

Status and seasonal distributions of Bicknell's and Gray-cheeked Thrushes in North Carolina

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Since the late 1950's identification and documentation of different races of native birds has not received much attention, and interest in subspecies has been limited to the studies of a few ardent ornithologists. Thus, Bicknell's Thrush, because it was regarded as a race of the Gray-cheeked Thrush (*Catharus mimimus*) has been largely ignored. The last discussion of this taxon in North Carolina's ornithological literature was in the revised 1959 edition of *Birds of North Carolina*. Despite the fact that it has long been a recognized component of the state's fauna, most local bird students remain unaware of this bird. Furthermore, excluding scattered sight reports, there is little published information on any of the 'gray-cheeked' thrushes in North Carolina. In this note I will clarify the taxonomic status and summarize the season of occurrence of these thrushes in the state.

Henri Ouellet (1993) recently reviewed the taxonomy of *Catharus mimimus* and concluded that the eastern and southern-most population, since the late 1800's (Ridgway 1882) regarded as a subspecies of the Gray-cheeked Thrush, is a valid species Bicknell's Thrush (*Catharus bicknelli*). Ouellet (1993) concludes that the Bicknell's Thrush has well-marked morphological differences when compared to adjacent populations of Gray-cheeked Thrushes, and that breeding and wintering ranges of the two thrushes do not overlap. Bicknell's Thrushes and Gray-cheeked Thrushes also have distinctive songs, they live in different habitats, and do not interbreed. Biochemical analysis of tissues confirms that there is a high level of divergence. Based on study of spectrograms, Evans (1994) documented the distinctiveness of the nocturnal flight call of the Bicknell's Thrush.

Bicknell's Thrush winters in the Greater Antilles, while the Gray-cheeked Thrush winters in Central and South America. Radar studies on migration patterns of song birds in New England indicate it is likely that the majority of Bicknell's Thrushes may migrate, like so many other songbirds, directly from New England and the Maritime Provinces to the Greater Antilles via an open Atlantic route. Based on fat deposits and known migration speeds of songbirds of similar sizes these birds would have no problem making this journey non-stop.

Ouellet (1993) does not include North Carolina in the species' documented distribution. He states that the migration patterns of this thrush are poorly known. He cites specimens in various collections documenting that during migration they occur in New Brunswick, Nova Scotia, Quebec, Ontario, Connecticut, New Jersey, New York, Virginia, South Carolina, and the Bahamas. An extralimital specimen is known from Bermuda (23 November 1957). The fifth edition of the American Ornithologists Union (A.O.U.) checklist simply states that *C. mimimus bicknelli* migrates mainly east of the Alleghenies. McNair and Post (1993) summarized the status of *C. mimimus bicknelli* for South Carolina. They reviewed the four records presented by

Sprunt and Chamberlain (1949), and confirmed the identification of two of the specimens. The South Carolina records were obtained between 1897 and 1927.

HISTORY AND SYSTEMATICS

In their 1919 edition of *Birds of North Carolina* (Pearson et al. 1919) first reported on the occurrence the Bicknell's Thrush, in the state. They note "Bicknell's Thrush occurs at Raleigh sparingly in the migrations, having been taken from May 3 to May 18 in spring and from September 24 to October 12 in the fall. At Weaverville Cairns recorded it from September 11 to November 10 and stated that he once killed one on Black Mountain in August." In the 1949 edition of this book they include only one additional record "Wetmore reported one taken at South Port, May 12, 1939."

There is some potential, however, for confusion regarding these records. In the 1945 edition of the book, Pearson et al. (1945) provide the names *Hylocichla minima aliciae* Baird for the Gray-cheeked Thrush and *Hylocichla minima minima* Lafresnaye for the Bicknell's Thrush. While the scientific name provided for the Bicknell's Thrush was the correct one for the time it somewhat masked the identity of the birds in question (see below). Only two of the three taxa of gray-cheeked thrushes now documented to occur in North Carolina (this study) were recognized and subsequent revisions of the taxonomy leave some doubt as to which birds are actually discussed. Furthermore, the descriptions provided by Pearson et al. (1945) are not really adequate to separate the taxa involved. The measurements they provide are from literature and not actual North Carolina specimens; both *bicknelli* and the nominate *minimus* are small birds. Since the 1945 edition there have been no attempts to clarify the taxonomic status of this thrush in North Carolina, or to compare past or current names to actual specimens.

