

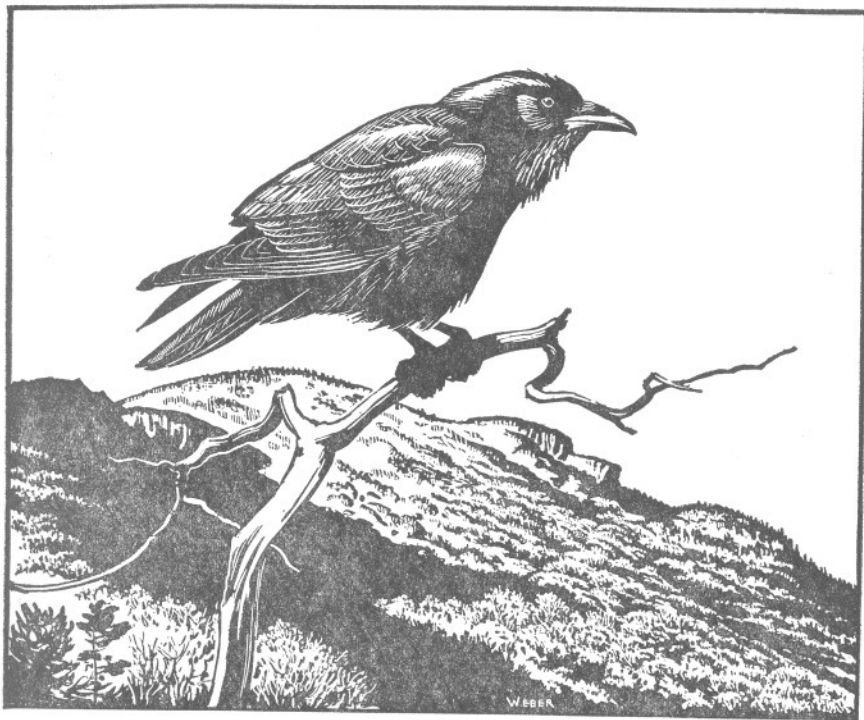
The Raven

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The Virginia Society of Ornithology exists to encourage the systematic study of birds in Virginia, to stimulate interest in birds, and to assist the conservation of wildlife and other natural resources. All persons interested in those objectives are welcome as members. Present membership includes every level of interest, from professional scientific ornithologists to enthusiastic amateurs.

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.

2. Other forays or field trips, lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.

3. A journal, *The Raven*, published quarterly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.

4. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, local chapters of the Society, located in some of the larger cities and towns of Virginia, conduct their own programs of meetings, field trips, and other projects.

Those wishing to participate in any of the above activities or to cooperate in advancing the objectives of the Society are cordially invited to join. Annual dues are \$1.00 for junior members (students), \$2.00 for active members, \$4.00 for sustaining members, \$50.00 for life members.

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President: MRS. JAMES W. WILTSHIRE, 201 Woodland Avenue, Lynchburg, Virginia 24503.

Vice-President: CHARLES W. HACKER, 218 Chesterfield Road, Hampton, Virginia 23361.

Secretary: ROBERT J. WATSON, 2636 Marcey Road, Arlington 7, Virginia 22207.

Treasurer: J. STEVEN THORNHILL, 2615 Fort Avenue, Lynchburg, Virginia 24501.

Editor: J. J. MURRAY, 6 Jordan Street, Lexington, Virginia 24450.

Associate Editor (for clubs news, Christmas and other bird counts, field trips):
F. R. SCOTT, 115 Kennondale Lane, Richmond 26, Virginia 23226.

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NESTING BEHAVIOR OF THE LEAST FLYCATCHER AT MOUNTAIN LAKE, VIRGINIA

BRENDA KESSLING

Introduction. The nesting habits of the Least Flycatcher, *Empidonax minimus*, were observed for a period of eighteen days at Mountain Lake Biological Station and the results of those observations are recorded here. Background information on the behavior of Least Flycatchers was gained from three sources:

Breckenridge, W. J., "Measurement of the Habitat Niche of the Least Flycatcher". *The Wilson Bulletin*, March 1956.

Davis, David E., "Observations on Territorial Behavior of Least Flycatchers". *The Wilson Bulletin*, March 1959.

Wallace, G. J. *An Introduction to Ornithology*. The Macmillan Co., New York, 1963.

The information in these articles has not been used in this paper except as it supports or contradicts my own observations. In these cases, the sources are cited.

The Least Flycatcher is a fairly small bird, the smallest, or "least", of the flycatchers. It is about five inches long from the rounded head to the end of the fairly short tail. Although the female is slightly smaller and duller, both sexes have a similar appearance: gray head, wings, back and tail. The underside shades to a creamy white. In common with other flycatchers, the Least has a somewhat flattened but short, pointed bill with the upper mandible very slightly hooking over the lower one. Rictal bristles, hair-like contour feathers, are located near the base of the bill and presumably serve a tactile function in feeding. The identifying characteristics of the Least Flycatcher are two: a white eye ring which is sometimes indistinct, and easily seen white wing bars.

Voice and Territories. The voice of the Least Flycatcher, though not apparently intricate, does exhibit some variations, according to Davis. During my observations, only the male was observed to emit the "che-bek" call. This is a sharp, short note which the male apparently uses to proclaim his territory and to attract the female. I did not observe a female calling nor did I observe other variations in the male's voice as reported by Davis. Once incubation was begun, territorial calling diminished and was mostly observed close to the nest in the same or nearby trees. This would seem to indicate that the Least Flycatcher defends only his immediate territory and that his territorial defense weakens as he strays farther from his nest.

One male was noted calling vociferously in the early evening near some of the cabins. Since no nest or young could be found, it was assumed that he was outlining his territory and inviting a female. In twenty minutes, he changed calling perches seventeen times. All these perches were on lateral tree branches from ten to twenty feet high. They were all in a rather small circular area with a diameter of about thirty feet.

Because none of the pairs of Least Flycatchers were observed before incubation began, it is not possible here to indicate whether the male or female initiated and carried out courtship activities, nest location, and nest building. But since the female alone incubated, it is supposed that the male assumed the traditional role of initiating courtship activities. Several males were observed during extensive singing—probably to attract females.

The Nest. By the observations of another member of the class, it was determined that, once a site has been chosen, both the male and female participate equally in nest construction. All of the nests of the Least Flycatcher which were observed were relatively high. They ranged from approximately fifteen feet from the ground to approximately forty feet from the ground. All except

one were located in white oak trees; this one was in a black oak tree. The nests were situated on lateral branches about one to two inches in diameter in a saddle-like manner. Three of the nests had additional support from another branch forking out or up and one nest was found in atypical location: the forking of the main trunk of the tree. It was not saddled to a lateral limb but wedged between the two bifurcating limbs of the tree.

Least Flycatcher nests were found exclusively in trees in or near cleared areas. One nesting territory was found on the campus area enclosed by the buildings and four nests were found along the road that leads into the station. All nests bordered on cleared areas. The several Least Flycatcher families observed had nests rather close to one another. The closest nests were 105 feet apart. Three inhabited nests were found along 277 feet of roadway on the same side of the road.

The nest is a sturdy and intricately constructed one. It is fairly small, in accordance with the size of the bird. The nest is composed of various materials. Grasses form the base and small twigs and grasses are arranged to form the sides. Several bits of a matted animal fiber resembling sheep's wool were found in the nest. Fine grasses and deer hair were found in the lining of the nest, along with an appreciable amount of "paper" from wasps' nests and a few sprigs of moss. The nest was apparently secured to the branch by (spider web?) fibers which, in most cases, were wound halfway around the branch and the accompanying fork of the branch.

Eggs. Since the nests were high and far out on inaccessible limbs, it was not possible to ascertain the number of eggs laid. Nor was it possible to determine the amount of time required to lay the eggs. However, one female was observed to start incubation approximately a week after nest construction commenced. This female would have had time, at the rate of one egg a day, to lay three or four eggs. This, however, is conjecture. Davis found an average of 3.4 eggs per nest among Least Flycatchers in this same locality in 1956. In each of two nests that I did inspect three young fledglings were present; the number of young in the other nests was undetermined. No cowbird parasitism was observed.

Incubation. Only one parent, presumably the female, was observed to incubate the eggs. During incubation of the eggs, the male was neither heard nor seen very often. The incubating parent was attentive to the nest and eggs, flying off the nest only at infrequent intervals, apparently to feed. It was noted that inattentive periods were few and short during rainy or cool weather. The other parent bird was not observed to feed the incubating parent. My records did not include the percentage of time that the parent bird was attentive to the clutch of eggs.

Brooding and Feeding the Young. The brooding parent, presumably the female, spent a great deal of time on the nest for the few days after the young had hatched. Because of the difficulty of distinguishing the male from the female, it was not possible to determine for certain whether or not the male brooded the young; on no occasion was a changeover at the nest observed in which the other parent continued brooding. Since the hatchlings were very small and could not be seen above the rim of the nest, and since the nests were inaccessible, it was indeed difficult to ascertain the exact day on which the eggs hatched, if there was staggered hatching, or if some of the eggs didn't hatch.

Feeding of the young was effected by both parents. The brooding parent left the nest every 8-13 minutes during daylight hours in the first few days after hatching of the eggs. The inattentive periods during these few days were 1-5 minutes, averaging 2.6 minutes. The parent did not bring food every time that it returned to the nest. The young were fed almost entirely on small insects. Occasionally a large insect was seen in the parent's bill upon its return from a food-gathering trip.

As the young grew older, however, the inattentive periods grew longer and more frequent and food was brought nearly every time that the parent bird returned to the nest. This trend continued until the end of the brooding period. At that time, both male and female were kept busy feeding the young ones and no time was spent on the nest; indeed, in one nest just two youngsters pushed one another nearly out of the nest and there appeared to be no room for a parent bird. Toward the end of the brooding period, the parents frequently came to the nest with food simultaneously. Feedings were 1-4 minutes apart, with both parents working.

It has been mentioned that the parent returning to the nest did not always bring food. On several occasions, the parent was observed to remove an object from the nest and carry it away. This was assumed to be the fecal sac. This nest sanitation behavior continued throughout the brooding period, both parents participating equally. On no occasion was either parent observed to eat the fecal sac.

It would not be meaningful to include in this report figures relating to the percentage of young (or of eggs) safely fledged. This is due to several reasons: inaccessibility of the nests and, therefore, inadequate data on the original number of eggs, and inability to see the young fledglings. Since the young are very small and do not stick their bills up to be fed, they often do not show above the nest rim. The young are as large as their parents by the time they are fledged, and in two nests, one and three birds, respectively, were safely fledged. Another nest contained three young birds but they were not yet fledged at the writing of this report. But these figures cannot be compared with the original clutch of eggs and the original number of birds hatched as would be necessary for a meaningful conclusion.

A note of interest may well be made here. In all the nests observed, it was the parents who had to take the initiative in actually getting the food into the youngsters. It appeared generally true that the young birds were passive feeders; they simply held their mouths open and bent their heads only slightly up or toward the feeding parent. Since the nests are in exposed areas, such behavior may be a factor in the survival of the birds. Because of the quiet behavior of the birds, very little attention is called to the nest and would-be predators may be foiled in their food searches.

Summary. The nesting behavior of the Least Flycatcher was observed at Mountain Lake Biological Station near Pembroke, Virginia, from 17 June 1965 until 5 July 1965. During this time five nests in various stages of family-raising were observed. The general findings include:

1. The male proclaims his territory by the call note. The territory is usually a small one; the most vigorous protection occurs in the tree where the nest is and diminishes as the male strays farther from the nest.

2. Both the male and female participate in nest making. The nest is small, sturdy, and saddled to a lateral branch, usually in a white oak tree. The nests range from fifteen to forty feet above the ground. The most common nest materials are grasses, pine needles, and bits of paper.

3. Incubation proceeds as soon as the clutch is complete. The incubation time was not definitely established but appeared to be approximately 12-14 days. The number of eggs in a clutch was not verified but two nests were observed with three young in each. Davis, in his studies at Mountain Lake, concluded that the average clutch contained 3.4 eggs.

4. When the young are hatched, one parent, probably the female, broods much of the time, making occasional trips for food for herself and for the young. The young are brooded an average of 40% of the time during daylight hours: much more at first and almost never just before they leave the nest.

5. The young are fed insects and, for the most part, are passive eaters. The parents apparently stuff the food into the throats of the little ones. This behavior may have survival value.

6. The young leave the nest about two weeks after hatching.

APPENDIX

NR = "No Record"

	Nest 1	Nest 2	Nest 3	Nest 4	Nest 5	Total
Total minutes observed	162	40	NR	NR	45	247
Total span of days observed	14	18	10	9	10	61
INCUBATION						
minutes observed	3 days	NR	NR	NR	NR	3 days
minutes on nest	NR	NR	NR	NR	NR	NR
minutes off nest	NR	NR	NR	NR	NR	NR
% time attendance	NR	NR	NR	NR	NR	NR
number of days of incubation	NR	NR	NR	NR	NR	NR
number of eggs	NR	NR	NR	NR	NR	NR
BROODING YOUNG						
minutes observed	162	40	NR	NR	NR	202
minutes on nest	90	15	NR	none	NR	105
minutes off nest	72	25	NR	all	NR	97
% time brooded	44%	38%	NR	none	NR	ave. 41%
number days brooding young	11	7	NR	9	NR	27
number of young	at least 1	3	NR	NR	NR	7
FEEDING YOUNG						
span of days observed	11	7	NR	9	NR	27
minutes observed	162	40	NR	NR	NR	202
total trips	12	7	NR	NR	NR	19
trips per hour (or minutes)	4.4	10.5	NR	NR	NR	ave. 7.4

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- Breckenridge, W. J. "Measurement of the Habitat Niche of the Least Flycatcher". *The Wilson Bulletin*. March 1956. Vol. 68. No. 1. pp. 47-51.
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- Wallace, G. J. *An Introduction to Ornithology*. The Macmillan Company, New York. 1963.

KIPTOPEKE DIARY, 1965

WALTER POST SMITH

It doesn't seem possible that this is the third year we have joined in *Operation Recovery*, with Kiptopeke Beach as the scene of our operation. Kiptopeke Beach—you remember where the old Little Creek-Kiptopeke ferries docked at the southern end of the Eastern Shore of Virginia? Well, that's Kiptopeke Beach. It isn't really the tip of the Eastern Shore peninsula—it's several miles north of the tip and on the Chesapeake Bay side rather than the ocean side. We picked this location as the site for our operation with the thought in mind that it might provide a "funnel effect" for the southward migrating fall birds similar to that at Cape May. You may recall that when you came off the ferry, at the top of the hill on the right, there is a motel; this provided our sleeping quarters. Out behind this motel is an extensive field and a narrow strip of woods running parallel to the bluff facing Chesapeake Bay. These woods consist mostly of Loblolly and Short-leaf Pine about 12-15 feet tall with scattered small deciduous trees and extremely dense undercover. Within these woods we discovered several weed-filled, macadamized roads of another era which provided us with natural lanes in which to erect our mist nets. We established three lanes of nets, running approximately east and west and about 200 yards apart. The middle lane was quickly dubbed the "Main Line," and the other two the "North Forty" and the "South Forty." For convenience sake, we set up our headquarters shelter (tarp) on the Main Line, and this became the focal point of our operation, to which the birds were brought in collecting boxes for banding and recording.

Our normal day started at 5:30 a.m. and concluded at 5:30 p.m., and if it proved to be a busy one, birdwise, I venture to say we walked 10-15 miles of lanes extracting birds. And such a surprising variety of species! But why not join us right at the scene for our 1965 operation?

Thursday, September 16, 1965: Clear; temperature 74°-86°; wind SW, 5-12 m.p.h. Bander, F. R. Scott.

0600: Only one operator available, with most of the day being spent clearing the lanes of the past year's growth and setting up nets.

1400: 14 nets are up, but not much activity.

1800: Nets closed, with 32 birds banded of 6 species. It was "Redstart Day" with 25 recorded out of 32 birds. In retrospect, since there has been no cold front through the area in 2 weeks, it was not a bad day's work! And I hope those guys arriving on the weekend appreciate the blisters I got chopping weeds and limbs!

Friday, September 17, 1965: Overcast; temperature 70°-82°; wind SW, 5-10 m.p.h. Bander, F. R. Scott; visitors, Dot Guthrie, Carl Hacker.

0545: 14 nets open in the Main Line—one lonely operator.

0730: Things are comparatively slow, but while yesterday netted only 6 species, today they are quite varied.

1400: Carl Hacker arrived, full of enthusiasm for his parasitology study and the prospect of obtaining blood smears from many species.

1800: Nets closed, with 39 birds banded of 18 species. Where are the thrushes? Tonight the weekend troops arrive, and tomorrow the operation should be in full swing.

Saturday, September 18, 1965: Partly cloudy; temperature 78°-81°; wind SW, 5-10 m.p.h. Bander, F. R. Scott; assistants, Charles Hacker, Dorothy & Mike Mitchell, Doris & Walter Smith; visitors, Carl Hacker, Dr. D. E. Sonenshine, Dr. Rex Lord, Herb Maxfield, George Prentice.

0530: 14 nets open in the Main Line.

Table 1. Banding results at the Kiptopeke Beach, Virginia, station during September and October 1965. Chief banders each day are indicated below by the following code: 1, C. W. Hacker; 2, D. L. Mitchell; 3, S. Mitchell; 4, F. R. Scott; 5, D. D. Smith; 6, W. P. Smith.

	SEPTEMBER															
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Sharp-shinned Hawk			1							2					2	
Bobwhite				1									1			
Virginia Rail																
Mourning Dove																
Yellow-billed Cuckoo					1						2			1		
Black-billed Cuckoo							1									
Yellow-shafted Flicker																
Yellow-bellied Sapsucker																
Downy Woodpecker			1													
Crested Flycatcher	1						1									
Phoebe																
Yellow-bellied Flycatcher				1		1				1	3	1				
Acadian Flycatcher			2			1			1	1	1	1	1			
Traill's Flycatcher		2									1	1		1		
Least Flycatcher		1	2								1					
Unidentified Flycatcher			1			1										
Eastern Wood Pewee											1		1			
Tree Swallow																
Blue Jay																
Carolina Chickadee		2		1		1										
Tufted Titmouse											2					1
Red-breasted Nuthatch												1		1	1	
Brown Creeper											1		1		1	
House Wren																
Winter Wren											1	1				
Carolina Wren	2	3				2		1								
Mockingbird																
Catbird		1		3	3	1		1	1	2	21	12	11	13	4	
Brown Thrasher		1	1				2				12	8	8	9	1	
Robin																
Wood Thrush					1					1			3			
Hermit Thrush																
Swainson's Thrush		3	2	6	2	1	1	1		4	71	61	41	48	33	
Gray-cheeked Thrush			1	1			1			1	41	40	21	24	5	
Veery		2	1		2	1				3	6	1	7	2	1	

Golden-crowned Kinglet															
Ruby-crowned Kinglet															
White-eyed Vireo								1	1			1		1	
Solitary Vireo															1
Red-eyed Vireo				1	1						4	3	3	2	3
Philadelphia Vireo														1	
Black-&-white Warbler	2	7	6	4	1	1		1		1	13	3	16	1	2
Tennessee Warbler															
Parula Warbler										2			1		
Magnolia Warbler		1	1	5	2		1			8	7	2	2	1	
Cape May Warbler										3	1				
Black-throated Blue Warbler		1	2	2	1			1		8	22	4	2	2	1
Myrtle Warbler															
Black-throated Green Warbler											1			1	
Blackburnian Warbler															
Chestnut-sided Warbler															
Bay-breasted Warbler															
Blackpoll Warbler								1			1	6		3	6
Western Palm Warbler													1	1	1
Yellow Palm Warbler													1	1	
Ovenbird		2	2	6	3	2	2			2	24	23	13	3	2
Northern Waterthrush	1	1	10	1			1			6	5	2	6	1	1
Connecticut Warbler		1													
Yellowthroat					1						3	1	1		
Yellow-breasted Chat		1								1	1	1			2
Wilson's Warbler															
Canada Warbler										1		1		1	
American Redstart	25	7	7	7	5	4		3	1	12	22	3	15	2	3
Baltimore Oriole											1				
Scarlet Tanager											1		2	1	1
Cardinal	1	2	4	4		1		4	1	1				1	
Rose-breasted Grosbeak															
Indigo Bunting										1		1	1		
Rufous-sided Towhee		1			1						1				
Slate-colored Junco															1
Field Sparrow															
White-throated Sparrow															
Swamp Sparrow											1				
Song Sparrow															
Total New Individuals	32	39	44	43	24	17	11	13	5	62	284	177	165	123	68
Total Species	6	18	16	14	13	12	9	8	5	21	31	25	25	22	21
Repeats	0	0	3	4	1	2	1	1	0	1	8	6	13	15	9
Total Net-hours	102	171	272	324	324	324	324	297	297	330	324	235	295	327	345
New Birds per 1000 Net-hours	314	228	162	133	74	53	34	44	17	206	877	753	560	376	197
Prevailing Winds	SW	SW	SW	S	S	S	SW	SW	SW	NNW	N	E	E	E	S
Chief Bander	4	4	4	4	5/6	5/6	5/6	5/6	5/6	5/6	5/6	1	1	1	1

	OCTOBER																	Totals*
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Sharp-shinned Hawk		2	1	2	3	1	1	1	1		1	2	3	1	1		1	26
Bobwhite				1														3
Virginia Rail																	1	1
Mourning Dove												1					1	2
Yellow-billed Cuckoo	1			2				1						1			1	10
Black-billed Cuckoo			1								1							3
Yellow-shafted Flicker					2				1				1		1			5
Yellow-bellied Sapsucker					2	3	1						1				1	8
Downy Woodpecker														1				2
Crested Flycatcher																		2
Phoebe					4	1			1	2	2		1				2	13
Yellow-bellied Flycatcher									2									9
Acadian Flycatcher																		8
Traill's Flycatcher																		5
Least Flycatcher						1					1							6
Unidentified Flycatcher																		2
Eastern Wood Pewee			4	3														9
Tree Swallow										41								41
Blue Jay		1			2			2	2	3	7	2	11	1		1		32
Carolina Chickadee		1	1					2										8
Tufted Titmouse																		3
Red-breasted Nuthatch					1	2	1					4	1	6	2	1	2	27
Brown Creeper		1	5	1	3	3				8	9	3	14	1	1	2	37	91
House Wren										2								2
Winter Wren						1	1				1		1				2	8
Carolina Wren									1				1	1			1	12
Mockingbird																1		1
Catbird	3	1	5	17	79	53	5	3	2	21	36	16	4		1		2	321
Brown Thrasher	3	3	4	2	10	9				2	1	2	1			1	1	81
Robin													1					1
Wood Thrush				2	5			2					1			1		16
Hermit Thrush											5	3	3	2	1	1	10	25
Swainson's Thrush	7	13	21	27	14	6	1	5	4	15	5	15	16	7	6	1	3	440
Gray-checked Thrush	2	13	60	40	16	17	4	2	3	24	17	13	15	2	4	4	15	386
Veery			4	2	1					1								34
Golden-crowned Kinglet					1	2	1				7	1	3				10	25
Ruby-crowned Kinglet			1	2	5	1			1		18	10	5		1		3	47
White-eyed Vireo																		4
Solitary Vireo						1												2
Red-eyed Vireo			5	3		2	2		1	1	1	1	1	1				35

[illegible]

0730: 5 nets open in the South Forty, and 8 nets open in the North Forty—plenty of nets but not many occupants!

1000: Today we not only banded the birds but also started examining them for ticks and taking blood smears for Carl Hacker's parasitology study. Dr. Sonenshine of Old Dominion College spent part of the day with us, instructing us in the search for ticks. Dr. Rex Lord and Herb Maxfield, of the U.S. Public Health Service out of Atlanta, joined us for the day to get blood samples of the larger species in connection with an encephalitis study.

1435: Tally ho! Our first Sharp-shinned Hawk in the net.

1800: Nets closed, with 44 birds banded of 16 species. Northern Waterthrush the most numerous species today!

Sunday, September 19, 1965: Clear; temperature 70°-85°; wind S, 0-5 m.p.h. Banders, F. R. Scott 0530-1200, Doris & Walter Smith 1200-1750; assistants, Charles Hacker, Dorothy & Mike Mitchell; visitors, Carl Hacker, Dr. Rex Lord, Herb Maxfield.

0530: 27 nets open; very few birds moving.

0720: Only 12 birds banded so far, but we passed one milestone with the discovery of our first tick—in the ear of an Ovenbird.

1200: At high noon, a most solemn occasion—the change of command occurred and Fred Scott relinquished his title of official bander to Doris & Walter Smith.

1400: The weekend troops have left for home, but business was by no means too brisk for the two of us. In fact, things were slow enough that we decided to list the hawks flying southward overhead. Between 1400 and 1750 we listed 28 Sparrow Hawks, 3 Sharp-shins, and 1 Cooper's.

1750: Nets closed with 43 birds banded of 14 species. Whatever happened to that cold front the weatherman promised?

Monday, September 20, 1965: Clear; temperature 72°-90°; wind S, 10-15 m.p.h. Banders, Doris & Walter Smith; assistants, Ash & Pop Rawls; visitor, Dot Guthrie.

0530: Nets open, little activity.

0715: Breakfast time and only 9 birds banded, but the hawks are streaming by over the treetops, mostly Sparrow Hawks.

1130: Unbelievable! Dropping down out of the bottom of a large, northward-drifting cloud was a tremendous flock of circling Buteos, among which we identified 3 Ospreys, 1 Red-shouldered Hawk, 2 Turkey Vultures, and about 400 Broad-winged Hawks! The cloud must have been in a thermal, because it mushroomed higher and higher, the hawks circling upwards under it until they peeled off in twos and threes from the circle and darted like arrows straight into that strong south wind and passed rapidly out of sight. What a display! And we were not even aware that the Broad-wings migrated down the coast!

1400: Things are so slow that Doris and Pop have gone sailing on Doris's Sailfish.

1700: Nets closed with 24 birds banded of 13 species. Only 1 bird banded after 1130, but the hawks were terrific, the final tally being 10 Sharp-shins, 173 Sparrow Hawks, 5 Cooper's, 2 Red-shoulders, 12 Ospreys, 1 Marsh Hawk, and 403 Broad-wings. Strange, but last year we saw more migrating Sharp-shins than Sparrow Hawks.

Tuesday, September 21, 1965: Clear; temperature 76°-88°; wind S, 10-15 m.p.h. Banders, Doris & Walter Smith; assistants, Ash & Pop Rawls; visitor, Dot Guthrie.

0530: Nets open, woods quiet.

0715: Breakfast time and only 5 birds banded. To fight boredom we decided to number each net and record the net from which each bird was re-

covered, with the thought in mind of determining preferable net locations.

1235: The Broad-wings are back! This time a flock of about 300, repeating their performance of yesterday.

1400: Ash, Pop, and Doris have gone sailing while I hawk-watch and look in vain for netted birds.

1730: Nets closed, with 17 birds banded of 12 species. Hawks of the day—1 Sharp-shin, 109 Sparrow Hawks, 1 Osprey, 301 Broad-wings, and 1 Marsh Hawk.

Wednesday, September 22, 1965: Clear; temperature 75°-86°; wind SW, 5-15 m.p.h. Banders, Doris & Walter Smith; assistants, Ash & Pop Rawls.

0530: Nets open, woods quiet.

0715: Breakfast time and only 2 birds banded. Please, Mr. Weatherman, how about a break in the weather?

0800: 40 Canada Geese overhead, with their wild music trailing out behind them.

1130: 40-odd Broad-wings drifting north.

1230: About 60 Broad-wings overhead.

1750: Nets closed, with 11 birds banded of 9 species. Only 2 birds banded after 0930! The situation just has to improve tomorrow. Hawks of the day—2 Sharp-shins, 48 Sparrow Hawks, 106 Broad-wings, 8 Ospreys, and 1 Red-tail.

Thursday, September 23, 1965: Clear; temperature 72°-84°; wind SW, 10-15 m.p.h. Banders, Doris & Walter Smith; visitor, Dot Guthrie.

0530: Nets open, woods quiet.

1145: A White-eyed Vireo banded. This species was not recorded in the two previous years.

1230: Flock of about 200 Broad-wings. They always seem to appear around noon, probably since this is when the thermals build up.

1650: Nets closed early today so we can indulge ourselves in a sail and swim before supper, with 13 birds banded of 8 species. Hawks of the day—3 Ospreys, 47 Sparrow Hawks, and 200 Broad-wings. Our experiment in numbering the nets has proved nothing, unless it's that the birds netted so far must be females, since their net preference has varied daily!

Friday, September 24, 1965: Partly cloudy; temperature 74°-86°; wind SW, 10-20 m.p.h. Banders, Doris & Walter Smith; visitor, F. R. Scott.

0530: Nets open, woods dead—absolutely!

0600: Fred Scott arrived, erected his antennae, wisely decided the shorebird-watching at Chincoteague would outweigh the banding at Kiptopeke, and departed.

1000: Even the hawks have deserted us—very few passing over.

1650: Nets closed, with 5 birds banded of 5 species. Last bird banded at 1150. This just has to be a record of some sort! But look at it this way—there were only 6 birds in the woods and we got 5—that's better than 80%, so don't knock it! Hawks of the day—17 Sparrow Hawks, 4 Ospreys, 1 Cooper's, 1 Sharp-shin, and 1 Marsh Hawk. There's always hope—the papers predict a cold front tonight (finally) with the weekend troop's arrival.

Saturday, September 25, 1965: Cloudy; temperature 65°-66°; wind NNW, 5-15 m.p.h. Banders, Doris & Walter Smith; assistants, Charles Hacker, Dorothy & Mike Mitchell, F. R. Scott.

0530: Nets open, not a sound except our hopeful breathing. Last night we finally got a good cold front preceded by heavy local thundershowers, and this morning the wind is in the north!

0600: Here they come! It's fantastic! Looking up into the morning sky you can suddenly see little specks appear, rapidly enlarging, until birds by twos and threes, and then tens, and then hundreds are streaking over and flashing down into the woods. I've never seen anything like it before!

0715: Breakfast time and 16 birds banded. The woods are full of new arrivals, presumably tired, since they are not moving much, and the hawks are really streaming by overhead.

0945: Tally ho! Sharp-shin in the Main Line.

1215: A flock of 200 Broad-wings overhead.

1640: Tally ho! Sharp-shin in the North Forty.

1730: Nets closed, with 62 birds banded of 32 species. What an improvement over yesterday! And listen to the hawks of the day—19 Ospreys, 309 Sparrow Hawks, 7 Cooper's, 15 Sharp-shins, 471 Broad-wings, 1 Peregrine, 2 Marsh Hawks, and 7 Turkey Vultures. The birds are here—tomorrow should be a good day.

Sunday, September 26, 1965: Clear; temperature 60°-76°; wind N, 1-3 m.p.h. Banders, Doris & Walter Smith 0530-1200, Charles Hacker 1200-1730; Assistants, Dorothy & Mike Mitchell, F. R. Scott, Pop Rawls.

0530: There's no question about today's being a flight day! As we opened the nets in the half light you could hear chirps, squeaks, and fluttering everywhere. The woods are alive with sound, and the birds are hitting the nets already.

0845: Breakfast is late this morning, and we haven't had time to sit down yet—97 birds banded so far and two collecting boxes are still full!

1200: We were almost too busy but finally remembered the official change-of-command. Charlie Hacker now in full charge.

1400: Birds still hitting the nets regularly and, fallen arches or not, we wouldn't change a thing.

1730: Nets closed, with birds still hitting while we closed them. What a day! 284 birds banded of 31 species. The thrushes arrived, but definitely, with 71 Swainson's and 41 Gray-cheeks! It's really something to realize what a tremendous stimulus a cold front seems to be to the bird's migratory instinct! The weary troops leave for home again tonight, and those of us remaining will have no trouble getting to sleep. No hawk count today as we were just too busy to look up.

Monday, September 27, 1965: Clear; Temperature 57°-74°; wind E, 2-15 m.p.h. Bander, Charles Hacker; assistants, Buck Thielen, Ed Ames, George Cornell, C. Riddick; visitor, H. Derby.

0530: Nets open in the Main Line and part of the North Forty. The woods are singing and we wonder if the two of us can handle things.

0545: Closed the nets in the North Forty. The birds are hitting like crazy!

0645: Almost all boxes are full and we can just barely keep ahead of the birds!

0730: Ames, Cornell, Riddick, and Derby arrived to lend welcome hands.

0915: Breakfast time with 119 birds banded.

1200: Birds still hitting regularly.

1400: Things have slowed down considerably, and for the first time we look overhead at the Sparrow Hawks and Flickers moving southward in good numbers.

1700: Nets closed, with 177 birds banded of 25 species. We never did get the South Forty nets opened!

Tuesday, September 28, 1965: Cloudy to partly cloudy; temperature 64°-73°; wind E-NE, 10-20 m.p.h. Bander, Charles Hacker; assistants, Buck Thielen, F. R. Scott, Ed Ames, George Cornell, C. Riddick; visitor, Dot Guthrie.

