

HISTORICAL ACCOUNTS OF BICKNELL'S THRUSH IN NEW YORK CITY AND A NEW RECORD FOR BRONX COUNTY

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Abstract—Bicknell's Thrush is a restricted-range Neotropical migrant whose migratory ecology and behavior are poorly understood. There have been several records of transient Bicknell's Thrushes in New York City; however the last documented occurrence was over sixty-five years ago. Here, we synthesize historical accounts of the species in New York City and report the first record for Bronx County since the late 19th century. Data collected from the bird of record in Bronx County are presented. This information, when compared with other available data, may prove useful in future studies of the species.

Bicknell's Thrush (*Catharus bicknelli*) is a long-distance Neotropical migrant first discovered in New York's Catskill Mountains by Eugene Bicknell in 1881 (Rimmer et al. 2001). Long considered a sub-species of the Gray-cheeked Thrush (*Catharus minimus*), Bicknell's Thrush was eventually recognized as a distinct species in 1995 (AOU 1995). The classification of Bicknell's Thrush as a separate species has resulted in increased interest in the species and concern over its conservation status. Yet, much remains to be learned about Bicknell's Thrush natural history, particularly its stopover ecology, migration routes, and migration timing (Rimmer et al. 2001). Rimmer et al. (2001) recommend a thorough study of available banding and specimen data to help establish migratory routes and timing, and to identify important stopover habitats.

In the field, Bicknell's Thrush cannot be reliably distinguished from Gray-cheeked Thrush visually (Beals and Nichols 1940, Pyle 1997, Wilson and Watts 1997, Rimmer et al. 2001, NYSARC 2002). This partially accounts for the dearth of information on the species relative to those migratory birds that can be readily identified by field marks. Identification of Bicknell's Thrush during migration requires examination of handheld birds or specimens so that morphological measurements can be taken (Pyle 1997, Wilson and Watts 1997, Rimmer et al. 2001). Information obtained from banding stations is therefore critical to better understand the migratory ecology and behavior of Bicknell's Thrush (Wilson and Watts 1997).

Here, we report our capture of a transient Bicknell's Thrush during Fall 2005 in Bronx County, New York. Although our data represent only one individual, the general lack of information on the species' migratory behavior, especially in urban areas such as New York City, warrants its presentation. Such information, when compared with other available data, may prove useful in future studies of the species.

HISTORY OF BICKNELL'S THRUSH IN NEW YORK CITY

New York State's Catskill and Adirondack Mountains represent a significant portion of the Bicknell's Thrush breeding range (24%; Lambert et al. 2005), but transient occurrences of the species in other parts of the state are less well-documented. Historically in New York City, Bicknell's Thrush has been recorded in Queens Co. (Howell 1893, Wallace 1939, Beals and Nichols 1940), Kings Co. (Howell 1893, 1899; Cherrie 1909, Wallace 1939), Liberty Island (Howell 1893, Wallace 1939), and Bronx Co. (Wallace 1939). In each case, the birds of record were either captured at a banding station or collected as specimens.

We presume these birds were identified as Bicknell's Thrush using morphological measurements, although some of the above authors did not specify their method of identification. The fact that morphological measurements are today considered the most reliable method of distinguishing Gray-cheeked and Bicknell's Thrush (aside from molecular techniques) (Pyle 1997, Wilson and Watts 1997, Rimmer et al. 2001) is in large part due to George Wallace's (1939) seminal study of the two species. Prior to 1939, the measurements presented by Ridgeway (1881) were universally used for identification of Bicknell's Thrush (Wallace 1939). However, Wallace (1939) concluded that Ridgeway's (1881) measurements were unsatisfactory and had led to numerous erroneous identifications of the species. Therefore, records of transient Bicknell's Thrush prior to the publication of Wallace's research may be considered less certain than any records post-1939.

Regardless of this uncertainty, if the historic accounts of Bicknell's Thrush in New York City are accepted as accurate, the last record for the city was nearly seven decades ago (Beals and Nichols 1940). The last record for Bronx Co. in particular was in the late 19th century (Wallace 1939).

A BICKNELL'S THRUSH CAPTURE IN BRONX COUNTY

In Spring 2004-06 and Fall 2004-05, we mist-netted and banded birds in Bronx Park (Bronx, New York) as part of an ongoing study of the stopover ecology of Neotropical migrants in urban habitats (Seewagen 2005). Bronx Park is a 565-acre park in the center of Bronx Co. that includes the campuses of the Bronx Zoo and New York Botanical Garden. Our study area was a 12-acre section of riparian and upland forest habitat on the grounds of the Bronx Zoo adjacent to the Bronx River. The site does not contain any animal exhibits and is not open to zoo visitors. The west edge of this area is a dry upland deciduous forest dominated by Red Oak (*Quercus rubra*) and Sweet Gum (*Liquidambar styraciflua*), with some White Ash (*Fraxinus americana*), Mockernut (*Carya tomentosa*), Black Cherry (*Prunus serotina*), and American Elm (*Ulmus americana*). The upland forest transitions rapidly down a steep gradient to the east into a riparian zone with wet or seasonally wet soils. The most prevalent riparian species are willows (*Salix spp.*) and Swamp Dogwood (*Cornus foemina*) (Slayton, unpubl. data). Two invasive species, Japanese Knotweed (*Polygonum cuspidatum*) and Oriental Bittersweet (*Celastrus orbiculatus*), are also prevalent.

