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Seasonal Abundance and Habitat Distribution Of Birds in Northeastern Arkansas

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ABSTRACT

Bird sighting records from 1964 through 1978 for 17 northeastern Arkansas counties were compiled according to the seasonal status, relative abundance and habitat distribution of each species. The five seasonal occurrence categories and their relative species composition were: transient visitant (46.6%), summer resident (20.3%), winter resident (14.8%), permanent resident (17.2%) and winter visitant (1.0%). The seven seasonal abundance categories and their relative species composition were: very rare (13.9%), rare (15.9%), uncommon (30.7%), fairly common (10.5%), common (25.6%), very common (1.7%) and abundant (1.7%). Eleven habitat categories were included: campestrian, abandoned fields, forest edge, lowland woods, upland woods, riparian woods, marshes, mud flats, flooded fields, lakes and ponds, and edificarian. A total of 268 species were recorded over the 15 year period.

INTRODUCTION

When Cook (1888) began the study of bird migration in the Mississippi Valley in 1882 only fragmentary notes on the birds of Arkansas had appeared in the literature. Coues (1877), Hollister (1902) and Pindar (1924) published lists of birds based on a few visits to eastern Arkansas.

Major ornithological works on the natural history and distribution of birds throughout Arkansas have been presented by Howell (1911), Wheeler (1924) and Baerg (1931 and 1951). Smith (1915) published on the birds of the Boston Mountains and Deaderick (1938) published a preliminary list of the birds of the Hot Springs National Park area. Callahan and Young (1955) reported on population densities of the Ozark Plateau in Washington County in northwestern Arkansas and Mattocks and Shugart (1962) compiled a list of birds for south-central Arkansas. James (1960 and 1964) and James and James (1964) summarized more recent seasonal occurrences of the entire Arkansas avifauna.

Detailed studies of the avifauna of northeastern Arkansas have been limited. Collins (1960) and Hanebrink (1965) were first to study habitats and species composition of birds in this section of the state. Later a check-list was prepared (Hanebrink, 1972) of 10 counties in northeastern Arkansas. It is the purpose of this paper to update the check-list of birds for the northeastern quarter of the state with information concerning the seasonal status, relative abundance and habitat distribution of each species recorded and catalogued from 1964 through 1978. The counties included in this study are Fulton, Randolph, Clay, Izard, Sharp, Lawrence, Greene, Independence, Jackson, Craighead, Mississippi, Poinsett, White, Woodruff, Cross, St. Francis and Crittenden (Fig. 1).

DESCRIPTION OF AREA

All of eastern Arkansas is extensive delta with the exception of Crowley's Ridge and the bordering Ozark counties (Fig. 1). The delta extends to the base of the Ouachita hills at the edge of North Little Rock and then continues north into Missouri and south into Louisiana without any natural break (Holder 1951). Crowley's Ridge runs a distance of 200 miles from southeastern Missouri down the Mississippi River to Helena, Arkansas. In places the ridge is 12 miles wide but becomes very narrow at others and has a natural break at Marianna, Arkansas, where the L'Angeuille River flows through the ridge. An excellent account of the geology of Crowley's Ridge is given by Call (1891), and Magill (1958) summarized the theories concerning its origin.

Another prominent topographical feature of northeastern Arkansas is the famous "sunken lands" which are thought to have resulted from

the New Madrid Earthquake of 1811-1813. A full account of this event is given by Fuller (1912). The so-called "sunken lands" are extensive areas of swamp and overflow bottom land occupying a large part of Mississippi County and portions of Clay, Greene, Craighead and Poinsett Counties. The largest "sunken" areas are those of Big Lake near Manila, Wapanocca near Turrell and the extensive St. Francis River basin. There are other lakes and sloughs in Mississippi County between Little River and the Mississippi River which were formed after the New Madrid Earthquake. In late summer and fall many of these areas shrink greatly in size or become entirely dry. Extensive areas of inundated bottom lands are found in the valleys of the Black, White, Cache and St. Francis Rivers.

Habitat types found in northeastern Arkansas include: 1) campestrian (CA) which includes pastures, airports, plowed fields and stubble, 2) abandoned fields and fence rows (AF), 3) forest edges (FE), 4) lowland deciduous woods (LW), 5) upland deciduous woods (UW), 6) riparian woodland (RI), 7) marshes (MA), 8) mud flats (MF), 9) flooded fields in winter (FF), 10) lakes and ponds (LA) and 11) edificarian (ED) which includes residential areas, parks and all man made structures.

