

THE MIGRANT

A QUARTERLY JOURNAL
DEVOTED TO TENNESSEE BIRDS

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FALL MIGRATIONS OF HAWKS IN 1951

By FRED W. BEHREND

Hawk migration observation in the fall of 1951, a project adopted by the society at its 1951 annual meeting, was conducted by chapter members from one end of the State to the other and in parts of southwestern Virginia and western North Carolina bordering on mountainous East Tennessee. Over 30 members participated in the project. The total of reported observation trips during the period of August 19 to December 2 amounted to approximately 60. A vast majority of them were made to vantage points on the mountains.

Over-all results, which broadly confirmed knowledge gained in last year's East Tennessee hawk count and added to it in several respects, were in line with expectations. A total of 4414 predators were listed, comprised of the following species: Sharp-shinned Hawk, 98; Cooper's Hawk, 56; Red-tailed Hawk, 173; Red-shouldered Hawk, 19; Broad-winged Hawk, 3911; Bald Eagle, 1; unidentified Eagles, 3; Marsh Hawk, 15; Osprey, 13; Duck Hawk, 11; Pigeon Hawk, 3; Sparrow Hawk, 26; unidentified hawks, predominantly buteos and accipiters, 82. Three hawks that possibly were Goshawks were seen, but not positively identified.

Primary interest centered, as in 1950, on the observation of flights of Broad-winged Hawks. On the basis of the 1950 experience it was deemed advisable to exert maximum effort on watching for Broad-wings on the weekends of September 22-23 and 29-30, and the members of the Society were urged to concentrate on these weekends. Presumably as a consequence of weather conditions in far northern and northeastern regions, the Broad-wings were, however, on the move earlier than usual. Information received from observers in the Northeast of the United States, and dispersed immediately among T. O. S. observers, revealed the occurrence of flights of from 200 to 300 Broadwings in Massachusetts and Pennsylvania on the exceptionally early date of September 9. Thus alerted, members of T. O. S. were afield the week beginning September 15 and successful in spotting substantial flights of Broad-wings which otherwise might have passed unnoticed over the territory subject to observation. It was in the early stages of observation that it became apparent that on warm, almost windless days the Broad-wings ride the thermals at tremendous height, making it difficult to detect them without the aid of binoculars in a blue sky. Finding them dotted against the backdrop of a light cumulus cloud facilitates observation considerably. Contrary to previous belief, the Broad-wings were not at all retarded in their flight by encountering a southwest head wind of mod-

erate velocity. On several occasions they were observed soaring into the southwest wind, and swiftly.

Weather conditions during the main period of observation of Broad-wing flights from the middle to the end of September were favorable. There were few days of rain or low clouds which interfered with observation. A cold front brought down the major part of Broad-winged Hawks observed the last four days of September.

Reported observations of Broad-wings are listed in a table near the end of this article.

Outstandingly interesting in the study of the movements of the Broad-winged Hawks were the following observations:

Sizeable flights seen in different places during the second half of September and involving a total of about 1900 birds unquestionably establish the Clinch Mountains in southwestern Virginia and East Tennessee, extending in continuation of the Allegheny Mountains southwestward, from Tazewell County in Virginia to Knox County in Tennessee, as a regular and major flyway for Broad-wings on fall migration.

Likewise confirmed as regular, and probably major, flyway for the Broad-winged Hawks were certain parts of the Blue Ridge Mountains and some of the adjoining transverse ridges, at least from Grandfather Mountain near Linville, North Carolina, to Mt. Mitchell and the Craggy Mountains near Asheville, North Carolina, even though no flights of the magnitude of that witnessed at Little Switzerland and Mt. Mitchell in the fall of 1950 were observed during the current season. Noteworthy was the observation this fall of a fairly substantial flight of Broad-wings at Table Rock on the outer Blue Ridge, which lies to the East of the true Blue Ridge and rises directly from the Piedmont plateau.

Transverse ridges connecting the Blue Ridge with the eastern chain of the Appalachian System in East Tennessee were found to serve as flyways for lesser number of Broad-winged Hawks. Pond Mountain at the northern end of the Stone Mountains and at the Virginia-North Carolina-Tennessee corner, Beech Mountain northwest of, and Hump Mountain, Yellow Mountain, Grassy Bald Mountain and Roan Mountain, all west of pivotal Grandfather Mountain are transverse ridges along which Broad-wings were observed.

Of ridges on the East of the Tennessee Valley in Upper East Tennessee, Cold Spring Mountain proved again to be followed by substantial numbers of Broad-wings, and the Camp Creek Bald fire tower at its southern end an observation point productive of results. The same can be said of Rich Mountain fire tower a few miles down the mountain crest.

Bays Mountain, a narrow ridge in the Upper East Tennessee Valley running southwestward from near Kingsport for a distance of about 20 to 25 miles, deserves careful attention in future observations. As in 1950, comparatively large numbers of Broad-wings were observed this Fall at the north end of this ridge. It is not clear whether these birds switch over to Bays Mountain from the Clinch Mountains or from Holston Mountain.

