

THE NEST AND HABITS OF THE CONNECTICUT  
WARBLER IN MINNESOTA.

BY N. L. HUFF.

*Plates XXV-XXVI.*

THE Connecticut Warbler (*Oporornis agilis*) is one of the rarest of our song birds. It was first collected by Alexander Wilson in Connecticut, and notes concerning it were published in 1812.<sup>1</sup> It is seen not infrequently during migration seasons, mainly restricted to the Mississippi river valley in spring and occasionally beyond, and to the Atlantic slope in autumn, but comparatively little is known or has been published of its home life and habits.

For more than seventy years after the bird was described, its summer home was shrouded in mystery, and not until 1883 was the mystery partly cleared, when Ernest T. Seton<sup>2</sup> discovered the first nest in a cold boggy tamarack swamp in Manitoba. He made no extensive study of the habits of the bird, and so the domestic life of this rare songster was left in obscurity. Other records of its summer residence are few, and the nest to be described in this paper is probably the first ever discovered within the bounds of the United States, certainly the first recorded from Minnesota.

O. B. Warren<sup>3</sup> collected young Connecticut Warblers in early August, 1894, in Marquette County, Michigan. Norman A. Wood<sup>4</sup> reports the taking of an adult and young on July 27, 1904, in Ontonagon County, Michigan, and O. M. Bryens<sup>5</sup> reports mature birds seen July 23, 1922, August 18, 1923, and August 22, 1924, in Luce County, Michigan. These summer records, especially of immature birds, may be taken as good evidence of breeding in the upper peninsula of Michigan.

It has been known for many years that the Connecticut Warbler is a summer resident of northern Minnesota. B. T. Gault<sup>6</sup> saw

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<sup>1</sup> Amer. Ornith., V, 1812.

<sup>2</sup> Auk, I, 1884, 192.

<sup>3</sup> Auk, XII, 1895, 192.

<sup>4</sup> Auk, XXII, 1905, 178.

<sup>5</sup> Auk, XLII, 1925, 451.

<sup>6</sup> Auk, XIV, 1897, 222.

one and heard several others singing in a swamp in Aitkin County on June 21, and days following, 1896. Dr. Thos. S. Roberts and L. L. Löfström<sup>1</sup> saw adults, one a female with bill full of food, on June 26, 1915, in a swamp in Isanti County, and Mr. Löfström considered the bird as "a common summer resident of these tamarack and spruce bogs." Although I have visited the Isanti County bogs referred to, each June and July for the past five years, I have neither heard nor seen the Connecticut Warbler there, and it is believed they have left the swamps of this county permanently for the wilder regions in the northern part of the State, or in Canada.

My search for the nest of the Connecticut Warbler began several years ago, as a result of a suggestion from Dr. Thos. S. Roberts, whose interest, enthusiasm, and personality have always been a stimulus for more intensive study of bird life. It was on July 13, 1925, that I made my acquaintance with the bird in its summer home. On this date I was driving through St. Louis County and while passing a spruce swamp some miles from Tower, I heard an unfamiliar bird song coming from the depths of the swamp. I entered the swamp and in a few moments had located the tamarack tree where the singer was perched. In spite of the fact that the tree was small and its foliage sparse, it was an hour before I was able to get an unobstructed view of the bird that enabled me to identify him definitely as the Connecticut Warbler. During this time he was forced to change his location two or three times but each time he eluded his observer and concealed himself in his new station before renewing his song.

The song of the Connecticut Warbler varies with different individuals, and at times with the same individual. The volume may be changed, and certain syllables may be changed or omitted, but the quality of his tone is unique and practically invariable, especially as regards two syllables, "*freecher*," always included in his song. So characteristic is his voice that one having heard him may identify him more quickly by his song than by sight. His voice is sharp, piercing, penetrating, rather shrill yet pleasing, and is one that I always associate with the wild swampy wilderness where he sings. As with many other birds it is impossible to

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<sup>1</sup> Auk, XXXII, 1915, 504.



UPPER.—NEST AND EGGS OF CONNECTICUT WARBLER (*Gporornis agilis*).  
LOWER.—NEST SITE IN SPHAGNUM AND LABRADOR TEA.

express it with words, but his most common song suggests the syllables, *freecher-here freecher-here freecher-here freech*. Occasionally I have heard the song, *freecher freecher freecher*, resembling somewhat that of the Ovenbird, but often followed by other notes, and so different in quality that one would never confuse the two. Frequently only a fractional part of either song is voiced.

