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THE ORIOLE

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CONTENTS

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WINTER BEAVER POND USAGE BY RED-HEADED AND PILEATED WOODPECKERS.[1]

Robert Lochmiller[2]

Beaver *(Castor canadensis)* have the ability to change their environment by means of dam erection and girdling of trees. These changes result in extensive areas of dead or dying trees which serve as reservoirs for secondary insect infestation.

In the winter of 1975-1976 I initiated a study to determine whether the environmental changes created by beaver markedly affected woodpecker habitat. Three study plots, each 0.4 ha. in size, were established on the Oconee National Forest, Greene County, Georgia. The study area was essentially riverbottom hardwoods of which water oak *(Quercus nigra)* is the dominant species. Study plots 1 and 2 were established in timber on a beaver impoundment. The control plot (3) was established in an area similar to plots 1 and 2 except that no beaver damage was evident. The control plot was located approximately 0.25 kilometer from the experimental plots in an attempt to eliminate any influence the beaver pond might have on surrounding areas.

Observations were made during peak hours of woodpecker activity during the months of December through February for a total of 1,800 minutes: 600 minutes on each plot. Once a species was identified, its activities pursued and time spent on the plot were recorded.

RESULTS

There was a significant difference in species composition and use among the three study plots ($P < .01$). For a total of 1,800 minutes of observation time, there were 896.6 woodpecker minutes of use on the three plots combined; however, of this total, there were only 91.4 woodpecker minutes of use on the mature riverbottom stand of the control plot (3). Woodpeckers used a surprising 96.3 percent of the 600 minutes of observation on plot 2. This is a significant ($P < .01$) difference when compared to the 15.1 percent of use on plot 3. Beaver pond plot 1 had

[1]See also General Note by M. N. Hopkins in this issue. Ed.

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225 minutes of use (37.4 percent of 600 minutes of observation). Results from records collected on the individual study plots are presented below.

Beaver Pond

The beaver pond habitat appeared most attractive to the Red-headed *(Melanerpes erythrocephalus)* and Pileated Woodpeckers *(Dryocopus pileatus)* (Tables 1 and 2). The Red-headed Woodpecker used both Plots 1 and 2 significantly ($P < .01$) more than other species of woodpeckers.

Red-headed Woodpecker. Sightings of the Red-headed Woodpecker constituted 52 and 55 percent of all observations on plots 1 and 2, respectively. On one occasion, a Red-headed Woodpecker was observed tending its stores for a period of 28 minutes on plot 2. It appeared to be transferring water oak acorns from a cavity of a live tree to numerous standing dead snags where it stuffed the acorns under the bark. A total of 10 acorns was transferred during this period.

The territorial behavior of this species prevented many woodpeckers from using the study plots for perching or foraging activities. This aggressive behavior may be partly due to the intruders' approaching a storage area belonging to a Red-headed Woodpecker (Kilham, 1958a).

Pileated Woodpecker. The Pileated Woodpecker utilized the beaver pond habitat significantly more ($P < .05$) than the control plot. There were 8 observations of this species on study plot 2. They accounted for 17.4 percent of utilization on the beaver pond plot (Table 1). The Pileated Woodpeckers probably would have spent more time foraging in the area, but they were immediately ejected from the plot if a Red-headed woodpecker noticed their presence.

Others. The Common Flickers *(Colaptes auratus)* did not pursue many foraging activities; instead, they spent a significant amount of time ($P < .05$) perching and resting atop dead snags on the beaver pond.

The Downy *(Dendrocopos pubescens)*, Hairy *(Dendrocopos villosus)*, and Red-bellied Woodpeckers *(Centurus carolinus)* were not prevalent in either plots 1 or 2. The Downy woodpecker did spend more time (32.2 minutes) on the beaver pond than in the mature riverbottom stand of plot 3 (20.3 minutes); however, this difference in visiting time between the areas was not significant ($P > .05$).

