchus* was clearly *M. m. nelsoni*, tho a few *M. crinitus* undoubtedly remain to breed. Regarding the Couch Kingbird (*Tyrannus melancholicus couchi*) I have not much to state. It quite resembles the other western kingbirds in appearance and habits, tho perhaps is more noisy than either, if that be possible. It arrives here before the middle of March and immediately disperses over the country, tho generally returning to a somewhat secluded location to build its nest. The elegant Scissor-tailed Flycatcher (*Muscivora forficata*) arrives with the Couch Kingbird, and thereafter is a most conspicuous object about cultivated fields and roadways. It has the somewhat unusual trait, among flycatchers, of feeding much on the ground; and in some instances after capturing its prey in the air will descend to the ground rather than to a perch to consume it. The plumage is renewed in late summer, and early fall specimens are the most perfect of the year.

Vireos are quite a feature of every grove—that is the Small White-eyed Vireo (*Vireo griseus micrus*) can claim to be, for it is a permanent resident; and its cheery note is a familiar sound in woodland strolls during the winter and spring. At least a pair domicile in every grove or group of trees, and nidification starts in March; but they do not always succeed in raising progeny on first attempt, as the piratical Green Jay seems ever at hand, ready to swoop down on the unguarded nest. It seems strange that to date I have taken no examples of the eastern form (*V. g. griseus*) but perhaps this is another instance where a northern and eastern species migrates across, rather than around the Gulf. The Solitary Vireo (*Lani-vireo solitarius*) stays with us during the period included between December 1 and April 15. Their numbers are limited and never more than three or four are to be found at a time. They are most frequent in low brush or on partly cleared land.

Last year the autumnal migration reached a maximum on October 28, after a "norther" lasting several days. Both land and water birds seemed to have been forced south in a hurry. And that the storm must have been severe, even in central Texas, seems evident by the immense flocks of Texas Pyrrhuloxia (*Pyrrhuloxia s. texana*), Gray-tailed Cardinal (*Cardinalis c. canicaudus*), Cassin Sparrow (*Peucaea cassini*), and even Golden-fronted Woodpecker (*Centurus aurifrons*),—true southerners, none of which are common north of Texas, that suddenly appeared. It was on that date I secured my only example of the Western Tree Sparrow (*Spizella m. arenacea*) feeding among the marsh grass, so abundant near the coast, in company with a medley of sparrows. Other noteworthy initial fall records taken at Point Isabel were: Belted Piping Plover (*Ægialitis m. circumcincta*), Nashville Warbler (*Vermivora rubricapilla*), Orange-crowned Warbler (*Vermivora c. orestera*) all on October 28; Hermit Thrush (*Hylocichla g. pallasii*), Black-throated Green Warbler (*Dendroica virens*), and Lark Sparrow (*Chondestes grammacus*), on October 29; and Franklin Gull (*Larus franklini*), during the week beginning with October 21. While here this fine species was much in the company of the several species of Terns represented, hunting in their company over the coast marshes. The Western Sandpiper (*Ereunetes mauri*), and Magnolia Warbler (*Dendroica maculosa*) were taken on the 22d, the Redstart (*Setophaga ruticilla*)

and Snowy Plover (*Egialitis nivosa*) on the 24th, the Red-backed Sandpiper (*Pelidna a. sakhalina*) and Sharp-shinned Hawk (*Accipiter velox*) on November 3, the Chestnut-collared Long-spur (*Calcarius ornatus*), on November 6, the Sprague Pipit (*Anthus spraguei*), and Nighthawk (*Chordeiles virginianus*) on the 8th; while a flock of about fifty Mountain Plover (*Podasocys montana*), the only ones seen during the entire year, was observed on November 11.

The Texas Horned Lark (*Otocoris a. giraudi*) is a characteristic bird of the coast strip, and very abundant at all seasons of the year around Point Isabel, but I have rarely noted it straying more than half a mile inland. Its usual habitat is a sandy stretch along the bay, of perhaps five hundred feet breadth. They molt in September, and wear the complete new plumage by October 15. No other variety of Horned Lark seems to occur here. Many Black-throated Sparrows (*Amphispiza bilineata*) are to be seen within the Lark's restricted range, dwelling contentedly among the Opuntia cactus and marsh-grass. I mention their presence, because some doubt appears to exist relative to their actual presence along the coast, where really they are more numerous than about Brownsville. The Cactus Wren (*Helcoodytes b. coucsi*) too, adds its presence to this littoral, and is not a well distributed species outside of it. Most Cactus Wrens had the molt unfinished, even at as late a date as December 1.

The heavy growth of the marsh-grass near the mouth of the river proves very congenial to the Cassin Sparrow, and it is an ever present species, particularly after September. My previous acquaintance with this species was in Arizona. In that territory they were met with only now and then, when they kept persistently to the high grass in arroyo bottoms. Here tho the grass is high, it is in thinly scattered bunches, allowing a much easier observation of the bird as it passes from one clump to another. Many Grasshopper Sparrows mingle with the species just mentioned, but are equally as numerous up the Valley. All taken thus far proved to be *C. savannarum bimaculatus*. In fall many Savannah Sparrows join in populating these stretches of coast, and of them we have both the eastern (*Passerculus s. savanna*) and western (*P. s. alaudinus*), tho the last named is the prevailing type. I have looked in vain for the Texas Seaside Sparrow (*Ammodramus m. scnnetti*). Mr. Frank P. Armstrong informs me that it does occur within our scope however, as he found it on two or three grass-covered islets near the mouth of the river. This fall however, I am positive none could have existed thereon, as the locality was entirely inundated for some weeks.

No Texas Sparrows (*Arremonops rufivirgata*) dwell along the coast—none until a point ten miles inland is reached. The superficial resemblance of this species to the Green-tailed Towhee (*Orcospiza chlorura*) is particularly noticeable where individuals of the Texas Sparrow are found with the dark-brown stripes of the crown more or less coalescing with the median olive-yellow stripe. In actions too they are much alike. The Texas Sparrow is a quiet bird that passes nearly all its time on the ground, within cover of some sort. The click-like call note resembles that of the Cardinal.

It is hard to see why the Texas Pyrrhuloxia should be so meagerly represented in the Valley inland, when it is so abundant at the coast. Fifty of these birds may be observed in a morning walk near the Gulf, while it is no unusual occurrence for two or three days to pass, without seeing one while collecting in the vicinity of Brownsville. They are naturally a shyer bird than the Gray-tailed Cardinal, tho more communistic, going about in small flocks, at least during the winter months. The male is the more suspicious; and there seems to be markedly fewer of them than the duller-colored females. They are rather hard to follow up when

disturbed, on account of considerable flights taken at short intervals. Tho often found feeding upon the ground, they are much less terrestrial in habit than the Cardinal. Mesquite beans form a favored food during a portion of the year. A bird with a beak resembling *Pyrrhuloxia*, tho copied on a miniature scale, is the Morelett Seedeater (*Sporophila moreletti*). I have had much pleasure and some disappointment in the study of this species, for at present it does not seem to be as generally distributed in the Valley, as in former years. I found no individuals until the early days of spring—about March 26, when a few arrived. Their distribution here is sporadic and I discovered several locations which they resorted to generally, while the intervening sections were entirely avoided. In the spots they favor a small bush grows which produces a small round fruit with a seed in the center that bears considerable resemblance to flax. This seed the Seedeater is extremely fond of, and in a dozen or more stomachs examined hardly anything else was found. The Seedeater as a rule, keeps in small flocks up to the nesting season, which is indefinite, and must cover at least three months. I have not succeeded in finding a single specimen of the male bird with any considerable quantity of black in the plumage, within the State, tho a number of the males secured, were sexually fully developed. *Sporophila* deserves systematic study for, as Dr. C. W. Richmond states, in a letter recently received,—“they (Texas and Tamaulipas examples) are now supposed to represent a form different from those (*S. moreletti*) of Central America and southern Mexico, in not having the black back and black pectoral collar; but exist in a plumage not to be distinguished from the immature plumage of the southern form.”

The finches are so extensively represented here, that it will not be practical to dwell upon additional species; but better to pass to a brief review of the warblers that occur almost entirely as migrants. Several species, however, do breed, and of these we choose to speak of the Sennett Warbler (*Compsothlypis piliayumi nigrilora*) which appears early in March, when its cheery song helps to add to the already considerable volume of vernal music. Even with the assistance of the oft repeated notes as a clue, the Sennett Warbler is difficult to discover, for like nearly all of the family it is very active, keeping to the highest parts of trees, and playing a hide and seek game among the hanging moss (*Ramalina*) that drapes most of the arborescent growth. Therefore, it usually involves tiring use of one's neck muscles to locate any. Directly after appearing here, they commence building the nest which is tucked within the strands of moss. At as early a date as March 15 I have observed them at the work. The completion of the nest is coincident with a decline in the song which soon after practically ceases, making the apprehension of the bird's presence more difficult than ever.

Some of the warbler tribe winter with us, as the Audubon Warbler (*Dendroica auduboni*), Myrtle Warbler (*D. coronata*), and Nashville Warbler, and probably the Black and White (*Mniotilta varia*), which abounds in the earliest days in March. The two first named species winter by thousands, the mesquite at that time always swarming with them; while the Nashville Warbler, in somewhat limited numbers, resorts to the scraggy undergrowth composed of Ebony and Acacia. April is the month here, for warbler variety. May, however, furnishes several interesting records this year such as Bay-breasted Warbler (*Dendroica castanea*), a species that seems to have been overlooked by previous observers in the Valley. It appeared on May 7 in company with the Blackburnian (*D. blackburniae*), Magnolia, Wilson (*Wilsonia pusilla*), and Canadian (*W. canadensis*) Warblers. The Blackburnian Warbler first arrived on May 4, seemingly a very late date in view of the fact that its appearance has been noted in the Great Lakes region, at an earlier date (May 2).

A single specimen of Mourning Warbler (*Oporornis philadelphia*) was taken on the same day. I should have included the Yellowthroats (*Geothlypis*) among wintering species, but I am not certain but that at least one of the forms that winters can also be claimed as a summer resident. A number of Yellowthroats taken between December and May, have been identified as belonging to *G. trichas trichas*, and *G. t. brachidactyla* by Dr. Richmond.

Wrens are well represented—winter and summer. The Lomita Wren (*Thryothorus lomitensis*) favors the dense woods of large growth, foraging among lianas, and the basal portions of trees; the Texas Bewick Wren (*Thryomanes b. cryptus*) prefers low scrub or chaparral, and the eastern House Wren (*Troglodytes aedon*), while wintering here, chooses the immediate vicinity of dwellings and hedgerows. Southern Texas rivals Arizona in affording congenial conditions to thrashers, and our two species, the Sennett (*Toxostoma longirostre sennetti*) and Curve-billed (*T. curvirostre*) are common residents. The Sennett Thrasher dwells in whatever section of the Valley supports sufficient arborescent growth; while the Curve-billed lays claim only to open spots, cactus grown or otherwise. Thus both have their territorial rights well defined. The Western Mockingbird (*Mimus p. leucopterus*) ranges over the domain of both thrashers, which is the cause of some strife about nesting-time, and much rivalry for vocal superiority. The Mockingbird hesitates not at all to snatch many strains from the original efforts of the thrashers. Thrashers are very early nesters, and during wet years, raise three broods during the season. Both species dwell along the coast, but owing to lack of any considerable growth there, the number of Sennett Thrashers is limited.

Having but one true Titmouse, the Black-crested (*Bacolophus atricristatus*), we especially appreciate him, tho he is omnipresent, even into the heart of the city. They inspect any object of size, that may arouse suspicion of harboring caterpillars or other insects. They are very fond of the caterpillar of the butterfly (*Libythca bachmanni*) which so persistently attacks our hackberry trees, as to have surely defoliated them this summer, but for the combined efforts of the Titmouse and Sennett Oriole. The Black-crested Tit is rarely silent, the usual notes being a continuation of sounds like "pete-chee-chee-chee; more rarely "peter-peter". By April the young have appeared on the scene. The Verdin (*Auriparus flaviceps*) adds another to our resident list, but is not very numerous until the coast country is reached; or in the opposite direction, until one arrives a considerable distance up the river. Our Gnatcatcher is the Blue-gray (*Poliophtila caerulea*), a well distributed resident, preferring the mesquite and ebony growth.

In lower Texas at least, the application of Texas would be better applied to the Golden-fronted Woodpecker, than to the bird (*Dryobates scalaris bairdi*) bearing that name. The former is a much more conspicuous, as well as more numerous species, withal showing indifference to man's presence that throws even the unsuspecting little *D. s. bairdi* into the background in this respect. The Golden-fronted Woodpecker is often to be seen within city limits, even nesting there. Just as these lines are being written several are sharing a pecan tree in our yard with the Grackles—each producing plenty of noise. They also search roofs and porches, sometimes persisting in a vigorous tattoo upon such objects, until the disturbed owner finds it necessary to dislodge them. At Point Isabel where trees are scarce they follow habits of the Flicker, feeding on the ground upon the multitudes of ants. Like the Gila Woodpecker (*Centurus uropygialis*) they have a failing for the ripe fruits of Opuntia cactus; and in late fall, it is difficult to secure specimens free from the fruit's purple stain. The Texas Woodpecker is well known to us also, but as it rarely ventures into the city, is of little import to the casual observer.

The hummingbirds listed by me have been the Ruby-throat (*Archilochus colubris*), a migrant of the last few days in March, and again toward the end of September; and the Buff-bellied (*Amizilis cerviniventris chalconota*) that arrives a week later and remains thru the warm season. A beautiful native tree, the Anacahuita (*Cordia boissieri*), with large white flowers, is a favorite with both of these species. Also, I find that the Buff-bellied Hummingbird is a frequent visitor to the scarlet blossoms of a bush (*Erythrina*), a shrub found here as an undergrowth. When searching for hummingbirds in such localities I have frequently disturbed the diurnal slumbers of the Parauque (*Nyctidromus albicollis merrilli*). As a rule, the Parauque will not seek flight until approacht within a yard or so; then only to circle about several times and alight within a hundred feet radius. Few are to be seen during the first two months of the year, when their presence can only be voucht for by my having on a few occasions detected the familiar notes. Notwithstanding this scarcity early in the season I have taken fully feathered juveniles during the last week in March. Outside of town they are the most frequently observed of the Goatsuckers. Within the city, hundreds of Texas Nighthawks (*Chordeiles a. texensis*) are found nearly thruout the year; and in proper season nest upon the flat roofs of which there are many here. The Chuck-will's-widow (*Antrostomus carolinensis*) is well known as a migrant, and a few may even remain to breed, as a bird was secured on August 23 of last year.

Roadrunners (*Geococcyx californianus*) will be found where conditions suit, but the number that one will find in a given period is much less than farther west. The custom of using certain portions of the body of the Roadrunner as a palliative in fevers, by the Mexicans is not rare.

Harris Hawk (*Parabuteo u. harrisi*) is the commonest of the diurnal birds of prey within the Valley. Next in numbers are the Sennett White-tail (*Buteo a. sennetti*) and the Sparrow-hawk (*Falco sparverius*). The Zone-tailed Hawk (*Buteo abbreviatus*) is fairly well distributed as a summer visitant, but none have been seen during the winter time. Its preference for heavy timber exceeds that of any other species of hawk found here. On rare occasions an Aplomado Falcon (*Falco fusco-cærulescens*) will appear about the city; and more often at Point Isabel. At a locality half way between the two points they are quite common among the tree yuccas that grow on the sandy ridge comprising the section. Here lizards, snakes, and locusts abound upon which they feed. The coast is where to look for the Duck Hawk (*Falco p. anatum*) especially in late autumn, when they arrive in the wake of the waterfowl. The Osprey (*Pandion carolinensis*) and the Caracara (*Polyborus cheriway*) are residents of the maritime section but more of the last named species are seen as we proceed up the river. The usual roosting place of the Caracara here, is in the Palmetto, where they also generally breed; but those that can be found nesting are small in number compared to the birds present. Fish forms a greater percentage of their food than anything else. Our commonly present owls are the Texas Screech (*Otus a. macalli*) and the Ferruginous Pigmy (*Glaucidium phalaenoides*); the former the more generally seen. Nests of the Screech Owl have been found only during the first half of May.

As this article has already stretcht beyond reasonable bounds mention of a number of interesting water-birds must be deferred until another time, tho in closing, I cannot resist making mention of the exquisite plumaged Roseate Spoonbill (*Ajaja ajaja*). It is to be seen at times in large flocks in the vicinity of Point Isabel, particularly during the months of August and September, and is termed "flamingo" by the people of that place who can speak the English language.

THE OLIVE WARBLER (DENDROICA OLIVACEA) IN SOUTHERN
ARIZONA

By F. C. WILLARD

WITH TWO PHOTOS

AMONG the pines of the open forest which covers the summits of the Huachuca Mountains several species of our rarer birds make their summer homes, and they are seldom seen or heard in other parts or lower levels of the mountains. The Olive Warbler (*Dendroica olivacea*) is perhaps the most sought after of these summit dwellers. It is also one of the rarest and most easily overlooked. They seem to arrive some time about the 10th of May, and the first few days are spent, as it were, in staking out their claims anew. The males at this time are quite pugnacious toward one another, and, tho apparently already mated, they promptly drive any wanderer of the same sex from their selected bit of forest. I believe they return each year to the same locality in which they made their home of the previous year, as I have found them in the same patch of trees year after year while other places near by, with the same apparent advantages, never seem to be chosen.

About the 20th of May nest building begins. The nest is a very handsome and compact affair. It is built by the female alone and she requires about two weeks for its construction. The male accompanies her as she flies to and fro gathering the materials. He calls and sings as they work and it is at this time it is best to locate the nest, as it is so well concealed that after it is completed the sharpest eyes cannot penetrate the clump of needles in which it is placed, and the sitting bird cannot be induced to leave her nest unless called off by the male, or when she goes to feed. The well concealed nest is the usual thing tho I have seen several that were quite conspicuous.

Short-leaf pines, long-leaf pines and firs are chosen for the nesting sites. Up to the season of 1909 I had always found them in long-leaf pines, perhaps because I always looked there for them. This season one was in a fir and the balance in short-leaf pines.

On May 24 the female was observed building the nest found in the fir tree. She was gathering rootlets at the time and seemed very particular about them, picking up and dropping several before selecting one which she thought satisfactory. This she carried into a dense growth at the tip of a branch of a large fir about one hundred yards away. The male was singing and feeding in a tree close by. After a few trips with material the female would fly into the tree where he was and let him feed her. This is the only time I have observed nest building going on and the male not following the female in her flights. This nest was apparently well along in its construction as on June 3 I collected it and a set of four fresh eggs. At this time the male was not seen or heard around the nest, nor would the female flush until I climbed the tree and shook the branch with considerable violence. As there was but a light wind blowing, I roped the branch up, and, crawling out, cut off a few of the intervening twigs so as to get the nest in view. Then I hauled up my camera and fastened it in position eight feet from the nest. During all this procedure the female was hopping around close by, and the male, responding to her calls, came to investigate, and remained near by until I collected the set.

After everything was in readiness, I crawled back to the trunk and made myself as comfortable as possible to wait Madame Olive's return to her nest. In a

surprisingly short time she became reassured enough to resume her duties of incubation. Shortly a lull in the breeze gave me the opportunity desired and a click of the shutter told me an exposure had been made. The result is shown herewith. Her alert attitude is probably due to the fact that I had cleared away so many of the concealing twigs. I later made a closer exposure of the nest and eggs, having brought them safely to the ground.

This nest is now before me and a detailed description may not be amiss. It is supported by ten small live twigs from the size of a pencil down, all growing from a branch about five eighths of an inch in diameter. It is composed outwardly of moss and pine bud hulls with plant down scattered thruout. The proportion of this latter increases until the lining is reached where it forms a felt like a humming-bird's nest. This lining is supplemented with a few very fine rootlets. The greatest outside diameter is three inches, inside, two inches; outside depth three and



Fig. 29. OLIVE WARBLER ON THE NEST

one-half inches, inside one and one-half inches.

The most interesting set taken this year was located and collected June 2. I had, on a previous occasion, heard a male singing among some pines where I had also heard him the year before. On my arrival there about ten o'clock that morning he again saluted me with his song. I began to trail him. First in one tree, then in another he hopt around. Finally, my continued presence seemed to worry him. He began to call with a peculiar whistle-like note and was shortly joined by the female. For half an hour they led me back and forth. I tried to keep her in sight all the time and was greatly assisted by her call note which differs considerably from that of the male. Finally, however, she gave me the slip, and the male, also, becoming silent, disappeared among the tree tops. Twenty minutes later I heard him again and ran toward him. I soon located him in a pine and saw that he had an insect in his bill. He was making short flights from one tree to another calling and singing as he went. Then he flew into the top of a partially

dead pine and, perching in one place, began to call the female. I heard her answer with a note like the squeak of a mouse but could not tell from what direction it was coming. After ten minutes of this he suddenly became silent and flew over several trees into a short-leaf pine whose branches were weighted down with masses of twigs and cones. I could not see where he entered but presently he flew from a clump on one of the lower branches. All excitement I climbed the tree with my rope and after some maneuvering was able to reach and investigate the clump but found no nest tho I cut off the twigs one by one to make sure. This was very tiresome work but I felt sure the nest was in that tree so descended and hid under a tree near by. Soon the female began to call again. Then the male came and fed her and I saw him go. Climbing up once more I searcht another bunch, found



Fig. 30. NEST AND EGGS OF THE OLIVE WARBLER; A CLOSER VIEW OF THE NEST SHOWN IN FIG. 29

nothing, and came down to wait again. Not to drag the tale out further, it was not until three o'clock, and a large part of the tree lay on the ground that I spied a blade of grass about three feet above me, and on pushing my hand thru the thick cluster of twigs flushed the female. The tree was not a very large one and I had shaken every branch and jarred them with my foot, but until I practically touched the nest she had stayed on. Incubation was fresh. As this was my first set since 1899 I was much elated and forgot in a jiffy my tired muscles. After packing the eggs I cut off and lowered the entire cluster in which the nest was hidden. It must have weighed all of seventy-five pounds and formed a green ball about three and one-half feet in diameter. The nest was invisible except when the twigs were parted. The female hopt about within a few inches of my hands as I removed the eggs, uttering one of her characteristic notes very softly.

June 8 was again a lucky day for me. The evening before I had spent some two hours watching a pair but could not locate the nest, tho all their actions led me to believe that one was near by. Early in the morning I was again looking over the trees there, and soon heard and located the male. He was shortly joined by his mate. After some little time spent in feeding she flew into the top of a slender pitch pine tree. I could not see just where she was but heard the note which I have learned is uttered when she is on the nest, so climbed up and found the nest at a height of fifty feet, at the tip of one of the top branches. It contained three fresh eggs.

The eggs of *D. olivacea* are very thin-shelled and remind me very strongly of Phainopepla's in this respect as well as in color. They are shaped more like a Song Sparrow's egg and resemble the greenish type of the latter in color and markings.

MISCELLANEOUS RECORDS FROM SOUTHERN CALIFORNIA AND ARIZONA

By HARRY S. SWARTH

THE University of California Museum of Vertebrate Zoology during the past year has come into possession, by donation, of the collections of bird skins of Mr. F. O. Johnson, and of Mr. W. B. Judson, of Los Angeles, California. Both of these collections are composed for the most part of beautifully prepared specimens, in excellent condition, including some rare and interesting birds. In going over them for the purpose of arranging and cataloging, the writer found various specimens, which, for one reason or another, it seemed desirable to place on record. In the case of the Johnson collection the information given herewith is derived solely from the labels attacht to the skins, but in the Judson specimens it is sometimes supplied from the writer's notes or memory, he having been with Mr. Judson when most of the birds listed below were collected. The numbers given are those of the bird collection of the Museum of Vertebrate Zoology.

JOHNSON COLLECTION

Querquedula discors. Blue-winged Teal. One specimen, adult male, "market in Los Angeles," January, 1895 (no. 12008).

Colaptes c. collaris × **Colaptes a. luteus.** Hybrid Flicker. Adult male, Riverside, California, December 31, 1888 (no. 11880). Of the size and general appearance of the Red-shafted Flicker, but with yellow wing and tail feathers. A few red feathers in the otherwise black malar stripes, and a slight indication of a red nuchal crescent.

Sphyrapicus varius nuchalis. Red-naped Sapsucker. One specimen, male, Riverside, California, December 26, 1889 (no. 11874). Just assuming the black breast of the adult plumage.

Pyrocephalus rubineus mexicanus. Vermilion Flycatcher. One specimen, male, Long Beach, Los Angeles County, California, December 26, 1894 (no. 11741). Not in fully adult plumage, the red of the lower parts and of the crown being of a pale hue and mixt with whitish or streaked feathers.

Otocoris alpestris actia. California Horned Lark. The series of this species includes one specimen (no. 11726, adult male, Riverside, California, January 2,

1889) with a most remarkably malformed hind claw. It has grown out to a length of twenty-nine millimeters, in a perfect spiral or corkscrew shape, forming seven complete turns with mathematical regularity.

Ammodramus savannarum bimaculatus. Western Grasshopper Sparrow. Adult female, Beaumont, Riverside County, California, April 23, 1889 (no. 11502). There are comparatively few records of the occurrence of this species in southern California.

Amphispiza nevadensis nevadensis. Sage Sparrow.

Amphispiza nevadensis canescens. California Sage Sparrow. A series of twenty-eight Sage Sparrows taken in the vicinity of Riverside, California, during the months of November, December, and January (nos. 11378-11405) shows every degree of variation, from a few individuals typical of *canescens* to others indistinguishable from true *nevadensis*. Tho the majority of the specimens are probably to be referred to *nevadensis* they have mostly somewhat smaller bills than examples of that form from northern Nevada. In the matter of wing length there are some that might be referred to either race with equal propriety, being variously intermediate between the dimensions of the two forms as given by Grinnell (see CONDOR, VII, 1905, 18).

Zonotrichia leucophrys leucophrys. White-crowned Sparrow. Adult female, Palm Springs, Colorado Desert, California, April 26, 1889 (no. 11467).

Melospiza melodia morphna. Rusty Song Sparrow. Adult female, Riverside, California, November 3, 1888 (no. 11324). Tho the locality is extraordinary this specimen is so exactly like an example of *morphna* at hand from Seattle, Washington, that I have no choice but to refer it to that form. It certainly is not *merrilli*, which is of comparatively common occurrence during the winter months on the desert side of the southern California mountains.

Calamospiza melanocorys. Lark Bunting. Four specimens, all from Riverside, California (nos. 11223-11226), an adult female, February 23, 1888, and three adult males, April 21, 1888. Two of the males are in nearly perfect nuptial plumage, the third in the midst of the pre-nuptial molt. There are but few records of the occurrence of this species on the Pacific slope of southern California.

Vermivora celata celata. Orange-crowned Warbler. One specimen, male, Riverside, California, December 25, 1888 (no. 11111).

Dendroica townsendi. Townsend Warbler. One specimen, Riverside, California, December 31, 1888 (no. 11084). Of uncommon occurrence in southern California during the winter months. This example is marked male, but it has all the appearance of an immature female.

Oroscoptes montanus. Sage Thrasher. Five specimens, all from Riverside, California (nos. 10892-10896); one, January 25, 1887; one, January 2, 1889; two, February 2, 1889; and one, February 23, 1889.

JUDSON COLLECTION

Phalaropus fulicarius. Red Phalarope. Three specimens, two males and a female (nos. 10357-10359) collected by A. W. Anthony "off San Diego, Calif." The date is written "12-3-1895," presumably December 3. Tho frequently reported as a migrant along the California coast there seem to be no definite records of its occurrence in winter, and the above date indicates that the species winters at least as far north as southern California.

Lophortyx californicus vallicola. Valley Quail. One specimen taken at Verdugo, Los Angeles County, California, on January 11, 1898 (no. 10397), exhibits in coloration and markings, a curious mingling of the characters of the two sexes. The

white markings about the head are present and nearly as sharply defined as in the male, but the dark areas they enclose are brown as in the female, mixt with some black markings. This black mottling is produced by individual feathers being parti-colored, brown and black, and not by scattered, wholly black feathers. Those areas which are steel blue in the male are darker, approaching the brown of the female. The scale-like markings of the lower breast and abdomen are sharply defined, but the coloration of these parts is much less intense than in the male bird, the buffy yellow being of a very pale shade, and the red of the abdomen mostly replaced by white. The crest is intermediate in size and shape between those of average males and females. Unfortunately the bird was not sexed. It is apparently an adult, that is in second winter plumage at least, for the primary coverts, which are not molted by the young bird the first fall, are of the adult type.

Glaucidium gnoma gnoma. Pigmy Owl. Three juveniles (no. 10342 ♀, no. 10343 ♂, no. 10344 ♀) taken from a nest in a dead pine tree in Bear Valley, San Bernardino Mountains, California. These were secured on June 28, 1894, the female parent having been shot the day before (no. 23 collection of H. S. Swarth). The young birds have lost the natal down, except where a few filaments cling to feather tips, and are in the juvenal plumage, but with stubby wings and tail. The body plumage is much as in the adults, but the top of the head is plain drab gray, in markt contrast to the brown dorsum, with a few partly concealed white spots on the anterior portion. There are some slight, apparently sexual, differences observable. The two young females are of about the same size, and are appreciably larger than the male. In the former the brown of the upper parts is of a more reddish cast, approaching Vandyke brown, while in the latter it is darker, more nearly Prout brown.

The day before the young owls were secured one of the parent birds was seen entering the nest cavity bearing a Chipmunk (*Eutamias*) in its claws, and the remains of the Chipmunk were found in the stomachs of the young birds. The old bird secured had its stomach filled to distention with the shells of grebe eggs, which it had pickt up in our camp (the nest was located in close proximity to our camp ground), these eggs being a staple in our larder at the time.

This record may be of some interest, as the species appears to be of rare occurrence in summer in the mountains of southern California. It is not included in Mr. Grinnell's recently publisht list of birds of the San Bernardino Mountains.

Atthis morcomi. Morcom Hummingbird. One of the two specimens on which the description of species was based was in the Judson collection, and is now no. 10299 in the bird collection of this Museum. No additional examples have turned up since the species was first described (see Ridgway, *Auk* xv, 1898, 325), and it seemed worth while to put on record a statement of where this specimen was located.

Cynanthus latirostris. Broad-billed Hummingbird. One specimen, an adult male, from the Santa Catalina Mountains, Arizona, April 14, 1896 (no. 10286). This bird was taken on the east side of the mountains, near the mouth of Bear Canyon, where the species was fairly common at the time. A nest containing one egg was found the same day.

Ammodramus savannarum bimaculatus. Western Grasshopper Sparrow. One specimen, male, Highland Park, Los Angeles County, California, August 10, 1897 (no. 10089).

Amphispiza nevadensis canescens. California Sage Sparrow. Adult female, head of Big Tuhunga Canyon, Los Angeles County, California, August 4, 1895 (no.

10068). This bird has just finished the post-nuptial molt, and is in perfectly fresh, unworn winter plumage. It is of a peculiar yellowish tinge, quite different from specimens either of the very dark *belli* or the pale *nevadensis* in comparable plumage. The species was fairly common in the locality at the time.

FROM FIELD AND STUDY

Some Notes From Washington.—The following records were made by Mr. D. E. Brown of Tacoma, Washington. He turned over most of his notes to my brother and Mr. Dawson for their joint book, "The Birds of Washington," but the following, which seem to me of especial interest, were for some reason overlooked.

Leucosticte lephrocotis littoralis. Hepburn Leucosticte. A Leucosticte was seen building a nest on Mt. Baker, Washington, June 10, 1905, but it was not possible to wait for it to be finished. Specimens collected at the time proved to be the Hepburn Leucosticte, altho the bird building the nest was not killed.

Myadestes townsendi. Townsend Solitaire. A nest found in a railroad cut near Renton—a suburb of Seattle—Washington. On June 3, 1908, it contained four young birds three or four days old.

Strix occidentalis caurina. Northern Spotted Owl. A nest believed to belong to this species found on May 23, 1908. It contained young birds somewhat larger than screech owls, and with no sign of any tufts on the head. Some young Horned Owls examined, of about the same age, had the ears very plainly developed. On visiting the same place on April 12, 1909, the nest—a hole in a stump—was found to contain a Saw-whet Owl (*Cryptoglaux acadicus*) and four slightly incubated eggs. Ranchers near by told of killing two large owls with smooth, round heads, during the winter.

Botaurus lentiginosus. American Bittern. A nest containing four eggs found in eastern Washington on June 3, 1908.—C. W. BOWLES.

Seen on a Day's Outing in Southern Arizona.—February 13, 1910, I spent with a hunting party on the San Pedro River near Fairbanks. My gun was a camera, and while looking for suitable shots I was impressed with the large number of birds seen, and particularly with the great variety. Following is a list of those observed during the day from the time we left Tombstone until our return. In some instances I append a few comments.

Mallard, Pintail and Green-winged Teal,—a small flock of each. Great Blue Heron, Killdeer, Mourning Dove, Cooper Hawk, Harris Hawk, Western Red-tailed Hawk, Swainson Hawk, Aplomado Falcon, Desert Sparrow Hawk, Gila Woodpecker, Baird Woodpecker, Red-shafted Flicker, Say Phoebe and Black Phoebe. A flock of over a hundred White-necked Ravens alternately perching in some cottonwoods and circling overhead. Western Meadowlark; a flock of from two to three thousand Brewer Blackbirds which covered several large cottonwoods and peach trees, and the ground under them. The trees were literally black with them. Goldfinch (subsp. ?), House Finch, and numerous sparrows of which I identified the following: Intermediate Sparrow, Western Lark Sparrow, Lark Bunting, Black-throated Sparrow, Song Sparrow (subsp. ?), Abert Towhee, Canyon Towhee, Arizona Pyrrhuloxia and Arizona Cardinal; Audubon Warbler, Mockingbird, Crissal Thrasher, Cactus Wren, Rock Wren, Canyon Wren and Verdin. A Ruby-crowned Kinglet came close to us while we were lurching, its song and twitter first attracting my attention. Plumbeous Gnatcatcher, Western Robin and Mountain Bluebird, several of which were seen along the road and in the fields.

The feature of the day, however, was the securing of a male Texas Kingfisher (*Ceryle americana septentrionalis*). This bird was seen flying along an irrigating ditch close to the water, the white in its tail first attracting our attention. This is my first record and I believe the first for this Territory.* Most of the species mentioned were seen on the river but a few were seen in the vicinity of Tombstone only.—F. C. WILLARD.

Alaska Longspur at Gunther's Island, Eureka, California.—While collecting on this island in the fall of 1909, I took on October 2 a female of the above species. It was the only one seen during a stay of three weeks at the island. The skin is now in the collection of Lonis B. Bishop, New Haven, Connecticut, who identified it as the Alaska Longspur (*Calcarius lapponicus alascensis*). In the CONDOR, Vol. II, No. 1, page 44, Frank Stephens records taking one on the same date at San Diego.—HENRY W. MARSDEN.

*Dr. Elliott Coues reported this species as seen on the Colorado River between Forts Mojave and Yuma, in September, 1865 (Ibis, 1866, p. 263). It apparently has not since been observed in the Territory.—ED.

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EDITORIAL NOTES AND NEWS

Word has been received from Mr. Edmund Heller, who has just returned to Washington at the close of his year in the field, collecting African mammals in the party headed by Colonel Roosevelt. That the expedition was highly successful in the collection of zoological specimens is well known, but Mr. Heller also speaks most enthusiastically of the many enjoyable features of the trip. The party proved very congenial and no serious mishaps or accidents were suffered at any time—subjects for congratulation on so long a trip in such a difficult country. Mr. Heller's present address is the United States National Museum, Department of Mammals, but he anticipates a year's work on the specimens secured, most of which time will be spent in London and Berlin.

Mr. Walter P. Taylor, with two assistants, leaves on May 15 for a summer's trip into the Warner Mountains of northeastern California. The expedition will collect birds, mammals and reptiles for the University of California Museum of Vertebrate Zoology, in which institution Mr. Taylor is Assistant Curator of Mammals. The results of this trip should certainly be of great interest, especially so taken in connection with the collections made by him in northwestern Nevada during the past summer.

PUBLICATIONS REVIEWED

A HISTORY OF THE BIRDS OF KENT. BY NORMAN F. TICEHURST, M. A., F. R. C. S., F. Z. S., M. B. O. U. With twenty-four plates and a map. Witherby & Co., London, 1909—8 vo. pp. i-lvi + 1—568. Price 21s. net.

