on June 18, and again on July 11 and 29. On July 15 the male, without a tail and obviously molting was taken in our traps for the first time that season. If a second nest existed it was never found. On May 12, 1934, 9M33 returned and with a new mate nested again on his 1933 territory, building a nest thirty feet south of the former site. During incubation the nest was destroyed, probably by a cat. The birds were not found again until the male repeated in our traps on August 10. This bird was not constant to his mate but was constant to territory.

In the nine nestings mentioned above constancy is shown by Catbirds in varying degrees to mates and to territories. Of the three remaining nests in which birds were recognizable by colored bands none of them returned or during a single season showed any constancy.

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FOREST EDGE BIRDS AND EXPOSURES OF THEIR HABITATS

BY J. RICHARD CARPENTER

In studying the bird population of forest edge communities of University and Brownfield woods near Urbana, Champaign County, Illinois, during the winter and spring of 1932-33 it was found that there was a marked selection by the majority of birds in regard to the exposure-direction of the habitat selected. The prevailing winds of the region during that period of the year are from the west and southwest and it was apparent that the birds selected exposures on the "lee" sides of the woods in both of the tracts studied.

The dominant vegetation of the thickets of the forest edges studied was redbud (*Cercis canadensis*), flowering dogwood (*Cornus florida*), young elms (*Ulmus americana*), spicebush (*Benzoin aestivale*), button bush (*Cephalanthus occidentalis*), several species of ash (*Fraxinus* spp.), and haw (*Crataegus* spp.). For a further description of the tracts of woodland studied see McDougall '22, Smith '28, and Blake '31.

Data regarding the bird population were obtained by cruising through the forest edge, recording all of the birds in a strip approximately twenty feet wide, which included the major portion of the thicket at the edges of the woods. In both cases the route of observations was about one mile long and since in both cases also the woods were slightly longer than broad, the north and south exposure observations are over a slightly smaller area than are the east and west observations.

The accompanying table lists the birds observed, with notations following the individual figures as to where the majority of that given

	N.12b	N.20b	D.10b	J.8b	J.21b	F.25b	F.26u	M.4b	M.5b	M.19u	M.27b	M.27u	A.2u	A.9u	A.23u	A.30u
Flicker	1e					1e				1s				2s	8	
Yellow-bellied Sapsucker	1e															
Red-bellied Woodpecker	1n		2e		2					1w	2n			1n		
Downy Woodpecker	3n	1n	5	1e	9c	2	2	13*e*	1w	2	4c	1e	6*n*	2e	5*e*	
Tufted Titmouse	5e	12c	4	7	11	2e		28*e*	1s		3	4e	4n	7e	1w	3
Hairy Woodpecker		1n						1e						1e		
Cardinal		8c	1s	1s	3e	3c	3	9*e*	1e		2e		1e	2e	6c	3e
Chickadee		1e	5e		5e						1n					
Junco		4e		4s	2	15c	5	5e	25e	60s	1s	85*n*	17*n*		4n	2n
Brown Creeper		1n	2e		4*e*			3*w*	1w				1n	1w		
Ruby-crowned Kinglet		2n			2c								2n		1w	
Blue Jay			2e		2e											
Red-breasted Nuthatch			1w		4n		1e									
Bluebird						2e										
Robin						7c	9*e*	80*n*	1s	7s	5*n*			1e	4c	
Miscellaneous Sparrows							28c			3n				1w	4c	
Field Sparrow								127e	1e				1n		1w	
Towhee										1s	2e		1e	1e	1s	
Bronzed Grackle										5s	21*n*	4s		4s		3
Wood Thrushes													2	2	3	9*e*
Tree Sparrow													3		5*s*	3s
Brown Thrasher														1e	2w	2
Miscellaneous Warblers															1w	8c
White-eyed Vireo															4w	1e
White-throated Sparrow																60e
Catbird																3e
Miscellaneous and Indet.						12n				4w	9	7s		10n		3e
Total Individuals	11	30	22	13	44	44	51	266	30	84	50	97	39	36	49	104
Number Species	5	8	8	4	10	8	7	8	6	9	10	4	11	14	15	16
North Exposure	4	17		4	9	23	1	50		5	30	84	28	11	6	11
East Exposure	7	7	15	1	25	6	11	197	26		7	1	9	17	13	80
West Exposure			6		10		21	19	2	6			1	2	19	8
South Exposure		6	1	8		15	18		2	73	13	12	1	6	8	4

species for that date occurred. The statistical summary at the conclusion of the table gives the total number of birds in each exposure for that woods that day.

