

A New Species of *Geospiza* Collected by the Hopkins-Stanford Expedition to the Galapagos Islands.

BY ROBERT E. SNODGRASS AND EDMUND HELLER.

Geospiza heliobates, new species.

Type.—Adult male, No. 4186, Leland Stanford Junior University Museum; Mangrove swamp at Tagus Cove, Albemarle Island, Galapagos Archipelago, June 24, 1899.

Range.—Mangrove swamps of Albemarle and Narborough Islands, Galapagos Archipelago.

Specific characters.—Very similar to *Geospiza pallida*, resembling it in coloration, but having a smaller bill—the culmen being 16 mm. or less in length while in *G. pallida* it is 17 mm. or more in length.

Description of the type.—Above dark brown with an olive tinge on the rump, all of the feathers of the dorsum with narrow pale olive-grayish edgings. Wing and tail feathers lighter, more smoky-brown. Lores, sides of head and underparts dirty buffy-gray, brownish-buff on the sides and flanks. Lores spotted with brown. Feathers of the breast and sides with dark brown central areas forming spots of the same color. Tips of the greater and the middle wing-coverts rather indistinctly brownish-rufous, forming two inconspicuous cross bands. Under wing-coverts grayish; under tail coverts brownish-buff with pale grayish edgings. Under surface of wing and tail feathers grayish brown. Bill black. Feet dark brown. Length 123 mm., wing 72, tail 48.5, culmen 16, gonys 8, width of bill at base 6.5, depth of bill at base 9, tarsus 21.5.

Adult female.—Female specimens having the plumage very much worn are almost identical in coloration with the males, but generally have fewer and smaller spots below. Above the plumage is blackish on the head, almost pure olive-brown on the back, with the central areas of the feathers darker. Wing and tail feathers dark brown with olive-buffy edgings.

This species inhabits exclusively the mangrove swamps of Albemarle and Narborough Islands of the Galapagos Archipelago, being found in the swamps all along the east shore of Narborough, and in the swamps on Albemarle at Tagus Cove, Elizabeth Bay and Villa Mil.

We have fourteen adult males, twelve adult females, two immature males and six immature females taken in January, February, March, April and June, 1899.

MEASUREMENTS OF *Geospiza heliobates*.

L. S. J. Univ. Mus. No.	Locality.	Sex.	Length.	Wing.	Tail.	Culmen.	Gonys.	Width of bill at base.	Depth of bill at base.	Maxilla from nostril.	Tarsus.
4186	Albemarle Id.	♂	123	72.	48.5	16.	8.	6.5	9.	10.3	21.5
4161	" "	♂	126	70.	48.5	16.	8.	7.	8.	11.	21.5
4226	" "	♂	133	71.5	45.	15.5	8.5	6.5	8.	10.5	23.5
4266	" "	♂	127	69.	39.	16.	8.	6.5	8.	10.5	21.5
4177	" "	♀	112	70.	42.	14.5	8.	6.7	7.7	10.	21.
4213	" "	♀	142	70.	42.5	16.5	8.7	6.7	8.	11.	21.7
4213	" "	♀	136	68.	41.5	15.	8.5	6.	7.5	10.	21.
4242	" "	♀	120	70.	45.	16.	8.5	7.	8.7	10.	22.

An Outing for Owls' Eggs.

BY PROF. P. M. SILLOWAY, LEWISTON, MONT.

WITH the genuine egg-crank, the first oological excursion of the season is a red-letter day, provided that it results in tangible additions to one's cabinet. As I glance at the seven eggs of the Western Horned Owl (*Bubo virginianus subarcticus*) reposing

in their downy trays as the first fruits of another oological season, I note the 16th of March, 1901, as one that will be readily recalled among an egg-crank's reminiscences. True, sets of the Western Horned Owl are neither especially rare nor difficult to secure, but when

Saturday is the only available day and magnificent distances must be traversed in this region to cover the ground, two sets of this species may represent a fair day's work. I am disposed to make the statement even stronger, for the following Saturday was spent in a fruitless tramp up one "coulee" and down another, a gentle blizzard prevailing most of the time; and upon my return, worn and weary, I passed most of the following evening reading about the taking of Horned Owl's eggs and congratulating myself that the excursion of the previous Saturday had resulted so satisfactorily.

Early in the morning of March 16, we set out for a drive along the creek which hurries through our home town, forming a narrow bottom, set here and there with cottonwoods overtopping the haw and willow thickets. Most of the hawk's nests along our route were well-known to me, and this fact presented a well defined method of procedure,—the inspection of all the old nests within reach that day. Owing to the heavy condition of the roads and other hindering circumstances, about eleven o'clock we found ourselves not more than ten miles from home, but near a promising grove containing a nest that formed a huge black spot among the naked branches of the cottonwood clump. We approached the place with that indefinable feeling known only to the egg-crank when he is nearing what may be a good thing but is yet of doubtful outcome, anticipation crowding to the front only to be met by the ghost of disappointment. But see! there on the rim of the nest stands the lord of the household, and above the dark outline of the structure projects the tell tale tufts of the sitting housewife. A moment later we can see her eyes staring upon us with angry defiance, and her plumicorns flutter in the wind as she raises her head to glare upon the intruders of the wildwood premises. Alarmed at the invasion, the male drops downward and flaps down the

creek, and in another moment the female deserts her home and flies across the stream to another grove, leaving us master of the situation.