No Broad-winged Hawks were observed in the Great Smoky Mountains area. This, however, does not preclude the possibility of their following this part of the backbone of the Southern Appalachian Mountains. It may

**COUNTS OF BROAD-WINGED HAWKS DURING
FALL MIGRATION 1951**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Sept. 8										3 (1)					3
Sept. 9														5 (1)	5
Sept. 15					338 (14)			1 (5)	5 (1)					4 (3)	348
Sept. 16					205 (14)				3 (1)						208
Sept. 18											18 (1)				18
Sept. 19					201 (11)					3 (3)					204
Sept. 20														30 (1)	30
Sept. 21									2 (1)						2
Sept. 22	183 (17)							1 (6)						3 (10)	187
Sept. 23		9 (7)												3 (10)	12
Sept. 24									35 (1)						35
Sept. 25						11 (15)		5 (15)					128 (1)		144
Sept. 27	850 (17)														850
Sept. 28								300 (9)							300
Sept. 29			840 (16)		6 (10)		200 (4)		2 (1)			160 (8)			1208
Sept. 30			318 (13)						22 (1)						340
Oct. 6		7 (12)													7

KEY TO LOCALITIES:

- A—Memphis, and 20 to 30 miles north and northeast of Memphis.
 B—Walden's Ridge, Mt. Roosevelt Fire Tower 2 miles east of Rockwood, Tenn.
 C—Clinch Mountain, Grainger Co., Tenn.
 D—Clinch Mountain Fire Tower north of Rogersville, Tenn.
 E—Hayter Knob Fire Tower, Clinch Mountain, northwest of Abingdon, Va., and vicinity.
 F—Tusculum College near Greeneville, Tenn.
 G—Bays Mountain, southwest of Kingsport, Tenn.
 H—Camp Creek Bald and Rich Mountain, crest of Appalachians, Greene Co., Tenn.

I—Hump, Yellow, Grassy Bald, and Roane Mountains, crest of Appalachians, Carter Co., Tenn.—Mitchell and Avery Cos., N. C.

J—Holston Mountain and vicinity, Carter Co., Tenn.

K—Pond Mountain, Tenn.-Va.-N. C.

L—Craggy Gardens and Mt. Mitchell, northeast of Asheville, N. C.

M—Table Rock, east of Blue Ridge and 15 miles northwest of Morganton, N. C.

N—Grandfather Mountain, Beech Mountain, and Blue Ridge Parkway, Avery Co., N. C.

KEY TO OBSERVERS: (1)—Fred W. Behrend, Elizabethton Chapter; (2)—Mr. and Mrs. J. B. White, Greeneville Chapter; (3)—Mr. and Mrs. Avery W. Evans, Elizabethton Chapter; (4)—Thomas W. Finucane, and sons, Kingsport Chapter; (5)—Mrs. Willis Clemens, Mr. and Mrs. J. B. White, Prof. and Mrs. C. M. Shanks, Greeneville Chapter; (6)—Mr. and Mrs. J. B. White, Prof. and Mrs. C. M. Shanks, Greeneville; (7)—Mr and Mrs. E. M. West, Elizabethton Chapter; (8)—Mr. and Mrs. W. M. Johnson, Knoxville Chapter; (9)—Fred W. Behrend, Elizabethton, and Mrs. Richard Nevius, Mr. and Mrs. J. B. White, Greeneville Chapter; (10)—Dr. Aubrey R. McKinney, Elizabethton Chapter; (11)—Richard Nevius, Greeneville, and Fred W. Behrend, Elizabethton Chapters; (12)—John J. O'Callaghan, Memphis; (13)—Andrew J. Meyerriecks, Knoxville Chapter; (14)—Stephen M. Russell, Bristol Chapter; (15)—Prof. C. M. Shanks, Greeneville Chapter; (16)—Mr. and Mrs. James T. Tanner, Knoxville Chapter; (17)—Don Wolf, U. S. Naval Air Station, Millington, Tenn.

be remembered that a flight of some substance was seen over Indian Gap in the Fall of 1950.

Notwithstanding diligent investigation there was no evidence of migration of Broad-winged Hawks along the lower part of the long-stretched Cumberland Plateau in Tennessee. A guide to future observation though may be the observation this Fall of a small number of Broad-wings along Walden's Ridge farther north on the Cumberland Plateau in the vicinity of Rockwood, Tennessee. An unusual scarcity of any kind of predators was reported from Middle Tennessee localities, more specifically Pilot Knob midway between Murfreesboro and Shelbyville, Standing Stone State Park, and river bluffs below Celina.

Surprisingly large numbers of Broad-wings were reported from West Tennessee, where, near Mason, 30 miles northeast of Memphis, a flight of 183 of these birds was observed on September 27. An estimated 850 were seen at the U. S. Naval Air Station at Millington, 20 miles north of Memphis, on September 27.

Gratifying as may be the tracing, during the Fall seasons of 1950 and 1951, of the course of migrating Broad-winged Hawks along the Clinch Mountains to their southern end northeast of Knoxville, and along part of the Blue Ridge Mountains to as far south as near Asheville, North Carolina, the uncertainty of direction of their flight thence is thought-provoking. Knowledge of flights of any substance southwest of these localities seems to be non-existent. It would not seem illogical to assume that there may be a switch-over from the Clinch Mountains to the Cum-

berland Plateau and continuation of flight into northern Alabama along lower ridges. Flights that have been traced down the Blue Ridge as far as Asheville are apt to continue along the Blue Ridge, but whether close to the Piedmont Plateau or over the mass of mountains to the West is problematical. Here is a field wide open for present and future ornithologists to tackle. Mass flights of Broad-winged Hawks on Fall migration appear to be compressed into a period of two to three weeks. Under most favorable weather and wind conditions they may be observed on a number of successive days, but there is always the possibility that adverse conditions may limit observation to a very few days during the migration season. This, coupled with an insufficient number of observers afield, not to speak of non-detection of flights at great height, may account for the unnoticed passing over of many times more Broad-wings than are reported.