0530: All nets open and business is brisk.

0900: 100 birds banded and still coming.

1200: Our second Scarlet Tanager of the day. Sparrow Hawks in fair numbers and many Flickers and Tree Swallows overhead.

1500: Looks like rain. Nets in the North Forty and South Forty closed. Troops left for home.

1700: Nets closed, with 165 birds banded of 25 species. Strong winds all day greatly reduced the efficiency of the nets. Thrushes still the dominant species.

Wednesday, September 29, 1965: Clear; temperature 60°-72°; wind E-NE, 5-10 m.p.h. Bander, Charles Hacker; assistants, Buck Thielen, Ed Ames; visitor, Dot Guthrie.

0530: Nets open, and the rush is on.

0645: The collecting boxes are full, and banding has started.

0900: Breakfast time, with 70 birds banded.

1315: Here's a stranger—our first Philadelphia Vireo!

1430: 3 Red-tailed Hawks overhead. The Sparrow Hawk movement is moderate, with a few Sharp-shins and Cooper's.

1730: Nets closed, with 123 birds banded of 22 species. The numbers of Swainson's and Gray-checked Thrushes remain remarkable! A high of 15 repeats.

Thursday, September 30, 1965: Clear; temperature 54°-76°; wind S, 0-5 m.p.h. Bander, Charles Hacker; assistants, Buck Thielen, Ed Ames.

0545: Nets open, and the woods are awakening.

0700: Our first Junco of the season.

0845: Breakfast time and 38 birds banded.

1200: Very few hawks are moving overhead, and Flickers and Tree Swallows are scarce.

1240: Our first Solitary Vireo! This is a species that we did not get the two previous years.

1650: Tally ho! Tally ho! 2 Sharp-shins netted.

1730: Nets closed, with 68 birds banded of 21 species. Things are slowing down, but what a week so far!

Friday, October 1, 1965: Cloudy; temperature 70°-76°; wind S, 10-15 m.p.h. Bander, Charles Hacker; assistants, Buck Thielen, Ed Ames.

0545: Nets open, woods quiet.

0830: Breakfast time and only 14 birds banded. Now we know how the Smiths felt.

1200: Not only are the birds not moving in the woods, but practically nothing is moving overhead.

1400: Thielen and Ames left for civilization.

1430: Starting to drizzle, so North Forty and South Forty nets closed.

1730: Nets closed, with 18 birds banded of 7 species. Unusually high percentage of repeats with 8 recorded. A slow day, but the weatherman promises a cold front tonight, and the troops arrive for the weekend.

Saturday, October 2, 1965: Clear; temperature 61°-69°; wind NW, 15-20 m.p.h. Bander, Charles Hacker; assistants, Dorothy & Mike Mitchell, Dr. Mitchell Byrd, Walter Smith; visitors, H. Derby, J. Eley, Walter Eley, Mr. & Mrs. Ed Marrow (Tarboro, N.C.).

0530: Nets open. A cold front last night and the woods are much more active than yesterday.

0800: Breakfast time with 37 birds banded. 20 Canada Geese overhead.

1200: Many birds are moving into area and overhead.

1400: 40 Canada Geese overhead. We have had 4 Sharp-shins hit the nets today without hanging up.

1545: Tally ho! Sharp-shin in the Main Line.

1645: Tally ho! Sharp-shin in the South Forty.

1730: 6 Nighthawks overhead—an unusually late migration! Nets closed, with 61 birds banded of 20 species. We removed 3 ticks today. Tomorrow should be a real good one!

Sunday, October 3, 1965: Clear; temperature 60°-74°; wind W, 10-15 m.p.h. Banders, Charles Hacker 0530-1200, Dorothy & Mike Mitchell 1200-1700; assistants, Dr. Mitchell Byrd, Walter Smith; visitors, Mr. & Mrs. Ed Marrow (Tarboro, N.C.), Mr. Morris (Cape Charles Air Force Base).

0530: Nets open; the woods are singing.

0745: Looks like a big thrush day. 90 birds banded by breakfast time.

0815: Tally ho! Immature male Sharp-shin.

1200: Change-of-command. Mike and Dorothy Mitchell in charge. 120 birds banded so far.

1500: The weekend troops leave for home.

1730: Nets closed, with 183 birds banded of 28 species—60 Gray-checked Thrushes, 21 Swainson's, and 25 Ovenbirds. Our first Myrtle Warbler and first White-throated Sparrow. Quite a day!

Monday, October 4, 1965: Partly cloudy; temperature 56°-61°; wind NW, 15-20 m.p.h. Banders, Dorothy & Mike Mitchell; visitor, Dot Guthrie.

0530: Nets open in the Main Line and North Forty only, and the birds are here!

0645: The collecting boxes are full and banding has started.

0750: Tally ho! Sharp-shin in the Main Line.

0915: 100 birds banded so far. Looks like breakfast will be late.

1000: South Forty nets opened as business slows down.

1100: 8 Turkey Vultures with their compasses crossed, headed north!

1230: Tally ho! Sharp-shin in the South Forty.

1700: 16 Canada Geese overhead.

1730: Nets closed, with 165 birds banded of 25 species. Our first dead bird today—an Ovenbird killed in net by a hawk. This was a real busy day for two operators.

Tuesday, October 5, 1965: Cloudy in morning, then clear; Temperature 47°-54°; wind NW, 0-10 m.p.h. Banders, Dorothy & Mike Mitchell; assistants, F. R. Scott, Myriam Moore, Mary Walker.

0530: Nets opened, and the birds are everywhere!

0645: Fred Scott collected an *Empidonax* flycatcher (later identified by Dr. Wetmore as Acadian).

0700: 35 Canada Geese overhead.

0900: 132 birds banded so far and still hitting regularly.

1040: Our first Tennessee Warbler of the year.

1105: Tally ho! Sharp-shin in the Main Line.

1200: 206 birds banded and the pace slackens.

1450: Tally ho! Tally ho! Two Sharp-shins.

1730: Nets closed, with 220 birds banded of 36 species and 24 repeats. This was "Catbird Day," with 79 banded.

Wednesday, October 6, 1965: Clear; temperature 37°-62°; wind SW, 0-5 m.p.h. Banders, Dorothy & Mike Mitchell; assistants, Myriam Moore, Mary Walker; visitors, Bob Pond, Mr. & Mrs. Livers, and Mr. & Mrs. Aery of Long Island, N.Y.

0530: Nets open, the birds are hitting.

0800: Breakfast time and 75 birds banded.

0820: 17 Canada Geese overhead.

1200: 132 birds banded and things have slowed down considerably. Very little hawk activity overhead.

1610: Tally ho! Sharp-shin in the North Forty.

1730: Nets closed, with 143 birds banded of 32 species. Two corpses today, one Catbird, in net, cause unknown, and one Red-eyed Vireo, in hand, apparently from fright. Another good Catbird day, with 53 banded.

Thursday, October 7, 1965: Cloudy; temperature 66°; wind SE, 10-15 m.p.h. Banders, Dorothy & Mike Mitchell; assistants, Caroline & David Green, Myriam Moore, Mary Walker.

0530: Nets open, with moderate bird activity.

0730: Tally ho! Sharp-shin in the South Forty. An adult female! This is the first adult hawk we have ever banded. Charlie Hacker won't believe it, even when he sees the picture!

0800: Light rain starting—only 19 birds banded so far.

1115: Nets closed due to the weather, with 25 birds banded of 17 species. It is rather remarkable when you consider that this is the first day the weather has grounded us.

Friday, October 8, 1965: Clear; temperature 62°-72°; wind SW, 10-15 m.p.h. Banders, Dorothy & Mike Mitchell; assistants, David & Caroline Green; visitor, Mrs. Lapear (Hopewell, Va.).

0545: Nets opened with much difficulty due to tangles caused by yesterday's rain and wind. Little activity.

0820: Breakfast time and only 10 birds banded.

1300: The Greens left for home.

1530: Tally ho! Sharp-shin in the Main Line.

1640: 26 Cormorants overhead.

1730: Nets closed, with 24 birds banded of 12 species. A slow day, but a cold front is promised over the weekend, and the troops arrive tonight.

Saturday, October 9, 1965: Clear; temperature 58°-72°; wind SW, 10-15 m.p.h. in morning, shifting to NW 5 in afternoon. Banders, Dorothy & Mike Mitchell; assistants, Charles Hacker, Dr. Mitchell Byrd, Doris & Walter Smith; visitors, Mr. & Mrs. Max Carpenter, John Carpenter, Paul Sykes.

0530: Nets open, not much activity.

0800: Breakfast time and 13 birds banded.

1100: The wind has shifted into the NW. The cold front must be passing through, although there is no frontal cloud activity.

1600: Tally ho! Sharp-shin in the Main Line.

1730: Nets closed, with 29 birds banded of 17 species. It's a shame with all the help today there weren't more birds, but tomorrow is hopeful!

Sunday, October 10, 1965: Clear; temperature 58°-60°; wind, NW, 0-5 m.p.h. Banders, Dorothy & Mike Mitchell; assistants, Charles Hacker, Dr. Mitchell Byrd, Doris & Walter Smith; visitors, Mr. & Mrs. Conrad (Norfolk).

0530: Nets open, and they're here again!

0800: Breakfast time and 74 birds banded.

1200: Change-of-command. Mike Mitchell grudgingly slipped down from the throne, leaving Dorothy in charge.

1400: Mike and Charlie noticed the Tree Swallows flocking up and descending into Myrtle bushes and decided they just had to band some. Their approach to the problem was something to behold! After erecting a net adjacent to the Myrtle bushes, they waited until the swallows settled down into the bushes—then Charlie ran out, flapping his arms, with his pipe streaming sparks. About a dozen swallows, completely unnerved by this sudden apparition, flew right into the net. This very unorthodox procedure was repeated several times with the result that, in a little over an hour, 41 swallows were netted!

1730: Nets closed, with 172 birds banded of 24 species. The weekend troops left for home, tired but happy.

Monday, October 11, 1965: Clear; temperature 44°-60°; wind N, 10-15 m.p.h.
Bander, Dorothy Mitchell; assistant, Mozelle Henkel; visitor, Dot Guthrie.

0530: 17 nets in Main Line only opened, with only 2 operators available and the woods exploding with birds.

0700: All but 4 nets in the Main Line closed since all collecting boxes are full, and birds are hitting the nets faster than we can band them.

0930: 150 birds banded and we've caught up, so the rest of the Main Line nets opened. Who wanted breakfast, anyway?

1200: Birds still hitting nets steadily and we can just manage to stay ahead of them.

1630: Tally ho! Sharp-shin in the Main Line.

1730: Nets closed, by two weary operators, with 274 birds banded of 36 species. This was "Myrtle Warbler Day," with 103 of them banded. What a first day for Mozelle! Guess we had better put in an emergency call for more troops for tomorrow.

Tuesday, October 12, 1965: Clear; temperature 58°-65°; wind S, 0-5 m.p.h.
Bander, Dorothy Mitchell; assistants, Mozelle Henkel, Ash & Pop Rawls, Walter Smith; visitors, Dot Guthrie, Bob Rittenhouse, Milton Carr (Cape Charles).

0530: Nets open, and the woods are alive with sound!

0645: Tally ho! An early Sharp-shin in the Main Line.

0800: Tally ho! Sharp-shin in the South Forty.

0950: 100 birds banded so far. Looks like another "Myrtle Day."

1310: Birds still hitting the nets regularly.

1715: Nets closed, with 174 birds banded of 27 species. This was another good day—84 Myrtles banded.

Wednesday, October 13, 1965: Clear; temperature 52°-64°; wind N, 5-10 m.p.h.
Bander, Dorothy Mitchell; assistants, Mozelle Henkel, Pop Rawls; visitors, Dot Guthrie, Audrey Brown, Gladys Forrest, Mary Tayloe Gwathmey, Martha Rosenquist.

0530: Nets open, woods alive.

0600: Our first Robin banded. Why don't we get more Robins in the nets here?

0800: 50 birds banded and the boxes are filling up.

1020: Tally ho! Sharp-shin in the South Forty.

1200: 120 birds banded and still hitting the nets regularly. Another Myrtle day.

1540: Sharp-shin in the Main Line.

1630: Tally ho! Our third Sharp-shin of the day!

1730: Nets closed on Ladies Day, with 194 birds banded of 29 species. 84 Myrtle Warblers and an unusual high of 11 Blue Jays. I don't believe the menfolks could have done better!

Thursday, October 14, 1965: Partly cloudy; temperature 55°-64°; no wind.
Bander, Dorothy Mitchell; assistants, Mozelle Henkel, Pop Rawls.

0530: Nets open, good activity.

0605: Tally ho! An extra-early Sharp-shin in the Main Line.

0800: Breakfast time and 25 birds banded.

0945: A chickadee with a strange number! Maybe—no, it's one that Fred Scott banded in 1963, and that had returned this year.

1200: Nets closed due to proposed afternoon scenic tour of Eastern Shore, with 60 birds banded of 18 species.

Friday, October 15, 1965: Cloudy; temperature 63°-77°; wind SE, 5-10 m.p.h.
Bander, Dorothy Mitchell; assistants, Mozelle Henkel, Mike Mitchell.

0530: Nets open, moderate activity.

- 0800: Breakfast time and only 13 birds banded.
1105: Eureka! A Rose-breasted Grosbeak netted! We have seen and heard many, but this is the first one to come down into a net.
1300: Tally ho! An adult male Sharp-shin in the North Forty.
1730: Nets closed, with 58 birds banded of 14 species. Tonight the weekend troops arrive for their final fling at the fall migration. Hope that cold front materializes!

Saturday, October 16, 1965: Clear; temperature 57°-79°; wind SW, 0-10 m.p.h. in morning, shifting to N-NE 10-15 at midmorning. Bander, Dorothy Mitchell; assistants, Mozelle Henkel, F. R. Scott, Dr. Mitchell Byrd, Doris & Walter Smith; visitors, Bob Rittenhouse and children, Mr. & Mrs. Ed Ames, Mr. & Mrs. George Cornell, Mr. & Mrs. C. Riddick, Dot Guthrie.

- 0530: Nets open, not much activity.
0645: Our first Mockingbird. This is another species it would seem would be more plentiful.
0800: Breakfast time and 18 birds banded.
1000: Wind has shifted to N-NE and is stronger. A good portent! Hawks are starting to come over.
1730: Nets closed, with 57 birds banded of 13 species. The birds have been moving in and over all afternoon, and we're hoping for a "flight" day tomorrow for our finale. Hawks of the day: Broadwings 28, Sharp-shins 21, Red-tailed 33, Osprey 11, Cooper's 6, Sparrow Hawk 58, Peregrine 1, Turkey Vultures 20.

Sunday, October 17, 1965: Clear; temperature 54°-66°; wind N-NE, 5-20 m.p.h. Bander, Dorothy Mitchell; assistants, Mozelle Henkel, F. R. Scott, Dr. Mitchell Byrd, Mike Mitchell, Doris & Walter Smith; visitor, John Henkel (Waynesboro).

- 0530: Nets open. That beautiful music is all around us, and it has to be a good day.
0600: Hey! A stranger—a Virginia Rail in the North Forty! Our first record in 3 years.
0800: Breakfast time and everyone working like mad! 125 birds banded so far.
0930: What a day! 200 birds banded so far.
1200: The Myrtles and Juncos are working us, but no one is doing much complaining.
1430: The birds are slowing down and signs, such as Mike taking down the shelter, point towards the end.
1500: All nets closed, and the job of taking them down and packing has started. What a fitting ending to our month-long operation—today we banded 320 birds of 32 species! The 84 Myrtles were to be expected, but the 51 Juncos, 37 Brown Creepers, 18 White-throated Sparrows, 14 Song Sparrows, and 11 Swamp Sparrows made us wonder if we shouldn't stay over another day. Hawks of the day: Peregrine 1, Broad-wings 5, Sparrow Hawks 65, Red-shoulders 6, Red-tails 47, Sharp-shins 21, Cooper's 11, Osprey 6, Marsh Hawks 2, and Turkey Vultures 39.
1600: Everything packed and we head for home with mixed feelings—regret at having to leave, but a soul-satisfying feeling of having shared a truly rewarding experience.

Epilogue

This year's *Operation Recovery* at Kiptopeke Beach can only be termed "another success"—a success in spite of the fact that again this year we failed to attain our major objective. We recovered no birds banded by stations to the north of us. Why? We wish we knew. Probably it proves only that, of the teeming millions of migrants, only a microscopic portion is banded—or per-

haps, those birds banded at stations north of us bypass our area as they head south. Be that as it may, this year our totals were 3284 birds banded of 74 species in 32 days. This is comparable to last year's totals of 1660 birds banded of 63 species in 16 days. This year's species totals of 320 Catbirds, 440 Swainson's Thrushes, 386 Gray-cheeked Thrushes, and 499 Myrtle Warblers are amazing, to say the least. The eye-opening totals for hawks migrating overhead proved to be 854 Sparrow Hawks, 74 Sharp-shinned Hawks, 31 Cooper's Hawks, 8 Red-shouldered Hawks, 64 Ospreys, 7 Marsh Hawks, 1514 Broad-winged Hawks, 81 Red-tailed Hawks, 3 Peregrine Falcons, and 74 Turkey Vultures. And this is for the 10 days only on which we counted hawks! We prepared 570 blood smears for Carl Hacker's parasitology study. We examined 345 birds from which we removed 17 ticks, which were sent to Dr. Sonenshine. We were extremely proud of the fact, that for the entire operation, we had only 4 dead birds.

All of the above has convinced us that the Kiptopeke Beach area is distinctly unusual during the fall migration, and has left us with some unanswered questions, such as: Why, on 'flight' days, do the small birds move northward, while the hawks and larger birds are moving southward? Why do the Flickers and Tree Swallows fly northward some days and southward others?

Already we are planning to extend the coverage next year to 5 weeks. So you folks who participated this year, and you folks who read this and wonder—we'll see you next fall at Kiptopeke Beach!

3009 Chesapeake Avenue, Hampton, Virginia 23361

VIRGINIA CHRISTMAS BIRD COUNTS—1965-66 SEASON

F. R. SCOTT

This was a record Christmas bird count in several ways. In terms of the number of observers (251) and the amount of effort expended (1030 party-hours), the count far surpassed the 1964-65 count, which in itself broke the records for these two items. The number of species reported was 185, well above the previous record of 180 set in the 1960-61 season. Three species appear to be new to Christmas counts in Virginia, American Golden Plover, Wood Thrush, and Bay-breasted Warbler. Few of the "regulars" were missing from the reports this year, most notable being the Red-necked Grebe, Knot, Purple Sandpiper, and Tree Swallow.

Twenty-six counts were submitted this year, equaling the record set in the 1954-55 season. These counts included a new one at Cape Charles beautifully organized by William C. Russell and two counts from the Mt. Rogers-Whitetop area. Generally, overlapping counts can not both be printed, but these complemented each other so well that it was felt worthwhile to break the rule once. It was also a pleasure to receive an excellent count from Bristol, though one from this area has been published in *Audubon Field Notes* for the last four years. Twenty of the counts are tabulated in Table 1 more or less in order of their increasing distance from the coast (see Figure 1). Counts 1-9 were on the Coastal Plain, 10-13 on the Piedmont, and 14-26 from the Blue Ridge westward. Unfortunately, space limitations prohibited the printing of all the counts in the table, so the two Mt. Rogers counts and four others with low party-hour totals are printed instead farther along in the text.

A combination of a warm December, an excellent flight of northern birds, and better coverage was undoubtedly the primary cause of the excellent reports received. Only a few of the many fascinating aspects of this year's counts, unfortunately, can be touched upon in this summary, but a critical look at the table and the counts printed in the text will turn up many others.

The Cape Charles count had a number of record-breaking counts of individuals. Note especially the Snowy Egrets, Louisiana Herons, several shorebirds, and Great Black-backed Gulls. Waterfowl numbers were unimpressive this year, though there were several individual records of great interest, such as the Blue Goose in Lynchburg, Blue-winged Teal on 4 counts, and Oldsquaw at Bristol. Odd shorebirds included the Golden Plover at Chincoteague, Spotted Sandpipers at Newport News, and for the third consecutive year, a Whimbrel at Chincoteague. Predictably following a warm early winter, Bonaparte's Gulls and Forster's Terns were numerous along the coast, and there were single reports of Common and Royal Terns and two reports of Black Skimmers.

There were some excellent owl counts, with 3 counts reporting Saw-whet Owls. The numbers of Common and Fish Crows in Augusta County were really startling for the Shenandoah Valley. There was a good flight of Red-breasted Nuthatches, with 15 counts reporting them. Note the 225 on Col. Thielen's Mt. Rogers count. Every count period seems to have one or more odd thrush reports. This year a Wood Thrush at Fort Belvoir, 2 Swainson's Thrushes at Hopewell, and a Gray-cheeked Thrush at Brooke were reported. These appear to be the first count record for a Wood Thrush, the third for a Gray-cheeked Thrush, and the eighth for the Swainson's Thrush. Eighteen counts reported a total of 259 Eastern Bluebirds, or 25 per 100 party-hours, a considerable improvement over the 18 per 100 party-hours of last year. The Bay-breasted Warbler at Brooke adds another warbler to the growing list of summer or transient birds that have appeared once or twice on the Christmas counts.

The erratic northern finches put on another show for Virginia this winter, adhering rather closely to their two-year cycle. Evening Grosbeaks were reported from 14 counts, Pine Siskins from 12, White-winged Crossbills from 4, Red Crossbills from 2, and Common Redpolls from 1. Even the Purple Finch, which does not seem to adhere to the two-year cycle of the others, appeared somewhat more common than normal and was reported from 18 counts.

1. Chincoteague National Wildlife Refuge (all points within a 15-mile diameter circle, center 2 miles north of center of Chincoteague as in previous 11 years; open farmland 15%, insular pine woodland 11%, mainland woodland 19%, scrub pine and myrtle thickets 6%, fresh-water marshes and impoundments 10%, salt marshes 16%, sheltered bays 8%, dunes 5%, mud and sand flats 3%, ocean beach 7%).—Dec. 29; 3:40 a.m. to 6:15 p.m. Clear in a.m., a few clouds in p.m.; temp. 28° to 50°; wind W veering to S, 0-10 m.p.h.; ground bare, water open. Thirty observers in 8 parties. Total party-hours, 105 (81 on foot, 17 by car, 7 by boat); total party-miles, 303 (84 on foot, 187 by car, 32 by boat). Seen in area count period, but not on count day: Pigeon Hawk, Barn Owl. Observers: D. F. Abbott, J. M. Abbott, B. J. Alexander, Dan Bystrak, Paul Bystrak, Mrs. G. H. Cole, Jared Diamond, P. A. DuMont, P. G. DuMont, B. H. Dwyer, E. F. Folsom, L. C. Goldman, D. L. Hall, J. A. Halperin, L. L. Hood, W. H. Hoover, L. R. Johnson, Paul Kalka, E. T. McKnight, G. M. Meade, J. B. Meade, J. W. Oberman, C. S. Robbins, W. C. Russell, F. R. Scott (compiler), Ted Stiles, P. W. Sykes, Jr., J. W. Terborgh, J. S. Weske, W. W. Wiggins. This count included parts of extreme southern Worcester Co., Md. Species seen only in the Maryland part of the count area were the Virginia Rails, Loggerhead Shrike, and White-crowned Sparrow. Two of the Green Herons were seen by Mrs. Cole's party, the third by the Meades and Scott, and the Abbotts reported the Glossy Ibises, the second count record. The Golden Plover was seen by Dan Bystrak and Kalka, who were able to compare it with some accompanying Black-bellied Plovers and note its dark rump and tail and lack of black axillars. Both the Abbotts and the DuMonts reported the Whimbrel, presumably the same bird, as well as

Table 1. The 1965-66 Christmas bird counts for Virginia. Notations in boldface type indicate an unusual species or an unusual number of individuals for that particular count. Items marked with an asterisk (*) are commented on further under count summaries. Counts numbered 14, 16, 17, 23, 24, and 25 are omitted from the table but are printed complete in the text.

Date	1. Chincoteague	2. Cape Charles	3. Little Creek	4. Back Bay	5. Chesapeake	6. Newport News	7. Hopewell	8. Brooke	9. Fort Belvoir	10. Charlottesville	11. Warren	12. Sweet Briar	13. Lynchburg	15. Rockingham Co.	18. Big Flat Mt.	19. Three Ridges	20. Lexington	21. Roanoke	22. Blacksburg	26. Bristol
Common Loon	170	22	1	6				10											2	1
Red-throated Loon	97	4	10	50	....	....	....		....	....	....	....	....	....	....	....	....	....
Horned Grebe	748	156	77	4	....	18	....	37	24											
Pied-billed Grebe	54	51	28	3	2	11	2	1	2	5				1	4			3	4	3
Gannet	....	5	17	362	....	....	....	....								
Double-crested Cormorant	....	2	1	12	....	86	....	....	....								
Great Blue Heron	115	85	39	3	1	10	21	17	10		1			1			1			6
Green Heron	3*	....	....	....	....	....	....	....											1*	
Little Blue Heron	13	7	....	....	....	....	....	....									....	....
Common Egret	35	19	7	8	....	....	4*	....									....	....
Snowy Egret	....	9*	1*	1*	....	....	....	....								
Louisiana Heron	2	23*	1	1	....	....	....	....								
Black-crowned Night Heron	40	44	....	....	....	12	....	....										
Yellow-crowned Night Heron	....	2	....	....	....	....	....	....						
American Bittern	5	2	....	5	....	....	....	....								
Glossy Ibis	2*	....	....	....	....	....	....	....					
Whistling Swan	2	3	....	111	....	....	....	5												
Canada Goose	1250	1719	....	3210	....	60	8600	200		70	4									
Brant	14,000	958	....	....	....	....	....	....						
Snow Goose	6000	....	....	8200	....	....	22	....											
Blue Goose	12	....	....	4	....	....	120	....					1*							
Mallard	483	371	129	140	....	43	1900	42	36	44	47		2	110			12	20	95	....
Black Duck	9179	1570	42	387	....	8	2150	135	512	40	....		1	6			....	35	19	10
Gadwall	169	18	5	23	....	4	....	....			7								2	....
Pintail	597	88	....	586	....	....	300	....			....					
Green-winged Teal	112	4	9	53	....	....	120	....	156		24						3	....	
Blue-winged Teal	....	....	....	....	4*	....	....	....									1*	1*		
American Widgeon	310	310	18	38	....	1327	26	5		5				18			....	....	175	....
Shoveler	480	4	....	57	....	....	55	....											
Wood Duck	....	4	9	....	2	....	1500	....			2			1				6		

Redhead	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....
Ring-necked Duck	40	2	....	....	....	....	2	....	20	3	40	....	40	....	....	....	....	....	....
Canvasback	....	....	156	....	....	....	30	....	648	....	1	....	....	....	....	....	50	....	1
Greater Scaup	58	....	....	....	....	....	....	....	455	....	....	....	....	....	....	....	....	67	....
Lesser Scaup	14	3	8	2	....	....	15	....	43	....	....	....	....	....	....	....	23	44	1
Scaup (sp.?)	16	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Common Goldeneye	329	89	70	....	....	144	....	4	2	1	1	....	....	....	....	....	....	18	6
Bufflehead	2193	1234	45	4	....	53	....	2	168	....	11	....	1	....	....	....	15	91	6
Oldsquaw	280	2	....	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2*
White-winged Scoter	15	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Surf Scoter	740	589	3	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Common Scoter	464	252	45	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Ruddy Duck	128	7	64	2	....	102	618	200	2365	2	....	....	1	....	....	....	....	....	....
Hooded Merganser	70	66	111	14	....	42	....	2	16	2	1	8	....	1	....	....	4	....	13
Common Merganser	....	1	....	....	....	2	55	1250	101	....	....	....	....	....	....	....	....	....	....
Red-breasted Merganser	175	136	26	5	....	27	70	16	....	....	....	....	....	....	....	....	....	....	....
Turkey Vulture	170	79	2	41	....	17	8	16	15	....	72	156	7	4	211	5	....	4	....
Black Vulture	4	....	2	55	....	40	....	1	7	....	19	76	4	6	13	1	....	....	....
Sharp-shinned Hawk	2	6	....	....	....	1	....	....	....	....	1	....	....	1	....	1	....	....	....
Cooper's Hawk	....	....	....	2	....	1	....	....	....	....	1	1	1	1	....	....	....	1	....
Red-tailed Hawk	8	7	7	3	....	2	....	5	2	3	8	5	1	3	3	5	1	2	....
Red-shouldered Hawk	12	1	6	4	....	5	....	1	4	4	1	....	....	....	....	....	....	....	....
Rough-legged Hawk	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bald Eagle	1	....	....	....	....	3	....	3	3	1	....	....	....	....	....	....	....	....	1*
Marsh Hawk	45	17	....	9	....	3	1	3	2	....	1	....	....	....	....	....	....	....	....
Osprey	....	....	....	....	....	....	....	....	....	....	....	....	....	1*	....	....	....	....	....
Peregrine Falcon	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pigeon Hawk	....	1	....	1	....	....	....	....	....	....	....	1*	....	....	....	....	....	....	....
Sparrow Hawk	36	44	27	70	....	71	18	3	5	1	4	1	1	....	....	....	....	3	....
Ruffed Grouse	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	15	1	2	....
Bobwhite	81	67	85	33	....	21	10	19	30	64	93	66	....	33	23	1	....	16	....
Ring-necked Pheasant	....	1*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Turkey	....	....	....	....	....	....	....	....	....	....	....	4	....	....	....	....	....	....	....
King Rail	....	2	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Clapper Rail	23	55	10	....	....	6	....	....	....	....	....	....	....	....	....	....	....	....	....
Virginia Rail	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Sora	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Common Gallinule	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
American Coot	....	97	3	14	....	20	109	1	1	....	....	....	....	7	....	....	....	1	....
American Oystercatcher	105*	196*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Semipalmated Plover	....	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Piping Plover	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Killdeer	30	73	36	23	24	85	97	3	26	5	3	1	11	10
American Golden Plover	1*
Black-bellied Plover	197	311	7	2

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Date	12-21	1-1	12-27	12-26	12-27	12-31	12-23	1-2	1-2	12-28	12-26	1-1	12-26	1-1	12-27	12-22	12-29	12-30	12-27	12-31
Ruddy Turnstone	27	96*	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	....	....
American Woodcock	14	3	....	1	....	....	....	....	1	3	1	1	2	....	5	....	....	8	....	1
Common Snipe	5	2	7	65	1	1	1	3	1	1	1	2	....	....	....	....	....	....	....	3
Whimbrel	1*	....	....	....	....	2*	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Spotted Sandpiper	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Willet	2	33*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Greater Yellowlegs	51	48	9	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Lesser Yellowlegs	7	3	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Least Sandpiper	11	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Dunlin	2581	12,089*	33	11	....	130	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Dowitcher (sp.?)	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Semipalmated Sandpiper	106	176	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Western Sandpiper	7	13	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Sanderling	655	68	83	170	....	42	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Great Black-backed Gull	196	1328*	24	40	....	51	2	30	3	....	....	....	....	....	....	....	....	....	....	....
Herring Gull	4675	14,005	7400	4100	1181	2147	73	300	537	....	....	....	....	....	....	....	....	....	1	7
Ring-billed Gull	694	3622	7900	3300	691	1050	632	100	1336	....	....	....	....	....	....	....	....	....	....	25
Laughing Gull	2	....	1	....	24	5	2*	....	....	....	....	....	....	....	....	....	....	....	....	....
Bonaparte's Gull	306	39	43	2	....	915	....	7	4	....	....	....	....	....	....	....	....	....	....	....
Forster's Tern	16	4	19	....	....	145	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Common Tern	....	....	....	....	....	1*	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Royal Tern	....	....	....	1*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Black Skimmer	2*	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mourning Dove	236	130	144	48	81	72	323	300	722	463	117	193	39	347	1	....	304	103	211	173
Barn Owl	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Screech Owl	39	5	....	6	1	....	....	1	....	....	....	....	....	....	3	1	....	....	1	....
Great Horned Owl	15	1	....	1	....	....	1	1	7	....	....	....	....	....	....	....	1	....	1	....
Barred Owl	....	....	....	1	1	....	....	4	1	....	....	1	....	....	....	2	....	....	1	....
Short-eared Owl	31*	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Saw-whet Owl	3*	....	....	....	....	....	....	....	....	....	1*	....	....	....	....	....	....	....	1*	....
Belted Kingfisher	39	15	11	7	5	11	7	17	12	12	4	2	2	7	2	1	8	5	5	13
Yellow-shafted Flicker	130	122	86	43	69	60	62	50	145	35	17	35	14	2	1	1	2	8	8	6
Pileated Woodpecker	4	....	2	6	5	6	7	16	25	24	7	7	7	8	14	2	26	8	7	4
Red-bellied Woodpecker	34	10	28	9	42	22	35	90	82	48	20	21	26	9	4	2	31	3	16	6
Red-headed Woodpecker	....	....	26	1	3	6	....	2	....	1	....	....	3	....	....	....	....	....	8	3

