

tained four each. Do the pelicans keep tab on the number of fish stowed away in the pouch, and stop at a certain figure?

The old birds for the most part did not come near the island while we were there. Now and again, however, a line of six or eight would circle about above us, out of gunshot, turn their heads so as to look down upon us as they passed over, and then return to their companions. Soon after we set out to return to the mainland a "committee" of six inspected the premises, flying around the island several times but did not alight. This manœuver was repeated several times, though not by the same number of birds. Finally, when we were more than a half mile distant, an old bird dropped down upon the island, and soon others came, usually flying in lines, all the birds back of the leader flapping their wings, or sailing, as he did, this characteristic giving them a strange, machine-like appearance. It was not long before all the pelicans in sight were upon, or about, the island, glad no doubt, to resume the even tenor of the life which had been so rudely disturbed by intruders.

Provo City, Utah.

Notes on Unusual Nesting Sites of the Pacific Yellow-throat

BY A. W. JOHNSON

AN exceptionally heavy rainfall in the autumn of 1903 and spring of 1904 flooded all the low-lying lands at the northern end of Clear Lake, California. The whole of the tule lands, covering hundreds of acres were still under water at the end of May. In normal seasons the old clumps of tules on and near to the lake shore, and in and around the many ponds and sloughs in the vicinity, afford favorite nesting sites to bicolored and yellow-headed blackbirds, song sparrows, tule wrens, and also to great numbers of that charming little bird, the Pacific yellow-throat (*Geothlypis trichas arizela*).

The object of this paper is to give some little account of the admirable way in which the yellow-throats rose to the occasion and adapted themselves to new and changed conditions. Nearly all the nesting sites noted must, I think, be looked upon as more or less abnormal. From May 14 to July 12, 1904, I examined over sixty nests containing either eggs or young, and in addition many others in course of construction. A remarkable divergence in the choice of nesting sites is shown by different pairs, both as to situation and proximity to water.

Very few nests were built right on the ground; far more, notably those placed amongst tangled grass and weeds and in growing barley, were raised slightly above it from two to six inches as a rule, while nests built in trees and bushes ranged all the way from a foot to twenty-two feet eleven inches above the ground.

Ten nests were in black oak trees, mostly in thick bunches of mistletoe growing on the trees, and varied in height from five feet to seventeen feet six inches, actual measurement. Two nests were in cypress trees, one each in blue gum and cottonwood, six in olive trees in an orchard one hundred yards from water; many were in willows, standing in shallow water and in alder bushes bordering sloughs; others were in patches of wild rose bushes close to a lake, slough or stream. One nest was found in a cultivated rose bush trained against the side of a house, another affixed to stalks of alfalfa, while a third was built in the middle of a dwarf sun-

flower plant and close to the ground on the bank of a stream; a fourth was placed six inches up, right in the center of a tussock of rushes growing on a small inland in an almost dry water course.

A strange site was that of one pair which built their nest right in an old nest of bicolored blackbird that was placed three and a half feet up in a very small willow sapling, standing in water. Only five out of the great number of nests examined could be classed as truly typical. They were built in clumps of stranded tule and varied in height from six inches to five feet.

June 12 was a red letter day. I had the good fortune to enjoy the companionship of my friend, Mr. H. R. Taylor, the esteemed president of the Cooper Club. We put in a long, hot day's work, exploring by aid of our boat the banks of a large slough, both sides of which had many thickets of willow and alder with here and there large patches of wild rose upon them. We located no less than twenty-two nests of yellow-throats. One nest held young birds, nine, eggs and the rest were in various stages of construction. With all due acknowledgements to Mr. Taylor I transcribe a few extracts from the notes he made: "No. 6, nest building; ten feet from ground in willow near banks of slough. No. 14, nest and egg; three and a half feet up in willow, standing in water; willow catkins freely used in composition of outer walls of nest. No. 17, nest and four eggs; built in wild mint, compact and standing high, evidently out of place in its odd situation being only partially concealed; six inches from ground, built on side of stream now dry and about one hundred yards from the nearest water. No. 18, nest just completed; built on the ground in sunflower on bank of same stream as No. 17, and thirty yards from it and about seventy from lake. No. 20, nest building about twelve feet up in willow on edge of lake. One nest, number five, with three eggs, was placed five and a half feet up in a willow standing in water near bank. A heron's feather was fixed into one side of the nest and its top projected three inches or more beyond the rim."