I wish to express appreciation not only to all those T.O.S. members who took part in the project but also to Mr. Chandler S. Robbins of the Patuxent Research Refuge at Laurel, Maryland, and his co-operators in northeastern and northern states, who for the benefit of T. O. S. observers, obligingly supplied information concerning observation of hawks in their respective territories.—607 Range St., Elizabethton, Tenn.

ANOTHER DISASTER TO MIGRATING BIRDS AT THE NASHVILLE AIRPORT

By AMELIA R. LASKEY

On the night of Oct. 7-8, 1951, migrating birds suffered a disaster at the Nashville Airport (Berry Field) ceilometer, similar to the one of September 9-10, 1948, at the same place (1949, *Migrant* 20: 9-12). A total of 476 birds of 40 species was gathered up, practically all that fell. Of these, over 30 were alive and able to fly to some extent the following day. They were banded and released.

Through the courtesy of Mr. Thomas Farrell, I received a telephone call that birds were falling and went to the airport immediately, arriving about 10:50 p. m. and remaining until after midnight. It was a disagreeable, cold night with a gusty north wind. Although the sky was completely overcast, the ceilometer beam extended upward 2300 to 5000 feet according to airport readings for cloud ceilings for the night.

Myriads of small birds fluttered in the light of the beam, from a few feet above the low brick base, which housed the pencil-like mercury-vapor lamp, as far up as the eye could follow the beam. There must have been thousands of birds, all of which appeared to be of the smaller species. They fluttered like moths, their pale breasts gleaming as they milled and turned, giving the impression at some distance that they were moths, except that their calls and chirps never ceased for even a minute. This gathering of birds about the beam continued from evening until dawn, but apparently the birds did not fall in quick succession. None came down near me, although I spent some time at the ceilometer and adjacent runways, nor could I discern them in the darkness above me. A strong flashlight would have been very useful.

Upon my arrival, Airlines men had already gathered about 40 living birds and twice that many dead. More were picked up during the night. The following morning Mrs. Katherine Goodpasture and I searched thoroughly, collecting even those that had been flattened by planes and vehicles.

Most of the birds were on the concrete runways, with a lesser number on concrete walkways and parking places as far as 300 yards from the ceilometer. A few were in the grassy plot in which the ceilometer is located. Obviously the impact there would be greatly diminished by the cushioned surface. According to airport personnel, some that fell on the grass were able to take off. It was also obvious that most of the birds fell before there was any possibility of striking any building or tall structure. Almost all had flown south or south-west toward the brilliantly-lighted terminal building which was down wind. There are many references in the literature to the attraction or distraction of bright lights to birds flying at night, such as by lighthouses, floodlights, flood-lighted structures, automobile headlights, and illuminated house windows. Recent experiments by Gustav Kramer show that with caged migratory birds orientation after dark was toward the lights of the city when they were visible to the bird (Review. 1951, *Bird-Banding* 22 (4) :182-183). A relevant observation on the effect of a bright beam on bird eyes is given by Louis B. Bishop in his account of petrels flying overhead in a dense fog which he and his companion could discern only as light specks passing back and forth. Hoping to see the birds, they turned a powerful flashlight on the flying specks. When the light struck a bird's eyes, it dropped to the grass, with fluttering flight and remained there until picked up. If the light struck the bird from behind, it had no effect (1949, *Condor* 51 (6): 272).

Although birds had been reported by T. O. S. members as migrating over Nashville at night since early September this year, the night of October 7-8 was apparently the first time this season that any great number fell. However nearly two weeks later when weather conditions seemed similar, A. F. Ganier made two trips to the ceilometer, once about 8:00 p.m. on October 19 and again before dawn. During both observations, birds were fluttering high in the ceilometer beam. He estimated that they were flying from about 200 feet above ground to cloudheight. None fell that night.

Apparently a certain combination of weather conditions is essential to cause night migrants to congregate at a ceilometer beam and some variation is involved when the birds fly low about the beam and large numbers drop to their death. For comparison of the three periods under discussion, I tabulated data as published in the United States Weather Bureau Meteorological Summaries, considering cloud ceilings, sky cover, temperature, direction and speed of wind.

In each instance, temperatures had dropped from above normal in the preceding days to below normal on the days in question, with completely overcast skies and northerly winds prevailing, reaching highest velocities of 12, 29, 17 miles per hour, respectively, for daytime of September 9, 1948, October 7, 1951 and October 19, 1951. Ornithologists have found that variation in wind velocity and weather conditions affect heights at which birds fly in migration. C. L. Deelder and L. Tinbergen, who studied flight altitudes

in three autumn migrations of Chaffinches and Starlings in Holland, say: "Strong wind causes a lower flight than light wind. This finds a very distinct expression when the wind force alters in the course of a morning. Both species descend when the wind increases and rise when the wind decreases." (Review, 1948, *Bird-Banding* 19 (3) :26). Goran Bergman in Finland who also studied migration of Chaffinches states: "In clear warm weather with weak winds, the height of flight is relatively great. In bad weather this flight ceases—flight is low." (Review, 1950, *Bird-Banding* 21 (2): 62-63). Therefore the bad weather conditions in Nashville could have influenced the birds to fly low where many were attracted to the beam.