Yellow-bellied Sapsucker	2	....	3	2	3	2	15	25	6	18	14	3	7	1	6	3	....	7	3	3
Hairy Woodpecker	16	7	4	4	3	3	4	13	25	10	4	2	24	4	5	2	7	5	7	1
Downy Woodpecker	32	20	16	17	20	26	30	90	118	59	22	8	29	14	13	11	31	22	74	26
Eastern Phoebe	2	....	....	....	....	....	1	....	3	....	....	....	1	....	....	....	3	....	3	....
Horned Lark	197	51	....	....	....	10	13	5	5	7	....	3	32	16	....	....	36	2	130	5
Blue Jay	52	5	33	3	24	77	31	130	381	201	24	31	95	16	12	10	54	37	152	80
Common Raven	....	....	....	....	....	....	....	....	2	....	....	....	....	5	6	....	5	3	1	....
Common Crow	8500	14	89	79	442	223	256	200	581	429	799	132	228	421	20	26	202	148	226	398
Fish Crow	500	1	9	19	223	15	....	8	19	2	1	....	....	13	....	....	....	....	....	....
Black-capped Chickadee	....	....	....	....	....	....	4	10	....	....	....	....	....	4	....	2*	7*	3	31	....
Carolina Chickadee	138	117	61	70	142	70	57	200	742	267	139	33	251	11	113	78	70*	97	157	102
Tufted Titmouse	74	10	33	12	42	73	22	110	396	99	48	25	55	13	17	6	64	59	127	104
White-breasted Nuthatch	10	....	14	4	3	7	16	42	109	30	15	14	24	8	15	7	17	13	67	8
Red-breasted Nuthatch	2	2	....	....	....	....	5	21	22	68	24	....	10	2	9	....	2	7	12	....
Brown-headed Nuthatch	20	27	3	122	5	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Brown Creeper	16	2	7	5	2	10	1	10	30	14	13	1	4	2	11	....	1	....	7	5
House Wren	2	8	3	3	1	....	....	1*	....	....	....	....	....	....	....	....	1	....	1*	....
Winter Wren	11	8	2	2	3	1	1	10	10	12	4	2	5	2	6	1	2	4	4	3
Carolina Wren	86	118	52	69	21	43	35	80	110	31	8	12	30	4	5	....	11	20	17	15
Long-billed Marsh Wren	6	24	6	7	....	....	....	3	....	....	....	....	....	....	....	....	....	....	....	....
Short-billed Marsh Wren	11	6	....	13	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mockingbird	50	101	149	62	66	132	61	125	226	142	68	66	203	26	5	5	82	50	81	65
Catbird	30	12	....	15	3	....	1	2	1	2	....	....	....	....	....	....	....	....	....	....
Brown Thrasher	52	6	10	2	8	11	9	1	4	1	1	....	2*	....	....	....	....	....	1	....
Robin	107	706	1018	134	148	8	30	82	10	51	32	36	5	13	21	13	1	23	12	5
Wood Thrush	....	....	....	....	....	....	....	....	1*	....	....	....	....	....	....	....	....	....	....	....
Hermit Thrush	18	10	3	2	3	4	7	14	7	23	8	....	....	....	....	4	....	....	....	....
Swainson's Thrush	....	....	....	....	....	....	2*	....	....	....	....	....	....	....	....	....	....	....	....	....
Gray-checked Thrush	....	....	....	....	....	....	....	1*	....	....	....	....	....	....	....	....	....	....	....	....
Eastern Bluebird	7	15	1	65	44	5	12	27	14	15	23	12	2	....	....	3	....	3	1	7
Golden-crowned Kinglet	67	22	13	14	6	34	14	25	150	105	102	10	11	2	26	....	5	....	23	4
Ruby-crowned Kinglet	11	17	17	11	11	13	16	26	19	22	25	3	3	....	1	2	....	....	8	....
Water Pipit	101	537	....	33	50	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....
Cedar Waxwing	38	262	41	12	....	20	12	900	801	113	181	....	....	....	....	....	....	....	....	16
Loggerhead Shrike	1	5	2	5	....	2	6	9	1	8	14	1	....	4	....	....	7	1	7	6
Starling	961	2276	1270	384	30,700	3362	2800	1000	1737	1544	2310	1200	80,900	1128	107	9	1834	1354	8776	1108
Orange-crowned Warbler	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Myrtle Warbler	2475	3335	253	1279	110	194	8	100	194	18	13	....	1	....	....	....	....	....	2	5
Bay-breasted Warbler	....	....	....	....	....	....	....	1*	....	....	....	....	....	....	....	....	....	....	....	....
Pine Warbler	....	....	9	4	3	4	....	....	....	....	....	....	....	....	....	....	....	....	1*	....
Palm Warbler	1	14	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Yellowthroat	2	1	....	3	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Yellow-breasted Chat	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
House Sparrow	417	291	231	93	178	660	130	100	461	43	47	119	619	290	....	36	341	102	532	252
Eastern Meadowlark	877	258	244	246	342	178	157	140	26	37	115	197	15	25	112	11	159	251

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Date	12-21	1-1	12-27	12-26	12-27	12-31	12-23	1-2	1-2	12-28	12-26	1-1	12-26	1-1	12-27	12-22	12-29	12-30	12-27	12-31
Red-winged Blackbird	1559	76	12,000	1300		28,850	516	20	1200	164	509	1	3	8430	....	....	6	7	201	4
Baltimore Oriole	....	....	1*	....	....	....	8	....	....	....	....	....	....	....	....	....	....	....	....	....
Rusty Blackbird	....	8	126	....	....	6	....	5	17	66	....	32	....	1685	....	....	212	6	2	....
Boat-tailed Grackle	741	1815	....	2	....	....	4	....	....	....	....	....	....	....	....	....	....	....	....	....
Common Grackle	430	12	5200	681	12,000,000	343	....	....	....	1	1	....	338	64,045	....	....	....	5	4570	1
Brown-headed Cowbird	94	2	450	182	1425	219	30	150	12	....	....	20	13,480	....	....	....	....	6	1	25
Cardinal	182	187	249	121	195	159	113	270	579	371	172	101	138	35	7	9	198	133	170	74
Evening Grosbeak	19	52	....	....	1*	....	73	....	96	27	1	....	10	4	1	....	5	62	6	....
Purple Finch	3	1	27	....	13	6	13	75	137	41	54	12	62	....	5	12	29	19	5	47
Common Redpoll	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2*	....	....	....	....	....
Pine Siskin	193	24	6	....	....	37	9	....	251	....	72	....	5	....	....	6	18	....	....	....
American Goldfinch	606	227	228	180	80	238	41	250	909	103	94	20	23	92	50	8	137	54	117	33
Red Crossbill	....	....	....	....	....	....	....	14*	....	....	....	....	....	....	....	....	....	....	8*	....
White-winged Crossbill	....	....	....	....	....	....	....	....	....	10*	....	....	....	....	11*	....	....	....	....	....
Rufous-sided Towhee	78	81	58	53	48	27	14	17	36	13	3	3	9	....	....	3	3	4	5	8
Ipswich Sparrow	6	2	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Savannah Sparrow	276	42	54	205	18	60	4	2	....	....	....	....	3	....	....	....	....	....	....	....
Sharp-tailed Sparrow	49	8	31	7	....	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Seaside Sparrow	17	28	23	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Vesper Sparrow	....	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Slate-colored Junco	258	52	241	184	358	312	292	510	1351	429	416	128	505	18	37	18	337	126	260	241
Tree Sparrow	10	....	5	15*	....	....	....	50	70	66	26	3	2	6	....	....	27	....	6	....
Chipping Sparrow	30	20	8	....	....	19	....	....	....	....	....	1	....	....	....	....	....	....	....	....
Field Sparrow	80	73	160	161	75	22	14	100	115	60	97	7	29	1	....	2	20	13	37	75
White-crowned Sparrow	1	1	....	....	....	....	....	15	....	4	37	38	....	14	....	2	22	....	93	5
White-throated Sparrow	665	640	515	229	459	137	134	500	452	257	74	126	165	3	9	12	77	53	41	49
Fox Sparrow	61	18	81	5	5	16	2	4	9	22	1	....	3	....	....	....	....	....	....	1
Swamp Sparrow	143	199	71	152	16	15	6	30	16	15	8	....	....	....	....	....	....	....	....	5
Song Sparrow	414	259	187	122	53	89	67	250	397	428	142	42	46	15	3	22	70	42	114	66
Lapland Longspur	25*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Snow Bunting	270*	....	....	....	....	45	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total Species	142	141	102	114	71	94	82	92	83	72	69	49	61	54	39	36	54	56	82	63
Total Individuals	70,113	53,096	40,239	27,771	12,066,448	14,269	21,555	9923	18,653	6791	5906	3002	171,383	3002	581	336	4476	2818*	17,216	3575
Total Party-hours	105	71	29	30	36	53	27	74	131	68	48	17	39	24	23	12	29	48	61	47
No. of Observers	30	10	9	7	9	23	5	12	42	7	6	14	23	5	5	1	7	16	21	13

the Black Skimmers. Twelve of the record 31 Short-eared Owls were seen by the Maryland party (Terborgh *et al.*), and the Saw-whet Owls were called up by Russell, apparently attracted by Screech Owl imitations. The Lapland Longspurs were seen by Robbins in one flock with a few Horned Larks. The record count of Snow Buntings was also reported by the Robbins party.

2. Cape Charles (all points within a 15-mile diameter circle, center 1.5 miles southeast of Capeville at the south end of Dunton Cove; diameter from ocean near Ship Shoal Inlet across Mockhorn Island, Magothy Bay, the peninsula just south of Cheapside to a point 3 miles out in the Chesapeake Bay; open bay 25%, salt marsh 20%, sheltered bay 15%, open farmland 15%, open ocean and beach 10%, pine and mixed woodland 10%, mud flats 2%, fresh water 1%, towns 2%).—Dec. 30; 3 a.m. to 5:45 p.m. Clear a.m., high clouds p.m.; temp. 32° to 61°; wind S to SW, 0-5 m.p.h.; ground clear, water open. Ten observers in 6 parties. Total party-hours, 71 (60 on foot, 8 by car, 3 by boat); total party-miles, 258 (48 on foot, 183 by car, 27 by boat). Seen in area count period, but not on count day: Snow Goose, Blue Goose, **European Widgeon**, Red-headed Woodpecker. Observers: H. T. Armistead, Martin Cody, Jared Diamond, Mrs. J. E. Guthrie, L. L. Hood, W. C. Russell (compiler), F. R. Scott, P. W. Sykes, Jr., J. W. Terborgh, J. S. Weske. Most of the Snowy Egrets and Louisiana Herons were around Smith Island and were reported by Cody and Russell; the others were found on Fisherman's Island by Armistead. Both are record winter counts for Virginia. The Ring-necked Pheasant, seen by Scott, was actually a male Japanese Green Pheasant, recently introduced into the area by the Commission of Game and Inland Fisheries. It is considered by some to be a separate species. The counts of Oystercatchers, Turnstones, Willets, Dunlins, and Great Black-backed Gulls all appear to be record winter counts for Virginia. Most of these were recorded by the two island parties.

3. Little Creek (all points within a 15-mile diameter circle, center 1.5 miles NE of Kempsville in the City of Virginia Beach, and including Lynnhaven Inlet, Little Creek, eastern portion of Norfolk, Stumpy Lake; farmland 10%, pine woodland 10%, deciduous woodland 20%, salt marsh, beach, bay, and rivers 10%, suburbs 50%).—Dec. 27; 6 a.m. to 5:15 p.m. Clear; temp. 26° to 36°; wind NE to SE, 4-11 m.p.h.; ground bare and frozen; slight skim of ice on small ponds. Nine observers in 3 parties. Total party-hours, 29 (18 on foot, 11 by car); total party-miles, 236 (15 on foot, 221 by car). Observers: Mrs. F. C. Burford, Mrs. C. W. Darden, Jr., Miss Anna Grimm, Miss Gisela Grimm, F. C. Richardson, W. F. Rountrey, Miss E. H. Scott, Miss M. E. Stephens, P. W. Sykes, Jr. (compiler). The Snowy Egret was reported by the Burford party and the Baltimore Oriole by Richardson and Rountrey.

4. Back Bay National Wildlife Refuge (all points within a 15-mile diameter circle, center 1.5 miles east of Back Bay, and including all of the refuge and much of the mainland of Virginia Beach; farmland 20%, pine woodland 10%, deciduous woodland 20%, beach 5%, marshes and bay 45%).—Dec. 31; 4:15 a.m. to 5 p.m. Clear in morning, partly cloudy in afternoon; temp. 45° to 70°; wind SW, 5-30 m.p.h.; ground bare, water open. Seven observers in 3 parties. Total party-hours, 30 (20 on foot, 10 by car); total party-miles, 233 (19 on foot, 214 by car). Observers: Mrs. F. C. Burford, Miss Gisela Grimm, F. S. Hespenheide, J. Parker, F. C. Richardson, W. F. Rountrey, P. W. Sykes, Jr. (compiler). The Snowy Egret was seen by Hespenheide, Parker, and Sykes, the Royal Tern by Sykes, and the Tree Sparrows by Hespenheide and Parker.

5. Chesapeake (all points within a 15-mile diameter circle, center 6.5 miles NE of Wallaceton in the City of Chesapeake, and including the eastern edge of the Dismal Swamp, western part of the Northwest River drainage, Great Bridge, Butts Station, Fentress, Deep Creek; open farmland 25%, wooded swampland 24%, mixed woodland 25%, deciduous woodland 5%, pine woodland 10%, marsh 1%, suburbs 10%).—Dec. 26; 5:45 a.m. to 5:45 p.m. Cloudy until 9:45, then clearing; temp. 39° to 42°; wind NW, 23-30 m.p.h.;

ground bare, water open. Nine observers in 4 parties. Total party-hours 36 (26 on foot, 10 by car); total party-miles, 310 (10 on foot, 300 by car). Observers: Mrs. F. C. Burford, D. D. Green, Miss Anna Grimm, Miss Gisela Grimm, F. S. Hespeneide, J. Parker, W. W. Pickham, W. F. Rountrey, P. W. Sykes, Jr. (compiler). The Blue-winged Teal were seen by Rountrey and the Evening Grosbeak by Parker and Sykes. The count of Common Grackles was the highest ever recorded on this count.

6. Newport News (all points within a 15-mile diameter circle, bounded by Chesapeake Bay, Hampton Roads, James River, Grafton; woodland 30%, fields 30%, fresh-water ponds 10%, waterfront 30%).—Jan. 1; 7 a.m. to 3:30 p.m. Partly cloudy; temp. 50° to 70°; wind SW, 10-20 m.p.h.; ground bare, water open. Twenty-three observers in 7 parties. Total party-hours, 53 (29 on foot, 24 by car); total party-miles, 281 (34 on foot, 247 by car). Observers: Martha Armstrong, Mr. & Mrs. R. J. Beasley, Georgianna Cumming, Molly Cumming, J. H. Grey, Jr., C. W. Hacker, G. W. Hall, Brad Hawkins, Mr. & Mrs. G. J. Heimerl, John & Robert Heimerl, Mrs. Israel, Kathy Judkins, Mr. & Mrs. Edward Katz, Mr. & Mrs. Sydney Mitchell, Mrs. Betty Reed, Doris Smith, W. P. Smith (compiler), Mile Spence (Hampton Roads Bird Club). The Spotted Sandpipers were found by Mrs. Mitchell and party; the observation was confirmed the following day in the same area by Mr. Mitchell. The Common Tern was identified by Mr. & Mrs. Smith, who were able to note the black running completely around the back of its head.

7. Hopewell (all points within a 15-mile diameter circle, center in Curles Neck as in last 11 years; includes Presquile National Wildlife Refuge, Fort Harrison, Curles Neck, Harrison Lake, Hopewell, Dutch Gap; open farmland 30%, brushy fields 5%, marshes and river shore 15%, deciduous wooded swamp 10%, woodland 40%).—Dec. 27; 6:30 a.m. to 5:15 p.m. Clear in a.m., partly cloudy in p.m.; temp. 19° to 39°; wind S, 0-8 m.p.h.; ground bare, water open. Five observers in 3 parties. Total party-hours, 27 (18 on foot, 5 by car, 4 by boat); total party-miles, 162 (11 on foot, 136 by car, 15 by boat). Seen in area count period, but not on count day: scaup (sp.), Sharp-shinned Hawk. Observers: E. L. Cunningham, F. R. Scott (compiler), Miss Mary Tompkins, Miss Henrietta Weidenfeld, Miss E. Franklin Woodson. Two Common Egrets were separately reported by Cunningham and Scott about 6 miles apart. Several had been present in the area all December. The Laughing Gulls and the Swainson's Thrushes were seen by Tompkins, Weidenfeld, and Woodson. The thrushes were well observed in full sunlight and principal field marks carefully noted.

8. Brooke (all points within a 15-mile diameter circle, center on road 3 miles ESE of Brooke, and including Potomac River from Widewater to Maryland Point Lighthouse and Virginia upland nearly to Fredericksburg; tidal water 16%, marsh 8%, deciduous wooded swamp 10%, fields 17%, hedgerows 6%, mixed forest edge 15%, deciduous woods 18%, pine woods 8%, slash 2%).—Dec. 22; 5:40 a.m. to 5:30 p.m. Cloudy in early a.m., clear after 10 a.m.; temp. 20° to 45°; wind SW, 2-7 m.p.h.; ground bare, water and marshes ice-free after midmorning. Twelve observers in 9 parties. Total party-hours, 74 (67 on foot, 7 by car); total party-miles, 119 (38 on foot, 81 by car). Observers: J. M. Aaron, A. A. Baker, Henry Bell, III, J. H. Eric, E. T. McKnight (compiler), T. B. Nolan, B. J. Skinner, Robert L. Smith, D. B. Stewart, E. W. Tooker, A. M. White, D. R. Wones. The House Wren was seen by McKnight and the Gray-cheeked Thrush by Nolan, who was able to note all the major field marks, such as grayish side of head with only a suggestion of an eye ring and tail the same color as back. The Bay-breasted Warbler was seen by Stewart, who submitted a very detailed written description of the bird. There was a significant amount of the bay color on the flanks of the bird. Of the 14 Red Crossbills reported, 11 were seen by Bell and 3 by Skinner.

9. Fort Belvoir (all points within a 15-mile diameter circle, center at Pohick

Church; habitats similar to last year).—Jan. 2; 6 a.m. to 4:30 p.m. Light drizzle throughout day; temp. 43° to 46°; wind, none; ground bare, water open. Forty-two observers in 20 parties. Total party-hours, 131 (106 on foot, 25 by car); total party-miles, 360 (109 on foot, 251 by car). Observers: J. M. Abbott (compiler), Susan Bassler, Eleanor Beall, Ed Bierley, Harrison Burgess, H. W. Carhart, E. G. Davis, Wm. DelGrande, P. A. DuMont, D. D. Feaser, H. S. Gilbert, Elizabeth Hartwell, Olive Holbrook, W. A. Houston, Mr. & Mrs. I. C. Hoover, Dr. & Mrs. J. E. Johnson, D. F. Keeney, Mr. & Mrs. D. Kingsbury, J. L. Kinsey, Kathleen Klimkiewicz, Mr. & Mrs. Klusner, Jean Klusner, Gale Monson, John Nevins, Mrs. P. Pardoe, E. T. Podufaly, Ed Riseley, Chris Riseley, Mr. & Mrs. W. A. Rothery, Marc Sagan, Napier Shelton, George Siegel, Mr. & Mrs. R. P. Teele, Jim Townsend, Mr. & Mrs. B. B. Warfield. The Wood Thrush was well seen and actually heard singing at Mt. Vernon by Kathleen Klimkiewicz. This record was confirmed by Abbott on January 7, when he saw the bird in the same area.

10. Charlottesville (all points within a 15-mile diameter circle, center near Ivy as in previous years; habitats the same as last year but greater coverage).—Dec. 28; 6:45 a.m. to 5:45 p.m. Clear; temp. 13° to 48°; wind, none; ground bare, water open. Seven observers in 6 parties. Total party-hours, 68 (64 on foot, 4 by car); total party-miles, 132 (49 on foot, 83 by car). Observers: Steve Calver, Mrs. C. O. Gregory, Kenneth Lawless, Peter Mehring, R. S. Merkel, C. E. Stevens (compiler), Tom Wieboldt. The White-winged Cross-bills, new to the count, were seen in pines by Mehring and Wieboldt.

11. Warren (all points within a 15-mile diameter circle, center near Keene as in previous years; habitats the same as last year but more coverage).—Dec. 26; 5 a.m. to 6:15 p.m. Clear; temp. 35° to 44°; wind NW, 10-35 m.p.h.; ground bare, water open. Six observers in 5 parties. Total party-hours, 48 (41 on foot, 7 by car); total party-miles, 190 (45 on foot, 145 by car). Strong winds during the day greatly hindered observations. Observers: Steve Calver, Kenneth Lawless, Peter Mehring, R. S. Merkel, C. E. Stevens (compiler), Tom Wieboldt. The Saw-whet Owl, new to the count, was seen at dusk by Lawless at close range.

12. Sweet Briar (all points within a 3-mile diameter circle, center at Sweet Briar College; open fields and pastures 30%, mature deciduous woodland 10%, hedgerows and creek bottoms 40%, ponds 10%, about buildings and grounds 10%).—Jan. 1; 7:30 a.m. to 4:30 p.m. Sunny in a.m., overcast in p.m.; temp. 48° to 65°; wind, none; ground bare, water open. Fourteen observers in 2 parties. Total party-hours, 17 (16½ on foot, ½ by car); total party-miles, 17 (11 on foot, 6 by car). Observers: Evelyn Barbig, Howard Barbig, Thomas Barbig, Jeanette Boone, Mabel Edwards, Ernest Edwards, Fred Griffin, William Hooks, Katherine Macdonald, Myriam Moore, Gertrude Prior (compiler), Harriet Rogers, Henrietta Walker, Grace Wiltshire. The Pigeon Hawk was seen by Mr. Edwards.

13. Lynchburg (all points within a 15-mile diameter circle, center at Lynchburg College, and including James River, College and Timber Lakes, Blackwater and Judith Creeks, airport, Graves Mill, Capron Farm; mixed woods 30%, fields and pastures 25%, creeks 12%, lakes and ponds 10%, lowland woods 10%, pine woods 5%, marsh 3%).—Dec. 27; 6:30 a.m. to 4:30 p.m. Clear; temp. 16° to 39°; wind SW, light in a.m., 8-12 m.p.h. in p.m.; ground bare, water open. Twenty-three observers in 5 parties. Total party-hours, 39 (29 on foot, 10 by car); total party-miles, 165 (22 on foot, 143 by car). Observers: Laura Anthony, Kathy Blackwell, W. P. Blackwell, John Cousins, P. B. Echols, Jr., Robby Farmer, David Freer, Dorothy Freer, R. S. Freer, B. L. Ginther, Mary Guenther, Roger Hill, W. S. Hooks, Gordon Howell, Jr., Gene Moore, Myriam Moore, Bethea Owen, Steve Reams, M. B. Tillotson, Mary Walker, William Welsh, Grace Wiltshire, J. W. Wiltshire, Jr. The Blue Goose, a new bird for the count, was found by R. S. Freer's party. The principal

blackbird flights leaving the roost apparently were missed by the observers this year.

14. Harrisonburg (Waterman Wood to Tide Spring, a distance of 12 miles; oak-hickory-juniper-pine woodlot 60%, oak-hickory woodlot 10%, village 10%, juniper-pine wasteland 5%, pasture field and fencerows 15%).—Dec. 21; 8 a.m. to 3 p.m. Overcast, snow flurries in a.m.; temp. 28° to 37°; wind, none; skim of snow on ground in a.m. Five observers in 1 party. Total party-hours, 7 (on foot); total party-miles, 12 (on foot). Turkey Vulture, 12; Bobwhite, 11; Killdeer, 2; Mourning Dove, 4; Belted Kingfisher, 1; Pileated Woodpecker, 4; Red-bellied Woodpecker, 5; Hairy Woodpecker, 1; Downy Woodpecker, 8; Blue Jay, 7; Common Crow, 112; Carolina Chickadee, 63; Tufted Titmouse, 25; White-breasted Nuthatch, 14; Brown Creeper, 1; Carolina Wren, 1; Mockingbird, 37; Starling, 493; House Sparrow, 271; Eastern Meadowlark, 2; Cardinal, 63; American Goldfinch, 32; Slate-colored Junco, 83; Song Sparrow, 2. **Total**, 24 species; 1254 individuals. Observers: Luke Beidler, Leon Good, D. R. Hostetter (compiler), D. K. Mumaw, D. B. Suter.

15. Rockingham County (all points within a 15-mile diameter circle, center at Ottobine, including Silver Lake in Dayton; lawn and shade trees in town 5%, cottonwood-sycamore river bottoms 5%, open farmland and farm woodlots 55%, mixed Appalachian conifers and hardwoods in mountains 35%; elevation 1160 to 3200 feet).—Dec. 31; 8 a.m. to 5 p.m. Partly cloudy; temp. 30° to 65°; wind, none; ground clear, water open. Seven observers in 3 parties. Total party-hours, 24 (8 on foot, 16 by car); total party-miles, 180 (15 on foot, 165 by car). Seen in area count period, but not on count day: Ring-necked Duck, Bufflehead, Sparrow Hawk, Screech Owl, Pine Siskin. Observers: Donald Carpenter, Larry Carpenter, Max Carpenter (compiler), Dianne Helbert, Hollen Helbert, Robert Houff, Harry Jopson. The Osprey was seen by Larry and Donald Carpenter along Mossy Creek at the cress ponds.

16. Augusta County (all points with a 15-mile diameter circle, center at Mint Spring, including Bethel Green, Senger's Mountain Lake, Wilda, and Staunton; deciduous woods 25%, open fields and pastures 50%, urban areas 20%, ponds 5%).—Dec. 31; 8:30 a.m. to 5:30 p.m. Clear; temp. 48° to 67°; wind W, 5-15 m.p.h.; ground bare, water open. Seven observers in 1 party. Total party-hours, 9 (4 on foot, 5 by car); total party-miles, 61 (4 on foot, 57 by car). Wood Duck, 1; Turkey Vulture, 13; Sparrow Hawk, 5; Bobwhite, 13; Killdeer, 4; Yellow-shafted Flicker, 1; Red-bellied Woodpecker, 3; Hairy Woodpecker, 1; Downy Woodpecker, 5; Horned Lark, 3; Blue Jay, 6; Common Crow, 23,120; Fish Crow, 2000; Carolina Chickadee, 9; Tufted Titmouse, 8; White-breasted Nuthatch, 4; Mockingbird, 12; Loggerhead Shrike, 1; Starling, 377; House Sparrow, 215; Eastern Meadowlark, 21; Brown-headed Cowbird, 12; Cardinal, 8; Slate-colored Junco, 1; White-throated Sparrow, 7; Song Sparrow, 2. **Total**, 26 species; 25,852 individuals. Seen in area count period, but not on count day: Horned Grebe, Mourning Dove, Evening Grosbeak. Observers: F. W. Hobbie, N. H. Hobbie, Mary E. Humphreys, Clemmie MacDiarmid, J. F. Mehner (compiler), James Sprunt, Betty Timberlake.

17. Waynesboro (all points within a 15-mile diameter circle, center between Sherando and Lyndhurst, including golf course, airport, pond, residential areas and South River in Waynesboro, Blue Ridge from Rockfish Gap south to Reeds Gap).—Dec. 31; 7:30 a.m. to 4:30 p.m. Partly cloudy; temp. 38° to 68°; wind NW, 15-20 m.p.h. after 10 a.m.; ground bare and very dry, water open. Four observers in 1-3 parties. Total party-hours, 8 (3½ on foot, 4½ by car); total party-miles, 54 (3 on foot, 51 by car). Pied-billed Grebe, 1; Turkey Vulture, 3; Killdeer, 4; Common Snipe, 2; Screech Owl, 1; Belted Kingfisher, 4; Yellow-shafted Flicker, 2; Red-bellied Woodpecker, 1; Downy Woodpecker, 4; Horned Lark, 5; Blue Jay, 27; Common Raven, 1; Common Crow, 94; Carolina Chickadee, 12; Tufted Titmouse, 7; White-breasted Nuthatch, 3; Carolina Wren, 1; Mockingbird, 9; Robin, 1; Starling, 2000; House Sparrow,

150; Common Grackle, 104; Cardinal, 8; Evening Grosbeak, 32; American Goldfinch, 3; Slate-colored Junco, 1; Song Sparrow, 10. **Total**, 27 species; 2490 individuals. Seen in area count period, but not on count day: Great Blue Heron, Bobwhite, Hairy Woodpecker, Brown Creeper, Ruby-crowned Kinglet, Eastern Meadowlark, Field Sparrow, White-crowned Sparrow. Observers: Mrs. N. J. Bott, Mrs. J. R. Henkle, K. W. Lundstrom, Mrs. M. D. Snyder (compiler).

18. Big Flat Mountain (all points within a 15-mile diameter circle, center on Pasture Fence Mountain as in previous years, mostly in the southern section of Shenandoah National Park; same habitats as in previous years).—Dec. 23; 7 a.m. to 5:30 p.m. Cloudy; temp. 28° to 58°; wind W, 0-15 m.p.h.; ground bare. Five observers in 3 parties. Total party-hours, 23 (on foot); total party-miles, 42 (on foot). Observers: Steve Calver, Peter Mehrling, R. S. Merkel, C. E. Stevens (compiler), Tom Wieboldt. The Redpolls, new to the count, were recorded by Stevens. The White-winged Crossbills, also new to the count, were seen feeding in hemlocks by Calver, Merkel, and Stevens.

19. Three Ridges (all points within a 15-mile diameter circle, center on Potatopatch Mountain, Nelson County; from Reeds Gap to summit of Three Ridges (3920 feet) to South Fork Rockfish River (980 feet), Laurel Springs Gap area, and Mills Creek Dam area; hardwoods 75%, farmland 25%).—Jan. 2; 5:30 a.m. to 5:30 p.m. Fog and drizzle in a.m., cloudy in p.m.; temp. 40° to 55°; wind NW, 5-20 m.p.h.; ground bare, water open. One observer. Total party-hours, 12 (11 on foot, 1 by car); total party-miles, 55 (20 on foot, 35 by car). Observer: Keith C. Richards. The Black-capped Chickadees were observed with Carolinas.

20. Lexington (all points within a 15-mile diameter circle, center at Washington and Lee University; open farmland 30%, deciduous woodland 20%, cedar and pine woodlands 25%, scrub 25%).—Dec. 21; 7 a.m. to 5 p.m. Heavy clouds except in early afternoon, light snow in a.m.; temp. 28° to 37°; wind NE veering to W, 5 m.p.h.; light snow on ground, streams open, ponds partly frozen. Seven observers in 4 parties. Total party-hours, 29 (26 on foot, 3 by car); total party-miles, 85 (31 on foot, 54 by car). Observers: Mr. & Mrs. Royster Lyle, Mrs. C. W. McKendree, J. J. Murray (compiler), J. J. Murray, Jr., R. O. Paxton, Joshua Womeldorf. The Blue-winged Teal is very rare here in winter. There were almost certainly other Black-capped Chickadees among those listed as Carolinas.

21. Roanoke (all points within a 15-mile diameter circle, center at Wesena Bridge, Roanoke City; creek bottoms and ponds 20%, open fields 30%, mixed woods 20%, farmland 30%).—Jan. 1; 7:30 a.m. to 5 p.m. Clear in a.m., cloudy in p.m.; temp. 50° to 60°; ground bare, water open. Sixteen observers in 7 parties. Total party-hours, 48 (32 on foot, 16 by car); total party-miles, 111 (27 on foot, 84 by car). Observers: M. E. DeHart, Ben Dulaney, A. O. English (compiler), Mrs. A. O. English, Mrs. & Mrs. Raymond Harper, Mr. & Mrs. Leighman Hawkins, Miss Debbie Ingram, Mrs. P. A. Jordan, Perry Kendig, Mrs. W. J. Massart, Mr. & Mrs. Ernest Moore, Mrs. W. J. Nelson, Mrs. W. H. Thomas. The Blue-winged Teal was seen by Mr. Hawkins. In addition to the blackbirds noted on this count, Mr. & Mrs. Harper estimated **1,245,000** blackbirds leaving a roost early on the morning of the count, but no attempt was made to estimate the species composition of the roost.

22. Blacksburg (all points within a 15-mile diameter circle, center near Linkous Store; pasture and plowed land 20%, town and suburbs 10%, mature white oak woodlots 20%, mixed pine and oak woods 20%, river and creek bottoms 30%).—Dec. 27; 7:10 a.m. to 6:30 p.m. Mostly clear; temp. 16° to 50°; wind NW, 0-10 m.p.h.; ground bare, ponds and streams partly frozen. Twenty-one observers in 8 parties plus one at feeder. Total party-hours, 61 (45 on foot, 16 by car); total party-miles, 226 (41 on foot, 185 by car). Seen in area count period, but not on count day: Great Blue Heron, Hermit Thrush.