This is a carefully detailed account of the birds found in a comparatively limited territory (the County of Kent, we are told, comprises some 1554 square miles). In the introduction descriptions are given of the geology, topography, and physiography of the region, as well as historical sketches of the various museums and collections contained in the county, while several pages are devoted to a discussion of the somewhat complex migratory movements of the birds, as here observed.

In the 557 pages in which they are treated in detail, 312 species are included, as well as forty-two "doubtful species." The author appears to be concerned mainly in the manner of occurrence of the birds listed, and this, as well as the historical aspect of the case, is treated in the greatest detail. In the cases of the rarer species each individual specimen seems to have been looked up, and verified or discredited, as it might be, so carefully that the book should certainly be considered as authoritative in this regard. The author is certainly commendably conservative in declining to accept doubtful records, and need hardly apologize for discrediting the one relating to the alleged occurrence of the White-winged Crossbill (*Loxia leucoptera*), on the basis of birds seen by "an anonymous correspondent's friend's gardener"!

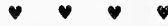
Nesting and other habits are dismissed with but slight consideration, for reasons given in the preface, tho in some instances—notably the House Sparrow and the Starling, as of interest in this country—the question as to the harmful or beneficial nature of the bird is discussed at some length.

In regard to the "vexed question of nomenclature", binomials are adhered to except where two or more geographical races of the same species have occurred in the county, or where the British form of a species is recognized as distinct from the continental, in which cases the trinomial is employed—such exceptions being so numerous that it seems as tho it would have been simpler to have used the latter system thruout.

The illustrations, of birds and of general views of the country, are attractive and interesting; while a quite extensive bibliography and an appended map add much to the value of the book. Altogether such a work, carefully done as this appears to have been, cannot fail to be of great value. Altho individuals may regret the absence of more extended comment on phases of the subject in which they are more directly interested, still the recording of facts, the statement of conditions as they have been and as they are, cannot fail to be of greater and greater value as time goes on, and the future worker in British ornithology should find such a book as this of the greatest assistance in his labors.

H. S. S.

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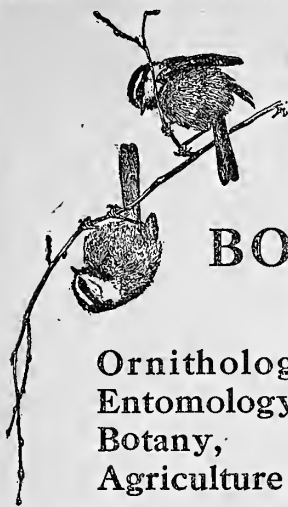
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THE CONDOR

A Magazine of Western
Ornithology



Volume XII

July-August, 1910

Number 4



W.K.F.

COOPER ORNITHOLOGICAL CLUB

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I have secured the remaining copies of "The Story of the Farallones" by C. Barlow. A dainty little booklet of 32 pages published by H. R. Taylor, Alameda, 1897. This describes the Farallones and its bird rookeries and is illustrated by 26 half-tones. These sold for 50c each, but as long as they last I will send copies for 10c or three copies for 25c post paid.—W. LEE CHAMBERS, *Santa Monica, Cal.*

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THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume XII

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Number 4

SOME COLORADO NIGHT HERON NOTES

By ROBERT B. ROCKWELL.

WITH NINE PHOTOS BY THE AUTHOR

DURING the spring of the years 1906, 1907 and 1908, a happy combination of circumstances made it possible for the writer to spend a portion of each week at Barr, a station nineteen miles northeast of Denver, Colorado, studying the abundant bird life along the chain of reservoirs and seepage ponds, which extends from this point several miles to the northeast. During the time I worked in this field I was the guest of, and was accompanied by, Mr. L. J. Hersey, to whom I wish to express my appreciation for the convenient opportunities for field work thus afforded.

During these three seasons I was greatly interested in the breeding habits of the Black-crowned Night Heron (*Nycticorax nycticorax nacvius*) and spent much time observing them. The result of these observations, together with some supplementary work done at other times and places, may prove of some interest to CONDOR readers.

My first experience with the Night Heron as a breeding bird was the discovery of eighteen birds in a colony of Great Blue Herons which occupied a small clump of very tall cottonwoods on the St. Vrain River not far from the town of Lyons, Colorado. This was on April 21, 1906, and at this date only one pair of the Night Herons seemed to have located a nest, altho the remaining eight pairs were apparently busily engaged in selecting nesting sites.

All of the nests in this rookery were practically inaccessible, being built amid the slender topmost branches of the tallest trees, and this fact, coupled with what I had read in various text-books, had created the impression in my mind that the Night Heron was strictly a "tree-nesting" bird.

It was, therefore, with some surprise and not a little incredulity that I was informed some six weeks later that a good-sized colony of these birds was breeding a few miles below Barr in a cat-tail swamp, the nests being placed upon or near the

ground. A visit to the spot was promptly arranged for, and early on the morning of June 5 we reached the breeding grounds. As we approached the spot where the colony was supposed to be located, not a sign of the birds was to be seen—save the monotonous expanse of cat-tail marsh, flanked by a small rush-bound lake on one side and the sun-burned prairie on the other. We had worked well into the cat-tails, which towered some distance above our heads, when as if by a given signal the breeding birds rose from their nests in a cloud, and with much squawking, scolding and flapping of wings, rapidly retreated to a place of safety in the marsh half a mile or more distant. Fifty yards farther on we came to the spot from which the birds had risen, and here in the dense cat-tails were the nests, probably one hundred and fifty in all, large, clumsy, yet withal well built structures of coarse sticks and weed stalks, ranging in height from six inches to three feet above



Fig. 31. ONE OF THE SETS OF SIX EGGS OF THE BLACK-CROWNED NIGHT HERON WAS IN A NEST IN THE CAT-TAILS WHICH APPEARED TO BE A TWO-STORY AFFAIR, THE NEW NEST BEING BUILT UPON THE REMAINS OF THE LAST YEAR'S NEST

the ground, which was wet and boggy and in many places covered with several inches of water.

The nests contained young of all sizes and ages, and many awkward, half-grown youngsters were skulking among the rushes. They did not appear to be particularly timid, but on the contrary seemed rather dull and stupid. Occasionally upon being worried, one would muster enough energy to peck viciously at a finger, giving vent meanwhile to hoarse squawks; but on the whole their interest in life appeared to be very casual. Nearly every nest contained the bodies of one or more "water-dogs" (the larval form of *Amblystoma tigrinum*) and many of the young birds in the nests disgorged these animals upon our approach. Whether this was the result of fear, or of some physical cause we were unable to determine. These particular creatures evidently constituted an important part of the food of

the young, and it would be interesting to know where the parent birds found enough of these animals to supply the demands of all those ravenous young mouths.

The old birds exhibited quite a little concern over our presence, but they were at all times quite wary, and did not come within several hundred yards of the nests while we were there.

On June 23, of the same year, we discovered a small colony of these birds nesting in some thickets of scrub willow which had grown up along the shore of a large reservoir, but which owing to the high water were now partially submerged, and were some forty yards out in the lake from the water's edge. In this colony there were twenty-eight nests containing eggs, mostly sets of three and four, altho we found two sets of five eggs each. The nests varied in hight from two to ten feet above the water-level, but the majority were from six to eight feet up. The water was little more than knee deep, but there were only four nests that could be reacht without climbing.



Fig. 32. A FLOATING NEST OF THE NIGHT HERON, MAY 18, 1907

The nests were composed entirely of sticks ranging in length from four inches to eighteen inches, and from one-eighth to one-fourth of an inch in diameter. They were slightly but uniformly cupped, but were very irregular in contour owing to the varying length of the sticks, and in nearly every instance were longer one way than the other. They were all built in crotches, either main or lateral, and were held in place by numerous small twigs.

These nests averaged less than half the size of the nests in the colony in the rushes, and were much inferior to them in construction. In nearly every instance the eggs could be seen from the ground, thru the bottom of the nest.

The birds were quite tame, sometimes alighting within twenty feet of us, and a few stayed on their nests until we had approacht to within ten or fifteen feet. Many of the birds circled in the air above the nests, while we were examining them, occasionally giving voice to a low, guttural cluck not unlike the cluck of a hen.

We were, by this time, thoroly interested in these strange, awkward tho rather handsome birds, and we lookt forward eagerly to their return in the spring of 1907. The first birds were noted April 26, when four birds were seen just at sun-set alighting in the willow thicket where they had nested the year before. During the rest of the spring these willows were watcht closely, but without results; and finally, on June 8, a thoro examination of them was made and not a single occupied nest was found.

Meanwhile, on May 11, while working over a small lake about half a mile below the marsh which harbored the nesting colony of the preceding year, we found two nests of these erratic birds, bilt just above the surface of water almost waist deep and fully fifty yards out from the shore of the lake. These nests—the bottoms of which were just level with the surface of the water—were supported by masses of floating, dead vegetation, and were anchored in place by a few upright dead cat-tail stalks. They were beautifully bilt affairs of slender twigs and weed-stalks, very large, bulky, deeply cupt and quite symmetrical; and lying far out



Fig. 33. THE SAME NEST AS SHOWN IN PRECEDING PICTURE, MAY 31, 1907;
THE YOUNG ABOUT A WEEK OLD

from shore upon the open water they were very conspicuous, being easily discernible at a distance of one hundred yards. The parent birds were very wild, and it was impossible to approach anywhere near the nests without flushing the birds.

From here we went to the site of the previous year's colony in the marsh, where we examined about twenty nests, a few being empty, but the rest containing from one to four eggs. Without exception these nests were much inferior in construction to those of the preceding year, the majority of them being flat, fragile structures composed of dead rushes and cat-tails, in several instances so poorly put together that the eggs had rolled out of the nests into the water below. On this visit we counted about eighty birds, a large part of which were apparently non-breeders, as they flusht in a compact flock when we were fully one hundred yards away, and showed no particular desire to return to the nests while we remained in the vicinity.

A week later we discovered three more of the "floating" nests very near the

two seen on the 11th, one nest containing five eggs and two containing three eggs each. All three were very fine examples of nest building, similar in every way to the nests found the preceding week. A photo was taken of the nest and five eggs, which turned out to be the first of a very interesting series of pictures of this particular nest.



Fig. 34. THE SAME NEST JUNE 8, 1907; THE YOUNG ABOUT TWO WEEKS OLD



Fig. 35. THE SAME NEST JUNE 15, 1907; THE YOUNG ABOUT THREE WEEKS OLD

Upon visiting the larger colony in the swamp, we were dismayed to find that some vandal (whether two-footed or four-footed we could not determine) had visited the colony and partially destroyed it; fully half of the nests contained broken egg-shells, and many of the nests were entirely destroyed.

On this visit we found two sets of six eggs each which were the

only sets of six seen in the examination of several hundred nests. One of these sets of six was in a nest which appeared to be a "two-story" affair, the new nest being bilt upon the remains of the last year's nest.

A week later, on the twenty-fourth, the two nesting sites were visited again. The larger colony in the rushes was in about the same condition as on our preceding visit, but most of the birds whose nests had been destroyed, and the non-breeding birds had disappeared.

The floating nest which was photographt before, contained four eggs and one newly hatcht chick (which afterward fell into the water and was drowned), but the negative made at this time met with an accident and no picture was secured. Following this, weekly visits were made to the various nests, and photos of the young birds in the nest which was first photographt on the 18th, were made May 31 (when the birds were about one week old), June 8, 15, 22 and 30, respectively.

These birds were apparently able to leave the nest by the 15th (when they



Fig. 36. THE SAME NEST JUNE 22, 1907; THE YOUNG ABOUT FOUR WEEKS OLD

were about three weeks old), but to our suprise they remained for more than two weeks after this date. After the 15th, however, they become much wilder and more difficult to approach, and our coming was usually attended by rather strenuous races thru the waist-deep water before the clumsy youngsters could be returned to the nest from which they had flopt upon our too close approach. On June 30, we found the level of the lake about six inches higher than on the preceding week, the nest completely inundated and the four great, stupid birds huddled together in the nest, drencht to the skin, the very picture of dejection and despair. The following week we found the nest empty, and the young had disappeared.

Meanwhile the remainder of the colony in the swamp was progressing nicely. The first young of the year was seen on the wing June 15. On the same date two sets of fresh eggs were found close by. On June 22 nearly all of the nests contained young birds. On July 7 a few young remained in the nests, but they were fully feathered and almost able to fly. On July 21, all of the young save a few belated arrivals were on the wing, and the breeding season of 1907 was at an end.

Just preceding the return of the birds in 1908, a spark from a passing engine ignited the dry rushes, and the nesting site of the preceding years was entirely obliterated. The birds were first noted on the same date as in 1907—April 26—but a careful search of all the lakes failed to reveal their nesting place until, on May 16, in an endeavor to discover the nesting place of the many Great Blue Herons which frequented the Barr chain of lakes, we stumbled onto the rookery of both.

It was located some ten miles southwest of the lakes in a grove of cottonwood trees on the bank of the South Platte River. The Great Blue Herons had selected the tops of some lofty trees for their nesting sites, and almost beneath them in a dense grove of second-growth cottonwoods were the Night Herons' nests, a hundred or more of them, ranging from ten to twenty feet above the ground in saplings two to four inches in diameter. They were practically identical in construction with the nests which we had examined two years before in the willow thicket over



Fig. 37. THE SAME NEST JUNE 30, 1907; THE NEST COMPLETELY INUNDATED AND THE FOUR GREAT STUPID BIRDS HUDDLED TOGETHER IN THE NEST, DRENCHT TO THE SKIN, THE VERY PICTURE OF DEJECTION AND DESPAIR

the water, but were, if anything, a trifle larger and better built.

The parent birds were quite tame and seemed much excited over our intrusion. On this date, May 16, most of the nests contained incomplete sets—one, two and three eggs—altho one set which was collected was heavily incubated. On June 5 many of the nests contained freshly hatcht young and two birds were seen that were almost large enough to fly. On July 5 nearly all of the young birds were well grown and were out of the nests, climbing awkwardly about among the branches which, being heavily foliated, afforded them good concealment and protection from the broiling sun.

A year later, on May 9, 1909, a visit to the heronry found the Great Blue Herons busily nesting, but not a Night Heron was to be seen. A diligent search, however, disclosed a new rookery, some two miles above the old one, excellently concealed in a very dense grove of young cottonwood saplings near the river bank. The nests, of which there were about a hundred, were identical with those

examined the previous year, and were placed on the branches against the tree trunks at a uniform height of about twenty feet. Most of them contained incomplete sets, or fresh, complete sets.

The nesting season of 1909 closed without affording another opportunity to visit this colony, and now we look forward with much interest to the nesting season of 1910; for these peculiar birds seem to have a surprise in store for us each year, and we are at a loss to know what the next one will be.

Our four years' experience with these birds brought to light a wide variation in habits and actions, and a few peculiarities that were remarkably constant. We found nests in the tallest trees; in medium-sized saplings; just over the surface of the water in low willows; on or just above the ground amid cat-tails; and literally floating on the surface of the water far out from shore. We found complete and



Fig. 38. YOUNG BLACK-CROWNED NIGHT HERONS
WELL GROWN AND OUT OF THE NEST
CLIMBING AWKWARDLY ABOUT
AMONG THE BRANCHES

heavily incubated sets of three, four, five and six eggs. We found sets of fresh eggs within a few feet of nests containing half-grown young; and on the same day we saw young on the wing. We found some birds so timid that it was impossible to approach within a hundred yards of them, and others so tame that we could almost put our hands on them. We found some parent birds that exhibited absolutely no signs of anxiety for the safety of their nests, and others that showed every evidence of uneasiness during our visits. We found young birds that seemed totally indifferent to our presence; others that exhibited a craven fear of us; and still others that were extremely pugnacious, and apparently fearless.

On the other hand we noted a remarkable similarity between all nests built in similar locations, and a surprisingly small variation in the shape and color of the

hundreds of eggs examined. The nests were without exception entirely devoid of lining, the eggs being laid on the closely woven network of small sticks which was generously littered with excrement and filth.

All of the building material was carried by the birds *in the bill*. Of all the birds observed not one was seen carrying anything (including food) in the claws.

The birds' only call given when on the wing, was a low, coarse, guttural sound resembling the word "whork" or "whark" when spoken in a very low pitch; and they decoyed with surprising stupidity to even the poorest imitation of the sound. Mr. J. Alden Loring who was my companion on several of these trips, and who is an adept at bird and animal mimicry, repeatedly brought the birds almost to us by his excellent imitation of the Night Heron call. The young when on the defensive open their great mouths to an amazing extent, and give vent to a very loud,



Fig. 39. NESTS OF BLACK-CROWNED NIGHT HERON IN WILLOW SAPLINGS

hoarse, rasping squawk which is quite terrifying.

After leaving the nests, the young and adult birds congregate in flocks of varying sizes, and during the day frequent the cottonwood trees around the small lakes and ponds, where the mottled brownish plumage of the young blends wonderfully with the lights and shades of the foliage, affording them perfect concealment. Most of the feeding is probably done in the late evening and during the night, as the croak of the Night Herons could be heard about the Barr lakes at all hours of the night.

Taken in all, this quaint, queer, awkward, and erratic bird is one of the most intensely interesting species with which my tramps afield have brought me into close acquaintance, and I hope that future field work will enable us to solve some of the many problems which up to this time we have been unable to answer.

NESTING OF THE SPOTTED OWL IN NORTHEASTERN LOS ANGELES COUNTY, CALIFORNIA

By LAWRENCE PEYTON

IT was in the month of may, 1908, that the Spotted Owl (*Strix occidentale*) was first observed nesting in the same hole from which the eggs were subsequently taken, in 1909 and 1910. At that time my father and my brother Sidney were looking for some cattle and noticed the female in the hole with the heads of the young birds sticking out from under her. The hole was in the face of a granite cliff about 15 feet up and extending back about two feet. The men did not look into the nest when they went up, but on the way back my brother cut a long pole and carried it quite a ways, intending to shin up to the nest with it; but in some way he past the hole and had to throw the pole away as it was getting too dark to go back.

In 1909 my father, my brother and I started for Castaic on March 30, arriving at our bee camp in the Castaic Canyon about 5 o'clock in the evening, having driven about 40 miles. The next morning we worked around the bees; but in the afternoon my brother and I went over to some cliffs not far away and succeeded in finding a set of six eggs of the Rock Wren. The next morning at seven o'clock we started to walk to the owl's nest, carrying an ax, a shot gun, and a can of beans for dinner. It is about seven miles from camp to the nest site which is in a tributary of the Castaic called Fish Canyon, and most of it over rough trail; so we knew that we would have to walk pretty lively in order to get back for supper. It had rained about four days before and the creek was still high, so we were in water up to our knees about half the time.

We got to the nest about ten o'clock and found the female on the nest and the male sitting on a small bush about ten feet away. We went back down the creek a little ways and cut down a small alder tree, trimmed it up and carried it back to the nest. We then leaned it up against the cliff so that it would reach the nest and then I shinned up. I grabbed the female by the wing, jerked her off, and saw something that would gladden the heart of any collector. "Two eggs," I shouted. I put the eggs in my hat, took the hat in my teeth and slid down.

When I pulled the bird off the nest she flew into a small tree near by, but while we were blowing the eggs she flew over to where the male was sitting and lit beside him. Then they stuck their bills into the feathers of each other's necks and talked in soft cooing tones. While we were there the male called several times. It sounded like the distant baying of a hound. One of the eggs was about half incubated and the other just medium. They measured 1.93 x 1.63, 1.88 x 1.62 inches. When we had finished blowing the eggs we ate dinner and then started back to camp where we arrived about half past two, tired, but well satisfied with the result of the trip.

This year my brother and I started for the bee ranch on March 28, arriving there the same evening. The next morning we worked with the bees and in the afternoon collected a set of California Bush-tit. The next morning, good and early, we started to walk to the owl's nest. We carried a shot gun this time, too, and intended to collect the birds also, if they had nested there again. We also carried a couple of gunny sacks to put the birds in, if we got them. We arrived at the nest about ten o'clock and sure enough, there was the old female on the nest, and the male sitting in the same bush. I pulled off my shoes and socks, and using the pole which we had cut last year, shinned up to the nest. Then I lifted the female up

and peekt under. "Gee Whiz!"—I nearly fell off the pole. There were three eggs. Then I put the female in one of the sacks, handed her down to my brother, and slid down with the eggs.

We next turned our attention to the male, who was still sitting where we first saw him. I went down the creek a little ways and got a long dry alder pole to which we tied a piece of fish line. We tried to snare him with this, but the line was too small; so I pulled one of the leather shoe laces out of my shoes and tied it onto the end of the pole. This was all right, but the owl got scared and flew about twenty feet, lighting on a small limb overhanging the creek. I crawled up a ledge in front of him and kept his attention while my brother went around behind and tried to drop the noose over his head. He got it over all right and caught him by one leg, but in some way the string came off the pole and the owl flew up the creek with my shoe string still dangling from his feet.

We followed the owl up the creek and threw rocks at him when he lit, until he lit on a point of rock on the canyon wall where my brother shot him. He flew quite a ways before falling and when we caught him we found that only one bone of his wing was broken. We put him in the other sack and carried both birds to camp. Here we bilt cages for them out of some dry-goods boxes and carried them to Fillmore in our buggy. Here we left them with Mr. Phillips, the taxidermist, who mounted them for us. The measurements of the birds were as follows: Male, wings, tip to tip, 34 inches, length 18 inches; female, wings, tip to tip, 37 inches, length 19 inches. The three eggs measured 1.88 x 1.56, 1.82 x 1.57, 1.88 x 1.62.

NOTES ON THE RUFIOUS-CROWNED SPARROW

By J. R. PEMBERTON

WITH ONE PHOTO BY W. OTTO EMERSON

TO write an article for *THE CONDOR* which will pass unscathed our worthy Editor's blue-pencil requires some labor and a deal of incentive. An incentive, I presume, is either a sincere desire to impart new knowledge to our *CONDOR* readers, or one sprung from our vanity in the desire to proudly tell of our takes of rare specimens, and gain the envy of our less fortunate friends. To write under the latter is easier, and under cover of scientific modesty is the method adopted by the casual field worker. It is thus fair enough for me to add a little to our knowledge of the Rufous-crowned Sparrow, and tell, entirely "on the side," of a set of eggs I had the fortune to take.

I have met the Rufous-crowned Sparrow (*Aimophila ruficeps ruficeps*) in many places from Ventura County to Marin County in the Coast Ranges; and the distribution of this distinctively Californian bird is given in our literature as extending along the western foothills of the Sierra Nevada from San Diego County to Colfax in Placer County, and not north of Marin County in the Coast Range.

In the region about San Francisco Bay, conditions seem ideal for the home of this bird, for practically few localities are without it. Southern Alameda County, from Haywards thru the Livermore Valley country, down into the Mount Hamilton region and back up the western slopes of the Bay is especially favored by colonies of these birds.

The writer had the fortune to be for several weeks in the Arroyo Mocho, Ar-

royo del Valle, and Corral Hollow regions in Southern Alameda County, where the bird was fairly common. Favored localities are extremely hot, dry, unsheltered hillsides with southern and western exposures, which harbor a growth of black and gray sage, and a scattering of white oaks. Vegetable matter being from 88 to 97 percent of their food, it is necessary that there be an undergrowth of grasses.

Colonies are the rule, and the writer found usually a dozen pairs in the confines of a two or three acre hillside. The birds seldom leave the bushes for the oaks, their favorite perches being the tops of the sage. During the ante-nuptial season, the birds may be seen on their favorite perch, giving their peculiar cicada-like song, which has a wonderfully ventriloquistic power, and is very confusing when one is trying to locate the bird.

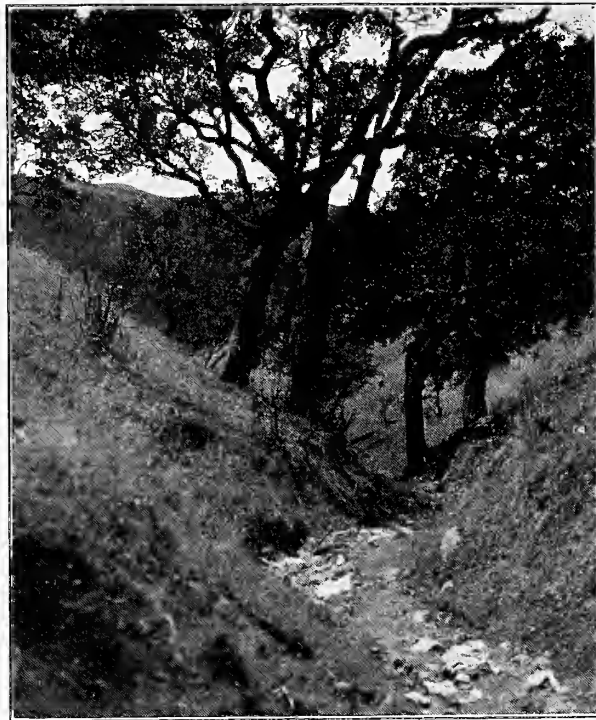


Fig. 40. NESTING SITE (AT CROSS) OF RUFOUS-CROWNED SPARROW,
NEAR ARROYO DEL VALLE, ALAMEDA COUNTY, CALIFORNIA,
JULY 8, 1908

It is impossible to locate a nest by the usual method of watching the female bird. The bird is a past-master of the sleuth stunt, and cannot be followed when going to or from its nest. Just as in poker a greenhorn cannot be beaten by a veteran, so in egg-collecting a novice will find the best nests.

Overhearing a conversation between Mr. W. Otto Emerson and the writer, upon eggs, Mr. A. F. Taggart, a member of our party casually asked, "What kind of a bird lays three little white eggs in a nest in a hole in the ground under a sage bush?"

Emerson and I needed no more information. There was no other bird in that Arroyo del Valle that could do that but the Rufous-crowned Sparrow. Soon we had the assurance that Taggart had not smasht any of the eggs or stept on the nest

or done any other foolish stunts. Dreams of skunks and other "varmints" following Taggart's tracks and eating the eggs filled my head that night; but all eventually turned out well, and to make a long story short, I got the female bird, nest and eggs, and Emerson took photographs of the whole outfit. The bird was seen leaving the nest, and was collected right then.

The nest was a poor affair—simply a few dry grasses were arranged on one side and part of the bottom of an irregular hole on the edge of a bank along the side of a small gully. The eggs rested upon the earth with a few grasses crost between, and a small sage sheltered the nest from the sun.

The lateness of the date, July 8, 1908, augered well for incubated eggs, but we were glad to find these perfectly fresh. They were three in number, glossy white with no trace of the bluish color spoken of by some writers, tho slightly pink before blowing. The eggs are now in the writer's collection, and are prized the most of all the shells to be found there.

THE ANNA HUMMINGBIRD

By J. H. BOWLES

NUMBER one on my list of "birds seen at Santa Barbara" is the Anna Hummingbird (*Calypte anna*), a splendid male noted on November 17, 1909.

Accustomed as I was to the much smaller hummers of the north, and to the Ruby-throated Hummingbird of the New England states, this large and handsome species became at once of the greatest interest to me and I determined to make an especial study of it.

Altho most numerous during the winter months, the Anna Hummers are very plentiful at all seasons, being the commonest member of their family in this portion of southern California. A friend who has a large flowering shrub on his estate assured me that he had seen more than forty of these hummers feeding at one time among its blossoms, and indeed in many such localities one might shut his eyes and believe himself to be surrounded by a swarm of giant bees.

All hummingbirds seem possess with the most irascible dispositions, and Anna is very far from being an exception to the rule. The females are, if possible, more pugnacious than the males, and nothing seems to give them greater pleasure than to pick a quarrel with some other bird, preferably of their own kind, altho anything with two wings is acceptable. It is a most amusing experience to sit near the nest of some such bird as the Parkman Wren, whose loud complaints at your intrusion have attracted numerous of her sympathetic avian neighbors. Presently an Anna will whiz upon the scene and at once start in on a systematic campaign against every bird in the immediate vicinity.

On one occasion I notist a female making repeated dives into the center of a large wild rose bush, and an examination showed a four-foot corral snake to be the cause. Upon killing the snake I found him to have been guilty of nothing more reprehensible than eating a lizard, so throwing him on the ground I moved a short distance away to see what the hummer would do. She had been watching from the top of a neighboring live oak, and almost immediately darted down and hovered over her enemy, gradually dropping closer until she was within a foot of him. Her head was bent far down and here extreme caution, in markt contrast to the rough and tumble tactics usually employed, showed how fully she appreciated her

danger. Finally, having examined him from all sides and becoming fully satisfied that he was quite dead, she whirled up into the air and dashed away in search of new worlds to conquer.

The food supply, as is of course the case with all hummers, consists for the most part of tiny insects secured from the flowers. Anna, however, delights to rob the webs of the larger spiders of their prey, and has also developed the art of fly-catching in mid-air to an extent that I have seen in no others of the family. Often, while perched on a telegraph wire or the top of a small tree, she will dart up into the air and capture some minute wayfarer, returning to her perch and gulping it down with the greatest apparent satisfaction.

Soft insects are the rule in hummingbird diet, but this species appears to be fond of a tiny metallic-green beetle of decidedly hard-shelled characteristics. The well known hummingbird manner of buzzing up to a flower and dipping in the beak while on the wing is a fixed rule with all the adults; but when first learning to secure food for themselves the young birds find this rather too much for them. They will buzz in front of a flower for a few seconds, but their strength soon gives out and they are obliged to settle in, or on, the flower and pick out their food in a most ludicrous and unhummingbird-like manner.

In its habits this species has one characteristic in which it is very nearly unique among the wild birds of the United States. This is in the truly remarkable length of the nesting season; for it seems extremely probable that nests may be found in almost every month of the year. The earliest, or possibly it should be called the latest, evidence of nesting that I have personally noted was on January 3 of the present year, when I saw a well-grown young bird perched in a cypress tree and guarded by its mother. A few yards away in the same tree was the empty nest; the egg from which this young one was hatched could not possibly have been laid more recently than the third week in November.

I was unable to get into the field until December, but in the first week of that month several male hummers were most assiduously courting their mates, which has been an every day occurrence up to the middle of June when this article is being written. The manner of their courtship is thoroughly in keeping with the vigorous nature of the birds. The female usually sits in the midst of some low bush or tree, motionless, with beak pointing downward, apparently paying not the smallest attention to the frantic efforts of the gorgeous male to attract her. With his flashing gorget and crown-plate extended to its greatest compass he mounts into the air some fifty or sixty feet above her and, diving headlong downward, passes in a great arc a few inches under her and ascends to his former altitude. This he repeats as fast as possible, one that I saw making twenty-two consecutive dives.

At each dip he gives his love song which consists of a rather harsh "chû-chû-chû", which is repeated rather slowly and is surprisingly loud for so small a bird. The patience of the same male above-mentioned seemed to suddenly give out, for he paused at last beneath his unresponsive ladylove, then glided slowly up to her and catching her beak with his own pulled her headlong from her perch. The lady did not appear to resent this in the least, for the two birds at once flew away together, the male taking the lead.

My first occupied nest was found on December 29, my attention being attracted by the female flying to it with a small feather in her bill. This nest was situated twelve feet up in a cypress tree upon two cones that were attached to a dead twig. During the next two days there was an almost continual downpour of rain so that the nest became thoroughly soaked thru; nevertheless the bird was at work again on the first of the year, as soon as the sun put in its appearance. The first egg was laid

January 3, but during the following night a heavy frost left ice more than a quarter of an inch in thickness on the puddles.

It seemed to me that this would settle matters, as the bird was nowhere to be seen; but on the morning of the 5th she was sitting jauntily upon her full complement of two eggs. She flew away when I climbed to the nest, but returned in about twenty minutes with a large beakful of spider-webs and lichens. These she spread carefully over the outside of the nest while she was sitting in it, smoothing them down with her bill and rounding the edge of the nest with her chin and throat. This was the first sign of exterior decoration that the nest received, and in all others that I have since examined no thatching was done until after both eggs were laid.

I think the icy weather must have been too severe for the first egg, for, whatever the cause, only one egg hatched. This took place on January 22, showing the period of incubation to be just seventeen days. It may be interesting to note here that I have found thirteen days to be the period of incubation for eggs of the Black-chinned Hummer (*Archilochus alexandri*). This great difference I think may be attributed in part to the consistency of the albumen, which in eggs of *C. anna* is thick and almost gummy, while in *A. alexandri* it is as thin as in eggs of other small birds.

In spite of the very cold, rainy weather my young hummer grew very rapidly; but it was not until he was thirteen days old that his eyes opened. He must have been exceedingly hardy, for most of the time his mother was obliged to leave him to the mercy of the elements in order to secure food. One often wonders what law of nature ordains that the male hummer should spend all his time in idleness and pleasure; for he never does a stroke of work either in bilding the nest or in feeding his mate and young.

The manner of the female in feeding her young by regurgitation and apparently thrusting her rapier-like bill thru and thru her baby is too old a story to bear repetition, so I will merely say in the words of Mr. Bradford Torrey that it is truly, "a frightful looking act."

On February 13, when he was just three weeks old, the young bird left the nest, but remained in the home tree for the greater part of the day.

In summing up, let me add that the eggs are invariably two in a complete set, pure milky white in color, and elliptical ovate in shape. An average specimen measures .53 × .32 inches.

The nest is constructed mainly of willow down, often intermixt with numerous small feathers, with an outside thatching of lichens and bits of dead weeds that are held in place by a liberal supply of cobwebs. This thatching is seldom or never applied until after the eggs are laid, but it then receives continual attention until the appearance of the young.

An average nest measures externally 1.5 inches in width by 1.25 inches in depth, the inner dimensions being 1 inch in width by .75 inch in depth. All localities seem to be suitable for nest bilding: a sycamore in some canyon bed, a live oak in the foothills, or an orange tree in your garden, altho pepper trees and cypress are possibly the favorites around Santa Barbara.

The nest is usually placed on one of the smaller twigs near the end of a limb, four feet above the ground being the lowest nest I have seen, while twenty feet up was the highest.

Finally I may say that, altho the bird will not leave her home until she is in actual danger, it is by far the hardest nest to find of any hummer in my experience.

LATE SPRING IN LAKE VALLEY

By MILTON S. RAY

WITH TWO PHOTOS

DURING the spring of 1909 I spent some few days in the field with Club members Carriger, Pemberton and Heinemann, at various points in the Bay Counties; but it was not until I boarded the overland, at Oakland Pier, on the evening of May 24, with the vision of six weeks in the High Sierras before me, that I felt the important work of the season had begun. The High Sierras, besides possessing the most interesting and varied avifauna in the State, have a certain wildness, due principally to altitude, that is noticeably lacking in the much lower Coast Ranges. Only those who have known the wild beauty of their snowy and precipitous mountains, crystal lakes and roaring torrents can appreciate the peculiar fascination of this wonderful region.

This Sierran enchantment was now upon me, and when, sometime after midnight, the train whirled in among the foothills above Roseville, sleep became out of the question. It was a beautiful night without, and the foothill country, a land of grain fields, orchards, great spreading oaks and picturesque villages, rolled by, dreaming in the moonlight. As the train wound higher the valley oak and digger pine were replaced by the black oak and yellow pine, while these in turn at higher levels gave way to the sugar pine, fir and tamarack. While much of the timber close to the railroad was stunted second-growth, there were neighboring ridges and canyons that showed a wealth of woodland. Higher and higher the train toiled, past Gold Run (3224 feet), Towle (3700 feet), until Blue Canyon at an altitude of 4701 feet was reached.

At this point dawn began to faintly streak the east, and shortly after there was sufficient light to observe the proverbial early bird in search of the early worm. The frequent stops and slow speed of the train gave considerable opportunity for a sort of "moving picture" field work. Every tree and every brook was scanned with interest and even the commonest birds, seen for the first time after a long absence, seemed rather new and strange. Still higher wound the train and soon we were on the Sierran Summit. The snow sheds did not allow much chance for observation; but thru the openings one could see a never ending world of snow, so deep in places that the tops of small saplings were just peeping above it; while an open car window would admit a frigid breeze that almost seemed impossible in California. After one has recently been in the torrid Sacramento Valley, to be in a few hours here where even spring has not appeared seems almost the work of magic; for with a team this ascent is a matter of five days, which the train accomplishes in about as many hours. This altitude (7018 feet), however, could hardly be reached by team as early as the 25th of May on account of the deep snow on the roads.