Favorable bird habitats in northeastern Arkansas can be found at sewage and catfish ponds and mud flats, Big Lake Wildlife Refuge, Wapanocca Wildlife Refuge, Claypool's Reservoir near Weiner, Bayou deView Wildlife Management Area, Craighead Forest and Lake near Jonesboro, Lake Poinsett, Crowley's Ridge State Park and Lake, Lake Hogue, Caney-Brake Wildlife Refuge, Village Creek State Park, Jonesboro airport, the Burdette Heronry and along the Mississippi River levee.

RESULTS AND DISCUSSION

A total of 268 avian species, 130 non-passerines and 138 passerines, were recorded and catalogued for northeastern Arkansas. Table 1 lists all species, their seasonal occurrence, relative abundance and habitat distribution.

Five seasonal categories were used in this study. They were:

Transient Visitant (TV) - species that migrate through.

Summer Resident (SR) - here at breeding season only.

Winter Resident (WR) - here during winter only.

Permanent Resident (PR) - here all year.

Winter Visitant (WV) - irregular or occasional winter occurrence.

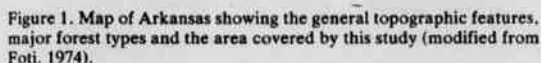
An example of this last category would be the Snowy Owl.

Seven abundance categories were employed in this paper. They were:

Very Rare (vr) - recorded 5 times or less in 15 years.

Rare (r) - averaging about one sighting per year.

Uncommon (u) - seen on less than 50% of the field trips.



Common (c) - seen on every field trip.

Very Common (vc) - seen often on every field trip.

Abundant (a) - seen in large numbers on every field trip.

Table 2 summarizes our findings on avian seasonal abundance and habitat distribution in northeastern Arkansas. The four most frequently occupied habitats were lowland woods, riparian woods, lakes and ponds, and upland woods. Over 25% of the species were common while nearly 31% were uncommon, with only about 2% being abundant. Transient visitants were the most abundant species (46.6%) while breeding species (permanent residents and summer residents) accounted for 37.5% (Table 2).

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[illegible][illegible][illegible]

Table 1. (Cont'd.)