Observers: J. W. Akers, J. L. Bishop, D. G. Cochran, R. S. Dietrich, R. V. Dietrich, Arthur Hale, M. G. Hale, B. S. McGinnes, H. S. Mosby, J. W. Murray (compiler), Ruth T. Murray, James Pack, H. H. Prince, C. W. Roane, E. L. Roane, G. M. Shear, Ronald Shear, E. A. Smyth, Mary Linda Smyth, Mrs. C. B. Stone, Bernard Thielen. The Green Heron was noted carefully along New River by Thielen and the Dietrichs, and Arthur Hale found the Saw-whet Owl perched on the handle of a power mower. The House Wren was identified by R. V. Dietrich and Thielen and the Pine Warbler by Cochran. Of the 8 Red Crossbills reported, G. M. Shear saw 7 and R. V. Dietrich and Thielen one.

23. Glade Spring (all points within a 15-mile diameter circle, center in Glade Spring as in previous years; habitats the same as in previous years).—Dec. 29; 7 a.m. to 5 p.m. Clear; temp. 20° to 55°; wind SW, 0-10 m.p.h.; ground bare, ponds frozen. Four observers in 1 party. Total party-hours, 10 (8 on foot, 2 by car); total party-miles, 26 (6 on foot, 20 by car). Mallard, 100; American Widgeon, 5; Turkey Vulture, 4; Sparrow Hawk, 2; Bobwhite, 1; American Coot, 8; Killdeer, 8; Common Snipe, 1; Mourning Dove, 67; Belted Kingfisher, 2; Yellow-shafted Flicker, 1; Pileated Woodpecker, 1; Red-bellied Woodpecker, 2; Yellow-bellied Sapsucker, 1; Downy Woodpecker, 2; Blue Jay, 42; Common Crow, 25; Carolina Chickadee, 2; Tufted Titmouse, 6; White-breasted Nuthatch, 4; Carolina Wren, 3; Mockingbird, 13; Robin, 4; Eastern Bluebird, 3; Cedar Waxwing, 60; Starling, 600; House Sparrow, 20; Eastern Meadowlark, 20; Red-winged Blackbird, 500; Rusty Blackbird, 50; Common Grackle, 550; Brown-headed Cowbird, 14; Cardinal, 18; American Goldfinch, 8; Rufous-sided Towhee, 2; Slate-colored Junco, 30; Field Sparrow, 10; White-crowned Sparrow, 15; White-throated Sparrow, 5; Song Sparrow, 24. **Total**, 40 species; 2233 individuals. Observers: P. S. Dulaney (compiler), Elizabeth W. Dulaney, D. Moody, Jane D. White.

24. Mt. Rogers-Whitetop (all points within a 15-mile diameter circle, center where Route 600 crosses the Smyth-Grayson county line, including Mt. Rogers (5719 feet), Whitetop (5520 feet), and intervening saddle; mixed hardwoods 65%, spruce-fir 25%, mountain pasture 10%).—Dec. 23; 7:45 a.m. to 3:45 p.m. Clear and dry; temp. 40° to 55°; wind ESE, 0-5 m.p.h.; 1½-inch snow above 5000 feet, patchy elsewhere. One observer. Total party-hours, 8 (7 on foot, 1 by car); total party-miles, 40 (10 on foot, 30 by car). Sparrow Hawk, 1; Ruffed Grouse, 14; Hairy Woodpecker, 1; Downy Woodpecker, 3; Blue Jay, 1; Common Raven, 2; Common Crow, 12; Tufted Titmouse, 4; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 225; Starling, 19; Common Grackle, 15; Cardinal, 2; Pine Siskin, 6; American Goldfinch, 8; **White-winged Crossbill**, 11; Slate-colored Junco, 140. **Total**, 17 species; 468 individuals. Observer: Bernard Thielen. The crossbills were clearly seen in good light at 40 feet.

25. Mt. Rogers-Whitetop (all points within a 15-mile diameter circle, center at junction of Routes 600 and 603, including peaks of Mt. Rogers and Whitetop in Grayson and Smyth Counties; from the saddle up to Mt. Rogers along logging road via Elk Garden and from the saddle to Whitetop via the main road; deciduous woodland 50%, grassy fields and extensive briar patches 30%, spruce and fir forest 20%).—Dec. 31; 8 a.m. to 4 p.m. Fair; temp. 39° to 46°; wind NW, 20-25 m.p.h.; ground bare. Five observers in 2 parties. Total party-hours, 16 (all on foot); total party-miles, 15 (all on foot). Ruffed Grouse, 9; Pileated Woodpecker, 1; Hairy Woodpecker, 2; Downy Woodpecker, 7; Blue Jay, 2; Common Raven, 4; Common Crow, 10; Carolina Chickadee, 12; Tufted Titmouse, 9; White-breasted Nuthatch, 7; Red-breasted Nuthatch, 23; Brown Creeper, 7; Robin, 40; Starling, 2; Pine Siskin, 90; American Goldfinch, 1; **White-winged Crossbill**, 52; Slate-colored Junco, 90. **Total**, 18 species; 368 individuals. Observers: Fletcher Bingham (cocompiler), Bill Bridgforth, Jr., Wallace Coffey (cocompiler), Charles Smith, Henry Woodward.

26. Bristol (all points within a 15-mile diameter circle, center at junction

of U. S. Route 11 and Route 625, to include Bristol, Stone Mill Marsh, South Holston Lake and River; fields and farmland 40%, mixed deciduous forest 25%, lakes and river 15%, towns and residences 10%, miscellaneous 10%).—Dec. 26; 7 a.m. to 6 p.m. Fair; temp. 22° to 40°; wind WNW, 17 m.p.h.; ground bare, water open. Thirteen observers in 6 parties. Total party-hours, 47 (20 on foot, 27 by car); total party-miles, 232 (8 on foot, 224 by car). Observers: Mrs. Carleton L. Abbott, Fletcher Bingham (cocompiler), Mrs. F. R. Bingham, F. R. Bingham, Wallace Coffey (cocompiler), Mrs. Earl Francisco, John D. McPeak, Mrs. H. W. Nunley, H. W. Nunley, Robert Quillen, Charles Smith, Enno van Gelder, Henry Woodward. This count also included parts of adjacent Sullivan County, Tennessee. One of the Oldsquaws was seen in Virginia, the other in Tennessee. The Bald Eagle was also seen just over the Tennessee line. All three of these birds were reported by Coffey, Smith, and Woodward.

115 Kennondale Lane, Richmond, Virginia 23226

Figure 1. Locations of the 1965-66 Christmas bird counts in Virginia. The count numbers coincide with those used in the text and in Table 1.



FURTHER NOTES ON BLACK-CAPPED CHICKADEES IN VIRGINIA

F. R. SCOTT

In a previous article on the summer status of the Black-capped Chickadee (*Parus atricapillus* Linnaeus) in Virginia I summarized the recorded distribution of the bird as it was then known (Scott, 1960). Roughly, at that time the bird was known to occur in the breeding season only in southwestern Rockingham County, western Augusta County, and western Highland County, but it was quite common in many parts of these areas. I also speculated that it might be found southward along the West Virginia line to Mountain Lake, in Giles County. C. E. Stevens has since confirmed that it occurs throughout Highland County and into northern Bath County (Stevens, 1965a).

The confusion of the identity of the birds at Mountain Lake (Scott, 1960) was particularly interesting because of the many ornithologists who had visited the area—some for many years—but who were unwilling to commit themselves on the breeding chickadees there. It was generally assumed that the breeding species was the Carolina Chickadee (*P. carolinensis* Audubon). The

annual meeting of the Virginia Society of Ornithology at Mountain Lake in May 1965 and Brooks Bird Club foray there in June 1965 afforded an ideal opportunity to investigate this problem.

On 22 May 1965 on the ridge near Mountain Lake (altitude 3800 feet) single Black-capped Chickadees were identified separately by three different observers. J. W. Murray, F. R. Scott, and C. E. Stevens. Adding confusion to this, on the same day a pair of chickadees found investigating a nest hole at the Biological Station were identified by sight (since they refused to vocalize) as Carolina Chickadees by Alexander Wetmore. The following day I heard a clear but a typical Carolina Chickadee song at the same spot. It was a six-note song, the first four being typical of the Carolina, but the final note was repeated twice more. During the Brooks Bird Club foray in June both chickadees were again recorded on the ridge, the best count being on June 18, when S. T. Brooks and I recorded 6 Black-caps, 4 Carolinas, and 3 unidentified chickadees, principally in the area about Little Meadows and White Pine Lodge (altitude 3150 feet). All chickadees found in the lowlands of Giles County and nearby Montgomery County were unquestionably Carolinas.

It seems evident now that both species occur during the breeding season in the highlands of Giles County around Mountain Lake, and this appears to be the first overlap zone found for these two species in Virginia. Whether or not this mixed population is stable, or whether or not there is any interbreeding here, will have to await further field work perhaps supplemented by some collecting of specimens. How far the overlap zone extends to the north and west is also currently unknown. In any event, the chickadees at best seem uncommon here—perhaps scarce is a better word—far less common than the Carolina just southeast at Blacksburg or the Black-cap farther north in parts of Augusta and Highland Counties. This agrees with the observations of others that the birds are either far less numerous or totally absent in a narrow band wherever the breeding ranges of the two species come together (Brewer, 1963; Tanner, 1952). Maurice Brooks, who spent five weeks at Mountain Lake in June and July 1960, writes (*in litt.*) that he found chickadees only twice during this period and was unable to identify any of them specifically.

Mountain Lake lies some 70 miles southwest of the previously known southernmost point in Virginia where the Black-capped Chickadee had been found in the breeding season (northern Bath County), and it is reasonable to assume that it will be found between these points, perhaps along the western edge of Alleghany and Craig Counties. It certainly occurs just over the West Virginia line bordering these counties. About 50 miles southwest of Mountain Lake lies Burkes Garden in Tazewell County, where about 25 years ago J. J. Murray (1940) suspected the presence of both chickadees in June. It would be interesting to investigate whether or not the Black-cap still breeds this far south. Brewer (1963), Trautman (1940: 310), and others have presented evidence that the Carolina Chickadee is slowly replacing the Black-cap in parts of the Midwest. This may well be occurring in Virginia now. The isolated population of Black-capped Chickadees in western North Carolina and eastern Tennessee is rather firm evidence that the breeding range of this species in the southern Appalachians was once greater than it is now.

As far as I can determine, there is little evidence of migratory movement in the Carolina Chickadee, but the Black-capped Chickadee frequently moves southward during the winter, though somewhat irregularly. In Virginia winter records are fairly regular in the Valley at least south to Montgomery County and in northern Virginia. For example, J. W. Murray (1965) notes the Black-cap in Montgomery County as an uncommon winter resident between October 22 and April 12, and he feels that November 15 is a "normal" fall arrival date. The winter dates for northern Virginia are roughly similar, though seemingly far more irregular from year to year. J. M. Abbott (*in litt.*) in eastern Fairfax

County has found this bird as early as late September in two different years, but in other years the arrival dates range as late as late December, and his latest spring record was 3 May 1948 (see also Dennis, 1955).

There seem to be relatively few published nesting dates for the Black-capped Chickadee in the southern Appalachians, most of the dates of eggs or young in the nest being in June. However, it seems probable from the migration dates given above, as well as nesting dates from states farther north, that first-brood egg laying begins normally by late April or early May. Thus at Mountain Lake maximum breeding activity probably occurs long before most field observers visit the area, reason enough for the breeding status of this bird in this area to have remained uncertain for so long.

Steven's remarks (1965b) on the problem of identification of single individual chickadees are well taken, and it is doubtless true that records of single chickadees well out of their normal range are apt to be suspect. Currently, in the field the two chickadees are separated solely by their songs or call notes except by people who have handled and compared a good many specimens of both species. The typical songs are quite different, the Black-cap having a two-note and the Carolina a four-note song, though the second note of the Black-cap song is often broken, giving the effect of a three-note song. The quality and pitch also differ somewhat, though both birds sometimes vary the timing as well as the pitch of their songs. The Black-cap will also often sing in response to a whistled imitation of its song at any time of year, whereas the Carolina rarely will. Many observers feel the *chick-a-dee-dee-dee* call notes are even more definite, the Black-cap having a far slower and throatier version. These differences are readily apparent in some of the available bird song records.

But what if a song or call is not typical? Tanner (1952) noted a bird that sang typical songs of both species, and I have heard Carolinas rarely sing only half a typical four-note song, but I felt the quality of the song was still distinctly that of a Carolina. Atypical songs or call notes are often heard, especially in summer and fall, and these are probably females or juvenals, though the possibility of true hybrids can not be excluded as Brewer (1963) has well documented for the Kaskaskia River area of Illinois, where the ranges of the two species come into contact. Tanner also feels that young Black-caps that have wintered with Carolina Chickadees may occasionally sing a typical Carolina song in the spring. In an area where both species may occur, birds whose calls or songs are atypical, or birds which do not vocalize at all, have to be listed as unidentified. Banders, luckily, do not have the same identification problem, as most trapped birds are readily identified by a combination of plumage characteristics and measurements that can be taken in the field (e.g., Simon, 1959).

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115 Kennondale Lane, Richmond, Virginia 23226

BACK BAY FIELD TRIP

BERNARD THIELEN

Rain, which was predicted, failed to appear on 4 December as 45 VSO members entrucked at Sandbridge for Back Bay National Wildlife Refuge. Appreciating that the clear weather was fine for seeing waterfowl, we still shared Refuge Manager Donald Ambrosen's concern over the protracted drought, so severe that he'd had to pump water into some impoundments. No noteworthy birds showed during the usual chilly ride down the sandy edge of the ocean.

At the Refuge, spectacular Snow Goose flights were the main attraction; once a small aircraft put up unestimated thousands simultaneously. Especially dramatic was a huge skein of these magnificent birds far away over Long Island, shining white flecks in the sunlight like a distant snow flurry. And apart from such esthetic satisfactions one learned with scientific interest of a project to trap and measure Snow Geese in order to find out whether the smaller race (*hyperborea*) occurs in this population generally assumed to consist mainly of the larger (*atlantica*).

Four Blue Geese, missed by most observers, were reported; Canada Geese were seen in fair numbers, as were large flocks of Whistling Swans, including one fair-sized group on the ocean. A good variety of ducks included Mallard, Black, Gadwall, Pintail, Green-winged Teal, American Widgeon, Shoveler, Scaup, Bufflehead, Ruddy, and Red-breasted Merganser. Coots seemed somewhat more numerous than in recent years. A few Common Egrets and American Bitterns were noted. Clapper Rail, Killdeer, and Common Snipe were seen, along with both marsh wrens, both kinglets, Myrtle, Pine, and Palm Warblers, and many flocks of Pine Siskins.

After lunch observers in small groups found the ocean front rather sterile except for Common and Red-throated Loons, spectacular Gannet flights, and mixed flocks of sandpipers including Sanderlings, Semipalmated Sandpipers, and Dunlin. Within the dunes a few to-be-expected land birds were added to the list. A notable miss this year, as last, was Boat-tailed Grackle. When we climbed aboard trucks for the return trip the feeling appeared unanimous that, despite absence of rarities, the Back Bay fixture had been a most rewarding experience, especially for inlanders; general appreciation was voiced for the courtesy and interested participation of Mr. Ambrosen and his staff.

Next morning at Craney Island we again found the mild, dry weather a not unmixed blessing: a threat of storm could have driven more birds within

the breakwater. From the first look-out an interesting duck among the several visible flocks remained unidentified—perhaps a Mallard-related hybrid. Sharp-tailed Sparrows seen close at hand were “good” birds to most of us. Nevertheless, the amazingly rapid build-up of new and barren land within the encircling causeway (which is the purpose, of course, of the whole Craney Island operation) is quite obviously destroying much former habitat of water-related birds. As a result, Craney Island birding is at least temporarily far below the high standards of former years. The better sightings included the relatively uncommon Common Scoter, a Western Sandpiper among other “peep,” two Purple Sandpipers (unfortunately seen by few observers), and an Oldsquaw. No Snow Buntings were found, although they had been seen a few days earlier.

Going home after the party broke up, at least one observer noted a surprising number of Loggerhead Shrikes along Southside Virginia roads and speculated that they may be crowding the niche of the Sparrow Hawks.

Floyd, Virginia

THE 1966 ANNUAL VSO MEETING

ROBERT J. WATSON, *Secretary*

The 1966 meeting of the Virginia Society of Ornithology was called to order by the Society's President, Mrs. James W. Wiltshire, at 2:30 PM on 18 February 1966 at the Hampton Tunnel Motel in Norfolk.

A welcome was extended by Miss Mary T. Gwathmey, vice-president of the host organization (Cape Henry Bird Club). Mrs. Wiltshire expressed regret at the absence of the president of the latter club, Mr. Horace Derby, and directed the Secretary to send the Society's good wishes to him.

Papers were presented as follows:

“Changes in the Virginia Avifauna, 1963-1965”—J. J. Murray.

“Vocalization of the Great Horned Owl”—Dwight R. Chamberlain.

“Recent Developments in Blackbird Control Research”—Donald H.

Messersmith.

A film entitled “The Myths and the Parallels,” produced by the Conservation Center, was followed by another, “Random Views—the Yellow-crowned Night Heron,” prepared and presented by Mrs. Colgate W. Darden. Mrs. Dorothy L. Mitchell closed the afternoon session with a program of slides entitled “Pursuits of a Bird Bander.”

At the evening session, Mrs. Wiltshire introduced those responsible for organizing the meeting. Mrs. Robert J. Watson, the Secretary, reported the following actions taken by the Executive Committee earlier in the day: (1) the decision to sponsor a breeding-bird foray to the Abingdon vicinity between 8 and 12 June 1966; (2) acceptance of an invitation from the Richmond Natural History Society for the 1967 meeting; (3) approval of the affiliation of a new chapter, the Augusta Bird Club, centered at Staunton and Waynesboro.

Mr. Curtis T. Brooks, of the Norfolk Chamber of Commerce, presented silver miniature replicas of the official mace of the City of Norfolk to Mr. and Mrs. Wiltshire and to the Vice-President, Mr. Charles W. Hacker.

The report of the Nominating Committee was presented by J. J. Murray, who proposed the following nominees:

President: Charles W. Hacker, Hampton.

Vice-President: James W. Eike, Falls Church.

Secretary: Robert J. Watson, Arlington.

Treasurer: J. Steven Thornhill, Lynchburg.

Executive Committee: Mrs. Herbert M. Church, Ashburn; Dr. John W. Murray, Blacksburg; F. R. Scott, Richmond.

There being no nominations from the floor the above nominees were elected. A motion that in future all nominations prepared by the Nominating Committee be printed in the *Raven* or the *Newsletter* at least one month before the annual meeting was passed.

Mrs. Wiltshire reported that the Executive Committee, at its earlier meeting that day, had recommended that honorary membership be conferred upon Dr. J. J. Murray and Dr. Alexander Wetmore, in accord with Article II of the Constitution, which establishes this class of membership for persons of "outstanding achievement in the science of ornithology in the state of Virginia." Her proposal that these two be elected honorary members was passed with overwhelming approval. Dr. Murray received a standing ovation from the members and a graceful tribute from Mrs. Wiltshire in the form of a summary of his many contributions to Virginia ornithology. The Secretary was instructed at once to notify Dr. Wetmore (currently in Panama) of his election.

The President then turned the meeting over to Dr. Gerald Akers, chairman of the Program Committee. He introduced Dr. Daniel E. Sonenshine, who spoke on "Bird Ticks as Disseminators of Wildlife Diseases," assisted by Mr. Charles Tatum.

The featured speaker was Dr. Charles O. Handley, Jr., of the United States National Museum. He showed "Portraits of Venezuelan Animals," illustrating some of the remarkable forms of wildlife found in that country, where he has worked extensively.

Resolutions prepared by a committee headed by Mrs. Myriam Moore, extending thanks to the host club and to others responsible for the success of the meeting, were approved, after which the meeting closed at 11:00 PM.

The 1966 ANNUAL MEETING FIELD TRIPS

HOG ISLAND

After the rain and general overcast of the morning, Hog Island in full sun looked promising. Our first hint that birding was likely to be less than good was the nearly complete absence of waterfowl in the large body of water on the mainland side of the island.

During the afternoon, a rather complete survey of the several ponds on the island showed no more than a dozen individuals each of the usual several species of ducks wintering on the refuge.

These included Pintail, Mallard, Black and Green-winged Teal. On the James River about twenty American Mergansers were interesting to the Tidewater members who are more accustomed to seeing the salt water-frequenting Red Breasted Merganser. A large number of wary Canada Geese were feeding in the fields maintained for them by the refuge.

The wooded areas were in the customary mid-afternoon lull. Several good sightings were had of the Brown-headed Nuthatches. Bluebirds, Myrtle Warblers, and a few woodpeckers completed the tally. In the fields on the mainland were great flocks of the several species of blackbirds which are a familiar winter sight in Southeastern Virginia. Sparrow hawks were unusually scarce and the shrikes were missing.

C. W. Hacker

Forty of those attending the Annual Meeting met at the Craney Island gate at nine o'clock. The rain had stopped. The wind was from the northwest, ten to fifteen miles per hour, it was very cloudy and cold, 37°. We spent three hours in the area. Below is a list of the birds seen, counts and estimates:

Horned Grebe, 140; Double-crested Cormorant, 1; Great Blue Heron, 1; Black Duck, 315; Gadwall, 30; Pintail, 20; Green-winged Teal, 15; American Widgeon, 45; Shoveler, 53; Canvasback, 2000; Scaup, 60; Goldeneye, 400; Bufflehead, 340; Ruddy Duck, 800; Red-breasted Merganser, 13; Dunlin, 740; Purple Sandpiper, 5; Sanderling, 8; Great Black-backed Gull, 110; Herring Gull, 2000; Ring-billed Gull, 410; Bonaparte's Gull, 45; Snow Bunting, 4.

It was a great day for Dr. R. J. Watson. Jim added to his life list the Purple Sandpiper and the Snow Bunting.

J. E. Ames, Jr.

REVIEW

The Birds of Kentucky, by Robert M. Mengel. Ornithological Monographs No. 3, American Ornithologists' Union, Allen Press, Lawrence, Kansas, 1965, xiv & 581 pages, 10x7 inches, 4 color plates, 43 figures, map. Price \$10.00 (\$8.00 to AOU members), from Burt L. Monroe, Sr., Ridge Road, Anchorage, Kentucky 40001.

Dr. Mengel is at the University of Kansas Museum of Natural History. This admirable book has just what those who live in the State and those who visit it want to know about the birds of Kentucky. He has left out the things that can be found in more general books on ornithology. There is no description of plumages and little discussion of habits. I would have delighted in this book in the months when I lived in Louisville.

An elaborate introduction (151 pages) provides a description of the environments in Kentucky, the distribution of the breeding birds and full records of other occurrences, a history of Kentucky ornithology, the origin of and recent changes in the avifauna, the environmental features, life zones, and geographical variation. At the end he gives lists of hypothetical species and of species recorded on inadequate grounds, a 36 page bibliography, and an adequate index.

His method may be illustrated by his treatment of the Yellow-shafted Flicker (pages 290-293). He has paragraphs on status in general and in each season, a discussion of geographic variation, and a list of specimens examined, with wing measurements and (where known) weights. With some species of particular interest (e.g., Swainson's Warbler) he gives detailed descriptions of types of area in which it has been found. To this reviewer's pleasure, he capitalizes common names. It may be said that all needed information, so far as it is available, is given for each species recorded in Kentucky.

J. J. Murray.

NORTH AMERICAN NEST-RECORD CARD PROGRAM FOR 1966

We need data from all parts of the country. Observations from city parks and back yards, of the commonest species, are as important as those from remote parts of the continent. We need the co-operation of all competent field observers; please get in touch with your local organization and find out if it is cooperating as a regional center for the distribution of cards. If they are not, you may want to help organize a club effort. Individuals may also obtain cards directly from us. In any case, write for information and cards to North American Nest Record Card Program, Laboratory of Ornithology, 33 Sapsucker Woods Road, Ithaca, New York 14850. Be sure to include your zip code with your return address.

VSO FINANCIAL STATEMENT FOR 1965

CASH BALANCE JANUARY 1, 1965

General Fund	\$ 958.35	
Publication Fund	969.02	
		<hr/>
		\$1,927.37

CASH RECEIPTS DURING PERIOD

Dues and subscriptions	\$1,325.00
Contributions	25.00
Publications	112.05
Supplies	33.00
Meetings	109.00
Interest	41.65
	<hr/>

\$1,645.70

CASH DISBURSEMENTS DURING PERIOD

The Raven	\$ 632.27
Newsletters	110.83
President	5.50
Secretary	27.20
Treasurer	131.28
Other Officers and Committees	64.40
Affiliations	7.50
Meetings	119.85
Miscellaneous	122.38
	<hr/>

\$1,221.21

CASH BALANCE DECEMBER 31, 1965

General Fund	\$ 729.44
Publication Fund	1,622.42
	<hr/>

\$2,351.86

1965 membership reached a total of 520 consisting of 28 Junior, 392 Active, 95 Sustaining and 5 Life. 84 new members were enrolled in 1965. There were 9 dues paying Chapters and 8 paid Subscriptions.

J. Steven Thornhill, Treasurer

ADDITIONAL NEW VSO MEMBERS—1965

The following names of new members for 1965 were inadvertently left off the list in the December 1965 issue of *The Raven*:

Barbig, Mrs. Howard T., 410 Woodland Circle, Lynchburg, Va.

Campbell, Mrs. Malcolm D., 602 Ross Road, Lexington, Va. 24450

Derby, Mrs. Horace C., 9413 Cape View, Norfolk, Va. 23503 (And Mr. Derby's name was misspelled.)

Finucane, Thomas W., 1434 Watauga St., Kingsport, Tenn. 37664

Ivey, R. Kean, Jr., 227 Westmoreland, Lynchburg, Va. 24503

James, William S., 1409 Crocus Rd., Knoxville, Tenn. 37919

Lockhart, Miss Sarah M., 913 Highland Ave., Bluefield, West Va.

Lorenson, Mrs. Norman G., 412 S. England St., Williamsburg, Va. 23185

Pinkham, William W., 503 27th St., Virginia Beach, Va.

Raynes, Everett J., 104 Vaiden Drive, Williamsburg, Va. 23185

Simpson, William S., 4413 Wythe Ave., Richmond, Va. 23221

Wallace, Mrs. George L., 100 Oakdale St., Martinsville, Va.

Waters, Joseph H., Dept. of Biology, Roanoke College, Salem, Va.

Wieboldt, Thomas Frederick, Cove Creek Farm, North Garden, Va.

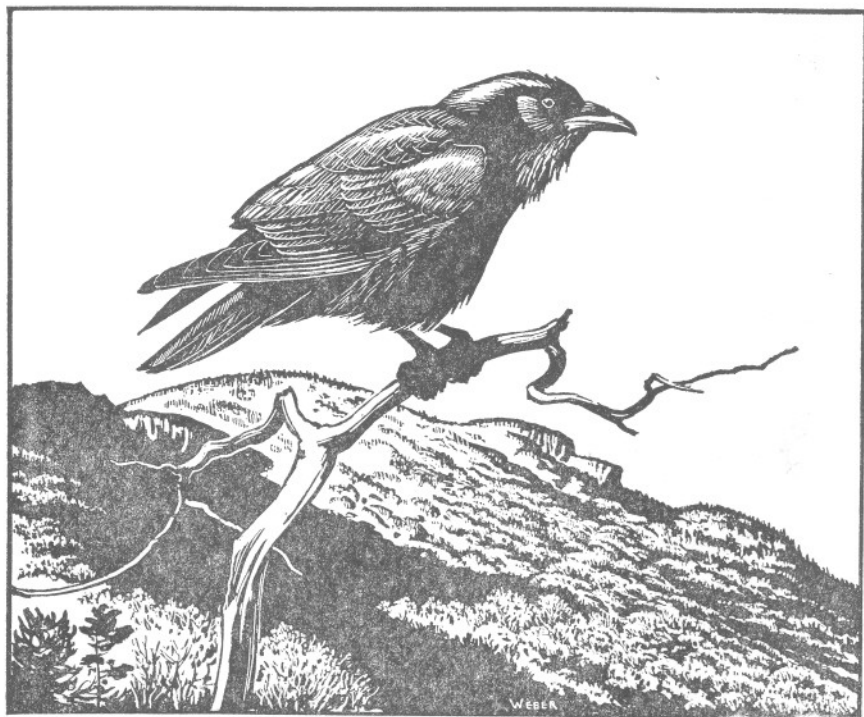
The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

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Courtesy of Walter Weber

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The Virginia Society of Ornithology exists to encourage the systematic study of birds in Virginia, to stimulate interest in birds, and to assist the conservation of wildlife and other natural resources. All persons interested in those objectives are welcome as members. Present membership includes every level of interest, from professional scientific ornithologists to enthusiastic amateurs.

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.

2. Other forays or field trips, lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.

3. A journal, *The Raven*, published quarterly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.

4. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, local chapters of the Society, located in some of the larger cities and towns of Virginia, conduct their own programs of meetings, field trips, and other projects.

Those wishing to participate in any of the above activities or to cooperate in advancing the objectives of the Society are cordially invited to join. Annual dues are \$1.00 for junior members (students), \$2.00 for active members, \$4.00 for sustaining members, \$50.00 for life members.

OFFICERS OF THE VSO

President: CHARLES W. HACKER, 218 Chesterfield Road, Hampton, Virginia 23361.

Vice-President: JAMES W. EIKE, 2231 N. Tuckahoe Street, Falls Church, Virginia 22043

Secretary: ROBERT J. WATSON, 2636 Marcey Road, Arlington 7, Virginia 22207.

Treasurer: J. STEVEN THORNHILL, 2615 Fort Avenue, Lynchburg, Virginia 24501.

Editor: J. J. MURRAY, 6 Jordan Street, Lexington, Virginia 24450.

Associate Editor (for clubs news, Christmas and other bird counts, field trips):
F. R. SCOTT, 115 Kennondale Lane, Richmond 26, Virginia 23226.

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THE NESTING CYCLE OF THE CHESTNUT-SIDED WARBLER

BERNARD J. CRIPPS, JR.

Introduction. This study was undertaken as partial fulfillment of the requirements in a summer Ornithology course at Mountain Lake Biological Station, Giles County, Virginia. The station is situated near the top of Salt Pond Mountain, elevation 3800 feet, in the southwestern part of the Allegheny mountain chain. The area is characterized by mixed deciduous vegetation and several types of conifers.

The Chestnut-sided Warbler (*Dendroica pensylvanica*) was the species chosen for investigation. Nesting data and concomitant information were collected during a seventeen day period, from 18 June through 5 July 1965.

I would like to thank Mr. Fairman Cumming, who discovered one of the nests which I observed; I am also grateful to Dr. J. J. Murray, who showed me the second nest discussed in this report.

Finding nests. I did not find the two nests which I eventually used to study nesting behavior. I did, however, search for other nest sites of the Chestnut-sided Warbler. There are several methods, which might be used to locate nests. I employed two methods. I watched for adult birds carrying either nesting materials or food. I also walked through different areas, in an attempt to flush incubating females from their nests. There is a readily apparent deficiency in these methods. They result in the discovery of warbler pairs in an advanced phase of nesting. An incidental "method", however, often resulted in finding nests which were still in the process of being built. This "method" involved finding a nest by accident, while walking through an area. Occasionally this process was simplified, when a singing male was located.

Observation Techniques. No special techniques were employed to observe nesting behavior. Both nest sites were watched from a distance of 25 to 50 feet, using 7X binoculars. The lack of a blind did not noticeably affect the behavior of the birds. There was, however, some vegetational growth between the point of observation and the nest sites (fern fronds and some bushes of moderate height). There was one procedure that I did follow. I ordinarily did not approach the nest, unless both parents were completely out of sight. As a result, the female's routine of leaving and returning to the nest was not disturbed.

Nest Locations. The two nests mentioned in this paper will be referred to as Nest A and Nest B, and correspondingly the bird pairs referred to as Parents A and Parents B. The two nesting sites were observed for a total of 36 hours.

Nest A was located on Trail No. 2, approximately one-third of a mile from the perimeter of the station proper. The nest was built in the fork of two branches of an azalea bush. The distance from the ground to the base of the nest was 19 inches. Fern fronds, which were common in the area, partially occluded the nest from view. The nest was situated in an area of secondary succession consisting of cut-over-burned Oak—Chestnut, and this area is characterized by *Pinus rigida*, heaths and oaks (Davis, 1941).

Nest B was situated a short distance from the road, which encircles the station. At this site the vegetation of moderate height consisted of ferns and mountain laurel bushes. The nest had been built in the crotch of a short laurel bush, and was concealed by fern fronds, which overhung the nest. Ground to nest height was 28 inches. The trees at this site were principally pine and oak.