Winding out and down from the snowy crest of the Sierras, the train reached Truckee (5819 feet), where a branch line was taken to Tahoe City on the lake. The scenery along the famous Truckee River, which the railroad follows to the lake, is well worthy of a long description if the space would allow. To Lake Tahoe itself, however, no pen can ever do justice; for who can truly describe this magnificent body of water, so wonderfully clear, or the great forests and snow-mantled mountains that encircle it?

The day of my arrival was warm and sunny and the steamer made fast time over the placid, sparkling waters. In shady places along the lake shore some snow

still remained; but this was melting fast. Bijou, my destination, was reached at one o'clock in the afternoon, and not long after I selected a spot on high ground as the site of my camp. I was told that there had been a light fall of snow two days previously; but weather conditions did not cause me any worry as I had a storm proof tent of 10 oz. army duck.

After arranging the camp, time did not allow much opportunity, but I could not forego a short ramble around the camp-grounds and up the meadow. Mr. Wilton Young of Bijou took me to a nest of the Sierra Junco (*Junco hyemalis thurberi*) that he had found a few days before; but the nest was deserted and the four eggs it had then held had disappeared. Along the meadow I noticed Brewer Blackbirds (*Euphagus cyanocephalus*) nesting in unusually large numbers; but as it had already become dark I postponed investigation until the following day.

The next morning was spent as planned, but as the season's work in the Brewer



Fig. 41. BENEATH THE PINES OF BIJOU, AT LAKE TAHOE
Photo by Richard Duttko

Blackbird colonies has already been described at length in two articles published in THE CONDOR I shall omit further reference to it. In the afternoon a tramp was taken along the lake shore to Lakeside, but a blinding rainstorm before long forced me to return.

The next morning being clear I decided on a ramble among the higher ranges southeast of Bijou. Here I reached an altitude of about 6750 feet. At this elevation deep snow lay in patches, and the willows and aspens showed but faint buds, while every brook was a turbulent stream of snow-water running bank-full and singing its wild Sierran song. Altho about Bijou (6220 feet) many nests contained even young birds, yet here the birds that were in evidence as nesting were few.

The real find of the day was a nest of the Blue-fronted Jay (*Cyanocitta stelleri frontalis*). This bird, while common on the ranges and along the lake shore where the mountains rise from its edge, is scarce in the vicinity of Bijou and all other low

portions of Lake Valley. In the particular spot where I now happened to be, jays were neither to be seen nor heard; but some suspicious looking twigs, protruding from the end of a thick-foliaged pine limb, caught my eye and I determined to investigate. After a rather difficult climb, altho it was but fifteen feet up, I reached what proved to be a nest of the jay. The nest contained three eggs which lay in pretty contrast to the lining of red pine needles. It was not until I had been in the tree fourteen minutes that the jays appeared, and then, altho there were but two, the air seemed full of them; for the jay, when it wills, is about the noisiest bird in the woods.

The nest and eggs were collected, the latter proving well advanced in incubation. The nest, a typical one, is of bleached twigs outwardly, principally of the manzanita, bark strips, grasses, mud, rootlets, and lined with pine needles; it measures seven inches in diameter while the cavity is four inches by two and one-half inches deep. As a nest of this size was rather cumbersome to carry I brought the days' work to a close and started for camp.

Just before reaching Bijou, however, I made a most interesting discovery, the find of the season. In a grove of small tamaracks I came upon a pair of Ruby-crowned Kinglets (*Regulus calendula calendula*) that were putting the finishing touches on one of the daintiest specimens of bird architecture I have ever seen. It was placed but ten feet up and was made of plant fiber, moss and down and warmly lined with feathers and a few horse hairs. The accompanying photo was taken *in situ* by Heinemann on June 19.

The 28th of May dawned windy, cloudy and cold, all of which, however, did not deter me from taking a jaunt due south up the valley. Some distance from Bijou a nest of the Red-shafted Flicker (*Colaptes cafer collaris*) and one of the White-headed Woodpecker (*Xenopicus albolarvatus*) were noted in inaccessible situations in tall dead pines; while in a tamarack sapling a nest of the Audubon Warbler (*Dendroica auduboni auduboni*) with one fresh egg was found. It grew so intensely cold, however, and sleet continuing to fall hour after hour, that I was finally obliged to take refuge for a time in an unoccupied farm house, where for some hours I past the time gazing out on a chilly and rather dismal landscape or looking over the newspapers with which the walls were papered and which contained the latest accounts of the Russian-Japanese war.

Towards dusk the storm moderating I started back to Bijou. Near camp I noted a rootlet nest of the Mourning Dove (*Zenaidura macroura carolinensis*) with two fresh eggs. It was built upon an old nest of either *Euphagus* or *Planesticus*. Altho the Dove is not uncommon in Lake Valley this is the first nest of this species that I have found in the region.

To itemize all the nests found during my stay would make far too lengthy a list, so I will only review the most interesting finds. May 29 was warm and clear and was spent along the range southeast of Bijou up to about 6500 feet elevation. Several nests of the Western Robin (*Planesticus migratorius propinquus*) were noted in pines and firs, all containing eggs well along in incubation. Next came a large nest 20 feet up in a fir. On climbing up the tree imagine my surprise on seeing a Clarke Nutcracker (*Nucifraga columbiana*) fly out from one of the branches. My wonderment was short-lived, however, as the nest proved an old one, the bird in the tree being merely a curious coincidence. However, I believe it was a nest of the nutcracker altho careful search failed to reveal any tell-tale feathers or other evidence of the builders. The nest was a large and well-made affair of sticks and twigs, almost the size of a crow's and thickly lined with bark.

Two very common birds among the brush on these mountain sides were the

Thick-billed Sparrow (*Passercella iliaca megarhyncha*) and the Green-tailed Towhee (*Oreospiza chlorura*); but I was not successful in locating any nests of either species.

By daybreak on May 30 I was on the road for the trip to Cave Rock and back. A tramp of 20 miles takes up the best part of a day to say nothing of the stops en route incidental to the study of ornithology. Near Edgewood two nests of the Western Robin were found which will illustrate the wide variation in nesting dates which I have found to prevail in the Sierras as it does almost everywhere,



Fig. 42. NEST, *in situ*, OF THE RUBY-CROWNED KINGLET;
NEAR LAKE TAHOE
Photo by Oluf J. Heinemann

and shows the fallacy of basing any laid-down rule for nesting dates on the finding of a few nests. One of the two nests above referred to contained a single fresh egg while the other held three large young.

Not far from Cave Rock the booming of grouse resounded everywhere thru the woods, but I did not see any of them altho I scanned tree after tree. Cave Rock, a bold, rocky cliff jutting into the lake, was the site of an occupied hawk's nest on my last visit; so it was with a feeling of expectation that I approacht it, but neither the hawks nor their nests were to be seen. In exploring the shallow cave which

gives the rocks their name, however, I came upon a nest of the Canyon Wren (*Catherpes mexicanus punctulatus?*) in a little cleft in the rock near the roof of the cave. Luckily, a rude ladder, bilt by some industrious visitor, enabled me to reach the nest which was made of twigs and moss and lined with plant down, and held five half-grown young. The wrens soon became accustomed to my presence and went back and forth to the nest with food for their ever-hungry brood. This bird has somewhat the manners of the Rock Wren in its way of peering into every nook and crevis and in the remarkable way in which it patters up and down the almost perpendicular walls of rock. These were the first Canyon Wrens I have seen in the lake country; in fact all the wren family are peculiarly rare in the region. Whether these individuals were referable to *conspersus* or *punctulatus* must remain an open question as I felt the rising generation had certain rights in the matter.

Leaving the wrens and their tiny abode in the massive, hollow-sounding cliff, the return to Bijou was made by following the lake shore for the entire distance. Encouraged by previous success in finding nests of the Blue-fronted Jay I spent some further time looking for them. Not far from Cave Rock a nest was notist 7 feet up in a small pine. On account of its low and open situation I took it from a distance to be of the ever-common Western Robin. On approaching I was surprised to flush a Blue-fronted Jay from the nest which held three practically fresh eggs. Identical in construction with my previous nest, yet this, by its lack of concealment was as easy to find as the other was difficult. Two more nests of the jay were found, one 10 feet up in a willow, the other 18 feet up in a fir; but both proved to be of a previous season. Owing to the fact that the birds used bleacht twigs outwardly, all nests have a weather-worn appearance making it hard to distinguish those newly bilt from old ones. A third nest was found on the very extremity of a pine branch 20 feet up. The parents soon came about the nest, but I was unable to reach it or to see from above what it contained. Farther on in a willow swamp tenanted by American Magpies (*Pica pica hunsouia*) a careful search was made but resulted in the finding of but three old nests. This was not far from Bijou and a short walk brought me to camp at dusk.

The last day of May was spent in the vicinity of the camp, a locality that was sometimes as productive of results as some of the longest trips. One week of my allotted six had past, and while it seemed I had traversed a wide area, yet these trips were really but a few trails in an endless wild and it is this vastness of the Sierran woodland that makes even a vacation of six weeks seem all too short. In some future CONDOR will perhaps appear some notes on further field work about Lake Valley and along the higher ranges.

FROM FIELD AND STUDY

Two Avian Stragglers within the State of Colorado.—*Pelecanus occidentalis*. Brown Pelican. While on a collecting trip for the museum of the State Historical and Natural History Society of Colorado, the writer chanced upon an adult mounted specimen of this species in the shop of a taxidermist who, upon being questioned as to its history, proffered the information that it was killed by P. J. Engelbrecht, at Wood's Lake, near Thomasville, Colorado, in June, 1903.

Accordingly I wrote to Mr. Engelbrecht (who is proprietor of the summer resort at the lake) for further particulars, and received a letter to the effect that he happened to be out fishing with a party when he noticed a monster bird alight on a stake at the far end of the lake. He took his gun and rowing within shooting distance succeeded in securing the specimen. This was either the last of June or the first of July, 1908.

He further stated that he had been in the tourist business for ten years and that this was the only one of these birds he had ever seen in the locality.

In consideration of the fact that this is the first record of the capture of this species in the state, Mr. Engelbrecht kindly donated the specimen to our Society.

Bubo virginianus lagophonus. In the collection of Jonas Brothers, Taxidermists, of this city I secured a mounted specimen of the Great Horned Owl which is much darker than the form usually found in Colorado, and which the proprietors assured me was shot by a local hunter at Morrison, Jefferson County, Colorado, during the month of October, 1909, and brought to them in the flesh.

Believing the specimen might prove to belong to one of the dark Pacific Coast forms, and as a collection of these birds was not accessible to me for comparison, the specimen was sent to the Biological Survey for examination, and it was returned labelled by H. C. O [berholser], as *Bubo virginianus lagophonus*.

This variety, recently described by Oberholser (Proc. U. S. Nat. Mus. XXVII, 1904, p. 185) is said to be closely allied to *saturatus*; indeed the A. O. U. Committee on "Check List" seems to have regarded it as a synonym of *saturatus* (14th Sup., Auk XXV, 1908, p. 392).

In any event the bird is a new record for Colorado. Mr. E. W. Nelson, of the Biological Survey, in referring to the specimen writes that " * * * it is a southern extension of the range of the subspecies *lagophonus* which belongs much farther north in the Rocky Mountains, and it is evident this specimen is a fall straggler."—HORACE G. SMITH, *Asst. Curator Colorado State Historical and Natural History Society*.

Cowbird in Los Angeles County.—On May 7, 1910, at Nigger Slough, Los Angeles County, I found a nest of the Western Yellowthroat containing a Cowbird's egg. As this egg measured but 15×18 mm., I suppose it to have been laid by a Dwarf Cowbird, tho the bird itself was not seen.—R. M. PEREZ.

The Western Martin Nesting in Los Angeles.—On June 2 and 17, 1910, Mr. G. K. Snyder and myself found two sets of 5 eggs each of the Western Martin (*Progne subis hesperia*). The nests were located in the residence district of Los Angeles, and both were built on the drain pipes under the eaves of a school house about 40 feet above the ground.

The birds evidently do not mind the presence of people, as the pupils of the school make a great deal of noise about the building daily.

The first nest was composed of hay, dry grasses, waste, rags, neatly lined with green pepper leaves. The second nest was made of first a layer of mud, then hay and dry grasses, then a neat layer of green acacia leaves and a bit of white paper.

Both times when I cut thru from the attic, the female was found on the nest. The male was not seen until the female was scared off, when both birds returned, twittering and flying around the nest. In the evening the birds are often seen perched on the telegraph wires, uttering their characteristic notes.—R. M. PEREZ.

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EDITORIAL NOTES AND NEWS

This issue contains the "Directory of Members of the Cooper Ornithological Club", an annual feature of our magazine which we are repeatedly assured is a very useful one. It will be noted that the list is much larger than ever before, including 302 names. We would be glad of information as to any errors or changes in addresses, so that the secretary's card index may be kept up to date.

In a paper concerning the "Introduction of the Hungarian Partridge into the United States" (=separate from Yearbook of U. S. Dept. Agr. for 1909, pp. 249-258, pl. xiv) Mr. Henry Oldys of the Biological Survey concludes with the following significant remarks: "Not only is acclimatization of an exotic species difficult, but it may, if successful, lead to unexpected results:" the bird may become a nuisance to agriculturists and it may crowd out our native species. "Hence it would seem wise to devote less energy and money to the establishment of this and other exotic species and give more attention to the restoration and maintenance of our native game birds." We heartily agree with this last suggestion and would respectfully recommend it to the consideration of our zealous State Fish and Game Commissioners.

Our thanks are due Mr. H. S. Swarth for assuming the entire work of getting out the last

two issues of our magazine, during the time the regular editor was absent afield. Mr. Swarth is spending the summer in the northern part of Vancouver Island where he is a member of Miss Alexander's party which is making collections there for the Museum of Vertebrate Zoology of the University of California.

Mr. H. W. Carriger spent the first two weeks of June in the vicinity of Lake Tahoe. He and Mr. M. S. Ray, who is devoting a larger part of the early summer to the same region, were successful in finding some extremely rare birds' nests. We are not at liberty to announce what these finds were, any further than to remark that they are new for California, and that the descriptions of them will appear in due time in THE CONDOR.

We learn from the *Auk* that the long-promised new edition of the American Ornithologists' Union Check-List of North American Birds will probably be ready for distribution about the end of July. Altho it will differ somewhat in typography and in the character of the matter from previous editions, the arrangement and numeration will be the same. As most of the changes in nomenclature have been added in the numerous Supplements issued since 1895, we are assured that there will in this respect be few surprises. The geographical distribution of the species and subspecies have, however, been entirely rewritten and greatly amplified. Besides being given in greater detail and with more definiteness, the new arrangement will show not only the general range of the forms, but also the breeding and winter ranges, so far as these are at present known. This single feature has meant the expenditure of a vast amount of work on the part of those members of the Committee having this subject in charge. We are further informed that an abbreviated edition of the Check-List, consisting only of the English and technical names, numbered, is in preparation and will be issued at about the same time as the regular edition. Copies of both publications may be obtained thru the Business Manager of the Union, Dr. Jonathan Dwight, Jr., 134 West 71st Street, New York City.

Bird-Lore has lately devoted no less than 64 lines of its surplus space to rather shallow ridicule of THE CONDOR for adopting simplified spelling. The nature of these aspersions serves chiefly to advertize the astonishing ignorance of its editor and "T. S. P.," of the principles of a subject with which every educated man in this day of economic advance ought to be familiar. The Editors of THE CONDOR are not attempting to originate any new fad, as is implied, but are merely falling in line with a wide-spread movement which is essentially progressiv, and which is rapidly gaining ground because of its obvious merits.

The extensive oological collections of F. M. Dille, of Denver, and G. H. Messenger, of Linden, Iowa, have been merged by their

owners into a single "Messenger-Dille Collection." This combined cabinet contains choicely selected sets of 682 species and subspecies of North American birds. It is thus one of the largest collections in the United States, and not only this, but the component sets have been selected with extreme care to secure perfectly prepared and typical representations of each species.

Mr. John E. Thayer, owner of the Thayer Museum at Lancaster, Massachusetts, has sent an expedition to Wrangell Island, which lies in the Arctic Ocean northwest of Alaska. The party will winter there, and thus be on the ground at the opening of the spring of 1911. The special object of this quest is the discovery of the eggs of the rare Spoon-billed Sandpiper. Mr. Thayer will also have a man in the delta of the Mackenzie River at the break of next spring, on the look-out for the breeding places of certain water birds.

Mr. C. W. Beebe, of the New York Zoological Park, is now in the far East studying fessants for a projected monograph of that group. He writes us from the Himalayas under date of May 27 that his party had been camping for a month above tree level as close to Mt. Everest as possible, making studies of *Ithagene* and *Lophophorus*. It is found that the correlation of dry, damp and humid climates with pale, dark and iridescent plumages is very prominent among the fessants, as with many other birds. Mr. and Mrs. Beebe will return home late the coming autumn by the way of California.

We have learned that the MS of Part V of Ridgway's Birds of North and Middle America is approaching completion. Mr. Ridgway has finished with the hummingbirds, and is now at work on the trogons.

The American Bird Banding Association has been organized in New York City, with Dr. Leon J. Cole as President. The object of this society is "the banding of wild birds and the recording of accurate data on their movements." The metal band attach to a bird's leg, bears a serial number and the inscription "Notify the Auk, New York." Record is kept of the number of each band used, and should the bird ever fall into anyone's hands, it is expected that the fact be reported together with the locality of capture. It is believed that important data bearing on the study of bird migration will thus be obtained. It is highly desirable that this work be carried on at many widely separated points. Persons interested and desiring further information or wishing to join the Association, should address the Secretary, Mr. C. J. Pennock, Kennett Square, Pa.

Mr. Malcolm P. Anderson writes us from Han-chung-fu, Shensi, China, under date of February 13, 1910, that his party had crossed the Pe-ling, or backbone of China, twice. "This is no great feat," he says, "but in crossing the mountains we have found several excellent

collecting grounds and discovered a considerable number of new mammals. We are pioneers in the zoological line in the parts we are visiting. One of the best collecting grounds I have seen in China is around a mountain called Tai-pei-san, 13,400 feet elevation, in western Shensi. We found this mountain half by accident, as reports of its whereabouts and the way to reach it were very indefinite. Once found, we camped at its base and made many trips up its slopes. Hunting was difficult in places, owing to the extremely slippery sides of the mountain. After arming our straw sandals with huge spikes to aid us in clinging to the snow we finally managed to secure three fine specimens of the 'goat-ox'. Besides this strange beast we got specimens of deer, wild boar, the 'goat-antelope', and a ripping collection of the smaller things." It will be remembered that Mr. Anderson, with two English assistants, was sent out by the British Museum a year or more ago, for the purpose of securing mammals in the interior of China. This is known as the "Bedford Expedition." Mr. Anderson expects to return to his home in California the coming winter.

PUBLICATIONS REVIEWED

THE DISSEMINATION OF JUNIPERS BY BIRDS. By FRANK J. PHILLIPS. Reprint from Forestry Quarterly, vol. VII, no. 1, pp. 1-16; April, 1910.

Definite information on so-called matters of common knowledge is often much needed, but often also vainly sought. In this paper Phillips fills a long-felt want with his excellent demonstration of the importance of birds in the distribution of seeds, a topic burdened with much general but very little specific knowledge. He selects junipers as favorable to the study of avian dissemination, since the fruit is rather conspicuous and hangs on the tree a long time. Analysis shows juniper berries to have a high nutritive value, and observation and records from various sources prove that large quantities of them are eaten by birds. Mammals are of slight importance in spreading the seed.

In dense natural stands of juniper, birds are said to be responsible for from 60 to 90 percent of the total distribution, and in various localities where junipers are scattered it is shown that the entire reproduction is due to birds. Those who have seen the fence rows of the southeastern states marked with lines of red cedars and the barren, stony fields of certain eastern states dotted with them, will not question 100 percent bird dissemination of juniper.

Cedar birds and robins are indicated as the most important juniper distributors. A few names may be added to the list Phillips gives, of birds the Biological Survey has found to eat juniper berries. They are: for *Juniperus*,

species undetermined, Mockingbird (*Mimus polyglottos*), Red-breasted Nuthatch (*Sitta canadensis*), and Varied Thrush (*Ixoreus naevius*), and for *Juniperus virginiana*, Fish Crow (*Corvus ossifragus*), Grackle (*Quiscalus quiscula*), Song Sparrow (*Melospiza melodia*) and Redbird (*Cardinalis cardinalis*).

The author's principal conclusions are that: "Birds are responsible for most of the dissemination of the junipers," and "General observations seem to point to the dense southern stands as a center for the dissemination along the lines of bird migration."—W. L. M.

MCGREGOR'S "MANUAL OF PHILIPPINE BIRDS."—This work admirably meets the heretofore keenly felt need for a single volume of convenient size, containing descriptions of Philippine birds. In fact the only previous reference work covering the region is the bulky Catalogue of Birds in the British Museum, not only the size of which but its rarity precluding general use.

McGregor's Manual strikes us as having been planned with great care to secure essentials and leave out non-essentials; and the plan is followed consistently thruout. The scientific name, an English name, and such native names as seem to be commonly used with some degree of accuracy are given for each species. A well selected synonymy provides references to the important literature pertaining to each species. Detailed distribution, by islands, is given in each case. Concise descriptions, including metric measurements are given for each and where there are plumage variations, these are separately described in detail. Brief characterizations of the genera and larger groups, together with simple but direct keys, render identification a less formidable task to the reader unfamiliar with oriental birds than would otherwise be the case.

The system of classification followed by McGregor is that set forth in Sharpe's Hand-List. The reason advanced for adopting the system is the adequate one, that it is "both convenient and well known." It is a pity that American ornithologists cannot allow themselves to fall into line with the rest of the world, to the end that uniformity of arrangement may be attained. There will always be differences of opinion over the relative positions of certain groups; but such minor points might well be conceded in the faunistic treatment of birds, "for the sake of convenience and uniformity."

We are interested to observe that McGregor, an independent, systematic student of the bird-life of a large archipelago where there are

many closely allied forms in a group and where the problems of speciation are manifold, thruout his book wholly ignores the *binomial* designation. And this too in view of the historical fact that McGregor used to be an ardent trinomialist, describing "subspecies" galore! Everything nameable at all is treated in his new book as a binomial, just as does Sharpe and many other English authorities always referred to by Americans in this connection as "conservatives." Do we not see the pendulum beginning to swing back again from trinomialism towards the consistent and non-ambiguous binomial?

Perhaps the dogged adherent to the *trinomial* will before long be referred to as the "old-fashioned conservative!"

The present reviewer is unable in the rather brief time allotted to the perusal of McGregor's Manual, to find anything in it not worthy of commendation in a work of this sort. Of course, if the reviewer were familiar with the Philippine ornithis, it is quite probable that he might differ with the author in minor details of characterization, or range. But he is not; and in common with a host of other students will always turn to the Manual when information within its scope is desired, with confidence that it is in its entirety unimpeachable as an authority in its field.—J. G.

THE VERTEBRATE FAUNA OF CHESHIRE AND LIVERPOOL BAY. Edited by T. A. COWARD, F. Z. S. Volume I. The Mammals and Birds of Cheshire. By T. A. Coward and C. Oldham, F. Z. S., M. B. O. U. With illustrations from photographs by Thomas Baddeley. Witherby & Co., London, 1910; 8 vo., pp. 1-XXXII + 1-472. Price 26 shillings net.

The two volumes of this work cover the mammals, birds, reptiles, and batrachians of the region, about as much space being devoted to the birds as to all the other groups combined. This is partly due to the fact that there are many more species of birds in the region than of the other classes of animals, and partly because the birds' habits and life histories are so much better known as to warrant treatment in greater detail.

In the introduction some space is given to a quotation of the local regulations for the protection of wild birds and a discussion of their effectiveness, the conclusion being that on the whole the laws are futile and inadequate, tho it is admitted that a few species have noticeably increased in numbers thru their enforcement.

A discussion of the migratory movements of the birds follows, in which they are divided into groups—summer residents, winter residents, birds of passage, partial migrants, irregular migrants, and casual wanderers. In the body of the work two hundred and thirty-one species are treated, as having been satisfacto-

1 A Manual of Philippine Birds by Richard C. McGregor | Part I | Galliformes to Eurylaemiformes | [Seal] | Manila | Bureau of Printing | 1909 8 vo., pp. 1-X, 1-412. Part II | Passeriformes (otherwise same title page), pp. 1-XVI, 413-769. Part I was issued April 15, 1909, and Part II, January 31, 1910.

rily proved to inhabit Cheshire during the present and last centuries. The common and scientific names of each species are given, and also the various local names in use. Many of the latter are very curious, and all are of interest. The status in the county of each species is given in brief, in a single sentence at the head of each one treated.

The classification and nomenclature adopted is that used in Saunders' "List of British Birds", 1907 edition, binomials being used except when a British race is distinguishable from Continental birds of the same species. "In these cases we have thought it advisable to adopt the trinomial system of nomenclature, which in addition to other advantages shows plainly the real affinities of the local races or sub-species." Why, after such a concession, it was not thought advisable to use the system uniformly throughout the work, it is hard to understand.

The manner of occurrence together with the life histories of the various species are treated at length while the food of some of the birds is discussed in detail. There are numerous excellent illustrations, mostly general views showing the habitats of various species of birds.—H. S. S.

A FEW NOTES ON THE HABITS, LIFE HISTORY AND ECONOMIC VALUE OF DOVES. The Raising of Young Waxwings, *Ampelis* [sic] *cedrorum*. By William H. Gates. Bulletin 14, Gulf Biologic Station, Cameron, La.; pp. 1-32; 1909.

In this paper Gates gives many interesting details of the life history of doves about Cameron, La. It is noteworthy that nesting begins no earlier there than it does much farther north, for instance in southern Indiana, that is, about April 1. The writer notes a high proportion of nests destroyed, namely 80 out of 111. The most important natural enemies are the black king snake and the brown rat.

Incubation consumes from 19 to 21 days. The first egg is hatched from 24 to 36 hours before the second, resulting in a marked difference in the size of the young which is noticeable up to the third week. Gates says: "The crop capacity of young doves is enormous; up to the time they are three or four weeks old it is possible for them to hold over one-half of their weight of food in the crop. It is likely that in the state of nature the young are not fed more than three times a day, generally but twice, and often not more than once, especially after the young get to be a week or so old and do not need to be brooded." "The average of 78 weighings taken before and after feeding showed an increase of 36 percent of their own weight. The maximum amount of food given, among those that were observed, was in the case of a squab that weighed 53 grams at 5 o'clock, before feeding, and at 6:15 swung the

balance at 88 grams, showing that 35 grams of food had been taken, or a crop capacity of over 66 percent of its own weight." It is not surprising therefore that the young birds gain weight very rapidly. "Birds kept in the house gained, respectively, from 31 and 34 grams to 65 and 67 grams during the third week, and up to 95.5 and 96 grams during the next."

"Doves raised by the writer have been found to eat between 75 percent and 120 percent of their own weight of food per day, from the time they are hatched up to the time they are three weeks old. From then on the amount lessens rapidly till they become adult, when they will eat but 7 percent to 10 percent of their own weight." The actual weight of food consumed during the first 3 weeks is from 8 to 28 grams per day, from the third week on from 10 to 18 grams. In the wild state doves probably consume from 15 to 20 percent of their own weight of food. On the basis of 15 percent "it would take 33 grams a day to maintain a pair of doves, which allowing an average of 30 grams a day for food fed to the young during six weeks of the summer, amounts to over 30 pounds a year; at which rate it would take but 66 pairs to consume a ton of feed a year."

Gates finds that only a small proportion of the food is grain and that wholly waste. Most of the subsistence is obtained from the seeds of weeds. He mentions the shooting of doves on account of the alleged scattering by them of the seeds of indigo weed, a pest in rice. The doves eat the seeds for the nourishment contained in them and it certainly is an unusual happening for one to pass thru the strong gizzard entire. This unjust persecution of the doves should stop.

The writer presents the first evidence we have seen that doves ever voluntarily take living insects; he says birds in captivity were seen eating ants. Notes are given also on the nesting and food habits, and the rearing of the young of the nonpareil, bluebird and cedar-bird.—W. L. M.

AN ORNITHOLOGICAL RECONNAISSANCE OF NORTHEASTERN VENEZUELA BY C. WILLIAM BEEBE (=Zoologica, vol. 1, no. 3, Dec., 1909, pp. 67-114, figs. 21-37). The main body of the paper is taken up with the list of birds observed, with more or less extensive annotations pertaining to the life histories, habits, color variations, etc. Parts one, two, and three are devoted to the itinerary and accounts of the character of the country explored, while part five is a general summing up of ecological conditions, together with a comparison of conditions in Venezuela and New York State.

Descriptions of nesting habits of many of the species are of interest, especially so from the standpoint of such considerations as those presented in the paper by Peck on the same sub-

ject in the last issue of THE CONDOR.—H. S. S.

A. H. CLARK ON BIRDS OF THE NORTH PACIFIC AND ADJACENT SHORES.²—As indicated in the full title of the paper given below, this is a list of species observed at very many widely distant points. The North American itinerary began with San Francisco, and included Puget Sound, Vancouver Island, Unalaska and certain of the Aleutian Islands to the westward of the latter point. The annotations are of a heterogeneous nature, and many of them could very well have been briefer. For instance, on pages 47 and 48, at least the whole second paragraf, of 16 lines, consists of irrelevant incident, foreign to a purely scientific paper. And further, of what possible use is the record of the Western Gull from San Francisco Bay and the Glaucous-winged Gull from Puget Sound! So on with the bulk of the water birds and at least some of the land birds, which have been recorded over and over again from the same localities.

There are, however, a number of the North American records of interest, such as some of those from the Aleutians. The two gulls, *Larus schistisagus* and *Larus vegae*, are listed from the vicinity of Unalaska. Both are rare in Alaska, and in each case we would like to have known more about the specimens, if any were taken in American waters. *Larus vegae*, even, has been seriously doubted, as a species distinct from *L. argentatus* (see *Auk*, 1902, p. 20), at least as occurring in American waters. *Thalassaelus pelagicus*, the Kamchatkan Sea Eagle, is recorded from Unalaska on the basis of one seen overhead in flight—not altogether satisfactory as the sole basis for the inclusion of the species as a bird of North America.

The willow ptarmigan of North America are subjected to a revision (pp. 51-54) the main points in which are the separation of the American continental form from the Scandinavian under the name *Lagopus lagopus albus* (Gmelin), and the inclusion of all the willow ptarmigan of the southern coast region of Alaska, from Norton Sound to extreme southeastern Alaska, under the name *Lagopus lagopus alexandrae* Grinnell. The use of the name *albus* for the Hudson Bay ptarmigan, seems to be a point well taken; but the relative ranges and races of the willow ptarmigan of Northwest America will not probably rest with the status suggested by Clark.

In this connection, the author exhibits an attitude altogether unbecoming in the treatment of one worker by another. On page 54, it is implied that Grinnell was decided in his

course to name the ptarmigan, *L. l. alexandrae*, because of coaching received from Clark, who freely vouchsafed his own conclusions in regard to the forms in North America. If Grinnell had felt any gratitude towards Clark for the information advanced, and especially if he had made use of even an iota of such information in his published report, then it would have been incumbent upon him (Grinnell) to have made full acknowledgment in print. But this, Grinnell did not feel and did not do. Hence we opine that the patronizing comment in the paper under consideration is not relished by that author; and it certainly will not fasten any added credit upon Clark.—J. G.

THREE CASES OF SUPERNUMERARY TOE IN THE BROAD-WINGED HAWK BY C. WILLIAM BEEBE (=Zoologica, vol. 1, no. 6, January, 1910; pp. 150-152, figs. 48-50). Three individuals possessing the same malformation are figured and described. Considering the rarity of such deformity among birds, it is curious to find it occurring with such comparative frequency in one species. One of these examples was originally reported by H. K. Coale (*Auk* IV, 1887, pp. 331-333); the other two are here figured for the first time.—H. S. S.

ABRIDGMENTS OF SOME CURRENT LITERATURE RELATING TO WEST COAST BIRDS.—*The Auk*, vol. XXVII, no. 1, January, 1910; pp. 33-35, plates IV and V: *The Palm-leaf Oriole*. By Florence Merriam Bailey. Contains notes on the choice of palm trees as nesting sites of the Arizona Hooded Oriole (*Icterus cucullatus nelsoni*). "In eight towns and three country places in the general region between Redlands and San Diego in the summer of 1907 I counted forty nests made of palm fiber and hung in fan palms, and twelve made of palm fiber and hung in other trees."

Ibid., p. 91: *Destruction of Young Water Birds by a Storm*. By Albert B. Reagan, Supervising Warden of the Olympic Bird Reserves. He states that a storm on August 28 and succeeding days destroyed many young birds. The locality is not stated but by implication it must have been some of the rocky islands along the west coast of Washington. "Many Cormorants perished, nearly all the Puffins and all of the California Murres. A half a hundred thousand birds must have perished."

The Auk, no. 2, April, 1910: *New Records for the State of Washington*. By Lee R. Dice. Richardson Grouse (*Dendragapus obscurus richardsoni*), lateral canyons of Snake River; Western Grasshopper Sparrow (*Ammodramus savannarum bimaculatus*), Touchet Valley near Prescott, Walla Walla County; Mountain Junco (*Junco montanus*), Pullman, Whitman County; Rocky Mountain Creeper (*Certhia familiaris montana*), Prescott, Walla Walla County; Long-tailed Chickadee (*Pen-*

² The Birds Collected and Observed during the Cruise of the United States Fisheries Steamer "Albatross" in the North Pacific Ocean, and in the Bering, Okhotsk, Japan, and Eastern Seas, from April to December, 1906 | By | Austin Hobart Clark (=Proc. U. S. Nat. Mus., vol. 38, pp. 25-74. Published April 30, 1910.)

thestes atricapillus septentrionalis), Pullman, Whitman County, and Prescott, Walla Walla County.

University of California Publications in Zoology, vol. 5, pp. 307-309; published Feb. 21, 1910: *Two Heretofore Unnamed Wrens of the Genus Thryomanes*. By Joseph Grinnell. *Thryomanes bewicki marinensis*. Nicasio Wren. Similar to *T. b. spilurus* (Vigors) of the Santa Cruz faunal area south and east of San Francisco Bay, in size, but dorsal coloration brighter brown, of a vandyke tone, and flanks and light intervals in crissum strongly washed with vandyke brown. Similar to *T. b. calophonus* Oberholser of Western Washington and Oregon, but dorsal coloration brighter brown, of a less sooty tone, and size decidedly less. Wing 51.4; tail 50.8; culmen 14.1. Range.—The humid coast belt north of the Golden Gate and San Francisco Bay, in Marin and Sonoma Counties.

Thryomanes bewicki catalinae. Catalina Island Wren. Closely similar in color and general size to *T. b. charienturus* Oberholser of the adjacent mainland, but averaging darker dorsally (more sepia and not soumber brown) with heavier bill and conspicuously and constantly larger feet (longer toes and heavier tarsus); differs from *T. b. leucophrys* (Anthony) of San Clemente Island, in decidedly darker, less ashy coloration, and in much more heavily barred under tail coverts; differs from *T. b. nesophilus* Oberholser, of Santa Cruz Island, in duller, less rufescent coloration, grayer flanks, longer bill and generally larger size. Wing 54; tail 53.7; culmen 15.7; hind toe with claw 14; middle toe with claw 16.2. Santa Catalina Island, permanent resident.

Ibid., pp. 311-316; published Feb. 21, 1910. *The Savannah Sparrow of the Great Basin*. By Joseph Grinnell. He restricts the name *alaudinus* to "the form summering throughout the vast interior of northwestern North America, from Bering Sea and Kotzebue Sound to the Mackenzie region", and separates the race that breeds in the arid Great Basin region of the United States under the name *Passerculus sandwichensis nevadensis*. Nevada Savannah Sparrow. Resembles *Passerculus sandwichensis alaudinus* Bonaparte, but is much paler throat in all plumages; white replacing buff, black streaks thus more conspicuously contrasted there being a minimum amount of hazel markings; size slightly less. From *P. s. savanna* (Wilson) the new form differs in coloration in the same ways as above but in greater degree; the bill is proportionally much smaller, tho the wing length is nearly the same. *Passerculus sandwichensis nevadensis* differs from its presumably nearest relatives in its extremely pale coloration. This paleness is not due to a less amount of black-streaking,

but to a replacement of buff and clay color by white or whitish and to a restriction, and dilution to clay color, of the hazel areas on each feather. The appearance of white edges on the rectrices is a remarkable feature, showing an incipency of the condition among certain terrestrial birds where the outer rectrix on either side is chiefly white, as in *Poocetes*.