The brief (and incomplete) summary of the taxonomic history of gray-cheeked thrushes that follows illustrates the potential for problems caused by nomenclatural changes, size, and the difficulty of interpreting what was reported by our predecessors.

1882—Ridgway named the Bicknell's Thrush, *Hylocichla aliciae bicknelli*, as a subspecies of the Gray-cheeked Thrush, *Hylocichla aliciae*.

1889—The revised First Edition of the AOU Checklist and the 1895 Second Edition of the AOU Checklist, based on Coues (1884), reassigned *Hylocichla* to *Turdus*. Thus, *T. aliciae* is the Gray-cheeked Thrush and Bicknell's Thrush becomes *Turdus a. bicknelli*.

1910—By the Third Edition of the AOU Checklist both forms were reassigned back to the genus *Hylocichla*.

1915—*Birds of North Carolina* included both the large Gray-cheeked Thrush as *Hylocichla aliciae aliciae* (Baird.) and the small Bicknell's Thrush as *H. a. bicknelli* (Ridgw.) as components of the state's fauna.

1931—The Fourth Edition of the AOU Checklist listed the Gray-cheeked Thrush as *Hylocichla minima aliciae* (Baird) and the Bicknell's Thrush became *Hylocichla minima minima* (Lafresnaye). The type locality of Lafresnaye's 1848 original description of *H. m. minima* is Bogota, Colombia, so this taxon had a composite geographic range of what will later be regarded as two species.

1939—Wallace evaluated *bicknelli* and provided a detailed study of the taxonomy, distribution and natural history of a bird still considered a race of the Gray-cheeked Thrush. He includes North Carolina in its migration range.

1945—*Birds of North Carolina* included the Gray-cheeked Thrush as *Hylocichla minima aliciae* Baird and Bicknell's Thrush as *Hylocichla minima minima* Lafresnaye.

1949—Bent published detailed accounts of the Gray-cheeked Thrush, *H. m. minima* and Bicknell's Thrush, *H. m. bicknelli* and made no mention of *aliciae*.

1957—By the Fifth Edition of the AOU Checklist, the nominate *minima* was regarded as the central and western subspecies and the southern and easternmost race was *Hylocichla minima bicknelli*. The geographic range of the latter was still a composite of the two small forms, but the type locality of *bicknelli* was at least within the breeding range of this taxa.

1959—*Birds of North Carolina* listed the Gray-cheeked Thrush as *Hylocichla minima minima* Lafresnaye and the Bicknell's Thrush as *H. m. bicknelli* Ridgeway, but otherwise copied the information from previous editions.

1963—Based on his examination of the holotype (now at the MCZ at Harvard) Todd restricted the nominate *minimus* (which by now was a species of *Catharus*) to the island of Newfoundland, described the distribution of the larger and more widespread *C. m. aliciae* and confirmed the earlier work of Wallace (1939).

1983—The Sixth edition of the AOU Checklist did not discuss subspecies and listed only *Catharus minimus* (Lafresnaye) as the Gray-cheeked Thrush.

1993—Ouellet recognized and re-described the southeastern subspecies of the Gray-cheeked Thrush, *Catharus m. bicknelli* as a full species, *Catharus bicknelli* and defined and restricted the birds breeding distribution to eastern New York north through New England, extreme southern Quebec, New Brunswick and the Gaspé Peninsula and Nova Scotia. While he lists states in which migrants are known to occur, he did not include North Carolina.

These examples illustrate that during the period when the various taxa of gray-cheeked thrushes were being reported for North Carolina (1919-1945) our systematic understanding of these birds was inadequate for identification. Published information is limited and not detailed enough to re-evaluate individual records for specific identification and the most recent study did not recognize many earlier published records of this taxa.