Mature Riverbottom Stand

Woodpeckers did not use the control plot as heavily as the plots located on the beaver pond. The most prevalent species was the Common Flicker, which used 40.3 percent (Table 3) of the 91.4 woodpecker minutes; however, there was not a significant difference ($P > .05$) between the amounts of use by this species on the beaver pond plots and on the control.

The most significant ($P < .01$) difference between this area and those of the beaver pond was the complete absence of the Red-headed Woodpecker. The Pileated was noted on only two occasions when it flew over the plot.

DISCUSSION AND CONCLUSION

Although the two areas under study were identical prior to the establishment of the beaver pond, there was a significant difference ($P < .01$) in the amount of woodpecker usage on the two areas. This difference appears to have been the result of environmental changes due to the formation of the beaver ponds.

Of the environmental changes affecting woodpecker habitat around the beaver pond, the high concentration of foragable food due to dying trees was undoubtedly one of the major factors. This can be seen in Table 4, which shows the significant percentage of time woodpeckers spent pursuing foraging activities compared to non-foraging activities on the beaver pond ($P < .05$).

Since Red-headed Woodpeckers feed heavily on acorns during the winter, they may be using the dead trees on the beaver pond as storage sites (Kilham, 1958b); this would explain the aggressive ejection of other birds from the plots by Red-headed Woodpeckers.

It was not determined whether the large woodpecker concentration on the beaver pond was due to increases in reproduction or simply concentration of woodpeckers from surrounding areas.

As far as possible management implications are concerned, a beaver pond could do much to improve the habitat for certain species of woodpeckers. This is especially true for the Red-headed and Pileated Woodpeckers. Since the Red-headed Woodpecker is uncommon in much of its range (Burleigh, 1958), beaver may be important in establishing local colonies throughout the southeast.

Table 1. Woodpeckers seen per hour of observation on the beaver pond Study Plot 1.

Species	No. Observations	Woodpeckers Seen Per Hour	Percent of 600 Min. Observation On Study Plot
Melanerpes erythrocephalus	55	5.50	27.5
Colaptes auratus	36	3.60	7.6
Dryocopus pileatus	3	0.30	tr
Dendrocopos pubescens	2	0.20	1.3
Dendrocopos villosus	0	0	0
Centurus carolinus	0	0	0
Sphyrapicus varius	3	0.30	1.0
TOTAL	99	9.90	37.4

Table 2. Woodpeckers seen per hour of observation on the beaver pond Study Plot 2.

Species	No. Observations	Woodpeckers Seen Per Hour	Percent of 600 Min. Observation On Study Plot
Melanerpes erythrocephalus	46	4.60	70.2
Colaptes auratus	24	2.40	2.3
Dryocopus pileatus	8	0.80	17.4
Dendrocopos pubescens	6	0.60	4.1
Dendrocopos villosus	1	0.10	tr
Centurus carolinus	4	0.40	2.3
Sphyrapicus varius	0	0	0
TOTAL	89	8.90	96.3

Table 3. Woodpeckers seen per hour of observation on the mature river-bottom hardwood Control Plot 3.

Species	No. Observations	Woodpeckers Seen Per Hour	Percent of 600 Min. Observation On Study Plot
Melanerpes erythrocephalus	0	0	0
Colaptes auratus	20	2.0	6.1
Dryocopus pileatus	2	0.20	tr
Dendrocopos pubescens	8	0.80	3.4
Dendrocopos villosus	3	0.30	2.4
Centurus carolinus	4	0.40	3.2
Sphyrapicus varius	0	0	0
TOTAL	37	3.70	15.1

Table 4. Percentage of time woodpeckers spent pursuing foraging and non-foraging activities on the three study areas.

Study Area	Percent of time Pursuing Foraging Activities	Percent of time Pursuing Non-Foraging Activities
1	57.8	42.2
2	74.9	25.1
3	52.4	47.6

LITERATURE CITED

Burleigh, Thomas. 1958. Georgia Birds. University of Oklahoma Press, Norman, Oklahoma.

