

Breeding-season Records of Boreal Birds in Western North Carolina with Additional Information on Species Summering on Grandfather Mountain

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During June and early July of 1985, I had the opportunity to spend 11 days on Grandfather Mountain (Avery, Caldwell, and Watauga Counties), and several more field days were contributed by other North Carolina State Museum staff members and research associates. I was attempting to characterize the bird communities of the area, and most of the other workers were surveying mammals. A general description of the mountain and its plant and avian communities as they relate to elevation is provided by Lee et al. (1985). In that study the authors listed 84 breeding and presumed breeding species from Grandfather Mountain. With the additional birds found in the summer of 1985, the total, now 117, is impressive. This adjusted figure represents well over half the species known to breed in the state, and another 6 to 12 species are expected to occur. Certainly Grandfather Mountain has one of the, if not the, most diverse nesting-season faunas for eastern North America.

Species worthy of special comment are discussed below.

NORTHERN GOSHAWK (*Accipiter gentilis*)

Attracted by the sounds of harassing American Crows, I looked up in time to spot an extremely large accipiter being escorted by 8 to 10 crows. Heavy fog prevented me from seeing any field marks on the hawk in spite of its being less than 50 feet away. Nevertheless, its extremely large size and accipiter silhouette rule out all other species. The date, 16 July 1985, would be quite late for nesting for an accipiter in the Southeast, and it is not unlikely that the bird traveled some distance to Grandfather Mountain during postbreeding dispersal. On the other hand, an intriguing number of nesting-season reports exist for the southern Appalachians, and the secretive nature of the bird makes documentation of nesting difficult even under the best conditions. Haney (1981) summarizes the four nesting-season records for the Great Smoky Mountains National Park (11 April 1981 [adult], 18 June 1971, 15 June 1970, and June 197[6?]). Most are from the Tennessee-North Carolina border. Additionally, Tove (1977) reports an adult from the Shining Rock Wilderness area on 3 April 1984, and Enole (1970) notes one from Franklin on 2 March. There are at least 12 other records from North Carolina from outside the nesting season or from unlikely nesting areas.

The most interesting records come from Cranberry, Avery County, from a period of 1971 through 1975. The site of these records is only 11 air miles from the summit of Grandfather Mountain. Dartha Frank of Cranberry reported in a series of letters to the N.C. State Museum in 1971 numerous sightings of several "Silver Eagles." Robert Hader (1975) interviewed Mrs. Frank personally and confirmed what the museum determined through an exchange of half a dozen letters, that the birds in question were Northern Goshawks. Hader's note in *The Chat* accurately summarizes the nature of these records, and I see no need to repeat his findings.

In a telephone conversation with Mrs. Frank in 1975, I learned that she was still seeing goshawks as recently as 4 October 1975 (3 birds) and 8 October 1975 (2 birds, "one appeared to be wounded"). I drove to Cranberry to discuss these records in the spring of 1976. At this time she reaffirmed the information in the museum correspondence and Hader's interview. I was quite impressed with her general knowledge of the natural history of the area. We discussed at length the different types of birds and mammals of the Cranberry area. Interestingly, she reported that the birds had nested in her back yard several years before (I assume this must have been after Hader's June 1972 visit). They had raised three young birds that were fed and taught to hunt by the adult(s?) in her yard. The winter following the nesting, the mining company that owned the adjacent property cut down the nesting tree, and she had not seen the birds again until the fall of 1975. While all reports of birds leave some room for question of identification and behavioral interpretation, this record is in my opinion one of the best documentations we have of goshawks in the southern Appalachians. A sketch of a "Silver Eagle" made by Frank in 1971, prior to her seeing any field guides, is provided in Figure 1. Although there is little doubt that the Northern Goshawk nests, at least on occasion, in the southern Appalachians, the southernmost documented nesting records are from Tucker (1975) and Randolph (1951, 1959) Counties, West Virginia (Hall 1983).

BLACK-BILLED CUCKOO (*Coccyzus erythrophthalmus*)

This species was heard or seen at three general locations, all within the upper hardwood and transition zones of the mountain (3550-4575 feet). I heard several singing Black-billed Cuckoos in this same zone (4500 feet) on 29 September 1984 near the Pilot Knob portion of the mountain. Bruner (unpublished field notes, NCSM, 1911) noted these cuckoos at 1600 feet at Edgemont, Caldwell County (the base of Grandfather Mountain). These records represent one of a few breeding-season reports of Black-billed Cuckoos from North Carolina, although they certainly must be widespread throughout the intermediate elevation zones of our mountains (Fig. 2). Interestingly, no Yellow-billed Cuckoos were found in the 1984 or 1985 surveys, by Bruner and Field in 1911, or by Alexander (1973).

