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THE NEST OF THE ORCHARD ORIOLE.

(*Icterus spurius*)

BY DR. R. W. SHUFELDT.

During the past thirty years, at different times I have examined a number of nests of the Orchard Oriole (*Icterus spurius*), and these have been collected from the latitude of Washington, D. C., to that of southern New England. It is truly remarkable how much they vary, not only in the matter of form, but in the materials selected by the birds for their construction, and in the places chosen by them for their building. These variations and circumstances are doubtless responsible for the great differences we meet with in the descriptions and figures published by ornithological writers, no two of which ever seem to agree in their essential particulars. Among the descriptions left us by the earlier authors, we meet that of Audubon, and were we to judge from it alone, we would be fully justified in believing that the building of the nest of this species, the materials employed, and its location and form, were more or less uniform. Certainly he could have examined but very few of them, and these from a very restricted locality, or else the bird has very materially changed its habits since. In sub-



NEST OF THE ORCHARD ORIOLE (*I. spurius.*)

Collected and photographed by the author.

stance he says that the oriole *never* builds in any place excepting apple trees and the weeping willow; that they use "the finest, largest, and toughest grasses they can find." * * * "The nest is of a hemispherical form, and is supported by the margin only. It seldom exceeds three or four inches in depth, is open almost to the full extent of its largest diameter at the top or entrance; and finished on all sides as well as within, with the long slender grasses already mentioned. Some of these go round the nest several times, as if coarsely woven together. This is the manner in which the nest is constructed in Louisiana. In the Middle Districts it is usually lined with soft and warm materials."

Audubon's figure supports this description, but only in part—for having stated that the bird only builds in *apple trees* and *weeping willows*, he figures the nest in a honey locust! And, for one, I have never seen a nest of the Orchard Oriole that ever looked anything like it. Moreover, Audubon is utterly incorrect when he says that the nest "is supported by the margin only." (Birds of America, Vol. IV. pp. 47, 48.) Turning to Wilson's description of the nest of this oriole, we read that the structure is usually suspended "from the twigs of the apple tree; and often from the extremities of the outward branches. It is formed externally of a particular species of long, tough and flexible grass, knit or sewed through and through in a thousand directions, as if actually done with a needle. An old lady of my acquaintance to whom I was one day showing this curious fabrication, after admiring its texture for some time, asked me, in a tone between joke and earnest, whether I did not think it possible to learn these birds to darn stockings. This nest is hemispherical, three inches deep by four in breadth; the concavity scarcely two inches deep by two in diameter. I had the curiosity to detach one of the fibres, or stalks of dried grass, from the rest and found it to measure thirteen inches in length, and winding round and round the nest! The inside is usually composed of wool,

or the light downy appendages attached to the seeds of the *Platanus occidentalis*, or button wood, which forms a very soft and commodious bed. Here and there the outward work is extended to an adjoining twig, round which it is strongly twisted, to give more stability to the whole, and prevent it from being overset by the wind."

"When they choose the long, pendent branches of the weeping willow to build in, as they frequently do, the nest, though formed of the same materials, is made much deeper, and of slighter texture. The circumference is marked out by a number of these pensile twigs that descend on each side like ribs, supporting the whole; their thick foliage at the same time, completely concealing the nest from view. The depth in this case is increased to four or five inches, and the whole is made much slighter."

Wilson then follows this, as far as it goes, accurate description with a very interesting dissertation upon the reasons why the Orchard Oriole builds so differently in different trees, and under diverse conditions.

The remarkable feature of all these early descriptions is, that so few *trees* are mentioned wherein this Oriole is known to build; that the nest is *always* fastened by the brim; and that the materials of which it is composed are so uniform. It very much inclines me to believe that the bird has, in the matter of its nest building, very materially changed its habits during the past half century or more. Surely it must have been a very abundant bird during Wilson's time, and he was not only a very intelligent but a very close and reliable observer.

Now when built among stiff twigs, the nest is by no means *always* fastened by its edges or brim alone; on the contrary the bird often sews it all the way down the body of the nest to a supporting twig. A fine example of the structure when thus built is shown in the accompanying photograph, it being a nest I collected near Washington, D. C., in the summer of 1897. It was in a three-quarter grown sycamore and was almost entirely devoid of a lining, the

grasses, too, of which it was composed being very coarse. I am of the opinion that young and unskilled birds of this species frequently build amateur nests; and it is only the older individuals that construct the finer and more elaborate fabrics.

When Special Bulletin No. 2 of Bendire's *Life Histories of North American Birds* appeared (June, 1895), we had given us under his account of the Orchard Oriole a very complete and excellent description of its nests and building. Among other facts he states that "Both sexes assist in nest building, and generally finish one in three or four days. The nests are placed in trees or bushes, from 6 to 40 feet from the ground, usually from 12 to 20 feet, in a great variety of trees, less often in conifers than in deciduous kinds. Apple, pear, different kinds of oaks, sycamore, elm, cottonwood, maple, walnut, mesquite, hackberry, prickly ash, cedar, and pine are a few of the many selected as the nesting sites. In the south the Orchard Oriole nests occasionally in the gray moss (*Tillandsia usneoides*) so commonly found hanging from many of the trees there."

"The location and manner of attaching its ingeniously woven, basket-like nests vary greatly. Some are set in a crotch formed by several small twigs; the bottom of the nest occasionally rests on, and is supported by these, and again in similar locations it is unsupported, but the sides are securely fastened to several of the twigs among which it is placed; then again some are built in a fork of a horizontal limb, like the nest of an Acadian Flycatcher or a Vireo, both sides of the nest being fastened to the fork in which it is placed; again it may be fastened to some suitable twigs by the rim only, in the manner of a hammock. Comparatively few, excepting those of the last style and those built in moss, can really be called pensile or even semipensile nests. They also vary greatly in bulk and depth." Sometimes too, the bird uses the grass while green, and this color not only serves to further conceal the nest from view in the tree where it is built, but after the structure has been col-

lected, the color may be retained for years afterward. The cotton lined nests in the south, I am told, are very beautiful, being smooth and pure white inside.

One of the principal objects I have in publishing this article is to give added support to the fact that in the matter of their nest building many species of North American birds have gradually, but nevertheless markedly, during the past century, changed their habits in not a few particulars.

Sometimes the reasons for this are sufficiently clear, as in the case of the Chimney Swifts and others, but then, on the other hand, they are by no means always so obvious, though such cases are not of such frequent occurrence.

BIRDS OF KIRKWOOD, DEKALB COUNTY, GEORGIA.

BY ROBERT WINDSOR SMITH.

DESCRIPTION OF SECTION.

An estimated square mile in DeKalb county, Georgia, the northern boundary lying along the line of the Georgia railroad; the center of the specified tract being about four and one-half miles in an easterly direction from Atlanta, Georgia; situated on the dividing ridge between the waters of the Atlantic Ocean, and the Gulf of Mexico, at an elevation of 1050 feet above the level of the sea; latitude $35^{\circ} 45'$ north, longitude $84^{\circ} 45' 29''$ west from Greenwich.

The water which falls on the northern side of the Georgia railroad flows into the Chattahoochee river, and thence into the Gulf of Mexico; that which falls on the south side flows into the South river, thence to the Ocmulgee, which empties into the Atlantic Ocean. About three-fourths of the tract comprises virgin forest, swamp, old burned-out fields, waste and neglected places. These waste and neg-