On each of the three nights, ceilometer readings indicated that cloud ceilings were never lower than 2300 feet. But there was one point where conditions on the two disaster nights differed from the night when birds fluttered at the beam all night but did not come down. On the disaster nights, north and north-north-west winds prevailed throughout the nights at speeds up to 6 miles per hour. But on the non-disaster night (October 19-20) there had been a change in wind direction and velocity. By 6:00 p. m. it had changed from NW to NNE; by midnight there was no wind (calm) and by 6:00 a. m. there was a SE wind of 2 miles per hour. It seems quite possible that this change in wind velocity and direction kept the birds high in the beam where the light was considerable diffused. As Mr. Ganier saw no difference in the numbers in the beams at 8:00 p. m. and 4:30 a. m. he believes that the same birds remained all night. That is possible, but there is also the possibility that the composition of the flock changed during the night. It would be necessary to follow the movements of individual birds to determine what actually happened. However it seems logical that if all birds did remain at the beam all night, those that fell on the disaster nights from exhaustion or other causes would lie near the base of the beam. That was not the case, so it appears that numbers attempted to leave and the eyes of some of these could not become adapted quickly enough to the change from the brilliant beam to the relative darkness immediately beyond it, so that after short flights, they were forced to drop and died from injuries inflicted by contact with hard surfaces.

Determination of exact cause of death to the birds must necessarily be deferred to future studies, but casual examinations indicated that in many instances there were brain injuries from striking the concrete. The case of a Brown Thrasher is worthy of mention. It fell in the grassy area near the ceilometer. There were no obvious body injuries but the occipital region of the skull was reddened as if from a hemorrhage and there was a pronounced prolapsis of the intestine, folds of which protruded, rosette-like.

The birds that were gathered may be considered a sample of the great horde of migrants passing over that particular area that night. I have made a very careful examination of each individual, making notes on plumage variations and taking measurements. A number of people came to study the puzzling species that are confusing in autumn plumage; a number have been made into study skins for private collections. Our deep-freeze refrigerator was invaluable for holding the birds indefinitely. Tennessee Warblers led

in casualty number, 100 being found, Magnolia Warblers next with 71. Among the five species of vireos, it was surprising to find 37 Philadelphia Vireos because it is not commonly listed in numbers on our field trips. The outstanding find was a Black-poll Warbler which is the first autumn specimen for the Nashville area. As this species is considered very rare in Tennessee in autumn migration, and is easily confused with the autumn Bay-breasted Warbler (1934, Wilson Bulletin 46 (3): 142-147), the bird was made into a study skin by Mr. Ganier and sent to Dr. J. W. Aldrich of the U. S. Fish and Wildlife Service, Washington D. C. A letter from Dr. A. J. Duvall verifies the identification.

Exclusive of the 28 individuals that were too badly mangled for identification, the list of species and numbers of individuals gathered up follows:

Yellow-billed Cuckoo	2	Black-throated Green Warbler ...	9
Black-billed Cuckoo	1	Blackburnian Warbler	3
Whip-poor-will	1	Chestnut-sided Warbler	22
Yellow-bellied Flycatcher	1	Bay-breasted Warbler	14
Wood Pewee	1	Pine Warbler	1
Long-billed Marsh Wren	2	Black-poll Warbler	1
Short-billed Marsh Wren	1	Palm Warbler	4
Catbird	2	Ovenbird	57
Brown Thrasher	1	Northern Water-thrush	2
Wood Thrush	1	Mourning Warbler	1
Olive-backed Thrush	4	Northern Yellowthroat	34
Gray-cheeked Thrush	1	Wilson's Warbler	1
White-eyed Vireo	2	American Redstart	2
Yellow-throated Vireo	6	Scarlet Tanager	8
Red-eyed Vireo	11	Summer Tanager	2
Philadelphia Vireo	37	Rose-breasted Grosbeak	4
Warbling Vireo	1	Indigo Bunting	26
Black and White Warbler	3	Grasshopper Sparrow	2
Tennessee Warbler	100	Unidentifiable because badly	
Nashville Warbler	4	mangled	28
Parula Warbler	2	—1521 GRAYBAR LANE, NASH-	
Magnolia Warbler	71	VILLE, TENN.	

THE BIRDS OF VIRGINIA

The Virginia Society of Ornithology plans to publish early in 1952 **A Check-List of the Birds of Virginia**, by J. J. Murray. It will contain 80 or more pages, with introductory chapters on Virginia ornithology, with copious quotations from 17th Century writers, and with a short bibliography. Most of the book will be devoted to a fully annotated list of the birds of the State, with migration and nesting dates, and discussions of changes in status. The pre-publication price, on all orders mailed before March 1, will be \$1.00; thereafter the price will be \$1.50. Orders should be sent to A. O. English, 2803 Rosalind Avenue, Roanoke, Virginia.