Ibid., 361-428, plates 32-34, 9 text figures; published March 5, 1910. *Birds of the 1908 Alexander Alaska Expedition With a Note on the Avifaunal Relationships of the Prince William Sound District*. By Joseph Grinnell. Under the heading, "General Accounts; Distribution; Biological Notes; Variation", 89 species and subspecies are noted, equally divided between water birds and land birds. More or less extensive notes are given under each species, distribution being particularly noted. The six new subspecies described are all land birds. The most important parts of the descriptions follow:

Canachites canadensis atratus. Valdez Spruce Grouse. Resembles *Canachites canadensis osgoodi* of the interior of Alaska (Yukon and Kowak valleys), but general tone of coloration darker; white markings of less extent; black areas more extended; and grays less ashy, more olivaceous. (A detailed description of each type follows). The indications are that this form is generally distributed in the humid coast belt from the eastern side of the Kenai Peninsula southwestwardly at least as far as Hawkins Island, and probably beyond.

Lagopus rupestris kelloggae. Montague Rock Ptarmigan. Similar to *Lagopus rupestris rupestris* of the interior of Alaska (mountains near Eagle), in comparable stage of plumage, but coloration darker; black markings more extended; brownish shades deeper toned; white tippings reduced and suffused with ochraceous; top of head nearly solid black.

Ceryle alcyon caurina. Northwestern Belted Kingfisher. Similar to the *Ceryle alcyon* of eastern and southern North America, but size throat greater, especially measurements of flight feathers.

Dryobates pubescens glacialis. Valdez Downy Woodpecker. Resembles *Dryobates pubescens nelsoni* of northern and interior Alaska in a general way, but differs from it in slightly smaller size, in having a decided smoky wash over the lower surface, in having the exposed lower surface of "closed" tail completely black barred, in having the flanks and lower tail coverts distinctly mottled with black, and in having the white-spotting of wings less in extent; resembles *D. p. gairdneri* in size, but smokiness of lower surface much less in intensity and not invading the white areas of head, and white-spotting of wings much greater in extent; resembles *D. p. medianus* closely,

except for decided smokiness of lower surface, black mottling of flanks and lower tail coverts, and reduction of spotting on wings.

Passerella iliaca sinuosa. Valdez Fox Sparrow. Perhaps nearest to *Passerella iliaca unalaschensis*, but differs from that form in smaller and especially slenderer bill, in larger and heavier spotting beneath and in a much slatier tone of coloration thruout; differs from *P. i. insularis* in the same ways but, except in spotting, to a greater degree, especially in coloration, because of the warm hazel brown tone of the Kadiak race; differs from *P. i. meruloides* (= *P. i. annectens* Ridgway) from the Yakutat Bay region, in slatier, much less ruddy tone of coloration. The type may be described as follows: whole plenum and dorsum dark sepia, closely approaching clove brown; sides of head and hind neck pervaded with slate gray; rump and edgings of wings and tail Prout brown; ground color below pure white, with spotting of same color as dorsum; flanks and lower tail coverts broadly streakt with clove brown, the narrow light edgings of the crissum being faintly cream buff.

Penthestes rufescens vivax. Valdez Chestnut-sided Chickadee. Like *Penthestes rufescens rufescens* in coloration, but larger, tail proportionally longer and bill bulkier.

In "Composition of the Prince William Sound Avifauna; Discussion of its Origin", are tables of groupings of birds of the Prince William Sound District as compared with adjoining districts, with remarks on each. "Melanism in the Endemic Species" is a four-page discnsion of the darkening of colors of birds in general of this region and of the causes generally assigned for such change of color. No particular theory is endorsed.

U. C. Publications in Zoology, vol. 7, no. 1, pages 1-8; publisht May 26, 1910. *Two New Owls from Arizona with Description of the Juvenal Plumage of Strix occidentalis (Xantus)*. By Harry S. Swarth. *Otus asio gilmani*. Sahuara Screech Owl. Most like *Otus asio cineraceus* (Ridgway), from which it differs chiefly in slightly smaller size, paler coloration and greater restriction of dark markings. Above pale ashy, darkest on crown, each feather faintly vermiculated with dusky, and with a narrow dark medium stripe. Underparts somewhat darker, but still with dark markings much restricted. Legs and toes white, sparsely markt with dusky. The distribution appears to be lower Sonoran zone principally in Arizona.

Strix occidentalis huachuca. Arizona Spotted Owl. Similar to *Strix occidentalis occidentalis* (Xantus), but slightly smaller, and conspicuously paler; white markings more extensive and dark areas less deep toned. Possibly quite extensively distributed thru the mountains of Arizona.—F. S.

MINUTES OF COOPER CLUB MEETINGS

SOUTHERN DIVISION

MARCH.—The March meeting of the Southern Division of the Cooper Club was held on Thursday evening, March 31, 1910, at the home of Mr. H. J. Lelande, 1320 East 15th St., Los Angeles. In the absence of President Morcom, the meeting was called to order by Vice-President Lelande, with the following members present:

Messrs. Willett, Chambers, Judson, Davis, Holt, Antonin Jay, Alphonse Jay, Blaine, Law.

The minutes of the February meeting were read and approved.

On motion by Mr. Willett, seconded by Mr. Alphonse Jay, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present, electing to active membership Messrs. Bradford Torrey, H. C. Burt and John C. Fortiner, Jr.

Application for membership of H. B. Weber Simi, California, proposed by J. S. Appleton, was presented.

An interesting paper on Tahoe birds by M. S. Ray was then read, after which the members present indulged in very enjoyable refreshments, over which many ornithological tales were swapt. Adjourned.—J. E. LAW, *Secretary*.

Directory of Members of the Cooper Ornithological Club.

Revised to June 1, 1910.

(Residence in California unless otherwise stated. Year following address indicates date of election.)

HONORARY MEMBERS

- Allen, Dr. J. A., Am. Museum of Nat. History, New York, N. Y. 1910.
 Belding, Lyman, Stockton. 1896.
 Merriam, Dr. C. Hart, 1919 16th St., Washington, D. C. 1909.
 Ridgway, Robert, 3413 13th St., N. E., Brookland, D. C. 1905.

ACTIVE MEMBERS

- Adams, Ernest, Box 21, Clipper Gap, Placer Co. 1896.
 Alexander, Annie M., 1006 16th St., Oakland. 1908.
 Anderson, Malcolm P., Menlo Park. 1901.
 Appleton, J. S., Simi, Ventura Co. 1901.

- Arnold, B. W., 465 State St., Albany, N.Y. 1910.
 Arnold, E., Freight Claim Ag't., Grand Trunk Ry., Montreal, Quebec. 1910.
 Arnold, Dr. Ralph, 726 H. W. Hellman Bldg., Los Angeles. 1893.
 Atkinson, W. L., 28 E. Santa Clara Ave., San Jose. 1901.
 Badé, Wm. Frederic, 2616 College Ave., Berkeley. 1903.
 Batchelder, Chas. F., 7 Kirkland St., Cambridge, Mass. 1910.
 Bailey, Henry F., 94 Pacific Ave., Santa Cruz. 1902.
 Bailey, H. H., 321 54th St., Newport News, Va. 1903.
 Bailey, Vernon, Dept. Agriculture, Washington, D. C. 1904.
 Bales, Dr. B. R., 151 West Main St., Circleville, Ohio. 1906.
 Bangs, Outram, Museum of Comparative Zoology, Cambridge, Mass. 1910.
 Barnes, R. Magoon, Lacon, Ill. 1908.
 Barrows, Prof. Walter B., Box 183, East Lansing, Mich. 1909.
 Beal, Prof. F. E. L., Dept. Agriculture, Washington, D. C. 1904.
 Beck, Rollo, Ill., Berryessa. 1894.
 Bennett, R. H., Room 503, 149 California St., San Francisco. 1909.
 Bent, A. C., Taunton, Mass. 1909.
 Bigelow, Homer L., Old Orchard Road, Chestnut Hill, Mass. 1910.
 Birdseye, Clarence, no. 3 Fuller Terrace, Orange, N. J. 1909.
 Bishop, Dr. Louis B., 356 Orange St., New Haven, Conn. 1904.
 Blain, Merrill W., 1321 Glendale Ave., Tropic. 1909.
 Bliss, J. G., 3281 Briggs Ave., Alameda. 1908.
 Bohlman, Herman T., 46 N. 9th St., Portland, Ore. 1903.
 Bolander, L. P., Jr., 462 Fair Oaks St., San Francisco. 1907.
 Bolt, B. F., 1421 Prospect Ave., Kansas City, Missouri. 1909.
 Bowdish, B. S., Demarest, N. J. 1910.
 Bowles, Chas. W., Kerby, Ore. 1903.
 Bowles, J. H., Gregson House, Santa Barbara. 1903.
 Boyce, John J., Juneau, Alaska. 1910.
 Brewster, William, 145 Brattle St., Cambridge, Mass. 1904.
 Brooks, Allan, Okanogan Landing, B. C., Canada. 1906.
 Braislín, W. C., M. D., 556 Washington Ave., Brooklyn, N. Y. 1910.
 Brown, D. E., 5032 Puget Sound Ave., South Tacoma, Washington. 1909.
 Brown, W. W., Jr., care of Mr. Chas. Sartwell, 1033 Key West St., Los Angeles. 1909.
 Burnett, W. L., Box 483, Loveland, Colorado. 1910.
 Burnham, Dr. Clark, Bushnell Place, Berkeley. 1907.
 Burnham, Mrs. Clark, Bushnell Place, Berkeley. 1907.
 Burns, Frank L., Berwyn, Pa. 1909.
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 Buturlin, Sergius A., Wesenberg, Esthonia, Russia. 1909.
 Burtch, Verdi, Branchport, N. Y. 1910.
 Camp, Chas., Sierra Madre. 1909.
 Carpenter, Nelson K., Box 127, Escondido. 1901.
 Carriger, Henry W., 69A Walter St., San Francisco. 1895.
 Chamberlain, Willard, 226 S. Bunker Hill St., Los Angeles. 1906.
 Chambers, W. Lee, Santa Monica. 1897.
 Chapman, Frank M., American Museum Natural History, Central Park, New York, N. Y. 1903.
 Childs, John Lewis, Floral Park, N. Y. 1904.
 Clark, Josiah H., 228 Broadway, Paterson, N. J. 1910.
 Clay, C. Irwin, Box 353, Eureka. 1910.
 Clifton, H. T., 871 N. Lake Ave., Pasadena. 1904.
 Coale, Henry K., Highland Park, Ill. 1907.
 Cohen, Donald A., Alameda. 1894.
 Colburn, A. E., 744 S. Broadway, Los Angeles. 1905.
 Cooper, Jas. S., 826 53rd St., Oakland. 1903.
 Craven, Jesse T., 811 Roosevelt Ave., Detroit, Mich. 1909.
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- Matthews, Dr. Ellen, 313 E. Ave. 60, Los Angeles. 1901.
- McAtee, W. L., Biological Survey, Department of Agriculture, Washington, D. C. 1907.
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- McLain, R. B., Market and 12th Sts., Wheeling, W. Va. 1897.
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- Miller, W. DeWitt, American Museum Natural History, New York, N. Y. 1909.
- Miner, Dr. H. N., Upper Lake, Lake Co. 1903.
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- Moran, R. B., 661 Waverly St., Palo Alto. 1897.
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- Nelson, E. W., Department of Agriculture, Washington, D. C. 1904.
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- Osgood, Wilfred H., Field Museum Natural History, Chicago, Ill. 1893.
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- Redington, A. P., Box 66, Santa Barbara. 1897.
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- Richards, Dr. T. W., 1911 N. St., N. W., Washington, D. C. 1908.
- Richardson, Chas. H., Jr., Stanford University. 1902.
- Richmond, Dr. Chas. W., U. S. National Museum, Washington, D. C. 1904.
- Riley, J. H., U. S. National Museum, Washington, D. C. 1909.
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- Roberts, Dr. T. S., 1603 4th Avenue, Minneapolis, Minn. 1909.
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- Spielman, Oscar P., 99 E. North Ave., Chicago, Ill. 1909.
- Steinbeck, Wm., 1029 N. Hunter St., Stockton. 1897.
- Stephens, Frank, Box 13, R. F. D. no. 2, San Diego. 1894.
- Stone, D. D., R. F. D. no. 3, Oswego, N. Y. 1909.
- Strecker, John K., Jr., Baylor University, Waco, Texas. 1909.
- Suksdorf, P. J., Bingen, Wash. 1910.
- Swales, Bradshaw H., Grosse Isle, Mich. 1906.
- Swarth, H. S., U. C. Museum Vert. Zoology, Berkeley. 1897.
- Swett, Helen, Martinez. 1901.
- Tarbell, Olga S., 175 N. Marengo Ave., Pasadena. 1906.
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- Taylor, E. F., Grass Valley, Nevada Co. 1910.
- Taylor, Loren E., Fyffe, El Dorado County. 1897.
- Taylor, Walter P., U. C. Museum Vert. Zoology, Berkeley. 1905.
- Test, Prof. Louis Agassiz, Rolla, Mo. 1909.
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- Torrey, Bradford, The Upham, Santa Barbara. 1910.
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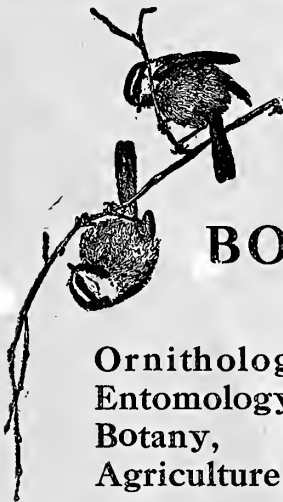
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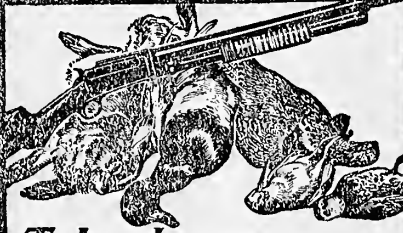
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COOPER ORNITHOLOGICAL CLUB

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Fig. 43. PYRAMID PEAK (NEAREST CENTER OF PICTURE) AS SEEN FROM DESOLATION VALLEY. THE
NESTING SITE OF THE LEUCOSTICTE WAS ON THE NEAR FACE OF THE PEAK SOMEWHAT
ABOVE THE FIRST LITTLE RIDGE RUNNING OFF TO THE RIGHT. THE SITE WAS
ABOUT 150 FEET BELOW THE SUMMIT

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THE DISCOVERY OF THE NEST AND EGGS OF THE GRAY-CROWNED LEUCOSTICTE

By MILTON S. RAY

WITH TWELVE PHOTOS BY OLUF J. HEINEMANN

AFTER baffling scores of searching oölogists during the long period since the bird was first described by Swainson in 1831, the nest and eggs of the Gray-crowned Leucosticte (*Leucosticte tephrocotis tephrocotis*) have at last been brought to light. The place of discovery is Pyramid Peak, a lofty mountain of the great Sierran chain, in the eastern portion of Eldorado County, California. And now, a nest having at last been found, the reason why the small army of collectors have searcht in vain becomes more apparent, the nests being either invisible or inaccessible, probably as a rule both.

I had reacht Bijou on Lake Tahoe on the 20th of May, 1910. It was not until after Mr. Henry W. Carriger joined me on the third of June, however, that the trip to Pyramid Peak, in quest of those eggs which have hitherto seemed almost as impossible to secure as those of the Roc or of some fabled Halcyon, was definitely determined upon. In the matter of a proper date for eggs, we had, of course, but little to guide us. Chester Barlow, who no doubt based his calculations upon the dissection of birds shot, has stated that he was of the opinion that the birds begin to bild around the first of June. From this we figured that if the peak was reacht by the tenth it would be in ample time for eggs, should a nest be located.

Having previously ascended Pyramid Peak, however, on July 5, 1902,¹ and having spent some hours searching for the homes of those finches of cloudland, the prospects to me did not seem very promising. In addition, too, was the long list of unsuccessful attempts, and particularly those in recent times in this very locality, by such experienced men as Chester Barlow, W. L. Atkinson, J. M. Willard, and

¹ Auk, Vol. xx, pp. 187, 188.

especially W. W. Price, who has spent season after season in the region, and Dr. Sterling Bunnell² who made such an extended tho fruitless search. Nor was this all; for I was furthermore aware of the difficulties which we were liable to encounter in ascending Pyramid as early as the tenth of June; for the attempt I made on this date in 1903³, when we were forced back not only by almost impassable snow-drifts but by drenching rain-storms, while snow fell on the peak just above us, was still vivid in my memory. Chester Barlow is one of the few to ascend Pyramid as early as June tenth; the majority of those who climb the peak seldom do so until late July or August when the ascent becomes comparatively easy. Carriger, however, unacquainted as yet with the *Leucostictes* or their alpine habitat was far more sanguine and could see no reason why a careful search might not be rewarded. As for the hardships and danger, these were laught at, and the trip became a realty.



Fig. 44. DEPARTURE FROM BIJOU BY MOTOR-BOAT;
DUTKE IN FOREGROUND

At five o'clock, on the morning of June 9, we left Bijou, Mr. Wilton Young driving us eight miles thru Lake Valley to the foot of the summit of the Placer-ville - Lake Tahoe Stage Road and thus enabled us to reach the Forni Meadow at the base of the peak by nightfall. As we carried provisions for a week, blankets, and the usual collecting paraphernalia, we advanced but slowly. The summit of the stage road, altitude 7600 feet, was made at 8:30 a. m., and from here our progress became still slower; for Carriger, meeting for the first time such rare species as the Sierra Grouse, Sierra Hermit Thrush and Ruby-

crowned Kinglet, in their summer home, made wide detours from the road that were at times decidedly retrograde, and for a while it seemed as if the prospective nests of the *Leucosticte* would remain undisturbed until some future season. But now, to the northwest above the tall pines and firs that walled the summit meadow, rose the ever-present Pyramid, towering above all its neighbors, and, splasht with snow, it presented a picture of wild and rugged mountain beauty unequaled in the region. Pyramid, the peak of peaks, was luring us, and we continued on our way. Phillips' Station, 6900 feet elevation, was past at ten o'clock, and from here the road is all down grade to Echo, 5700 feet elevation, where, arriving at 12:17, we halted for lunch.

The usual route from Echo to the Forni Meadow is by the Georgetown Junction Road, but insted we took a mountain trail which tho very steep is consider-

² Notes by Dr. Bunnell, appended to this article.

³ Auk, Vol. xxii, p. 364.

ably shorter. The day was intensely warm and the trail, which winds for a number of miles up an almost perpendicular cliff, over rocks and boulders and thru dense thickets of brush, possesses scarcely a single shade-tree and not a single brook for relief of the tired trampler. As soon as we reacht the edge of the Pyramid Peak plateau, however, all the beauty of Sierran woodland was spread out before us. Beneath the great trees, shaded from the sun, lay cooling beds of snow, while pellucid streams of snow-water, crystal lakes and verdant, but very boggy, meadows were encountered in all directions. Here, as on the summit of the stage road, we found bird life abundant, and the occurrence of such rarities as the Sierra Crossbill, Sierra Sapsucker, Williamson Sapsucker, and California Pine Grosbeak, for a second time made the abandonment of the journey to the peak seem more than probable. At five o'clock we arrived on the Forni Meadow and encamped for the night. The following morning the weather conditions being very favorable we decided upon the ascent

and left camp a little after daybreak. At 8,500 feet elevation I consumed considerable time endeavoring, tho ineffectually, to reach the nest of an Audubon Warbler (*Dendroica auduboni*), placed on the very bough-end of a giant fir; while Carriger at an altitude of 8750 feet retaliated by spending over an hour, climbing to, and excavating, the dwelling cavity of a Mountain Bluebird (*Sialia currucoides*), which, situated twenty feet up in a dead tree trunk was found to contain five eggs in a well advanced state of incubation. On ascending higher, birds grew fewer; Red-shafted Flickers (*Colaptes cafer collaris*), Mountain

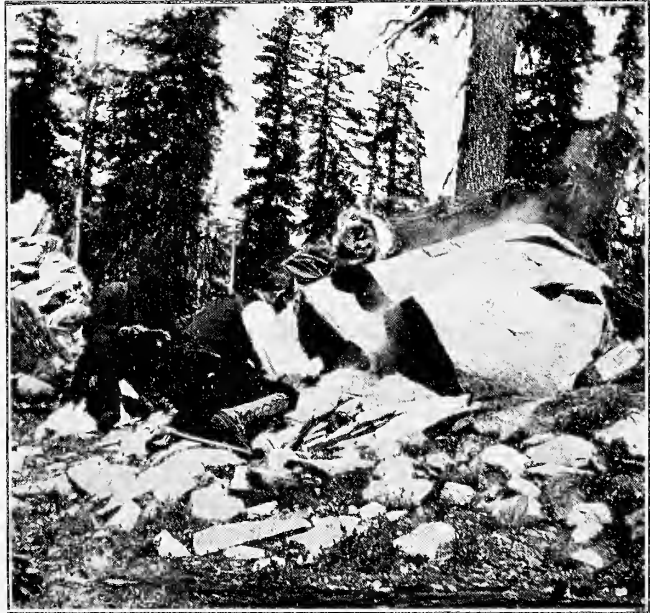


Fig. 45. HEINEMANN GETTING BREAKFAST NEAR LAKE LUCILE; RAY STUDYING MAP OF THE ROUTE

Chickadees (*Penthestes gambeli*) and California Pine Grosbeaks (*Pinicola c. californica*) were still met with; but above 9250 feet naught remained but the noisy Clarke Nutcracker (*Nucifraga columbiana*), cawing from among the dreary wind-blown hemlocks and dwarf pines that mark the limit of timber. Above us, upspearing into the clouds, still towered Pyramid Peak, the home of the Leucosticte. As this was an early summer the broad fields of snow were traversed without much difficulty and we were soon clambering up over the gigantic mass of huge granit boulders, which, piled in chaotic confusion, extend to the apex. This we reacht at 10 a. m.; but of the birds we were in search not a single individual had so far been seen.

Now, from the summit, however, we notist some half-dozen Leucostictes flying among the rocks and on the snow-drifts below, on the north and northeast side of the peak. Desiring to see if more birds could not be brought to view we started several boulders down the mountain side and discharged one of our firearms a

number of times. This method proved successful; for the uproar brought forth the largest gathering of *Leucostictes* I had ever seen, a conservative estimate being twenty birds. And now, altho I had previously cautioned him of the danger, Carriger in his enthusiasm hurried down to where the flock was assembled and in doing so pickt out a trecherous route which led to where a sheer wall drops some 2,000 feet. For an instant he lost his footing among the loose boulders and narrowly escaped being dasht over the precipises. But this narrow escape was soon forgotten when we reacht the ledge on the edge of the chasm; for never before was enjoyed such intimacy with perhaps the rarest of all our breeding birds. *Leucostictes* were flying above and around us on all sides, uttering continuously that melodious twitter which is somewhat like the notes of a Mountain Bluebird but higher pitcht and more prolonged. We observed that some of the birds had a peculiar manner of ascending to some hight, hovering for a moment and then abruptly dropping several feet with outspred wings. Our attention, however, was soon riveted on two individuals who, feigning broken wing, fluttered and hobbled over the nearby rocks in a most distressing fashion, and the meaning of which even the veriest novis in bird-craft could not well mistake. These two were closely watcht, and so tense were we with excitement that the cold rain which now began falling, for a time was almost unnotist. On the disappearance of the birds among adjacent rocks we hurriedly followed and made a most careful examination of every nook and crevis in the vicinity; but these to our disappointment failed to show any trace of a nest. Above us, across the chasm, we saw a bird fly to a cavity beneath the rocks, and Carriger was soon in pursuit, while I remained on the ledge to aid him in finding the exact spot; but as before the search revealed nothing.

The excitement the uproar had caused in the colony had now subsided and life among the *Leucostictes*, up here on the top of the world, settled down again to normal conditions. The birds, unaccustomed to the presence of man, seemed but littlè concerned over our proximity.

The Rosy Finch, as some would prefer to call the *Leucosticte*, is ever active either on foot or wing, among the rocks, along the cliffs or while feeding on stranded insects upon the snow. Endowed by nature to combat the fierce gales which prevail almost continually in these high altitudes, this bird possesses great power in its broad stretch of wing. The flight is rapid, in long, graceful, sweeping curves, and the birds mount hundreds of feet even against the strong head winds without much apparent effort. From the edge of the chasm we notist a number of birds fly to crevices in the sheer walls of granit on the west side of Pyramid; but as it would have been utterly impossible to follow them we contented ourselves with watching those in more accessible situations.

The males are certainly beautiful examples of bird life, in their brilliant coloring of rich chestnut brown, streaked on the back with dusky and edged on the wing- and tail-coverts with light scarlet. The forehead and fore part of the crown is black, while the balance of the crown consists of a broad conspicuous patch of gray. Much of this gay plumage is lacking in the females, however, who are much paler and duller colored. In size the bird is about equal to the Mountain Bluebird which it also resembles somewhat in flight, altho it is much swifter on the wing than *Sialia*. In grace of bild, the *Leucosticte* according to my idea has few equals; the form of its finely shaped head and graceful neck, so often lost in the preparation of skins, can be seen to advantage in the accompanying profile-photograph.

Along the ledge in a number of places there were patches of the little dwarf pine, which, traveling over the rocks but a few feet high, resembles a kind of brush more than a tree; and among these, Rosy Finches were observed quite often.

Barlow has stated that the birds feed on the seeds of this conifer; but in this instance it appeared to us they were picking off lady-bugs which happened to be especially numerous on the branches. We also noticed on several occasions two of the brilliantly colored males suing for the affections of some undecided female, and from this we began to fear that our trip had perhaps been made at too early a date. After two and a half hours of continuous field work we came to the conclusion that at any rate we were not, by our present methods, making satisfactory progress, and on holding a conference decided to collect a specimen or so for the purpose of dissection. Carriger took aim at a bird on a nearby snow-patch, but mist, scattering the snow about it in all directions; and when, a few moments later, this or some other individual lit on a rock close by, Carriger was joyfully amazed to note



Fig. 46. PYRAMID PEAK, FROM POINT NEAR TRAIL FOUR MILES FROM PHILLIPS' STATION AND AT AN ELEVATION OF 7750 FEET

that its bill was filled with grass stems. On seeing the bird disappear among the rocks and then reappear with an empty bill, he rushed to the spot, but failed to find the hoped-for nest. And now it was only by the very slenderest thread of chance that the nest was discovered. Carriger found by laying one eye upon the flat surface of a large rock that a portion of an almost completed nest could just be discerned in the semi-darkness beneath the boulders. Wild with excitement over the discovery, he hastily called me to the spot; and hid by adjacent boulders we jointly watched the bird, a female, return from the edge of the timber-line far below, with more material for the nest, so intent on her purpose that she seemed oblivious of our presence, alighting but two feet from us. For a second time we saw her swing off in a whirlwind flight down to the base of the peak and with equally rapid

flight against the head-wind return, the male accompanying her both times and perching on nearby rocks while she placed the material.

We felt, however, that it was too great a risk to continue our investigations in the vicinity of the nest, as the birds might desert it; so we rounded the peak to the east side where by careful watching we found three pairs engaged in nest-building. One pair Carriger and I observed together, and a pair each singly; but in every case the birds descended to such depths that all trace of them was lost. Sometimes they entered openings and crevices but a few feet away, carrying material, and would soon emerge again with an empty bill; but search as we would, as far as we could reach or see we were unable to locate another nest, altho every movable boulder was dislodged. Other birds, again, were very wary, disappearing beneath the rocks with material and coming up twenty feet or so distant still carrying it in the beak. It was only after a series of such decoy-trips as these, in the passages beneath the rock, that the elusive birds finally placed the material and flew away for more, leaving us completely bewildered as to the location of the nest.

In every instance, it was the female who was engaged in the nest building, she was always accompanied by her twittering mate who remained on some nearby rock or hovered in the air while she disappeared between the rocks. One bird, a protégé of Carriger's, went down thru the boulders and, altho he waited near the spot a long time, did not appear again. At half-past three I found a broken fresh egg, which we believed to be of this species, lying on a boulder at a point where a bird had previously gone in with nest material. On finding this we felt almost sure there were some nests on the peak containing eggs and we redoubled our efforts to flush sitting birds; but the longer we worked the more we began to realize that the nest found was placed in an exceptionally favorable location and that the chances of finding another similarly placed were exceedingly remote.

At five o'clock the strong southwest wind, which had begun blowing at three, now became so riotous that we were forced to leave. Before going, however, it was definitely agreed that I was to return on the 19th of June and revisit the nest found. With this object in view I spent considerable time "ducking" various prominent rocks in a line from the nest down the side of the peak to the nearest timber. The process of "ducking" consists of piling three rocks upon one another and is the common landmark used along all the mountain trails. To preclude the possibility of missing the location, at the third "duck" from the nest a blue cord was tied around a large boulder, while at the last an arrow pointed straight to the nest-cavity; and in addition to this, an accurate map of the location was drawn. While all this precaution may seem unnecessary one must consider that the entire peak is one mass of boulders and that particular spots would be almost impossible to remember. In fact we were surprized at the remarkable memory possessed by the building birds who journeyed half a mile or more away and came back to the exact spot without hesitation; and when they did not do so, it was purposely.

Returning, we made camp at dusk and after reviewing our experience long into the night, we came to the conclusion that, while we had a day or even two to spare, further trips to the peak would simply end in a fruitless search. Everything now, we felt, depended on the nest found, and upon the successful return to it.

The following morning was spent about Forni's, and at half-past one we started by Desolation Valley for Lake of the Woods. This picturesque lake of unrivaled beauty we reached at six o'clock, after negotiating a series of precipitous cliffs and snow drifts, and fording a number of icy torrents. On the next day, after some field work about the lake in the early and frosty morning hours, we

tramp over a steep snow-covered range to Phillips' Station where we arrived at half past one in the afternoon. We remained here until the 14th of June, when we returned to Bijou, from where Carriger on the 15th started back to San Francisco.

After the departure of Carriger the weather, which is ever uncertain in these



Fig. 47. FEATURE OF MOUNTAIN-CLIMBING ENCOUNTERED:
SNOW-DRIFT TO BE TRAVERSED; READING UP,
HEINEMANN, DUTKE, RAY

altitudes, became decidedly uncertain for a return journey. Snow had now fallen twice on the peak since we left, and rain on the lower range, while in the afternoon of June 15 a strong southwest wind began blowing: a strong wind at Lake Tahoe meant a whistling gale on Pyramid. Mr. Oluf J. Heinemann, who was to

accompany me on the trip and whose arrival I was now anxiously awaiting, had failed as yet to send me any definit word, and as the time was growing short the outlook on the evening of June 18 was not very promising.

At the eleventh hour, however, Heinemann came, arriving on the afternoon of June 19 accompanied by Mr. Richard Duttke, a fellow-photographer. Altho, without some previous training, to shoulder a heavy pack and tramp over sixty miles of the roughest type of mountain country is by no means an easy task, Heinemann and Duttke, realizing the rarity of the specimens at stake, agreed to start without delay. The rest of the afternoon and some time the next morning was taken in overhauling and arranging our outfit. Heinemann had been notified before leaving the city, of the needs of the trip and came provided with a generous supply of film packs, a 26-foot coil of rubber tubing, flash-lights and other photographic equipment. Duttke, appointed commissary-in-chief, busied himself laying out a stock of provisions that would have almost done for a journey to the

pole. This we materially reduced, however, as Heinemann and I, from previous experience, drew the line at a pack weighing over 45 pounds.

To save time the trip to the peak was laid by Glen Alpine Gorge, a rougher tho somewhat shorter route than by Phillips' Station, Echo and the Forni Meadow. Thru the kindness of Mr. Charles Young we were taken as far as Tallac by motor-boat, which saved us seven miles over sandy roads. It was about eleven when we filed out of Tallac; and the pack, head winds and hilly road made traveling slow and laborious. On every lake we past, myriad white-capt waves were racing before the wind; while all around, the swaying forest trees creakt and groaned



Fig. 48. RAY SEARCHING FOR NESTS OF LEUCOSTICTE NEAR SUMMIT OF PYRAMID PEAK

in a way that was decidedly depressing. Late in the afternoon we reacht Glen Alpine Springs where we waited for dinner so as to make no inroad on our own supply. Leaving here, Grass Lake was made at dusk, where, among wind-sheltering rocks, we unrolled our blankets for the night. The roaring winds still showed no sign of abating and we began to feel uncertain, not only of securing any photographs but of ever reaching the nest location; for when such hurricanes as this rage on these mountain tops it is practically impossible to go against them. As the wind continued all night and the following morning we decided to leave the Pyramid Peak Trail and press on to Lake of the Woods to await a possible change in weather conditions.

A little after dawn we were zigzagging up the steep trail which leads to Lake Lucile. Before we could reach the latter, however, it was necessary to mount a great bank of snow, which, almost vertical, rose about thirty feet high and blockt

our passage. The camp ax was brought into commission and when hand- and foot-hold had been chopt in the frozen wall we succeeded in getting over it. At Lucile we made a campfire among the rocks, which the wind would not allow at Grass Lake, and prepared a late breakfast. About noon Lake of the Woods was reacht and camp establisht near Hell-Gate, the utensils and gear from the cache belonging to Prof. W. W. Price being used.

All afternoon the wind kept blowing, and that night they made great sport of the camp-fire which we bilt in an effort to temper the rimy atmosphere. After a wild night the winds at dawn died down and the sun ushered in one of those royal Sierran mornings, calm, clear and magnificent. As early as four o'clock we saw the seemingly impossible had occurred and that the propitious time for the ascent had come. Hastily packing such supplies as were necessary we set out over that rough, glacier-hewn gorge, Desolation Valley, our trail lying along its southern edge.

The beauty of Avalanche Lake with its rocky islets, foamy contributing streams and frame of green forest and glittering snow proved too great a temptation, however, for our photographic contingent, and a short stop was made while views were taken. Rounding Crystal Lake, which also received its quota of film we started up the lofty cliffs which wall Desolation Valley on the west. The region now becomes trail-less, and for safety travel is made abrest, for often great rocks, becoming loosened and gathering momentum, go tearing down carrying destruction in their path. Thus, one became his own pathfinder, and in this way each pursued a somewhat different course.

Close to the top of Pyramid I visited a spot which Carriger and I had previously markt with a huge monument of rocks. It was here we had noted a *Leucosticte* carrying material to an unseen nest. Now, however, no birds were about, nor could any be roused. All along I had not been over sanguine about the possible results of the trip, as so often nests are destroyed or deserted; and now, not finding a single bird on the east side of the peak, when but eleven days before, we had seen a dozen, made me feel that the prospects were gloomy indeed.

We reacht the top of the peak at 11:40 and after a quick lunch, for a moderate breeze had begun blowing, we started down to the nesting site. By chance more than from memory I came to the second pile of rocks from the nest. Like the east side, the north side of the peak appeared entirely bereft of its former bird-life; and it was with drooping spirits altho not entirely without a keen feeling of expectation that I approacht the nest. My hopes revived, however, as a *Leucosticte* flew out from some nearby rocks and it was an anxious moment when I reacht the aperture among the granit slabs and peered in. In the dim light, among the feathers of the nest, I could just discern three eggs which appeared dark with in-



Fig. 49. HEINEMANN DESCENDING TO SECURE PHOTOGRAPHS OF LEUCOSTICTE

cubation. When I joyfully informed my expectant companions of the victory, Duttke, who among other things was yell-leader of the expedition, started three rousing cheers; and no small victory it was, for to me it meant that the two trips to the peak and back, 120 miles, taking almost two weeks time, had not been in vain.

Heinemann and Duttke now joined me, and the camera was set at once for pictures. As the bird was not in the least afraid, and lit on the rocks all about the nest-entrance while we were arranging the camera, we dispensed with using the long rubber tube. In fact we soon found that so persistent was the mother-leucosticte in her efforts to reach the nest, that it was necessary time and again to drive her away in order to keep her from entering. I noticed particularly that this bird never once used the broken-wing tactics that we had seen others do on our previous visit. The method she employed was to disappear for a time among various nearby rocks endeavoring to draw us away from the spot. It was on one of these occasions, after our patience had been almost exhausted, that I decided it might be barely possible she had returned to the nest by some of the under-rock passages. On looking in towards the nest all appeared dark and I knew at once

the bird must be sitting. It was only due to the fact that the nest and eggs were light colored that they had been visible at all. I experienced considerable difficulty in flushing the bird, almost touching her before she finally left the nest; and then the way she went fluttering along the narrow passage made me fear for the safety of the specimens, which had not yet been collected.