YELLOW-BELLIED FLYCATCHER (*Empidonax flaviventris*)

On 16 July 1985 I encountered a single, adult Yellow-bellied Flycatcher at the lower limit of the spruce-fir zone of Grandfather Mountain. The bird was vocal but not singing its species-specific song. The flycatcher was studied carefully at close range for about a minute. This is the only breeding-season record of this species for North Carolina. In that the bird was not singing and that *Empidonax* are notoriously difficult to identify, this report should serve only to indicate the potential for local nesting. [The bird in question had a yellow ventral surface, including the throat.] An individual found on Grandfather Mountain on 29 May 1985 at 5500 feet (Lee et al. 1985) was assumed to be a spring transient in that this species is known to migrate quite late.

The Yellow-bellied Flycatcher summers sparingly in the southern Appalachians south to Randolph County, West Virginia (Hall 1983). Shelton (1976) provides a single nesting-season record for Mount Rogers in southwestern Virginia. He reports an adult male, in diseased firs, southeast of the summit on 11 and 19 August 1973. The bird was photographed and its song recorded. This bird and the Grandfather Mountain record constitute the southernmost summer occurrences for the species.



Fig. 1. Original sketch of silver eagle made by Dartha Frank of Cranberry, N.C., in 1971. Note descriptive notes in margins of sketch. (NCSM files)

OLIVE-SIDED FLYCATCHER (*Nuttallornis borealis*)

A single Olive-sided Flycatcher was seen on 16 July 1985 from the top of Calloway Peak. The bird was perched on a dead limb at the edge of an opening in the spruce-fir forest just below the 5964-foot peak. Wayne Irvin searched the area for the bird on 20 July without success.

This species is now regarded a rare summer resident in West Virginia, eastern Tennessee, and western North Carolina. Williams (1976) provides the only positive nest record south of West Virginia; however, the Olive-sided Flycatcher is assumed to have nested commonly in the Appalachians through the late 1950s (see Stupka 1963, Cairns 1889). Williams' nest was in the Great Smoky Mountains National Park and active from 30 June through 18 July 1974. Phillips (1979) reports three records (adult and immature) on 17, 19, and 28 August from the North Carolina portion of Roan Mountain in Mitchell County at 5400 feet, and Rhoads (1895) previously recorded this flycatcher from the Tennessee side of Roan Mountain at 4000 feet. Additionally, records from 24 June 1972 in Alleghany County (Chat 38:1-2) and 30 June 1959 at Raven Rock Camp, Surry County (Chat 23:90) seem well within the nesting period. Birds observed in August 1968 at North Wilksboro were seen feeding begging young on 12 September (Chat 33:78). Figure 3 illustrates the breeding distribution in North Carolina as it is now understood. Thus there are only five nesting-season records for the southern Appalachians between West Virginia (Hall 1983) and the Smoky Mountains since the 1950s.

There are several additional records from the mountains of the state that may well represent nesting birds, but they are from known migration periods of the Olive-sided Flycatcher and probably are best ignored in that no evidence was seen suggesting nesting. Migrants have been reported in fall as early as 11 August at Raleigh (Chat 39:27) and 17 August at Winston-Salem (Chat 41:54-55) and in spring as late as 17 May outside Raleigh (Chat 36:96) and 20 May in Caswell County (Chat 43:99). The status of two 7 June records (Burke County, 1977, Chat 44:24; Watauga County, 1981, Chat 46:23) cannot be determined.

WILLOW FLYCATCHER (*Empidonax traillii*)

On 28 June and 15 July 1985 these flycatchers were seen feeding nearly grown young in willow thickets along the Watauga River (NC 105) in Watauga County (3090 feet). Although they were not heard, elevation and habitat exclude the possibility of their being Alder Flycatchers (*E. alnorum*). The open balds along the ridge of Grandfather are perhaps too small, and the others too densely vegetated, to provide habitat for Alder Flycatchers. I have searched for them several times without success.