AN ACCIDENT TO MIGRATING BIRDS AT THE KNOXVILLE AIRPORT

By JOSEPH C. HOWELL and JAMES T. TANNER

Approximately 1000 birds were killed around the ceilometer of the Tyson-McGhee airport near Knoxville, Tenn., on the night of Oct. 7-8, 1951, the same time at which similar accidents occurred at Nashville and at Smyrna, Tenn. These latter two are reported in other articles in this issue of THE MIGRANT. Some airline pilots reported at Knoxville that they had seen or had heard of another accident that same night at Louisville, Ky. These accidents indicate that there probably was a large and widespread migration of birds on that night.

At Knoxville the temperature fell from 56 degrees at 8 p. m. on Oct 7 to 51 degrees the following 6 a. m. Between these same hours the wind varied between NW and NNE and between 0 to 10 miles per hour. The cloud ceiling varied between 3600 to 4200 feet above the airport. There was a temperature inversion in the top part of the cloud ceiling.

Judging from the accounts of various eye-witnesses, birds began to fly thru the intense, vertical beam of the ceilometer and to circle it in numbers about 10 p. m.; they increased and became most abundant between midnight and 2:30 a. m. Birds were still in the light at 4 a. m., but were not as numerous. When they were thickest, they, as the observers said, "looked like insects in the summertime", and the column of birds was easily visible from the airport building, about 1000 feet from the ceilometer. Birds were flying thru the light from the ground to cloud level, most abundant near the ground.

Birds were first observed hitting the concrete pavement in the lighted area around the airport building about 11:00 p. m.; there was apparently no observation of when this ceased. Some hit the ground so forcibly as to bounce. Many birds, including some Mourning Doves, landed unhurt. Some of these were picked up by people at the airport, held in the hand for a while, and released to fly away. The next day there were still several living birds on the airport grassy areas and around the buildings, some obviously crippled and others able to fly.

On the following day six people from the University of Tennessee went to the airport; they were Honorico Ciordia, Joseph C. Howell, Arthur W. Jones, Clayton Kerley, Andrew J. Meyerriecks, and James T. Tanner. They systematically searched the area around the ceilometer. Most of the birds found were simply identified and recorded. All Oven-birds, which were commonest, that had not been crushed by truck or plane wheels, were saved for further examination, and all specimens of rare birds or questionable identity were saved for later checking.

A total of 46 species and 1044 individuals were found dead. Oven-birds were by far the most abundant. The second to the fifth in abundance were

Chestnut-sided Warblers, Tennessee Warblers, Bay-breasted Warblers, and Magnolia Warblers. A complete list of the numbers of each species follows: Sora Rail, 6; Wilson's Snipe, 1; Mourning Dove, 2; Yellow-billed Cuckoo, 1; Black-billed Cuckoo, 1; Whip-poor-will, 1; Phoebe, 2; Acadian Flycatcher, 1; Yellow-bellied Flycatcher, 1; Wood Pewee, 4; Catbird, 5; Wood Thrush, 4; Olive-backed Thrush, 17; Gray-cheeked Thrush, 4; White-eyed Vireo, 2; Yellow-throated Vireo, 7; Red-eyed Vireo, 42; Philadelphia Vireo, 4; Black and White Warbler, 14; Swainson's Warbler, 1; Tennessee Warbler, 80; Orange-crowned Warbler, 4; Magnolia Warbler, 61; Cape May Warbler, 2; Black-throated Blue Warbler, 2; Black-throated Green Warbler, 25; Black-burnian Warbler, 39; Yellow-throated Warbler, 2; Chestnut-sided Warbler, 90; Bay-breasted Warbler, 63; Black-poll Warbler, 2; Pine Warbler, 1; Palm Warbler, 17; Oven-bird, 387; Northern Water-thrush, 3; Kentucky Warbler, 2; Yellow-throat, 32; Yellow-breasted Chat, 3; Hooded Warbler, 35; Canada Warbler, 2; Redstart, 9; Bobolink, 2; Scarlet Tanager, 4; Rose-breasted Grosbeak, 3; Indigo Bunting, 21.

The most unusual records for the Knoxville area were those of the Philadelphia Vireos, Swainson's Warbler, and Black-poll Warblers.

The Oven-birds were examined for evidence of damage and it was found that most of them showed some damage to the head, such as blood clots beneath the skull, a broken skull, or a broken bill. This indicates that the birds were killed by striking the ground. Some individuals have thought that the light itself, being an intense mercury vapor light, might be the cause of death, but L. J. Buttolph of the General Electric Company, an expert on the effects of radiations on living things, when consulted on this stated that there was no reason to believe this to be true.

The dead birds lay within an area about 2000 feet in diameter centered a little to the south of the ceilometer. 1400 feet was the greatest distance from any bird found to the ceilometer. They were most abundant on the concrete runways and aprons between the ceilometer and the main building.