In his summer home the Connecticut Warbler is a shy and elusive bird, so secretive in his manner that he would rarely be seen here, even by those looking for him, were it not for his betraying song. As we near his territory we hear his clear, ringing, unmistakable voice. One may easily approach the tree from which he pours forth his jubilant song, for he seems to sing with even greater vigor as we near him; but to see him may require a long wait, and the closest scrutiny of every part of the tree's crown. His voice has something of a ventriloquial quality. As one circles slowly about the tree from which he sings, the song may apparently come from the lower branches, five or six feet from the ground, while in reality the singer is situated thirty feet or more above. He continues to sing with vigor, but his olive green back and yellowish under parts blend with the leaves, and he cautiously keeps a branch or a small mass of foliage always between him and his would-be human observer. The art of concealing himself behind a relatively small obstruction, is one which he has developed to a degree approaching perfection. Little wonder the records of his summer life are so few.

When driven from his song perch by too close approach of his observer he escapes, often unseen, from the opposite side of the tree, and the first indication of his departure may be his jubilant, triumphant song gushing from a tree several yards away. If one is fortunate enough to see him enter another tree nearby, one is impressed with the remarkable facility with which he creeps, half hidden, through the tree until he reaches a secure position, separated from his observer by a limb or a small mass of foliage. More than once as he scampered along a branch, his body low, his head extended, seeking a suitable hiding place, I have seen him pause an inch beyond the coveted spot. With head and shoulders visible he takes a hasty peep at his observer, then suddenly retreats a step or two and

adjusts his position until he is wholly obscured. Here, frequently on a relatively large branch not far from the trunk of the tree, he at once begins his oft repeated song, *freecher-here freecher-here freecher-here freeech*. Whether this is a love ditty to his mate, a warning to other members of his tribe that this territory is occupied, or simply an uncontrolled outburst of the exuberant joy of living, who can say? Whatever his motive, he seems quite oblivious to the presence of a human observer so long as his form is hidden among the branches.

If one remain perfectly still or in hiding for a while, the singer forgets one's presence and sooner or later will move out of his hiding place, walking along on a limb or occasionally hopping to a nearby branch, taking some tiny insect or other tidbit that meets his fancy, all the while repeating his song several times each minute. His relative inactivity, his rather slow deliberate movements, now afford an excellent opportunity for observation.

On June 6, 1926, on June 4, 1927, and again on June 3, 1928, while on botanical excursions through northern Minnesota, I heard or saw, on each occasion, Connecticut Warblers in certain swamps of Aitkin County. Of these swamps, one was selected as the most promising place for observation of the habits, and the possible location of a nest of this bird. This swamp is perhaps half or three-quarters of a mile wide and two miles or more in length. Much of its area is covered with a pure stand of small black spruce, some parts with an equally pure stand of tamarack, but in places these two species are more or less mixed together. The pitcher plant and the sundew thrive here, as do the buckbean and the wild calla, the coral root, the moccasin flower, and that rare and gorgeous orchid, the dragon's mouth (*Arethusa bulbosa*).

In the Canadian swamp where Seton<sup>2</sup> found the Connecticut Warbler nesting, he speaks of the song of this bird being the only noticeable sound save that of the Great Crested Flycatcher. How different this Aitkin County swamp! Here on a clear morning in June the air is filled with bird voices. One hears the Hermit Thrush, the Willow Thrush, the Song Sparrow and the White-throat, the Maryland Yellow-throat, Blackburnian and Palm Warblers, four or five Flycatchers, Chickadees, Juncos, and several others, to say nothing of songs of the Scarlet Tanager, Rose-breasted Grosbeak,

Oven-bird, and Vireos that drift in from the borders of the swamp. It is a place attractive alike for the student of plant life and the lover of birds. Recent explorations (1929) of only a part of this swamp revealed Connecticut Warblers singing in no less than five different localities, and there are probably several more than that in the entire swamp.

