

## A COMPARATIVE FIELD STUDY OF WRIGHT'S AND HAMMOND'S FLYCATCHERS.

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WE have advisedly called this article a "field study" largely for the reason that Hammond's Flycatcher (*Empidonax hammondi*) and Wright's Flycatcher (*Empidonax wrighti*) contrast much more strongly in the field when alive than they do in the hand when dead. Their appearance and actions in general, especially when in their nesting haunts, are so different that it would be practically impossible for a fairly experienced ornithologist to mistake one for the other when he had once had the opportunity of studying them while they were both nesting together in the same vicinity. Such opportunities were offered us in the summers of 1923, 1924, and again in 1926, so that we now feel justified in putting some of the results of our observations in print, in addition to the fact that we have collected specimens of both species. These conditions were obtained among the foot-hills on the east side of the Cascade Mountains in the state of Washington. On the west side of the Cascades the Hammond's is a regular, though somewhat rare, summer resident among the large Douglas Firs, while the Wright's can be considered only as a rare migrant.

No little confusion has occurred regarding the nesting of these two Flycatchers and the Gray Flycatcher (*Empidonax griseus*) in past literature, so that we trust our contribution may prove of some value. Our operations were conducted for the greater part in different sections of Chelan County, famous for the beauty of its mountain scenery, and also in the adjacent Okanogan County, the altitude where we worked varying from one thousand to fourteen hundred feet. The forests in these localities abound in conifers, most of which are firs and the western yellow pine, commonly called "Bull Pine," but in addition there is a very large variety of deciduous growth. Mountain streams are everywhere, so that it forms a paradise for bird, beast and man during the summer months.

We started in on this study with no more material than having taken the birds, so the gradual development proved extremely

fascinating, especially when in combination with the other interesting species found in the same region. The main objective of our first trip was to find the nests of Townsend's Warbler (*Dendroica townsendi*), its nesting haunts being confined exclusively to the fir trees. Consequently, it was with *hammondi* that we first became acquainted in home life, as every one of the goodly number of nests located were found in firs or the Western Yellow Pines. As a rule the nests were saddled on a large limb, occasionally where a few small twigs branched out, and some ten or fifteen feet out from the trunk of the tree. Only one exception to this rule was noted, this nest being close against the trunk of a small fir and saddled on two small branches, the height being only twelve feet from the ground. About twenty-five feet from the ground was the average height, extremes being fifty and twelve feet, and for this reason it was almost always necessary to do a human spider act on a rope in order to collect them. The altitude where the birds were found nesting in eastern Washington was always close to the one thousand foot level, stopping abruptly within a couple of hundred feet. The female sits very closely after incubation has commenced, so that it is sometimes necessary to lift her off the nest in order to ascertain the contents, but she is seldom or never found on the nest until the set is complete. After being flushed she is the tamest of the small Flycatchers, usually returning to the tree very soon and otherwise displaying her anxiety. The male is very watchful around the nest and will promptly drive off any other bird that comes in its vicinity, in this way sometimes showing the oologist that a nest is near at hand. We once saw a beautiful male Townsend's Warbler attacked and driven off after quite a battle, in which the dusty colored little Hammond's looked like a tramp. These birds are never at all shy in the vicinity of the nest and are usually easily approached at any time elsewhere. The eggs are usually four in number, rarely three, but never more than four so far as we have seen. They are pale creamy white in color, mostly unspotted, but not infrequently sparingly marked with small dots of red brown. In fact, marked eggs are almost as often found as in eggs of the Phoebe. The shape is most often rounded, with a slight tendency to ovate. The dimensions will be considered later

in this article. Complete sets of eggs are seldom found earlier than June 5, and the majority come several days later than this. The nest is a compact, neat little affair, built mostly of plant fibres and a few pieces of fine dead grass, lined with horsehair and feathers. Externally the character of the plant fibres gives it a silvery appearance, which will usually identify it at a glance from any nests of the other small birds. The size is about the same as a small nest of *E. wrighti*, although the two are quite distinct from each other.