Kilham, L. 1958a. Territorial behavior of wintering red-headed woodpeckers. Wilson Bull. 70: 347-358.

_____. 1958b. Sealed in winter stores of red-headed woodpeckers. Wilson Bull. 70: 107-113.

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AN EASTERN BLUEBIRD TRAIL

Eulalie E. Gibbs

With reports that the Eastern Bluebird *(Sialia sialis)* has drastically decreased in numbers in the last 25 to 50 years and that its survival is in doubt, a study was undertaken near North Augusta, S.C., to determine whether, by making suitable nesting sites available, the local population of this bird could be increased. This bluebird is a suburban and open country species and usually pairs will not build closer together than 400 yards or more.

Early in January, 1974, I checked three rural roads near North Augusta to estimate the population of the bluebird. One pair of bluebirds was seen on wires along the roadside on road #1. None were found on roads #2 and #3. Later in January I again went over the same area attempting to locate other bluebirds. At this time I found one female bluebird on road #1 and a pair of bluebirds on road #2. A few days later going over the same area the third time, I found a pair of bluebirds again on road #2 at the same location as before, where I eventually placed a box. Another female was spotted on road #2 near the future site of another box, and I already knew of a pair of birds that had nested the previous year in a garden spot near a home on road #2. Road #2 was chosen for the Bluebird Trail.

On February 11, 1974, 15 bluebird boxes were erected on a "trail" consisting of approximately five and one-half miles along a rural road, S.C. Hwy. No. 126. The boxes were made of three-fourth inch pine lumber with a hinged door on the front that could be opened for easy inspection of the nests. The opening in the door was 1½ inches in diameter. They were attached to steel posts that stood no higher than five feet from the ground. Placement at this height was to discourage House Sparrows *(Passer domesticus)* and Starlings *(Sturnus vulgaris)* from using the boxes.

The boxes were placed in situations such as large rolling lawns with much open space, near gardens, along roadsides at open fields, along sandy hillsides of scrub oaks, near a pond with tall, scattered pines with plenty of open space, and along wire and wooden fences.

The boxes were first checked on March 3, 1974, again on March 18, and thereafter each week until August 13, 1974, when they were checked for the last time this season.

The accumulative activity in all nesting boxes is presented in Table 1. Of the 15 boxes placed, 12 were occupied by bluebirds. A total of 98

eggs was laid; 79 eggs hatched with 76 young birds leaving the nests. Two boxes had three nestings each with five eggs laid each time and 15 fledglings emerging from each box. Only one box had nests destroyed by predators. The young of the first brood were destroyed and the eggs of the second brood. Claw marks were found on the box. All the eggs in the third clutch of the box were white, suggesting that a different female occupied the box in the third nesting. Two additional boxes were occupied by other species; one by Tufted Titmice *(Parus bicolor)* and one by Carolina Chickadees *(Parus carolinensis)*. Two boxes remained unused throughout the study.

All unhatched eggs were left in the box by the parent birds throughout the care of the young. None of the eggs was broken; all were removed from the nest by me after the young birds had flown.

Table 1. Activity in 15 Nest Boxes During 1974.

	Bluebirds		Other Species	
	No.	%	Titmouse	Chickadee
Boxes Occupied	12	80	1	1
Nests Started	25		1	1
Successful Nests	18	72	1	1
Eggs Layed	98		6	6
Eggs Hatched	79	80	6	4
Birds Fledged	76	77.5	6	4
Nests Destroyed	3	12	0	0
Nests Abandoned	4	16	0	0

In summary it seems from the success of the trail that there is an indication that the Eastern Bluebird can be increased in numbers if suitable nesting sites are made available.

I would like to thank Dr. J. Fred Denton for reviewing this report and offering helpful suggestions.