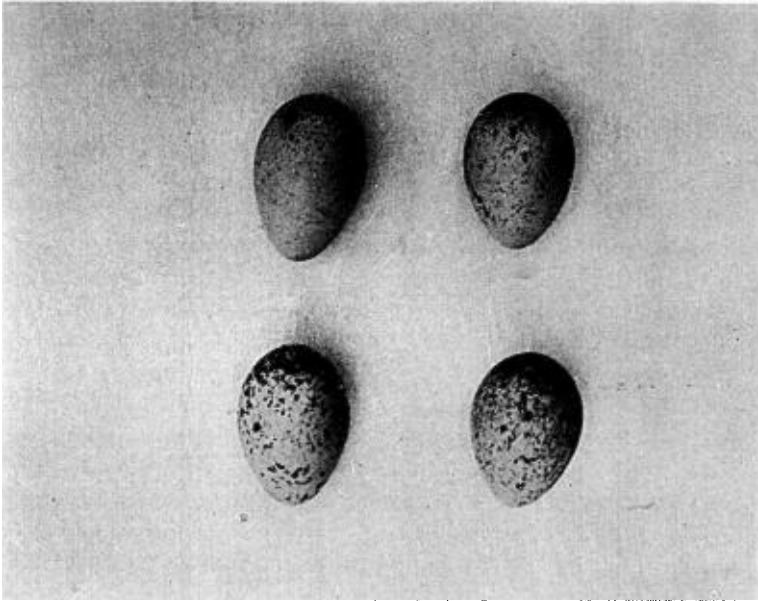
On June 10, 1928, I visited this region for the purpose of learning more of the Connecticut Warbler and if possible locating a nest. Scarcely had I entered the swamp when I was attracted by the song of this bird, and while observing it, another was heard some 150 yards away. The first was lost in a very short time and I advanced to locate the second singer. The tree from which he was singing, a tamarack 35 or 40 feet tall, stood amidst the growth of smaller black spruce. The foliage of the tree was not dense and it seemed improbable that any bird of his size could long conceal himself there, for the powerful binoculars revealed every twig. The song offered constant assurance of his presence but the bird could not be seen, and after circling about the tree two or three times, assured of his approximate location, I settled down for a more complete search with the field glasses. Fully fifteen minutes had passed when he appeared, walking out on a branch near the trunk of the tree, but 30 feet above the ground. At the base of a nearby tree, I sat perfectly still, in a tangle of Labrador tea and soft bog moss. Whether he had forgotten my presence or merely regarded me now as a part of the landscape, I do not know, but he no longer sought to conceal himself. He often sat motionless for several minutes, except for the shaking and quivering of his body which always accompanied his singing. Sometimes he flitted about on smaller twigs near the outer part of the crown, but most of the time he spent near the center, walking along branches, deliberately searching for insects, occasionally snapping at one as it flew too near his head, but repeating his short song in a vigorous manner, about every twelve seconds. For an hour I kept him under almost constant observation, hoping he might give some clue as to the whereabouts of a nest. But not he; if he held the secret he failed to reveal it.

While the growth of spruce in some parts of the swamp was so dense as to be almost impenetrable, this place was more open and the trees were well spaced. A layer of sphagnum several inches in

depth covered the ground. Growing through this and extending from 15 to 18 inches above it was a veritable tangle of Labrador tea and swamp laurel, a combination that at times makes human progress extremely difficult. In spite of the difficulties however, a thorough search was made in the vicinity, an area extending from 50 to 150 yards in all directions from the song-tree, but no evidence of a nest could be found. At one time while the male was singing from his usual place, another bird was heard at a distance of about 100 yards. The song was different from that of the male, softer and shorter, *freecher, freecher*, followed by several other notes. I located the bird in a small spruce tree and identified it as a Connecticut Warbler, probably a female, since the markings were less pronounced than those of the male I had been watching. She repeated her song only a few times and was then lost in a spruce thicket. Later in the day a thorough search in the vicinity of this tree failed to flush any bird or give further indication of a possible nest.

For more than five hours, while I remained in the vicinity, the singing male clung quite persistently to this one tree, and during this time, so far as I was able to observe, he left the tree only three times. Once, for a moment only, he went to the ground, and on two other occasions he flitted across to a neighboring tree, only to return in two or three minutes. All the while he repeated his song at short intervals, only occasionally pausing for a rest of five or ten minutes. When I moved about near his tree he always tried to conceal himself, and his song was issued in a Thrush-like manner, from a single perch where he might remain for a long time. At other times however, his manner was more like that of the Vireos. He walked or flitted about the branches in a deliberate manner, industriously getting his meal, but always singing while he worked. From several Connecticut Warblers observed before and after this one, it appears not uncommon for a bird to remain in one tree for fifteen minutes or even for half an hour, but I have observed none other that clung persistently to the same tree for several hours. Practically all have shown a decided preference for the tamarack, even where the majority of trees present were black spruce.