The nest was in a triple crotch in the main part of the tree, which was a medium-sized cottonwood (medium-sized for Montana, not Illinois), the lower half of which was thickly grown with sprouts and deadened branches. One of the boys ascended to the nest, while I occupied the anxious seat and gave sundry directions to the climber. In a short time he drew himself up over the nest and shouted, "Four eggs, bigger than hen-eggs." Giving him repeated suggestions regarding the packing and lowering of the eggs, I danced around upon the ground below, until presently I reached up and grasped the lard pail containing the treasures. Ah, what relief when the spoils were placed safely beside the lunch basket, and the notes hastily jotted in my tablet! A chip was knotted into the chalk-line at the brim of the nest, and when measured with a five foot tape line showed a height of thirty-two feet nine inches from the ground. The nest was one of last season's use by either Swainson's Hawk or the Ferruginous Rough-leg, and had been prepared by a scant supply of downy feathers, probably furnished by the present occupants of the nest.

The next objective point was a nest about three miles back toward home. Having eaten our lunch, we turned and followed the water course until we reached the second nest, which like the first was a conspicuous mark, being in a lone cottonwood leaning directly over the water. Riding forward with the mad gallop common to Montana cowboys, the boys returned and announced, "She's on there all right. Them horns give her away." Sure enough, there sat the angered mistress of the Bubo mansion, with head reared to face the unusual visitors. This Mrs. Bubo required more demonstration to cause her to desert her home, but when the climber began to scratch among the

lower branches she dropped down behind the trunk and flew to cover up the creek.

This nest was made in a crotch of an oblique part of the tree, somewhat separated from the main portion, furnishing a most exposed site. The nest in the preceding season had been lined with bark and binder twine, most of which yet remained. A few downy owl's feathers had been added to make the structure habitable, and there the climber found three eggs. As there was water below the nest I had to jump a portion of the stream to receive the eggs; and as usual in such instances, my elation at finding the products of this second *Bubo* overcame my ordinary caution and I landed one foot plump into the freezing water. The second set was soon placed in safety, however; the height of the nest was thirty-eight feet from the water. It is interesting to note that during all the proceedings incident to our spoilation of this nest, the head of the family sat quietly in an adjacent thicket, and was not observed until we were about to leave the place.

The eggs of the first set varied in incubation from fresh to abundance of blood. Two of them had been clawed by the heavy feet of the sitting bird, but the claw mark of one came in such position, being about the middle of one side, that it could be used for the drill hole. The other showed three claw perforations, and only one of them could be hidden by the drill. The eggs of the second set were fairly fresh, one showing some blood. It is evident that setting or incubation begins with the laying of the first egg.

This paper should properly end here, but the peculiar part of the record is yet to come. Of course I visited all the old nests along the creek bottom until I reached home, but found no more owl's nests. It is needless to look for hollow trees in these bottoms, for none of the trees grow large enough to have a cavity that will contain a Horned Owl crosswise. The foregoing applies mere-

ly to the cottonwoods and aspens of the creeks, not the pines of the mountains. But this is not the peculiar thing I meant to mention,

Upon our arrival at home, my wife with proper curiosity desired to see the products of the day's outing. Having learnedly told her on previous occasions that owls' eggs are always white, I unpacked the two sets and spread them out before her.

"Why, I thought you said they were white," she exclaimed.

"They are," I averred. "Don't you call that white?"

"Of course not," she replied, with a smile at my apparent ignorance of colors. "Can't you see that they are green?"

And sure enough, Mr. Editor, those eggs of the Western Horned Owl have a decided greenish tinge. They are really not white at all.

The Bullock's and Arizona Hooded Orioles.

BY J. F. ILLINGWORTH, PALO ALTO, CAL.

OF ALL the birds that visit Southern California in the spring the orioles are certainly the most interesting. Every bird lover knows what a thrill of pleasure passes through him as he notes the first return from the south. Usually the Bullock's Oriole (*Icterus bullocki*) arrives in Los Angeles Co. several weeks before the Arizona Hooded Oriole (*Icterus cucullatus nelsoni*). From my migration notes for the last four years Bullock's arrived March 19 to April 10 and the Arizona Hooded from April 4 to May 1, but usually the latter came late in April. The males of both varieties precede their mates by about two weeks, and the nest is commenced shortly after the arrival of the females. The adult Bullock's Orioles generally give theirs a firm support between two or more small branches, or place it in a crotch so as to lessen the danger from the winds. It is interesting to note that the young birds are much less skillful