TAXON	Regional Status				Habitat Distribution											
	W	SW	SE	E	CA	SA	VA	NY	MA	MD	PA	DE	NC			
Pinker, Common (<i>Sialia sialis</i>)				c				*	*	*	*		*			
Woodpecker, Pileated (<i>Dryocopus pileatus</i>)				fo				*	*				*			
Woodpecker, Red-bellied (<i>Meropages erythrocephalus</i>)				c				*	*	*	*		*			
Woodpecker, Red-headed (<i>Meropages erythrocephalus</i>)				fo				*	*	*	*		*			
Woodpecker, Yellow-bellied (<i>Sphyrapicus varius</i>)				fo				*	*	*	*		*			
Woodpecker, Hairy (<i>Picoides villosus</i>)				u				*	*	*	*		*			
Woodpecker, Downy (<i>Picoides pubescens</i>)				c				*	*	*	*		*			
Passeriflora																
Tyrannidae																
Kingbird, Eastern (<i>Tyrannus tyrannus</i>)				c				*	*				*			
Flycatcher, White-throated (<i>Empidonax traillii</i>)				c(0) r(2)				*					*			
Flycatcher, Great Crested (<i>Myiarchus cinerascens</i>)								*	*	*			*			
Phoebe, Eastern (<i>Sayornis nigricans</i>)				fo				*	*	*			*			
Flycatcher, Acadian (<i>Empidonax virens</i>)				fo				*	*	*			*			
Flycatcher, Olive (<i>Empidonax traillii</i>)				r				*					*			
Flycatcher, Least (<i>Empidonax minimus</i>)				u				*	*	*			*			
Wood Pewee, Eastern (<i>Contopus virens</i>)				c				*	*	*			*			
Flycatcher, Olive-sided (<i>Myiarchus cinerascens</i>)				u				*	*	*			*			
Alouatta																
Lark, Horned (<i>Lophophanes inornatus</i>)				c				*	(plowed fields)				*			
Mitrospiza																
Swallow, Tree (<i>Iridoprocne bicolor</i>)				u				*					*			
Swallow, Bank (<i>Melospiza cinerea</i>)				u				*	*	*			*			
Swallow, Rough-winged (<i>Elanoides forficatus</i>)				c				*	*	*			*			
Swallow, Barn (<i>Hirundo lunifrons</i>)								*	*	*			*			
Swallow, Cliff (<i>Petrochelidon pyrrhonota</i>)				u				*	*	*			*			
Martin, Purple (<i>Eurostoia alba</i>)				c				*	*	*			*			
Corvidae																
Jay, Blue (<i>Cyanocitta cristata</i>)				vc				*	*	*	*		*			
Crow, Common (<i>Corvus brachyrhynchos</i>)				c	*			*	*	*	*		*			
Crow, Fish (<i>Corvus sinuatus</i>)				u				*	*	*	*		*			
Paridae																
Chickadee, Carolina (<i>Parus carolinensis</i>)				c				*	*	*	*		*			
Titmouse, Hairy (<i>Parus bicolor</i>)				c				*	*	*	*		*			
Mitridae																
Mitridae, White-breasted (<i>Mitris carolinensis</i>)				u				*	*	*	*		*			
Mitridae, Red-breasted (<i>Mitris carolinensis</i>)				u				*	*	*	*		*			
Certhiidae																
Creeper, Brown (<i>Certhia familiaris</i>)				u				*	*	*	*		*			
Troglodytidae																
Wren, House (<i>Troglodytes aedon</i>)				r	vr			*	*	*	*		*			
Wren, Winter (<i>Troglodytes troglodytes</i>)				u				*	*	*	*		*			
Wren, Hermit (<i>Troglodytes hermiti</i>)								*	*	*	*		*			
Wren, Carolina (<i>Troglodytes carolinensis</i>)				c				*	*	*	*		*			
Wren, Long-billed Marsh (<i>Troglodytes palustris</i>)				r				*	*	*	*		*			
Wren, Short-billed Marsh (<i>Troglodytes palustris</i>)				r				*	*	*	*		*			
Mniotiltidae																
Mockingbird (<i>Mimus polyglottus</i>)				c				*	*	*	*		*			
Catbird, Gray (<i>Mniotiltus tristis</i>)				u				*	*	*	*		*			
Thrasher, Brown (<i>Spizella pusillus</i>)				c				*	*	*	*		*			
Paridae																
Robin, American (<i>Merula migratoria</i>)				c				*	*	*	*		*			
Thrush, Veery (<i>Geothlypis trichas</i>)				fo				*	*	*	*		*			
Thrush, Hermit (<i>Geothlypis trichas</i>)				u				*	*	*	*		*			
Thrush, Swainson's (<i>Geothlypis trichas</i>)				c				*	*	*	*		*			
Thrush, Gray-cheeked (<i>Geothlypis trichas</i>)				u				*	*	*	*		*			
Veery (<i>Geothlypis trichas</i>)				u				*	*	*	*		*			
Bluebird, Eastern (<i>Sialia sialis</i>)				fo(0) u(2)				*	*				*			
Zyridae																
Kingfisher, Blue-gray (<i>Alcedo gularis</i>)				c				*	*	*	*		*			
Kinglet, Golden-crowned (<i>Regulus satrapa</i>)				u				*	*	*	*		*			
Kinglet, Ruby-crowned (<i>Regulus satrapa</i>)				fo				*	*	*	*		*			
Notulidae																
Pipit, Winter (<i>Anthus trivialis</i>)				u				*	*	*	*		*			
Pipit, Sprague's (<i>Anthus spraguei</i>)				r				*	*	*	*		*			
Beeryllidae																
Warbler, Cedar (<i>Geothlypis trichas</i>)				u(Erratic occurrence)				*	*	*	*		*			
Lark, Sparrow (<i>Spizella monticola</i>)				c				*	*	*	*		*			
Starling (<i>Sturnus vulgaris</i>)				c				*	*	*	*		*			

Table 1. (Cont'd.)