About three weeks later, July 4, 1928, I was in this swamp again for several hours, but failed to see or hear a single Connecticut



UPPER.—EGGS OF CONNECTICUT WARBLER.

LOWER.—CHARACTER OF COUNTRY WHERE NEST WAS FOUND. PHOTO FROM FORESTER'S OBSERVATION TOWER. DARK BELT, BLACK SPRUCE; LIGHT BELT ABOVE IT, SMALL TAMARACKS.



Warbler. I concluded that either the young had left the nest and they had moved on to other feeding grounds, or that the males had ceased their singing. On account of their secretive manner the presence of Connecticut Warblers in a swamp of this kind would be extremely difficult to determine, were it not for the tell-tale song of the male.

On June 13, 1929, I paid another visit to this region, and at 8:30 in the morning as I entered the swamp, was greeted by the voice of a Connecticut Warbler singing from a tamarack tree near the edge of the bog. After listening to him for a few moments I moved on toward the tree where I had observed the singer for several hours in 1928, a place only 300 or 400 yards away. I had covered about half this distance and was wading through a tangle of Labrador tea and other bog shrubs that covered the ground in a little opening among the spruce trees. As I reached the center of this opening there was a slight flutter in the tangle at my feet. I paused, and like an arrow speeding from a bow, a bird with olive green back flashed from the tangle and disappeared in the thicket of black spruce. A Nashville Warbler, I thought, from the flitting glimpse I got of the bird as she left the nest. I turned my eyes to the ground and there at my feet, sunken in a mossy hummock, was an open nest with four speckled eggs, but they were evidently not those of the Nashville Warbler. From the meager description I had read of the Connecticut Warbler's nest discovered by Seton<sup>2</sup> this might be the long sought nest. Could it be possible? Patience, and the female bird will answer the question.

I retreated a dozen paces and partly concealed myself where I could see the nest. In about ten minutes a bird appeared in the low branches at the edge of the opening where the nest was located. She was aware of my presence and evidently annoyed. Her actions clearly proclaimed her to be the owner of the nest. One look through the glasses and her identity was certain. It was a female Connecticut Warbler. The nest had been found at last! She disappeared in the thicket and I retreated to a point 20 yards from the nest. In a few moments she reappeared in a tree some 20 feet above the ground and beyond the nest from where I sat. She was much distressed and called repeatedly in a loud metallic tone, *plink, plink, plink*, but I sat like a pillar of stone. After a few moments

she came to a tree nearly between me and the nest and continued her protest at my intrusion, but her note had now changed to a soft, plaintive, *p-e-e-p, p-e-e-p*, given in a clear flute-like tone. Like the males I had previously observed, she often concealed herself among the foliage, even while she protested with her gentle voice. On two occasions while in this tree, but for the moment invisible from where I sat, I heard the short song, *freecher freecher freech*, issuing from the tree, and it unquestionably came from this female bird.

After nearly half an hour of mild protest, from a height of 20 feet, she began to move gradually upward in the tree. Her voice was now still, and walking or creeping through the rather dense foliage, she disappeared near the top of the tree. When I had waited for about ten minutes without seeing or hearing her again, I decided to leave the place for a while to permit her to return to the nest, lest she might desert it before our evidence had become absolutely conclusive. As I approached the nest to take another look at the rare structure and eggs I was greatly surprised to flush the mother bird again from the nest. As before, she darted directly into the thicket and was lost from view. Evidently she had cautiously left the tree from the opposite side, and at a point some distance away had descended into the tangle of Labrador tea and made her way along the ground back to the nest.

For two hours I explored the swamp and then returned and very cautiously approached the nesting site. At a distance of ten feet from the nest I was able to see the bird sitting low in her deep little cup, her back well below the top of the nest, her beak and tail pointing straight upward, her white eye-ring standing out in strong contrast against the darker background of her head and eye. I paused to observe her, but it was for only a moment. Seeing me, she slipped from the nest, scudding like a mouse over the rough surface of bog-moss, and creeping swiftly through the tangle of low shrubs, she was fifteen feet from the nest before she left the ground. She then arose to the lower branches of a small spruce tree, and by creeping from twig to twig, gradually ascended until ten or fifteen feet from the ground when she disappeared. Unlike the bird described by Seton<sup>2</sup> she made no effort to entice me away from the nest, but each time vanished as quickly as possible in the nearest cover.