RUBY-CROWNED KINGLET (*Regulus calendula*)

On 27 June 1985 I saw a Ruby-crowned Kinglet on the Craggy Way Trail of Grandfather Mountain. The single bird, in transition-zone forest at 4300 feet, was carefully studied. There are several other summer sightings for North Carolina's mountains (NCSM unpublished records: Blue Ridge Parkway, near Asheville, 1975; Mount Mitchell, 1974; and Pisgah Inn, 1974. Although these reports of occurrence are from mid-June through 6 August, I suspect that the birds should best be considered as vagrants. Potter (1979), for example, reports a 29 July 1978 bird in Franklin County,

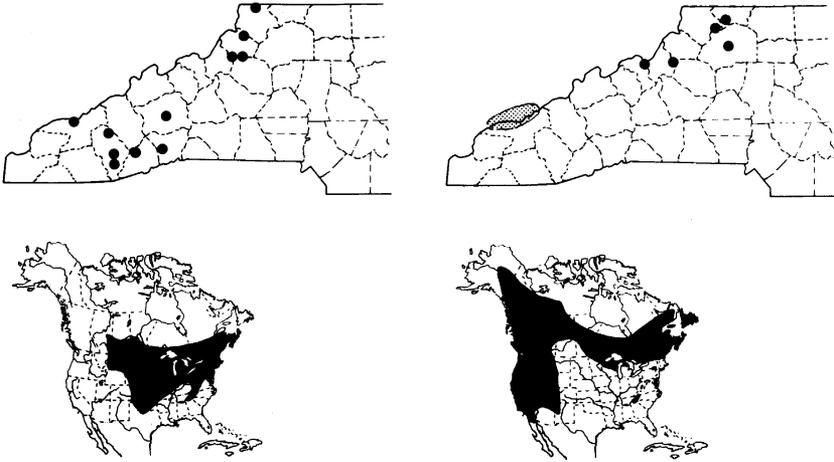


Fig. 2. (Left above) Nesting-season records of Black-billed Cuckoo in North Carolina. Summer records of presumed vagrants on the coastal plain and piedmont are not included. Insert map of North America indicates total breeding range. (Modified from North Carolina breeding-bird distributional survey, NCSM)

Fig. 3. (Right above) Recent nesting-season records of Olive-sided Flycatcher in North Carolina.

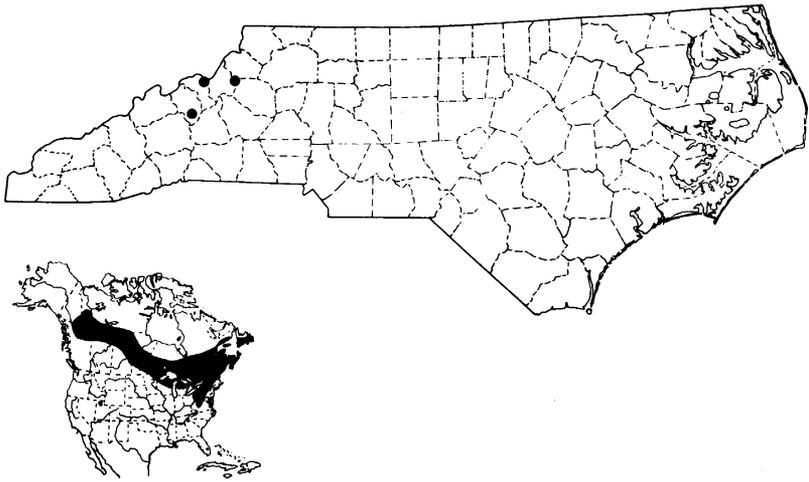


Fig. 4. Nesting-season records of Magnolia Warbler in North Carolina.

well removed from any potential nesting area. Early and late migrants have been noted near Wilmington on 17 August (Chat 43:33) and 29 August (Chat 38:28) and at Winston-Salem on 19 June 1979 (Chat 44:24). The potential exists for local nesting in northwestern North Carolina, and Hall (1983) discusses the possibility of these birds' nesting in West Virginia.

MAGNOLIA WARBLER (*Dendroica magnolia*)

Although breeding Magnolia Warblers have been known from the mountains of West Virginia and Virginia for some time, there had not been any summer records in southwestern Virginia until 1966. Since that time the number of sightings and reported individuals have increased considerably. Presently this warbler is well documented from the Mountain Lake area in Highland County, at Beartown (Tazewell County), Beartown Mountain (Russell County), Haw Orchard Mountain (Grayson County), Abingdon (Washington County), and White Top and Mt. Rogers in Virginia (Peake 1978; Stevens 1965, 1967, 1968, 1976; Scott 1966, 1975; Simpson 1976). Hall (1983) shows the species to be present at no fewer than 11 high-elevation areas in West Virginia. Herndon (1977) summarized the reported summer occurrences of Magnolia Warblers on Roan Mountain, with the first record in 1959. The site where the adults were seen carrying food on 14 July 1975 is on the North Carolina side of the mountain, although Herndon does not mention this (see Amer. Birds 29:973). A breeding-season foray by the Carolina Bird Club (Potter and LeGrand 1980), however, failed to record the species.