The night of Oct. 29-30 was the first following the accident at the Knoxville Airport when the weather conditions seemed to approach those of Oct. 7-8. One of us (J. T. T.) went to the airport to see if anything was happening. At 11:30 p. m. the ceiling was at 5500 feet and within an hour it had lowered to 4000 feet. There was a slight drizzling rain from 11:10 to 11:50 and almost no wind. Several birds were seen to fly thru the beam, at an elevation of about 300 to 500 feet. For one period of about five minutes (11:40 to 11:45 p. m.) 60 birds were counted flying thru the beam; they seemed to decrease in numbers after this. All of the birds were small except for a Night Heron which was not only seen in the beam but also heard. All of the birds passed thru the light quickly and neither fluttered nor changed their course, and there was no sign of birds falling or of dead ones on the ground. Besides the birds there were about a dozen bats circling and flying thru the beam, apparently catching insects. Some of these passed thru the light within a foot or two of its source without any change in their direction or behavior.

DEPT. OF ZOOLOGY, UNIVERSITY OF TENNESSEE, KNOXVILLE, TENN.

AN ACCIDENT TO BIRDS AT THE CEILOMETER NEAR SYMRNA

By CPL. KENNETH A. LABAND

On the night of October the 7th, 1951, at approximately 9 p. m. my attention was attracted by bright specks of light spiralling up and down at all altitudes in the beam of the Sewart Air Force Base ceilometer at Smyrna, Tenn. Although on closer approach I could hear much twittering, the idea that these birds were in the light seemed too fantastic to be considered a possibility. On the morning of the 8th I found several dead birds in the vicinity of the barracks, and in a short time traced the main body of dead birds to the base of the ceilometer. Being rushed for time and totally ignorant on the subject of American birds, I picked up only the most conspicuously different species, which were at once forwarded to the National Audubon Society in New York for identification.

The list of species identified by persons of the Audubon Society follows: Virginia Rail, Sora Rail, Catbird, Olive-backed Thrush, Wood Thrush, Black and White Warbler, Magnolia Warbler, Yellow-throat, Summer Tanager, and Purple Finch. In addition to these I described a strikingly marked species to Mrs. F. C. Laskey who identified it as a Redstart.

An accurate count of dead birds was not possible because of lack of time. I counted, however, the birds in one wedge-shaped area with its point at the ceilometer, judging my wedge to be one sixth of the area of a circle. There were 167 birds in this wedge, making a total of approximately 1000 dead birds around the ceilometer. Later that day I found birds scattered as much as half a mile away.—SEWART AIR FORCE BASE, TENNESSEE

NOTE: The following information is from a letter to the editor from Mrs. Laskey: Corporal Laband told her that on the same night that Mr. Ganier saw the birds in the ceilometer at Nashville (see Mrs. Laskey's article), he also saw birds fluttering in the beam of the Sewart Air Force Base ceilometer.—Ed.

CORRECTIONS

In Eugene Cypert's note on the trapped Great Horned Owl, page 12 of the March 1951 MIGRANT, "July 23, 1950" should have been "January 23, 1950". In the note on the effect of the 1951 storm on Bluebirds, by Amelia R. Laskey, page 42 of the September 1951 MIGRANT, the temperature of "13 degrees" should have read "13 degrees below zero".

A MERRY TIME TO REMIT

Now, is the time to pay for your 1952 membership! Members of Chapters should pay thru their Chapter Treasurer. Others can pay directly to the T. O. S. Treasurer; Mr. Lawrence C. Kent, 1896 Cowden Avenue, Memphis 4, Tenn. Be sure to include the postal zone number in your address if you have one.

THE 1951 CHRISTMAS SEASON BIRD COUNTS

By T. O. S. MEMBERS

A new record in the State-wide list of species observed on Christmas counts was set this year, a grand total of 116. The previous record was set in 1942 with a total of 108. Four species were seen for the first time in the State on these counts: American Egret, seen at Reelfoot; Green Heron, at Nashville; Ring-necked Pheasant, at Kingsport; and Evening Grosbeak, in the Smokies. A Loon was reported for the first time since 1942 and Brewer's Blackbirds for the first time since 1945.

Some interesting changes in numbers are evident upon study of the reports. Blue and Snow Geese were reported in larger numbers than ever, probably because of the goose refuge at Reelfoot. Bobwhite were few in numbers compared with previous years; this year only three localities reported a grand total of 36 Bobwhite observed while usually from four to six localities report a total of over 100 birds. This slump might have been caused by the ice storms and cold spells of last winter. Careful study of the numbers of other species might show further and still-evident results of the storms.

In the table and descriptions that follow, the localities are listed from west to east. Under the heading "Information on the Counts" are described the areas, types of habitats covered, weather conditions, number of observers or parties, miles covered, number of species and approximate number of individual birds observed, and the names of the observers. The species and numbers of individuals observed at each locality are listed in the table, except for the report from Roan Mountain which is entirely included in paragraph form to enable including the altitudinal information. For additional information on records marked with an asterisk(*), see the paragraph containing information on the locality.