My examination of 21 North Carolina specimens of gray-cheeked thrushes in the North Carolina State Museum research collection indicated that none were *bicknelli*. Two specimens at UNC Greensboro likewise were not this species (Hendrickson pers. comm.). I wrote Richard Banks and asked that he check the 1939 specimen reported by Wetmore (in Pearson et al. 1949). He reports "Wetmore's 12 May 1939 specimen of *Catharus bicknelli* is in the USNM, #357650. It is an adult male, taken 5 mi SE Southport, Brunswick Co., by W. M. Perrygo and G. Rohweri the original number 3361 is on the label. "W.96" [wing 96 mm] has been penciled on the label."

Although Pearson et al. (1949) listed other North Carolina Bicknell's Thrush specimens the existence and location of these is unknown so the identification cannot be confirmed. The Brimley's and the other naturalists listed as collecting these bird specimens sold their skins to private collectors

and there are no existing records of these sales. While the original identifications are likely correct, this cannot currently be determined and the potential for confusion over subspecific names in Pearson et al. (1949) makes it unwise to blindly accept unverifiable specific historic records of this species pair. One additional report of the Bicknell's Thrush is available for North Carolina. A bird that struck a TV tower in Hillsboro on 11 May 1958 was noted as "prob. *bicknelli*" (Chat 22:71), but this report also lacks details which would allow confirmation of the identification.

Based on specimens in the N.C. State Museum and in the U.S. National Museum, *Catharus bicknelli*, *Catharus minimus minimus* and *Catharus minimus aliciae* all occur in North Carolina during migration.

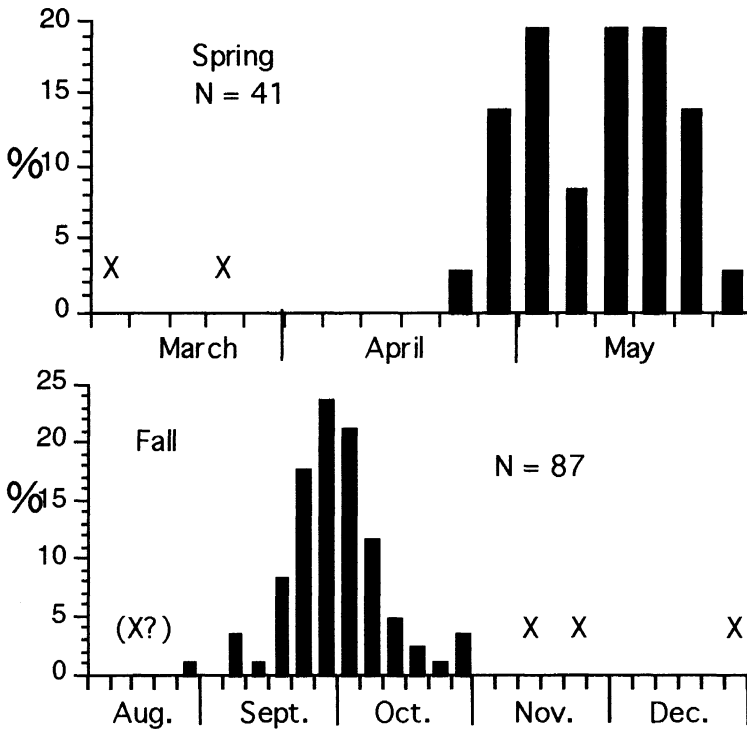
NORTH CAROLINA RECORDS AND REPORTS

There is suprisingly little information available concerning gray-cheeked thrushes in North Carolina. In addition to the limited information in Pearson et al. (1945), a few published studies on local bird migration (i.e., Sykes 1986) and specimen records, there are only 36 scattered occurrence reports in over fifty-five years of seasonal accounts in *The Chat*. The following attempt to characterize these reports is biased by the unsystematic method of information-gathering. These figures probably reflect as much the seasonality of bird watchers as they do that of thrushes. Also based on the small number of reports, it is clear that few field observers have regularly made an effort to report Gray-cheeked Thrushes to the editors of regional literature. Most reports are of single birds (80%). The majority of reports are from the fall (>70%) and nearly all reports of multiple sightings on a single date are from the fall (72%). Locality records are from the coastal fringe (17%), elsewhere in the Coastal Plain (10%), the Piedmont (37%) and Mountains (35%). Little published habitat information is available. Burleigh recorded elevation information for one specimen from 6000 feet, which indicates these thrushes are likely to occur at all elevations in the mountains. Excluding the 49 skin specimen records (ca 40% of total records and reports), none of sight reports for North Carolina can be assigned to species. Additionally while skeletal material in museums (N = 2 in NCSM) cannot at this time be positively identified to species all appear to be *C. mimimus*. Based on recorded weights (30.0-35.9 grams) these skeletal specimens appear to be large individuals (North Carolina *minimus* with recorded weights N=7 27.0-36.6 [\bar{x} =32.3] grams) and therefore not *C. bicknelli*.

