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# THE MIGRANT

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### OBSERVATIONS OF LOUISIANA WATERTHRUSH PREYING ON FISH SPECIES IN MIDDLE TENNESSEE

Graham Gerdeman<sup>1</sup>, Jenna Atma<sup>2</sup>, Heather Gallagher<sup>3</sup>, Stefan Woltmann<sup>2</sup>

On the morning of 5 May 2022, a Louisiana Waterthrush (*Parkesia motacilla*) was observed and photographed carrying a Fringed Darter (*Etheostoma crossopterum*), (Figs. 1 & 2) which subsequently was fed to a nestling in a nest along Henry Creek in Beaman Park, Nashville, Davidson County. The nest was under observation that morning by Gallagher and Gerdeman. While the nest was under observation by Gerdeman, an adult waterthrush flew in from further down the creek, giving chip calls. It landed briefly below the nest, carrying the fish in its bill. It paused for a few seconds, assessing its surroundings, before flying up to the nest and feeding the fish to one of four nestlings. The fish species was positively identified from photographs by Drs. R. Johansen and M. Cashner (Austin Peay State University, Clarksville, Tennessee).



Figure 1. Louisiana Waterthrush with Fringed Darter. Photo by Graham Gerdeman.

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Figure 2. Louisiana Waterthrush with Fringed Darter. Photo by Graham Gerdeman.

Two additional recent observations of Louisiana Waterthrush consuming fish were made on 22 May by Atma and 30 May by Woltmann, Wall's Branch, Rotary Park, Clarksville, Montgomery County. Video evidence (https://youtu.be/0JvtbshsaL4) collected by Atma unfortunately was not clear enough for a positive identification but appeared to be a minnow (Cyprinidae) (Fig. 3). Wall's Branch has limited minnow diversity, and the prey item was most likely one of three species: Creek Chub (*Semotilus atromaculatus*), Southern Redbelly Dace (*Chrosomus ertyrhogaster*), or Large-scale Stoneroller (*Campostoma oligolepis*) (M. Cashner pers. comm.). No photographs or video were made of the 30 May observation due to low light conditions under a dense canopy, but based on shape and size it was suspected to be a darter. Both of the Rotary Park observations involved the waterthrush beating the fish on rocky substrate at the edge of the stream and subsequently consuming the fish in small torn-off pieces starting from the head (22 May) or flying away with the prey (30 May).

Louisiana Waterthrushes are regular nesting species in these locations along forested creek edges. The Louisiana Waterthrush is a stream-obligate species, feeding primarily on adult and larval aquatic invertebrates (Mattson et al. 2020). There are relatively few observations in the literature of Wood-warblers (Parulidae) consuming vertebrate species. A recently published literature review found evidence of 12 species preying on vertebrates, with only two records of Louisiana Waterthrush preying on fish species (Akresh et al. 2022). These descriptions include a bird consuming a small fish in New York City (Hix 1916), and the analysis of stomach contents of a bird in Florida (Howell 1932).

Mulvihill et al. (2008) mention that a Louisiana Waterthrush fed "terrestrial salamanders" to young at a nest in Pennsylvania and suggested that in that landscape stream acidification reduced the abundance of more typical Louisiana Waterthrush prey, and the birds may have diversified their diets as a result. No vertebrates were identified in a recent study using DNA to identify prey fed to Louisiana Waterthrush nestlings, but it seems possible the primers

used in that study were more narrowly focused on arthropods and that vertebrate prey was missed (Trevelline et al. 2018). Our Beaman Park observation thus appears to be the first documentation of a Wood-warbler species feeding fish to its young. While rarely observed, we suspect that the predation of fish and other small vertebrates by Louisiana Waterthrush, including the feeding of young, may not be that uncommon. Waterthrushes are relatively large among Wood-warbler species and are clearly capable of taking larger prey, though the benefits and possible costs (e.g., energetics of capturing large or fast-moving prey) are not known. Likewise, whether or not our observations reflect a dietary shift in response to altered or depleted prey in these streams is not known but should be investigated.



Figure 3. Louisiana Waterthrush with minnow. Photo by Jenna Atma.

#### **ACKNOWLEDGMENTS**

We thank Drs. Johansen and Cashner for identifying the fish species from photographs. S. Latta and R. Huffines made helpful comments on an earlier draft of the manuscript.