Let us now consider the nesting habits of the clean colored Wright's Flycatcher, which are as utterly different from Hammond's as are the actions of the birds themselves. *E. wrighti* is a bird of the deciduous thickets, in wide contrast to the fir-loving *hammondi*, and it is there that we must go if we expect to find it. They are nearly always extremely shy and, if it were not for their notes, the birds would seldom be noticed even where they are common. Any kind of deciduous bush or small tree seems about equally desirable as a nesting site, for we have found them in the following locations:—red willow, birch, wild rose, alder, cottonwood, maple, and one each in fir and western yellow pine, the last two being the only instances we have seen of their using conifers. The nest is almost invariably built in an upright crotch, the only exception being the one in the fir, which was saddled on a forked limb close to the ground. About six feet from the ground is the average height, the extremes being fifteen and two feet. The bird can only be closely approached when the female is on the nest, and here her actions are exceedingly unusual. She will always sit so closely that one has to lift her off the nest, but it is impossible to judge of the contents by this as she is just as likely to be building as to have a complete set of eggs. A striking example of this was one nest that we found built about ten feet up in a slender alder, which the sitting bird positively refused to leave. The tree could not be climbed with safety, so we whittled it off about three feet from the ground and lowered it down. The bird "sat tight" all the time and had to be pried off the nest which, much to our amazement, was little more than half completed and absolutely empty. We then tied the two sections of the tree together and later on found that the change and disturbance had

not seemed to bother the bird at all, as she finished her nest and laid a set of four eggs. The young, when well grown, hold their heads over the sides of the nest and the broad base of the beak can easily be noticed when one is standing on the ground below them, and the difference from the slender billed Hammond's is much more apparent than it is in the adult birds. Tame as the female is when on the nest, her actions are completely changed the instant that she leaves it, for then she is the shyest of the shy and it requires a long and cautious hiding in order to get even a sight of her afterwards. We have never seen the male indicate the presence of the nest in any way or come near it at any time. The eggs are almost invariably four in number, the only exception to this rule being a set of five that we found during the summer of 1926. They are, like those of *E. hammondi*, pale creamy white, usually unmarked, but not infrequently dotted with light brown and are larger than eggs of that species in nearly all cases, and less rounded, averaging about .69 x .55 inches. Our largest egg of *E. hammondi* measures .65 x .50 inches, but a series of both show the decidedly smaller size of that species. The nest is composed of much the same materials as Hammond's, but is somewhat more bulky and not as neatly and compactly built. Usually there are little streamers of dead grass or plant fibres hanging from the outside, while the feather lining is frequently very high. Altogether, while it cannot be called a neat structure, it certainly is a very pretty one. The measurements average as follows:—inside depth 1.25 inches, diameter 2.00 inches; external depth 3.00 inches, diameter 3.50 inches. Nest building commences decidedly earlier than Hammond's, the nest and five eggs above mentioned being heavily incubated when taken on May 29, and we have found nests containing young that must have had fresh eggs close to the middle of May. The bulk of the fresh sets, however, may be found about May 30, and it is hard to explain the difference between these early and late broods as unquestionably only one brood is reared in a season.

In regard to identifying the two species in the field, oddly enough it is really easier to tell them there than when actually in hand, although this is perhaps not strictly true. However, in life Hammond's shows himself a dusky backed, sooty breasted, short

tailed little chap, while Wright's is a gray backed, light breasted, long tailed bird, appearing decidedly the larger of the two. These characteristics may seem a trifle exaggerated here, but as seen in life they are recognizable at once. In fact, Hammond's suggests more than anything else an undersized Western Wood Pewee (*Myiochanes richardsoni richardsoni*).

We have no record for the Gray Flycatcher (*Empidonax griseus*) in the state of Washington, but, in conclusion, a short mention of its nest and eggs based on the experiences of others may prove of interest by way of comparison. It seems to prefer a more or less desert region and during the nesting season is not likely to be found associated with the other two Flycatchers mentioned in this article. Both nest and eggs are very much larger than those of even Wright's Flycatcher, the eggs of *griseus* in our collection averaging .75 x .55 inches and being much purer white. In fact, in our opinion, there would not be the smallest likelihood of mistaking the nest and eggs of one for the other by anyone who has seen both.

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