In the winter and early spring a great number of birds occupy one preferred exposure to the marked exclusion of those habitats which are more rigorous; the Brown Creeper, Titmouse, Chickadee, and Bluejay were most noticeable among these. In the late spring the total population is spread over more exposures with much less noticeable selection; these birds, save the Junco, were apparently consistent in their lack of discrimination of habitat. The Junco individuals which spend the late spring and summer months in the region showed a marked selection for the northern exposures; this was not evident for the winter residents of the species. The east exposure (the "lee" side with reference to the prevailing winds) had by far the greatest bird population in all seasons observed. Insect population studies conducted during the same period gave no similar habitat selection with respect to exposure.

It is interesting to note that while the average number of species observed was eight during the winter and early spring (the hiemal and prevernal periods), the late spring (vernal) practically doubled the number of species observed each day. Seasonal progression and the arrival of species is also evident.

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Table I

(See preceding page)

Selection of Habitats and Exposures by Forest Edge Birds
November 12, 1932-April 30, 1933

Explanation of Symbols Used in Table

b	Observation made at the Brownfield woods.
u	Observation made at the University woods.
n	Individuals found exclusively in northern exposures.
e, w, s	Individuals exclusive to respective exposure: east, west, or south.
n	Most of the individuals in north exposures, but not exclusively so.
e, w, s	As in *n* for the respective exposures.
c	Cosmopolitan: individuals occurring in three or more exposures.
	No initial: in two habitats, more or less evenly distributed and showing no apparent selection.

NOTES ON NESTLING ROBINS

BY W. J. HAMILTON, JR.

The following notes were made at Ithaca, New York, over a four-year period (1930-1933). Data were secured on four sets of Robin nestlings; the nests being located in exceptionally favorable situations which made observation easy. As little has been recorded on the change in weight, both gains and losses of altricial birds, the records tabulated may prove useful to some bird students.

Plumb (1884)* made thirteen weighings of two nestling Robins from July 28 to August 9. The average weight at one day was 5.9 grams, and on the thirteenth day they averaged 55 grams. One bird showed a loss during the last two days in the nest; the other showed no loss but did not increase in weight during the same period. Plumb attributed the loss in weight to a severe infestation of lice.

In securing data on weights, the young birds were removed from the nest immediately upon hatching and weighed before they were first fed. It is possible two of the six birds weighed at hatching had been fed, but I am not certain on this score. Thereafter, the young were weighed at the same hour (7 A. M.) daily, until they had left the nest.

The average weight of twelve freshly laid Robins' eggs was 6.58 grams. Due to the evaporation of gases from the egg during incubation, a perceptible loss was noted after ten days of incubation. The small number of eggs weighed does not give indicative figures regarding the correct percentage of this loss. The weighings do suggest a loss of more than twenty-five per cent of the original weight.

Newly hatched Robins average 6.6 grams. At fourteen days, when leaving the nest, they weigh 56 grams. This is an increase amounting to more than eight times the original weight.

Age in days	No. weighed	Average weight of one (grams)	Gain or loss in weight	Daily per cent gain or loss in weight
At hatching	6	6.6	.....	.....
1	10	8.9	+2.3	+35
2	10	14.3	+5.4	+60
3	10	21.3	+7	+49
4	10	26.6	+5.3	+25
5	10	32.2	+5.6	+21.5
6	10	40.1	+7.9	+24.5
7	10	47	+6.9	+14.4
8	10	52	+5	+14.7
9	10	55.2	+3.2	+ 6.1
10	10	54.9	— .3	— .54
11	10	56.3	+1.4	+ 2.55
12	10	54.8	—1.5	— 2.66
13	10	55.7	+ .9	+ 1.64
14	6	56	+ .3	+ .54

*Plumb, Charles. 1884. Increase in Growth of Young Robins. Science 4 (82), p. 159. Aug. 29.