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#### CONFIRMED BREEDING OF COMMON RAVEN ON THE CUMBERLAND PLATEAU IN TENNESSEE

Charles P. Nicholson Norris, Tennessee

On 5 June 2021, at about 1650, I was driving east on State Route 52/Rugby Highway on the bridge across Little Creek near Rugby in Morgan County, Tennessee when I saw a large corvid with a large, thick beak and long wedge-shaped tail fly across the road from south to north. I quickly stopped, and over the next fifteen minutes I observed, through binoculars, at least 4 and possibly 5 Common Ravens (*Corvus corax*) in the forested gorge area north of the bridge. I identified the birds as ravens by their large size, flight pattern, beak, head and tail shape, as well as their vocalizations.

During the time of my observations, the birds made short flights above and below the tree canopy and perched in trees for short time periods, mainly at a distance of one to two hundred meters from me. At one point, three birds were perched in a large dead tree, and another bird was perched in a nearby dead tree. One bird begged for food from another, but due to the distance and viewing angle I could not determine whether it received food from the other bird. Because of the distance, I also could not distinguish any plumage characteristics indicating some of the birds were fledglings. However, because of their behavior, including a variety of vocalizations, a least some of the birds appeared to be fledglings. The date of my observation of fledglings is consistent with the breeding phenology of Common Ravens in Tennessee, where nestlings have been observed from late March through mid-May, and the few previous observations of fledglings range throughout the month of May as referenced in Nicholson (1997), Trently (1999) and Season reports in *The Migrant*. Elsewhere, fledglings may remain in the vicinity of the nest for a month or more and may not become independent of parents until two or more months after fledging (Boarman and Heinrich 2020).

The historic range of the Common Raven once extended across much of Tennessee (Nicholson 1997). By the late 19th century, it was restricted to the Cumberland Plateau and the Blue Ridge Mountains. Ganier (1923, 1973) related anecdotal reports of its nesting on the Cumberland Plateau and claimed to have seen old nests of Common Ravens there in the 1920s. While the population in the Blue Ridge Mountains persisted throughout the 20<sup>th</sup> century, the only documented 20<sup>th</sup> century observation in the Cumberland Mountains was in 1914 in Marion County (Nicholson 1997).

Since 2001, the Common Raven has been observed with increasing frequency in the northern portion of the Cumberland Plateau as well as the adjacent Cumberland Mountains in Tennessee as in Bullock and Timpf (2005), and as referenced in eBird records and Seasons reports in *The Migrant*. These observations include many late spring and early summer observations, particularly from the Cross Mountain and Royal Blue sections of the Upper Cumberland Wildlife Management Area in Campbell County and Frozen Head State Park in Morgan County. A few of these observations were of pairs of Common Ravens in suitable breeding habitat, indicative of probable breeding according to breeding bird atlas standards (Nicholson 1997). Bullock and Timpf (2005) reported pairs and territorial Common Ravens in the southern Upper Cumberland Wildlife Management Area in 2004 and 2005, also indicative of probable breeding. None of these observations provided confirmed evidence of local breeding. My 5 June 2021 observation appears to be

the first modern confirmed breeding record of the Common Raven on the Cumberland Plateau in Tennessee. My observation was about 1.7 km from the boundary of the Big South Fork National River Recreation Area, from which there are no substantiated reports of the Common Raven (Tom Blount per. comm.).

A low-quality recording of vocalizations of the group of Common Ravens I observed is available on eBird at https://ebird.org/checklist/S89897076.

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#### **ROUND TABLE NOTES**

**EVIDENCE OF LOW NEST SITE FIDELITY IN BELTED KINGFISHERS** - Over the spring and summer of 2021 and 2022, the Tennessee River Gorge Trust conducted research on Belted Kingfishers (*Megaceryle alcyon*) in the Tennessee River Gorge (Hamilton and Marion Counties, Tennessee). The research involved safely capturing with mist nests individuals from 6 distinct pairs and banding them to track for an annual cycle. Six males and 3 females were caught and banded with federal bands and color leg bands. Four of these, 3 males and 1 female, also were fitted with GPS transmitters (Fig. 1). The field research team observed many interesting behaviors of this relatively understudied species over the course of our study.

