

SWAINSON'S WARBLER IN NICHOLAS COUNTY,
WEST VIRGINIA

BY MAURICE BROOKS AND WILLIAM C. LEGG

THIS paper is an account of the discovery of Swainson's Warbler (*Limnothlypis swainsoni*) as a locally abundant summer resident in Nicholas County, West Virginia, at elevations up to 2000 feet above sea level, on the Allegheny Plateau.

HISTORY

The history of our knowledge of Swainson's Warbler is a curious one, falling into definite periods. After its discovery by Bachman near Charleston, South Carolina, in 1832, it remained virtually unknown until the latter years of the nineteenth century, when a series of notes and papers relating to the bird appeared. During this time, and the early years of the present century, much was added to our information; the bird was found as far north as Oklahoma, southeastern Missouri, southern Illinois, southern Indiana, and Warwick County, Virginia. Practically every observation which appeared in print confirmed the generally held belief that this species is virtually restricted to the cane swamps of the Atlantic Coastal and Gulf regions, in the Austroriparian division of the Lower Austral Zone. It is notable that the latest (1931) edition of the A. O. U. 'Check-list' does not record a single accidental occurrence of this bird north of its accepted breeding range.

Belief in these restrictions of range having become an *idée fixée* among ornithologists, little attention, apparently, was paid the species from about 1910 to 1930. In fact, reference to the indices of 'The Auk' for the years 1910-30 shows just eleven occasions on which the bird is mentioned, most of these being of a decidedly casual nature.

On June 14, 1924, Mr. P. C. Bibbee, collecting for the museum of West Virginia University, took a male Swainson's Warbler at Buzzard's Rocks, Monongalia County, West Virginia, a rugged region of hemlock- and rhododendron-clad mountains only a few miles from the Pennsylvania border. Unfortunately, Mr. Bibbee's record was not published until 1934 and so escaped the attention of the A. O. U. Check-list Committee.

During the summer of 1932, Mr. F. M. Jones, a field worker who has carried on extensive studies in the Bristol region of southwestern Virginia, reported the presence of Swainson's Warblers in this territory, and also collected a nest and eggs. So remarkable was this

record considered that, in the absence of a specimen of the bird, and despite the nest and eggs taken, it was not accepted for publication at the time, and did not appear until October, 1939 (Murray, 1939).

Murray (1935) records the finding of nests of this species in Robeson County, North Carolina, about ninety miles inland from the coast, although at the upper edge of the Coastal Plain. Williams (1935) tells of seeing the birds near Tryon, in mountainous western North Carolina, on May 8, 1934, "in open woods on a ridge about 100 yards from the nearest water, a small spring." From May 9 to 14, 1935, he found the birds in the same locality, and states, "Parts of the hill have thick growths of mountain laurel, but these warblers did not confine themselves to the thickets but were often in the open woods and were easily observed." Williams's record is the first one from western North Carolina, and is, we believe, the first recorded occurrence of the species in a mountainous region.

In connection with an expedition for the Smithsonian Institution, Wetmore (1937) collected the second West Virginia specimen of Swainson's Warbler in Lincoln County, on April 28, 1936. This region is hilly and rugged, on the western edge of the Allegheny Plateau. Doing similar work in Tennessee, Dr. Wetmore (1939) collected an adult male Swainson's Warbler on June 8, 1938, at an elevation of 3000 feet "in the Holston Mountains, 3 miles northeast of Shady Valley, in a swampy area shaded heavily with hemlock and rhododendron." Two other birds were noted in the same general region at 2600 feet.

The junior author of this paper (Legg, 1939) found during the summer of 1939, near his home at Mt. Lookout, West Virginia, birds which he believed to be Swainson's Warblers. He had them under observation for some time, and took careful notes on their appearance and behavior. The birds returned to the same region in 1940, and the senior author, accompanied by Mr. William A. Lunk, visited the region in June, 1940. On June 25 a breeding male was collected.

It has been an experience common to many collectors in the central and southern Appalachian regions that a species, once found, is finally traced to an area where it is at least locally abundant. For Swainson's Warbler the region around Mt. Lookout, in the southwestern part of Nicholas County, is certainly such an area.

CLIMATE AND TOPOGRAPHY OF THE REGION

Nicholas County, West Virginia, is in the south-central portion of the State, lying to the west of the main Allegheny ridges, and having the rugged terrain characteristic of the Allegheny Plateau. Near

Mt. Lookout, the center of an area which the birds occupy, the 38th parallel of north latitude and the 81st meridian intersect. Virtually all the surface of the county is Palaeozoic, of either the Mississippian or the Pennsylvanian periods. Near Mt. Lookout the surface strata are of the Pottsville series, New River and Kanawha groups predominating.