Construction Time. Data on the time required for nests construction were obtained solely from Nest A. An advanced phase of incubation was in progress when Nest B was located. Nest A was discovered in the late afternoon of 14 June. I went out that evening and found that the foundation of the nest

had been finished. The nest was completed, at the latest, on the morning of 17 June, since the first egg was discovered that afternoon. It seems more likely that nest construction was terminated by dark on 16 June. Inclement weather prevailed during the nest construction period. Perhaps the rain was a contributory rather than a detrimental factor in the rather rapid construction of the nest. The vegetation was wet the whole period, and as a result the materials used in building were probably much more pliable. Bent (1953: 371), in a quote, mentions a five day building period. This may not, however, be the normal time required.

Nesting Materials. The materials used in construction were similar for the two nests. The foundation base consisted principally of several small leaves situated between two branches. Webbing material, either spider or tent caterpillar, was stretched between the two branches. The outer portion of the cup consisted of coarse grass strands and other plant fibers, which were interwoven to form the sides of the nest. This structure was lined with very fine grasses and other pliable plant fibers. Some very fine white thread was found woven into the shell of Nest A. Both nests were rather loosely woven, and daylight could be seen through the sides of the nests.

Nest Size. Except for the distinct difference in the height of the nests A being 19 inches from the ground and B 28 inches, the various measurements for the two nests were not significantly different.

Clutch Size. Chapman (1934: 463) states that, for this particular species, a clutch consists of four or five eggs. Bent (1953: 371), however, comments that a clutch usually consists of four eggs, less commonly of three eggs, and rarely of five eggs. Four eggs comprised the clutch of Nest A. The clutch of Nest B was made up of two Brown-headed Cowbird (*Molothrus ater ater*) eggs and one Chestnut-sided Warbler egg. All of the warbler eggs observed were similar in appearance. Off-white was the predominant ground color (creamy in some eggs). A wreath of brown spots commonly encircled the larger end of the eggs, but some eggs showed a greater distribution of brown markings. The larger cowbird eggs were similar to the warbler eggs in ground color, but the dark markings were more widely distributed.

Laying Sequence. Data on the laying sequence were obtained from Nest A observations. The first egg was deposited in the nest on 17 June, and on each successive day until 20 June, when the last egg was laid. Apparently all the eggs were laid during the early morning hours. Several times the nest was checked by 9:30 a.m., and I found the egg had already been deposited. During this period, with the exception of the early morning hours, the female was not observed on or near the nest. The mate of female A was not seen or heard during this phase of nesting.

Incubation. Some information on early incubation was obtained by observing Nest A, but data were necessarily limited because the nest was found empty on Saturday, 26 June, the sixth day of incubation. The nest had been checked Saturday morning, and the female was incubating the eggs. The nest was checked again at 3:15 p.m. and it was empty. There was no evidence of a predator. There was no sign of egg shells or egg contents in the bottom of the nest. A black snake may have been responsible for the failure of this nest.

The female at Nest A began to incubate after noon on 20 June, the same day she laid her last egg of the clutch. At both Nest A and B the female was the only bird of the pair which I observed either on the nest or actively incubating during this period of nesting. At Nest A the male was never seen or heard in the vicinity of the nest. I do not know if this normally occurs in this species during the early stages of incubation.

From the inception of incubation to nest failure Nest A was observed for a period of 12 hours, in morning, afternoon, and evening shifts. During this period the female was inattentive for one hour, thirty minutes, and fifteen

seconds. She was attentive for a total of ten hours, twenty-nine minutes, and forty-five seconds. Whether the long periods of attentiveness were necessitated by the cool, often rainy, weather, or were normal for the early phase of incubation is unknown.

I do not know how long the female had been incubating the eggs in Nest B, when I began my observations, but it seems probable that she was at least halfway through this segment of nesting. I say this for two reasons. First, the two cowbird eggs hatched on 24 June, six days after I began my observations. Second, it was difficult to flush the female from the nest. On several occasions I stood within 18 inches of the nest and looked directly at the female, but she remained on the nest without flushing. Of course, the second reason is conjectural, and indicates the extent of incubation only within broad limits.

The average attentive periods at Nest B ranged from 15 minutes to 29 minutes per observation hour, prior to hatching of the young. The longest period of attentiveness occurred during the afternoon of 23 June, the day before the cowbirds hatched. The average periods of inattentiveness ranged from 5.2 minutes to 9.5 minutes, with the longest periods of inattentiveness directly correlated with the longest periods of attentiveness. I often visited the nest at different hours after dark, and always found the female on the nest.

During the late stages of incubation at Nest B, the male was consistently seen in the immediate area. Usually the male would flit from bush to bush or fly from one tree branch to another. Much of his time was occupied with singing, preening, and feeding. If the male was nearby when I walked toward the nest, he would resort to a "chic" call note. The call was increased in volume and rapidity as the distance between the nest and the intruder decreased. Several times when I got too close, the female flushed and joined the male in issuing warning notes. When I returned to my observation post the female would shortly return to the nest, even though I was in full view.

The female would frequently shift positions on the nest while she was incubating. Occasionally she would turn the eggs. When the female returned to the nest after foraging she always flew in from the west and perched momentarily on a branch of a mountain laurel bush about five to six feet from the nest. Then she would follow one of two routines. Either she would fly east past the nest and then enter the nest from the east, or she would drop from the mountain laurel bush, west of the nest, to the ground and come up on a branch 12-15 inches east of the nest. The female would usually orient herself on the nest with her head facing in a westerly direction. Perhaps this action might be correlated with the fact that the prevailing winds were westerly. On occasion, however, she would shift and face in a northerly or southeasterly direction. This change may have corresponded with a change in wind direction, but this is supposition, since I have no supporting evidence.

Hatching. The cowbird eggs hatched in the afternoon of 24 June, but the warbler egg remained intact. The warbler egg had not hatched by 30 June, and since the female was brooding the young cowbirds only at night, I removed the egg and examined it. It appeared that the egg had been fertile, but that embryonic development had been arrested at a fairly early stage. The egg contents smelled spoiled. (Is it possible that the incubation patch of the female had come in direct contact with the cowbird eggs, but not with its own egg? The smaller warbler egg was lower in the nest than the two larger cowbird eggs, and its relative position was not changed during the period of incubation. Perhaps this is of no significance.)

Brooding. Female B brooded the young cowbirds for varying periods from 24 June through 28 June. After this time the female made only feeding trips to the nest. Brooding time decreased from a diurnal average of 10 minutes per hour on 25 June to two minutes, 21 seconds on 28 June. The average time

spent at the nest by the female on 30 June was approximately 18 seconds. As brooding time decreased, the rate of feeding increased. Visits to the nest at different hours after dark assured me that the female brooded the young for long periods, perhaps continuously through the night.

Frequency of Feeding. Although there was not much difference between the feeding rates of the parents, the male fed the young more frequently than the female until the afternoon of 28 June, when the female assumed a greater feeding role. This period corresponds very well with the brooding period. The female maintained the major role in feeding until 4 July, when one of the cowbirds left the nest. The number of morning observations was insufficient to permit any pertinent discussion. The high point does correspond to the afternoon high, which occurred on 30 June. The data collected from afternoon observations indicate a consistent increase in feedings from the low on 26 June to the high on 30 June. The factors responsible for the low on 26 June are not known. The day was mild, but the female spent 25 of the 60 minutes on the nest. This does not explain, however, the decrease in the number of feedings by the male. The high recorded for 30 June corresponds very well with the cessation of brooding by the female during the daylight hours. After 30 June the rate of feeding decreased, slightly on 1 July, but significantly on 2 July. Evening feedings were slightly greater in number on 27 June than on 25 June, but significantly greater on 28 June, when the young were four days old. The observation on 1 July indicated a decrease in the number of feedings.

Male Feeding Habits. When the male first began feeding the young, it appeared that he had some difficulty. From my vantage point, it looked as though he didn't poke his beak as far into the gaping mouths of the young as the female did. While the female brooded for long periods, the male brought food to the female and she fed the young. The male seemed to have less difficulty in feeding by the evening of 27 June. On a number of occasions the male visited the nest and poked his beak into the young birds' gaping mouths, but did not feed. I cannot explain this phenomenon. Perhaps he was simply responding to the stimulus provided by the gaping young, even though he had not intended to feed when he went to the nest.

Development of Young. When I visited the nest on the afternoon of 25 June, the two small cowbirds managed to gape, but they had practically no control over their heads or appendages. As a result they could not stretch for food, and their heads frequently rolled about. The eyes of the young were not open and they were sparsely covered with down. During the evening observation, I saw the heads of the two cowbirds appear above the lip of the nest.

I checked the nest during the afternoon observation on 27 June, and found that the young were still blind, but the primaries were visible through the skin of the wings. The young had become much more active by late afternoon and the female had difficulty covering the young in her attempts to brood. On one occasion one of the young birds managed to poke his head out from under the female and gape. She had to shift and settle three times before she completely covered both young. When I checked the nest again in the evening the nestling's eyes were still closed. The developing primaries were very apparent and some of the other body areas were covered with juvenal feathers.

By 28 June both cowbirds were very active in the nest. Several times I saw the female move up and down while brooding, apparently moved by the young pushing upward beneath her. Once when the male came to feed, both young gaped, but one lunged toward the male and the male fed it and then flew off.

While still blind the young would gape frequently, when the foster parents were absent from the nest. Movement of the branches supporting the nest or adjacent branches seemed to stimulate this response by the young. Normally the nest would move slightly when either parent approached, and the young

would gape. Eye slits were observed when the young were checked the afternoon of 28 June. The young were also seen flipping their wings. On 30 June both young were oriented in the nest with their heads facing east. This was the direction the parents continually used for their approach to the nest. The eyes of the young were completely open, when I saw them on 1 July, and they were well covered with juvenal plumage.

Nest Sanitation. Both the male and female assumed the responsibility of removing the nestlings' fecal material from the nest. I did not see either of the parents remove a fecal sac from the nest until the afternoon of 27 June. On 25 and 26 June I frequently saw them eat what looked like a dark, stringy mass, after they fed the young. The male or female would poke around in the nest, come up with this material, and then consume it. Perhaps the fecal material is not enveloped in a white sac for the first few days of the nestlings' life. The young birds may require a day or two before developing the ability to produce the tough membranous covering. This is again a point of conjecture, for I do not know the answer. Information concerning the mechanics of this phenomenon seems limited. Both the male and female were observed flying off with fecal sacs on 27 June. I never saw either of them consume the sacs at the nest, but they may have eaten them after carrying them some distance from the nest. These birds seemed to be very scrupulous about nest sanitation. I checked the nest on numerous occasions at different hours of the day, and I never observed any excreta or other foreign matter in the nest.

The parents did not remove a fecal sac each time they fed the young. They would check for a sac after two or three feedings. Frequently the male or female would poke at the young before obtaining a fecal sac.

One of the young remained in the nest a day after the other bird left. After the last bird fledged, I checked the nest and found several droppings (not enclosed in a membrane) inside the nest and many on the ground just below the nest. This may have occurred just prior to the desertion of the nest by the last cowbird.

Male Vocal Behavior. A phenomenon which occurred after the young hatched aroused my interest. During the entire period of incubation at Nest B, the male sang from numerous perches in the vicinity of the nest site. Several authorities state that the song sounds like *I wish to see Miss Beecher*, or *please please please to meetcha*. The males, that I heard, sounded as though they were saying (an anthropomorphic interpretation) *see see see we'll see-ee*, with the-ee dropping abruptly. Occasionally the male would give a "chic" call, especially when foraging for food. He also used this call when I approached the nest, and he was nearby. If I flushed the female from the nest, she would join the male and give the same call. These were the only times I ever heard the female emit a sound.

The male's song did not change noticeably until 27 June, the third day after the cowbirds hatched. On that day the song seemed to have less volume. The male did not sing as frequently as he had earlier, and when he did sing, the song had a subdued quality. The "chic" call, however, increased in frequency. By evening the song seemed to lack several notes and it was still a "quiet" song. My field notes indicate that the male sang only once during my observations on 28 June. I have no record of the male singing after this date.

Perhaps the male ceased singing, because feeding the young required much of his time and energy. Often the male would sing before approaching the nest. A quiet song would certainly draw less attention to the nest of young. I do not know whether it occurs or not, but a partial regression of the male gonads, resulting in a concomitant decrease in male hormone production, might result in this type of performance by the male.

Fledgling. I did not see either cowbird leave the nest. I had checked the nest at 10:50 p.m. on 3 July, and had found both young in the nest, the female being absent. When I visited the nest on the afternoon of 4 July, one of the

young and the female were missing from the nest site. I never saw either of them again. I presume the female accompanied the young bird, and left the male behind with the remaining bird. The male continued to feed the nest-bound cowbird at an increased rate. The young bird spent most of the day standing on the west lip of the nest, facing east.

The second cowbird left the nest on 5 July. When I visited the nest site at approximately 11:15 a.m., I found the nest empty. Upon hearing the male call nearby, I investigated and found the young cowbird perched about four feet above the ground in a bush approximately 30 feet northeast of the nest. The male continued to feed the young bird during this period. When I returned to the area in the afternoon both birds were gone. One of the cowbirds fledged 10 days after hatching, the other bird left the nest on the eleventh day.

Addenda. Since writing this paper, I have been informed of another nest. There were three eggs in the nest on 6 July. I checked the nest on the evening of 7 July and found the female incubating. The three eggs hatched on 8 July.

The following figures represent the various nest measurements.

Height from ground—21 inches.

Outside diameter—3.25 inches.

Inside diameter—2.25 inches.

Depth of nest—3.0 inches.

Depth of nest cup—1.2 inches.

Summary. The nesting habits of the Chestnut-sided Warbler (*Dendroica pensylvanica*) were studied for a seventeen day period. Two nests were observed for eight days. After one of the nests failed, the remaining nest was studied more intensively for the remainder of the period.

Nest construction was affected in three days. The female at the second nest was in an advanced phase of incubation, when the nest was discovered.

Nest elevations ranged from 19 to 28 inches. The nests were constructed primarily of various grasses and other plant fibers.

Eggs were laid on four consecutive days (at the nest observed) until the four egg clutch was complete. The female began incubating on the same day that she deposited the final egg.

Data on the time required to complete incubation were not obtained. Average attentive periods during the latter stages of incubation ranged from 15 to 28 minutes; inattentive periods ranged from 5.2 to 9.5 minutes.

The female brooded the young for varying periods from hatching time on 24 June until 28 June. After this time, the female practically ceased brooding during the day, and spent much of her time feeding the young cowbirds.

Nest sanitation was affected by the removal of fecal material from the nest site by both of the parents.

The male's behavior changed significantly as the nesting cycle progressed. Singing waned by the third day after the cowbirds hatched.

One of the young fledged the tenth day after hatching, and was accompanied by the female. The remaining cowbird left the nest the following day, attended by the male.

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2310 Sherman, North Muskegon, Michigan 49445.

BREEDING SWAMP SPARROW AND OTHER NOTES FROM
HIGHLAND COUNTY, VIRGINIA

CHARLES E. STEVENS

In continuing to explore the upper Allegheny Mountain section of Highland County adjacent to West Virginia, I made two trips in June of 1965. On these visits two species were found which are new to the Virginia list of summer birds—the Swamp Sparrow (*Melospiza georgiana*) and the Northern Waterthrush (*Seiurus noveboracensis*). Also of special interest was the presence of Trail's Flycatcher (*Empidonax traillii*), of which there are published Virginia breeding records only from Abingdon, in Washington County, (Stevenson, Coffey) and Fairfax County (Abbott).

The following annotated list of birds from northwestern Highland contains further reports on previously recorded species as well as new ones from the area.

WOOD DUCK, *Aix sponsa*

Two on Slabcamp Run beaver ponds and three on Bearwallow Run beaver ponds on 12 June.

YELLOW-BELLIED SAPSUCKER, *Sphyrapicus varius*

One heard at head of Locust Spring Run and another at Buck Run head on 12 June.

ACADIAN FLYCATCHER, *Empidonax virescens*

A singing bird seen in birch woods on Buck Run at 3100 feet elevation on 12 June serves as my only record from this region, where it was certainly not expected. A Least Flycatcher (*Empidonax minimus*) could be heard singing at the same time nearby.

TRAIL'S FLYCATCHER, *Empidonax traillii*

On 12 June a singing bird was seen about the beaver ponds at 3650 feet at the head of Buck Run in the northwestern tip of Highland, and on 26 June Stevan Calver, of Charlottesville, and I found a singing bird at 3450 feet by the Bearwallow Run beaver ponds. At the latter site there are no alders although there is scattered spruce, maple, willow, hawthorn and aspen. At the Buck Run location there are few, if any, alders but numerous spruce and red maples. The song here is rendered "fee-beer" with accent on the second syllable.

HERMIT THRUSH, *Hylocichla guttata*

An exploration was made on 12 June of the red pine (*Pinus resinosa*) plantings in the vicinity of Locust Spring Shelter where this thrush was recorded last year (Stevens), but at this time none was found. However, on 26 June Calver and I heard a bird singing at dawn near its old haunt, and on 3 July Calver heard it again at the same place. The chorus of Veeries (*Hylocichla fuscescens*) at daybreak makes the Hermit's song difficult to differentiate if the bird is not close.

I feel that the best chance of finding the Hermit Thrush breeding in Virginia would be in spending enough time at the Locust Spring shelter so that one could listen at dawn and dusk in the nearby red pine and other coniferous stands in order to locate any birds.

The summer occurrence of the Swainson's Thrush (*Hylocichla ustulata*) in Highland is possibly unlikely but not to be ruled out. It is fairly common in

summer in the spruce-birch of the higher elevations of Cheat Mountain in West Virginia.

PARULA WARBLER, *Parula americana*

Murray (1952) collected one, at that time considered a northern subspecies, *P. a. pusilla*, on Middle Mountain in Highland in June 1939. That mountain is a high ridge east of and parallel to Allegheny Mountain. The Parula is scarce in the northwest part of the county, which situation is probably accounted for by the limited amount of mature timber. In this respect the Pileated Woodpecker (*Dryocopus pileatus*) is also scarce. Most of the original forest in this region was lumbered on a grand scale around 1900 and afterward, as the many remaining though indistinct railroad beds sinuously penetrating the woodland attest, and the present secondary growth is young. I have heard as many as three Parulas in hemlocks along lower Laurel Fork (named for its extensive thickets of *Rhododendron maximum*) on 15 June 1963, and my highest elevation record is of one singing at 3700 feet in spruce at the head of Buck Run.

NORTHERN WATERTHRUSH, *Seiurus noveboracensis*

On 12 June a male was seen singing repeatedly in spruce and rhododendron by the uppermost beaver ponds at 3550 feet on Slabcamp Run. This is the first summer occurrence of *S. noveboracensis* reported for Virginia. On 26 June the bird could not be found, but a Louisiana Waterthrush (*S. motacilla*) in juvenal plumage was seen.

Further investigation of the higher beaver ponds which have a sufficiently wooded and bushy edge might yield more records of this bird which is on the edge of its range. Most of the Allegheny Mountain ponds are in open areas, and the beavers keep the vegetation in their precincts in a state of disturbance, with the water levels constantly changing as old dams are abandoned and new ones built, leaving the vicinity scattered with the skeletons of drowned spruce. The spectacle of these dead trees resembles that of some of man's destructive activities. The Northern Waterthrush likely does not find this sort of habitat very congenial, its preference running more to shrubby swamps.

LOUISIANA WATERTHRUSH, *Seiurus motacilla*

This species occurs as a breeder, though not commonly, along Laurel Fork and its tributaries up to 3300 feet in early June. By late June birds of the year begin to appear at the beaver ponds at greater altitudes on Allegheny Mountain, where it has not been found to breed.

PURPLE FINCH, *Carpodacus purpureus*

This bird has been found all along Allegheny Mountain at stream heads, and especially by ponds and openings with some spruce. The maximum count is ten birds, mostly singing males, on 26 June.

SWAMP SPARROW, *Melospiza georgiana*

On 12 June, while revisiting the beaver ponds at 3700 feet at the head of Buck Run in the northern tip of Highland, I examined with binoculars what I had thought to be a Slate-colored Junco (*Junco hyemalis*) singing from the top of a spruce, and to my surprise discovered it to be a Swamp Sparrow. The trilled song had such a close similarity to the Junco's that I had overlooked it here on previous visits. Presently I became aware that two Swamp Sparrows were singing in the vicinity, mostly from the upper branches or tops of spruce which bordered a small sphagnum meadow containing some low scattered shrubs. Despite the harrassment of a small swarm of deerflies about my head,

I crossed and recrossed the wet meadow looking for a nest. After some time two young Swamp Sparrows barely able to fly were flushed from the pondside meadow. Both were subsequently fed by their parents. This occurrence represents the first breeding record for the State.

The other birds found in this habitat were, roughly in order of their abundance: Song Sparrow, Yellowthroat, Towhee, Golden-winged Warbler, which was feeding young out of the nest, Chestnut-sided Warbler, Veery, Magnolia Warbler, Catbird, Cedar Waxwing, and Purple Finch.

Another sparrow of northern distribution that could be looked for in Highland, most likely in lush mountain pastures, is the Savannah Sparrow (*Passerculus sandwichensis*), which I have seen with young in the meadows surrounding Blister Swamp at 3600 feet in Pocahontas County, West Virginia, only 6 miles north of the north tip of Highland County.

* * *

The localities referred to in this paper can be found on the Spruce Knob, W. Va.—Va., quadrangle.

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615 Preston Place, Charlottesville, Virginia

LAZULI BUNTING: NEW BIRD FOR VIRGINIA

BY DOROTHY AND SYDNEY MITCHELL

On 7 January 1966 a strange bird was sighted at the home of Mr. and Mrs. Henry O. Kemp at 13 Beverly Hills Drive, Newport News, Virginia. They maintain a feeder but are only mildly interested in birds. The bird was reported there off and on for a couple of weeks but because of illness in the family we were unable to check it.

On 26 January the same bird or another like it was reported at the home of Mr. and Mrs. J. P. Campbell at 27 Sir Francis Wyatt Place, about three miles from the Kemp home. Here the bird fed each day from 9:00 to 10:30 a.m. and from 3:30 to 5:00 p.m., also around noon on one or two occasions. It fed mainly from a feeder made of a plastic bottle. The bird was not seen for about a week after a big snow but returned on 21 February.

The senior author (not in chronology but in literary sense) went to look for it but failed to find it. On the 23rd she put up three mist nets but with no luck. On 25 February she put up the nets at 3:30, the time when the bird had usually been seen. About 5:30 she called the other author to say, "I got him." She did not know what it was, since the Peterson eastern field guide had nothing like it. The other author suggested that it might be a Lazuli Bunting. By the time he got home she had found some other books and felt

sure that it was indeed a Lazuli Bunting, *Passerina amoena*. We banded it after positive identification by Mrs. Luther Machen, Ray Beasley, and Mr. and Mrs. Walter P. Smith.

It was a male. The head and upper parts were a beautiful blue; sides and breast cinnamon; trace of a white wing bar. From the back one might think it to be an Indigo Bunting. The 'chip' sounds like the note of an Indigo. We took 7 pictures before releasing it at the spot where it was netted.

596 Harpersville Road, Newport News, Virginia

(The Mitchells score again. The color slide seems to put the identification beyond doubt. Editor)

OBSERVATIONS ON SOME SUMMER RESIDENTS IN THE POVERTY CREEK VALLEY, MONTGOMERY COUNTY, VIRGINIA

JOHN W. MURRAY

Poverty Creek flows between Brush Mountain and Gap Mountain, starting near Highway U.S. 460. It cuts through Brush Mountain to join Toms Creek which flows into the New River. An old road follows the floor of the creek but it has long since become impassable. A new Forest Service road, No. 209, has made this valley easily accessible and has given rise to more frequent observation of bird life in this area. Three species of warblers which were not known as summer residents in Montgomery County have been found along the new road in the summers of 1964 and 1965.

The Cerulean Warbler was seen and heard singing near the junction of the Poverty Creek road with U.S. 460 (elevation 2500') on 13 and 18 June 1964 and was present from 9 May through 17 June 1965 at the same location. Previously, it was known only as a migrant in this county, the latest spring record prior to 1964 being 29 May 1955. Its occurrence over a five-week period at the same spot would strongly suggest that it was breeding there.

On 14 June 1964 R. J. Hader heard a Kentucky Warbler singing near Poverty Creek at elevation 2000'. It was seen or heard by the author at the same location until 2 July and about a mile downstream on 16 July. In 1965 it was seen or heard at the same site from 9 May until 2 July. Prior to 1964, the latest spring record for Montgomery County was 26 May.

Blackburnian Warblers were found singing both at 2500' and at 2000' on 7 June 1964. They were found at the 2000' level throughout June and an immature bird was seen on 15 July. In 1965 they were found in the same area from 15 June through 17 June. The latest spring record prior to 1964 was 27 May.

Summer Tanagers were found at 2000' in the Poverty Creek valley from 31 May through 27 June 1964 and from 9 May through 21 July 1965 at the same location. They preferred the borders of a large clearing with mature oaks nearby. Scarlet Tanagers are found in the same area. Previously, Summer Tanagers have been found in Montgomery County in the breeding season only in the Roanoke River Valley at about 1300'. There were two 4 May records near Blacksburg the same year. It seems plausible that these species have been breeding in the Poverty Creek area before but were unknown on account of the inaccessibility of the valley.

Blacksburg, Virginia

CAROLINA JUNCO ANTING

HOMER MUMAW

On 12 June 1966 at 7:30 a.m. a Carolina Junco was observed going through some curious antics. At first it was thought to be taking a bath in the grass, where an early shower had left the grass quite wet. However, on closer observation it was seen that the bird was picking up something from the ground, not eating it, but appeared to be rubbing it into its feathers on side, breast, and base of tail on the ventral side. This procedure was repeated every few seconds as the bird moved a few inches to a foot or more over the ground between performances. The movements of the bird were quick and jerky as it advanced. It spread its wings while applying its bill, presumably with an ant, to its breast and sides and appeared to fall over almost backward as it worked over the area around the vent.

The bird was watched for about nine minutes during which time it had moved over an area approximately twelve feet in diameter. It was seen eating food several times during the nine minute period. An examination of the ground in the area, after the bird had left, disclosed many ant hills, 1" to 2" in diameter. The ants were reddish brown, about 3/16" long. Many ants were seen in and around the ant holes.

Subsequent visits to the area during the next week in hopes of seeing the performance repeated were without success. This observation was made in the area immediately east of the laboratory at the Mountain Lake Biological Station.

HAWK MIGRATION STUDY

Observers following the 1965 fall hawk migration had excellent luck compared to previous years. Some of the counts were given on page 81 of the December 1965 issue of *The Raven* for various points on the Blue Ridge from Loft Mountain in Shenandoah National Park to Purgatory Mountain in Botetourt County, which was extensively covered by the Lynchburg Bird Club. On the Shenandoah Mountain ridge along the western side of Rockingham and Augusta Counties, Max Carpenter saw 113 Broad-winged Hawks at Reddish Knob on 18 September and 613 hawks, including 582 Broad-wings, 6 Ospreys, and 1 Pigeon Hawk, at High Knob on 19 September.

In southwestern Virginia the Mendota Fire Tower, Washington County, was checked on 15 days from late August to early October by members of the Tennessee Ornithological Society, principally Thomas W. Finucane. The total Broad-wing count for the season from this site was 7943, with the best days being September 18 (1165 Broad-wings), 19 (3002), and 20 (980). The 3002 figure may have been the best one-day count of Broad-wings ever made in Virginia.

At Kiptopeke Beach, near the southern end of the Eastern Shore, many hawk observations were made when time permitted between 16 September and 17 October by the operators of the KIBOR banding station, principally Mr. and Mrs. W. P. Smith and F. R. Scott. Unfortunately, totals of hawks were kept on only 12 days. Nevertheless, totals during this period included 1518 Broad-wings, 1091 Sparrow Hawks, and only 106 Sharp-shins, the last count being considered very small for the area. Most of the Broad-wings were seen between September 20 and 25, with 471 on the latter day. The peak count for Sparrow Hawks was 309, also on September 25. Red-tailed Hawks began moving near the end of the period, and 51 were recorded on 16 October.

REVIEWS

Birds of North America: A Guide to Field Identification. By Chandler Robbins, Bertel Bruun, and Herbert S. Zim; Golden Press, 850 Third Avenue, New York; 340 pages; 2,000 illustrations in color; 1966; plastic coated paperback, \$2.95; cloth, \$4.95.

Robbins is one of the best field men in our country; Bruun is an experienced European ornithologist; the books written or edited by Zim are well known. Many others helped in the book.

This excellent field guide to the birds of North America has many very helpful features. In a pocket-size volume it covers the 699 species likely to be found north of the Mexican border. For each species there is a tiny marginal map, showing its range. For most song birds and for many other species a marginal diagram indicates the pattern of its song or calls. A good map by John W. Aldrich shows the Life Areas of North America in colors.

The illustrations are by Arthur Singer, who did the large color plates for Austin's *Birds of the World*. They are excellent and many of them quite large for a book of this type. In addition to the basic color plate of each species, often showing male, female, and young, there are special pages illustrating the different types of waterfowl, hawks in flight, shorebirds, gulls in flight, immature warblers, the heads of warblers for quick comparison, and heads of sparrows.

This is a useful book for the Easterner or Westerner who plans an occasional trip to the other side of the continent. It supplements but does not replace the Peterson guides. It is about the size of one of them, with 340 pages where the eastern Peterson has 290 and the western 360. There are brief paragraphs about each species. For example, on the Spotted Sandpiper Peterson uses about 190 words, where the volume in hand uses 70. Thus there is dependence in most cases on the picture for identification. Where the sexes differ, both are shown, and often the young also.

All in all, the book may be heartily commended. What it seeks to do is well done indeed.

J. J. Murray

Wildflowers in Color, by Arthur Stupka, with the assistance of Donald H. Robinson and others. Harper & Row, New York, 1965, xiv & 144 pages, 267 color photographs. Price, \$5.95.

The territory covered in this book consists of three park areas in the Southern Appalachians: Shenandoah National Park, Blue Ridge Parkway, and Great Smoky Mountains National Park. It is a cooperative enterprise, the author being Arthur Stupka, formerly Chief Naturalist of the Great Smokies, with the present Chief Naturalists of the three areas as his assistants. In addition to photographs from the official files, some 20 photographers have contributed pictures.

A brief introduction treats of the climate of the area, the life zones, and the seasons of bloom, with a list of suggested readings, one of them by our Virginia Tech botanist, Dr. A. B. Massey. A good index is supplied. This is primarily a color photograph book. On each page two plants are pictured in color, with descriptions and time of blooming. There are a few, very few, off-color plates, some of the whites being a dingy shade and there being an occasional intrusion of too much blue, but the reproductions are amazingly good. The result is a very lovely and useful book.

J. J. Murray.

NEWS AND NOTES

ZIP NUMBERS. Members are again reminded to send in Zip numbers. Soon it may be impossible for you to get your copies of *The Raven* without these numbers. If your Zip number is not on your address in the December 1965 issue, we need it. Send it to J. Steven Thornhill, 2615 Fort Avenue, Lynchburg, Virginia 24501.

FUTURE FIELD TRIPS. Eastern Shore, 13-14 August; Back Bay, 3-4 December; Mattamuskeet, 28-29 January 1967.

EVENING GROSBEAK SUMMARY, 1965-1966. Arthur H. Fast, 4924 Rock Spring Road, Arlington, Virginia 22207, will do a short summary of the Evening Grosbeak occurrences for the past winter for the September *Raven*. Reports should be sent to him at once.

NEW VSO CHAPTER IN AUGUSTA COUNTY.

Another local chapter was approved for affiliation by the Executive Committee at the 1966 Annual Meeting. This chapter, to be known as the Augusta Bird Club, has its membership in the Staunton-Waynesboro area. It becomes the thirteenth chapter of the Virginia Society of Ornithology, of which twelve are active. The Society is indebted to Dr. John F. Mehner of the Biology Department of Mary Baldwin College for this chapter. His initiative, expressed through individual correspondence and local newspaper publicity, led to a meeting of thirty-seven interested persons of the new club. The officers are Dr. John F. Mehner, President; Mrs. Mark D. Snyder, Vice-President; Mrs. J. W. Timberlake, Secretary; Reverend F. Wellford Hobbie, Treasurer. The Society welcomes the Augusta Bird Club and will be expecting further news of its activities.

James W. Eike, Chairman

VSO Local Chapters Committee

LOUISIANA HERON RECOVERIES. C. W. Hacker reports that of last year's Wachapreague banding a Louisiana Heron was killed at Quito, Ecuador, and another at Les Cayes, Haiti.

FULVOUS TREE DUCKS AT GRANDVIEW, HAMPTON. Hacker saw three Fulvous Tree Ducks at Grandview on three successive days this spring.