Although these birds are encountered regularly within their range, the seasonal movements and breeding behaviors are not well understood. Nest site fidelity is one of these relatively unknown behavioral traits that is seldomly described. Of the 6 pairs observed, 1 pair returned and was recaptured by field researchers at the same nest site from the previous season. This pair excavated a new nest hole within 1 meter of the previous nest hole. Of the 5 remaining nest sites, 4 appeared to be occupied by unbanded pairs. One nest site from 2021 was unoccupied in 2022. There was also photographic evidence of a banded male in the general study area (a roughly 7 mile stretch of the Tennessee River) in August 2022. However, this individual was never observed in 2022 at its respective nest site from the prior breeding season. The photo was taken at a distance of more than one kilometer from the respective 2021 nest site. Despite the small sample size, these observations provide some supporting evidence that the nest site fidelity for Belted Kingfishers may be relatively low. Further investigation is needed to make any conclusions.

This research was funded by the Tennessee Ornithological Society and Tennessee River Gorge Trust.



Figure 1. Belted Kingfishers were fitted with GPS transmitters in order to track their movements. Photo by Matt Reed.

Eliot Berz, Tennessee River Gorge Trust, Chattanooga, Tennessee

WINTER DIET OF LONG-EARED OWLS IN LAKE COUNTY - The Long-eared Owl (*Asio otus*) is a rare, or at least difficult to find, winter resident or visitor in Tennessee (Knight 2019). A Long-eared Owl roost consisting of five individuals was first observed by Andrew Lydeard and Daniel Redwine on 17 December 2020 at Tumbleweed Wildlife Management Area (WMA) in Lake County. These owls were observed throughout the winter with one individual lingering until 2 April 2021. Tumbleweed WMA is located within the alluvial plain of the Mississippi River. The area surrounding the roost is made up of roughly 50% primary succession grassland and shrubland, 25% secondary succession hardwood bottomland, and 25% agricultural stubble fields. The Long-eared Owls roosted in strips of pines (*Pinus* sp.) of about 2.5-4.5 meters in height, retaining a bushy shape with few breaks in foliage and lateral branches close to ground level.

After the owls had departed the roost site for the season Daniel Redwine returned to search for pellets. He found 13 pellets which were sent to the author for dissection and identification of prey remains. The pellets taken from Lake County contained the skulls of 18 prey items belonging to only two species of small mammals, Southeastern Shrew (*Sorex longirostris*) and Prairie Vole (*Microtus ochrogaster*) (Table 1). The winter diet of Long-eared Owls in North America consists primarily of small mammals (i.e., 98.2%; Marti 1976). Furthermore, voles often dominate the diet of this owl in many areas (Marti 1976). Such is the case in this study and the two previously published accounts of Long-eared Owl winter diet in Tennessee, one from the northeast corner (Washington County; Knight 2019) and the other from the mid-state (Maury County; Klippell and Parmalee 1982). Thus, this account from northwest Tennessee, albeit of a small sample, adds to the knowledge of this owl's ecology in the state.

Daniel Redwine provided the habitat description and pellets. Susan McWhirter forwarded these items to me and encouraged me to write this note. I thank them both.

Table 1. Long-eared Owl prey from pellets found in Lak	ke County, Tennessee.
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Species	Number	Frequency (%)
Southeastern Shrew (Sorex longirostris)	3	17
Prairie Vole (Microtus ochrogaster)	15	83

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Klippel WE, Parmalee PW. 1982. Prey of a wintering Long-eared Owl in the Nashville Basin, Tennessee. Journal of Field Ornithology 53:418-420.

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Richard L. Knight, Johnson City, Tennessee

#### THE SEASON – EDITOR'S NOTE

The Spring Season report (1 March - 31 May) is regularly published in the September issue of *The Migrant*. This year this report will be delayed until a later issue as we are in the process of streamlining the report to make it easier for our regional editors to collect and compile information.

Bob Ford, Editor

#### **INSTRUCTIONS TO AUTHORS**

The Migrant records observations and studies of birds in Tennessee and adjacent areas.

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COPY: Manuscripts should be double-spaced with adequate margins for editorial notations and emailed in Word.docx. Tables and figures should be prepared in a separate file with appropriate headings; see *Scientific Style and Format* for examples of appropriate form for tables. Photographs intended for reproduction should be at least 300 dpi or sharp with good contrast on glossy white paper. Weights, measurements, and distances should be in metric units. Dates should be in "continental" form (e.g., 16 March 1997). Use the 24-hour clock (e.g., 0500 or 1900).

NOMENCLATURE: The scientific name of a species should be given after the first use of the full common name in the text. The scientific name should be italicized and in parentheses. Names should follow the *A. O. U. Check-list of North American Birds* (seventh edition, 1998, or supplements).

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