The region is well watered by streams forming a dendritic pattern. At Holcomb, where weather records have been kept for a period of years, mean annual rainfall averages 53.22 inches, many years having precipitations above 60 inches.

Elevations in the Mt. Lookout region lie between 2200 feet and 1300 feet at the Gauley River level. Valleys are narrow, and the streams have a precipitous descent. Of the three principal streams along which Swainson's Warblers have been found, Gauley River in 62.7 miles in Nicholas County falls 1347 feet; Collison Creek, a tributary of Gauley, falls 900 feet in 5.9 miles, or an average fall of 152.5 feet per mile; and Anglins Creek, a tributary of Meadow River, falls 775 feet in 6.4 miles. Collison Creek drains an area of approximately ten square miles, while Anglins Creek drains approximately 29 square miles.

At Holcomb the mean average yearly temperature has been 50.3° F. Under the Köppen system of climates this would classify as *Cfb*, a region of moderate temperature, well-distributed precipitation, and cool summers.

THE BIRD IN ITS HABITAT

The region where Legg first found the birds in 1939 was lightly lumbered some years ago, and is now in the pole and young-timber stages of forest growth. There is an extremely dense understory, virtually forming a jungle, and comprising as principal species rhododendron (*R. maximum*), mountain laurel (*Kalmia latifolia*), hemlock (*Tsuga canadensis*), and American holly (*Ilex opaca*). Since the region is abundantly watered this growth extends well toward the tops of the ridges, and a more impenetrable tangle would be hard to find. Where small openings occur blackberry briars (*Rubus* sp.) are dense, adding to the difficulties of travel and observation.

The birds were first noted in 1940 on May 16, along Franzy Creek, a small branch of Collison Creek. Within a short time territories had seemingly been established, and within a mile and a half along this stream there were ten or eleven singing males whose presence could regularly be counted on. Later exploration by Legg revealed the presence of the birds in good numbers on Malinda Creek, close by,

and on Gauley River proper. Brooks and Lunk found them in June, 1940, along another tributary of Collison Creek, four miles north and east of Mt. Lookout, and along Anglins Creek some miles to the south. All the birds seen were in the characteristic rhododendron-laurel-holly-hemlock tangles, and it was literally true that we did not visit a single area of this kind in the region without finding the birds present. Along West Virginia Highway No. 41 three males were heard in song at one time, and we stopped at a number of places where two birds could be heard at the same time.

A typical territory along Franzy Creek where Legg has had a singing male under observation throughout the season includes about one hundred and fifty yards bordering the small stream. Near the center of the area is a small clearing, now in the brush stage, and around it is the dense growth mentioned above as characteristic of the region. Near the borders of this opening are heavy growths of ferns, principally the hay-scented fern (*Dennstaedtia punctilobula*). Blackberries and greenbrier (*Smilax*) are abundant. Over the dense shrubby understory is a fairly loose forest canopy made up principally of hemlock, red maple (*Acer rubrum*), and Fraser's magnolia (*M. fraseri*). There are sizeable sandstone cliffs on the steep slopes above the stream.

The singing bird may be heard from any point in this territory, if conditions are good. It visits all parts of the territory save the opening, but it regularly works around the edges of this. It is seldom heard more than fifty or seventy-five yards from the stream. On June 24 the authors, with Lunk and Clyde McClung, visited this territory during the afternoon. The bird was not singing during our stay at that time, but 'squeaks' made near the edges of the clearing soon called it (or at least a Swainson's Warbler) close to us; it made known its presence by a penetrating chirp. The same territory was visited the next morning, and the bird, ranging over the area, sang almost constantly for more than an hour. There is an alder fringe along the stream near the opening, and we heard the bird in this growth for a short time. This territory has an elevation of about 1650 feet.

Farther up and down this same stream are the territories of other singing birds, all of them quite similar except one near the headwaters of a branch stream where the woods are more open. Even here there are plenty of thickets, however.

All of the birds observed save one were fairly close to water, although the streams were often little more than roadside ditches distinctly 'wet-weather' in character. The one exception to the general

rule was a singing bird well up toward the top of a ridge in a thicket under standing dead chestnut trees, testimonials to the devastating effect of the chestnut-bark disease. In another paper (accepted but not yet published by 'The Wilson Bulletin') the senior author has discussed at some length these chestnut-sprout areas as a distinct ecological niche for breeding warblers, and it was interesting to find, unexpectedly, this species in such a situation.