Information On The Counts

MEMPHIS, TENN. (1946 area plus Penal Farm to offset suburban build-up; wooded bottomlands 30%, deciduous woodlots including city parks 25%, old cottonfields, pastures, airports, and farm 25%, suburban roadsides 20%). Dec. 23, 1951; 6:45 a. m. to 5:15 p. m.; part cloudy; temp. 40 to 56 to 51 degrees; wind 3-7 m. p. h.; muddy; Loosahatchie bottoms flooded and inaccessible. Thirty observers, 4 main parties, breaking up at various localities, 3 smaller parties, 3 individuals (one at sickroom feeding shelf). Total party-hours afield, 94 (72 on foot, 22 in car); total party-miles, 248 (70 on foot, 178 by car). 82 species, about 26,006 individuals. Mr. and Mrs. Ben B. Coffey Jr., (compiler), Cooper and Mrs. Floy Barefield, Mrs. Elizabeth Barton, Fred Carney, Mrs. Irene Daniel, Harry Geyer, Richmond Gill, Jack Goodman, Johnny Johnson, Victor Julia, Luther F. Keeton, Lawrence Kent, Charles Marcus, Muriel Massey, Charles McPherson, Jr., Mrs. J. H. McWhorter, Jim McWhorter, Nelle Moore, John J. O'Callaghan, T/Sgt. Eugene Parish, George Peyton, Charles Seahorn, Alice H. Smith, R. Demett Smith, Jr., Brother Leo Thomas, Mrs. M. L. Torti, Dr. Wendell Whittemore, and Alan

Ziegler. The Blue-headed Vireo (2d record) was identified by Demett Smith, the Bald Eagle (1st record) by Lawrence Kent. The species count of 82 exceeds the former record of 78, made in 1941. In addition to the numbers listed in the table there were seen: unidentified ducks, 1050; Starlings, 9786; Purple Grackle, 5133; unidentified blackbirds, 1575; White-throated Sparrow, 1333.

REELFOOT LAKE, TENN. (from Tiptonville east around lake via Spillway and Samburg to Walnut Log, including cypress swamps and bottomlands, 50% deciduous woodland, mostly bottoms, 20% open lake, 10% saw grass marsh, 15% roadside, 5% farmland. Essentially the same area as in past.)—Dec. 30, 1951; 9:30 a. m. to 5:30 p. m. Overcast in a. m., clear in p. m.; temp 60 to 80; wind SW, 3-10 m. p. h. with gusts to 30 m. p. h. in p. m. Eight observers in three or two parties. Total hours 16½ (9 on foot, 6 on boat, 1½ in car); total miles 67 (16 on foot, 7 in boat, 44 by car). Howard and Evelyn Barbig (compiler), Fred Griffin, George Peyton, Richmond Gill, Johnny and Ralph Johnson, Billy Weeks. The Yellow-throat and House Wren were observed at close range by all members of the party. In addition to this count, another was made in the same general area three days earlier by Thomas Walker, Jr., and P. W. White, Jr. The numbers reported in the table are those seen by the larger party on Dec. 30 except for the following which were reported by Walker and White and which are marked in the table by an asterisk: American Egret, observed at 50 feet with 7x glasses; Canada Goose, 1214; Redhead; Duck Hawk; Screech Owl; Red-wing Blackbird 1,224,000 (same method of estimation as in previous years); Tree Sparrow; White-crowned Sparrow.

NASHVILLE, TENN. (Localities and terrain same as last year).—Dec. 23, 1951; 6:30 a. m. to 4:30 p. m. Clear, visibility good. Temp. 30 to 54. Wind very light. Ground bare, frozen in a. m. 17 observers in 6 parties. Total party-hours 57 (39 on foot, 18 by car); total party-miles 92 (24 on foot, 68 by car). 63 species, about 15,094 individuals.—B. H. Abernathy, Mrs. W. F. Bell, William Crouch, Helen DeSort, Albert F. Ganier (compiler), Mrs. E. W. Goodpasture, Mrs. F. C. Laskey, Geo. R. Mayfield, Larry McLain, Jennie Riggs, Jas. A. Robins, George Rosenman, Edward Schreiber, Dan Schreiber, William Stuyvesant, and Mr. and Mrs. J. E. Ziegler, (members Nashville chapter T. O. S.).—The Green Heron here makes its first appearance on a Tennessee Christmas count, found by Abernathy and Robins on Little Harpeth river and viewed next day by Ganier and Mayfield. The Loon, grebes and ducks were seen on Radnor Lake. The geese were reported by Stuyvesant. Of the Doves, 100 were seen together in river bottoms. 11,525 Starlings were seen in scattered flocks; no roosts have been located in the area. Goldfinches present in abnormally large numbers. feeding chiefly on teal pods. The Red-breasted Nuthatch was seen by Mrs. Goodpasture, who found it again three days later.

LEBANON, TENN.—Dec. 26, 1951, part of day only. Dark and cloudy, temp. around 35, cold NW wind, ground full of water. 11 observers. 37 species, about 2414 individuals. Robert Carver Bone, Mrs. Robert Cox, Fairman

