

## Joseph LeConte and the discovery of the nest of Swainson's Warbler (*Limnothlypis swainsonii*): a reconsideration

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Because of Brewster's (1885a) enthusiastic report on the rediscovery of Swainson's Warbler (*Limnothlypis swainsonii*) (Audubon 1834), the discovery of its nest was one of ornithology's most eagerly anticipated events of the late nineteenth century in North America. The nearly contemporaneous finding of nests during the spring of 1885 by Arthur T. Wayne of Charleston, South Carolina (Brewster, 1885b; Wayne 1886a, 1886b), and by Troup D. Perry of Savannah, Georgia (Perry, 1886), triggered an oological rush of unprecedented proportions. In December 1888, some three and a half years after Perry's first nest (16 May 1885), Norris (1888:185) noted "since [the discovery] . . . a great many nests have been found, and it would be safe to estimate their number at over one-hundred. All of them have been found by three collectors, Mr. Arthur T. Wayne in the vicinity of Charleston, S. C., and Messrs. T. D. Perry and George Noble, near Savannah, Georgia. In view of the great success that these gentlemen have had, it is odd that no one ever found the eggs of this bird before 1885. . .".<sup>1</sup>

Recently, Simpson and Stephens (1994) suggested that Joseph LeConte should be credited with the discovery of the nest of Swainson's Warbler, based on the handwritten marginalia (ca 1846) in LeConte's personal copy of Audubon's (1839) *A Synopsis of the Birds of America*.<sup>2</sup> However, assuming that LeConte's description was factual and accurate, three lines of evidence indicate that the nest belonged to some species other than Swainson's Warbler: (1) nest materials; (2) height of nest above the ground; and (3) color of the eggs. Discrepancies between LeConte's description and the characteristics of verified Swainson's Warbler nests and eggs constitute reasonable grounds to reject the claim for LeConte.

The bulky nest of Swainson's Warbler is unique in appearance (Brewster, 1885b; Wayne, 1886b; Perry, 1886, 1887; Norris, 1888; Meanley, 1945, 1969; Graves, 1992, unpublished). More importantly, the construction and choice of building materials are relatively stereotyped throughout its breeding range.<sup>3</sup> In other words, the Swainson's Warbler nest is easily recognizable, and once observed, experienced field ornithologists are unlikely to confuse it with the nests of other species that inhabit the bottom-land forests and swamps of the southeastern United States.<sup>4,5</sup>

LeConte's nest was notable for the plant materials it contained as well as those it did not. The most striking characteristic of verified Swainson's Warbler nests is that dead leaves constitute the bulk of the outer nest layer. Dead leaves, often skeletonized or partially decomposed, are the dominant nest materials by mass and volume (Graves, unpublished).<sup>6</sup> Yet, LeConte's description failed to mention dead leaves as a nest material, an unlikely omission had they been present. Instead, his nest was composed of sticks and coarse grass in the outer layer, and lined with fine grass and hair. Coarse grass (other than cane leaves) occurs rarely, if at all, in the outer layers of Swainson's Warbler nests, and as Meanley (1969) indicated, sticks and twigs are incidental components. There are no verified examples in which the outer shell of the nest is composed entirely of sticks and grass (Graves, unpublished). The mismatch between LeConte's description of the nest and the well-documented composition of Swainson's Warbler nests casts strong doubt on LeConte's specific attribution.

The height of LeConte's nest, "about 1 foot above the ground," is also inconsistent because the heights of verified Swainson's Warbler nests range from 0.4 to 4.1 m above ground level. While a nest height of only one foot (0.3 m) is not impossible, this value falls outside the range of heights recorded for the large number of Swainson's Warbler nests discovered along the Atlantic coastal plain near the site of LeConte's nest on the "sea coast of Georgia" (see Simpson and Stephens, 1994).

The egg color described by LeConte ("white irregularly and sparingly spotted with brown") is also highly atypical for Swainson's Warbler. The vast majority of all known Swainson's Warbler eggs are white in color and unmarked.<sup>7</sup> The rare exceptions to this rule have been the subject of papers in the ornithological literature (Wayne, 1890; Dingle, 1926).

In sum, LeConte's nest was largely composed of sticks and grass instead of dead leaves, was closer to the ground than any verified Swainson's Warbler nest, and contained eggs that were spotted as opposed to immaculate. These facts suggest that LeConte either gave an inaccurate account of the nest or, more likely, described one built by some species other than Swainson's Warbler. Certainly he was familiar with *L. swainsonii*: his notation indicated familiarity with its habitat and its call, and the record shows that he donated to the U.S. National Museum three specimens of the species he collected during the period 1845–1848.<sup>8</sup> Moreover, LeConte's observations were typically diligent and thorough (Stephens, 1977, 1982), but in this case he may have seen a Swainson's Warbler near the nest and assumed that it belonged to the bird. Since he had no description to guide him and since he never found another, he had no means of verifying his discovery. After 1850, he turned his attention to other areas of science (Stephens, 1982). In the absence of additional documentary evidence or voucher specimens, the credit for the discovery of Swainson's Warbler must remain with Perry and Wayne in the spring of 1885.

