

noted in Texas or Florida. The route the species takes from Brazil to California is one of the yet unsolved migration puzzles.

The red-eyed vireo, the commonest and best known of its tuneful family, winters in Central America, from Guatemala to Panama. The advent of the species in spring at the mouth of the Mississippi and its even-paced passage at 20 miles per day for six weeks to the headwaters of the river are well attested by numerous records. But just about the time northern Nebraska is reached, and before they have appeared in any of the intervening country, red-eyed vireos are noted in south British Columbia, 1,000 miles to the northwest. Is the presence of the red eye in British Columbia to be explained by the theory that it suddenly flies 1,000 miles in a single night?

It is such problems as these that continually vex and fascinate the investigator.

Washington, D. C.

### Pelicans Nesting at Utah Lake

BY REV. S. H. GOODWIN

EIGHT miles southwest of the Provo Resort, on Utah Lake, lies a small, low crescent-shaped ridge of land known as Rock Island. During the period of unusually high water, of the past spring, the major portion of this island was barely two feet above the water, while a part of it was considerably less. When visited by our party it was about two hundred yards in length by about thirty yards in width, at the widest point, while fully one hundred yards of the western horn of the island was under some three inches of water, above which rose a broken line of detached boulders. The principal part of this island is a limestone ledge with loose rocks and boulders scattered over the surface; about one-third of the eastern end is of gravel. The only vegetation consists of a few clumps of stunted willow, and a narrow, ragged fringe of tules along the northern edge.

Equipped with glass, gun, and camera a party of four of us laboriously made our way toward this island one June morning, for reports had come that hundreds of pelicans (*Pelecanus erythrorhynchos*) were nesting there for the first time in the history of the island. From time immemorial these strange, solemn birds had foraged on Utah Lake—where a few years ago many hundreds of them were killed for the small bounty offered by the state—but never before had they nested here. Apparently they preferred the larger and more secluded islands in Salt Lake, fifty miles to the north. We had loaded our plunder into a small, water-soaked sail-boat, made everything ready and set sail—but we did not sail, as not so much as one breath of air was stirring and as there was no promise of an immediate change for the better, we rowed the entire distance. After the two preachers had bent to the oars for more than an hour and a half, and the sun had painted flame-color exposed wrists and unprotected necks, our sailing-master—who by the way is an old "salt," and a descendant of generations of Scandinavian sea-rovers—cast his weather-eye toward the yet distant island and quaintly remarked: "I dinks ve vas nearer dot island dan ven ve started—I don' know." Encouraged by this heartening observation, the oarsmen renewed their efforts, and an hour later the boat touched the pointed end of the island.

On the way over pelicans singly, and in twos and threes, or in small squads passed us at a terrific rate of speed, those going toward the island flying close to the water with wing strokes that seemed fairly to devour space. These birds had been fishing in the tule-covered bottoms, east of the lake, where high water had carried multitudes of fish and, gradually subsiding, had left them stranded in the shallows—a veritable paradise for pelicans and other fish-eating birds.

As we drew near the island, the glass showed the side toward us to be literally covered with these gigantic, snow-white creatures, and long lines of them, floating gracefully upon the unruffled surface of the water, were seen near the western shore of the lake. When we were about a half a mile distant hundreds of pelicans and a few gulls (*Larus californicus*) rose with a great rush of wings and much clamor, above which could be heard the sharp cries of a small flock of terns, (*Sterna forsteri*) which accompanied them. Soon after nearly all that remained



YOUNG AMERICAN WHITE PELICANS

took wing, and after circling about for a few moments, made off to the westward to join their companions. Not till our boat touched the eastern point of the island did the last of the pelicans leave.

The first thing that forced itself upon our attention, even before we landed was the dreadful nauseating odor. With dead birds, old and young, by the scores scattered over the island, and heaps of fish everywhere, just as they had been dumped out of the pouches of the old birds and in different stages of putrefaction, and with all the filth of a fully occupied roosting-ground—upon all of which beat the rays of a summer's sun—the result was something to be remembered, but not to be desired. The three members of the party, whose desire for ornithological information is not among the principal traits of their character, and who preferred to take their first lessons in bird lore under less trying conditions, soon retreated to the boat.

We found the young birds in two groups, about ten yards apart, near the western end of the island. There were two hundred or more, as nearly as I could count and estimate, and they ranged in size from a half grown gosling, to that of a large fowl, and larger. They were crowded together at the edge of the water in a solid mass—but, try as we would, we could not drive them into the water, those in the center, in many instances standing on the bodies of their younger and less fortunate relatives.

Young pelicans must certainly be given a prominent place in the front rank of the ridiculous and grotesque in bird life. Their excessively fat, squabby bodies, the under parts of which are bare, while the upper parts are covered with a wool-like coating, hardly distinguishable from that on the back of a four weeks-old lamb; these bodies set on a pair of legs, of the use of which the youngsters seem to have no very clear notion, so that when they undertake to move about they wobble and teeter and balance themselves with their short, unfledged wings, often tumbling over; many of them (on this occasion) with their mandibles parted, and panting like a dog after a long run on a hot day, the pouch hanging limp and flabby, like an empty sack, shaken by every breath—form, appearance, movement, all combine to make these birds absurdly ridiculous.

When we approached these birds, those nearest the water would not move an inch, while those nearest us in their frantic endeavors to get away would try to climb up and over the struggling, squirming mass in front of them, sometimes succeeding, but oftener rolling back to the ground where, not infrequently they alighted upon their backs, and lay helplessly beating their wings and kicking their feet in the air—after the fashion of some huge beetle—till they were helped to right themselves. When left to themselves, not a few of these birds would “sit down,” just as a dog sits on his haunches, the wings sometimes hanging limp at the sides, at others folded back. The larger part of them, however, simply squatted in the usual manner. They made no sound, save when we attempted to drive them, when an occasional puppy-like grunt would be heard, as if some hapless youngster had fallen, or been trodden upon.

We were not fortunate enough to see these young birds feed themselves, but one who visited the island a few days before we did, said that a bird would take a fish, hold up its head—as a hen does when she drinks—shake it from side to side till the fish slid down. Their fat bodies certainly showed that they were all well fed.

We were too late to find many nests—only five in all—and these yielded seven eggs, one of which was fresh, the others only slightly incubated. These nests, with a single exception, consisted simply of heaps of gravel in the center of which was a slight depression where the eggs were laid. The exception was built of coarse sticks and pelican's feathers, and contained two eggs. All the eggs secured were noticeably blood stained, owing, I suppose, to their size and the roughness of the shell.

Evidently the pelicans believe in keeping “open house,” and certainly they are generous entertainers for, as already noted, there were immense quantities of fish on the island—heaps of them everywhere. And though these birds are limited in the matter of variety of food, they make up for this by the impartiality with which they take the different species of fish which this particular lake affords them. Upon examination I found chub, carp, catfish, suckers, an occasional bass. More than one-half the fish seen were chub, and in connection with these fish an interesting coincidence appeared. Of twenty-three piles examined, all of them but three contained either five or six of these small fish—the three exceptions con-

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

**A**N 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-