shinned Hawk (*Accipiter striatus*), Brown-crested Flycatcher (*Myiarchus tyrannulus*), orioles (*Icterus* sp.?), and tropical frogs.

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## First bandings of Connecticut Warblers (*Oporornis agilis*) in South Carolina

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Although no Connecticut Warblers (*Oporornis agilis*) had been captured, marked, and released in South Carolina prior to 1990, four birds were banded during migration in September 1990 and May 1991.

The first Connecticut Warbler banded in the state was an unsexed immature bird captured about 19 km east of Sumter (Lat. 33°50'N, Long. 80°10'W) on 17 September 1990 by Evelyn Dabbs and subpermittee Lex Glover (Glover, pers. comm.). In May 1991 I captured three additional Connecticut Warblers at my banding station at Hilton Pond near York, South Carolina (Lat. 34°50'N, Long. 81°10'W). According to the federal Bird Banding Laboratory in Laurel, Maryland, these four birds are the first Connecticut Warblers banded and released in the state (D. Bystrak, pers. comm.).

Connecticut Warblers are very rare migrants in South Carolina. Post and Gauthreaux (1989) list only 12 acceptable records for this species in the state, four of which are study skins at The Charleston Museum or Clemson University. A fifth specimen, an immature (sex unknown) taken by Douglas B. McNair on 19 September 1990 at James Island, was three days earlier than any published fall record for the species in South Carolina (Post, pers. comm.), but Dabbs' Sumter bird preceded it by two days.

I sexed all three spring migrants at York as females because they lacked the dark gray bib, throat, and hood that are characteristic of breeding males; all had pale hoods, throats, and bibs similar to those depicted in standard field guides for female Connecticut Warblers. The first bird (U.S. Fish & Wildlife Service band #2091-21411), was netted between 0900 h and 1000 h on 13 May; its 70 mm wing chord and 48 mm tail made it the largest of the three captures. The second (#2091-21414) was netted between 0845 h and 0945 h on 14 May and had a 66 mm wing chord and 48 mm tail. The third bird (#2091-21444) was netted between 0730 h and 0830 h on 24 May—later by four days than any spring migrant Connecticut Warbler on record for the state (Post and Gauthreaux 1989); this bird measured 64.5 mm (wing chord) and 48 mm (tail).

Based on its acute, worn rectrices, and an overall dull coloration, the third warbler was apparently a Second-Year (SY) bird hatched in 1990; this individual also had a slightly darker edging along the bottom of the bib, but I judged it too pale to be an immature male. I was unable to precisely age the other two birds either by plumage or skull pneumatization and classified them as After Hatch-Year (AHY).

The only eastern species with which the Connecticut Warbler is likely to be confused in spring is the Mourning Warbler (*Oporornis philadelphia*), in which color patterns are similar but the eye ring is absent or incomplete; all three birds at York had complete white eye rings. In addition, their wing chord measurements fell within the typical range of 63–75 mm for Connecticut Warblers (Pyle et al. 1987). The third bird's wing chord of 64.5 mm was within the 53–65 mm range for the Mourning Warbler, but the combination of other characteristics (especially the eye ring) ruled out that species. Dabbs' bird (#980-86914) at Sumter also had a noticeable eye ring and a wing chord of 67 mm.

The birds at York were captured in standard mist nets (4-shelf, 12 m long, 2 m high) with 30- or 36-mm mesh diagonals. Each bird was snared in a different net but always in a shelf approximately 1.5 m above the substrate. The nets were within 1 m, 18 m, and 25 m of a 1.1 ha pond bordered primarily by hazel alder (*Alnus serrulata*) that was, in turn, surrounded by old fields from eight to 12 years into succession. The net lane closest to the pond was in an alder thicket, while the other two were in mixed vegetation dominated by sweetgums (*Liquidambar styraciflua*), Eastern red cedars (*Juniperus virginiana*), and winged elms (*Ulmus alata*) approximately 4–5 m tall. The Sumter bird was captured by a net in similar habitat: shrubby growth along a low wet area on the edge of the Black River swamp.

Connecticut Warblers have circuitous migration routes. They typically leave South American wintering grounds in spring, fly north to Florida, then cut diagonally westward to the Mississippi Valley and northward to breed in the Canadian muskeg and northernmost Great Lakes states. In autumn they leave the breeding grounds, fly east to New England, south along the Atlantic Coast to Florida and the West Indies, and back to Venezuela, Colombia, and Brazil (Harrison 1984). These routes may explain why five published South Carolina spring records were from the Piedmont, while five fall records were from the coastal plain (Post and Gauthreaux 1989). The first South Carolina specimen of a Connecticut Warbler was taken in Chester in 1889 (Sprunt and Chamberlain 1970), but the species was not known from the coast until one was seen on 22 September 1967 at Garden City (Smith 1968). In 1991, an exceptionally stormy spring in the south central region of the U.S. may have caused more Connecticut Warblers to migrate northward along an easterly route through the South Carolina Piedmont.

During migration the Connecticut Warbler tends to seek out thickety wet bottomlands (Sprunt and Chamberlain 1970) that are not easily accessible to human observers. Its olive green dorsum, gray head, throat, and bib, and pale yellow undersides—plus its habit of walking rather than hopping or flitting about in the undergrowth—combine to make the Connecticut Warbler a difficult species to find and identify even in locations where it is common.

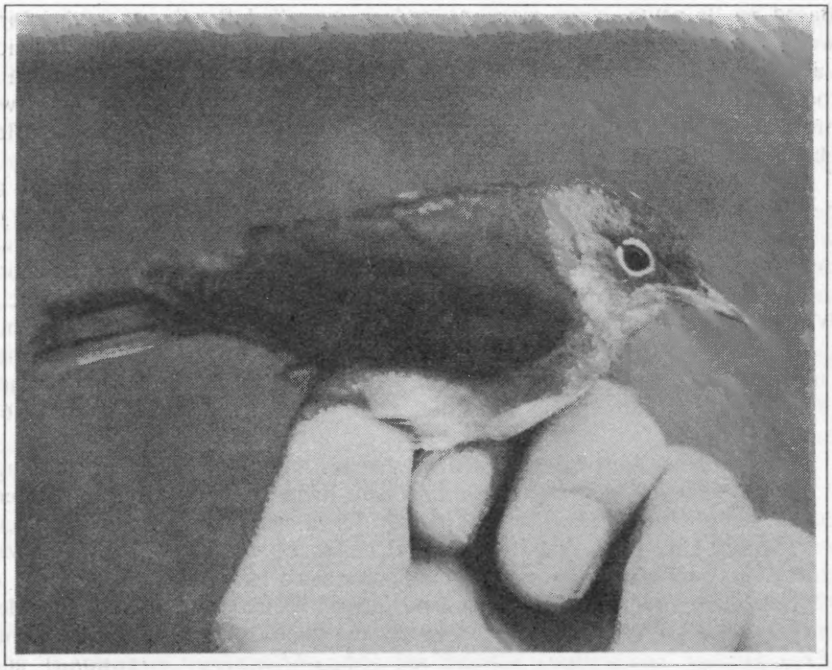

Fig. 1. Connecticut Warbler #2091-21411 captured and banded at York, S.C. on 13 May 1991. Photo by the author.

All three Connecticut Warblers captured at York were photographed before release; color transparencies of bird #2091-21411 were submitted to The Charleston Museum (Fig. 1).

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