Writing of the birds of northern Florida, Eliot and Loetscher (1935) state: "Having supposed this species [Swainson's] was always associated with 'cane,' we were surprised when on April 3, near Jacksonville, Mr. S. A. Grimes showed us one singing in caneless woods where its most prominent companions were Hooded Warblers and (not yet arrived) Acadian Flycatchers and Wood Thrushes." This statement is of particular interest to the present writers, since the three birds mentioned are among the common associates of Swainson's Warblers in West Virginia. The avian association, and particularly that of the warblers, is an interesting one in this section of Nicholas County. At virtually every point where we heard Swainson's we also heard Hooded and Kentucky Warblers, and Maryland Yellow-throats. Chats were fairly common, and Worm-eating Warblers were present. These species of southern association were definitely to be expected, but in the same territory we heard a singing Black-throated Green Warbler, and, as one of us was peering to see a singing Swainson's, a Blackburnian Warbler flew into a tree close to us. Inexplicably absent (although the same condition has been noted in many parts of central West Virginia) were Redstarts. In almost every case when we found Swainson's in song we would hear the song of one or more Parula Warblers in the trees above. Black and White Warblers, Louisiana Water-Thrushes, and Ovenbirds were also common. White-eyed Vireos were abundant at the edges of the thickets, as were Cardinals, Towhees, and Indigo Buntings. Bewick's Wrens were in song from the fences and tangles of fallen logs in the more open places.

In an account of the birds of a region in northwestern Florida, Worthington and Todd (1926) write: "Its [Swainson's Warbler's] favorite haunts are the dense thickets on the edge of the lowland woods, where it contrives to keep so well concealed that were it not for its characteristic song its presence would go unsuspected. It is fond also of rank fern growth, where it is equally successful in eluding observation and capture. Only once did we find it in the dry upland, among the thick scrub oaks. The birds spend most of their time on the ground among the dry leaves, walking along grace-

fully, like the Oven-bird, and uttering their song at frequent intervals." With the necessary allowances made for differences in the topography of the two areas, this would make a very satisfactory description of the habits of the bird as we observed them in West Virginia. Even the fondness for dense fern growths is notable.

We found the birds difficult to observe, and extraordinarily difficult to collect, in their favorite haunts. So dense are the shadows under rhododendron and hemlock thickets that only the closest observation revealed the movement of the birds. With their rather neutral brown coloration, their rapid movements, and their apparent liking for the centers of the thickets, they seemed to blend imperceptibly into their surroundings. Often enough when we were very close to the birds, and would catch a glimpse of them in the tangles before us, they would fly without our catching the movement at all. Every time an attempt was made to follow the birds through the thickets they would fly, sometimes to a considerable distance, before we could see them. 'Squeaking' would bring them fairly close, usually much too close to make shooting feasible. The only good observations we made were from the edges of clearings, or from roads or trails. The fortunate circumstance of an old logging trail along Franzy Creek gave us a chance to observe, and made possible the securing in good condition of the example collected, a male with well-developed gonads.

Almost everyone who has written of the haunts of Swainson's Warblers has quoted the statement of Brewster (1885): "Briefly, four things seem indispensable to its existence, viz., water, tangled thickets, patches of cane, and a rank growth of semi-aquatic plants." From the account given above, it will be evident that of these four only the first two are present in the West Virginia situations which the birds select, and that even water is scant or wanting in some cases.

VOICE

In this day of mechanical recording of bird songs one approaches so subjective a matter as the description of a bird's notes with great caution. Earlier writers found in the notes of Swainson's Warbler such attributes as "mystic," and "indescribably tender," qualities which in this more prosaic world seldom enter into the description of birds' voices. So important is song in the matter of observing this species, however, that we venture some observations on the notes which we have heard in West Virginia.

As many writers have pointed out, one becomes aware of the presence of the bird largely through the medium of its voice. In following up the distribution of the species in territories where it

had not before been noted, we made a habit of stopping at frequent intervals as we drove a car along the highway. To us it seemed remarkable that we heard so many different individuals in this way. Often enough we could hear the song through the open windows of the car as we drove along. Brooks and Lunk heard the bird in this way at a number of points along the highway before Mt. Look-out was reached.