COMMON MERGANSER BREEDING AT DYKE. A female Common Merganser with a half-grown young bird was carefully observed at Dyke, Fairfax County, Virginia, on 27 June 1965 by C. W. Carlson, Mrs. S. S. Baker, and Mrs. R. L. Pyle. The female was seen again by Carlson, Mrs. Baker, and others several times in July, and the last observation was apparently on 21 August by J. M. Abbott, who also reported "a second duck nearby which appeared to be an immature merganser." No drake merganser was reported by anyone. This species has summered at least five times and definitely bred at least twice previously in the Shenandoah Valley near Dayton, Virginia (*Auk*, 73: 285, 1956; *Raven*, 33: 5, September 1962).

BUTEO PREDATION. Malcolm Davis reports that in the latter part of September 1965 while on a field trip in Fairfax County, Virginia, he observed intra-specific predation on the part of a Red-tailed Hawk. One hawk, which had been sitting motionless in a dead tree, swooped from its perch to capture a rodent. The attempt was successful, but as the hawk flew back toward the tree the rodent fell from its talons. Immediately another Red-tail swooped down, retrieved the animal, and carried its prize away. He had not previously observed this performance.

CHUCK-WILL'S-WIDOW IN WINTER AT HAMPTON. Mrs. Doris Smith reports a Chuck-will's-widow on 20 January 1966 at the edge of a marsh on Orchard Avenue in Hampton. It was found first by her son Godfrey. She went back with him and found the bird where he had seen it. "The bird was on the lea side of a thicket, perched about a foot from the ground on a pile of brush, basking in the sun. We stopped the car and observed it for quite a while at a distance of not over three feet. It was not disturbed at all by our presence." Later, when Walter Smith came home, they again found the bird near the same place, and observed it carefully. "This was just before the first of our two snow storms, and we have not seen the bird since that day."

SWAINSON'S WARBLER AT NEWPORT NEWS. Mrs. Dorothy Mitchell netted, banded, and photographed a Swainson's Warbler at her Newport News banding station on 15 May 1966. The bird was seen by many other observers.

BLUE-WINGED WARBLER AT NEWPORT NEWS. Another good observation by Mrs. Mitchell was that of two Blue-winged Warblers at Newport News on 7 May 1966. First thinking that the song she heard might be from a Parula, and then that it might be from a Cerulean, she finally saw the bird and observed the distinctive markings, "yellow head and body, black eye stripe, olive-greenish back, two wing bars."

HOUSE FINCH IN VIRGINIA. The first House Finch to appear in Virginia, so far as we know, was a female at the feeding tray of Dr. Daniel F. Keeney, Falls Church, on 2 December 1962 (*Raven*, 34, 5). It was trapped and banded. J. W. Eike writes: "Since that time there have been reports from Herndon, Manassas, Falls Church, Arlington, Fairfax County, and Mt. Vernon areas. Mrs. George J. Pour, 2726 Hollywood Road, Falls Church, has had large numbers at her feeders. On 11 November 1965 she reported at least 25. They came to stay, others following them, until on our heavy snow day, 26 January 1966, there were about 250. The number fluctuates: 200 on 6 December; 133 on 8 February 1966; sometimes but 35 to 50."

CHIPPING SPARROW BEHAVIOR. Charles E. Nimmo, Jr., reports the following observations from Williamsburg. "On 1 May 1966 I observed some rather interesting behavior on the part of a Chipping Sparrow feeding on dandelion seeds. Being much too short to reach the seed balls at the top of the stalks, the bird would light halfway up the stem, causing it to bend over and touch the ground. The bird did this at least 6 or 8 times. Although I have frequently seen Chipping Sparrows fly against the top of dandelion stems to grab seeds or knock them to the ground, this is the first one I have observed displaying the above behavior."

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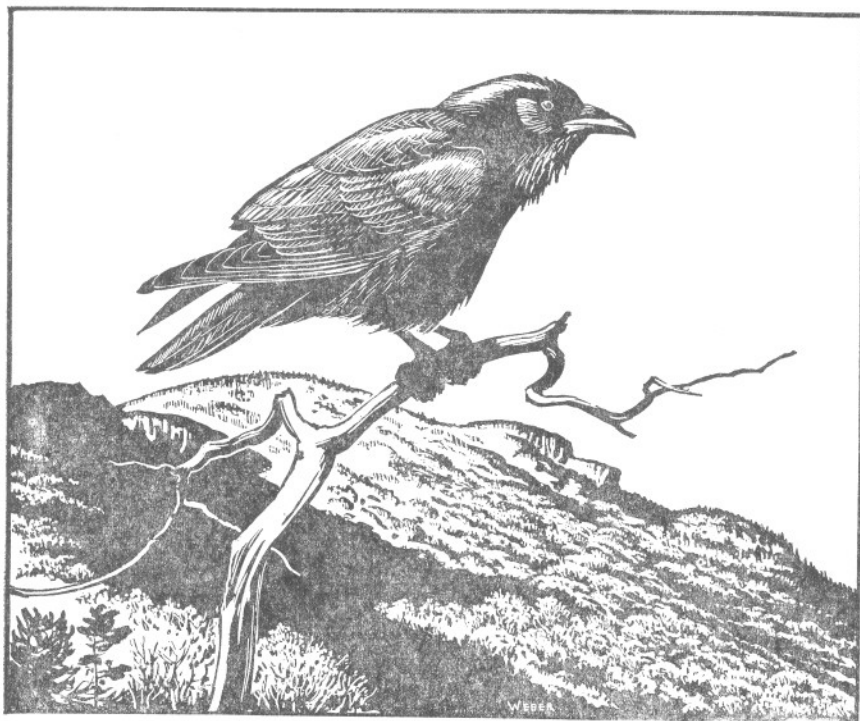
The Raven

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Courtesy of Walter Weber

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The Virginia Society of Ornithology exists to encourage the systematic study of birds in Virginia, to stimulate interest in birds, and to assist the conservation of wildlife and other natural resources. All persons interested in those objectives are welcome as members. Present membership includes every level of interest, from professional scientific ornithologists to enthusiastic amateurs.

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring) held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.

2. Other forays or field trips, lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.

3. A journal, *The Raven*, published quarterly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.

4. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, local chapters of the Society, located in some of the larger cities and towns of Virginia, conduct their own programs of meetings, field trips, and other projects.

Those wishing to participate in any of the above activities or to cooperate in advancing the objectives of the Society are cordially invited to join. Annual dues are \$1.00 for junior members (students), \$2.00 for active members, \$4.00 for sustaining members, \$50.00 for life members.

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President: CHARLES W. HACKER, 218 Chesterfield Road, Hampton, Virginia 23361.

Vice-President: JAMES W EIKE, 2231 N. Tuckahoe Street, Falls Church, Virginia 22043

Secretary: ROBERT J. WATSON, 2636 Marcey Road, Arlington 7, Virginia 22207.

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Editor: J. J. MURRAY, 6 Jordan Street, Lexington, Virginia 24450.

Associate Editor (for clubs news, Christmas and other bird counts, field trips):
F. R. SCOTT, 115 Kennondale Lane, Richmond 26, Virginia 23226.

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CHANGES IN THE VIRGINIA AVIFAUNA: 1963-1965

J. J. MURRAY

Since the publication in 1952 of "A Check-List of the Birds of Virginia" several papers on changes in and additions to our avifauna have been published in *The Raven*. Two of these, one in 1953 (24:34-45) and the other in 1955 (26:75-97), included not only new forms but additional records for many uncommon species. A 1957 paper, "Major Recent Changes in the Virginia Avifauna" (28:48-52), dealt only with changes in the list itself, including the elimination of three forms and the addition of 22, making a total of 417 species and subspecies, with a hypothetical list of 16 forms, plus two hybrids. The last paper, in 1963, "Fourth Revision of the Virginia 1952 'Check-List,'" (*Raven* 34:27-28), added 21 forms, and with some revisions totalled 438 species and subspecies, with a hypothetical list of 17, and the same two hybrids.

Naturally the additions of new birds in any area becomes increasingly difficult. While, as someone pointed out long ago, the possible list of any locality in this country is the total North American list, plus wanderers from other continents, in actuality the number likely to be added to our state list is smaller as the list has become more complete. For instance, while for the six-year period from 1957 to June 1963 we added 21 birds, in the two and a half years since only five have been added.

Since June 1963 only five forms have been added to our positive list, with two other birds which seem entirely satisfactory records but which because they were seen only one time must be listed as hypothetical. The five birds which go on the Virginia list are as follows.

1. Western Grebe. *Aechmophorus occidentalis* (Lawrence). This handsome bird, a large grebe with a very long neck, black and white in breeding plumage and gray in winter, has been seen three times in Virginia in the past three years. F. R. Scott saw one in the York River on 4 December 1963 (*Raven*, 35:46). There were only three previous records on our eastern coast. Another was seen from 14 to 19 October 1964 by many observers, including J. W. Eike, at a pond at Dulles Airport (*Raven*, 36:26-27). The third record was made by Kathy Klimkiewicz and J. W. Akers at Claytor Lake State Park in Pulaski County on 24 January 1965 (*Raven*, 36:77). What was probably the same bird was seen in the same area on 7 and 27 February.

2. Western Red-tailed Hawk. *Buteo jamaicensis calurus* (Cassin). Late in December 1960 Roger Rageot, Curator of Natural History for the Norfolk Museum of Arts and Sciences, caught a dark *Buteo* in a pole trap. Paul W. Sykes, Jr., brought the mounted specimen to the VSO meeting in Lexington, where it was identified by Dr. Wetmore (*Raven*, 34:53).

3. Black-headed Gull. *Larus ridibundus* Linnaeus. This European species had been seen at Craney Island, Norfolk area, on 14 February 1958 by Donald W. Lamm, Mr. & Mrs. Gerald Akers, J. E. Ames, Jr., Max Carpenter, and Mrs. Mary Frances Morrisette. (*Raven*, 30:65-66). Lamm was familiar with the bird in Europe. Another was seen from the Chesapeake Bay Bridge on 5 December 1964 by C. W. Carlson and others, which according to our rules puts the species on our state list (*Raven*, 36:18-19; *Audubon Field Notes*, 19:367).

4. White-winged Black Tern. *Chlidonias leucopterus* (Temminck). This is another exotic species, limited ordinarily to the Old World. "There are at least five previous records for North America, including two specimens." (F. R. Scott). It was seen on the VSO Wachapreague Field Trip at Assateague on 9 August 1964, under the guidance of Dr. F. G. Scheider (*Raven*, 35:49). The first Virginia observance was made by Dr. Scheider at Chincoteague National Wildlife Refuge on 16 May 1963. It was seen there by many observers through early August 1963 and between 16 May and 9 August 1964.

5. Harris' Sparrow. *Zonotrichia querula* (Nuttall). An immature bird of this western species was trapped and banded by Mrs. Herbert M. Church, Jr., at Ashburn, Virginia, on 30 November 1964. The bird was identified by Aldrich and Wetmore and then released. On 24 December Mrs. Church captured two immatures, one of them unbanded. They were color banded and watched through January 1965. (*Raven*, 36:19).

Two other species, carefully observed and later described in *The Raven*, must be put on the hypothetical list, since they have been seen only once.

1. Little Gull. *Larus minutus* Pallas. This European gull, which has occurred in about a dozen places in North America, was seen from the Chesapeake Bay Bridge on 5 December 1964 by C. W. Carlson, Mrs. N. M. Baker, and Helen Goldstick and carefully observed as to size and markings (*Raven*, 36:18-19). There seems to be no doubt as to the record.

2. Western Tanager. *Piranga ludoviciana* (Wilson). One was carefully observed at close range at Virginia Beach by Mr. and Mrs. Frank C. Richardson on 29 January 1965 (*Raven*, 36:20).

The total Virginia bird list in June 1963, according to the "Fourth Revision of the Virginia 1952 'Check-List,'" consisted of 438 forms, with a hypothetical list of 17. With the transfer of the Black-headed Gull from hypothetical to full status and the addition of four other birds, our list now stands at 443, plus 18 good hypothetical forms. There are 372 species and 71 subspecies in this total of 443. This compares very well with the lists of other Middle Atlantic and Southern States.

To this list may be added some records for rare or uncommon birds already on the state list. These are as follows:

1. Sooty Shearwater. Found dead at Back Bay, 15 March 1964, Mrs. Floy Burford.

2. Leach's Petrel. First Virginia specimen, found dead at Back Bay, 25 August 1964, *vide* Mrs. Floy Burford.

3. Glossy Ibis. Loudon County, 11 May 1963, Robert W. Warfield.

4. Swallow-tailed Kite. Oakton, Fairfax County, 17 April 1964, Charlton Ogburn.

5. Purple Gallinule. Dinwiddie County, 22 April 1963, William B. McIlwaine, and 10 June 1963, C. C. Steirly; and Williamsburg, 2 May 1963, Mr. & Mrs. Charles T. Hotchkiss.

6. Short-billed Dowitcher. Charlotte County, dead bird, 18 May 1963, Mrs. Florence H. Robinson; and Bridgewater, 12 August 1963, R. H. Peake, Jr.

7. Ruff. Hunting Creek, male on 11 April 1964, E. T. McKnight, *et al.*

8. Northern Phalarope. Assateague, 27 May 1964, F. R. Scott.

9. Glaucous Gull. Upper Chippokee Creek (border of Prince George and Surry), 17 February 1965, F. R. Scott. Except for the Potomac, this is the most inland record.

10. Least Tern. Lexington, 2 October 1964, Joshua Womeldorf, second record for Lexington and for the Valley.

11. Razor-billed Auk. Back Bay, dead bird, 5 December 1964, VSO field trip.

12. Snowy Owl. Lynchburg, 31 December 1964, J. S. & S. L. Thornhill.

13. Chuck-will's-widow. Rockbridge County (Natural Bridge), found dead, 27 August 1963, Joshua Womeldorf; Lee County, 1 June 1964, Grey and Murray.

14. Traill's Flycatcher. Marion, 16 June 1956, R. S. Freer; Lee County, 19-22 June 1962, C. O. Handley, Jr.; Hunting Creek, Fairfax County, nest on 16 June 1963, J. M. Abbott; Abingdon, nest on 26 June 1964, J. Wallace Coffey; Scott County, 27 May 1965, 8 singing males, Murray & Grey.

15. Hermit Thrush. Highland County, 10 July 1964, C. E. Stevens and Steve Calver.

16. Golden-crowned Kinglet. Highland County, regular in spruce in summer, Scott, Stevens, *et al.*

17. Brewster's Warbler. Blacksburg, 11 May 1963, J. W. Murray.
18. Mourning Warbler. Western Highland County, many summer records, 1961-1964, C. E. Stevens.
19. Pine Grosbeak. Three reports in January 1964: Alexandria, David R. Eike; Amherst County, Freer; Bluefield, Sara Lockhart.
20. House Finch. Barnesville, Cumberland County, 30 January 1965, Mrs. Florence Robinson.
21. Lark Sparrow. Newport News, 9-17 September 1963, Mrs. Dorothy Mitchell.
22. Clay-colored Sparrow. Back Bay, 22 September 1962, P. W. Sykes, Jr., third Virginia sight record.

An analysis of the present Virginia list of 443 species and subspecies shows a remarkable number of extralimital species, 55 in all. Naturally enough, most of these species from outside our borders come from our own West. Here there are 36 forms, counting 6 good hypothetical species. One bird, the Cattle Egret, has come to us from Africa, probably by way of South America. Europe has shared 13 birds with us, four of which were deliberately introduced and are now thoroughly naturalized: Ring-necked Pheasant, Rock Dove, Common Starling, and House Sparrow. From the Caribbean we have five strays. Oddly enough, there are fewer than half as many of these as there are of strays from Europe, probably because Europe is nearer to us in climate than our own Caribbean. Most of these Caribbean species were probably storm driven.

The birds from our West are too numerous to list. From the Caribbean we have had the Sooty Shearwater, Audubon's Shearwater, Black-capped Petrel, White-tailed Tropic Bird, and Bahama (Pintail) Duck. Our one bird from Africa is the Cattle Egret. Europe has contributed the Mute Swan, Common (European) Teal, Ring-necked Pheasant, European Woodcock, Ruff, Lesser Black-backed Gull, Black-headed Gull, White-winged Black Tern, Rock Dove, Common Starling, House Sparrow, and one good hypothetical form, the Little Gull. As is natural, all of the birds in these last three groups are water birds, with the exception of the four species introduced by man from Europe.

[This paper was presented at the Annual VSO Meeting in Norfolk on 18 February 1966.]

TRAILL'S FLYCATCHER BREEDING IN NORTHERN VIRGINIA IN 1966

JACKSON M. ABBOTT

On 10 July 1966 I found a nest with two young of Traill's Flycatcher (*Empidonax traillii*) in the same area where I found them nesting in June-July 1963 (see *The Raven* for March 1965).

The location is a fill at the mouth of Hunting Creek, on the northern edge of the Belle Haven Country Club, which is at the northeastern corner of Fairfax County, Virginia. The fill is fringed with cattails and clumps of weeping willow saplings which are about five years old. In one clump of saplings growing on both sides of a drainage ditch I heard the *pet-pet* alarm notes of a pair of Traill's Flycatchers and had good, close views of both birds. A short search revealed the nest saddled to a nearly horizontal branch of a small black locust seedling and about three feet above the sloping ground on one side of the drainage ditch; the nest tree was closely surrounded by willow saplings. The nest was typical of other Traill's Flycatcher nests I have found in this area; constructed of fine grasses and plant fibres interwoven with spider egg sacs and bits of cotton, all bound together with spider webs. The nest closely resembles those built by the Yellow Warbler and the Goldfinch. (Strangely

enough, all the Traill's Flycatcher nests I have found in New England had an external foundation of twigs and closely resembled a Catbird's nest).

I estimated the two young to be about one week old and banded them on 17 July 1966. The nest was empty a week later on 24 July.

Also on 10 July, I saw and heard another Traill's Flycatcher (uttering *pet* alarm notes) on Jones Point at the southeastern corner of Alexandria, Virginia. This site is about one mile northeast of the nest that had two young. After a ten-minute search in the willow and river birch clumps among the cattails by a stream where the bird was seen, I found a nest from which the young had already flown. It was saddled to a crotch about seven feet up in a white ash sapling at the edge of a clump of willow saplings. Although I saw and heard only the one Traill's Flycatcher at this site, I am sure that the nest belonged to this bird.

8501 Doter Drive, Alexandria, Virginia 22308

SANDHILL CRANE IN MONTGOMERY COUNTY, VIRGINIA

ALMON O. ENGLISH

During the summer of 1965 a workman in a crew paving an unfinished section of Highway 81 in Montgomery County became interested in the name of a long-necked bird he had observed on several occasions in the same area. The bird was pointed out to L. L. Hill of Salem, Virginia, an official of the State Highway Department, who likewise became interested in its identity. He knew that C. H. Lewis, a friend, was interested in the photography of birds and accompanied him to the site on the highway, where Lewis made several pictures of the bird. A few days later, I accompanied Hill to the site and made several pictures. At the time of our visits this section of No. 81 was closed to the public.

There was never any doubt that the bird was a member of the crane family. Lewis was under the impression it was the Florida Crane or Little Brown Crane. I was only able to identify the bird as an immature crane, and sent pictures made by Lewis and myself to Dr. Alexander Wetmore for identification. Dr. Wetmore's reply is quoted in part: "It is, as you say, an immature individual. The view of the bird beside the fence, showing the brown color of crown, neck, back and wings that mark the first plumage, indicates this clearly. However, distinction of forms in this species is based on size, and as there is no criterion for comparison in the picture, it is not possible to identify the bird other than to say that it is the species *Grus canadensis*. I also feel that the occurrence, while interesting, can hardly figure appropriately in the state list other than in a hypothetical status. My conclusion for this is found in the fact that young cranes remain with the parents ordinarily through fall and their first winter. A bird that is obviously young like the one in the pictures, would not normally be separated from the adults." "While it is possible that it may have been a storm-blown individual, would it not seem more probably that it has been transported through human agency?"

The occurrence and survival of the young bird is rather interesting. The section of No. 81 where the bird was found, passes through extensive pasture lands and open country, somewhat isolated. How the bird arrived at this area will probably never be known. It appeared to have fared well despite construction traffic and danger from foxes which are quite common in the area. The day I made pictures, it was found feeding in the highway median strip, and was not too shy, permitting a rather close approach when making pictures. No doubt it had become accustomed to moving vehicles and persons of the construction forces.

Through inquiry by Mr. Hill, a farm hand stated he had first observed the

bird around 1 July. He added he had also seen some long-legged white birds, which no doubt were Common Egrets, or possibly immature Little Blue Herons.

The bird has not been seen since October 21, 1965.

2803 Rosalind Ave., S. W., Roanoke 14, Virginia

A RECORD OF THE NORTHERN SHRIKE IN SOUTHEASTERN VIRGINIA

MITCHELL A. BYRD

A Northern Shrike was captured in a Potter trap in my yard in Williamsburg on 5 March 1966. Apparently, the shrike had entered the trap to get at a junco which was in one of the other compartments. The first edition of *A Check-List of the Birds of Virginia* lists this bird as a rare visitor in the Washington region. There also is a report of a bird at Lynchburg, Virginia, on 26 December 1950. There appear to be no records since that time.

In the hand, this bird clearly showed the barred breast, pale-colored base on the mandible, and black face mask which failed to meet over the bill. Measurements of the wing and tail were in the range of those for the northern shrike.

This would appear to be the only record for Eastern Virginia and probably represents one of the most southern records for the species. The bird was banded (602-72772) and released in my yard. It flew into a nearby tree where it was very difficult to distinguish from the relatively common Loggerhead Shrike.

Williamsburg, Virginia

ADDITIONAL RECORDS FOR THE KITTIWAKE FOR VIRGINIA

MITCHELL A. BYRD

On 8 January 1966 G. W. Hall and myself observed 2 Atlantic Black-legged Kittiwakes at Grandview Beach, Hampton, Virginia. One of these birds was immature and the other was an adult. We were immediately impressed by the small size of these gulls and we had adequate opportunity to observe them as they flew into the wind. Although Grandview Beach is rather far inland, it is noteworthy that there had been a very hard east wind all day on 8 January.

On 20 February 1966 my wife captured a sick, immature kittiwake on the beach at Chincoteague National Wildlife Refuge. The bird died a few minutes later and was frozen for later preparation as a study skin. It is now located in the Department of Biology, College of William and Mary. February 19, the day prior to the capture of this specimen, was also characterized by a strong northeast wind and driving rain.

These three records of kittiwakes appear to be the only Virginia sightings other than one at Broad Bay, Norfolk, one at Sandbridge, and one on the Potomac at Washington as summarized by Murray (*Raven*: May-June, 1957). He also reported an offshore sight record and McCartney (*Raven*: June-July, 1955) reported the bird as common 20 miles offshore from Chincoteague.

Williamsburg, Virginia

MEASUREMENTS OF THE NEST CAVITY OF THE RED-COCKADED WOODPECKER

C. C. STEIRLY

A loblolly pine in north Sussex County containing the nest cavity of a Red-cockaded Woodpecker was killed by Turpentine Beetles (*Dendroctonus terebrans*). The writer therefore had the opportunity to fell a recently used nest tree and make a careful investigation and measurements of the nest cavity without needlessly felling a nest tree in general use by the woodpecker.

The tree was 66.5' in height, 14.0" in diameter at breast height. It was 90 plus years of age, the exact age being impossible to ascertain owing to the heart rot caused by the red heart fungus (*Fomes pini*). In volume the tree contained 138 board feet gross of which 50 board feet was cull owing to the heart rot. The net volume therefore was 88 board feet.

The nest hole was 22 feet above ground and measured 1.5" in diameter. It had been made through an old branch stub. The tree at this point was 10.3" diameter inside bark and the cavity excavated in the rotten heart wood averaged 3.1" in diameter. From the bottom of the entrance hole the cavity was 7.5" in depth and extended 2.4" above the entrance hole thus making a cavity of 9.9".

Pitch chipping, deliberately made by the birds for the purpose of stimulating a copious flow of resin as a protection of the hole, extended 6.8 feet above the hole and 7.5 feet below the hole. Most of this section of the tree was heavily coated with sticky resin which on oxidation had turned white, not unlike candle wax. A considerable amount of resin had flowed well below the lower-most pitch chipping.

There were four or five other active nests in this same stand of old growth timber, and ample trees suitable for nesting were present. It should be noted that the Red-cockaded Woodpecker selects only pine trees infected with heart rot for nest cavities. The stand in which this investigation was made represents one of the northernmost records of the breeding of this species.

Virginia Division of Forestry
Waverly, Virginia 23890

NEST OF CLIFF SWALLOW NEAR ABINGDON, VIRGINIA

J. WALLACE COFFEY

On the morning of 11 June 1966, while taking part in the VSO Foray at Abingdon, Dr. J. J. Murray and the writer discovered an apparent active nest of the Cliff Swallow (*Petrochelidon pyrrhonota*). It was located under a highway bridge on US 19 over the North Fork of the Holston River in Washington County, Virginia, west of Abingdon.

Four Cliff Swallows were present. Two were seen being fed by at least one of the other birds. They remained in the area of the bridge during our presence and perched on an L-beam near the ceiling formed by the roadway.

The nest was on this same beam well under the bridge and fairly typical of the nests built by this species except that the usual protruding entrance was not present. Instead, there was an opening of about 2½ to 3 inches in diameter on the side. The height of the nest above the water was about thirty-five feet. One bird was seen to enter the nest and remain.

The Cliff Swallow is considered a rare species in this area other than during migration. Within the past twenty years a few colonies or nests have been

located in Northeast Tennessee to the south of Washington County. The only previous indication of nesting in Southwest Virginia is a record in this writer's files of a typical nest of the species found on a barn south of Mendota in Washington County, Virginia, in May 1960 by Robert Quillen of Bristol. It was said to have been destroyed by some boys. The swallows deserted. Mendota is located fourteen miles southwest of the above nesting location on the North Fork of the Holston River.

508 Spruce Street, Bristol, Tennessee 37620

BLACK VULTURES ATTACKING PIGS

C. C. STEIRLY

On 18 July 1966 while travelling along a secondary road near the James River in Prince George County I happened to notice a flock of Black Vultures in a field partly screened from me by a heavily overgrown fence. I stopped in order to observe them and soon found that they were reluctant to leave the area for I was within twenty feet of them before they flew over into some nearby trees.

A closer inspection of the area across the fence revealed that a sow with a litter of some twelve newly born pigs was lying alongside the fence. I noticed that several of the pigs had bloody posteriors. My attention was then drawn to three of them on my side of the fence in a quite dense tangle of honeysuckle, trumpet creeper and poison ivy. At first I thought that they should be with the sow and as I labored to extricate them from the tangle I found that they had been badly torn up posteriorly yet they were quite alive. As I handed them one by one over the fence I noticed that their buttocks were literally torn away. One could crawl about only on its front legs.

What had happened simply was that the sow was incapable of protecting them from so many vultures and that these three victims had tried to seek the shelter of the overgrown fence. In doing so they encountered some difficulty in getting through the meshes of the fence and their posteriors were completely exposed to the relentless attacks of the Black Vultures. All the while I labored with the injured pigs the vultures waited ominously in the nearby tree.

I reported the incident to the farmer since I knew the vultures would return to cripple or kill more of the pigs.

Virginia Division of Forestry
Waverly, Virginia 23890

VSO SKYLINE DRIVE TRIP, JUNE 1966

C. W. HACKER

The annual mountain foray, reduced to the status of "field trip," was again based at Skyland in Shenandoah National Park on 18 and 19 June. Hepburn Cottage served as headquarters and appeared to be a bit closer to extinction. The door to the side porch had been permanently secured due to a rotted area in the porch floor. This action eliminated an excellent listening post for Whip-poor-wills and owls.

With the allotted time reduced to a day and a half, a larger than usual group turned out for the 6 a. m. pre-breakfast trip. This trip merely served as an ear sharpener for the Tidewater members. The main trip of the day was down the old reliable White Oak Canyon trail. Bird activity appeared to be

more normal this year as compared to the rather small numbers in the two previous years. Highlights included a pair of Blackburnian Warblers feeding a juvenal and Solitary Vireos feeding at the nest. Blackburnians obliged with a distinctive and rather unusual song this year which caused them to seem to be more numerous than usual. After the long pull up the fire road, the group reached the drive in early afternoon anxious for more birding.

A drive over to Big Meadows with a short stop for the blackberry sundae renewed everyone's energy. Much tramping across the meadow resulted in only Vesper Sparrows and Barn Swallows being added to the list. An indication of the thoroughness of the search was the discovery of a dead shrew. For the record, it should be noted that three of the more proficient birders debated the identity of a singing bird in a growth of shrubs. Two were positive that they had a Hooded Warbler while the third insisted on a Redstart. An eventual sighting brought into view a Chestnut-sided Warbler. Needless to say, these members have been moved to the lowest end of the pecking order.

Oddly, on the 5 p. m. return to Skyland, several members hit the sack while others made the trip to the summit of Stony Man. Upon their return at six, the official day was called to an end with the distant croaking of the Stony Man Ravens.

At six on Sunday morning, a group was out again and fortunately so. The first bird to be heard, and in front of Hepburn, was a nuthatch. Although the call indicated a Red-breasted Nuthatch, a successful effort was made to obtain a visual identification. The remainder of the time before breakfast was spent in worrying about the apparently imminent rain. With our usual good luck, the clouds broke just at breakfast time, and plans were on again for the trip to Hawksbill. Several Canada Warblers in the rock-slide area and two Broad-winged Hawks at the lookout featured this trip. The promised Winter Wrens failed to be heard. On the steep descent to the drive, the Black-billed Cuckoo again put in its appearance and voice.

With the shortened format, the Skyline Drive trip has served its purpose adequately. Several new participants have been introduced to the mountain birds; others, after an absence of one or more trips, were thrilled to hear the familiar songs; and the few regulars enjoyed leading the group over the well-known trails.

218 Chesterfield Road
Hampton, Virginia 23361

VSO ABINGDON FORAY

ROBERT J. WATSON

Between 8 and 12 June 1966 the Virginia Society of Ornithology conducted a "foray" in the vicinity of Abingdon. It was not, of course, the Society's first trip so designated; in recent years we have habitually referred to many of our field trips under this title. But the use of a well-worn term should not conceal the fact that the 1966 "foray" was indeed something new in the Society's history: a research trip carefully designed to seek out information about breeding birds in a particularly interesting area of the state. A full report of the results will appear in the next issue of *The Raven*.

The town of Abingdon served as headquarters for the project. Its convenient location afforded ready access to a variety of habitats, from the valleys of the Holston River and its tributaries to the spruce caps atop the nearby mountains. Research covered most of three full days 9-11 June, with limited time for some field work before departure on 12 June.

The requirements of ornithological research during the breeding season

dictated an arduous regimen. Alarm clocks had to be set for 3:30 a. m. at the latest, in order to enable sleepy-eyed researchers time to wolf down a hearty breakfast and still reach their takeoff points before sunrise. A full day of hiking usually followed this arduous beginning. Consequently, it was a bedraggled group of birders who reassembled in Abingdon at the end of each afternoon.

The number of people in attendance fluctuated somewhat, but totalled approximately 27. This figure included several members of the Southwestern Virginia Chapter, a small but able and enthusiastic group from the Tennessee Ornithological Society, and one couple from North Carolina. Research was conducted by teams made up of two or three persons, each assigned an area of suitable size. Most areas were covered several times by different teams on successive days; in this way, later groups more than once found birds that had been missed earlier. The hardy mountaineers from Tennessee spent one night camping on Mount Rogers in the hope of finding the Saw-whet Owl, but were disappointed in this regard, perhaps on account of stormy weather. (They were, incidentally, the only ones to suffer from the weather, which was otherwise ideal, clear and sunny for the entire period).

The foray reflected careful planning by a committee headed by Frederic R. Scott, who had personally reconnoitered the terrain on several weekend trips during previous months. Members of the Southwestern Virginia Chapter lent valuable assistance. Miss Mary Rowland, of that Chapter, threw open her gracious home in Abingdon for a meeting of the Executive Committee on 10 June.

The trip was not all grueling punishment but offered certain diversions other than the austere pleasures of a 4:00 a. m. breakfast. Some members enjoyed the hospitality of Mrs. A. Karl Mock, of Damascus, who entertained the group at a breakfast on 11 June. Others took advantage of the opportunity to attend the Barter Theater. Even congenial after-dinner social conversation was not lacking, though the hour of rising minimized the temptation for prolonged evening conviviality.

Appraisal of the results of the trip must be left to the expert judgment of the Research Committee. But certain highlights stand out in the minds of those who took part: the large numbers of Baltimore Oriole nests; the Traill's Flycatchers in the valleys; the bands of Red Crossbills roving across the mountain-tops; the discovery of birds not to be expected so far south in June, like the Magnolia Warbler and the Purple Finch. Of course, as in all ornithological research, there were compensating disappointments, notably the failure to find the Swainson's Warbler or the Chuck-will's-widow.