816 Hammond Drive, North Augusta, S.C. 29841

GENERAL NOTES

BEAVER PONDS AS PRIME WOODPECKER HABITATS IN GEORGIA — For some years I have been aware of the attractiveness of standing dead timber to woodpeckers and realized that in many areas the greater percentage of this type of habitat was to be found in beaver ponds. In 1975 the Georgia Forestry Commission in conjunction with the Game and Fish Division, Department of Natural Resources, the University of Georgia Extension Service, and the Soil Conservation Service conducted a beaver damage survey in the State of Georgia which indicated that the area on which trees were damaged increased 129 per cent over 1967. Presently 287,700 acres are inundated by beaver in Georgia and of this acreage approximately 258,489 acres were in commercial timber.

In northern Ben Hill County where the terrain is rolling there are numerous beaver ponds. On a recent short stay at one of these ponds six species of woodpeckers were noted in about a 10 hectare site. These included Common Flicker *(Colaptes auratus)*, Pileated Woodpecker *(Dryocopus pileatus)*, Red-bellied Woodpecker *(Melanerpes carolinus)*, Red-headed Woodpecker *(Melanerpes erythrocephalus)*, Hairy Woodpecker *(Picoides villosus)*, and Downy Woodpecker *(Picoides pubescens)*. The Yellow-bellied Sapsucker *(Sphyrapicus varius)* was noted nearby but was not seen over the pond with the other woodpeckers.

The optimum time for woodpecker invasions of these ponds is probably from one to five years of age since after this time many of the smaller trunks begin to fall. Wood Ducks *(Aix sponsa)* in good numbers also find these ponds attractive for feeding, nesting and roosting.

Reference cited: Ga. Forestry Comm. 1976 Annual Report. 27 pp.

Milton N. Hopkins, Jr., R. F. D. 5 Osierfield, Fitzgerald, Ga. 31750.

A LARGE FLOCK OF PURPLE FINCHES IN IRWIN COUNTY, GEORGIA — While riding around a large corn field about two kilometers SSW of Osierfield, Irwin County, on 7 Jan. 1977 Milton Hopkins III and I flushed from the edge of the field a flock of over 15 Purple Finches *(Carpodacus purpureus)*. The flock contained three or four bright plumaged males. While a group of this size may not be uncommon during some winters here, my observation on 18 Jan 1977 seems to be significant. I returned to the approximate above mentioned location about mid-afternoon and saw during a period of 30 minutes observation over 100 Purple Finches by actual count. About 15 of them were brightly colored males. The temperature was about - 10° Celsius.

The birds were continuously flying back and forth from the corn field to the south side of an east-west flowing branch. They alighted in plum trees *(Crataegus* sp.), Yellow Poplar *(Liriodendron tulipifera)* and Chinaberry trees *(Melia azedarach)*. In the corn field I watched many of the birds scratching and pecking amongst a thin stand of Florida Purslane *(Richardia scabra)* and corn stubble. Quite a few of the birds were noted picking up whole grains of yellow corn and then swallowing them. However, none of the flock was observed eating the Chinaberry fruits.

Milton N. Hopkins, Jr., R. F. D. 5 Osierfield, Fitzgerald, Ga. 31750.

WINTER SIGHTING OF GRAY CATBIRD — Two Gray Catbirds *(Dumetella carolinensis)* were observed on the Oconee River in Greene County (next to Ga. Highway 15 on Oconee County border) on 29 January 1977. They were observed at approximately 12:30. The temperature was about 40° F., and clear skies prevailed. They were seen feeding on the seeds of privet *(Ligustrum vulgare)* for approximately six minutes.

According to Burleigh (Georgia Birds 1958. U. of Okla. Press, Norman, Okla.) this species is uncommon at Athens or Atlanta before early April or after the latter part of October.

Robert L. Lochmiller, 700-K Foxridge, Blacksburg, Virginia 24060.