The comparison of the song of this species with that of the Water-Thrush or the Louisiana Water-Thrush is an oft-made, and, to our ears, an apt one in many respects. Certainly the same quality is present, and the beginnings of the songs are sufficiently alike to suggest immediately a similarity. We are convinced that it would be very easy to pass the song by, believing that we were listening to the somewhat unusual notes of a Louisiana Water-Thrush, or even a Northern Water-Thrush. In fact, Brooks and Lunk heard one series of songs from a bird (which sang at other times in a more usual fashion) that sounded to us almost precisely like a Water-Thrush.

The song most frequently given by the birds we heard appeared, to the senior author at least, to consist of three or four sharp, high introductory notes, all well separated, followed by a phrase of four or five syllables uttered rapidly, and slurred. It might be transliterated as *wee, wee, wee, whip-poor-will*, the first two (or three) introductory notes on even pitch, the last *wee* a half-tone lower, and the slurred phrase with *will* separated into two syllables, and accented on the *whip* and on the *wi-* part of the *will*. The last phrase sounded at times remarkably like one of the songs of the White-eyed Vireo.

Occasionally the song trilled off at the end into a series of indeterminate notes, and it was this song which approached most closely the vocalizing of the Louisiana Water-Thrush. Legg has noted three singing birds in one locality, all of which have a song, the last phrase of which suggests *poor-will-poor-will*, given very rapidly. He has also heard a longer than usual song given as a 'whisper' song on a number of occasions.

Along Anglins Creek, Brooks and Lunk had the good fortune to hear a Swainson's Warbler and a Louisiana Water-Thrush singing at the same time. To us it seemed that the Swainson's song was the louder and more penetrating of the two. Lunk saw this particular Swainson's Warbler in full song, and at close range. His impressions correspond closely with those of Brown, as quoted by Chapman (1907): ". . . I was impressed by the absorbed manner in which this bird sings. Sitting quietly upon a limb of a small tree, he suddenly throws back his head and pours forth his notes with utmost fervor

and abandon. During the intervals of silence he remains motionless, with plumage ruffled, as if completely lost in musical reverie."

The birds frequently announce their presence by means of clear, penetrating chirps, having (to our ears) much the same quality as do the chirps of the Mourning Warbler. They are not quite so loud, but have a more ringing quality than those of the Hooded Warbler.

During a hot afternoon of sun and showers we heard singing birds under a variety of conditions. They sang freely during sunny periods in mid-afternoon. On the misty morning of June 25, three birds were heard in full song at one place along the public highway at 5.00 a.m. During the mid-day period singing was somewhat sporadic, however.

BREEDING

So far as we are aware, no occupied nest of Swainson's Warbler has yet been found in West Virginia, although Legg and Clyde McClung found an unoccupied nest, which may well have been made by this species, a rather bulky affair of beech and magnolia leaves and hemlock twigs, grass-lined, in tangled bushes much frequented by the birds. As has been mentioned, the male taken was in breeding condition. Along Anglins Creek, Brooks and Lunk observed a young bird being visited by a Swainson's Warbler, probably a female, since a male was singing close by. Concerning nests which he found in Virginia (and northeastern Tennessee), F. M. Jones (in correspondence) states: "On May 29, 1932, I found a completed nest of the Swainson's Warbler and although that was the first nest of its kind I had ever seen in this State, I recognized it as being that of the above-mentioned warbler. On returning to the location on June 4 I found the bird sitting on the nest which contained four fresh eggs. The bird still sat on the nest while I observed her two feet distant from me but when I reached out my hand to touch her, she jumped off the nest and ran off on the ground like a mouse. This nest was in a very dense growth of rhododendron bushes close to a stream of water where the sunlight never penetrated. It was 5 ft. 6 in. up, built on the forks of a slender beech limb which grew across the top of a rhododendron bush (*R. maximum*) and partly supported by the top of the rhododendron. The nest was composed of various kinds of leaves of which were included those of the beech, sugar maple, chestnut, black birch and white oak. The bottom part of the nest was made of leaves placed flat without any uniformity of the layers on the outside portion of the nest. The

leaves next to the lining were very thin and skeletonized and were placed closely together edgewise. Along and above the rim, fine hemlock twigs projected above the lining of white-pine needles. The outside of the nest measured 7 in. wide by 5 in. deep and the inside 2 in. wide by $1 \frac{13}{16}$ in. deep. On June 6, I found another nest 150 feet distant built in a clump of sprouts at the exact height of the first. A bootlegger who had been hiding whiskey in the thicket had tilted the nest over, spilling the eggs on the ground. This nest was identical in construction to the first found and measured on the inside $1 \frac{3}{4}$ in. by $1 \frac{3}{4}$ in. On the same date I found a partly completed nest close to where I found the first nest which was no doubt a second nesting of the original pair found. Being interested in the finds I went in other localities and found them nesting in the Holston Mountains in Sullivan County, Tennessee, on Jacob's Creek at an elevation of 1850 feet, and found two nests on June 4 containing four fresh eggs each."