Gently-persistent, with those little cheery, pleading notes, over the rocks she came again and again altho repeatedly driven away, and the solicitude she showed could not have but touched the heart of any observer. I must say, even in spite of their extreme rarity, it was not without a



Fig. 50. GRAY-CROWNED LEUCOSTICTE APPROACHING NEST-SITE AMONG THE BOULDERS

certain feeling of compunction that the eggs were taken. Every time the bird returned, when it was possible, a picture was taken and in all we secured nine photos, the best ones being herewith produced. This work covered a period of two and a half hours and during all this time the male did not appear; in fact, no other birds at all were seen.

At last, for it seems even the patience of the Leucosticte had its limitations, the bird would no longer come within camera range, and we turned our attention to the eggs and nest. In order to reach these it was only necessary to move a single boulder, and this, weighing but about 100 pounds, was an easy matter. Even with the boulder removed Heinemann pronounced the nest photographically impossible. Before disturbing the boulders we had taken a view of the nesting site, so we had to content ourselves with this. Bringing the eggs to light disclosed the fact that these consisted of four instead of three, one being hidden by feathers and by the depression of the nest, and, instead of being advanced in incubation as we had supposed, they proved almost fresh, two being practically so and two slightly incubated. One of a poetical turn of mind might compare the rosy plumage of the

Leucosticte with the gorgeous tints of the sunset clouds or liken its eggs to the drifted snow that characterizes its home. The student of birdlife cannot, however, indulge in any such fancy flights, if he is desirous of following the strait and narrow path of science. Thus it behooves me to simply state that the eggs are pure white, unmarkt, ovate-pyriform in shape, and in size measure in inches: .89x.62, .90x.63, .91x.63, .92x.62. The sharply pointed end and the peculiarly fine texture of the shell make the eggs at once distinctive. After being carefully taken from the nest, one by one, the specimens were well wrapt in cotton and placed in a partitioned box made of heavy block tin.

Our time was next devoted to the nest. To show how difficult this was to see, I may state that I pointed out the aperture to Dutke and askt him if he could see the nest within. After viewing it from seemingly every possible angle he declared he could see nothing of it and was rather amazed when it was later shown him.

Altho but three feet in, yet from the fact that the passage first ran south, then south-west and then south again, the nest, being placed at the latter turn, was rendered almost invisible from without. Investigation showed the nest was situated in a small patch of soil, in a depression $1\frac{1}{4}$ inches deep which had undoubtedly been hollowed out by the birds themselves. As the nest was $2\frac{1}{2}$ inches high it was thus equally above and below the soil. It is a very curious fact that this spot was one of the very few places on the entire peak where soil was visible; and if in all cases the birds penetrate to the soil to bild, it would explain why they go to such great depths.



Fig. 51. GRAY-CROWNED LEUCOSTICTE IN ONE OF MANY POSES, AS IT FLITTED ABOUT OVER THE ROCKS

The nest is almost entirely and very compactly made of dry grass stems and roots.

These have the appearance of having been uprooted and are of course of the previous season. As the nearest available grass is half a mile or more from the nesting site the reason why the bilding birds made such long trips for material is explained. Fine light-colored grass forms the lining, with the addition of a few feathers. One of the latter runs lengthwise across the bottom of the nest cavity, dividing it in half. Unfortunately a fluffy feather belonging to the nest was blown away on the peak and lost. The nest is oval in shape and the dimensions are as follows: top, $5 \times 3\frac{1}{2}$ inches; cavity, $2\frac{1}{2} \times 3$ inches; depth of cavity, 1 inch; depth of nest over all, $2\frac{1}{2}$ inches.

We found the location to be 150 feet below the top of the peak. The altitude of Pyramid is 10,020 feet. We did not see Leucostictes on either trip below 9,300 and the majority were noted between 9,500 and 10,000 feet altitude. After

the nest had been carefully placed in cotton in a box which we had brought for the purpose we spent some further time in photographing the adjacent chasm, cliffs and other bleak tho scenic surroundings.

Besides the bird previously described, but two other *Leucostictes* were seen and both were flushed from the rocks; but an examination of the spots proved futile. It is certainly remarkable, that, altho we traversed the identical territory where we had but eleven days previously noted close to two dozen birds, now such a small fraction of that number were to be seen. If as seems probable most of the birds were sitting, where in the world were their mates? This scarcity, however, seems to be the usual condition of affairs on Pyramid, as Barlow on his trip (June 10, 1900) noted but two pairs, while I only found in all about five birds on my visit on July 5, 1902; and other writers record about the same number.

As a high wind had now begun to blow and as it was growing late (4 p. m.) we headed for camp. Tempted by a great saving in distance we foolishly decided

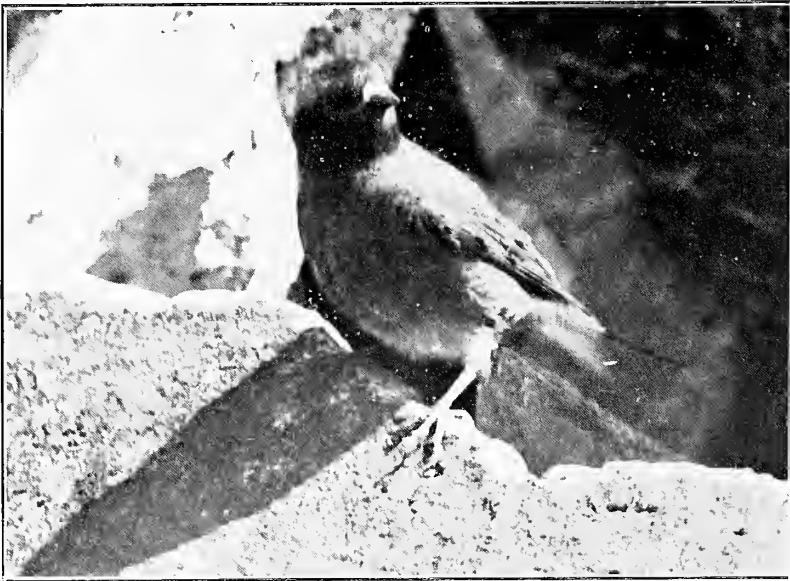


Fig. 52. GRAY-CROWNED LEUCOSTICTE IN ANOTHER POSE. ITS CONTINUAL ACTIVITY PREVENTED SHARPNESS IN THE PHOTO

on descending the north side of the peak. While in late summer, perhaps, this may not be such a difficult matter we soon found that to descend the almost perpendicular banks of snow was perilous in the extreme. More than once we fervently wished for the opportunity of returning by the route by which we had come; but, as it was impossible to go up again, we were compelled to continue. Once we reached the great snow beds which lie at the foot of the peak and stretch out over to the edge of Desolation Valley progress became easier. Going down the steep cliffs into Desolation required considerable time as the terrace must be worked back and forth in descending. A wearisome number of rocky walls, snow beds and banks, and brawling streams had yet to be negotiated, and it was after seven when our camp at Lake of the Woods was reached. The eggs and nest were found intact, but our rifle and camera-tripod, which we had used to slacken speed in going down the snow banks, were indeed in a demoralized condition.

Space will not allow me to describe at length how we ran out of provisions at Lake of the Woods and were forced to subsist for a whole day on but three slices of bacon; or how, on the day following, after a breakfast consisting of but a single slice, we made the long laborious march to Phillips' Station, against the strong wind which had now begun blowing again, and where we all did justis (or, rather, an injustis) to the excellent table set by Mrs. Vade Bryson. Eventually arriving in Bijou on June 24 the trip came to a successful conclusion. Thru the letter going astray in the mail, however, Mr. Carriger who was anxiously awaiting news of the trip did not know of the results until in July.

In closing I wish to add some notes by Dr. Sterling Bunnell, hitherto unpublished, and which I think will prove of considerable interest covering, as they do, such a wide range of territory. Dr. Bunnell writes as follows:

"I have always found the *Leucosticte* in either the Hudsonian or Arctic zone



Fig. 53. THE CENTRAL OPENING LED TO THE NEST WHICH, HOWEVER, WAS OUT OF SIGHT THREE FEET BACK BENEATH AND BETWEEN THE ANGULAR BLOCKS

and always among the snow except once: On July 15, 1902, when the surrounding snow had melted, I saw a flock as low as 9000 feet at the junction of East and Bubb's Creeks above the south fork of Kings River. In May and June they are almost invariably on the rocks and snow and live on the many insects that become stranded while flying over, and settling on the latter freeze there. In fact the snow is often dotted with these mosquito-like insects. From May to July, at least, *Leucostictes* are numerous from Mt. Whitney to Pyramid Peak in the Tahoe region. I could not find them in an extensive search in July on Mt. Shasta, nor on the Coast Range, altho I look for them on Preston Peak, South Yalho Bally Mountain and on Mt. Sanhedrin. I found the birds on Pyramid Peak in June and close to the edge of Desolation Valley nearby. The following notes appear in my field book:

"June 6, 1901. At Kearsarge Pass, above Kings River, 12,000 feet altitude, I noted several small groups of these birds. They were twittering and would hop along now on the rocks and now on the snow. They probably had nests in the lofty rock wall. On the snow they would hop along in a zigzag line for a few feet and then fly for a few yards. The flight was fluttering like that of a Bluebird.

"June 7, 1901. Found some *Leucostictes* on the top of University Peak, 14,000 feet. One on a rock would twitter, vibrating his wings in accompaniment. They were curious and came close to us on the rocks and then fluttered off.

July 15, 1901. At the junction of East and Bubb's Creeks, above the south fork of King's River, the adjacent snow having melted, I saw a flock at this un-



Fig. 54. NEST AND FULL SET OF EGGS OF THE GRAY-CROWNED LEUCOSTICTE AFTER REMOVAL FROM NEST SITE. NOTE THAT THE EGGS ARE UNMARKT

usually low altitude of 9000 feet, and for the first time saw one of them perch on the top of a tamarack tree, the other birds of the flock remaining in the grass. The note resembled 'chea'.

"July 16, 1901. Noted many on the side and top of Mt. Brewer. One flew out from some rocks at the side of the peak as if it had a nest in between the rocks; but I could not locate it.

"July 17, 1901. Observed some perch on the ice floating in the lakes near Harrison's Pass, southeast of Mt. Brewer. One would raise and drop his wings and with tail held up would make a note like that of a little chicken. One at-

tempted to fly up and over Harrison's Pass which is a thousand feet high and very steep. It flew up by degrees in a zig-zag line, stopping on the rocks at each turn.

"July 18, 1901. Found *Leucostictes* on the top of Mt. Whitney, 14,500 feet. They hop along the ridges between the furrows of the snow. Noted them often at this date about the small lakes in the snow in groups of four.

"June 2, 1902. Found on top of Mt. Lyell above Yosemite.

"July 10, 1902. Found at Bullfrog Lake, 11,000 feet, and on top of Mt. Gould, 13,800 feet.

"Of all birds the *Leucosticta* has ever had a fascination for me, but in all my travels I never succeeded in finding a nest."

AN IRRIGATED RANCH IN THE FALL MIGRATION

By FLORENCE MERRIAM BAILEY

WE ONCE spent the first two weeks of September on an irrigated ranch in southeastern New Mexico, and, while the study of the prairie-dog problem had taken us there, we saw many interesting things in the bird line in passing. As the ranch combined alfalfa and stock, outside the branding corrals stood mowing machine and baling press, while the adobe houses of the Mexican laborers stood in the background. Behind the house, water barrel and wood pile—a pile of grubbed-up roots as big as a haystack—spoke of the waterless and treeless character of the valley; but leafy rows of cottonwoods growing along the irrigation ditches, and the vivid green alfalfa fields, gave richness to the immediate landscape.

From the piazza, as we lookt out on the highroad, the principal passers-by were Mexicans. Sometimes there would be a prairie schooner drawn by four burros, on one of which rode a small bare-legged Mexican shaded by the inevitable peaked hat, energetically whipping up his burro train. Sometimes there would be six burros, three abreast; and frequently the load would be of mesquite roots surmounted by a Mexican.

When we first got to the ranch the stock was being branded in the corral, and, as we past on our way back and forth to the dog field, the fire in the middle of the circle, the men with long branding irons making sudden lunges at the terrified cattle as they circled around the ring, the bellows of pain, the headlong plunge of a maddened steer at his tormentors, and the circle of Mexican on-lookers perchd safely on top of the high corral fence, all made a sight that we were glad to leave behind for the peaceful, green alfalfa fields.

The irrigation of the alfalfa was a novel and most interesting sight to me. The irrigator was a tall, spare Mexican with a picturesque high hat, purple shirt and red sash, carrying over his shoulder a long shovel. When he had turned the water into a field he would take off his sash, throw it over a fence post, roll his trousers high on his brown legs and then wade about among the ditches like a plover, letting the water out here, banking it in there, hurrying from place to place till he seemed to be everywhere at once. When a sluice had to be opened or shut in a distant field he would catch up his sash, noose it around the nose of a horse he kept near by and, with the shovel over his shoulder, go swinging off bareback, with the grace of a centaur.

The water from the ditches strewed the fields with multitudes of minnows that

attracted great flocks of migrating water birds: sandpipers of all sizes and kinds, from the greater yellowlegs—darting, dashing, noisy yellowlegs—to the modest, quiet little sandpipers—*bairdi* and *minutilla*—plover, willets, handsome black-necked stilts, and long-billed avocets and curlew, one with the bill turning up, the other down. One meadow was irrigated at a time, and so a field that was all water, white wings, and a babel of bird notes one day, would be dry, bare, and silent the next, the procession having followed the man with the shovel. I wanted to follow too, for the sight of acres of water birds was always fascinating. The delicate gray and white forms of the wheeling flocks against the background of blue sky made a rarely beautiful sight, and with the sky for a background and the water for a mirror the birds were always making charming pictures. One of the rarest we saw was that of a delicate red sunset mirrored in a flooded field, in which white water fowl were wading. What a picture from the heart of the New Mexico desert country! A flock of nearly fifty long-billed curlew was seen one day; and at another time half a dozen of the large sickle-billed birds were found in a field surrounded by a restless ever-shifting throng of yellowlegs and other sandpipers. The liquid quality of the water-birds' notes, spoken of by Frank Bolles, was especially striking here when from an adjoining field came the dry land notes of sparrows.

When a bird-catching falcon flew over, one and all of the white wings rose in terror; but a grasshopper-catching Swainson hawk might sit on a fence-post overlooking their field, or even fly down in it after his catch, and they would barely recognize his presence. Marsh hawks were often seen beating low over the alfalfa making dives with sprawling wings as they spied—was it a mouse or a cotton rat?—and once we saw one standing in the midst of a field, apparently watching for grasshoppers, his queer ruff-encircled face looking strikingly owl-like.

Wherever we went we found birds; for the rich irrigated ranch attracted hordes of migrants among the land as well as water birds to feed on its insects, weed seeds and small mammals; and they were a particularly interesting assembly after weeks in a desert range. In one old weed field we came on a flock of perhaps two hundred lark buntings, migrants of the plains with their fall suits of brown. White-necked ravens were common in small flocks, apparently gathering in from the deserts after the nesting time. Large mixed flocks of blackbirds, cowbirds, redwings, and yellowheads, were often found in the cottonwoods squawking, gurgling, and singing a regular marsh medley; and one morning thousands of yellowheads came with a loud noise of wings—a long black cloud—and stopt at the trees near the ranch house. As they lit in masses a great clattering broke out, each of the crowded throng apparently clamoring for standing room. When they were settled, the trees looked as if laden down with black fruit. We slipped out to get a closer look at them and found long crowded lines on the barbed wire fences, and numbers on the ground in such close array they seemed in sore danger of treading on one another's toes. Near at hand their orange oval fronts and jet black plumage made them indeed a splendid sight, and when they started up we exclaimed with admiration, for their epaulets flashed out snow white on their black, velvety coats.

As we went back and forth thru the lanes to the prairie-dog town, tame young shrikes would sit calmly on the fence posts and let us pass, a cuckoo would sometimes fly swiftly out of a cottonwood hedge where it had been engaged in its favorite occupation, investigating caterpillar nests, flocks of redwings with glowing epaulets would circle around and disappear in a field of milo maize, the shrill pipe of an oriole would be followed by a yellow flash from a cottonwood, and a sweet blackbird chorus would come from a tree top. Occasionally a mockingbird would be seen along the lanes; but it was a striking fact that while the mockers abounded

on the mesquite plains they were rarely seen in the inhabited valleys. Perhaps they had learned better. A field of sugar cane along our road attracted flocks of migrating clay-colored sparrows who stared at us as they clung atilt of the cane stems or pickt up seeds without observing us. Dainty little pileolated warblers with golden front and bright green back would dart out of their cover and flit past us into a most inappropriately commonplace cornfield.

In the prairie-dog town on the ranch the small brown owls that lived in the old dog holes were always amusing. The twenty-acre field which held by actual count one thousand and nine prairie-dog burrows had probably several families of the owls, for altho we never saw many in any one field at the same time, the ejected pellets were numerous around the deserted burrows. Curiously enough these black bullet-shaped pellets were made largely of the big green beetles which we found on the plum trees of the orchard. At sight of us the prairie-dogs would scud away to their mounds, turning around inside and coming up to peek and bark at us over the edge again, while the owls would watch us with big, fixt eyes as we appeared, and if we came too near rise lightly on their wings, fly a few rods, and with strait-hanging legs drop to earth again.

Tho the prairie-dogs were doing great damage to the alfalfa, they were most interesting little animals. They found us interesting too, apparently, as they would stand and bark at us just as long as they dared. It was a pretty sight to see a mother dog looking over the crater-like rim of the hole with her yellow puppies beside her. If we approacht they would drop down the hole, but if we went the other way, they would sometimes scatter and go loping about the town. Holes dug out by badgers told of the tragedies of a dog town.

"Prairie-dogs are pretty good prospectors and sometimes bring up pay dirt," the mammalogist remarkt reminiscently one day, and then went on to tell how in a coal country where the surface was light colored they had brought up coal till "every heap was as black as ink!"

As we were walking along the edge of the dog town at one time the loud screaming note of a willet called our attention to one of the big gray birds standing by an irrigation pond in the adjoining alfalfa field. He jerkt his head back and forth as he watcht us, and then took wing, changing on the instant from an ordinary speckled gray bird to a black and white creature of striking pattern. On the edge of the irrigated tract a road-runner would sometimes be seen crossing the field, his head and tail on a level, his long legs carrying him as smoothly as if he had been on rollers. One that was shot proved his good offises to ranchmen by the contents of his stomach, for it held in addition to a garter snake and a long centiped, remains of a caterpillar, a cricket, some beetles, and a supply of big grasshoppers.

A marsh in what was known as Cassey's draw had been so flooded by the rains that none of the small mammals which should have been there were to be found, but a variety of swallows were weaving back and forth above it, and we flusht two night herons from the cat-tails, while a great blue heron rose and flew slowly away down the draw. As we waded thru the high grass a sora rail buzzed into the air, staying just long enough for us to note his plump little body and short bill before he ended his short parabola out of sight in the grass. Another time we flusht a jack snipe from a weed-grown lane. With an explosive *zeeb, zeeb, zeeb*, it whizzed off, coming down in a spot of brown ground which it matcht so well that we had to walk up nearer before we could separate the long bill from the brown ball. Game birds were very scarce, except for a family of scaled quail which lived about the ranch and were evidently not lookt upon as game birds, for their favorit perch was the brush-wood pile in the back yard. They seemed oddly out of place because they were acting the part of domestic fowl, and because, in this assembly of birds from well-watered lands, they really belonged to this desert region.

NESTING OF THE GRAY-HEADED JUNCO

By ROBERT B. ROCKWELL

WITH ONE PHOTO BY THE AUTHOR

REFERENCE to back files of THE CONDOR reveals the fact that nothing has been published in this magazine regarding the nesting habits of *Junco caniceps*; hence a few notes on the subject may be of more or less interest to CONDOR readers.

On June 16, 1910, a short trip was made from Grand Lake, Grand County, Colorado, where I was then camping, to Columbine Lake, a beautiful body of water about 100 acres in extent lying two and one-half miles northwest of Grand Lake, at an altitude of about 9,000 feet. Columbine Lake is a typical mountain lake of



Fig. 55. NEST AND EGGS OF THE GRAY-HEADED JUNCO

crystal clear water, surrounded by lofty mountains, with a dense growth of pine and spruce timber extending in places to the water's edge.

Along the west shore extends a narrow strip of boggy ground lying between the heavy timber and the water's edge and covered with a variegated growth of rank grass, moss, low scattered bushes and down timber. As I made my way around the lake two Spotted Sandpipers fluttered from their nests each containing four eggs, and a few feet farther on, in a precisely similar location a Gray-headed Junco flushed noisily from under my very feet. The location was altogether incompatible with my ideas of junco nesting sites, but a careful search was made nevertheless, and finally the nest containing four eggs was discovered, wonderfully concealed in a deep cavity in the ground completely roofed over by a projecting clod of moss-covered earth and entirely hidden and protected by the dense branches of a small bush. The parent bird flew directly to the dense pine timber close by, where it

voiced its anxiety with the peculiar metallic junco chirp, altho seldom allowing itself to be seen.

Within a hundred yards of the first nest another bird was flushed from a cunningly concealed nest, deeply sunken in the ground among the dense branches at the base of a small bush. It also contained four eggs, and the parent upon flushing immediately disappeared and was seen no more.

Proceeding around the lake, a third bird was flushed from a nest built in the center of a small shrub, but not nearly as well concealed as the other two. This nest contained two eggs and two freshly hatched young—tiny, wriggling, pinkish little creatures irregularly covered with very fine grayish down.

As it was raining and the temperature entirely too low for comfort I marked the nests and sought shelter. On my return, a couple of hours later, the parent of the first nest found stayed on the eggs until we almost touched her, and so perfect was the concealment of the nest and the protective coloration of the bird, that altho we knew exactly where to look, both were absolutely invisible to the eye at arm's length. In all it was the most perfectly concealed nest I have ever seen.

The birds on the other two nests, however, flushed much more wildly than on our first visit and were not so demonstrative.

After photographing the nests, the two containing eggs were collected. They are practically identical in size and construction, being strongly and compactly built of dried grass, well rimmed, deeply cupped and lined with finer dried grass and a scant amount of fine hair. They are somewhat longer than wide and measure as follows: Outside, length $4\frac{3}{4}$ inches, width $3\frac{3}{4}$ inches, depth 2 inches; inside, long diameter $2\frac{1}{2}$ inches, short diameter $2\frac{1}{8}$ inches, depth $1\frac{1}{2}$ inches.

The two sets of eggs exhibit a fine variation in coloration and marking. One set has a ground color of light clay color with a slightly bluish tinge, lightly marked with minute and very subdued spots of reddish brown. Two of the eggs are evenly spotted over the entire surface, while on the remaining two the spots are partially confined to the larger ends.

The other set has a much lighter color—almost pure white—clearly and boldly spotted and blotched with clear reddish brown, the markings being heavier and more clearly defined around the larger ends. The heaviest marked egg of this set is almost identical in coloration and marking with a set of Field Sparrows' eggs in my collection.

The two sets are remarkably uniform in size, and average .75×.57 inches.

NOTES ON REGURGITATION

By HARRIET WILLIAMS MYERS

HAVING been led to believe, thru reading, that for the first few days, practically all birds feed their young by regurgitation, I have been surprised at the number of birds I have observed who do not use this method of feeding, but rather from the very beginning feed insects directly to their young.

In March, 1909, a pair of Song Sparrows (*Melospiza m. cooperi*) nested in the pampas grass in my yard, giving me an opportunity of daily observation. On the seventh of March the eggs hatched and I stationed myself to take feeding record. At 8:50 the female left the nest and began searching about in the grass and weeds. In one minute she returned to the nest carrying a visible object in her bill which

she fed to the young. Several times I saw her bring food in this way to the young. In my mind there is no doubt that she did not feed by regurgitation.

In May of the same year I watched the nest of a Spurred Towhee (*Pipilo m. megalonyx*). When I found the nest there were three newly-laid eggs. I kept watch of this nest, and in two weeks from my first finding it there were three young in the nest. They were quite naked and were evidently hatched that morning or the day before. At this time I watched the birds going to the nest, but because of its location in the grass on the ground, I could not see them put the food into the mouths of the young. Finally, concealed behind an umbrella close to the nest, my companion saw the male come to the nest when the mother was covering the young. As he reached her she stepped aside and the male fed the young fresh food. The next day I was again at the nest. The female was calling piteously and upon looking I found that a snake, coiled in the otherwise empty nest, was the cause of her distress. Presently the male came to a nearby bush carrying a large moth in his bill. This was, of course, intended for the young and seemed proof sufficient that he was not feeding by regurgitation.

Another bird of this same family who feeds fresh insects to young as soon as hatched, is the southern California Towhee (*Pipilo c. sciuicula*). I have watched many nests of the newly hatched of these birds and always they were fed fresh food as soon as they were fed anything. The food they seem fondest of feeding is a soft light green worm found on weeds or grass. As in the case of the Spurred Towhee I have seen a moth fed when young were two days old.

In April I watched the nesting habits of the Rufous-crowned Sparrow (*Aimophila ruficeps*). On the 15th the eggs were not hatched; but the next day at six p. m., I found young in the nest. I watched the birds for half an hour and saw both of them come to the nest and feed the young with small worms and other insect life.

I have often watched at the nests of *Phainopepla nitens*, a bird belonging to the same family as the Cedar Waxwing, and who is a summer visitant only, in southern California. At the nest of one of these birds which contained newly hatched young, I saw the male go with a blue nightshade berry in his bill. As he rested on the side of the nest he threw back his head and let this berry slip into his throat, then back into his mouth, three times before feeding it to the young. I also saw the female fly thru the air in pursuit of tiny insects then go to the nest and feed. For some time I watched the pair feed, and it was never by regurgitation, unless softening the food by passing it up and down in the throat could be so designated. I believe many birds fill the throat with food before coming to the nest. It is their only means of carrying a quantity and, as I understand it, is not regurgitation.

In the case of a pair of Arkansas Kingbirds (*Tyrannus verticalis*) which I watched, I believe the birds both fed fresh food directly to young and used regurgitative methods. Tho' this pair of birds nested so high that I could not look into the nest, I watched them daily and know the young were not more than a day old when I saw both adults fly thru the air, then to the nest where, side by side, they fed the young. Several times I saw them do this. I also saw the female take the nest without feeding and after a few minutes rise slightly and feed the young beneath her. This latter feeding I should call regurgitation, while the former was not.

At a nest of the Arizona Hooded Oriole (*Icterus c. nelsoni*) I saw both birds go directly to the nest with fresh food in their bills when the young were only one day old. After feeding they left the nest.

From these few observations of birds which are supposed to regurgitate and do

not, I am inclined to think that probably very many more of our common birds feed fresh food than we have been led to believe. It seems to me that it is worth the while of every observant bird student to give particular attention to this object of field observation, that we may have more knowledge on the subject.

ROUGE ET NOIR

By W. LEON DAWSON

MAY days lack one of being "so rare as a day in June"; but if oölogists had their way there would be sixty-one of them insted of thirty-one. Yet the luck of the oölogist is as variable as that of the proverbial fisherman, and certain favored hours are likely to stand out in memory from a background of profitless days. I am no believer in astrology, and do not court the sweet influence of the stars, but if anyone will explain to me why a body can find half a dozen choice birds' nests hand running one day and then hunt over the same sort of cover the day following only to return empty-handed, I—well, I will pay respectful attention. "Luck?"—Yes, but what is luck? A mere name for our ignorance of causes. "Providence" is scarcely better in this connection, however devoutly uttered. All is Providence in a large, true sense, but we show disrespect to the Almighty if we charge him too strictly with interference among a mass of still unknown second causes. I think the explanation is rather psychological. We are keyed up to respond to certain impressions on certain days, and a "run of luck" follows. We go thru the same motions on a subsequent occasion, but we respond to different stimuli. Our eyes are veiled and our ears muffled to the sights and sounds that we are supposed to be interested in, nay, the very ones that we are striving desperately to interest ourselves in. The difference is inside us where we can't get at it. After all, then, perhaps "luck" is a good enough name for this variable and unbiddable psychological factor.

But it was in no mood of pale philosophizing that I dropt off the first morning trolley at Clover Creek, south of Tacoma, on the 12th of May last. A distant Chickadee "prospect" gave direction and excuse to this morning's jaunt, but there was no hurry. A delicious fragrance of the prairie air and the singing of birds in the fir groves invited dalliance. The Russet-backed Thrush (*Hylocichla ustulata*), belated, had just reported in from the South and was trying the copses with soft quills. A Western Tanager (*Piranga ludoviciana*), also days behind the schedule, piticked languidly. Warblers of rare breeds, chiefly Audubons (*Dendroica auduboni*), Black-throated Grays (*D. nigrescens*), and Hermits (*D. occidentalis*), lispt from the tree-tops; while one gorgeous Townsend (*D. townsendi*) came fluttering down the sides of a great green spire for close inspection. Within the grove itself Hammond (*Empidonax hammondi*) and Western Flycatchers (*E. difficilis*) gave a comparative trial of their different notes. That of *hammondi* is smart and slightly querulous, in contrast with the lazier, drawling note of *difficilis*. Moreover, it is always accented on the last syllable, *sewick'* or *cleotip'*, whereas that of *difficilis* begins rather explosively and continues with a musical sibilant drawl, terminating sharply but without accent, *psss' wit*, *psui' iut*, or *swee' ut*.

Our woods are never noisy like those of the East. Most of the vocal offerings, indeed, are all too modest. But we do not complain. It may be the fact that most of our species "catalog high" that makes us content. Certainly the sense of high

quality in our birds is ineluctable, even in those who know them best. So much of mystery still surrounds many of them, so much of aloofness characterizes the entire lives of some of them, that a mere list of their names stirs the blood and teases the oölogical imagination. For instance, besides the species already mentioned, all breeding locally, I heard at this time American Crossbill, Western Evening Grosbeak, Cassin Vireo, Anthony Vireo, Western Winter Wren, Chestnut-backed Chickadee, Tawny Creeper, Red-breasted Nuthatch, Western Golden-crowned Kinglet, Macgillivray Warbler, Olive-sided Flycatcher, and Northwestern Saw-whet Owl. (Has any oölogist personally collected all of these? J. H. Bowles, working in this section for thirteen years, has come the nearest to it, but he is still four numbers shy.)

At 8 a. m. I shook off the dreamy mood and set out thru a level bit of woodland for the distant Chickadee's nest. Almost immediately a scrub oak (*Quercus garryana*), killed by the shade of the more rapidly growing fir trees, obstructed my path with a vision for which I have been toiling for years. A bark scale, sharply sprung from the parent stem of the oak tree, here some five inches in diameter, was fairly bursting with its oölogical secret. Anchored at the top but free at the bottom, its krinkled skirts were not ample enough to conceal the copious twigs with which a pair of Tawny Creepers (*Certhia f. occidentalis*) had filled its hollow. These twigs bristled out in every direction, like a Russian peasant's whiskers, and challenged the offises which I was not slow to fulfill. The nest was barely within reach from the ground, and at the first cautious introduction of a finger, the female flitted. I felt something soft and downy; I fell back, and, believe me, nearly fainted. Young! After all these years! But no; it could not be. It was too absurd! I would try again. The soft downy things proved to be catkins bedded in the broad brim of the nest (for the nesting cavity must needs be completely filled). The nest proper was in the center of the mass, deeply cupt ($1\frac{3}{4}$ inches deep), and held four eggs, well advanced in incubation. The semilune formed by the top of the nest, i. e., the shape of the available cavity in cross-section, was five inches from point to point, and two and a quarter in thickness, while the depth of the accumulated material was ten inches. The birds' tastes were quite indiscriminate, since the inside of the cup alone displays the following materials: cowhair (red and black and white), feathers, horsehair, moss, fine bark, macerated weed-stems, chips, fir needles, bits of white cloth, ravelings, string, cocoons, spider-egg cases, catkins, moth-wings, and vegetable fiber.

Half an hour was consumed in packing away the nest and eggs. Five minutes later an excited Chickadee, a Chestnut-back (*Penthestes rufescens*), emerged from a tiny hole, "made by one of the Cerambycid beetles", at a hight of ten feet in an old fir stub. The tree had been struck only from force of habit, and no attention would have been paid to results, had it not been for the sharp wing-burst of the flushing bird. The nest contained six eggs, fresh, as the event proved, but so blackened by contact with the mother's brest as to look quite unpromising. Since the advent of the fire-spreading animal, man, the birds have been obliged to accept charred stumps as part of the order of nature, and the contact of feathers and charcoal cuts no inconsiderable figure in local oölogy. Fortunately the eggs could be washt, if the bird couldn't. The nest was a simple affair of moss and rabbit fur, set in a tapering cavity, with its brim only two inches below the entrance. But for all it was so simple, some ten minutes were spent in digging it out, and as many more at the base of the stub where the packing of eggs had to be laboriously rearranged.

My task completed, I rose, stretcht, yawned,—and the old *Grouse's* nerves gave out. Not ten feet from the stub on which I had been working, a Sooty

Grouse (*Dendragapus obscurus fuliginosus*) had been sitting on nine eggs. She had allowed me to pass within four feet of her in approaching the stub; she had seen me gesticulating strangely, overhead, and she had not budged. But that yawn! Evidently there are limits to Dendragapine patience!

A little fracas with the Crows (*C. b. hesperis*) was probably responsible for the next bit of luck, which occurred half a mile farther along on my halting course. The black sentries had discovered the bird-man slipping across a bit of clearing and had hurled prompt anathemas at his devoted head. The excitement had died down somewhat when the fourth miracle happened. The Creeper, dear, gossiping soul, the "me too" of the lesser bird-world, had evidently popt off her eggs for a moment to see what was doing. Her curiosity satisfied, she bethought herself of duty and—I accidentally caught her with the tail of my eye just as she lost herself to view by a sidling motion upon the blackened face of a fir tree. There was nothing at that distance to suggest a nesting site, and I should have past the tree a dozen times without notising that a portion of the bark, some four feet from the ground, was slightly sprung, or that there was room behind a certain crack for a bird to disappear. Only when the tree was viewed from a particular angle could the aperture of about one inch be observed on one side of a section of bark otherwise adherent; and only close inspection could have discovered the nest in its snug quarters. An inquiring finger laid on the edge of the nest brought out the occupant, who affected the greatest surprize at my presence; but only the careful removal of a square foot of hevvy bark disclosed the four tiny eggs, which occupied the depths of the hair-lined inner cup. Of these eggs one was a runt, handsomely ringed about the smaller end and of about half the size of one of the others, being in fact a little smaller than a Rufous Hummer's egg (measuring .43×.36 inches, as against .50×.33 for the Hummer. The remainder of the set averaged .57×.45, while the average for the first set found was .63×.45). Near the larger end of this midget egg was a small contusion, undoubtedly made by the bird—a claw-hole perhaps—altho the underlying membrane was unbroken.

This bird, by the way, must indeed have been a chronic gossip, for her eggs were all infertile, and the contents of two of them were so badly hardened as to require soaking before removal. Her narrow quarters may conceivably have caused her some discomfort, for the maximum space between trunk and bark was one and three-eighths inches,—so narrow, indeed, that the wood itself was allowed to do duty for two sides of the inner receptacle.

By this time the collector was embarrast with riches. My modest thought at the outset had been to take along enough paper and thread and cotton to take care of the anticipated Chickadee's nest. When I blundered upon the Tawny Creeper's nest, that would, of course, be *the* find of the day; so the nest was wrapt very carefully in tissue and thred, and the eggs were double-wrapt in cotton. The Chickadee, fortunately, made light demands upon my resources; but the Grouse—Ho! Ho! that was frankly impossible! The nest did get the last sheet of tissue paper, but the eggs were gathered up, Castle Garden fashion, in a handkerchief, and cached under the first convenient log. The advent of the second Creeper's nest was serious. There was simply nothing for it but to let it go bare with the last wisp of thred. When a Shufeldt Junco flusht incontinently in the woods beyond, I groaned—but shouted for joy when callow young were found in place of eggs.