For this writer, the high point of the four-day period came on the morning of 11 June, when he was a member of a party that had the astonishing pleasure of hearing Olive-backed and Hermit Thrushes singing near the summit of Mount Rogers, after recording Wood Thrushes and Veeries in large numbers lower down on the mountain. This experience of hearing the songs of four species of thrush in a single day is surely one that few other people have enjoyed in Virginia. Do we dare to hope that the two more northerly thrushes may be returning to our state as nesting birds?

2636 Marcey Road, Arlington, Virginia 22207

NEWS AND NOTES

GROSBEAK, 1965-1966, REPORTS. There will be a summary in the December *Raven* of Evening Grosbeak occurrences in Virginia in the winter of 1965-1966, if the reports make it worthwhile. The summary will be prepared by Arthur H. Fast, 4924 Rock Spring Road, Arlington, Virginia 22207. Your report should be sent to him at once.

OLD COPIES OF THE RAVEN. Inquiries about old copies or volumes of *The Raven* should be addressed to Miss Gertrude Prior, Sweet Briar, Virginia.

CANADA GEESE IN ROCKBRIDGE COUNTY IN SUMMER. Royster Lyle, Jr., saw two Canada Geese flying over his home, east of Lexington, in mid-June and again on 6 July 1966. While these geese are regular now in summer in the Piedmont, this occurrence is unusual for the Valley.

HUDSONIAN GODWITS ON CEDAR ISLAND. Two Hudsonian Godwits were seen on Cedar Island on 13 August 1966 by F. R. Scott *et al.*

CHUCK-WILL'S-WIDOW IN ROCKBRIDGE COUNTY. Royster Lyle, Jr., heard a Chuck-will's-widow calling near his home in eastern Rockbridge County every night from 14 May to 21 July 1966, except for several nights during the middle of June. This was in a wide river bottom about 17 miles from the gorge through which the James River flows into the Piedmont. The length of time suggests the possibility of a nesting site. There is a Shenandoah National Park record for 11 May 1957, a Shenandoah County Record for 17 May 1962, and a Rockbridge County record of a dead bird on 27 August 1963, but no summer records between the Blue Ridge and extreme Southwest Virginia (Jones County).

BROWN-HEADED NUTHATCHES AT MARTINSVILLE. Dr. George L. Wallace saw two Brown-headed Nuthatches on 25-28 January 1966 at his feeder at Martinsville. This is an extension of the known range of the species westward in southern Virginia.

DICKCISSEL IN NORTHUMBERLAND COUNTY. F. R. Scott found a singing Dickcissel on 16 June 1966 between Callao and Lewisetta.

CROSSBILLS IN ROCKBRIDGE COUNTY. The Editor's face is red. In over 40 years of field work in Rockbridge he has never seen a crossbill, although there have been two records in the county of Red Crossbills. Now three ladies from other places—Mrs. Dorothy Mitchell of Newport News, Mrs. George Heimerl of Yorktown, and Mrs. John Henkel of Waynesboro—in a week at the Rockbridge Alum Springs home of Mrs. H. H. Bailey have seen both species, a male Red and a pair of White-winged Crossbills, on three days, 18-23 July 1966.

OREGON JUNCO AT NEWPORT NEWS. Mrs. Dorothy L. Mitchell (596 Harpersville Road, Newport News, Virginia) trapped an Oregon Junco (*Junco oreganus*) in a Potter trap at her back porch steps on 1 February 1966. Some of the heavy January snow was still on the ground. She banded and released it. She writes: "It left my hand, flew to a tree nearby, and looked like a miniature Towhee, so dark above and rusty sides."

LATE SISKINS. Gale Monson (U. S. Fish and Wildlife Service) writes that he and Dr. Allan R. Phillips saw two Pine Siskins on 8 May 1966 in a large oak at the Rockbridge Alum Springs, Rockbridge County. This is a rather late date for the species, much the latest for this county.

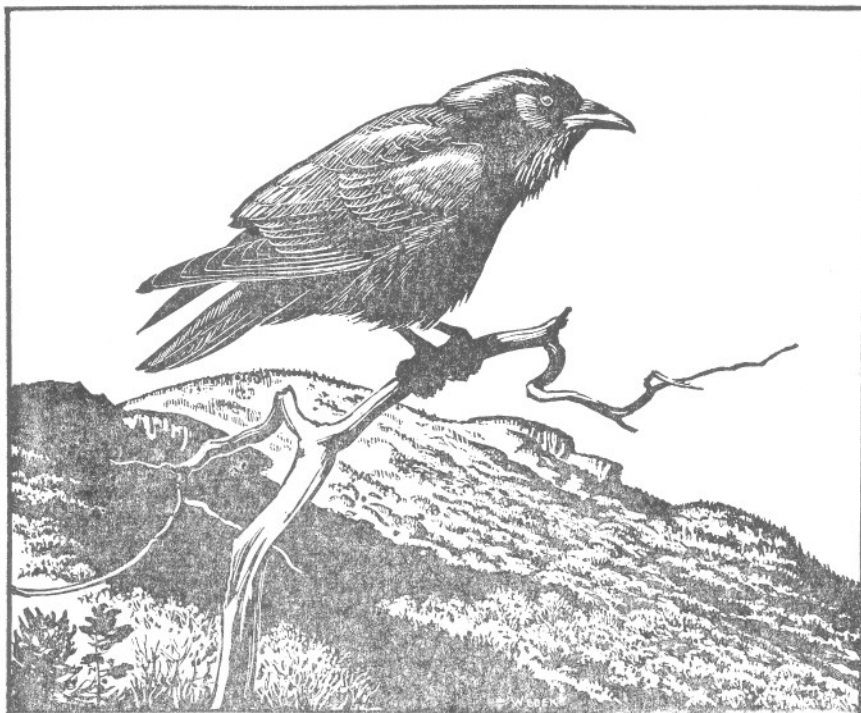
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Courtesy of Walter Weber

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The Virginia Society of Ornithology exists to encourage the systematic study of birds in Virginia, to stimulate interest in birds, and to assist the conservation of wildlife and other natural resources. All persons interested in those objectives are welcome as members. Present membership includes every level of interest, from professional scientific ornithologists to enthusiastic amateurs.

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.
2. Other forays or field trips, lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.
3. A journal, *The Raven*, published quarterly, containing articles about Virginia ornithology, as well as news of the activities of the Society and its chapters.
4. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, local chapters of the Society, located in some of the larger cities and towns of Virginia, conduct their own programs of meetings, field trips, and other projects.

Those wishing to participate in any of the above activities or to cooperate in advancing the objectives of the Society are cordially invited to join. Annual dues are \$1.00 for junior members (students), \$2.00 for active members, \$4.00 for sustaining members, \$50.00 for life members.

OFFICERS OF THE VSO

President: CHARLES W. HACKER, 218 Chesterfield Road, Hampton, Virginia 23361.

Vice-President: JAMES W. EIKE, 2231 N. Tuckahoe Street, Falls Church, Virginia 22043

Secretary: ROBERT J. WATSON, 2636 Marcey Road, Arlington 7, Virginia 22207.

Treasurer: J. STEVEN THORNHILL, 2615 Fort Avenue, Lynchburg, Virginia 24501.

Editor: J. J. MURRAY, 6 Jordan Street, Lexington, Virginia 24450.

Associate Editor (for clubs news, Christmas and other bird counts, field trips):
F. R. SCOTT, 115 Kennondale Lane, Richmond 26, Virginia 23226.

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RESULTS OF ABINGDON FORAY, JUNE 1966

F. R. SCOTT

The principal purpose of the VSO Abingdon Foray was to make as complete a survey as possible of the breeding birds of this southwestern Virginia area, more or less in the same manner as Murray and Grey (1964 and 1965) had done for Lee and Scott Counties. To this end many field trips were made by a number of parties from 9 to 12 June 1966, principally in Washington County, Virginia.

The county is broken into a number of ridges and stream valleys, with most streams flowing towards the southwest into the Tennessee River drainage. The major streams are the North, Middle, and South Forks of the Holston River, the last two joining together at the northeastern end of South Holston Lake, a TVA reservoir that lies partly in Washington County, Virginia, but mostly in Sullivan County, Tennessee. The lowest elevations in the county are found along the North Fork, which ranges from about 1700 feet at Saltville (on the Smyth County line) to about 1340 feet near Mendota, where it flows into Scott County. Elsewhere the principal valley floors lie between 1900 and 2100 feet, with South Holston Lake being about 1740 feet (but fluctuating a great deal). Abingdon lies at 2050 to 2100 feet. The higher parts of the county range up to about 4200 feet in the Clinch Mountains and 3800 feet in the Iron Mountains. The southeastern corner of the county lies at the top of Whitetop Mountain, an elevation of 5520 feet.

Most of the foray field work was confined to Washington County, but several visits were made to Saltville and the Clinch Mountain Wildlife Management Area just over the line in Smyth County, one field trip was taken to the top of Beartown Mountain (4689 feet) just over the Russell County line, and a number of trips were taken to Mt. Rogers (5729 feet) and Whitetop, which lie principally in Smyth County, but the peak of Whitetop is also a corner of both Washington and Grayson Counties.

For the purposes of this paper, elevations below 2500 feet are considered low, 2500 to 4000 feet is considered medium, and altitudes over 4000 feet are considered high. Vegetatively, the stream valleys tend to be highly cultivated, a situation which sometimes makes it difficult to assess the status of woodland species at low elevations, such as the Red-bellied Woodpecker and Blue-gray Gnatcatcher. The mountain slopes are principally forested in hardwoods, with red spruce appearing on Mt. Rogers, Whitetop, and Beartown Mountain (with Fraser fir on Mt. Rogers only), generally above 5000 feet, but down to 3900 feet at Mutters Gap on Beartown Mountain.

The following annotated list was compiled from 19 field lists submitted by foray participants plus a few incidental observations. When the information is available and seems of interest, some mention is made of altitudinal distribution. The list of 117 birds should be considered preliminary only. Many birds, such as rails, owls, and goatsuckers, require specialized field work of a type that is at best difficult to accomplish on a four-day foray. Furthermore, the song periods of many birds were well past their peaks, making an accurate assessment of their true abundance extremely difficult. Several species were searched for without success. These included the Spotted Sandpiper, Screech, Great Horned, and Saw-whet Owls, Chuck-will's-widow, Yellow-bellied Sapsucker, Swainson's Warbler, Pine Warbler, Pine Siskin, Henslow's Sparrow, and Bachman's Sparrow. Special mention here should go to J. M. Campbell, Lee R. Herndon, and C. R. Smith for climbing Mt. Rogers the night of 9 June in an unsuccessful search for the Saw-whet Owl.

There have been only a few published works on the summer birds of this area, and some of these are listed in the References. Other field notes have

appeared from time to time in the pages of *The Raven* and *The Migrant*, but no complete literature search has been attempted here.

I am indebted to Dr. J. J. Murray, who not only played a significant part in the planning of the foray and in the actual field work, but also read a preliminary copy of this paper and made a number of useful suggestions. Responsibility for the contents, however, remain with the author.

Pied-billed Grebe. One report, a bird on the North Fork on 9 June (Mrs. H. S. Gilbert, L. R. Herndon, Gertrude Prior, and C. R. Smith).

Green Heron. Fairly common along the streams at low elevations.

Mallard. A number, including a brood of 9 young, were seen at Saltville on 9 June (Prior *et al.*), and a count of 45 was made there on 10 June (J. W. Murray, F. R. Scott, and Bernard Thielen). Although the origin of these birds is subject to speculation, many flew about quite strongly.

Black Duck. Three were seen at Saltville on 10 June (J. W. Murray *et al.*).

Wood Duck. Fairly common in the lowlands considering the sparse amount of suitable habitat. At least 6 broods were reported.

Turkey Vulture. Common throughout the area.

Black Vulture. Rather uncommon, with a maximum count of only 7 on 9 June (J. W. Coffey and J. J. Murray).

Red-tailed Hawk. Uncommon. Only 6 birds reported by 4 parties.

Broad-winged Hawk. Rather scarce. Four single birds reported by different parties.

Sparrow Hawk. Fairly common in the lowlands with one report from the top of Whitetop on 9 June (Mrs. John Henkel, Jr., Bernard Thielen, and Mrs. J. W. Wiltshire).

Ruffed Grouse. A few reported from elevations above 3500 feet.

Bobwhite. Common in the lowlands.

Killdeer. Fairly common in the lowlands with a maximum of 10 adults and 3 young at Saltville on 9 June (Prior *et al.*).

Mourning Dove. Common in the lowlands.

Yellow-billed Cuckoo. Fairly common in the lowlands.

Black-billed Cuckoo. A few reported, mostly above 3000 feet.

Barred Owl. One report, a bird on Whitetop on 10 June (C. E. Stevens and R. J. Watson).

Whip-poor-will. One record, a bird near Damascus on 9 June. Local residents, however, claim this as being fairly common.

Common Nighthawk. Apparently fairly common in Abingdon and Bristol, with a maximum of 3. Not reported elsewhere.

Chimney Swift. Common in the lowlands but reported at all elevations, even from the tops of Mt. Rogers and Whitetop.

Ruby-throated Hummingbird. Fairly common in the lowlands.

Belted Kingfisher. Fairly common along streams at low elevations.

Yellow-shafted Flicker. Common at all elevations. A nest with 6 young was found on the North Fork on 9 June (Prior *et al.*).

Pileated Woodpecker. Fairly common in big hardwood timber, apparently at all elevations.

Red-bellied Woodpecker. Only 3 birds reported by two parties, both between Abingdon and Damascus on 9 June (J. M. Campbell, H. W. Nunley, and F. R. Scott; and Coffey and J. J. Murray).

Red-headed Woodpecker. One report, 2 seen near Lodi on 9 June (Campbell, Nunley, and Scott).

Hairy Woodpecker. Uncommon; recorded only at high elevations.

Downy Woodpecker. Fairly common at all elevations.

Eastern Kingbird. Common at low elevations. An adult was seen apparently incubating on a nest on the North Fork on 10 June (J. W. Murray *et al.*).

Great Crested Flycatcher. Seemingly uncommon, though perhaps the birds

were over their main "song" period. Recorded principally in the lowlands with a peak of only 4 along the South Fork on 9 June.

Eastern Phoebe. Common at least to 3000 feet but occurring even at high elevations. Maximum count was an unusual 15 along Laurel Creek and Straight Branch on 9 June (Campbell, Nunley, and Scott).

Acadian Flycatcher. Common in the lowlands at least to 3000 feet.

Trail's Flycatcher. Apparently locally fairly common in the lowlands, with three parties reporting a total of 6 singing birds along the North Fork. In addition, 4 singing birds (and one apparent female) were found at Stone Mill Marsh, just out of Abingdon, on 12 June (T. W. Finucane and Scott).

Least Flycatcher. Local and apparently uncommon at middle and high elevations. However, 8 were reported near Konnarock (3000 feet) on 10 June (Coffey, Henkel, J. J. Murray, and Wiltshire) and one 2 miles west of Saltville (1650 feet) on 10 June (J. W. Murray *et al.*).

Eastern Wood Pewee. Common at all elevations.

Horned Lark. Rather uncommon, with most reports from high elevations.

Rough-winged Swallow. Fairly common along all the lowland streams.

Barn Swallow. Common in the lowlands, with a few up to 4500 feet.

Cliff Swallow. Rare. Two pairs were found nesting under the U. S. Route 19 bridge over the North Fork (1525 feet) on 11 June by Coffey and J. J. Murray. They were seen the following day by a number of other observers.

Purple Martin. A number were seen about Abingdon on the evening of 8 June, but there was only one other report.

Blue Jay. Common at all elevations. Young out of the nest were seen on Beartown Mountain on 9 June (Stevens and Watson).

Common Raven. Fairly common at high elevations around Mt. Rogers and Whitetop. Single birds were also reported at Clinch Mountain Wildlife Management Area (Gilbert and Prior) and Beartown Mountain (Stevens and Watson).

Common Crow. Common, occurring at all elevations, even to the top of Whitetop.

Black-capped Chickadee. Accidental. A chickadee having the typical call notes of this species was found on Mt. Rogers on 11 June at an elevation of 5000 feet (Finucane, Scott, and Watson). Following an imitation of its song, the bird sang the typical two-note Black-cap song about 20 times without hesitating, but one typical Carolina Chickadee song was heard in the middle of this rendition. While this bird was far from any known nesting area for the species, it appears to be the first published breeding season record of *any* chickadee from Mt. Rogers or Whitetop (see, for example, Minor, Scott, and Stevens, 1948, and Murray, 1936 and 1937).

Carolina Chickadee. Common in the lowlands at least to 3000 feet. A nest with 3 young was found along the North Fork on 9 June (Prior *et al.*).

Tufted Titmouse. Common in the lowlands with a few reported from high elevations.

White-breasted Nuthatch. Uncommon on Mt. Rogers and Whitetop; one record elsewhere, a bird along the North Fork on 11 June (Coffey and J. J. Murray).

Red-breasted Nuthatch. Common in the spruce on Mt. Rogers and Whitetop. Two were also noted on Beartown Mountain on 9 June (Stevens and Watson).

House Wren. Fairly common in Abingdon with 12 singing birds on 12 June (Finucane and Scott). Local and uncommon elsewhere up to 3000 feet. None seen at high elevations.

Winter Wren. Common in the spruce on Mt. Rogers, but only one reported from Whitetop.

Bewick's Wren. Uncommon at high elevations. In addition, an adult with 4 young was reported near Lodi (2000 feet) on 11 June (Mr. and Mrs. E. H. Marrow).

Carolina Wren. Common at low elevations.

Mockingbird. Common in the lowlands at least to 3000 feet.

Catbird. Very common at all elevations, occurring even on the top of Mt. Rogers.

Brown Thrasher. Common at least to 5000 feet.

Robin. Common at all elevations, even in the spruce forests.

Wood Thrush. Common in the lowlands at least to 3000 feet, but a few were also found even to the top of Mt. Rogers (5700 feet).

Hermit Thrush. One heard singing at the top of Mt. Rogers on 11 June seems to be the first summer record for southwestern Virginia and one of the few for the state (Finucane, Scott, and Watson).

Swainson's Thrush. One was heard singing near the top of Mt. Rogers on 11 June (Finucane, Scott, and Watson). This seems to be the first breeding season record for Virginia, although the bird could conceivably have been a very late transient.

Veery. Very common at high elevations at least down to 3500 feet. There were four field counts of over 20 birds with a peak of 32.

Eastern Bluebird. Uncommon to fairly common at all elevations.

Blue-gray Gnatcatcher. Only two reports, 2 birds along Laurel Creek (2200 feet) on 9 June (Campbell, Nunley, and Scott) and one near Abingdon on 12 June (Finucane and Scott).

Golden-crowned Kinglet. Common in the spruce and adjacent hardwoods on Mt. Rogers and Whitetop, at least down to 4900 feet. One was also seen on Beartown Mountain on 9 June at about 4600 feet (Stevens and Watson).

Cedar Waxwing. Uncommon, reported only up to 3000 feet. One young bird reported at Alvarado on 11 June (Marrows).

Loggerhead Shrike. Two reports, one near Saltville on the North Fork on 10 June (J. W. Murray *et al.*) and 3 along the western part of the North Fork on 11 June (Coffey and J. J. Murray).

Starling. Abundant in the lowlands but a few occurring even at high elevations.

White-eyed Vireo. Common in the lowlands, occurring to at least 3000 feet.

Yellow-throated Vireo. Fairly common in the lowlands below 2500 feet, with a peak count of 7 along the North Fork on 10 June.

Solitary Vireo. Common at high elevations.

Red-eyed Vireo. Common at all elevations, at least up to 5100 feet.

Warbling Vireo. Fairly common in the lowlands up to 2100 feet. A bird was seen singing while sitting on its nest along the North Fork on 10 June (J. W. Murray *et al.*).

Black-and-white Warbler. Fairly common at all elevations.

Worm-eating Warbler. Fairly common below 3000 feet but rather local. This bird appeared more common during the field trips of the VSO annual meeting at Abingdon, 8 and 9 June 1961. Apparently, this year the birds were through their principal song period.

Golden-winged Warbler. Scarce, with 6 birds reported by four parties, all above 3000 feet except for one bird on the North Fork 4 miles west of Saltville on 10 June at 1580 feet (J. W. Murray, Scott and Thielen).

Nashville Warbler. One singing bird was found near the top of Mt. Rogers on 9 June, apparently the first summer record for Virginia (Henkel, Thielen, and Wiltshire).

Parula Warbler. Fairly common at most elevations, occurring on Mt. Rogers at least 5000 feet.

Yellow Warbler. Abundant in the lowlands at least to 3000 feet.

Magnolia Warbler. Six birds were found on Beartown Mountain on 9 June from 3900 feet to the summit (Stevens and Watson). Two additional singing birds were seen on Whitetop (5200 feet) on 10 June by Stevens and Watson

and later by Campbell, Herndon, and Smith. These appear to be the first summer records for these localities.

Black-throated Blue Warbler. Fairly common above 2500 feet.

Black-throated Green Warbler. Rather common above 4000 feet, especially in the spruce forests. Two singing birds were also heard along Laurel Creek on 9 June at 2000 feet (Scott).

Cerulean Warbler. One record, a bird at the Clinch Mountain Wildlife Management Area (3500 feet) on 11 June (Gilbert and Prior).

Blackburnian Warbler. Common at high elevations, especially in the spruce. Adults were feeding young out of the nest on Whitetop on 11 June (Finucane, Scott, and Watson).

Yellow-throated Warbler. Probably fairly common in the lowlands, but their song period was obviously virtually over, and there were only two reports. Two singing birds were found along Laurel Creek (2100 feet) on 9 June (Campbell and Scott) and 4 singing birds along the North Fork west of Saltville on 10 June (Scott).

Chestnut-sided Warbler. Common above 3000 feet.

Blackpoll Warbler. A singing bird, probably a late migrant, was found on top of Mt. Rogers on 9 June (Henkel, Thielen, and Wiltshire).

Prairie Warbler. Fairly common below 3000 feet.

Ovenbird. Common at all elevations.

Louisiana Waterthrush. Common in the lowlands at least to 3000 feet. An unusual 19 were recorded along Laurel Creek and Straight Branch on 9 June (Campbell, Nunley, and Scott).

Kentucky Warbler. Fairly common in the lowlands at least to 2500 feet. This bird seemed much more common here during the VSO annual meeting in June 1961.

Yellowthroat. Common in the lowlands with a few reports from higher elevations.

Yellow-breasted Chat. Common in the lowlands at least to 3000 feet.

Hooded Warbler. Common in the lowlands.

Canada Warbler. Common at high elevations, at least down to 3500 feet.

American Redstart. Fairly common at low and medium elevations.

House Sparrow. Abundant in the lowlands at least to 3000 feet.

Eastern Meadowlark. Common in the lowlands, with a few reports to 4500 feet.

Red-winged Blackbird. Common in the lowlands up to 3000 feet.

Orchard Oriole. Common in the lowlands. Several nests with young were reported and one pair feeding a young bird out of the nest.

Baltimore Oriole. Common in the lowlands. Four nests, three with young, were reported. Both orioles were about equally common, and neither was recorded away from the lower stream valleys below 2000 feet.

Common Grackle. Abundant in the lowlands with a few reports from higher elevations.

Brown-headed Cowbird. Common at all elevations up to 4600 feet on the pasture on Mt. Rogers.

Scarlet Tanager. Fairly common at all elevations.

Summer Tanager. Fairly common in the lowlands, but all records below 2000 feet. Adults with young were seen at Hayter's Gap on 11 June (Gilbert and Prior).

Cardinal. Common at low and medium elevations.

Rose-breasted Grosbeak. Common at high elevations.

Blue Grosbeak. Probably scarce with three birds reported. On 9 June one was found along the South Fork (Coffey and J. J. Murray) and another at Abingdon (Campbell and Scott), the latter seen by other observers later, and on 11 June one was found near Hayter's Gap about 1600 feet (Gilbert and Prior).

Indigo Bunting. Abundant in the lowlands with a few reports up to 4500 feet.

Purple Finch. Two reports from the top of Mt. Rogers, a singing male on 10 June (Prior and Mrs. Marrow) and two singing birds on 11 June (Finucane, Scott, and Watson). These appear to be the first summer records for this area.

American Goldfinch. Common at all elevations.

Red Crossbill. Stevens and Watson saw 3 crossbills flying over Beartown Mountain on 9 June and noted several flocks totalling at least 14 flying over Whitetop on 10 June but were unable to get a good view of the birds. On 11 June Finucane, Scott, and Watson saw several flocks flying high over Mt. Rogers and finally got good views of a number feeding on Whitetop. At least 31 birds were seen on this date.

Rufous-sided Towhee. Common at all elevations. A nest was found along the South Fork on 9 June (Coffey and J. J. Murray).

Grasshopper Sparrow. Fairly common below 2100 feet. The birds were singing poorly, making their true status difficult to determine.

Vesper Sparrow. Fairly common at high elevations. One was also found along the South Fork on 9 June about 1800 feet (Coffey and J. J. Murray).

Slate-colored Junco. Very common above 4000 feet on Mt. Rogers and Whitetop as well as Beartown Mountain. Adults feeding young were found on Beartown.

Chipping Sparrow. Common in the lowlands below 3000 feet with a few records to 4500 feet.

Field Sparrow. Common in the lowlands; less common at medium and high elevations. A nest with 2 eggs was found near Beartown Mountain on 9 June (Stevens and Watson).

Song Sparrow. Very common in the lowlands to at least 3000 feet and fairly common to at least 5000 feet.

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115 Kennondale Lane, Richmond, Virginia 23226

NOTES ON THE LIFE CYCLE OF THE INDIGO BUNTING¹HARRY L. HOLLOWAY, JR.²*Introduction*

Herein are presented a few phases in the life cycle of the Indigo Bunting (*Passerina cyanea*) as observed in the area of Mountain Lake Biological Station, Giles County, Virginia, at an elevation of approximately 3840 feet. The site of the station proper is on a wooded elevation approximately one mile north of Mountain Lake.

Description of Adult Male and Female. Sexual dimorphism is strikingly demonstrated in this species. The male and female are approximately the same size: 5 to 6 inches in length. The adult male is rich blue in color with the head and neck of a more purplish-blue hue. The coloration of this bird appears to change in certain lights; and to observe its full intensity, one must be prepared to gain an advantageous position from which to view it. The wing plumage is edged in black.

The adult female is brown dorsally and grayish-white beneath, while the chest is streaked with light brown. The female is uniformly colored with no distinctive features that will permit instant field identification. Association with the male member of the species is the quickest and most reliable method of identification.

According to Peterson (1947) the male becomes more like the female in autumn, but with sufficient persistent blue in the wings and tail to identify it. This phase of the male life cycle has not been observed during the course of this study.

Voice. The call note of this species is a sharp and thin "tsick." The birds have been heard to give the call note, which is not repeated in a fast manner but is rather equally well-spaced, as they hopped from bush to bush adjacent to trails. The female sometimes gives it as she approaches the nest to feed the young.

The song is a lively, high-pitched, diphased liquid song. Each group of phrases is on a slightly different pitch; and as it nears its finish, the song becomes weaker.

Habitat. The Indigo Bunting is partial to clearings and open woods where the undergrowth is very dense (Table I). The male of this species readily exhibits himself on electric wires or poles, low bushes or low trees within easy visual range. The female is a secretive bird. Even when encountered with the male in the nesting area, she will silently disappear from view.

1. The author is indebted to Dr. William L. Engels, Zoology Department, University of North Carolina, for critically reading the manuscript.

2. Supported in part by a Research and Creativity Grant from the Board of College Education and Church Vocations of the Lutheran Church in America.

TABLE I
TYPICAL HABITATS OF THE INDIGO BUNTING

<i>Date</i>	<i>Habitat</i>
14 June	Deciduous woods west of the road through "Shanty Town," Mountain Lake Biological Station.
26 June	Deciduous woods adjacent to the West Virginia Road, near its junction with Salt Sulphur Turnpike.
27 June	On an electric-wire pole along Route 700.
2 July	Deciduous woods bordering the trail to Bald Knob.
3 July	In a thicket of St. Johns-wort, alder and witch hazel in Little Meadow. Little Meadow is a sedge meadow.
4 July	On an electric-wire pole near the junction of the West Virginia Road and the road to Mountain Lake Biological Station.
7 July	A group of walnut and sycamore trees situated between Route 604 and Sinking Creek. The area is characterized by open fields. Also observed on an electric-wire pole in the same general area.
13 July	Deciduous woods bordering the trail to Bear Cliff, proximal to the cleared right-of-way for electric power lines which is contiguous with the cleared grounds of the Biological Station.
16 July	In the low secondary growth of the cleared right-of-way south of the Rafinesque Building, Mountain Lake Biological Station. A nest was found 10 yards south of this building and is described in the body of the text.

"Territory" or Area. The selection of the nesting site was not observed. The immediate area around the nest is sometimes "protected" by the female; for when she is disturbed during the incubation period, she announces her discontent from the height of some small tree nearby. The male of the pair nesting 10 yards south of the Rafinesque Building was observed in the area only one time during the period of surveillance. This appearance may have been in answer to the excited call of the female. The second pair of Indigo Buntings was observed in the deciduous woods bordering the trail to Bear Cliff, close to the cleared right-of-way for electric power lines which borders the cleared area of the Biological Station. This pair was apparently constructing the second nest of the season. The male of this pair "defended" an area 68 yards long adjacent to the trail. The defense consisted of excited call notes given by the bird as he followed close behind the author. From these insufficient data it would appear that the male "defends" the territory during the nest-building process, but may return rarely during the incubation period.

The female rarely forages for food in the immediate vicinity of the nest, but rather flies out of sight and then returns to feed the young. Apparently food is collected a short distance from the nest, as the intervals between feedings were very short. This partially explains the presence of the Chestnut-sided Warbler's nest, which was only 777.24 cm from the nest of the Indigo Bunting. This is a type of territorial organization of birds considered by Allee, *et al.* (1949), in which mating and nesting take place in the "territory," with food being collected elsewhere. Concerning the food of this species, Pearson, *et al.*, 1936, state, "His food consists mainly of seeds and berries with a goodly number of insects. Among the insects are found caterpillars, click-beetles, snout-beetles, chafers, bugs of various kinds and canker worms."

Nest Habitat and Description of the Nest. The nest studied was situated in the cleared right-of-way 10 yards south of the Rafinesque Building. It was supported by two suckers which arose from the cut-back stump of a red maple tree. An ostrich fern aided in supporting the nest and a similax stem passed through its basal portion. The flora of the area was dense; and the site of the

nest was in an elevated growth consisting of the plants noted above and sassafras, black gum and blackberry. The nest was 60.96 cm above the ground (ground to the basal portion of the nest) and 58.42 cm below the canopy of the dense growth in which it was situated (measured from the base of the nest cup). The nest was eccentrically placed in the dense patch of plants, being proximal to the western edge. The nest was 12.70 cm below the floral elements immediately above it (measured from the bottom of the nest cup). The inside diameter of the nest cup at the rim was 6.35 cm, and the outside diameter at the same location 11.43 cm. The nest cup was 3.18 cm deep (inside), and the nest from the rim to the basal portion was 11.43 cm. The nest was compactly made. It was constructed of grasses, leaves and weed stems, and was lined with finer grasses.

Egg Laying and Incubation. The partially completed nest was found in the cleared right-of-way south of the Rafinesque Building on 16 June. The nest was apparently completed by the 18th, and the first egg was deposited in the nest before 7:30 AM on 19 June. A second egg was laid in the nest during the following 24-hour period, 7:30 AM, 19 June, to 7:30 AM, 20 June. A third egg was found in the nest at 7:30 AM on 21 June, and the fourth and last egg was laid in the nest during the following 24-hour period, ending 7:30 AM, 22 June. The female apparently started incubation on 21 June, the day before the last egg was deposited; as she was found on the nest at irregular intervals during the day and night. The number of eggs (4) in the clutch agrees with the number recorded in the literature (Pearson, *et al.*).

The eggs were grayish-white, varying slightly from the bluish-white color noted by Pearson, *et al.*

A second brood was raised, and the pair encountered on 13 July was preparing this nest.

The eggs measured 19.5-20.5 mm X 14.2-14.7 mm. These data are within the range, 17.78-20.57 X 12.70-15.24 mm, given by Forbush (1929).

TABLE II
EGG DIMENSIONS, IN MILLIMETERS

<i>Egg Number</i>	<i>Length</i>	<i>Width</i>
1	20.0	14.2
2	19.5	14.4
3	20.5	14.7
4	20.1	14.2

The male was observed in the area only one time during the period of incubation. Apparently the female left the nest during this period to find food. This does not appear to be the usual behavior of territorial birds.

Two of the egg shells were noted to be cracked, and the contiguous areas invaginated on 2 July. The contents of the eggs appeared to be dry. These two eggs were removed from the nest between 8:30 AM, 2 July, and 8:30 AM, 3 July. The female continued to incubate the remaining two eggs after this loss and, between the hours of 5:30 PM, 3 July, and 8:30 AM, 4 July, one of the eggs hatched and the remains of the shell were removed. The remaining egg hatched between 8:00 PM, 4 July, and 8:30 AM, 5 July, and again the egg shell remains were removed.