[illegible]

2 = delta quantiles

Habitat Type	Freq. Obs.	Abundance Category	Freq. Obs.	Seasonal Category	Freq. Obs.
Campestris	9.3%	Very Rare	13.9%	Transient	46.6%
Abandoned Field	3.6%	Rare	15.9%	Winter Res.	20.3%
Forest Edge	3.6%	Unknown	30.7%	Winter Res.	14.8%
Lowland Woods	15.9%	Fairly Common	10.3%	Permanent Res.	17.2%
Upland Woods	14.1%	Common	25.6%	Winter Visitant	1.0%
Maritime Woods	15.9%	Very Common	1.7%		
Marsh	3.6%	Abundant	1.7%		
Wet Flat	1.0%				
Flooded Field	4.1%				
Lakes and Ponds	15.9%				
Swampy Areas	11.6%				
			Sub-species species = 130		
			Phalaropus species = 130		
			Total = 260		

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LITERATURE CITED

- AMERICAN ORNITHOLOGISTS' UNION. 1957. Check-list of North American Birds. 5th. ed. Port City Press, Inc., Baltimore.
- AMERICAN ORNITHOLOGISTS' UNION. 1973. Thirty-second supplement to the A.O.U. Check-list of North American Birds. *The Auk* 90:411-419.
- AMERICAN ORNITHOLOGISTS' UNION. 1976. Thirty-third supplement to the A.O.U. Check-list of North American Birds. *The Auk* 93:875-879.
- BAERG, W. J. 1931. Birds of Arkansas. Univ. of Ark., College Agri. Bull. 232:1-197.
- BAERG, W. J. 1951. Birds of Arkansas. Univ. of Ark., College Agri. Bull. 258:1-188.
- CALL, R. E. 1891. Crowley's Ridge. Ark. Geol. Surv. Ann. Report 2:22.
- CALLAHAN, P. S. and H. YOUNG. 1955. Observations on the avifauna of the Ozark plateau. *The Auk* 72:267-278.
- COLLINS, K. 1960. Winter and breeding season populations of upland and bottom land forest birds in northeast Arkansas. M. S. thesis, Univ. of Ark., Fayetteville.
- COOK, W. W. 1888. Report on bird migration in the Mississippi valley in the years 1884 and 1885. U. S. Dept. Agri., Div. Econ. Ornithology, Bull. 2:1-313.
- COUES, E. 1877. Winter birds of Arkansas. *Am. Nat.* 11:307-308.
- DEADRICK, W. H. 1938. A preliminary list of the birds of Hot Springs National Park and vicinity. *Wilson Bull.* 50:257-273.
- FOTI, T. 1974. Natural divisions of Arkansas. In *Arkansas Natural Area Plan*. Ark. Dept. of Planning, Little Rock, Ark. pp. 11-34.
- FULLER, M. L. 1912. The New Madrid Earthquake. U. S. Dept. of Interior, Bull. 394.
- HANEBRINK, E. L. 1965. A study of bird populations in selected habitats of northeast Arkansas. Ed.D. Dissertation, Okla. State Univ.
- HANEBRINK, E. L. 1972. A check-list of birds from northeastern Arkansas. Ark. State Univ. Press.
- HOLDER, T. H. 1951. A survey of Arkansas game. Ark. Game and Fish Comm. Little Rock, Ark.
- HOLLISTER, N. 1902. Notes on the winter birds of Arkansas. *Wilson Bull.* 9:10-15.
- HOWELL, A. H. 1911. Birds of Arkansas. U. S. Dept. Agri., Biol. Surv., Bull. 38:1-100.
- JAMES, D. 1960. Some recent findings concerning the avifauna of Arkansas. *Proc. Ark. Acad. Sci.* 14:8-13.
- JAMES, D. 1964. Arkansas avifauna: some significant findings, 1960-1964. *Proc. Ark. Acad. Sci.* 18:50-54.
- JAMES, D. and F. C. JAMES. 1964. The seasonal occurrence of Arkansas birds. *Proc. Ark. Acad. Sci.* 18:20-30.
- MAGILL, A. C. 1958. Geography and geology of the southeast Missouri lowlands. Ramfree Press, Cape Girardeau, Mo.
- MATTOCKS, P., JR and H. SHUGART. 1962. Birds of south-central Arkansas. S. Ark. Audubon Soc., El Dorado, Ark.
- PINDAR, L. O. 1924. Winter birds in eastern Arkansas. *Wilson Bull.* 36:201-207.
- SMITH, A. P. 1915. Birds of the Boston Mountains, Arkansas. *Condor* 17:41-57.
- WETMORE, A. 1960. A classification for the birds of the world. *Smithsonian Misc. Coll.* 139:1-37.
- WHEELER, H. E. 1924. The birds of Arkansas. Ark. Bureau of Mines, Manuf. and Agri., Little Rock, Ark.