On 27 June 1985 I heard and saw three Magnolia Warblers (2 males, 1 female) along the summit ridge of Grandfather Mountain. The birds were all within half a mile of each other, even though I estimate that I walked a 12- to 14-mile transect that particular day. A week later I was unable to relocate them, perhaps because I did not arrive at the site until late in the day. The birds were in the spruce-fir zone, where there were scattered openings of stunted trees and Spineless Blackberries (*Rubus canadensis*). There are three other reports for the state that should be mentioned. Birds were heard singing on Richland Balsam in June "a few years back" (Chat 45:23), and a single bird was found on Mount Mitchell on 5 June 1972 (Amer. Birds 26:860). Cairns (1889) assumed that Magnolia Warblers nested in our mountains and stated that young are common in July. Figure 4 indicates the suspected breeding sites for the state.

One of the past problems in interpreting the seasonal status of this warbler is its documented protracted migration period. Spring migrants have been noted as late as 30 May (Wilmington, Chat 45:109; Winston-Salem, Chat 40:104), and fall migrants as early as 29 July (Raleigh, Chat 37:110). Stevens (1965) reported adults feeding young in Virginia between 16 June and 23 July; so the dates on which Magnolia Warblers were found on Grandfather Mountain, Roan Mountain, and Mount Mitchell are within the documented nesting period for the species in the southern Appalachians.

Although they were seemingly confined to a restricted area on Grandfather Mountain, Magnolia Warblers in Virginia have been found from mountain summits down to 3700 feet in spruce, spruce-hemlock, rhododendron-spruce-Yellow Birch forest, mixed coniferous hardwoods, and virgin hemlock forest. Many of these transition communities are available on Grandfather Mountain. The Roan Mountain birds were in the vicinity of the rhododendron garden.

Mention should also be made of the diverse assemblage of wood warblers occurring on Grandfather Mountain. A minimum of 20 of the 27 species nesting in the southeastern United States have been found here. These birds generally can be grouped into low-elevation species (up to 2500 feet, e.g. Northern Parula [six species]); wide-ranging species confined to low and intermediate elevations (up to 4500 feet, e.g. Ovenbird [seven species]); species in the southern Appalachians that are generally restricted to intermediate elevations (2500-4500 feet, e.g. Blackburnian Warbler [five species]); and high-elevation species (4000 feet and higher, e.g. Canada Warbler [two species]).

Additional breeding-season species found in 1985 and not included in Lee et al. (1985) or in the list above are Wood Duck, Mallard, Wild Turkey (H. Morton, pers. comm.), Cooper's Hawk, Killdeer, American Woodcock (female with young, H. Morton, pers. comm.), Rock Dove (one individual), Eastern Screech-Owl, Barred Owl, Whip-poor-will, Yellow-throated Vireo, Yellow Warbler, Golden-winged Warbler, American Redstart, Swainson's Warbler, Louisiana Waterthrush, Yellow-breasted Chat, Blue Grosbeak, Grasshopper Sparrow, and Northern Oriole. Ruffed Grouse, while included on the 1984 list, were not personally encountered until this year. A male Peregrine Falcon, one of several released on the mountain in 1984, returned and remained throughout the summer. It was observed feeding from the hacking station (Will Suggs, pers. comm.). Wayne Irvin (NCSM) informed me that the 13 May record of a Loggerhead Shrike (Wray and Wray 1948) should also be regarded as a breeding record in that this date is well within the breeding season for this bird in the Southeast. Siegel (1980), for example, notes nesting in late March with peak nest activity in mid-April. Overwintering migrants peaked in January and were out of Siegel's study area by March. In spite of searching all low-elevation habitats that seemed suitable for shrikes, I was unable to locate them.