MODIFIED FEEDING BEHAVIOR IN BROWN CREEPERS — On November 3, 1975, I was birding beside the creek in the wooded bottoms across the street from my home. My attention was captured by two Brown Creepers *(Certhis familiaris)* busily feeding on the trunks of deciduous trees.

In my previous observations and in reading about Brown Creepers I had noticed and it had been stated that they creep around the bole of a tree spirally, always starting at the base and working upward. When finished scrutinizing the tree, these birds fly off to the base of another tree, to follow the same pattern.

This day I noticed a difference. The two birds would work a tree, but instead of flying to the base of a nearby tree, they would start one-half to three-quarters of the way up the trunk. Upon my first noticing this pattern, the tree the bird alighted on was in a tangled area of assorted briers *(Smilax, sp.)*, Tag Alders *(Alnus serrulata)*, and other rank vegetation. My thought was the bird started half-way up because the very thick undergrowth did not allow it to approach the base of the tree. Then I saw the second bird fly to a tree and start approximately three-quarters

of the way up the bole. This tree was entirely in a clear area. I followed the birds as they went from tree to tree, always starting half or three-quarters of the way up the trunk, regardless of whether the trees were in tangled underbrush or standing clear.

I also noted that the Brown Creepers sometimes did not work up in a spiral fashion. At times they hitched straight up in the manner of woodpeckers.

On December 15, 1976, I discovered another Brown Creeper also beginning half-way up the trunk. There was no undergrowth near this tree.

Arthur C. Bent (Life Histories of North American Nuthatches, Wrens, Thrashers and Their Allies, Dover Publications, Inc., New York City, 1964) says a Brown Creeper may vary its mode of feeding, but says nothing of starting part way up a tree. However, he quotes a write-up by Frederick V. Herbard about Brown Creepers in south Georgia. "It's nearsightedness is nowhere better illustrated than in our tangled branches and river swamps where instead of dropping to the base of a tree after having reached the top of a nearby one, it drops only to the point where the trunk emerges above the underbrush."

While preparing this article for the Oriole, I happened to speak of this modification in behavior to Wyatt Bruce. He told me on January 23, 1977, he was watching two Brown Creepers. One of them began half-way up a deciduous tree in an open area. On February 6, 1977, he saw two Brown Creepers come to a yard separately. One started at the half-way mark on a 50 foot tree; the other began almost at the top of a tree.

Harriett G. DiGioia, 1309 Lakemont Drive, Dalton, Ga. 30720.

WINTER BIRD MORTALITY ALONG OCONEE COUNTY HIGHWAYS — While in the field this past winter I noticed an unusually large number of dead birds, especially robins *(Turdus migratorius)*. Due to the very cold temperatures of this winter, many birds may have been unable to find suitable food supplies. Long periods of freezing temperatures make foraging particularly critical for insectivorous species. In an attempt to determine the effects which the winter of 1977 might have had on bird mortality, a road survey was conducted during the month of February.

Table 1. Number of dead birds observed along 35 miles of road in Oconee County, Ga., February, 1977.

Date	Robin	Mourning Dove	Screech Owl	Mockingbird	Song Sparrow	Meadowlark
4 Feb	14	1	-	-	-	2
5 Feb	2	-	-	-	1	-
6 Feb	8	-	1	1	-	-
Total	24	1	1	1	1	2

Table 2. Number of dead birds per mile of road traveled. Oconee County, Ga., February, 1977.

Species	Total miles driven	Total No. dead Individuals	No. dead per mile driven	Percent of Total
Robin	35	24	0.68	80
Mourning Dove	35	1	0.03	3
Screech Owl	35	1	0.03	3
Mockingbird	35	1	0.03	3
Song Sparrow	35	1	0.03	3
Meadowlark	35	2	0.06	7
Total	36	30	0.86	100

Methods

Thirty-five miles of Ga. Highway 15 and U.S. Highway 441 in Oconee and Clarke Counties were traveled in an attempt to assess bird mortality. Roads were traveled by automobile at slow speeds. Dead birds lying on the road pavement and on adjacent rights-of-way were identified to species and tallied.