When I had taken photographs of the nesting site and nest, I withdrew 25 yards, hoping to make some further observations of the female bird. Although I remained there for an hour she failed to appear, nor was she at the nest. After wandering about the swamp for nearly two hours I returned but she was not there. I was away for another hour, but still there was no bird at the nest. In photographing the nest, the eggs had been left near one side of the little cup and I now noted that their position was unchanged. Evidently the mother bird had not been at the nest for more than four hours. Had my prolonged stay in photographing, caused the shy bird to desert her nest? I feared it had. In my own mind I was absolutely certain of the identity of the bird I had seen, but I had no evidence convincing for others, that the nest and eggs were the long-sought prize, those of the Connecticut Warbler.

When I left home on a 300 mile tour to visit this swamp I had a feeling that somehow I should find there the rare nest of this bird, and so I went prepared to bring back the evidence of my discovery. If now the bird would only return once more to the nest I should have the convincing evidence. But had I delayed too long? Half discouraged and half hoping, I took from my knapsack a cap-shaped hair net attached to a wire hoop eight inches in diameter. This I suspended six inches above the little nest. The light line suspending the net passed through a small metal ring four feet above the ground and directly over the nest, and was then attached to a tree 25 yards away. A light weight attached to the line just below the metal ring and secured in a manner to prevent it from dropping to the nest, insured quick action when the line was released.

I went for another tour of the swamp. I had little hope that the mother bird would return to the nest after an absence of five or six hours. As I wandered about the swamp my anxiety for the contents of the nest was constantly increasing, for I could not but contemplate what would happen if a red squirrel that frisked about within ten feet of the nest while I watched, should find the eggs before my return. An hour and a half passed and at 5:30 in the afternoon I returned, cautiously approached the tree 25 yards from the nest and released the line suspending the net. The net dropped. I rushed toward the nest, lest if the bird were there she should

break the net or struggle through it before I reached her. I half hoped to see a bird fluttering in the net. At ten feet from the nest I paused. Alas, alas! There lay the net neatly spread upon the moss above the nest, but no fluttering bird. With disappointed eyes I gazed into the nest. What! A beak and tail pointing upward, a white eye-ring, just as I had seen them earlier in the day! Can it be possible? I started to rub my eyes, but just then there was a commotion in the nest; there was a bird fluttering in the net and it was the Connecticut Warbler! So fine and light was the net and so gently had it fallen upon the soft moss that the sitting bird had not been disturbed, and made no effort to leave until I approached to within eight or ten feet of her nest. I now had the nest, the eggs, the bird, and the evidence was complete.

The spot chosen for the nesting site was a little opening among the black spruce trees, not more than 30 yards from the margin of the swamp. A luxuriant growth of sphagnum covered the ground everywhere to a depth of several inches. The nest was a rather deep, rounded cup, compact and well made. Inside it measured an inch and a half in depth, and two inches in width. The wall of the nest was approximately half an inch in thickness, and was composed entirely of fine dry grasses, except for a few black plant fibers resembling horse hairs, woven into the lining of the bottom. It was sunken in a mossy mound, the top of the nest being level with the top of the moss. Labrador tea and swamp laurel, low bog shrubs that formed a dense tangle throughout the little opening, overtopped the moss by a foot or more and offered ample protection for the otherwise open nest.

The eggs, four in number, were of a delicate pinkish white, marked with brownish dots and splotches, which varied in color from very pale tints through the darker shades of purplish brown, some of the larger ones being so dark as to appear almost black. The markings were much heavier on the large end, gradually diminishing in size and numbers toward the small end. In one case the whole of the smaller end was almost entirely white. In length the four eggs varied, measuring in inches .78, .81, .81, and .84 respectively. They were of uniform width, .56, giving an average size of .81 x .56 for the clutch. The size of the eggs discovered by Seton<sup>2</sup> was .75 x .56.

The identification of the bird was confirmed by Dr. Thos. S. Roberts, Director of the Museum of Natural History, University of Minnesota, and the nest, eggs, and mother bird have been deposited in the Museum.

*Department of Botany,  
University of Minnesota,  
Minneapolis, Minnesota.*