Ten to twelve mist nets were operated five days per week from sunrise to approximately 1200. Fall mist-netting took place between the first week of September and the second week of October; spring mist-netting took place between the last week of April and first week of June. The nets were set in 10 locations throughout the study site. Six locations were close to the river's edge (<10m), while the remaining four locations were 20-30 m further away in the upland deciduous forest.

At approximately 0745 on 10 October 2005, a Bicknell's Thrush was captured in a mist net close to the river's edge (<5m). The bird was aged (Pyle 1997), measured to the nearest 1 mm (wing-chord, tail length, and the distance from p8 to p6), weighed to the nearest 0.1g (Ohaus 400g digital balance), examined for signs of wing and body molt, and banded with a federal serial numbered metal band. Visible subcutaneous fat in the furcular hollow was rated on a 6-point scale (Helms and Drury 1960, Moore and Kerlinger 1987). The data collected were:

Age: Hatching-year (HY)
Sex: Unknown
Wing-chord: 85 mm
Tail length: 64 mm
p8 - p6: 4 mm
Mass: 28.6 g
Fat score: 2
Body molt: None
Wing molt: None

The bird was identified as a Bicknell's Thrush and distinguished from Gray-cheeked Thrush using the wing feature criteria in Pyle (1997). The measurements of two parameters in particular (wing-chord; distance from primary 8 to primary 6) indicated that this bird was a Bicknell's Thrush.

Over the Spring 2004-06 banding seasons, a total of 8 Gray-cheeked Thrushes were captured and in the Fall 2004-05 banding seasons, 4 Gray-cheeked Thrushes were captured. On two occasions (20 May 2004 and 12 May 2005) we captured birds that could not be conclusively identified as either Bicknell's or Gray-cheeked Thrush. The measurements taken from these individuals fell within the overlapped portions of the size ranges of both species.

DISCUSSION

Previous reports of transient Bicknell's Thrushes captured at banding stations have indicated a significant age bias towards hatching-year birds (Rimmer et al. 2001). This is consistent with the age ratios for most passerine species captured at coastal banding sites along the Atlantic Flyway (e.g. Robbins et al. 1959, Murray 1966, Ralph 1981, Morris et al. 1996, but see Seewagen 2005). The Bicknell's Thrush we captured in Bronx Park was a hatching-year bird,

consistent with this trend. Banding stations have also regularly reported higher numbers of migrant Bicknell's Thrushes captured in fall than in spring (Beals and Nichols 1940, Rimmer et al. 2001). Our single capture occurred in fall.

A Suffolk Co., LI banding station found the mean fall passage date for Bicknell's Thrush through this geographic region to be 5 October $\pm$ 8.6 d SD (Lanyon 1970, Rimmer et al. 2001). Beals and Nichols (1940) did not provide mean or median passage dates of Bicknell's Thrush through their Queens Co. station; rather they noted that their earliest capture occurred on 7 September and their latest capture on 8 November. Wilson and Watts (1997) identified 4-7 October as the median autumn passage dates for Bicknell's Thrush through Kiptopeke, VA. The 10 October date of our capture fits the expected fall passage dates of Bicknell's Thrush through the New York City area, based on these data from other banding stations.

The 1:4 ratio of Bicknell's: Gray-cheeked Thrush captures in fall at our banding station is comparable to that recorded by other stations, although considerable variability occurs (see Rimmer et al. 2001). At the Queens Co. banding station, Bicknell's Thrush constituted 42% ($n=117$) of the total fall Bicknell's and Gray-cheeked Thrush captures from 1932-39 (Beals and Nichols 1940). Beals and Nichols (1940) did not specify what measurements they used to distinguish the species, however. Considering the early date of their publication, and thus the likelihood that Ridgeway's (1881) inadequate measurement ranges were used for identification, the high proportion of Bicknell's Thrushes reported by Beals and Nichols (1940) is questionable.

CONCLUSION

The birds of New York City have been well-documented over the last 125 years (e.g., Bicknell 1878; Griscom 1923, 1926; Kuerzi 1926; Carleton 1947, 1958, 1970; Bull 1964). Virtually all knowledge of the area's birds can be attributed to consistent field observations made since the late 19th century by both amateur and professional ornithologists. Field observations, however, are limited in the variety of data they can provide. Bicknell's Thrush, due to its nearly identical appearance to Gray-cheeked Thrush, cannot adequately be studied during migration by visual observation alone.

Here, we present the first record of Bicknell's Thrush in New York City in sixty five years. We do not suggest that the species has been absent from New York City at other times during this period. Rather, we believe that banding stations can be a valuable means of reliably documenting and monitoring an area's avifauna, even in cities.

Records of Bicknell's Thrush in New York City show that the city's parks are used as stopover sites by even the most uncommon of migratory birds, underscoring the importance of conserving and properly managing these areas.

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