The real goal of the trip was an old oak stub, sticking up out of the water of a forest-girt lake, where I had seen a Chestnut-backt Chickadee working in a knot-hole some two weeks previously. I made my way out gingerly over the driftwood

and hit the stump a resounding thwack—but there was no answer. No Chickadee responded to rude and repeated summonses. Violet-green Swallows there were, however, darting about the top of the stub, and altho it was early in the season for them, it seemed worth while to investigate. The stump was some twelve feet high by one and one-half feet in diameter and destitute of bark,—as slick as grease and impossible to climb outright. So sticks of various lengths were cut and leaned against it. By and by the Chickadee's fortitude failed her and she emerged, chattering disgustedly.

This nest was unusual. An old knot-hole about eight feet up had been re-workt by the birds, and gave access to a large cavity half filled with rotten punk. This cavity the Chickadees had undertaken to fill up to the level of the entrance with mosses, cow-hair, and other soft substances. The nest proper was, therefore, deeply cupt in the center of a level expanse of this material some seven inches in diameter, and the six fresh eggs which it contained had quite the handsomest frame in the annals of Chickadee art.

The Violet-green Swallows had nothing to offer beyond a feather-lined cavity. Here was luck enough, however, for one stub. When the Chickadee's eggs were stowed away in the bursting can, and the homeward course begun, it was high noon—the meridian of a red letter day. Science? Not a bit of it! Luck! Sheer luck, all of it!

But to show that fortune has no favorites in the bird business, I must epitomize another day. On the 21st of May I returned to this same range filled with the highest anticipations, and prepared to camp, if need be, for a week. Weather conditions were perfect and myself apparently in the highest spirits. Work began at 4 a. m. and the quest was pursued unremittingly till 5 p. m. Hermit Warblers abounded and Black-throated Grays challenged from every other tree, with lesser breeds in proportion—yet never an egg did I find, and I went home disgusted at the end of a black day. Psychological conditions? Perhaps. "Luck", certainly. Brothers, we are gamblers. *Rouge et noir!*

A SUMMER TRIP TO THE NORTHERN SANTA BARBARA ISLANDS

By G. WILLETT

ON the evening of June 4, 1910, a party of Cooper Club members, composed of V. W. Owen, Antonin Jay, J. S. Appleton and the writer, left San Pedro on the 32-foot launch "Niedra", Capt. E. R. Hall, for a two weeks' trip to the four northern islands of the Santa Barbara group.

Our expectations were to canvass the four islands thoroly from an ornithological standpoint; but owing to inclement weather our operations were mostly confined to the islands of Anacapa and San Miguel. We were able to land on Santa Rosa for a couple of hours only, and we past by Santa Cruz entirely.

We arrived at Anacapa Island at 8:00 a. m., June 5. Black Petrels and Dark-bodied Shearwaters were common at sea and near the arch rock at the extreme east end of the island two pairs of Xantus Murrelets (*Brachyramphus hypoleucus*) were seen on the water. We were unable to find any nests of this bird; but I believe that it may occasionally breed on some of the islands of this group.

Tufted Puffins, Baird and Farallon Cormorants were breeding on the cliffs and

Pigeon Guillemots were common in the caves. Several Wandering Tattlers were also noted feeding among the rocks. Cassin Auklets were common at night and were undoubtedly breeding somewhere on the island, but we did not locate the nesting colony. At least three pairs of Black Oystercatchers were seen, but we failed to find the eggs.

On the afternoon of June 5 we made the difficult ascent to the summit of the east end of Anacapa Island. Here we found many nests of the Western Gull containing eggs and young; also a colony containing about 500 nests of the California Brown Pelican (*Pelecanus californicus*): These were placed on the ground among some low bushes and contained eggs from fresh to advanced in incubation, and young birds from newly hatched to nearly full grown. Only 4 nests contained sets of 4 eggs. The others mostly contained 3, and occasionally but 2. We secured as many sets of eggs as we desired and brought back two nests entire. This, I believe, is the first definitely recorded instance of the breeding of this Pelican north of Mexico, altho an article was published (Museum V, March 1899, pp. 71-72) by C. F. Holder, on a colony of Brown Pelicans nesting on Anacapa, but exact data was not given.

V. W. Owen and Howard Robertson visited this same locality June 4, 5 and 6, 1899, and the birds were not breeding there at that time; so it would seem that they do not always use the same breeding locations each year. The commonest land birds on Anacapa were the Island Horned Lark, the Rock Wren and the House Finch. We noted a number of White-throated Swifts and found several nests of the Bald Eagle and Duck Hawk containing nearly full grown young. Owen noted a male Allen Hummer on the top of the island among some low bushes. This was the only one seen.

We left Anacapa at 3:00 a. m. June 7, and crossed the channel to Smuggler's Harbor, Santa Cruz Island, where we found the launch "Flier" from Long Beach. Among the party on board were O. W. and Arthur Howard, H. J. Leland and H. N. Lowe of the Cooper Club. After arranging to meet them later at San Miguel Island we followed along the southerly shore of Santa Cruz, crossed the channel to Santa Rosa Island and dropped anchor at Johnson's Lee where we lay during a heavy northwest blow until the morning of June 9. In the afternoon we landed on Santa Rosa for a couple of hours but took no specimens. We noted Bell and Chipping Sparrows common in the brush, also Horned Larks, Rock Wrens and Spurred Towhees.

On the morning of the 9th, the wind having died down some, we left at 4 o'clock for San Miguel Island. We arrived at Cuyler's harbor at 7:30 a. m. and met Mr. L. A. Ward who has charge of the Island. He proved to be a very hospitable gentleman and allowed us to camp in a warehouse on the beach. This added greatly to our bodily comfort as the heavy wind which blew during our entire stay would have made camping out decidedly unpleasant. We are also indebted to Mr. and Mrs. Ward for several bountiful dinners we enjoyed at the ranch-house as well as for many other courtesies extended us.

After we had landed our supplies and our launch had left for the mainland, Owen and myself took our skiff and rowed to Prince Island, a small island about a half mile from the main island. Here we were joined by the Howard brothers, Leland and Lowe, their boat having arrived and anchored off Prince Island. They were leaving in the evening on their return trip, but we persuaded O. W. Howard to join our party during the remainder of our stay. We found Prince Island to be literally alive with breeding sea birds, and later obtained many interesting specimens, as well as notes and photos.

After looking over some of the breeding colonies Owen and myself returned to camp leaving Howard on Prince Island with his blankets and expecting to return for him in the morning. In the morning, however, the northwester was howling again and we were unable to reach him for two days and then only with the aid of some Japanese abalone fishermen and their launch. Howard's story of how he subsisted for two days on mussels and gull's eggs, washt down with cactus juice, and how the Auklets persisted in getting in bed with him, is too harrowing to be told by an outside party, and I shall leave it for him to narrate in later columns of THE CONDOR.

We remained on San Miguel 14 days, being unable to leave as soon as we had planned on account of rough weather. During this time we were rarely able to use our skiff and most of our time was spent on the main island. Here there were no sea-birds breeding excepting the Baird Cormorant and Pigeon Guillemot whose nests were placed in locations inaccessible to the foxes which were numerous. To the numbers of the foxes we attributed the absence of other breeding sea-birds which were so abundant on outlying rocks and islets.

The island of San Miguel is about 8 miles long by three or four miles wide and is mostly composed of rocks and sand hills, altho there is considerable grass on the more elevated portions. This, however, is being gradually covered up by sand which is drifting slowly but surely across the island, carried by the prevailing northwesterly winds. There are several varieties of shrubs on San Miguel but no trees worthy of the name. The most common shrub is the loco weed which is the favorit resort of the Song Sparrows. The commonest land birds on the island are the Island Horned Lark (*Otocoris a. iusularis*), the Rock Wren (*Salpinctes obsoletus*), the San Clemente Song Sparrow (*Melospiza m. cleuentic*) and the San Clemente House Finch (*Carpodacus u. clementis*). The Horned Larks had evidently raised one brood of young and were beginning to nest a second time. The same was probably true of the Song Sparrows, as full-grown young were noted, and other birds taken were evidently about to breed. Bald Eagles, Duck Hawks and Ravens were common but no Ospreys were seen. We saw the wings of a female Sparrow Hawk that Mr. Ward had shot, and he informed us that there were a few Burrowing Owls on the island, altho we observed none. He also told us that there had been three Brewer Blackbirds around his house and barn-yard during the preceding spring.

The following are the water-birds observed during our stay:

Tufted Puffin (*Laua cirrhata*). Breeding commonly on Prince Island. On June 15, most of the nests contained young or eggs advanced in incubation.

Cassin Auklet (*Ptychoramphus aleuticus*.) On Prince Island, wherever there was soil enough to burrow in, the auklets were nesting, and some nests were found in niches in the rocks. I also found a few nests on a small island off the west end. On June 15 most of the nests contained young of various ages; but a few fresh eggs were found.

Pigeon Guillemot (*Cephus columba*). Breeding commonly in caves and niches in cliffs all around the islands. Many nests were found containing young of various ages, and fresh eggs were secured as late as June 23.

California Murre (*Uria l. californica*). About 100 pairs of these birds were breeding on Prince Island. On June 15, most of the eggs were advanced in incubation and a few newly hatcht young were noted. In most cases the eggs were deposited on the floors of damp caves, and in some instances had been rolled in the mud until the color of the shell was entirely hidden. This Murre colony was previously visited by J. S. Appleton in 1906. He took fresh and slightly-incubated

eggs on June 6 of that year. I believe this is the first record of a breeding colony of these birds south of the Farallon Islands.

Western Gull (*Larus occidentalis*). Breeding commonly on all out-lying rocks and islets. Fresh eggs were found as late as June 18.

Heermann Gull (*Larus heermanni*). Common, feeding along the beaches.

Royal Tern (*Sterna maxima*). Several immature birds seen and one taken at the west end of the island June 17. Altho this bird has been reported breeding on San Miguel, I am satisfied that none were nesting there this year. We went over the island thoroly and found no evidence of their breeding and only observed the birds in the one instance as noted above.

Farallon Cormorant (*Phalacrocorax a. albociliatus*). There was quite a large colony of these birds breeding on Prince Island. Many of the nests were placed in the cactus patches on the eastern side of the island. On June 15 we found nearly full-grown young, and eggs in various stages of incubation.

Brandt Cormorant (*Phalacrocorax penicillatus*). The most abundant of the cormorants on Prince Island, breeding in several large rookeries. Nests contained from fresh eggs to nearly grown young on June 15. Owing to the ravages of the gulls some of these birds must lay several sets of eggs before they succeed in raising young. In one colony of about a hundred pairs which we past on the morning of June 15, all of the nests contained eggs. On our return in the afternoon there were not a dozen eggs in the whole colony. The cormorants had been frightened from the nests by our presence and the gulls had done the rest. I collected one set of 6 eggs of this species.

Baird Cormorant (*Phalacrocorax resplendens*). Breeding commonly on the cliffs everywhere. Some young were noted, but most of the nests contained eggs. Fresh eggs were found as late as June 19.

California Brown Pelican (*Pelecanus californicus*). Five nests containing young were found on Prince Island, June 15, 1910.

White-winged Scoter (*Oidemia deglandi*); Surf Scoter (*Oidemia perspicillata*). Immature birds of both these scoters were common around all the islands visited. They are plentiful along our southern California coast thruout the entire summer.

Western Willet (*Catoptrophorus s. inornatus*). Flock of 10 or 12 birds seen at the west end of the island June 17.

Wandering Tattler (*Heteractitis incanus*). One or two seen daily during our entire stay.

Black Turnstone (*Arenaria melanocephala*). Male taken June 21.

Black Oystercatcher (*Haematopus bachmani*). Breeding commonly on detached rocks and islets. Apparently nests nearly a month later in this locality than it does on the San Luis Obispo coast. (See Willett, Condor XI, Nov. 1909, 186-187.) The earliest nesting record I have from San Miguel is that of young about two weeks old taken June 23. Five sets of eggs were taken as follows: Set of 2, incubation about one week, taken by Owen, June 9. Set of 2, fresh, taken by Howard, June 10. Set of 3, fresh, by Willett, June 17; and 3 slightly incubated, and two fresh, taken by Appleton and Willett, June 18.

The following birds were observed at sea:

Least Tern (*Sterna antillarum*). Feeding commonly at sea on June 24 about 18 miles out from the southern Ventura County coast. These birds were probably from a colony which J. S. Appleton has noted breeding near Hueneme.

Pink-footed Shearwater (*Puffinus creatopus*). First noted off Santa Cruz and Santa Rosa Islands June 7. By June 24 it had increast in numbers until it was quite plentiful.

Dark-bodied Shearwater (*Puffinus griseus*). Abundant at sea during our entire trip.

Black Petrel (*Oceanodroma melanica*). Common out at sea. None of these birds were seen within a mile or two of land at any time and, altho we made particular search for evidence of their breeding, we found none.

We left San Miguel on the evening of June 23, and arrived in San Pedro the afternoon of the 24th, well satisfied with the results of our trip, but glad to be out of the everlasting wind.

FROM FIELD AND STUDY

Larus canus: a Correction.—Shortly after my record of the capture of a young Mew Gull (*L. canus*) appeared in THE CONDOR (vol. VIII, p. 75) I received two gulls from North Carolina in immature plumage, one of which was evidently the Ring-billed (*L. delawarensis*) and the other intermediate between this and my Pacific Beach bird. This made me strongly suspect that both these were also *L. delawarensis*, and later I was able to compare these skins and other Ring-billed Gulls with a series of European specimens of *L. canus* in the collection of Dr. Jonathan Dwight, Jr., with the following result: *L. canus* has a more slender bill and shorter wing and tail than *L. delawarensis*; but the male *L. canus* is the same size as the female of *L. delawarensis*, tho the bill is slightly more slender. This slight difference in size is the only character separating the young of the two species in first winter plumage. My bird should therefore stand as *L. delawarensis*, and to this species, I suspect, most California records of *L. canus* belong.—LOUIS B. BISHOP.

A Southern California Spring Record for the Common Tern.—May 24, 1910, I took two specimens of the Common Tern (*Sterna hirundo*) from a flock of 12 or 15 that were fishing near the outlet of the Los Angeles outfall sewer at Hyperion Beach, Los Angeles County.

The birds taken were adult male and female and were in almost full summer plumage. So far as I know, there are only two previous records for this species in southern California and they are both in the fall. One of these records was by H. W. Marsden at Pacific Beach, San Diego County, in September, 1904; and the other by C. B. Linton at Alamitos Bay, Los Angeles County, in September, 1907. These instances have both been previously recorded in THE CONDOR.—G. WILLETT.

Cowbird again Noted in Los Angeles County.—On July 1, 1910, with George Willett and Antonin and Alphonse Jay, I was down in the lowland willows, and we found three nests of the California Cuckoo (*Coccyzus a. occidentalis*)—one with young less than a week old, one nest with four eggs, and one with three eggs. While passing along the road we observed a bird which I am morally sure was a female Cowbird (*Molothrus a. obscurus?*) as it was considerably less in size than a female Brewer Blackbird, and of the namber brown color throat, of the eastern female cowbird. While in the willows, Antonin Jay discovered a nest of the Traill Flycatcher, with two eggs of its own and one of the cowbird; and while I was watching the cuckoo with her brood of young, a male yellowthroat came hopping along with a young cowbird in close tow, coming within ten feet of where I sat. This youngster was fully fledged, but still bobtailed, and was about twice the size of the yellowthroat; the yellowthroat would frequently run up to him and put something into his bill. The little fellow was, as nearly as I could make out, quite streaked.—J. EUGENE LAW.

An Additional Song Sparrow for California.—A California-taken song sparrow recently submitted to me for determination proves to be *Melospiza melodia caurina* Ridgway. It is identical in every respect with numerous skins of *M. m. caurina* in the Museum of Vertebrate Zoology collection, from several localities in southeastern Alaska. I have never seen anything like it before from California. The specimen is a female, no. 34, collection of C. Irvin Clay, and was obtained at Eureka, Humboldt County, California, February 20, 1910.

Mr. C. I. Clay, who personally secured this rare bird, writes me that this same individual was first seen on January 17, and was noted on five subsequent occasions, always in exactly the same locality, up to February 20 when it was shot. The bird staid among drift-wood on the ocean beach. It was shy, and would run along in the shelter of logs, pecking over occasionally,

until closely prest, when it would fly a short distance. After being chased up the beach some 200 yards it would fly out around the pursuer back to its original rendezvous. This procedure would be repeated over and over.

It is thus apparent that the stranger was a beach-comber in habits, just as are the song sparrows in the summer home of *M. m. caurina*, in Alaska, and quite different in habits from the resident race of the Humboldt Bay region. I am very much indebted to Mr. Clay for the above information, and especially for the privilege of putting his capture on record, it being, as far as I know, the first for California.—J. GRINNELL.

Red Phalarope in Southern California in Winter.—In the May number of THE CONDOR H. S. Swarth mentioned the scarcity of winter records for the Red Phalarope (*Phalaropus fulicarius*) in California.

In November and December, 1907, C. B. Linton and myself found this species very abundant around Anacapa and Santa Cruz Islands. This note was published by Mr. Linton and may be found in THE CONDOR, Vol. X, 1908, p. 126. This was probably overlooked by Mr. Swarth.

Many specimens of this Phalarope were taken at this time and are now in the collections of Mr. Linton and myself. During the last week of November there were thousands of the birds and some remained well into December. I do not believe, however, that they staid thru the entire winter.—G. WILLETT.

PUBLICATIONS REVIEWED

The New A. O. U. Check List.¹—Now that the Third Edition of the Check-List of North American Birds has actually appeared the student may at last discard with safety his worn-to-tatters 1895 copy, interlined, erost-out, emended, and procure for himself a clean new copy. Having done so, if he be of progressive tendency, mindful ever of the signs of advance in his field, he will at once begin again to interline, erase, re-instate, amplify. And herein lies the enormous scientific value of such a periodic compendium as the Check-List: it constitutes a basis for departure anew.

During the fifteen years which have elapst—altogether too long a time to allow between revised editions of a work of this sort—since the publication of the Second Edition, numerous additions and changes in status relative to North American birds have resulted from the constant activity in their study. By means of frequent supplements, printed in *The Auk*, the A. O. U. Committee on Nomenclature has kept the public posted on those of the proposed changes of which it has approved. To the student who has watcht this series of supplements, therefore, the new Check-List offers no startling innovations on this score. Since the classification and sequence employed in the Third Edition is practically the same as used in the Second, the only remaining really great point of improvement is in the much more full and accurately exprest statements of the ranges of species.

The adoption of the modern method of expressing animal distribution in terms of life zones leads to a conciseness of statement not before achieved. And the interpolation of a colored map of the Zones of North America, compiled by C. Hart Merriam and his assistants of the Biological Survey, gives to the reader unfamiliar with this method an invaluable key to the situation.

It is a recognized difficulty to bild a statement of range consistent with all known facts and yet keep it within the small space necessitated by the practical limits of a hand-book. Loose statements in the ranges of species, as given in the Check-List, appear to be relatively rare. A few are apparent: The range of *Junco hyemalis pinosus* is stated to be "Coast strip of San Mateo and northern Monterey counties, California." There is thus no indication that the species is just as well known to occupy suitable ground in the intervening territory (Santa Cruz and Santa Clara counties). It is stated that *Melospiza lincolni lincolni* "winters from San Jacinto Mountains" etc.; we were not aware that the bird wintered in any of our mountains.

The breeding range of *Passerculus rostratus rostratus* is given as "unknown, but probably from about San Pedro, California, to" etc.; this is most emphatically *not* probable, as the coastal localities of southern California are well known to have been pretty thoroly searcht without finding any conclusive evidence of the breeding of the species within the state. The breeding range of a species cannot be considered as establisht by one or two instances of occurrence of individual birds in summer.

(continued on page 177)

¹ Check-List of North American Birds Prepared by a Committee of the American Ornithologists' Union Third edition (Revised) — Zoological Nomenclature is a means, not an end, of Zoological Science — New York American Ornithologists' Union | 1910; 8 vo., pp. 1-430, 2 maps. Price \$2.50.

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EDITORIAL NOTES AND NEWS

The Editor is in a quandary. Within the past three months he has been roundly scored by a few persistent conservatives for his employment of simplified spelling on the pages of THE CONDOR. It is asserted that he is diverting the magazine for public exploitation of personal whims; that he is doing this contrary to the wishes of the "great majority" of members of the Cooper Ornithological Club, to whom this magazine belongs; that simplified spelling is so offensive to "many" of our readers as to render an otherwise pleasing magazine an actual eyesore (!); and finally that if he would only consult the wishes of his constituents there is no doubt but that he would be compelled to reinstate old-fashioned spelling.

On the other hand it will be remembered that the present Editor has already put this very question to a vote of Cooper Club members (see vol. IX, 1907, pp. 61 and 112). By a vote of more than 2 to 1 he was instructed to use simplified spelling! Furthermore we have received quite as many letters of commendation for our adoption of it as remonstrances against it. Our own personal feelings are strongly in favor of it; we are convinced that it is a sensible reform in the direction of economy and consistency, and that its universal adoption is only a matter of time. Why not be a little ahead of the trend of improvement, contributing to its advancement, rather than in the rear, retarding it?

The arguments put forth against simplified spelling, as far as we have heard them, are so weak as to be pitiful. The reasons for its adoption are overwhelming. If any of our readers are not familiar with the latter, an authorized list of simplifications, and other literature relating to the movement will be furnished gratis upon application to the Simplified Spelling Board, 1 Madison Avenue, New York City.

Now, in order to placate our militant remonstrants, and to give opportunity to those favorable to progress to again state their preferences in this matter, we propose to invite an expression of opinion by vote, and we hereby affirm that we will bide by the majority decision, whichever way it turns, beginning with the first issue of volume XIII (January, 1911).

Write on a postal card "Simplified Spelling, yes" or "Simplified Spelling, no", sign your name, and mail it to the Editor of THE CONDOR, Museum of Vertebrate Zoology, Berkeley, California. Voting will be ended December 10, 1910, thus giving over two months for consideration on the part of those who wish to familiarize themselves with the proposition.

Of course only votes of Cooper Club members will be considered. With over 300 members, and voting being by mail, there should be a very large response, much more significant of the Club's wishes than if the vote were restricted to those present at a meeting. The result will be announced in our January issue.

To repeat, the Editor hopes that he will be authorized to *retain* simplified spelling; but if the reverse happens, he agrees to defer meekly to the will of the majority, and thenceforth conduct our magazine accordingly. This is, to be sure, a magazine of *ornithology*, and not of etymology or orthography. Mode of spelling may not appear very closely related to its field. But ultimate success in an undertaking often depends upon a score of incidentals not less than upon the main issue. Progress, improvement, reform, are in the air.

A movement is on foot to organize a Central Division of the Cooper Club in the Fresno district of California. There are already enough Club members in that region to ensure a beginning. But it is of course desired that the demand for such an organization be evinced by as large an initial gathering as possible. All those interested will please write to Mr. John G. Tyler, 1114 Belmont Avenue, Fresno, stating their views as to how and where such organization may be best effected.

Under the direction of Professor C.F. Hodge, of Clark University, Worcester, Massachusetts, organized efforts have been made the past two seasons to ascertain whether or not the Passenger Pigeon still exists. Large rewards were offered, aggregating over \$1000.00, solely for information of location of undisturbed nestings, so that steps might be taken, if any such were discovered, to secure safety and perpetuation of the free, wild pigeon. We regret to say that up to July 1, 1910, no authenticated case had been reported. Several reports coming from Cali-

ifornia, Oregon and Washington, as might have been expected proved to be based on our Band-tailed Pigeon. As far as is known the Passenger Pigeon never occurred west of the Rocky Mountains. It appears now to be wholly extinct everywhere.

PUBLICATIONS REVIEWED

(continued from page 175)

We object to such a statement as this, under *Priofinus cinereus*: "accidental once off coast of California." "But one record", would have been better, as the latter phrase implies limitations rather upon our own knowledge. "Accidental" is an unwarranted assumption of what in many cases proves to be untrue, as when a species, previously unknown, upon closer observation, or exploration of new localities, is found to be of regular occurrence within the region under consideration. Then, too, an unusual visitant may make its appearance under circumstances quite apart from any *accident*. The term is not a well-chosen one.

In the matter of classification, as we have already remarked, there is no change. It is extremely regrettable that a new classification, based on Gadow, which, we are informed in the Preface, Ridgway and Stejneger had undertaken to prepare for this Edition, was not finally adopted and installed throned. Instead, the classification and sequence is that of the original A. O. U. Check-List, issued 25 years ago!

Ornithology is wonderfully fortunate in that it offers a field of pleasurable interest to the amateur scientist, whose numbers increase year by year. We rejoice in this. At the same time there is clearly threatened the danger that the serious science itself will suffer. This appears all the more imminent when its few trained and professional constituents begin to defer to popular (amateur) preferences. The A. O. U. Committee "on Nomenclature and Classification" is looked to from other fields of science as a representative body, to be expected in its publications to present the very latest results of ornithological research. The committee admits that the modern system of classification, adopted in most of the standard ornithological works of today, is desirable; yet it adheres to the system of 25 years ago because of feared *inconvenience*. While any system, of any period, may be expected and *hoped* to change, as knowledge increases, it is certainly due to amateurs and professional students in all fields alike that authoritative treatises, such

as is the A. O. U. Check-List, provide in all respects an up-to-date exposition of its subject.

In the statuses of species and subspecies there appears to be a sad lack of consistency as to rank of the lesser differentiated forms. An extreme example is "*Thryomanes leucophrys*," of San Clemente Island. Why not *Thryomanes bewicki leucophrys*, and thus unify the treatment of all of the various isolated forms inhabiting the Santa Barbara islands? Evidently there is no regularly-adhered-to criterion for subspecific status. Note the following: *Passerculus beldingi* and *Passerculus sandwichensis bryanti*; *Junco aikenii*, *Junco hyemalis hyemalis*, *Junco hyemalis oregonus*, and *Junco bairdi*; *Corvus caurinus* and *Corvus brachyrhynchos hesperis*; *Cerciscus jamaicensis* and *Cerciscus coturniculus*; *Rallus levisipes* and *Rallus obsoletus*; *Arquatella maritima maritima*, *Arquatella maritima couesi* and *Arquatella maritima pillocnemis*; *Leucosticte griseonucha*, *Leucosticte tephrocotis tephrocotis* and *Leucosticte tephrocotis littoralis*. After all, is consistency in this regard attainable until we return to the old-fashioned but non-ambiguous pure binomial system of nomenclature? There are cases where to revive a former usage, is in reality a step forward.

Referring now to the employment of vernacular names, we are disappointed to observe that the useless possessive is retained in personal names. For instance, we are again forced to read "Cooper's Tanager", instead of the more euphonious and truthful Cooper Tanager; "Sammels's Song Sparrow" for Samuels Song Sparrow. It would seem that here, in the matter of vernacular names, the convenience and preferences of the majority of popular bird-students might have been consulted to better purpose than in the system of classification adopted.

Then, too, we might have well been permitted to call our California Condor by that name instead of California "*Vulture*"; Intermediate Sparrow instead of "Gambel's" Sparrow; Sierra Junco instead of "Thurber's" Junco; Western Kingbird instead of "Arkansas" Kingbird; Tawny Creeper instead of "California" Creeper; Spurred Towhee instead of "San Diego" Towhee, and Mountain Towhee instead of "Spurred" Towhee. A still more flagrant case is the retention of "House Finch" as against California Linnet, even tho the latter had been announced (*Auk*, 1909, p. 303) as chosen.

A distinctly unhappy error seems to have been committed in not providing subspecies with separate qualifying terms. For instance, there is Song Sparrow (for *Melospiza melodia melodia*), Desert Song Sparrow (for *M. m. fallax*), Mountain Song Sparrow, etc.; Bluebird, Azure Bluebird, Western Bluebird, etc.; Crow, Florida Crow, Western Crow, etc.; Gold-

finch, Pale Goldfinch, Willow Goldfinch, etc.; just as tho the first race described (usually eastern) was *the* species and the rest "sub-species of it." This latter is not an uncommon popular notion, but is of course wholly fallacious. Again, we are confronted with "Red-winged Blackbird" for *Agelaius phoeniceus phoeniceus*, while all the other subspecies and species are variously qualified "Red-wings". Wouldn't it have been better to have called the first, Eastern Red-wing, Eastern Bluebird, Eastern Song Sparrow, etc.?

Incidentally we note much inconsistency in the use of hyphens and capital initials in the vernacular names. For instance: Bush-Tit, Tree-duck, Tree Swallow, Meadowlark; Catbird, Sage Hen, Surf-bird; Spoonbill, Rough-leg, Song Sparrow; Red-wing, Redhead; Pintail, Red-tail. However, general typographical errors are extremely few; in fact we have detected only five.

It will have been noticed that the above criticisms largely appertain to the Pacific Coast, with which portion of North America the reviewer happens to be most familiar. It is not to be inferred however that the same proportion of criticisms could be advanced with like reason for those portions of the Check-List relating most closely to eastern North America, for the very good reason that the personnel of the Committee is entirely of the East!

After all these criticisms, CONDOR readers may have come not unfairly by the idea that the present reviewer is either hypercritical or harbors some particular grudge; but we do not aspire to either undesirable state. We have perhaps more reason to welcome and put to immediate use the new Check-List than the majority of bird students. We wish to emphasize with all fervor that in our belief the new Check-List is an immensely valuable thing to have.

We recognize the fact that its completion has only been possible thru the combined efforts of a number of altruistic men, who have been willing to expend quantities of time and effort in an undertaking which can bring no commensurate credit to each individual concerned. Let us therefore acknowledge sincere appreciation to the Committee in charge (Allen, Richmond, Brewster, Dwight, Merriam, Ridgway and Stone), for their very material services in thus contributing to the advancement of ornithology.

As brought out in the first paragraph of this review, the new Check-List cannot be rightly considered a permanent standard. It serves rather as a new basis (a most invaluable function) enabling students of North American birds to start out afresh in the more exact determination of distribution and systematic status of the species.—J. GRINNELL.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

FEBRUARY.—The regular monthly meeting of the Northern Division of the Cooper Ornithological Club was held on the evening of Saturday, February 12. In the early part of the evening the members attended a stereopticon lecture by Mr. W. L. Finley, delivered in South Hall, of the University of California, under the auspices of the Museum of Vertebrate Zoology. Mr. Finley spoke of his experiences in the lake regions of northern California and southern Oregon, illustrating the remarks with a series of beautiful and very interesting pictures dealing mostly with the water birds of the region. An interested and highly appreciative audience filled the room to the limit of its capacity.

After the lecture the Cooper Club members present assembled in the lecture room of the Museum, where the meeting was called to order by the President. The minutes of the January meeting were read, and accepted as read. On motion the Secretary was instructed to cast the unanimous ballot of all present, electing to active membership the names presented at the last meeting.

The proposal to elect Dr. J. A. Allen to honorary membership in the Cooper Club, which was brought forward at the January meeting, was again read, and, on motion duly seconded and carried, the same was past. Applications for membership from Joseph L. Sloanaker, Raisin, California, and Percy L. Judd, Chico, California, both proposed by W. Lee Chambers, were presented and laid over until the next meeting.

After the business before the meeting had been disposed of, Mr. Finley exhibited a large number of his beautiful bird photographs, a treat much appreciated by those present.

H. W. CARRIGER, *Secretary*.

MARCH.—The March meeting of the Northern Division of the Cooper Ornithological Club was held on Saturday evening, March 26, in the lecture room of the Museum of Vertebrate Zoology, Berkeley. The meeting was called to order at 8:30 P. M., with Senior Vice-president Rosewell Wheeler in the chair. The minutes of the last meeting were read, and approved as read. On motion the Secretary was instructed to cast the unanimous vote of all present electing to active membership Messrs. J. L. Sloanaker, and Percy L. Judd, which names were presented at the last meeting.

The resignation of Miss Applegate of Haywards was read and laid over till the next meeting.

The following applications were presented: Eugene J. Fischer, Berkeley, Calif., by H. S. Swarth; and the following by W. Lee Chambers: Edward P. Walker, Paradox, Colorado; T. Gilbert Pearson, Greensboro, N. C.; B. G. Willard, Millis, Mass.; E. F. Taylor, Grass Valley, Calif.; Albert H. Frost, New York City; John H. Sage, Portland, Conn.; Chas. F. Batchelder, Cambridge, Mass.; Geo. Chas. Embody, Ithaca, N. Y.; Jno. J. Boyce, Juneau, Alaska; P. J. Suksdorf, Bingen, Wash.; Fred B. Spaulding, Lancaster, New Hampshire; Josiah H. Clark, Paterson, New Jersey; S. H. Goodwin, Provo, Utah; W. E. Unglish, Watsonville, Calif.; W. C. Ohlendorf, M. D., Chicago, Ill.

A circular letter from the American Bird Banding Association was read and placed on file.

Mr. Rosewell Wheeler called the attention of the members to the fact that the cases of mounted birds presented to the Club by Mr. G. Frean Morcom were not properly cared for, and he volunteered to look them up and have them placed in the Oakland Museum where they would be carefully protected. A motion was made and carried that the birds be secured and placed in the Oakland Museum and a receipt be turned over to the Secretary.

Mr. H. C. Tracy presented a very able paper dealing with the directive markings of birds, and exhibited a number of skins clearly illustrating his remarks.

Mr. Tracy's observations were made principally in the East and also in Asia Minor, and the talk about the birds of the latter place proved very interesting to those present. Among the notable birds of that district Mr. Tracy mentioned a species of Nuthatch (*Sitta neumayeri*) that builds a nest similar to the Cliff Swallow of our country and places the same on the side of a large rock.—H. W. CARRIGER, *Secretary*.

MAY.—The May meeting of the Northern Division was held on the evening of the 7th at the Museum of Vertebrate Zoology. Meeting was called to order at 8:15 with Mr. H. S. Swarth in the chair. Minutes of last meeting were read, and approved as read.

Resignation of Miss Applegate of Haywards, which was read at the last meeting, was on motion accepted. On motion the Secretary was instructed to cast the unanimous ballot of those present electing to active membership those whose names were presented at the last meeting.

The applications of Messrs. Paul Griswold Howes, Stamford, Conn., J. H. Fleming, Toronto, Ont., and Miss E. W. Fisher, Philadelphia, Pa., all proposed by Mr. Lee Chambers, were read and laid over till the next meeting.

The Constitution of The Pacific Association of Scientific Societies, together with a letter from Mr. Bowman, was read and Mr. Joseph Grinnell and Mr. Roswell Wheeler were appointed a committee to represent the Cooper Club.

Mr. Walter Taylor gave a very interesting talk on his trip into Nevada and showed some of the birds taken on the trip. Mr. Taylor showed a set of eggs of the Red-shafted Flicker which he had taken from a nest in a hay stack; the lack of trees caused the Flicker to use this unusual place as a nesting site. He also spoke of finding Nuthatches in the sage brush on the Nevada deserts.—H. W. CARRIGER, *Secretary*.

JULY.—The July meeting of the Cooper Ornithological Club was held on the evening of the 9th in the Research Room of the Museum of Vertebrate Zoology, Berkeley. Meeting was called to order at 8:30 p. m. with President Grinnell in the chair.

Mr. Loye Holmes Miller, who has for some time been working on the fossil-bearing beds near Los Angeles gave a very interesting lecture on the work done there, illustrated with a large number of the birds that have been unearthed recently.

At the conclusion of Mr. Miller's lecture the regular business was taken up and the minutes of the last meeting were read and approved as read.

The application of Mr. H. C. Tracy, proposed by Mr. Grinnell, and of Mr. Outram Baugs, proposed by Mr. Chambers were presented and laid over till the next meeting.

A motion was made and carried that the Secretary cast the unanimous ballot of those present electing to active membership Messrs. J. H. Fleming, Paul Griswold Howes and Miss E. W. Fisher, whose names were presented at the last meeting.

The resignation of Mr. Otto Emerson which has been on the table for some time was taken up, and on the recommendation of the committee that called on Mr. Emerson the same was, on motion, accepted.

A letter from Mr. J. H. Bowman, chairman of the Pacific Association of Scientific Societies, was read and discussed by members present.

The proposition to invite a meeting of the A. O. U. to be held in San Francisco during the World's Fair in 1915 was discussed.