Care and Feeding of the Fledglings. Apparently the female does all of the incubating, feeding and caring for the young until they are ready to leave the nest. The fledglings were covered with a small quantity of down at birth.

The female generally fed only one fledgling upon each return to the nest, but occasionally both received food. The high ovarian mortality may have modified her feeding habits. She fed the young from a perch on the rim of the nest, and no discrimination as to which nestling received the food was observed. Some-

times the female carried food partially hanging from her bill. However, most of the food carried to the young could not be seen; thus it is not known if the female regurgitates food for the young. The female fed the nestlings at intervals ranging from 2 to 15 minutes during a 2-hour observation period. From the rapidity of her visits to the nest, one must conclude that there was an abundant supply of food available in the area. Even with this almost constant consumption of food, the fledglings threw their heads up into the air and opened their mouths when the nest was disturbed after the 2-hour period of observation. The female removed the fecal sacs from the nest; and with them partially hanging from her bill flew out of the area.

The female used the higher trees and bushes in the area when approaching the nest. The floral elements used in this manner were: a scrub pine tree situated south-west of the nest; a young chestnut tree south-west of the nest; a young white oak tree south of the nest; a red oak tree west of the nest; a mountain laurel bush adjacent to the nest; and the branches of the red maple which supported the nest. The female used these floral elements irregularly upon approaching the nest, but she never was observed to fly directly to the nest.

The nest was found partially overturned on 5 July, and the fledglings were discovered on the ground beneath the nest. Neither of the adult birds was heard or observed in the area; so the young were returned to the nest, after it had been righted and secured into position. This mishap, caused by high winds, did not appear to disturb the mother, for an hour later she was sitting on the nest.

The nest was found partially overturned again on the evening of 8 July. Only one of the fledglings could be found and it was returned to the repositioned nest. On the following morning the female was heard and observed on the ground beneath the nest, but the nest was found to be empty.

The mortality rate in this family was very high; two of the eggs were apparently discarded. The severity of the agencies operating to reduce the number of individuals may have been accentuated, due to its being observed.

Summary. The Indigo Bunting was observed and heard from Mountain Lake Biological Station, elevation 3840 feet, to where State Route 604 crosses Sink-ing Creek, elevation 1800 feet.

The male and female appear to cooperate in constructing the nest, during which time the male apparently "defended" the area. However, he appears to return to the nest rarely during incubation; leaving this chore, the feeding and caring for the young, and the territory problems, to the female.

The pair exhibited a typical avian territory behavior. The floral construction and support of the nest and its position in the canopy are noted.

Four eggs were laid, one daily on consecutive days, 18-21 June. Incubation began on the day before the last egg was laid, and continued 14 days to hatching.

The female returned indirectly to the nest to feed the young from a nest perch at average intervals of 7 minutes during a 2-hour observation period.

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INVASION OF PINE SISKINS AND OTHER FINCHES INTO THE CENTRAL VIRGINIA BLUE RIDGE IN WINTER OF 1965-66

CHARLES E. STEVENS

Apparent by late October of 1965 was a spectacular incursion of Pine Siskins (*Spinus pinus*) into the Blue Ridge of north-central Virginia. On 23 October I found hundreds flying south over the crest of the Blue Ridge near Big Flat Mountain (Albemarle County), in flocks of up to 100. For that day my total count was 597 in Albemarle and Augusta counties. This total was also my highest for the winter season. The largest single flock was 130 birds in the Rip Rap Run area of Augusta County on 4 December 1965, when 227 were seen in all.

Until late December the Siskin was the most common bird to be found in the higher Blue Ridge, often outnumbering all other species combined. Their favorite food was the seed of the sweet birch (*Betula lenta*), and the birch woods sounded almost everywhere with their wheezy notes. To a lesser extent they were found in alders. By 23 December 1965 the birds had passed through, and only a few scattered individuals remained until the second part of February, when the numbers began to pick up somewhat. By April the return flight was at its peak, producing a high count of 310 on 8 April 1966 in the Big Levels area of Augusta County.

During the spring flight most Siskins were seen feeding in pines and hemlocks. My last record was of 54 on 7 May in Augusta County. A single bird heard flying over Pond Ridge in Albemarle County on 4 June 1966 was certainly a straggler.

On 11 December 1965, Keith Richards and I found a flock of 40 Redpolls (*Acanthus flammea*) in pines and another smaller flock of 12 in sweet birches on the north side of Trayfoot Mountain, Rockingham County, near the summit. Siskins were also in the area. Several colonies of paper birch (*Betula papyrifera*) occur on the quartzite talus here, and it was most interesting to see these two boreal forms at the same time in Virginia. Two Redpolls were also found 23 December 1965 on upper Doyle River, Albemarle County, on the Big Flat Mountain Christmas Count.

Six Red Crossbills (*Loxia curvirostra*) were seen on 4 December 1965 in Augusta County near Calvary Rocks feeding in pitch pines (*Pinus rigida*) and table mountain pines (*P. pungens*), seeds of which are their usual fare here.

The White-winged Crossbill (*Loxia leucoptera*), which is rare here, was recorded on 23 December 1965 when Stevan Calver, Robert Merkel, and I saw a flock of 11 feeding in hemlocks near upper Doyle River, Albemarle County.

A few Evening Grosbeaks (*Hesperiphona vespertina*) were seen through the period, but they are almost always scarce in the mountains, being usually found in the river valleys and wooded sections of towns. The last recorded was a single bird, flying north over Big Levels, Augusta County, on 7 May 1966.

* * *

While outside of the area discussed above, a Red Crossbill was heard on 17 July 1966 in western Rockingham County as it flew eastward along the Long Run Road toward Tomahawk Mountain from the West Virginia line on Shenandoah Mountain. The area was oak-pine woodland at 3400 feet elevation. This species is well known as an erratic wanderer.

615 Preston Place, Charlottesville, Va. 22903

EVENING GROSBEAKS IN VIRGINIA, 1965-1966

ARTHUR H. FAST

The eastern race of the Evening Grosbeak, *Hesperiphona vespertina vespertina* (Cooper), continues to come to Virginia as a migrant and a winter visitor, though it varies markedly in numbers from season to season. During the 1965-1966 season, the bird was widely dispersed throughout the state, but usually in reduced numbers. In some areas, it appeared at irregular intervals, occasionally, or for a day or a few days.

In most prior seasons, the Evening Grosbeak has been most numerous in northern Virginia. This season, the bird was present in northern Virginia throughout most of the season but in greatly reduced numbers. In contrast, the greatest concentrations were in Richmond and Williamsburg and nearby counties. Scott (Richmond) reported " - - the Evening Grosbeak was as common last winter as ever, and far more widely distributed than ever before". Byrd (Williamsburg) said approximately 100 birds appeared on 20 December. Subsequently "the numbers appeared to increase progressively" to 237 (actual count) on 15 January; "I am fully confident that at least 500 birds were - - in our yard at that time". There were 3 reports from the Eastern Shore. For the first time, 2 were reported from Collinsville. In the 1965 Christmas Count, Scott listed 13 counts for a total of 359 Evening Grosbeaks.*

Based on the reports received, the following numbers of Evening Grosbeaks were banded in Virginia during the 1965-1966 season:

Bander	Number banded		
	M	F	Total
Scott (Richmond)	152	403	555
Byrd (Williamsburg)	135	228	363
Mrs. Babcock (Gordonville)	106	35	
	(77 sex not given)		218
Fast (Arlington) **	31	82	113
Rev. and Mrs. G. Smith (Strasburg)	34	47	81
Mr. and Mrs. S. Mitchell (Newport News)	9	15	24
Mrs. Peacock (Fairfax)	4	5	9
Total for Virginia	471	815	1363
Omitting the 77 birds not sexed	36.6%	63.4%	of total

Most banders reported very few repeats. Byrd wrote "the astounding thing" was that at times "one rarely would capture a banded bird [from the large flocks present] despite" the large number of birds recently banded. It would appear that at such times, individual birds frequently shifted from one flock to another, and that the flocks moved about. * * * Scott reported the return in the instant season of two Evening Grosbeaks which he had banded in previous seasons: one in April, 1960, and the other in January, 1964.

The following 13 Evening Grosbeaks were banded outside Virginia, and recaptured and released in Virginia, during the 1965-1966 season, as indicated:

*The Raven, 37, 20 and 26.

**Assisted continuously by Mrs. David and/or Patricia Beach, and occasionally by Mrs. Robert Madancy.

***Bird-Banding, 33, 181, 189.

Recaptured and released by Scott at Richmond:

Band No.	Sex	Date Banded	Place Banded	Date recaptured
59-167004	M	22 April 1960	C.S. Robbins, Laurel, Md.	15 Jan. 1966
Scott recaptured 5 other foreign birds, on which reports have not as yet been received.				
Recaptured and released by Byrd at Williamsburg:				
57-175214	F	26 Dec. 1959	J.H. Kennard, Bedford, N. Hamp.	14 April 1966
59-106106	F	15 Feb. 1960	D.L. Bordner, State College, Pa.	15 April 1966
57-144206	F	21 Jan. 1962	R.L. Wolff, New Bern, N. Car.	30 Dec. 1965
Recaptured and released by Babcock at Gordonsville:				
55-146135	F	4 Jan. 1959	H.E. Harlow, Reading, Mass.	6 March 1966
62-181202	F	6 May 1964	A.E. Chapman, Patten, Maine	4 Feb. 1966
Recaptured and released by Fast at Arlington:				
63-100158	F	4 May 1962	Merrill Wood, State College, Pa.	9 Feb. 1966
Recaptured and released by Smith at Strasburg:				
	M	10 Jan. 1964	Meadville, Pa.	24 Jan. 1966

At least 12 Evening Grosbeaks banded in Virginia in previous years were recovered during the instant season, in such scattered places as Quebec, New York, New Hampshire, Minnesota and North Carolina.

As in previous seasons, the females predominated. Only 34.6% of the 1363 birds banded were males. Byrd, Williamsburg, reported that in early April, the "flocks dispersed greatly". Possibly some of these flocks were noted in northern Virginia. Gabrielson, Oakton, wrote that 25 or 30 came in for the last two days of April after which only occasional birds were seen. Of the total of 113 banded by Fast, Arlington, 63 were banded between 1 April and 7 May - of which only 8 were males. Over the years, the Evening Grosbeak has been essentially a morning bird. However in the instant season, there appeared a tendency to stay later in the day. Typical of several reports: Ames, Driver, said they stayed as late at 5:00 P.M.; Gabrielson, Oakton, noted that in February and March, they "Sometimes were almost as late as the Cardinals in the evening".

The extreme dates for the arrival and departure of the Evening Grosbeaks were: 22 October (Manassas, Kemper) and 17 May (Hampton, W. Smith). Some other early arrivals were: 23 October, Arlington; 30 October, Richmond; 6 November, Strasburg and Buchanan; 20 November, Mt. Rogers (60) and Highland County; and 26 November, Norfolk. Many arrivals were in December, January and February. Many departures were in April. Some other May departures were: 1, Price's Fork, Waverly and Manassas; 6, Oakton and Richmond; 9, Manassas and Arlington; 11, Alexandria; and 15, Williamsburg and Lynchburg.

Thanks to the contributors: J.M. Abbott, J. Ames Jr., Mrs. Babcock, Mrs. D. and P. Beach, M. Byrd, M. Carpenter, Mrs. H. Church, W. Cravens Jr., Mr. and Mrs. J. Eike, Col. and Mrs. Ely, A.O. English, A. Fast, W. Fitzgerald Jr., R.S. Freer, I.N. Gabrielson, C. Hacker, W. Houston, J.R. Kemper, M. Lakeman, Mrs. J.H. Mason, L. McAlexander, P. Mehling, Mrs. D. Mitchell, Mrs. E.C. Moore, Miss G. Moore, J.J. Murray, J.W. Murray, Mrs. E. Peacock, M. Nelson, G. Prior, F. Scott, G. Smith, Mrs. M. Smith, W. Smith, C. Steirly,

P. Sykes, Mrs. E. Umbarger, Mrs. H. Waid, Dr. G. and Kate Wallace, and K. Weber.

The Evening Grosbeak, the north-woods bird of mystery of a few decades ago, is slowly emerging into the open for observation and study.*

4924 Rock Spring Road, Arlington, Virginia 22207

A GOLDEN-WINGED WARBLER NEST

MRS. MYRIAM P. MOORE

Suddenly, on 28 May 1966, came a great moment. That was the day we discovered that a pair of Golden-winged Warblers had a nest at the weedy edge of our yard. With five eggs!

The scene was Green Valley, a few acres of quietude in Botetourt County at the foot of Purgatory Mountain. The nest site was 15 feet from the edge of the creek that drains this narrow valley, lying at 1,100 feet altitude. For three seasons past the song of the Golden-winged Warbler has persisted in our neighborhood through four to six weeks in spring. Yet nothing but poison ivy had developed from previous efforts to follow their notes about the slopes of an old pasture grown bushy with persimmon and pine.

In 1966 Golden-wings were regularly seen and heard in the immediate area from 23 April through 19 June, one pair being frequently in the yard. The male had favorite perches. A certain limb on a small locust beside the creek, now known as "the singing locust", and a certain twig on a sycamore were day-long singing perches. Sometimes he would sing long roundelays of his bee-z-buzz-buzz song from the utility wire above my vegetable garden.

He was there on 28 May as I worked in the garden. As he sang, I saw the female dart purposefully into a patch of tall weeds near the singing locust. When the male dropped from his wire to the ground, I dropped my hoe and grabbed binoculars. With scarcely a pause he flew to his perch in the singing locust, holding a small green worm in his mouth. The worm wriggled a little, but did not interfere with the bird's singing, which continued for several moments before his golden wings propelled him into the weeds, precisely where the female had disappeared a little earlier.

I hurried to the spot and peered cautiously and anxiously about here and there before finally I looked down upon the close-sitting female. Her golden forehead shone like treasure as she flew to a low bush and began to scold.

The ground nest was set on a lump of dried leaves, steadied in a circle of still-erect stems of last season's weeds. The nest was light in color, finely woven of grasses and fibers. An outer circle of dried leaves reached above the rim. The five white eggs, delicately freckled, were a surprise. I had wrongly assumed that young were being fed, but now I knew that the green worm had been for the female, not for young.

I retreated, and resolutely held my distance. I did not approach the nest again, lest I cause some fateful disturbance. I watched from afar, and spent my free time across the creek, trying without success to follow the comings and goings of two other singing male Golden-wings, which I was now convinced were around their territories.

I believe that all went well at the nest until 4 June. Noting no activity around the nest all morning I waded through the tall grass to find the nest knocked askew and empty. What had happened? The singing locust was quiet and deserted.

9 Riverview Place, Lynchburg, Virginia

*See Bird-Banding, 31, 150-156; 34, 22-30; and EBBA News, 29, 155-158. See The Chat, 30, 65 and 66 for a summary of a substantial invasion of this bird into the Carolinas during the instant season.

EASTERN SHORE FIELD TRIP, 1966

GERTRUDE PRIOR

Twenty-eight persons gathered at the newly refurbished Wachapreague Hotel, 13 August, for a trip to the off-shore islands. The flotilla of five boats left the dock about eight o'clock and wound their way through the channel for the first stop at Club Point. Many herons, mostly Louisianas, were still nesting, and a goodly number were rounded up and banded. The island was alive with not only herons, but Glossy Ibis, also nesting, and various gulls, terns, and shore birds.

Our next stop, a new one, was at Dawson's Shoals. Here we found many Black Skimmers—adults, half-grown birds, chicks, and eggs. Earlier nestings had apparently been washed out on this low spit, and the birds were still trying. There were Common Terns nesting here also. It was hard to step where there was not some form of bird life. The protective coloration was fantastic.

Cedar Island gave us a chance really to stretch our legs. Eugenia Scott and others, way up the beach, found two Hudsonian Godwits. When this was casually mentioned to scattered groups there was a mad scramble to the area. Obliging, the two birds remained in the area for some time. Also on Cedar there was a large concentration of shore birds, mostly "Peeps", feeding at the ocean's edge. The passing of a cold front on the previous night probably accounted for the migration, one of the heaviest to be seen in recent VSO trips to the Eastern Shore.

On 14 August most of the group had a very satisfactory morning at Assateague Island, where every effort has been made to make bird watching easy. A Stilt Sandpiper and several Buff-breasted Sandpipers were highlights of the visit here.

Briar Hill, Sweet Briar, Virginia

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Editor of The Raven: J. J. Murray, 6 Jordan St., Lexington, Va. 24450
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VSO MEMBERS ENROLLED IN 1966

Akers, W. Gerald, 1317 Sussex Place, Norfolk, Virginia 23508

Akers, Mrs. W. Gerald, 1317 Sussex Place, Norfolk, Virginia 23508

Albert, Mrs. J. G., P. O. Box 537, Honaker, Virginia

Allen, Mrs. A. P., Route 4, Box 59, Floyd, Virginia 24091

Arny, Samuel A., 7608 Hamlet Street, N. Springfield, Virginia 22151

Barrett, Mrs. Helen B., Marshall, Virginia 22115

Blackwell, Miss Ruth E., 7759 Donnybrook Court, Alexandria, Virginia 22003

Brewton, Capt. Glenn F., 1421 No. Shore Road, Norfolk, Virginia 23505

Brewton, Mrs. Ethel C., 1421 No. Shore Road, Norfolk, Virginia 23505

Chapman, Mrs. William H., 1111 Parker Place, Charlottesville, Virginia

Childress, Miss Betty, Darlington Heights, Virginia 23935

Childress, Roger, Darlington Heights, Virginia 23935

Crank, Miss Mary E., 3921 Seminary Avenue, Richmond, Virginia 23227

Darden, Mrs. R. N., Newsoms, Virginia 23874

deWitt, Miss Harriet B., 12th Street & Ocean Avenue, Virginia Beach, Virginia

Dickenson, W. L., Darlington Heights, Virginia 23935

Drake, Richard G., 300 Maryland Avenue, Portsmouth, Virginia

Drake, Mrs. Royce A., Virginia Seminary, Seminary Post Office, Alexandria, Virginia

Driskill, Mrs. G. H., Darlington Heights, Virginia 23935

Dubke, Kenneth H., Route 1, Hodgenville, Kentucky 42748

Dulaney, Mrs. Paul S., Greenwood, Virginia 22943

Eike, David R., 8009 Martha Washington Street, Alexandria, Virginia

Garner, Mrs. R. M., 123 North Asheboro Street, Liberty, N. C. 27298

Graves, Mrs. Mary F., 505 Gaymont Place, Staunton, Virginia

Hartwell, Mrs. Stephen, 5929 River Drive, Lorton, Virginia 22079

Hawkins, H. Brad, 216 Shady Wood Drive, Newport News, Virginia 23602

Heimerdinger, Miss Mary Anne, Carnegie Museum, Pittsburgh, Pa. 15213

Heimerl, Mrs. George J., Route 3, Box 126, Artillery Road, Yorktown, Virginia

Hill, R. L., 4527 Stonbrook Drive, Richmond, Virginia 23234

Hurt, Mrs. Henry C., Halifax Road, Chatham, Virginia 24531

Jackson, Mrs. Roy, 413—23rd Street, Virginia Beach, Virginia 23451

Jones, Mrs. I. L., John Greenhow House, Williamsburg, Virginia 23185

- Kestenbaum, Miss Thelda M., P. O. Box 2510, Williamsburg, Virginia 23185
Knoblauch, Wolfgang, Hermann Lonsstr 9, Dornigheim/Kr Hanau, W. Germany
Lacy, Miss Virginia, 4513 West Franklin Street, Richmond, Virginia 23221
Lapeyre, Mrs. K. P., 309 Delton Avenue, Hopewell, Virginia 23860
Larner, Mrs. M. W., Jr., 1020 W. Beverley Street, Staunton, Virginia 24401
Lewis, Mrs. W. T., Jr., 46 Elm Avenue, Newport News, Virginia
MacDiarmid, Mrs. H. S., 114 Williams Street, Staunton, Virginia 24401
Mahoney, W. Scott, Director, National Humane Education Center, P. O. Box 149, Waterford, Virginia 22190
Massie, Miss Susan Poindexter, Mary Baldwin College, Staunton, Virginia 2440
Mehler, Mrs. Thomas W., 709 Pine Avenue, Waynesboro, Virginia 22980
Murray, Mrs. J. J., 6 Jordan Street, Lexington, Virginia 24450
McClarín, Mrs. Donald S., 119 W. Lorengo Avenue, Norfolk, Virginia 23503
McGay, Mrs. Electra Moore, Hadlow, Star Route 3, Goshen, Virginia 24439
Nichols, Mrs. Stuart, 3030 Grove Avenue, Richmond, Virginia 23221
Parnell, James F., Department of Biology, Wilmington College, Wilmington, N. C.
Peacock, M. Brantley, 3140 Highland Lane, Fairfax, Virginia 22030
Pond, Norman R. Jr., 200 N. Sheppard Street, Richmond, Virginia 23221
Prentice, George S., 1035 Norman Drive, Apt. #202, Annapolis, Md. 21403
Robertson, Dr. Abner, 1211 Wilmington Avenue, Richmond, Virginia 23227
Rodeffer, William H., Allender Road, Box 805, White Marsh, Md. 21162
Rudd, Mrs. Dorothy C., 4315 Fauquier Avenue, Richmond, Virginia 23227
Russell, William C., Migratory Bird Populations Station, Laurel, Md.
Sanderson, Mrs. Ruth M., Pamplin, Virginia 23958
Scruggs, Mrs. Russell, Cullen, Virginia 23934
Shopland, Mrs. Charles E., 417 N. Belmont Avenue, Richmond, Virginia 23221
Shopland, Miss Lorna, 417 N. Belmont Avenue, Richmond, Virginia 23221
Spencer, Hugh M., 1627 Oxford Road, Charlottesville, Virginia 22903
Sprague, Miss Elizabeth F., Sweet Briar College, Sweet Briar, Virginia
Stallard, Mrs. Clifford L., 1111 Virginia Avenue, Norton, Virginia 24273
Stone, Mrs. Carey A. Jr., 101 W. 8th Street, Radford, Virginia 24141
Stone, T. Roger, P. O. Box 604, Chester, Virginia 23831
Tate, Mrs. Carol E., 6723 Lee Highway, Arlington, Virginia 22205
Taylor, Miss Helen W., 1500 Westover Avenue, Norfolk, Virginia 23507
Taylor, Miss Josephine, 1449 Mallory Court, Norfolk, Virginia 23507
Thielen, Mrs. Bernard, Hawk Mountain, Kempton, Pa. 19529
Thompson, Miss Emmy Lou, 1517 Langhorne Road, Lynchburg, Virginia 24501
Thrower, Mrs. Monroe B., P. O. Box 494, Norton, Virginia 24273
Timberlake, Mrs. J. W., 615 East Beverley, Staunton, Virginia 24401
Troth, Miss Gay, P. O. Box 938, Emory, Virginia
Tusler, Mrs. Glen, Dare Road, Dare, Virginia 23490
Watson, Kent, Hampden-Sydney, Virginia
Weiland, Mrs. Philip J., Jr., 1320 Krise Circle, Lynchburg, Virginia 24503
Willingham, Broadus E., IV, 1139 Oakcliff Road, Macon, Georgia 31201
Wood, Mrs. Julia Ross, 213 Virginia Avenue, Staunton, Virginia 24401

REVIEWS

Symbol of Our Nation. U. S. Department of the Interior. For sale by Superintendent of Documents, Washington, D. C. 20402, 50¢. This government publication is a four page folder, 15 x 11½ inches; inside pages with a large picture of a Bald Eagle, with wings spread, and with comments.

Birds in Our Lives. Edited by Alfred Stefferud, U. S. Department of the Interior, with 61 writers, xiii & 561 pages, quarto, with two columns to the page, illustrated with 80 wash drawings by Bob Hines and 372 photographs by 120 photographers and with color frontispiece of a Bald Eagle, 1966, \$9.00. To be secured from U. S. Government Printing Office, Washington, D. C. 20402.

This reviewer has not seen any book in recent years where the purchaser gets as much for his money. Although, as is to be expected from a government publication, it is not lavishly done, its make-up is altogether satisfactory. It is a fascinating book for those interested in birds from any standpoint—economic, bird watching, photography, bird art, protection, aerodynamics, aviaries, refuges and sanctuaries. All too appropriately, the drawing for the initial chapter is a page of Passenger Pigeons.

The writers of the 54 chapters include professional and amateur ornithologists, government officials, conservationists, and various kinds of specialists. In a brief foreword, Secretary Udall presents a graphic philosophy of conservation. The chapter themes are varied: birds and science, birds in the Bible, birds and our health, bird watching, the Christmas count, bird flight, falconry, hunting, cage birds, birds at airports, farmers and birds, symbols of states, laws that protect, sanctuaries, and many others. The book is thus not so much about birds in themselves as about their connection with human interests and activities.

A chapter is devoted to the Bald Eagle as "the nation's symbol," with ten pages on its use on the Great Seal of the United States and on official documents, on the coats of arms of states, and on our coins, paper money, and internal revenue stamps. There is another chapter, "a covey of names," on place names from birds in the United States. A chapter on "birds on stamps" provides a detailed study of postage stamps and special stamps, such as the Migratory Bird Hunting Stamps, with birds on them, with several pages of bird stamps of other nations. Another chapter does the same for birds on coins.

This is a book to which one will return with pleasure again and again.

J. J. Murray

AUDUBON FILMS IN VIRGINIA, SPRING 1967

Norfolk. 10 February, Mexican Adventure, C. P. Lyons.

2 March, The Untamed Olympics, Walter Berlet.

7 April, Everglades—River of Grass, Robert C. Hermes.

Williamsburg. 9 February, Mexican Adventure, C. P. Lyons.

1 March, The Untamed Olympics, Walter Berlet.

9 April, Everglades—River of Grass, Robert C. Hermes.

Lynchburg. 14 February, Mexican Adventure, C. P. Lyons.

Roanoke. No lectures this year.

Washington, D. C., Charlottesville, and Kingsport (for Bristol area) will have films; schedule not available.

NEWS AND NOTES

CORRIGENDA. An unfortunate group of typographic errors occurred in the March 1966 issue of *The Raven* somewhere between the proof and the final printing. All of the Christmas count dates in Table 1 on pages 22, 24, and 26 are in error. The correct dates may be found in the text under each count heading.

URGENT—TO ALL MEMBERS. Send your Zip Code at once to J. Steven Thornhill, Treasurer of VSO, 2615 Fort Avenue, Lynchburg 24501. If you fail to do this, you will either miss your March issue, or it will be greatly delayed.

ANNUAL MEETING, 1967. Richmond, Virginia, 28 April, at Schrafft's Virginia Inn, Intersection of Route 301 and Interstate 95. Fuller announcement to be in the *Newsletter*.

NOMINATING COMMITTEE. The Nominating Committee to report at the Annual Meeting will consist of Mrs. James W. Wiltshire, Chairman, Mrs. W. P. Smith, and Eliot Breneiser.

EASTERN SHORE TRIP. The date and place for the 1967 Eastern Shore field trip will be 19 August at Wachapreague.

EBBA AWARD. The Eastern Bird Banding Association is offering an award of \$100 to a college or university student using bird banding in an ornithological study. The applicant's research description, signed by his department head, must be received prior to 28 February 1967. Questions and applications should be sent to Albert Schnitzer, Eastern Bird Banding Association, 155 Wild Hedge Lane, Mountainside, New Jersey 07092.

FILMS ON BIRDS. J. H. Clemmer, P. O. Box 1684, Roanoke, Virginia 24008, has six Audubon Society films, of 10 to 30 minutes each, which he can show at meetings. For details write him.

NEST RECORD REPORTS. The nest record cards for the 1966 season should be returned now to the Laboratory of Ornithology, Cornell University, Ithaca, New York 14850.

EBBA SECRETARY. The VSO is honored in having one of its members, Mrs. Herbert M. Church, Jr., of Ashburn, elected as Secretary of EBBA.

HERON AND IBIS BANDING IN VIRGINIA. "An amazing total of 3139 herons and ibises were banded in six heronries on Virginia's Eastern Shore in 1966 according to reports received from four banders. About 70% of these were banded by R.D. Benedict, of Philadelphia, and the rest by M. A. Byrd, C. W. Hacker, and Sydney Mitchell. Eight of the nine known heronries on the Eastern Shore were visited by the banders, but no birds were banded in two of the larger ones (on Hog and Mockhorn Islands) because of the difficulty of reaching the nests. The banding total breakdown by species is as follows: Snowy Egret, 1060; Louisiana Heron, 869; Glossy Ibis, 557; Little Blue Heron, 225; Black-crowned Night Heron, 209; Green Heron, 104; Cattle Egret, 76; and Common Egret, 39." F. R. Scott.

GOLDEN EAGLE AT PEAKS OF OTTER. "On 5 October 1966 my sister-in-law Mrs. R. S. Burford and I were returning to the Lodge from atop the Peaks of Otter when I noticed an adult Golden Eagle (*Aquila chrysaetos*) on a fence post near the Lodge. I eased the car closer and we observed the eagle for several minutes from the car. We were so close that binoculars were not necessary. The golden feathers around the neck glinted in the sun. The bird flew into a locust tree at the foot of the mountain where 8 Common Crows began dive-bombing it, then it flew back to the original perch on the post near us. The bird was apparently resting. After about 5 minutes, when a man came walking down the road, the eagle flew into the trees higher up the mountain." Floy C. Burford.

THICK-BILLED MURRE. *Uria lomvia lomvia*. One was found by Jimmy Hill at the edge of the beach at Sandbridge on 1 August 1966. It was alive but died that night. There are a dozen other Virginia records, all between 22 November and 26 January, but this is the only summer record. The specimen will be kept in Norfolk.

RED-HEADED WOODPECKER. Maynard A. Nichols saw at least 7 in his yard at White Stone on 29 September 1966; and Dr. Perry F. Kendig reported one in Salem through the past summer.

WESTERN KINGBIRD. Reports of this species continue to pile up in Tidewater. Maynard A. Nichols saw two on 3 October 1966 near his home at White Stone.

BLACK-CAPPED CHICKADEE. A specimen collected by Murray at Mountain Lake, near the University of Virginia summer school grounds, on 12 July 1966 was identified by Wetmore as *Parus atricapillus praticus*.

PREDATION BY RUSTY BLACKBIRD. J. E. Ames, Jr., writes about an incident near Driver during the cold weather of 26-31 January 1965, when the snow was deep. "A Rusty Blackbird, feeding close to a number of sparrows, suddenly struck a Savannah Sparrow. The uneven struggle was soon over, and the Rusty proceeded to peck open the head of the sparrow, eat the brains, and leave the body untouched. Several reports have come to me of others nearby who have seen sparrows killed by blackbirds."

WESTERN Tanager AT NORFOLK. "On 13 October 1966, while I was trying to count Myrtle Warblers in an elm tree in our front yard, a Western Tanager (*Piranga ludoviciana*) flew into the tree. At first I thought it a female Scarlet Tanager, then noticed the white wing bars. I observed the bird at close range for at least three minutes, then stepped inside and got my field guide. The bird was still in the tree. I checked carefully all details, the tanager bill, black notched tail, black wings and two white prominent wing bars, very yellow underparts, with head and back olive greenish-yellow. I have seen the Western Tanager before but this is my first time to see one in Norfolk." Floy C. Burford

HOUSE FINCH IN VIRGINIA. "Last winter there was a major increase in the population of the House Finch in Virginia. Some of these records were mentioned in the June 1966 issue of *The Raven*, but more information is now at hand. In northern Virginia the first report was a female at Belle Haven, Fairfax County, on September 26, 1965 (C. W. Carlson and Jill Kennedy), and at Falls Church 2 appeared at Mrs. George Pour's feeding station on October 20 and 1 at J. W. Eike's home on October 24. Following this they were observed in at least 15 locations from Arlington south to Manassas in Prince William County, reaching a peak of 250 at Mrs. Pour's on January 25. By March 27 Mrs. Pour's flock had tapered off to 15 to 30 birds, and the last one was observed here on May 11. These birds were seen by many observers, including J. M. Abbott, J. W. Eike, D. F. Keeney, Mrs. M. B. Peacock, and others. Mrs. Peacock banded about 30 from the flock at Mrs. Pour's.

Away from northern Virginia the House Finch appeared near Gordonsville, Orange County, first on December 24, and between then and March Mrs. W. H. Babcock trapped and banded 158 of these birds. Farther south a few appeared at Roanoke from late February to March 9 (Mrs. Ernest C. Moore), and at Urbanna, Middlesex County, up to 3 pairs were present (and were photographed in color) between January 27 and March 10 (Mrs. C. W. Wheeley)." F. R. Scott

RED CROSSBILLS IN VIRGINIA. Mrs. Ruth S. Snyder of Waynesboro reports seeing on 13 and 27 August a flock of at least 9 Red Crossbills in pine trees at the Rockytop Overlook, near milepost 78 on the Skyline Drive.

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