In connection with nest 14, composed partly of willow catkins, I found in the last week of May a very large nest built almost entirely of willow catkins and placed four feet up on a pendant branch of a willow standing in water. This nest is now in the possession of Mr. Taylor.

On June 13 we took careful line measurements of the two highest nests discovered up to that time. The first was placed in a crotch of a small black oak on a knoll near the lake and was exactly seventeen feet six inches from the ground. The other nest was built in a cypress on a hillside and near a residence. It contained young birds just hatched. It was eighteen feet ten inches up, and about three hundred yards from the nearest water. Both these measurements have the advantage of being checked and verified by Mr. Taylor. The record nest as to height was I believe a second nest of the cypress pair. It was built in a crotch of a blue gum standing in the same grove as the cypress, the bases of the two trees being only sixteen feet apart. On July 12 when measurement was taken the nest held, judging from their appearance, three highly incubated eggs. The height of this nest from the ground was twenty-two feet eleven inches. One other nest needs special mention. On June 18 it contained two apparently deserted eggs. Its situation was an extraordinary one, at least a quarter of a mile from either lake or slough though a small stream was within two hundred yards. The nest was built four and a half feet up in a rose bush trained against the eastern wall of an unoccupied house, standing upon a hill, just such a site as the house finch delights in. I have often seen their nests in this bush. Curiously enough no set of

yellow-throat was met with this year that contained more than four eggs. In previous seasons I have found a few sets of five eggs, but never more. Four eggs are the usual completed laying; three eggs to a first set is not uncommon, while a set of five is a comparative rarity.

Upper Lake, Lake County, California.

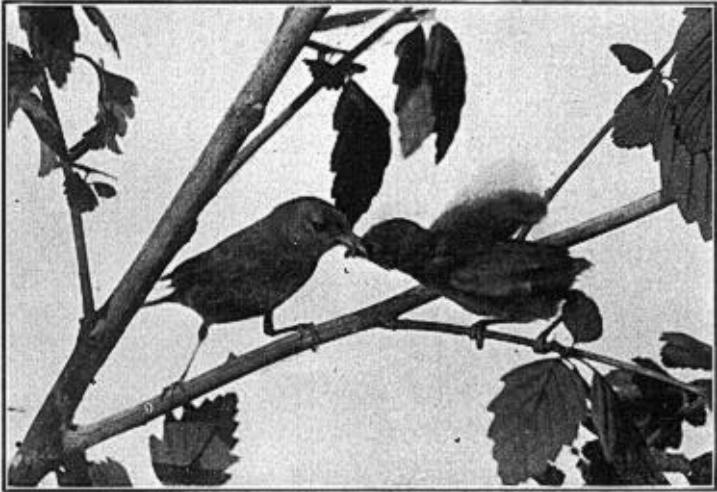
The Lutescent Warbler

(*Helminthophila celata lutescens*)

BY WILLIAM L. FINLEY

ILLUSTRATED BY HERMAN T. BOHLMAN

THE first nest of this warbler I ever found was tucked up under some dry ferns in the bank of a little hollow where a tree had been uprooted. The mother flushed when I was twenty feet distant and flew straight over the



LUTESCENT WARBLER FEEDING YOUNG

tree-tops. I watched several times to get a good look at the owner, but she was very shy and not till the following season, when I found two more nests of the same species, did I place this warbler on my list of bird acquaintances.

The second nest was on a hillside under a fir tree, placed on the ground in a tangle of grass and briar. It contained five eggs, pinkish-white in color, dotted with brown. This owner was not so shy as the first but remained in the tree overhead. I found a third nest of four eggs in a sloping bank just beside a woodland path. A fourth nest was tucked in under the overhanging grasses and leaves in an old railroad cut. It contained five fresh eggs on the 8th of June.

Last summer I found a nest placed in a somewhat different position. While watching a white-crowned sparrow my attention was attracted to a lutescent warbler in a willow. Twice she carried food into the thick foliage of an arrowwood bush. A cluster of twigs often sprouts out near the upper end of the branch and here, in the fall, the leaves collect in a thick bunch. In one of these bunches, three feet from the ground, the warbler had tunneled out the dry leaves and snug-