The proposal to elect Prof. F. E. L. Beal to Honorary membership in the Club, which had been previously presented, was brought before the meeting, and the same was carried by ballot unanimously.—H. W. CARRIGER, *Secretary*.

SEPTEMBER.—Meeting of the Cooper Ornithological Club was held September 10, 1910, at

the Museum of Zoology, Berkeley. It was called to order at 8:30 p. m., J. Grinnell presiding. Members present: Dr. C. Hart Merriam, Dr. W. F. Badé, E. W. Gifford, J. Grinnell, W. P. Taylor; eight visitors.

Mr. J. Grinnell gave a paper on the Avifanna of the Colorado River, from Needles to Yuma.

Dr. C. Hart Merriam talked very interestingly of the Colorado River in the vicinity of Vegas Valley, Nevada.

It was moved and seconded that the Club entertain favorably Mr. Tyler's proposition to form a central division of the Club at Fresno, in accordance with the provisions of the Constitution. After favorable discussion, the motion was carried.

Mr. Grinnell gave a report of the Committee on the Pacific Association of Scientific Societies. A meeting of the latter organization, thru delegates from eight societies, was held a week ago. Mr. Grinnell reported signing articles of charter membership for the Cooper Club. It was moved that the action of the Committee in signing for the Club be considered ratified. Carried.

The following names were proposed for membership: H. C. Bryant, Berkeley, N. B. Stern, Berkeley, Tracy I. Storer, Oakland, and H. L. Coggins, San Francisco, all by W. P. Taylor.

The names laid over from the last meeting were read. It was moved and carried that the secretary cast the unanimous ballot of the Club electing these persons to membership. Adjourned.—W. P. TAYLOR, *Sec'y pro tem.*

SOUTHERN DIVISION

APRIL.—The April meeting of the Southern Division of the Cooper Club was held on Thursday evening, April 28, 1910, at Room 1, City Hall, Los Angeles.

President Morcom called the meeting to order with the following members present: Messrs. Judson, Willett, Zahn, Robertson and Lelande. Mr. Lelande was selected to act as temporary Secretary. The minutes of the March meeting were read and approved.

On motion of Mr. Willett, seconded by Mr. Zahn and duly carried, the Secretary was instructed to cast the unanimous ballot of those present, electing to active membership Mr. H. B. Weber.

A communication from Harry S. Swarth was read, address to the Secretary of the Club, asking the Southern Division to take up at its April meeting the matter of joining the Pacific Association of Scientific Societies. With the communication was enclosed a copy of the by-laws of said Association.

The following motion was made by Mr. Willett and seconded by Mr. Zahn and duly carried: That the President and Secretary take

such steps on behalf of the Southern Division as necessary for the club to become associated with the Pacific Association of Scientific Societies.

After considerable discussion upon various bird questions, the meeting adjourned.

H. J. LELANDE, *Secretary pro tem.*

MAY.—The May meeting of the Southern Division of the Cooper Ornithological Club was held in Room 1, City Hall, Los Angeles, on the 28th, with President Morcom in the Chair, and the following members present: Messrs. Snyder, Perez, Willett, Miller, Chambers, Alphonse and Antonin Jay, Zahn, Robertson, Howard, Van Rossem, Blaine, Shepardson, Chamberlain and Lelande.

There being no objection, the President appointed Mr. Lelande Temporary Secretary. The minutes of the April meeting were read and approved. The application of H. H. Ferris was read. On motion of Mr. Robertson, seconded by Mr. Miller, and duly adopted, the action of the Club taken at the April meeting in regard to the Pacific Association of Scientific Societies was rescinded, and further action on the matter postponed until the June meeting.

After considerable discussion over bird topics and the proposed trip of several members of the Club to the Channel Islands, the meeting adjourned.—HARRY J. LELANDE, *Temporary Secretary.*

JUNE.—The June meeting of the Southern Division of the Cooper Club was held on Thursday evening, June 30, 1910, at Room 1, City Hall. The meeting was called to order by President Morcom, with the following members present: Messrs. Robertson, Linton, Lelande, Antonin Jay, Howard, Alphonse Jay, Davis, Kofahl, Willett, Osburn, Chambers, Roberts, Lowe, Zahn and Law.

The minutes of the May meeting were read and approved. On motion by Mr. Willett, seconded by Mr. Howard, the Secretary was instructed to cast the unanimous ballot of those present, electing to active membership Mr. H. H. Ferris. Application for membership of E. S. Spaulding, Santa Barbara, California, proposed by J. Hooper Bowles, was presented.

On motion by Mr. Robertson, seconded by Mr. Willett, and duly carried, the proposition with regard to the Pacific Association of Scientific Societies was laid on the table pending the receipt of more information with regard to its purpose.

As most of the members present were with one or the other of the two expeditions to the Channel Islands during the last month, a very interesting description, with an exhibition of a large number of photographs pertinent to those trips, followed. Adjourned.—J. E. LAW, *Secretary.*

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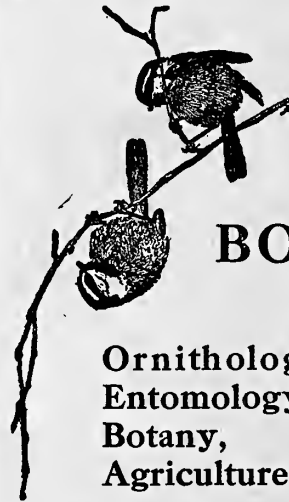
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THE CONDOR

A Magazine of Western
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Volume XII November-December, 1910 Number 6



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Volume XII

November-December, 1910

Number 6

THE YELLOW PINES OF MESA DEL AGUA DE LA YEGUA

By FLORENCE MERRIAM BAILEY

WITH ONE PHOTO

NONE of the mesas we had seen so far between the Staked Plains and the Rocky Mountains had had any trees higher than the orchard-like junipers and nut pines; they had all belonged to the arid juniper zone, and all had the same set of birds, mammals and plants. We had been working in this juniper zone in New Mexico not only thru most of this field season but thru most of the previous season, with occasional dips down into the warmer zone of the mesquite country, so that our appetites for big trees and mountains had grown into a veritable hunger.

Now as we approach Mesa del Agua de la Yegua, named apparently for some locally historic springs used for watering a band of mares, its western fringe of trees lookt surprizingly high to us, and the more we lookt, straining our eyes with eager hungry gaze, the higher they seemed, the longer stretcht the bare trunks below the bushy tops, and the more excited we got.

"Yellow pines!" was at last pronounced, conclusively. What a thrill it gave us and what a flood of rich associations the name brought us! Had we at last come to something higher than a juniper? Should we finally, to express our enthusiasm in working terms, get above the low trees of the arid Sonoran zone into the Transition zone yellow pines with their old familiar birds and mammals? Haunted by visions of New Mexico's noble coniferous forests, it had seemed as if we would never get above the Upper Sonoran orchards. "Transition! Transition!" we repeated to ourselves, for the word was rich in memories of noble-boled, fragrant pine woods and sweet-voiced birds. It was too good to be true—I lookt at the trees fearful lest their imagined high dwarf under my gaze. Still, in spite of my doubts, we were working west toward the Rocky Mountains and this section of the plateau rose one thousand feet from the plains, so it might well reach into the yellow pines. The thought opened a beautiful vista—we were really approaching the mountains at last!

We followed up the juniper bottom parallel to the mesa and camped at the nearest point where we could find water, climbed a butte three or four hundred feet high to get the lay of the land—on top flushing a nighthawk from her eggs on the ground—picked out the best place from which to climb the mesa, and the next morning made an early start for it. At the foot of the mesa, near a Mexican adobe we encountered two small boys with skins so white that I spoke to them in English, thereby filling them with such amazement and terror that the only answers they could make were unintelligible sounds like the noises of frightened little animals.

Here, at the foot of the mesa, there was no longer any possible doubt about the pines; but looking up a distance of a thousand feet they were painfully suggestive of two-inch Noah's Ark trees. As we climbed, at 6500 feet by the barometer a halt was called, for besides the crowing of a rooster from the adobe below us, we heard an unfamiliar persistent sparrow song from the oak brush that made us slip from our saddles. The songster was soon found, sitting on the top of a low bush with his head thrown back while he sang, but tho' unafraid he was so full of song that he could not bear to be interrupted and flew ahead out of our way where he could keep on singing. When finally caught up with, however, he proved to be the Scott sparrow, greatly to our satisfaction, for it was a substantial extension of his range. This was still in the Upper Sonoran junipers, with even a touch of Lower Sonoran mesquite, and as we climbed up a warm southwest slope to the top most of the birds except the hummingbird that flashed before our delighted eyes still belonged to the juniper zone, among them the familiar ash-throated flycatcher, gray titmouse, canyon towhee, and rock wren. At 7000 feet, however, 400 feet below the top, to our great delight we at last reached the edge of the Transition zone; at last, after endless treeless plains and orchards of juniper and nut pine we stood and looked up the trunk of a yellow pine—a real tree!

Here, leaving the horses in a beautiful grassy park, unsaddled and picketed so they could graze while we were gone, we climbed on up to the crown of the mesa. The barometer now registered 7400 feet, and we were really in the pines, that is, in a strip of varying width along the western rim of the mesa. Bordering them was a fringe of oak brush and beyond that the plains stretch away as far—farther than the eye could reach—to Kansas, as was said grandly with a sweep of the hand toward the horizon. As we wandered about under the tall trees it seemed as if pines had never smelled so sweet, nor the wind in them ever blown so musically. It made us more than ever hungry for the mountains and made us rejoice with new realization that we were actually on the way to them at last.

Some of the juniper birds, such as bush-tits, vireos, and lark sparrows, were here, of course, with the mixture of country, but we were soon discovering bird after bird of the yellow pines, each discovery bringing a double thrill of delight and promise. Towhees with their handsome black and brown coats were singing all about in the oak brush just as we had seen and heard them a thousand times before—how good it seemed! A red-shafted flicker's familiar call reverberated thru the pines rousing echoes from many long closed chambers of memory; a bird flying away from the back of the tree trunk by which I was standing was recognized with a start as the slender-billed nuthatch—another bird of the forest—and—oh!—the busy pigmy nuthatch, one of the pleasantest of all little birds to come back to—what rare music his tinkling notes made in my ears. His cousin, *Sitta nelsoni*, is all business, but *pygmaea*—the plump, fluffy ball of feathers—seems to have a confidential way with his tree trunk and you can imagine him choosing out cozy corners among the branches in which to sleep.

In a pine top there was a long-crested jay with his handsome white-pointed

crest, his dark coat set off with turquoise blue. The first sight of *Cyanocitta*! How it brings back the richness of mountain life! *Aphelocoma*—the flat-headed jay—you are glad to see after an absence, but it is with a mild nut pine and juniper gladness; while at the first sight of the dark, crested figure of *Cyanocitta* in the yellow pines you seem to have reached a new altitude—to have reached the mountains. To be sure there are heights beyond, but this is a way station at which to take deep drafts from the full cup Nature is holding out to you—take deep breaths of the sweet piney air, quaff the cooling waters of the mountain streams, and look up at the beautiful yellow pines with their glistening spun glass needles as a foretaste of the firs and mountain tops beyond. You are in the mountains—the low country is left behind.



Fig. 56. THE YELLOW PINES

Courtesy of Forest Service

But what was that? Could it be? Yes! the glass revealed the pink glow on his breast and as he vaulted into the sky the form of the broad oval wings settled it—it was that handsome and most interesting bird, the Lewis woodpecker! Working and singing loudly among the tips of the pine branches were some warblers that to our delight proved to be the charming little gray and yellow Grace warblers.

A flash of red led us thru the pines till we came to a beautiful clear pool. Was this the Agua from which the Yegua had come to drink, so giving the Mesa its name? If so, the mares had had a beautiful woodland spring. The red flash here materialized into a hepatic tanager—how I hugged myself—preening its feathers for a bath in the pool. While we sat in sight of the water so many birds came

to drink that we concluded that it was the fountain for all the woodland folk. And in their number we included a beautiful deer whose fresh track we found not far away. On the floor of the woods an occasional red cactus, a blue tradescantia, or a single pink phlox made a bright spot of color.

When we were thinking that we had this most remote mesa top with its wild-wood friends all to ourselves we were surprized by a fresh horse track, a shod track; and then something white thru the trees made us raise the field glass—a white rooster on the fence of an adobe! Of course, we might have expected it, for like all the rest of the country the mesa had been sheept. Even now, once disillusioned, we caught the suggestion of sheep bells in the air. On the way down, too, we found old sheep camps and a salt log. It brought the same surprize we felt everywhere in New Mexico, for while to us the country was new, in very fact this land of *poco tiempo* is an old, old land. But after all, what did it matter to us, for on the Mesa del Agua de la Yegua we had come back to the yellow pines!

NOTES FROM LOS CORONADOS ISLANDS

By ALFRED B. HOWELL

WITH TWO PHOTOS

WITH the exception of four days, I was at Los Coronados Islands, Baja California, Mexico, from May 22 until July 15 of this year, and during this time I made a special study of the Xantus Murrelet (*Brachyramphus hypoleucus*), which species is found upon these islands breeding in limited numbers. Altho in former years they were known to breed on Santa Barbara Island, Los Coronados is now believed to be the northernmost place where they make their home. Surprisingly little is really known regarding the habits of this species, and it is not known with any degree of certainty just how far south their range extends.

From my observations, it seems to be beyond doubt that these birds nest twice during the year, once towards the last of March, as has been proved time and again, and once more during the middle of June; for I found fully as many of their eggs at this latter date as did Mr. P. I. Osburn earlier in the season. Mr. Osburn has done considerable collecting here within the last few years, and spent four days with me during June. I have even taken half-incubated eggs from under the sitting bird as late as July 11, and it seems hardly likely that one nesting could straggle along continuously from March until July. And besides, no ornithologist has ever taken eggs of this species in May, as far as I can find out, and there are plenty of them who have visited the islands in that month in order to collect eggs of the other kinds of birds that are found nesting here.

A point that has puzzled me is the question as to what becomes of the young murrelets after they are hatcht. I greatly dislike the practice of advancing theories in order to try and prove scientific problems, but nevertheless I am now tempted to try and reach some conclusion by the process of elimination. The nests which I kept under careful observation numbered five. When discovered, the contents of these nests were in every stage of progress from eggs half-incubated, to young that were barely dry. In every case did I find the nests deserted when the latter were at the uniform age of four days. The obvious explanation to this would

be that when the nest has once been disturbed, the murrelets remove their young to a place of safety as soon as they gain a little strength; but this does not explain away the fact that I failed to discover any new nests that contained young beyond this age, which seems strange, as I made an especially diligent search for them.

I know that at least one observer has seen murrelets that were practically full grown, but still unable to fly, swimming about in the ocean with their parents at some distance from land, but could it be possible that the old birds would remove their little ones to the water when they are several days old, as is the case with wood ducks for instance? It appears to me that it would be impossible for murrelets of this tender age to survive the occasional heavy seas if this were the case, and yet this seems to be the only possible explanation.

The old birds not engaged in incubation spend the entire day at sea and are not to be seen near the islands. These return after dark, when their mates leave



Fig. 57. YOUNG XANTUS MURRELET BELOW NESTING BURROW

for the feeding grounds, and in their turns, reseek the burrows just before the first gray lights of morning. From the contents of their stomachs, it is evident that they feed upon all kinds of small sea life, including crustaceans, and Mr. Osburn has found some of them to contain a certain green sea-weed, for which, as none of it is found floating at the surface, they must dive; practically all of their food is obtained in this manner anyway.

Their notes, consisting of a sharp twittering, are to be heard most frequently after midnight, when apparently they begin making their way into the shallow water very near the island, preparatory to the general movement at dawn. When feeding they are usually found in lone pairs at this time of year, altho I have occasionally seen six or eight individuals in one flock, where perhaps there was an especially abundant supply of food. It is odd, too, that thruout the nesting season while one of a pair is always incubating, just two birds are feeding together, but perhaps the lonely males are fond of a little flirting on the side. One finds that the birds

occupying the burrows during the day are about equally divided between males and females.

Murrelets are also attracted by light, as is the case with so many of the nocturnal sea-birds, and I have had them enter my tent thru the front flap and under the sides at night when my lantern was lighted.

The eggs of this species are laid upon the bare ground at the end of a burrow under a rock or in a natural cranny, and show an almost limitless capacity for variation. Even in the same nest I have found one egg that was clear sky-blue with very faint markings, while the other was nearly black. In fact one rarely sees a set in which the eggs are perfectly uniform both as to color and size. But the variation in size is more pronounced in the length than in the width of eggs of a set. The interval between the depositing of eggs was forty-eight hours in the case of two nests noted. With the assistance of Mr. Osburn and several others, I am able to give the average measurements of eighty-five eggs of *B. hypoleucus* as 2.13×1.41 inches. They vary from 1.97 to 2.25 in length, and from 1.32 to 1.48 in width. Sets of one egg are as often found as those of two. Their nests are at all times difficult to locate and require a vast amount of climbing and patient search.

I think it very probable that an occasional pair of Black-vented Shearwaters (*Puffinus opisthomelas*) breed upon these islands, for there were six birds of this species constantly to be seen in the vicinity of the South island; and on June 2, just at daylight, as I was rowing to the North, I looked up in time to see one of these at about a hundred yards from a steep hill-side, far above the water and flying directly out to sea, but altho I hunted for hours, I was unable to locate the nest. At present, this species is not known to breed regularly farther north than San Martin Island, where in March, I saw them congregated by the thousand, at about four in the morning.

I shall omit any reference to the petrels in this article, as I have turned over all the information that I gathered concerning this group to Mr. Osburn, who is preparing a special paper on the subject.

On July 9, I saw a single Wandering Tattler (*Heteractitis incanus*) probably a non-breeding bird which had decided to spend the summer in the southland.

Two pairs of Duck Hawks (*Falco peregrinus anatum*) had their nests here, one pair on the North, and the other on the South island. They must do fearful damage among the murrelets and auklets, for I have frequently seen them catch and kill both species just for the fun of the thing; sometimes only knocking them over, and at others, carrying them for a few yards before dropping them into the waves. On several occasions I witnessed interesting exhibitions of their truly marvelous flying ability. The first and most notable time was when I was collecting on a very steep cliff at two hundred feet above the sea. It being a lucky day, I pulled a murrelet out of a cranny and releast it. As usual, it dropt like a shot strait down until, when it began to curve out over the water, it had attained an enormous velocity. When it had gotten about a hundred yards from the shore, a pair of Duck Hawks left a ledge below me and gave chase. The unfortunate murrelet had not gone a hundred yards farther before he was caught. I am afraid to venture a guess on the speed at which these hawks must have been traveling. When seizing a small pelagic bird, they always stop the wing-beats at the instant of contact and by an upward flirt of their tails, shoot strait up in the air for perhaps a distance of seventy-five feet. They are also responsible for the death of a good many petrels, as is shown by the debris below their ledges. A curious habit that these falcons have, is that of one snatching food from another by turning belly upwards and grabbing the morsel in its talons.

During my whole stay I saw but one covey of about twenty Valley Quail (*Lophortyx californicus vallicola*), on July 7. They were so far advanced in molt at this date that they were almost naked. According to some authorities these birds are very slightly different from those on the mainland, but I am afraid that they will never reach the rank of sub-species, for unless someone succeeds in killing the one black cat that is now on the island, they are destined to be speedily exterminated.

On May 26 I discovered a male Western Tanager (*Piranga ludoviciana*) perch upon a rock above the sea and occupied in gazing longingly at the water. This bird staid near camp for two days and then disappeared.

On June 11 I caught sight of two yellowthroats—most unusual birds to be

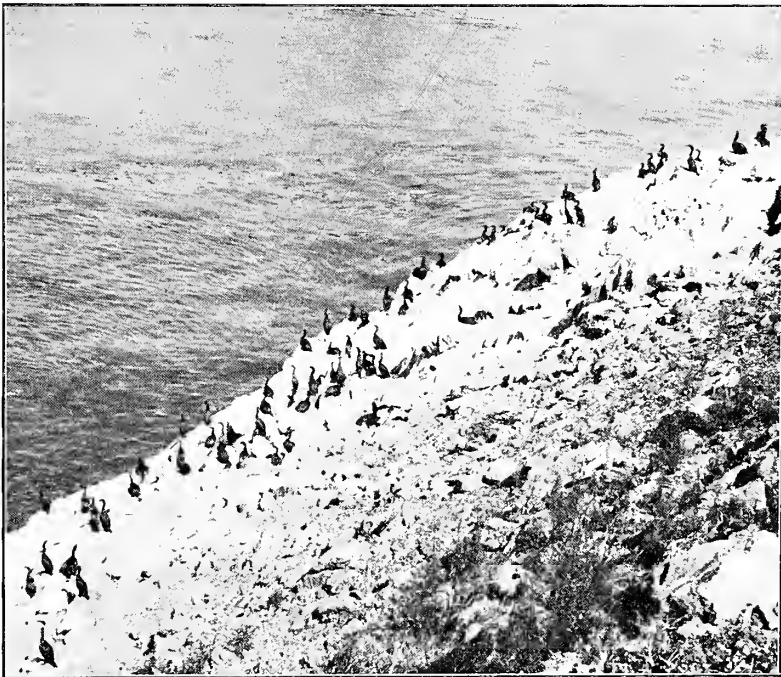


Fig. 58. COLONY OF BRANDT CORMORANTS WHERE SEVERAL BLACK PETRELS WERE ALSO FOUND NESTING

found on a dry island. I had no gun with me and could not again find them on succeeding days, so I have no idea as to their identity except that I do not think they were *Geothlypis trichas arizela*. To the best of my knowledge, this is the first record of either of the two last species having occurred on Los Coronados.

The study of our sea-birds in their nesting haunts contains elements of interest which no other form of field-work holds. Too little is known about the nidification and habits of most of our deep sea wanderers. To be among a colony of petrels after dark, or to sit on the rocks at dawn and listen to the love-talk of the pigmy murre as they return from a night's fishing, is alone worth the stale water, the hard work and the loneliness of a long stay of weeks on one of the desert islands of the Pacific.

NESTING NOTES ON THE AMERICAN EARED GREBE AND PIED-
BILLED GREBE

By ROBERT B. ROCKWELL

WITH FIVE PHOTOS BY THE AUTHOR

IT WOULD be difficult indeed to name a family of common North American birds which presents more unusual peculiarities in habits and structure than does the grebe family. Queer in structure, almost helpless on land, never leaving the water except during migration, and biding a floating nest upon the water, where the eggs are hatcht largely by the aid of the sun's rays, these peculiar little spirits of the water present a very radical departure from what the word "bird" usually brings to mind. This is particularly true in a semi-arid country



Fig. 59. NEST AND EGGS OF AMERICAN EARED GREBE: A FLAT STRAGGLING
AFFAIR OF FLIMSY CONSTRUCTION

such as Colorado, where suitable habitats are scarce and where the few families of similar birds are not found. It was therefore with a great deal of interest that, in company with Mr. L. J. Hersey, I studied the habits of these birds for three summers among the Barr Lakes near Denver.

The first birds made their appearance about the middle of April (April 14 is my earliest record) but did not become common until shortly after May 1. The earliest nests were noted May 10 (1907) and 11 (1908), nests of the American Eared (*Colymbus n. californicus*) and Pied-billed (*Podilymbus podiceps*) Grebes being equally abundant; but as the season advanced we found that the Pied-billed Grebes were nesting in far greater numbers than were their cousins.

The Eared Grebes' nests were easily distinguishable by the flimsy and apparently careless manner in which they were constructed, being very slight, strag-

gling platforms of large, rank, green dock stems, cat-tail stalks, rushes, weeds and grass, usually floating in comparatively open water, or in very sparse growths of cat-tails, with no apparent attempt at concealment. The nests were very flat, the nest cavity often being actually below water level, and the eggs in most cases being wet. How these eggs with damp shells retained enuf heat either from the parent or from the sun's rays to hatch them, is a problem which I have been unable to solve. And as a matter of fact quite a perceptible percent of old nests examined contained addied eggs. This was equally true of both species.

The Pied-bills' nests, on the other hand, were compactly-bilt structures of uniform size and shape, composed entirely of decaying vegetation of a uniform dead brown color, well bilt up above the surface of the water and fairly well cupped. They were nearly always bilt in a rather dense growth of cat-tails which afforded them reasonable concealment, altho a few exceptions were noted where nests had been bilt in exposed positions at the edge of open water with no concealment whatever.

Both species seemed to choose sites where the water was from two to three feet



Fig. 60. NEST OF AMERICAN EARED GREBE SHOWING CARELESS MANNER IN WHICH EGGS ARE COVERED BY PARENT BIRDS

deep, but this was probably due to the fact that suitable cover grew in this depth of water.

As has been said, the nests of the two birds were radically different in appearance, and this was further exemplified in the manner in which the eggs were covered during the absence of the parents. The Eared Grebes usually covered the eggs very carelessly with a thin layer of grass or rushes, and in many cases the eggs could easily be seen thru the covering. The Pied-bills, on the contrary, covered their eggs very carefully with a thick layer of moist decaying vegetation of the same appearance as the nest proper, spreading it evenly over the top of the nest to a depth of two inches or more; and the nest so covered presented a remarkable example of protective concealment, looking exactly like the water-soaked tops of dilapidated musk-rat houses. In fact, I smile to think of the number of these uninteresting looking mounds of filth, which I must have past unheedingly before I discovered the secret of their hidden treasures.

In the large number of nests examined we found from one to eight eggs, but I am inclined to believe that four is about the smallest number constituting a full set, while six (or possibly seven) is the maximum number laid by the Eared Grebes. The few sets of eight found were those of the Pied-bill, and one nest contained five eggs on the point of hatching and four chicks just out of the shell. (A set of this species in my collection collected near Chicago by Mr. Gerard Alan Abbott contains nine eggs.) The eggs of both species when first laid were a clear bluish white, the bluish tint being much more pronounced in the Eared Grebes' eggs, but the original color was promptly reduced to a dirty brown by contact with the decomposing nest material. Eggs of the Eared Grebes averaged a trifle longer than those of the Pied-bills, but the difference could not be detected without measuring.



Fig. 61. NEST OF PIED-BILLED GREBE SHOWING CAREFUL MANNER IN WHICH EGGS ARE COVERED BY PARENT BIRDS

In several nests which were carefully watched, one egg was deposited each day, but as to whether incubation commenced when the first egg was laid, we were unable to decide. In one or more instances where the first set had been destroyed a second set was deposited in the same nest after a lapse of about a week, and a nest containing one fresh egg was found as late as July 6.

The great majority of nests were discovered during the heat of the day, when the eggs were covered and the parents were far out on the lake; but several times we surprised the parent birds near the nests and had excellent opportunities to study their actions. Some would swim rapidly away repeating the wheezing grebe call note until out of sight. Others would swim back and forth a few yards out of reach giving a rasping cry of protest; and a very few birds exhibited marked evidence of excitement, feigning a broken wing, uttering hoarse cries, and beating the water

with their wings to attract our attention away from the nests. These demonstrations were, however, confined entirely to the Pied-bills, the Eared Grebes exhibiting little or no interest in their nests.

By the third week in May the great majority of nests contained full complements of eggs, and one set of eggs was hatching on May 18. During the early part of June sets of eggs and broods of newly hatcht young were equally abundant, and by June 20 a large majority of the eggs had hatcht.

The freshly hatcht young were very pretty little fellows covered with black down, broadly streakt with whitish stripes running lengthwise of the head and body, giving them a somewhat sinuous appearance when in the water. They evidently take to the water as soon as hatcht, and are wonderfully active and quick.



Fig. 62. THE SAME NEST AS IN FIGURE 61 WITH COVERING REMOVED SHOWING EGGS

A baby grebe half the size of a chick can swim as fast as a man can wade thru the water comfortably, and the distance they can swim under water at this tender age is surprizing. They hide very effectively by diving and coming up to the surface under tiny bits of floating moss or rubbish, where they lie perfectly still with only the tips of their tiny bills exposed above the water. Their feet are abnormally large, which probably accounts for their remarkable swimming ability, and when quiet in the water the feet and head float on the surface, the rest of the body being submerged. The only note of the young grebe is very similar to the "cheep" of the domestic chick, first heard when the egg is pipt—very weak and tiny at first, but growing in strength and power as the bird becomes larger, until by the time the young are three-fourths grown the note is quite loud and clear.

The young birds have a peculiar habit of riding on the back of the parent birds. This is apparently done for the 'purpose of imaginary protection to the young, as we only observed it when broods of young were surprized close to the shore, and were seeking safety in the middle of the lakes. At such times the parent would swim close alongside the young bird and by raising the fore part of the body out of the water would submerge the posterior portion, upon which the youngsters would scramble with alacrity. The wings of the parent were then raised something after the fashion of a brooding hen, and often several babies would be cuddled comfortably beneath them. It was quite comical to see a well laden parent bird attempt to take on an additional chick, as this often precipitated the entire brood into the water, and this was always the signal for a wild scramble back on "board ship", during which rather strenuous performance the doting parent was the victim of an animated mauling. This additional weight on the parents' back



Fig. 63. NEST AND YOUNG OF PIED-BILLED GREBE

did not seem to affect their swimming powers, and the speed with which a mother grebe carrying a half a dozen babies could leave danger behind was surprizing.

During the first week in July broods of young grebes were very much in evidence on all the lakes and ponds, trailing along thru the water after the parents in single file. The broods ranged in size from freshly hatcht babes half the size of a tiny chick to ungainly three-fourths grown youngsters, and many times mixt broods of two or three sizes were seen swimming about together.

Broods of young grebes continued to increase in abundance and were very conspicuous on all the lakes and ponds thruout the second and third weeks of July, after which time they gradually decrest in numbers; and the last birds noted were seen October 3, some little time after the bulk of the species had left for their winter homes.

On July 6, 1907, we had several distinct views of an albino Pied-billed Grebe,

which, so far as we could discern, was entirely snow white. The bird was evidently aware of its conspicuous coloration, and was very wild. Several determined efforts to secure the specimen were made, but the bird succeeded in keeping out of gun range.

THE BREWER SPARROW (*SPIZELLA BREWERI*) IN FRESNO COUNTY, CALIFORNIA.

By JOHN G. TYLER

DURING the early part of May, 1906, the writer became aware of the presence of one or more small sparrows in a certain vineyard near Clovis, Fresno County, California. Their wiry, insect-like song was often heard, generally during the early forenoon, as the bird swayed in the breeze far out on a green tendril of some vine. Any attempt at a near approach would cause the singer to disappear and remain silent for a few minutes, when it would again appear at some distant part of the vineyard.

The area frequented by these birds was not large, covering only about eight acres, but different from other vineyards in the vicinity in having a decided slope to the south on one side, the soil being rather coarse and gravelly. Supported by stakes averaging about two feet in height, some of the vines had made a very rank growth and formed almost a small thicket in certain places, while in others where the growth was not so dense there were more open patches.

The birds were seen at frequent intervals after their first appearance, but as they seemed shy, and other matters claimed the writer's attention, their identity remained a matter of doubt for some time, until an almost accidental discovery confirmed a rather strong suspicion that had been formed soon after they were first noted.

Shortly before noon on June 4 while passing thru the vineyard a small bird was seen to fly apparently from a small vine and after skimming along above the ground shrike-fashion for a few feet, disappear in the screen of heavy foliage. Thinking this was only the nest of one of the numerous Western Lark Sparrows that were breeding commonly everywhere, I paused only to note the number of eggs or young but was somewhat surprised that a hurried search did not reveal any nest either on the ground beneath the vine or among the branches above. So a careful search was begun which resulted in the discovery of a very small and remarkably well-bilt nest placed directly against the stake and supported by three nearly vertical shoots just twenty inches above the ground. Resting in this nest were three green eggs similar in size and color to average specimens of the Western Chipping Sparrow, yet with a more coarse wreath of heavier markings of a decided reddish brown encircling the larger end. It required little more than a glance to convince the writer that it was not a nest of *Spizella passerina arizonæ* altho even had it afterwards proven to be such it would have been none the less a new record for me from Clovis.

The following day proved to be somewhat warm and cloudy and just at noon I cautiously approacht the vine containing the nest discovered the day before and very carefully parted the leaves. Sitting quietly on her nest, not two feet from my hand, was a small grayish-brown sparrow. The parallel black lines along her

upper parts left no doubt in my mind that I had found the nest of a Brewer Sparrow. So long as I remained motionless the sparrow staid on her nest, but at the first suggestion of a movement she darted away among the foliage, after which the nest with its contents was collected and the eggs were found to be heavily incubated.

Thinking that perhaps there might be a small colony of these sparrows, a more extensive search was made, as time permitted, resulting in the discovery on June 16 of a second nest in a location scarcely different from the first but containing two full fledged young birds. One of these was removed from the nest; it remained quiet while being held in my hand but the moment it was put back into the nest and I had started to leave, both of the little fellows jumped from the vine and hurriedly ran mouse-like to a place of concealment. During my stay at the nest both parent birds were heard chipping uneasily, but they seldom appeared and never came very near.

Since the season of 1906 each spring has found a few pairs of these little sparrows breeding in that or a nearby vineyard and one fact has impressed itself upon me more than any other. Scattered throughout this vineyard were a few vines that were either affected with some vine disease or for some other reason had become dwarfed in comparison to the others. The leaves on each vine had a yellowish cast and were small, while the whole vine lacked the thrifty appearance of its fellows. Every nest found was in such a vine and I soon came to distinguish them at quite a little distance and save much valuable time in searching for nests.

In order to prove the correctness of the theory that the nests were always placed in these small vines I have walked thru the vineyard during the early winter when the leaves had just fallen and in that way found several old nests, but not one was built in one of the larger vines.

During the past season (1910) not a sparrow could be found in this vineyard, and investigation revealed the fact that the dwarfed vines had all disappeared having, it seems, been treated in some manner that caused them to take on the bright, healthy look of the others. Over half a mile away, however, was another vineyard and while passing thru it one morning, I heard the unmistakable song of *Spizella breweri* and soon found quite a number of the "Brewer vines" as I called them. Later a nest was found that afterwards held three eggs.

All the nests found were much alike in situation and general appearance. A typical specimen is composed outwardly of dry grass stems, a few grass blades and roots, the inner cavity being made almost entirely of very small, dry brown rootlets with a few long horsehairs for lining. In one nest is a white horsehair, but in every other instance black ones were used. A single downy quail feather is used in the outer framework of one nest, but it does not in any way serve as a lining. A nest before me measures three inches outside diameter by one and seven-eighths inside. The inside depth is one and one-half inches while the outside would measure perhaps half an inch more. On the whole these nests are neat, compact structures and some of them are almost exact miniatures of nests of the California Jay.

Two, three or four eggs constitute the sets, and three is more often found than either of the other numbers. Besides the nest with two young birds, one was found on May 15, 1907, with one egg, and the following day another was added after which the bird began the duties of incubation and no more eggs were deposited. My earliest record is May 10 for four very slightly incubated eggs and the latest is June 9 for three eggs far advanced.

Of the food of these sparrows I have learned very little, as the birds were always shy and more often heard than seen. I have always had a suspicion that

large numbers of rose beetles were eaten; but without examining the stomach contents of a specimen I could never be positive on this point.

There is only one other place in this part of the State where I have ever found the Brewer Sparrow. Across the San Joaquin River in Madera County, just where the first scattering oaks begin in the foothills, are a number of low, hot, uninviting ridges, having an elevation of perhaps eight hundred feet. Devoid of vegetation except on the very summits where half a dozen large clumps of ragged sage bushes have found a foothold, these hills seemed too desolate to be a suitable home for any bird; yet on April 13 of the present year these bushes seemed alive with sparrows, if their songs were any indication. The number of birds that really constituted this colony was not easily determined as they were seldom induced to leave cover and their plumage seemed to blend with the soft gray-green of the surroundings.

Half a mile below, a creek wound lazily out of the hills to be lost in a series of mud holes a few miles out on the plains. Along this stream's course a number of large cottonwoods seemed to be tempting the ornithologist to enjoy their shade. Cool and inviting they extended farther and farther, at last seemingly merging into the blue haze of the mountains beyond. The sparrows were left to enjoy their torrid surroundings while the writer satisfied his desire for knowledge by hunting for nests of the California Jay in the bushy willows along Cottonwood Creek.

BIRD NOTES FROM SOUTHWESTERN MONTANA

By ARETAS A. SAUNDERS

WITH EIGHT PHOTOS BY THE AUTHOR

DURING the spring and summer of 1910 my work kept me in camp in various parts of Silver Bow, Jefferson, and Powell counties, Montana. The nesting season, in the mountains, hardly begins before the first of June, and, with the exception of two nests of the Clarke Nutcracker, I found no nests earlier than this.