## NOTES

<sup>1</sup> Despite the successes of egg collectors, the April 1893 issue of the *Ornithologist and Oologist* advertised for sale single Swainson's Warbler eggs for 50 cents, the highest sales price among the wood warbler species (Parulini, taxonomy of Sibley and Monroe, 1990) and among the most expensive songbird eggs from North America. The economic incentive to find additional nests was strong throughout the 1890s for professional collectors such as A. T. Wayne.

<sup>2</sup> Simpson and Stephens's (1994:3) transcription of LeConte's marginal notes, partly illustrated in their Figure 1, is as follows (italic added):

"*Helinaia Swainsonii* . . . Found the nest of this bird. It was placed on a small shrub about 1 foot from the ground in the solid angle formed by three branches uniting to form the main trunk. It was composed of sticks & grass on the outside and lined with fine grass and hair. The eggs were white irregularly and sparingly spotted with brown. This bird inhabits the most tangled thickets of our low grounds. It prefers wet ground but not the margins of streams and ponds like the prothonotaries. I have never seen it except on the ground or small shrubs very near the ground. Its notes are loud and beautifully clear . . ."

<sup>3</sup> Descriptions of nests from West Virginia (Sims and DeGarmo, 1948); southeastern Virginia (Bailey, 1908; Meanley, 1969, 1971; Graves, unpublished); central North Carolina (Murray, 1935; Carter, 1968); Charleston, South Carolina (Brewster, 1885b; Wayne, 1886b; Norris, 1888; Dingle, 1926); Savannah, Georgia (Perry, 1886, 1887; Norris, 1888); Macon, Georgia (Meanley, 1945); Augusta, Georgia (Cleckley, 1903); Tennessee (Collier, 1941); Mississippi (Turcotte, 1972); southeastern Arkansas (Meanley, 1969, 1971); southeastern Missouri (Thomas, 1994); southern Illinois (George, 1971).

<sup>4</sup> Wayne's (1886b:187) description may serve as an exemplar for nests along the lower Atlantic coastal plain.

"The nests are generally built in canes, but I have also found them in small bushes, and in one instance in a climbing vine, by the side of a large public road. The height from the ground varies from two to eight feet . . . The nest is a remarkable affair—very large, made of water-soaked leaves of the sweet gum, water oak, holly and cane, lined with needles of the pine trees and a little dry moss. The stems of the leaves point upwards, and the nest can easily be mistaken for a bunch of old leaves lodged in the top of a cane. On this account it is a very difficult nest to find."

<sup>5</sup> In a summary description of nests from the Great Dismal Swamp in Virginia, Meanley (1969:252–253) noted.

"Nests are constructed of a rather wide assortment of materials, but there is selection of certain plant parts . . . Sticks are seldom used in nests, and the few that occur in some almost seem incidental . . . In canebrakes the foundation of a nest is often a bunch of dead leaves that have lodged in the axils of a cane stalk. The Dismal Swamp female . . . used relatively large leaves of swamp magnolia (*Magnolia virginiana*) as a platform for each of her three nests . . . Deposited on these magnolia leaves were the dried leaves, sticks, vines, and tendrils that formed the rather loose outer layer of the nest . . . Most of the sticks were greenbrier . . . the next layer was more compactly structured, consisting almost entirely of decomposed or skeletonized leaves . . . This layer formed the outer shell of a cup composed of finer materials . . . next to this layer . . . was a layer of cypress twigs with needles. The inside of the cup was lined with rootlets . . . and petioles of red maple flowers. All three of the Dismal Swamp nests were lined with these petioles. Apparently they are a preferred item for the lining as I have also found them in nests at Macon, Georgia."

<sup>6</sup> See nest illustrations in Meanley (1971) and Graves (1992).

<sup>7</sup> Perry (1887:142) noted.

"Now of twenty-four nests that came under my observation this season, and four nests during 1885 and 1886, making a total of twenty-eight . . . All the nests were the same and all the eggs were bluish white, without spots, leaving little doubt but that is their true color."

<sup>8</sup> Specimen catalogue deposited in the Division of Birds archives, National Museum of Natural History (formerly called U.S. National Museum), Smithsonian Institution. Specimens (Nos. 10241, 10547, and 32241) with original LeConte labels were examined in the collections (7 April 1995).

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