S.C. Bruner's original field records are on file at the N.C. State Museum. From 17 to 27 June 1911 he worked the Grandfather Mountain area in Caldwell and Avery Counties. He noted five species that I was unable to find. In each case the birds were encountered only once, so I do not interpret this to indicate major changes in habitats. Two of the species certainly do not represent nesting birds (Great Blue Heron, Lesser Scaup). The other three (Green-backed Heron, Kentucky Warbler, and Prairie Warbler) were all found at elevations of about 1600 feet, a zone I have not yet worked. Interestingly, House Sparrows were already established at Linville by the summer of 1911. Bruner provided rather precise information for locality and elevation for 107 sightings of individual birds. Comparing his records and mine, I find that the general composition of the summer bird fauna has changed little, if any, in the last 75 years. The shrikes that were present in the late 1940s (see above) were not found by Bruner in 1911.

High winds and rain during my 1985 period of stay made it impractical to census high and intermediate elevations with the intensity intended. This perhaps resulted in my failure to relocate several of the more interesting finds of the 1984 season (Northern Saw-whet Owl and Red Crossbill). On the other hand, Long-eared Owls, Black-capped Chickadees, and Hermit Thrushes were found again. (Bryan Taylor, N.C. State Parks, also reported Hermit Thrushes again from Mount Mitchell, and a voice specimen is on file at the N.C. State Museum.) On 27 June 1985 I located a nesting pair of Brown Creepers at 5650 feet, confirming the suspected high-elevation nesting of the previous season.

Using a surveying altimeter calibrated to 25-foot intervals, I was able to get precise elevational distributions on more than 4500 individual birds, representing about 100 species. Many of the local elevational limits presented by Lee et al. (1985) are now greatly extended, but in most cases the patterns illustrated are similar.

It probably should be emphasized that in spite of a combination of 18 days and 9 nights spent on the mountain, many of the more interesting birds discussed in detail here and by Lee et al. (1985) were found only one to three times. These include Northern Goshawk, Long-eared Owl, Northern Saw-whet Owl, Yellow-bellied Flycatcher, Olive-sided Flycatcher, Hermit Thrush, Ruby-crowned Kinglet, Warbling Vireo, and Magnolia Warbler. Collectively these species presently constitute less than 0.3% of the total number of summer birds encountered. Even though the trail system on Grandfather Mountain is well developed, only a very small percentage of the total 5000-acre "back country" is accessible. Furthermore, the dense vegetation of the mountain makes it necessary to locate most birds by sound rather than visually, while the terrain and weather make brief exploration of limited value and extended visits tiring. Without considerable preplanning, it is impossible to reach key, high-elevation habitats of the mountain specialties during prime morning singing periods. Persons unwilling to commit themselves to extended visits to the mountains will find the area frustrating to work.

With the addition and potential addition of the birds discussed above to the breeding-season fauna, it appears that Grandfather Mountain occupies a key position in the southern Appalachians in regard to the distribution and southern "range expansion" of northern faunal elements. At present this mountain is one of three known breeding-season sites for the Hermit Thrush and Magnolia Warbler south of Virginia, the only known North Carolina summer site for the Long-eared Owl and Yellow-bellied Flycatcher, and one of a limited number of places between the Plott Balsams and southwestern Virginia where Olive-sided Flycatchers, Black-capped Chickadees, N. Saw-whet Owls, and other boreal species still occur. These species represent a combination of relicts, semi-relicts, and documented instances of recent range expansions. It should be pointed out that these "recent" expansions may simply represent reclaiming of former habitats regularly occupied prior to the extensive logging that took place in the Appalachians at the turn of the century. The lack of previous records of the least common species may be an artifact of the general inaccessibility of the upper zones of mountains to 19th-century naturalists.

The unique zoogeographical position of Grandfather Mountain is illustrated by more than its extraordinary bird life. Clark and Lee (in press), for example, have just reported on the discovery of the Virginia Big-eared Bat (*Plecotus townsendii virginiana*) in two caves on the mountain. This bat was previously believed to be essentially restricted to the mountains of West Virginia with outlying populations in eastern Kentucky and southwestern Virginia. Various other mammals with restricted high-elevation distributions were also encountered along with Appalachian endemics and disjunct populations.

I will take this opportunity to point out that the elevational distribution depicted for the Black-throated Blue Warbler by Lee et al. (1985) is in error. It is typically an inhabitant of mixed mesophytic forest with occasional birds found in higher transition zones. Contrary to a basically correct generalization in this same article, many of the boreal species listed as occurring south to the mountains of North Carolina and

Tennessee do spill over into northern Georgia and Alabama. Also, in reviewing literature on southern Appalachian bird life, I note that the Purple Finch nesting-season record provided by Phillips (1979) for Roan Mountain is from the North Carolina portion of the mountain. The North Carolina bird records committee had previously overlooked this fact.

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