The Nutcrackers (*Nucifraga columbiana*), however, were early enuf to suit anyone. With the first warm days in March, just after the Mountain Bluebirds had returned and when flocks of Shufeldt and Montana Juncos were beginning to throng the thickets, the Nutcrackers appeared to be choosing mates and hunting nesting sites. This bird is most abundant in this region at high elevations, in the white-bark pine forest, close to timberline, but it is not uncommon at much lower elevations, often as low as 5,000 feet, in scattered stands of Douglas fir. As these latter places are much more accessible at this season, it was here that I began my search for nests. For a time I found nothing, but finally on March 14, I notist a large bulky nest, not high up in a fir on the rocky hillside where I had been looking, but barely six feet from the ground in a little, thick, bushy spruce, growing in the creek bottom. An examination showed this to be a new, practically finisht but empty nest, and evidently that of a Nutcracker tho no birds were in sight.

On March 18 I visited the nest again. As soon as I toucht the spruce a Nutcracker flew off, and I found that the first egg had been laid, evidently that morning. For the next three days I past the nest frequently and found the bird always sitting and a new egg each morning. In my experience most birds do not begin sit-

cited and often approacht very close to me, calling loudly and nervously pecking at branches of the tree, and breaking off and throwing down fir needles. On one occasion I took my camera up the tree and attempted to take pictures of the old birds, but because of the swaying of the tree and the difficulty of focusing, the results were not good. Later, under similar conditions I obtained some fairly successful pictures of Magpies.

On the evening after our arrival at the Pipestone camp, I heard, coming from the marshy portion of the basin, the wierd wing-music of a male Wilson Snipe (*Gallinago delicata*) and shortly afterward the call of the female bird. Every evening after that till we left the camp, the male snipe went thru his performance, circling high in the air and emitting at intervals the curious, whining crescendo notes, which are often answered from the marsh by a long call from the female. This call, which is common to both sexes, has been described as rail-like, but it struck me, while listering to it, that it was almost the exact counterpart of the call of the domestic guinea fowl.

On the evening of June 11, I went down toward the marsh to watch the performance from a nearer distance, and to attempt to locate the nest. From a previous experience with these birds I believed that the female at such times calls from the immediate vicinity of the nest, if not when actually sitting on it. I followed the direction of her voice out into the marsh and finally flusht her some forty or fifty feet ahead of me. It was getting too dark to hunt nests, so I markt the spot and went back to camp. The next morning I returned to the spot and soon flusht the male snipe some distance ahead of me. Supposing it was the female, I searcht for a nest where he rose but found nothing and was about to give it up when the female



Fig. 65. NEST AND EGGS OF PILEOLATED WARBLER

rose almost at my feet. Even then it took some search to see the nest and three eggs. As a nest of this species, found the previous year, had hatcht on June 12 I supposed that these eggs were nearly redy to hatch. When I returned with my camera, however, the bird would not sit closely and I got only a picture of the nest and eggs. Two days later I visited the nest again thinking the eggs might be hatcht, but insted I found them cold and deserted. Incubation was not so advanced as I had supposed, in fact had barely begun. My presence with the camera had evidently been too much for the bird at that early stage.

Except during the evenings, I found but little time to search this promising territory. One evening, while exploring the willow thicket at the npper end of the basin, I found a beautiful nest of the Pileolated Warbler (*Wilsonia pusilla pilcolata*). The nest was placed on the ground in a mossy hollow under the roots of a clump of willows. It contained five eggs. The sitting bird could be plainly seen from one side and allowed me to approach to about three feet before she left.

I made several attempts to take her picture by approaching slowly and setting up the camera in front of me. I once got so far as to see her image on the ground glass, but she left immediately afterward as I was removing the slide from the pack-adaptor. I then tried setting up the camera near the nest and leaving until she should return, but tho she returned soon, the presence of the camera made her nervous and she would leave long before I reacht it. I finally gave it up and obtained only a picture of the nest and eggs.

About a hundred feet from this nest I flusht a Lincoln Sparrow (*Melospiza lincolni*) from its nest, situated at the base of a clump of willows and containing three eggs. At our next camp, about six miles south of Pipestone Basin, I found two more nests of this bird, one with four and one with five eggs. The nests are much like those of the Song Sparrow but a little smaller, and constructed almost entirely of grass with little or no hair in the lining. The way in which this bird flushes from her nest is very distinctive and quite unlike any other sparrow with which I am acquainted. She slips quietly from her nest and runs off thru the



Fig. 66. NEST AND EGGS OF LINCOLN SPARROW

grass without a note or a flutter of any sort, her movements more like those of a mouse than a bird. In fact two of the three birds I flusht I supposed at first were mice, and had I not lookt at them a second time would have gone away without seeing their nests.

Up to the time the young birds left the nest I never heard an alarm note of any sort from the Lincoln Sparrows, but after that time, which took place about June 25, one could not enter the willow thickets without being scolded from one end to the other by these birds. We had a litter of young coyotes in camp, and

one Sunday they broke loose from their pen and led us quite a chase into a near-by willow swamp, before they were finally captured. As soon as they entered the swamp the Lincoln Sparrows, evidently recognizing a natural enemy, started scolding in a manner that I have seldom heard equalled in any bird. While helping to corner one of the coyotes, I notist a young Lincoln Sparrow running ahead of me thru the grass and soon captured it. In general appearance and in the manner in which it ran thru the grass this bird resembled, until actually caught, a newly hatcht game-bird rather than a young sparrow. It was unable to fly, but was very active at running and hiding in the tall grass. I took it to camp and posed it on the end of a tent peg for its picture, after which I releast it again in the swamp.

About fifty feet away from the nest of the Pileolated Warbler, and close to the edge of the willow thicket, a pair of Pink-sided Juncos (*Junco mearnsi*) appeared, scolded me, flew about my hed and finally followed me out of the swamp where I had searcht in vain for nest or young. Later I found another spot where a pair of

Juncos evidently had a nest or young and where I past several evenings in succession. I searcht this spot for three evenings before I finally found a single young bird. This bird was well feathered but unable to fly and I almost stept on it before I found it. When I caught it and it called in distress the parents became fairly frantic and flew at my hed, and fluttered in front of me almost within reach. As it was late in the evening and the light very poor I did not get a successful picture of this bird.

Western Chipping Sparrows (*Spizella p. arizonæ*) were very abundant in this region and I found their nests most commonly of all. One of these nests, situated about two feet from the ground on a low limb of a lodgepole pine, was owned by one of the tamest birds I have met with. When I found the nest I almost toucht her before she would leave it, and the day I secured her picture I had to actually shake the limb before she would leave and allow me to see the contents of the nest. Then I found the reason why she sat so closely, for the nest then contained three newly-hatcht young and a single egg.

On June 17, we moved camp from Pipestone Basin to the vicinity of Homestake, about six miles south. The country which we crost, and in which our next camp was situated is very rough and rocky. Clusters of great granit boulders are scattered thru the hills and along the ridge tops, many of them standing up on end in a curious and fantastic manner. This country was once well timbered, but the greater part of the timber, except in the least accessible places, was cut off for the Butte market some twenty years ago. A poor scattered second growth of fir has sprung up, but a large amount of it was recently winter-killed.

There are a great many old fir stumps on this area, most of them containing old woodpecker holes. As we moved I walkt along behind the wagons, tapping at these old stumps and keeping my eye out for birds and nests. About the clusters of boulders I saw several pairs of Townsend Solitaires (*Myadestes townsendi*), a bird for whose nest I have sought many times in vain. One male Solitaire was in the midst of his flight song.

The flight-song of this species is something I have never seen mentioned by other writers, yet, to my mind it is the best flight-singer of any bird with which I am acquainted. The bird soars high above the rocky peaks and ridges till almost invisible; and the glorious loud and ringing song descends to the listener, each note as clear and pure and full of life and vigor as the mountain air itself. The bird seems tireless and the song continues for many minutes. Surely he can rival the Skylark. What a pity that this song is only rendered in the solitude of the mountains where few of us can ever know it! And yet half the charm of the song lies in its harmony with its surroundings. A Solitaire away from the wild mountain crags would hardly seem the same bird.



Fig. 67. ADULT FEMALE WESTERN CHIPPING SPARROW ON NEST

As we neared our new camp site, I heard notes from a pair of Mountain Chickadees (*Penthestes gambeli*) and stopt awhile to investigate. I soon found them, and in their vicinity a number of fir stumps, containing numerous holes, any one of which might contain the nest. I had not long to wait, for the birds hardly notist my presence but went to the nest and fed the young several times in the next few minutes.

While I was watching them, a Red-naped Sapsucker (*Sphyrapicus v. nuchalis*), the first I had seen in this region, flew to the same stump in which they had their nest, and moved out of sight on the side away from me. I heard him call, and a moment later two Sapsuckers appeared on the stump. One flew away and the other disappeared again. After waiting some time for his reappearance I walkt around the stump and on the other side found no bird, but a fresh hole. I rapt, and a frightened Sapsucker thrust up his hed and seeing me, drew it back quickly,



Fig. 68. RED-NAPED SAPSUCKERS AT NEST HOLE; TWO PICTURES: MALE AT LEFT, FEMALE AT RIGHT

and, rap loudly as I could, wouldn't show himself again. So here was a regular bird flat—Chickadees living upstairs with an entrance in front, at least on the side that faced the road, and Sapsuckers on the lower floor with an entrance at the back. It reminded me of an experience the previous year, when I had found Sapsuckers living in the same tree with a family of Pine Squirrels.

We hadn't been long at the new camp before I discovered that we were in the midst of a regular paradise for hole-nesting birds. The old fir stumps were very numerous and many of them occupied. Within a quarter of a mile of camp there were nesting, to my knowledge, four pairs of Mountain Chickadees, three of Red-shafted Flickers, three of Mountain Bluebirds, two of Rocky Mountain Nuthatches, and one of Red-naped Sapsuckers. The reason for the abundance of these birds is probably due partly to the number of nesting sites and partly to the scarcity of squirrels, animals that are undoubtedly the worst enemies of hole-nesting birds.

The scarcity of squirrels is in turn probably caused by the lack of trees large enuf to furnish the seed these animals depend upon for winter food supply.

Only a few of the nests near this camp were in good positions to obtain photographs, but these few were quite near camp so that little of my limited time was lost, going and coming. In back of the stump containing the bird-flat, was a large boulder which assisted in bringing the camera on a level with the Sapsucker's nest. This nest evidently contained eggs. The birds took turns at incubation and changed places frequently, but they were very wary of the camera and of me, so I gave it up until a Sunday, when there was plenty of time.

On Saturday evening I went to the nest and set up a dummy camera, made of my tripod and camera case, leaving it over night to get the birds "camera broke", as one of my friends exprest it. The next morning I set up the real camera, and with the canvas cover of my bed-roll constructed a blind in a corner between two convenient boulders, connecting the blind and camera by a thred. Waiting here was not at all tiresome, for the Chickadees up stairs were feeding their young frequently and furnisht considerable entertainment. The male Sapsucker soon appeared to change places with his mate. The blind and camera made little difference to him and I soon had my first picture. I took several pictures that morning with little trouble except that I had to leave the blind each time to change the film. The birds changed places regularly about once in half an hour. I had some difficulty in distinguishing the two birds, for the only mark of difference I could discern was a small patch of white on the chin and upper throat of the female, while the entire throat of the male was deep red.

When leaving the nest to fly to a nearby tree, the birds often indulged in a peculiar flight entirely different from the usual one. In this flight the bird rises in the air and hovers and flutters in a curious way. There was something familiar about it, as tho I had watcht it many times before. Finally as I was pondering this, a Solitaire rose in flight-song on the other side of the gulch and then I realized what it was. This flight of the woodpecker was the same as a song-flight in every way. The arch of the shoulders, the trembling of the wings, and the manner of spreading the tail were exactly the same; and the familiarity was caused by this flight combined with the black and white markings which made the bird, from where I viewed it, resemble a male Bobolink.

On the opposite side of camp from this nest was a thick grove of aspen, and here one day I discovered a Sapsucker, probably one of the same pair, engaged in drinking sap from the aspens. Series of holes had been drilled into numbers of these aspens, usually near the top of the tree where the diameter was but an inch or two. The holes here were all fresh, but not far away I found more aspens, alders and willows that had been drilled, some of them apparently a good many years ago. I believe that these birds could hardly be considered very destructive in Montana, for the trees they attack are all small ones and of very little value.

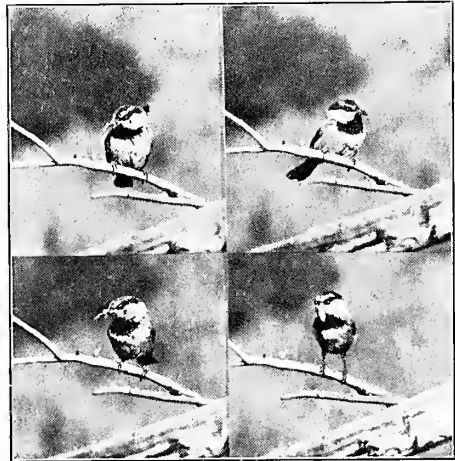


Fig. 69. MOUNTAIN CHICKADEE WITH FOOD FOR YOUNG, SHOWING FOUR POSES

On the side of the hill just west of camp I found another pair of Mountain Chickadees feeding young. The nest was as usual in a fir stump and the entrance was about eight feet up and facing south. At this nest I again made use of a large boulder which lay on the southeast side of the stump. The birds were very tame and the boulder was large enuf so that I sat on it beside the camera with no blind or attempt at concealment. There were several dead branches near the entrance to the nest, which the birds used as perches when going to feed the young. I attempted to get pictures by focusing the camera on portions of these branches; but the Chickadees were perverse little creatures, and chose almost any perch except the one on which the camera was focust.

After many attempts I finally got a saw and removed all the branches but one, after which I had more success. Both birds fed the young frequently and, after the first time or two, didn't appear to mind my presence in the least. So far as I could see the food was always insects, often a bill full of amber-colored gall-flies that were very abundant among the young firs, and occasionally a smooth, pale



Fig. 70. MALE MOUNTAIN BLUEBIRD
AT NEST ENTRANCE

green or light gray caterpillar. On the evening of June 26, as we were preparing to move camp the next day, I decided to open this nest to see the young and get pictures of them if possible. I sawed out and removed a piece of thick bark from in front of the nest. As soon as I toucht one of the young, however, the whole brood popt out, one after the other, so fast that I could hardly count them, tho I believed the number was five. Two of them were well able to fly and I could not catch them. The other three I caught and put back in the nest and closed the opening I had made. The sun was too low to take pictures then and I hoped these young might stay so that I could get the pictures early the next morning. I was disappointed, however, for tho I reacht the nest early, the young had left

and could not be found, tho the parents were in the neighborhood and calling excitedly.

In the rear of my tent at this camp was an old aspen stump in which a pair of Mountain Bluebirds (*Sialia currucoides*) were nest-bilding. They were evidently starting a second brood, for I remembered seeing Bluebirds with nesting material in the middle of April. A short time later I found another Bluebird's nest not far from camp in a fir stump. This nest was in an old flicker hole on the south side of the stump. The hole had never been completed and was so shallow that the yellow mouths of the six young could be seen from some distance away. My first attempt to get photographs of these birds, based on experience with eastern Bluebirds, failed entirely. The birds were very suspicious and wouldn't approach if I were within a hundred feet of the nest. I finally had to resort to a blind. I used my bed cover again and bilt the blind and set up the camera in the morning before breakfast, leaving it until the noon hour when the sun was right for pictures. I was fortunate in getting into the blind while both the parents were away, something I did not succeed in doing a second time. I found it entirely useless to wait for these suspicious birds if they had once seen me go into the blind. I ob-

tained two pictures on this first occasion, but never got another after that. The male gave me a good picture, but the female thrust her head into the shadow of the opening. Efforts to take pictures of the young were also useless, for up to the day they left the nest, June 26, they would become frightened as soon as handled and couldn't be induced to perch or pose in a satisfactory manner.

We moved camp again June 27, going south to Little Pipestone Creek. Here the country was less rocky in character and the elevation somewhat lower, 5,200 feet. There were many open grassy hills intersperst with clumps of tall firs and groves of aspen. I had little time now to hunt for nests and found nothing noteworthy until July 6. Then I saw a pair of Williamson Sapsuckers (*Sphyrapicus thyroideus*) about a group of old fir stumps, and soon discovered the nest in one of them. The nest was about eight feet up and contained young that were very noisy.

It seemed at first as tho there was no chance to photograph these birds; but I soon notist a dead limb on a nearby stump, to which I believed I could fasten the

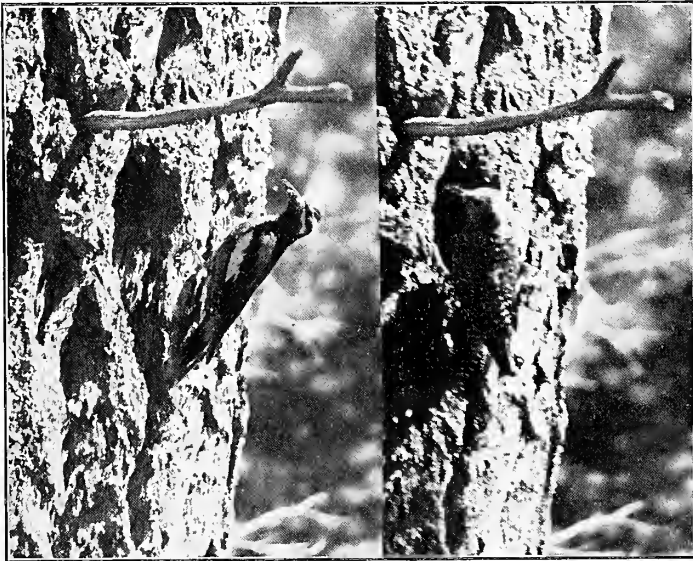


Fig. 71. WILLIAMSON SAPSUCKERS AT NEST HOLE; TWO PICTURES:
MALE AT LEFT, FEMALE AT RIGHT

camera. When the opportunity came, I placed the camera on its tripod, straddled the tripod over the limb and lasht the whole thing firmly to limb and tree with a long rope. I experienced some difficulty climbing and focusing without disturbing some of the ropes, but I finally managed to do it. Even now the light was not very good, for there was less than an hour during the day when the nest hole was in sunlight and this light was not from in back of the camera but to one side so that it produced long shadows. The birds were not very shy and I believe I might have easily workt without a blind, but I had little time to waste in waiting, so bilt the blind and attacht a thred to the camera. Even now I had the trouble of coming out and climbing the tree to change the film after each picture. The young birds were well grown and the parents did not enter the nest hole but merely thrust their heds into the opening to feed the young.

Occasionally while the parents were away a young bird would come to the

opening and sit there until the parents' return, apparently enjoying his view of the outside world. That this was not always the same bird was shown by the fact that the head was occasionally black and white and occasionally brown, for the sexes are markedly different even at this stage. Altho the young were well grown at this time, July 8, they had not left the nest on July 13, when we moved away from the vicinity.

FROM FIELD AND STUDY

Unexpected Birds at Santa Barbara in the Summer of 1910.—1. *Oidemia deglandi*. A small flock, fifteen or twenty birds, I should say, past the entire summer here, where they were seen constantly by Mr. John H. Bowles and myself. It had not occurred to me that their presence could be worthy of record until I read in the new A. O. U. Check-List that non-breeding birds of this species had been found in summer "as far south as Monterey." I saw nothing of the species here in the summer of 1909.

2. *Marila affinis*. Two birds, a drake and a duck (or young male), were seen on the 6th, 15th and 16th of June, in a small fresh-water lake just outside of the city.

3. *Aechmophorus occidentalis*. A single Western Grebe was seen off the beach on the following dates: June 11, 13, 14, 19, 20, 26, 28, July 5, and August 29 and 30.

4. *Limosa fedoa*. A Marbled Godwit appeared on the beach, where it permitted a close approach, June 4.

5. *Catoptrophorus semipalmatus inornatus*. A single Willet was found on the beach June 24, and July 8 and 24.—BRADFORD TORREY.

A Correction.—In THE CONDOR for November, 1909, I published an article on the nesting of the Broad-tailed Hummingbird (*Selasphorus platycercus*) in Gallatin County, Montana. Since then Prof. Wells W. Cooke has called my attention to the fact that the Broad-tailed Hummingbird is not ordinarily known to breed in Montana, while the Rufous Hummingbird (*Selasphorus rufus*) is known to breed there, tho not previously from that part of the State. Since the identification was by sight only, and that of a female bird, it is most probable that the bird which I saw was the Rufous Hummingbird. I was misled by the statement of the ranges of these species in the manuals, which led me to believe that the Rufous Hummingbird could occur only as a migrant in Montana, while the Broad-tailed, being found as far north as Idaho and Wyoming, might occur in southern Montana.—ARETAS A. SAUNDERS.

The California Towhee in Oregon.—The California Towhee (*Pipilo crissalis crissalis*) I have found to be fairly common at Kerby, Josephine County, Oregon. They are, however, so shy and keep so completely hidden in the thickest brush, except for occasional glimpses when flying from one thicket to another, that it is almost impossible to collect specimens. I have not succeeded in finding a nest, but have taken some skins which seem to differ appreciably from skins taken farther south.

I saw California Towhees first in 1901 on the East Fork of the Illinois River 3½ miles north of the California line, and I have seen them along the river in suitable places for about 12 miles farther north. This area includes all of the level, open river valley in these parts, the high mountains or foothills coming right down to the river north and south of it. There seem to be suitable places along the West Fork of the river, but I have not seen any of the birds there. I have not seen them earlier than May or later than October.—CHARLES W. BOWLES.

Southern California Breeding Records of the Western Grasshopper Sparrow.—The Western Grasshopper Sparrow (*Ammodramus savannarum bimaculatus*) is recorded by H. W. Henshaw as breeding on the coast near Santa Barbara in 1875.

J. E. Law has noted the species all thru the summer months in the San Fernando Valley, Los Angeles County, and on one occasion took an adult female containing a fully formed egg.

J. S. Appleton has found this bird a fairly common resident of the Simi Valley, Ventura County. He took a set of 4 eggs advanced in incubation May 11, 1896, and a set of 5, incubated about one-half, May 15th of the same year. Both nests were on the ground in a barley field.

I found several pairs of Grasshopper Sparrows, all apparently breeding, in a barley field near Gardena, Los Angeles County, in May and June, 1910. On June 2, I found a nest containing 4 young just beginning to fly, and collected the female bird.—G. WILLETT.

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of Western Ornithology

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EDITORIAL NOTES AND NEWS

Don't neglect to vote on that simplified spelling proposition (see THE CONDOR, September, 1910, page 176.) The returns to date show very close results, so that a few more votes one way or the other will decide the matter. If you don't want to see simplified spelling in our magazine, say so. While the Editor himself, favors the use of it, he will not bear a personal grudge against anyone for differing from him. He fears that some are withholding an expression of opinion in the belief that the Editor will actively resent an adverse decision. He *hopes* that he deserves a higher rating than this. Remember that the vote must be concluded December 10; for the January issue has to be made up immediately following that date.

We urge the attention of CONDOR readers to the Business Manager's announcement on the inside back cover of this issue. Nothing is more certain than the absolute dependence of a successful enterprise like THE CONDOR upon the concentrated efforts of a very few persons in addition to the moral and practical support of a large number of others. Both are essential to the maintenance of our magazine on a high level of usefulness. Chambers and Law are men of affairs, with multitudinous private business interests; yet they are giving freely of the time necessary to secure the financial support of THE CONDOR. Let us all help them. Keep in mind the purposes of the Cooper Club:

For the observation and co-operative study of Birds, because of the resulting pleasure;
For the spread of interest in Bird Study, so that this pleasure may be shared by others;
For the publication of Ornithological Knowledge, as being a contribution to Science.

William Leon Dawson, author of *The Birds of Ohio* and (with Mr. Bowles) *The Birds of Washington*, and secretary of our sister organization, the Caurinus Club, is now in San Francisco. Mr. Dawson is planning to spend the next few weeks in this vicinity where he will be at home to all Cooper Club members at the Exeter Hotel, 154 Ellis Street. He will spend the holidays at Santa Barbara with his former associate, Mr. J. H. Bowles, and the remainder of the winter will be past in the neighborhood of Los Angeles.

Mr. W. W. Grant of New York City has devised a very convenient loose-leaf note-book for the use of beginning bird students. It is of pocket size and the leaves are of two sorts, ruled and headed with various captions. An outline drawing of a bird is shown, and a list of colors, numbered, is given, the intention being that the student can record in a few minutes the coloration of a bird by putting the color numbers on the drawing of the bird on his note page. Space is also indicated for various other features of the specimen observed, together with the conditions of observation.

The records obtained by this system require the least possible length of time in securing them, and at the same time secure the accuracy accompanying immediate inscription. Mr. Grant has arranged that the National Association of Audubon Societies will sell this book at cost, so that it will become available to amateur observers of birds everywhere. The idea is clearly of value and should result in much benefit to the cause.

Messrs. Witherby & Co., of London, announce an important work on Australian Birds which they are about to issue. A very large sum of money is being expended upon the preparation of this work, and every care is being exercised to produce results as perfect as possible in every direction and thoroly up to date.

PUBLICATIONS REVIEWED

DISTRIBUTION AND MIGRATION OF NORTH AMERICAN SHOREBIRDS, by WELLS W. COOKE (=U. S. Dept. Agriculture, Biological Survey, Bulletin No. 35, pp. 1 to 100, 4 pls.; issued October 6, 1910).

Professor Cooke and his co-workers of the Biological Survey have here brought together practically all the main facts known in regard to the subject expressed in the title. The economic importance of a compendium of this kind becomes apparent when one takes into account that increasingly large numbers of these valuable game birds are being killed annually, that unless measures are taken to protect them, most of the larger species are likely to become extinct, and further that a knowledge of the summer and winter abodes of the several species and of the routes they take in migration is essential to effective legislation in their behalf.

The scientific value of the present paper cannot be over-emphasized. We have here collected an enormous aggregation of authenticated records, indicating with far greater precision than anything published before the breeding and winter habitats and the routes of migration of the 85 recognized species of Limicolae known to occur in North America. The author is able from this mass of data to present many generalizations of remarkable interest and wide significance.

The more important of these conclusions are that many waders pursue an annual course of migration in the path of an ellipse, returning north by an entirely different and remote route from that traversed on the southern journey; that some species lengthen their migratory travels so that they are carried 7000 or even 9000 miles from their breeding grounds, making their winter homes in extreme southern South America; that certain species make single flights without resting of at least 2000 miles.

Gunners are held responsible for a large part of the decrease in the numbers of our shorebirds; and yet other causes are operative, some of which it is probably not practicable to remove. The Eskimo Curlew altho formerly abundant in fall on the New England coast and in spring thru the Mississippi Valley is rapidly approaching extinction, if indeed any still exist. A simple explanation of this, offered by Professor Cooke, is that during recent years the former winter home of the Eskimo Curlew, in Argentina, has been settled and cultivated, while its spring feeding grounds in Nebraska and South Dakota have been converted into farm land. This same cause is doubtless the chief basis for the change in numbers of many of our birds.

Of local interest to Californians is the probably unique migration route taken by those Mountain Plover which winter in the Sacramento Valley and southward into the San Diegoan district. "The farthest west and north that the species is known to breed is Montana; hence whether the California wintering birds come from Montana or from the more southern districts, they apparently form an exception to the general rule that North American birds do not winter farther west than they breed."

A bird new to California, here for the first time recorded, is the Upland Plover, a specimen of which was taken by Vernon Bailey at Tule Lake, August 8, 1896.—J. GRINNELL.

NOTES ON NEW ENGLAND BIRDS, By HENRY D. THOREAU; arranged and edited by FRANCIS H. ALLEN, with eleven illustrations from photographs of birds in nature and a map of Concord, Mass., showing localities mentioned by Thoreau in his JOURNAL. Houghton Mifflin Company, Boston, 1910, pp. ix + 452; price \$1.75 net.

"Scattered through the fourteen volumes of Thoreau's published JOURNAL are many interesting notes on the natural history of New England and a large proportion of these relate to birds. In the belief that readers and students would be glad to have these bird notes arranged systematically in a single volume, this book has been prepared. * * *

It was, indeed, as a describer rather than as an observer that Thoreau excelled. He never acquired much skill in the diagnosis of birds seen in the field. He never became in any respect an expert ornithologist, and some of the reasons are not far to seek. He was too intent on becoming an expert analogist, for one thing. It better suited his genius to trace some analogy between the soaring hawk and his own thoughts than to make a scientific study of the bird. Moreover his field, including as it did all nature, was too wide to admit of specialization in a single branch."

These words from the editor's preface explain fully the nature and scope of this book.

These are not the complete records from the *Journal*, but only "those seeming to have some intrinsic value, whether literary or scientific—using both terms in a liberal sense."

The notes were made between the years 1845 and 1860, principally between 1853 and the latter date, and cover some 115 species, besides general and miscellaneous notes (species unidentified).

It is an interesting contribution to the literary side of ornithology and should have some value to the student also.—H. T. CLIFTON.

A | MONOGRAPH | OF THE | PETRELS | (Order Tubinares). | By | FREDERICK DU CANE GODMAN | D. C. L. F. R. S. | President of the British Ornithologists' Union | With hand-coloured Plates | by J. G. Kenlemaans | Witherby & Co. | 326 High Holborn London | 1907-1910. Large 4to (10x13 inches), pp. i-lvi, 1-381, col. pl. 1-103. Price complete, bound, fifteen guineas.

Part V of this work reached us the last of May (1910), and brings to a wholly satisfactory conclusion the undertaking so elaborately begun four years ago. (See reviews in this magazine for 1908, p. 96, 1909, p. 72.) Part V comprises the remainder of the Tubinares not previously treated, namely, the albatrosses. Also: the full title page for the whole work (given above); the Preface; Introduction; chapter "On the Systematic Position of the Petrels"; by W. P. Pycraft; Systematic List of Species; List of Plates; Classification; Index.—J. G.

LIFE OF | WILLIAM MACGILLIVRAY | [etc., 3 lines] | By WILLIAM MACGILLIVRAY, W. S. | Author of "Rob Lindsay and His School," etc. | With a Scientific Appreciation | By J. Arthur Thompson | [etc., 1 line] | with illustrations | [quotation] | London | John Murray, Albemarle Street, W. | 1910; 8vo., pp. i-xvi, 1-222, 12 plates. Price 10 | 6.

Those who find interest in historical biography will undoubtedly obtain much pleasure by reading the life of MacGillivray, the full title of which is given above. It was MacGillivray, a Scotchman, that Audubon secured to help him write the technical portions of his Ornithological Biography. The name is familiar to even the youngest students of American birds thru its being borne by at least two of our birds, a warbler and a sparrow. The book in hand tells among other things of the felicitous cooperation maintained between two men for nine years, the time occupied in

writing Audubon's Biography. MacGillivray subsequently put forth an important work on English birds, besides many less voluminous treatises on natural history topics. He is regarded as the most eminent British ornithologist of his day. The book under notice gives the reader a clear idea of the modes of thought of scientific men of the early part of the 19th century, strange to us of the materialistic present. They were poets rather more than critical students.—J. G.

New York State Education Department | — | New York State Museum | John M. Clarke, Director | Memoir 12 | BIRDS OF NEW YORK | by ELON HOWARD EATON | Part I | Introductory Chapters; Water Birds and Game Birds | [list of contents, 8 lines, double column] | Albany University of the State of New York | 1910; 4to., pp. 1-501, +152 inserted pages of tables following page 86, 42 colored pls., many halftone text illustrations.

This is an unusually elaborate treatise pertaining to the birds of a single state, especially so as being publicly printed. It is, moreover, of a high degree of merit in nearly every particular. It is attractive because of its large clear type, accurate information of many sorts, zonal treatment and maps, and profuse illustrations. Practically every species treated in this Part is represented in the colored plates from paintings by Fuertes. The classification and order are of the A. O. U. Check-List, except for one feature: the author has consistently disregarded the use of possessives in vernacular names. We congratulate the people of the State of New York that their ornithological exponent shows himself to be progressive even to this detail!

Eaton's *Birds of New York* will undoubtedly remain the standard authority in its field for very many years. It deserves a place, too, among the best ornithological works of general value.—J. G.

MINUTES OF COOPER CLUB MEETINGS

SOUTHERN DIVISION

SEPTEMBER.—The September meeting of the Southern Division of the Cooper Club was held on Thursday evening, September 29, 1910, at Room 1, City Hall, Los Angeles. The meeting was called to order by President Morcom, with the following members present: Mrs. J. E. Pleasants, Messrs. Lelande, Willett, Howard, Robertson, Howell, Antonin Jay, Alphonse Jay, Tracy of the Northern Division, Shepardson, Zahn and Law. The minutes of the June meeting were read and approved, on motion by Mr. Willett, seconded by Mr. Robertson.

On motion by Mr. Robertson, seconded by Mr. Lelande, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership Mr. E. S. Spaulding, whose application was presented at the June meeting. The application of Mr. Daniel S. Halladay, 2770 W. 8th St., Los Angeles, was presented by Mr. W. Lee Chambers.

On motion by Mr. Willett, seconded by Mr. Lelande, and duly carried, the action of the

Northern Division in electing to honorary membership Prof. F. E. L. Beal, was unanimously approved.

Motion by Mr. Robertson, seconded by Mr. Willett, was duly carried instructing the Secretary to make inquiry of the Northern Division concerning reported joining of the Pacific Association of Scientific Societies, same having been done without the knowledge or approval of the Southern Division, and to notify the Northern Division that the Southern Division does not propose to be bound without knowledge of what this may involve in a financial way.

The question of simplified spelling was discussed, and on motion of Mr. Robertson, seconded by Mr. Shepardson, and duly carried, the matter was put to ballot, which resulted in 7 ayes and 6 noes.

On motion by Mr. Robertson, seconded by Mr. Howard, the President was instructed to appoint a committee of three to act as a Museum Committee in designing cabinets, etc., for use in the new museum. The President appointed Messrs. Robertson, Willett and Law.

Mr. H. C. Tracy, who has spent a good deal of time in Syria and Asia Minor, gave a very interesting talk on the bird life of that region; after which, on motion by Mr. Willett, seconded by Mr. Lelande, the Club unanimously gave Mr. Tracy a vote of thanks. Adjourned.

J. EUGENE LAW,
Secretary.

OCTOBER.—The October meeting of the Southern Division of the Cooper Club was held on Thursday evening, October 27, 1910, at Room 1, City Hall, Los Angeles. The meeting was called to order by President Morcom, with the following members present: Messrs. Swarth, Lelande, Willett, Robertson, Howell, Owen, Lamb, Antonin Jay, Shepardson, Peyton, Zahn and Law, with Mr. Howard Peyton as visitor.

The minutes of the September meeting were read and approved, on motion by Mr. Robertson, seconded by Mr. Lelande.

On motion by Mr. Willett, seconded by Mr. Peyton, and duly carried, the Secretary was instructed to cast the unanimous ballot of those present electing to active membership Mr. Daniel S. Halladay, whose application was presented at the September meeting.

Mr. A. B. Howell exhibited a series of twelve very beautiful sets of the Xantus Murrelet, and two specimens of Petrel, all collected on the Coronado Islands. The latter two specimens were notable because they were evidently not the Black Petrel. However, their identification has not yet been obtained.

Mr. Harry Swarth, who has been with the Museum of Vertebrate Zoology, Berkeley, California, for some years, spending a good deal of time in the field, gave a short talk on his this summer's experience in the northern part of Vancouver Island, and exhibited a series of photos from that region.

The balance of the evening was spent in interesting chat, which always comprises a very attractive part of the evening's entertainment. Adjourned.

J. EUGENE LAW,
Secretary.

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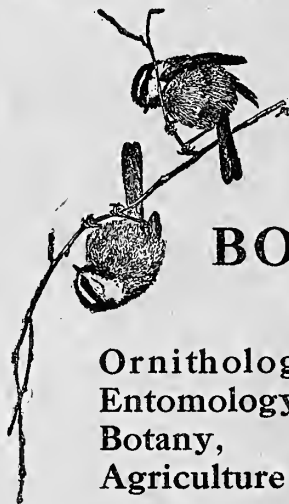
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