Despite the lack in West Virginia of a nest of proved ownership, there can be little doubt, from the behavior and abundance of the birds, that they are breeding regularly in the region. Legg's observations on the definite territorial ranges of individual birds are significant in this connection. Due to the difficult nature of the cover and terrain the actual finding of an occupied nest may be highly fortuitous, but we have no doubt that it will be accomplished within the next few years.

These observations extend the known range of Swainson's Warbler a degree or so northward, but the matter of latitude is of small importance as compared with habitat extension. Bibbee in northern West Virginia, Jones in southwestern Virginia, Williams in North Carolina, and Wetmore in Tennessee, all have pioneered in suggesting this range extension into the Appalachian Mountains region. It seems unnecessary to point out the ecological differences which exist between coastal-plains cane swamps and rhododendron 'hells' of the Allegheny Plateau. Yet these birds have bridged the differences, and have established themselves in both situations.

It would seem that we have here a perfect setup for racial separation, yet there is no morphological evidence, so far as the writers know, for its existence. Ecological evidence for such a separation is, of course, arresting. It may be, however, that further observation, incredible as it may seem, will prove that the two vastly different ecological provinces which the birds occupy are not discontinuous, but are joined through bridging territory which crosses the Piedmont

and the Ridge and Valley provinces. Much of the near South is still *terra incognita* to the ornithologist.

SUMMARY

1. The paper recounts the discovery of Swainson's Warbler (*Limnothlypis swainsoni*) as a locally abundant summer resident in Nicholas County, West Virginia.

2. The birds are found at elevations from 1300 feet to 2000 feet, in rugged country of the Allegheny Plateau.

3. They inhabit dense thickets composed principally of rhododendron, mountain laurel, hemlock and American holly.

4. Associated with them are such expected species as Kentucky, Hooded, and Worm-eating Warblers, White-eyed Vireos, and Bewick's Wrens, and also such unexpected species as Black-throated Green and Blackburnian Warblers.

5. Although no occupied nest has yet been found in West Virginia, evidence is given to support the breeding of the birds in every suitable niche in the area, and unpublished notes on the nesting of the birds in southwestern Virginia are given.

6. Notes are given on the song habits of the birds in the region.

LITERATURE CITED

BAILEY, H. H.

1908. Swainson's Warbler and Chuck-will's-widow breeding north of the James River, Virginia. *Auk*, 25: 478-479.

BIBBEE, P. C.

1934. Birds of West Virginia: a check-list. *Bull. West Virginia Agr. Exp. Sta., Morgantown*, no. 258, 47 pp.

BREWSTER, WILLIAM

1885. Swainson's Warbler. *Auk*, 2: 65-80.

BROOKS, MAURICE

1939. Further notes on Swainson's Warbler in the central Appalachian region. *Raven* (mimeographed), 10: no. 12, 4-5.

CHAPMAN, F. M.

1907. The warblers of North America. D. Appleton & Co., New York, ix + 306 pp., 24 pls., 12 figs.

ELIOT, S. A., AND LOETSCHER, F. W.

1935. Some notes on Florida birds. *Auk*, 52: 462-463.

LEGG, W. C.

1939. Swainson's Warblers? *Field Ornithology*, 1 (12): 14-15.

MURRAY, J. J.

1935. Breeding of Swainson's Warbler in Robeson County, North Carolina. *Auk*, 52: 459.

1939. Swainson's Warbler in southwest Virginia. *Raven* (mimeographed), 10: nos. 10-11, 9.

REGER, D. B.

1921. Nicholas County. West Virginia Geol. Surv., County Reports, Morgantown, W. Va., xviii + 847 pp., 34 pls., 24 figs.

WETMORE, ALEXANDER

1937. Observations on the birds of West Virginia. Proc. U. S. Nat. Mus., 84: 401-441.
1939. Notes on the birds of Tennessee. Proc. U. S. Nat. Mus., 86: 175-243.

WILLIAMS, ELLISON A.

1935. Swainson's Warbler in the North Carolina mountains. Auk, 52: 458-459.

WORTHINGTON, W. W., AND TODD, W. E. CLYDE

1926. The birds of the Choctawhatchee Bay region in Florida. Wilson Bull., 33: 204-229.

West Virginia University
Morgantown, West Virginia
and
Mt. Lookout, West Virginia