MIGRATION

The overall migration period is protracted when records of both the Gray-cheeked and Bicknell's Thrushes are combined. However, Sykes (1986) in 52 censuses of migrating birds on the Outer Banks of North Carolina (August through November 1965) found Gray-cheeked Thrushes on only 8% of his survey dates. A total of seven Gray-cheeked Thrushes were recorded between 30 August and 5 October in his studies. Banding efforts by Sykes in 1965 on Bodie Island yielded 7 individuals (26 September-6 October) out of 1,276 total birds captured in 1,317 net hours. He considered the species an uncommon fall transient. There are a number of fall reports from 1950's through the mid 1970's

from TV tower kills (i.e. Carter and Parnell 1976). They provide a large portion of the available information for this species pair in North Carolina. A composite of all reported migration records for both species (NCSM files, specimens, and published reports) indicates a spring migration of 24 April (Chat 25:62-63) to 30 May (Chat 26:81) and a fall return from 30 August (Sykes 1986) to 29 October (Chat 40:4). Carnes (in Brimley et al. 1949) cited a non-specimen record for 10 November. Other unseasonal reports which are not documented are available for 9 March and 28 December [1953] (Wray and Davis *in* Pearson et al. 1959 edition), 22 March 1953 (Chat 17:56-57), and 17 November 1975 (Chat 40:50). These later records are supported by no additional information and while they are not necessarily erroneous they are best disregarded at this time. Figure 1 illustrates the combined migration period for these two species of thrushes. It is based on specimen records (N = 51) and literature reports (N = 72). Approximately 75% of the fall migration passes through in a 20-day period in late-September and early-October. About 50% of these birds pass through North Carolina in spring migration in a 15-day period in mid-May.



Temporal distribution of gray-cheeked thrushes in North Carolina expressed as percent reported occurrence per 5-day period. X = out of season reports (see text). X? in August of unknown date from Cairns (Pearson, et al 1915).

Information on the local migration times of each species is more difficult to delimit as accurate specific identifications are only available from skin specimens. Specimens of *C. minimus* are available for 21 May and 8 September through 26 October. The single available North Carolina specimen of *C. bicknelli* is for 12 May 1939. Wallace (1939) notes that specimens of the Bicknell's Thrush taken from the southeast are from the period of 3-18 May.

The breeding and wintering range of *C. bicknelli* would indicate a migration route along the eastern Atlantic states and most records of the species are east of the Appalachians. Based studies of nocturnal flight calls, Evans (1994) documents their migration over east central Florida. In migration *C. bicknelli* could occur anywhere in the North Carolina. In addition to the Southport record, there are specimens (that have not been confirmed) reported from Weaverville, Black Mountain, and Raleigh. Likewise migrant *C. mimimus* occurs throughout North Carolina with specimens and reports from throughout the state.

The AOU Checklist (1957) indicated that *bicknelli* is reported casually from Illinois, Indiana, Ohio, Tennessee, West Virginia and southern Louisiana. Ouellet (1993), however, did not recognize any of these records in his discussion of migration and extralimital records. It is not clear if these earlier records were overlooked or if in Ouellet's revised description of *bicknelli* these specimens were regarded as *minimus*. In that prior to 1993 *bicknelli* was in part a composite of true *bicknelli* and eastern populations of *minimus* the picture will remain clouded until the specimens from various localities are re-examined. A similar problem exists in determining the migration patterns of *C. m. aliciae* and *C. m. minimus*. At various times the names of the two taxa were interchanged. Generally, however, it is assumed that *aliciae* is a migrant of the Mississippi basin. Therefore confirmed records of *aliciae* from North Carolina are interesting and unexpected. To date all North Carolina records of this race (N=20) are from the mountains, and all but one (21 May 1930, USNM 301585) are from the fall.