Results

Six species of birds were found dead during this survey: Robin, Mourning dove *(Zenaida macroura),* Screech Owl *(Otus asio),* Mockingbird *(Mimus polyglottos),* Song Sparrow *(Melospiza melodia),* and Meadowlark *(Sturnella magna).* A total of 30 individuals was found of which 80 percent were robins. Table 1 summarizes the results for three days of data collection for each species.

A total of 0.86 dead individuals per mile traveled (Table 2) was observed. This estimate is definitely an underestimate of the true total, as the tall grass and brush along many of the rights-of-way made visual observation very difficult.

Reasons for the unusually large percentage of dead robins compared to other species could not be determined with certainty; however, robins were seen feeding along the roadsides in large numbers throughout the survey. This could, of course, increase the chances of highway mortality. The extremely cold temperatures this winter seem to have had some impact on the robins' abilities to find suitable feeding areas, thus forcing them to forage along highway rights-of-way.

Robert Lochmiller, Department of Fisheries and Wildlife, Virginia Polytechnic Institute and State University, Blacksburg, VA. 24061.

SONG SPARROW REUSES NEST — On April 8, 1976, I discovered a nest of the Song Sparrow *(Melospiza melodia)* in a thick-grown, clipped, cultivated shrub of Burford holly *(Ilex cornuta Burfordii),* growing at the side of a brick school building at Rome, Georgia. The nest was near the top of the shrub, about 1.4 meter above the ground, and well-concealed. When I examined the nest an adult Song Sparrow left it. It contained 4 eggs. The young hatched April 19 and left the nest April 30.

On May 22 this same nest contained four eggs. Again the adult left the nest when I examined it. The young hatched on May 28.

On June 11, I found that this nest contained one egg. An adult Song Sparrow was present. Though I was not able to visit this nest again, the

observations showed that it had been used for three successive broods in the same season.

George A. Dorsey, Darlington School, Rome, Georgia.

ERRATUM

In Meyers, Joseph M. — Birds of the Hiawassee Plateau and surrounding slopes: a preliminary list (Oriole, 42(3): 46-59, Sept., 1977) on page 51, paragraph eight, Swainson's Thrush is listed as a "fairly common resident". This is incorrect and should have read "fairly common transient".

FROM THE FIELD

The format of this informal column precludes presentation of detailed accounts of rare birds. Records listed here are largely unchecked and their appearance in this column should not be considered to constitute scientific publication. They are intended primarily to bring interesting sightings to the attention of the membership and to alert others to look for unusual species in the areas indicated.

South Georgia

Summer 1977

Florence Lynn noted a Black-and-white Warbler singing in Harris County 31 May — 10 June and a Worm-eating Warbler there on 15 June. The Harris County Worm-eating Warblers are an extra-limital population to the south of the species' normal breeding range in the State. One 7 June, however, Jane Knight saw one at Providence Canyon, Stewart County. If the birds are nesting at the Canyon, their breeding range would be extended some 65 km farther into the Coastal Plain.

Charles Erwin saw a Louisiana Waterthrush 30 July in Dougherty County. Sam Pate and Bill Matheny saw Black Terns at Eufaula National Wildlife Refuge on 18 July. Pate reported a large number (100+) of Mississippi Kites seen in *30 minutes* flying *north* from Florida into Seminole County on 10 July. On 24 June, Richard Kuerzi saw a Swallow-tailed Kite take from a nest a young Mockingbird and then fly with it west from Folkston towards an area where the kites are suspected to nest. Thomas County's first Gray Catbird nest was not found until July 1975 (*Oriole* 41:5, 1976), but in June 1977, Robert Crawford and Beth Meschinelli noted catbirds in at least four different parts of Thomasville.

(Compiled by Robert L. Crawford, Tall Timbers Research Station, Rt. 1, Box 160, Tallahassee, Fla. 32303.)

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