IDENTIFICATION

Distinguishing transient Bicknell's from Gray-cheeked Thrushes will prove difficult. Chapman (in Pearson et al. 1945) notes that "while the difference between them in size is so slight that during their migrations, where both might be expected to occur together, it would be impossible to say which bird was under observation." While the re-evaluation of Ouellet (1993) leaves no question as to the species' status, certain color patterns show much overlap (e.g., dorsal, throat and ventral coloration of male and female *bicknelli*, compared to eastern races of *mimus* (*mimus* and *aliciae*). The chestnut coloration of the tail of both male and female *bicknelli* may be a distinction that will separate *bicknelli*. However, for most of us this will be a difficult field character to distinguish with certainty. I had the opportunity to observe a number of wintering *bicknelli* in the Dominican Republic in January of 1990 (*mimus* is not known to winter in the Caribbean). In the patchy light of upland forest it was not possible to document the plumage characters necessary for identification.

I think everyone must recognize that it will be extremely difficult for field observers to distinguish *C. bicknelli* from *C. mimimus*. The problem is magnified, in that neither bird is a particularly common local migrant, and both are secretive and not particularly vocal during migration. It will require some diligence including notation of vocalization, for bird watchers to identify either species with confidence. However, with the recognition and confirmation that both Bicknell's and Gray-cheeked Thrushes occur in North Carolina people can now watch, or listen, for both officially. Those desiring unquestionable identifications can, of course, visit the birds either on their wintering or breeding grounds, or make recordings of nocturnal migrants and study frequency distributions on spectrograms. Eventually more complete information on the migratory habits of the two species in the Carolinas can be compiled if specimens salvaged as window kills and other mortalities are made available to institutions with systematics collections. Based on earlier reports the fall monitoring of TV tower mortalities could provide a considerable amount of material that would be useful in evaluation and comparison of the migration patterns of these two species. Additionally measurements and notes made by banders should be useful in further documenting the occurrence of these two species in the state. At this time most of the information previously compiled on the Gray-cheeked Thrush can not be unquestionably assigned to that species. While we are not exactly starting from scratch, our local understanding for both of the thrushes discussed is now quite limited.

CONSERVATION STATUS

Recent evaluations of long-term monitoring studies strongly suggest an overall decline in many species of neotropical migrant songbirds (i.e., Askins, et al. 1990). While it can be argued that these birds are not declining faster than other types of wildlife, and it remains to be seen if the decline in these songbirds is actually exceeding the corresponding disappearance and fragmentation of habitats, the problem is nevertheless real. The conservation status of the Bicknell's Thrush, in particular, needs attention. While preparing this manuscript almost everyone I talked with indicated that gray-cheeked thrushes as migrants are much less common than they were several decades back. The decimation of habitats used by forest-dwelling neotropical migrants wintering in the Greater Antilles is alarming. For a species such as the Bicknell's Thrush, whose total wintering population is dependent on this area, the situation is not good. The two largest islands, Cuba and Hispaniola, obviously support the greatest areas of habitat for thrushes. The Haitian portion of Hispaniola, a country the size of Maryland, has been deforested for agriculture and for the charcoal industry. The border between the Dominican Republic and Haiti can be delineated by a line that is as visually well-marked as that between any field and forest. Extensive areas of agriculture also dominate much of the Dominican Republic. In that country these birds appear to be restricted to upland forest. Until the recent collapse of the Soviet Union and the loss of its economic ties with Cuba conservation and land ethics in Cuba were probably the best in the Caribbean. The current embargo enforced by the United States has cut off imported fuel, and has forced Cubans into developing massive charcoal works. This is devastating to Cuban woodlands. On the smaller

Caribbean islands most of the native hardwood vegetation was removed for lumber in previous centuries and many of the native winter fruiting hardwoods are in limited supply, or so young as to provide an insignificant and undependable food source for locally wintering birds.

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