TABLE OF 1951 CHRISTMAS BIRD COUNTS

SPECIES	Memphis	Reelfoot	Nashville	Lebanon	Murfreesboro	Great Smokies	Greeneville	Johnson City	Elizabethton	Kingsport
Common Loon			*1							
Horned Grebe	3		*1							
Pied-billed Grebe	1	13	*1						3	
Double-crested Cormorant	1	115								
Great Blue Heron	7	8	1				4			
American Egret		*1								
Green Heron			*1							
American Bittern							1			
Canada Goose	117	*	*60		13					
Snow Goose		6								
Blue Goose		52								
Mallard	15	131					1	23	1	
Black Duck		16								
Pintail		43								
Green-winged Teal		2								
Blue-winged Teal	8									
Baldpate		63								
Shoveller		6								
Wood Duck	1	2								
Redhead	4	*4					3			
Ring-necked Duck	12	217								
Canvas-back	9	4								
Lesser Scaup Duck	31	360	1					2	2	
American Golden-eye		72	3						1	
Bufflehead		1							6	
Ruddy Duck	2	2	1							
Hooded Merganser	1	6							1	
American Merganser		3								
Turkey Vulture	68	3				4	42	1	3	3
Black Vulture	14	6	5	12	6	11	1			1
Sharp-shinned Hawk			1			1		1		
Cooper's Hawk	1	1	4	2	1		1	1	1	
Red-tailed Hawk	20	8	8	1	1	4	1			2
Red-shouldered Hawk	9	6	1				1			2
Bald Eagle	*1	7								
Marsh Hawk	4	2					2			
Duck Hawk		*2				1				
Sparrow Hawk	33	3	18	4	2	4	5	2	6	3
Ruffed Grouse						11				2
Bob-white	19	8						9		
Ring-necked Pheasant										*2
Coot		54								
Killdeer	197	5	133	13	2	14	4	22	2	9
Wilson's Snipe	35		1			1				7
Herring Gull		5								
Ring-billed Gull	21	165								
Mourning Dove	21	4	*115	18	2	105	64	1	15	2
Screech Owl	1	*1	1		1		1	1		
Great Horned Owl		1		1		2				

1951 CHRISTMAS BIRD COUNTS—Cont.

SPECIES	Memphis	Reelfoot	Nashville	Lebanon	Murfreesboro	Great Smokies	Greeneville	Johnson City	Elizabethton	Kingsport
Barred Owl	4	3								
Belted Kingfisher	16	11	2	1		1	4		6	1
Flicker	179	36	59	7	2	4	13	1	10	4
Pileated Woodpecker	3	7	8	2	1	10	5			
Red-bellied Woodpecker	71	17	25	5			9		1	1
Red-headed Woodpecker	11	1	2				3			
Yellow-bellied Sapsucker	15	1	13	4		2	2	1		2
Hairy Woodpecker	9	4	6	1		8	4	1		1
Downy Woodpecker	55	15	35	6	1	12	12		11	12
Phoebe						2	4		4	1
Horned Lark	134		192			35		22		6
Blue Jay	404	8	23	1	4	13	39	2	10	17
Raven						5				
Eastern Crow	211	49	165	89	42	400	*	50	506	71
Fish Crow	9									
Black-capped Chickadee						*				
Carolina Chickadee	230	48	73	7		*250	94	1	51	40
Tufted Titmouse	123	33	39	4		12	60	1	31	47
White-breasted Nuthatch	7	7				6	8		3	18
Red-breasted Nuthatch			1			19	8			5
Brown Creeper	12	3	3			7	3		1	2
House Wren		*1								
Winter Wren	28	7	2			6			1	
Bewick's Wren	1		3		1		2			1
Carolina Wren	130	28	30	2	1	24	46		65	28
Long-billed Marsh Wren		3								
Short-billed Marsh Wren		1								
Mockingbird	115	1	49	5	3	3	37	6	15	13
Brown Thrasher	35									
Robin	207	7	595	24	6	1			3	
Hermit Thrush	27		2			2				
Eastern Bluebird	31	5	98	6	2	30	63	3	21	19
Golden-crowned Kinglet	71	8	2			27	3		5	
Ruby-crowned Kinglet	5	1				1				
American Pipit	3									
Cedar Waxwing	266		11			2			11	56
Loggerhead Shrike	52	5	3		3	1	1	1	1	1
Starling	*	203	*	*	22	250	250	25	285	*
Blue-headed Vireo	*1									
Myrtle Warbler	111	2	53	1		1	48		14	7
Yellow-throat		*1								
English Sparrow	475	250	147	81		82	141	9	166	39
Eastern Meadowlark	567	17	118	30	15	25	63		51	
Red-winged Blackbird	113	*				7	2			
Rusty Blackbird	10	25	4							
Brewer's Blackbird	134									
Purple Grackle	*	600	32	651	100					
Cowbird	206	117	8			1				
Cardinal	685	69	204	52	16	67	193	2	98	71

1951 CHRISTMAS BIRD COUNTS—Cont.

SPECIES	Memphis	Reelfoot	Nashville	Lebanon	Murfreesboro	Great Smokies	Greeneville	Johnson City	Elizabethton	Kingsport
Evening Grosbeak						*15				
Purple Finch	53	4	12	9		3	2			
Pine Siskin			1			37				
Goldfinch	210	35	*604	27	2	49	66	9	55	25
Red Crossbill						1				
Red-eyed Towhee	95	1	115	6	1	4	6	1	5	21
Savannah Sparrow	38	2				4				
Leconte's Sparrow	7									
Vesper Sparrow		8								
Slate-colored Junco	612	27	218	54	11	150	175	55	67	23
Tree Sparrow		*7								
Field Sparrow	156	1	40	18	7	60	222	4	41	12
White-crowned Sparrow	15	*10	61	6	11		28		32	8
White-throated Sparrow	*	99	78	4	2	56	34		32	64
Fox Sparrow	113	3	1	2		2	2		3	
Swamp Sparrow	144	163	5			2		1		
Song Sparrow	249	43	71	5	3	83	80	10	45	24
Lapland Longspur	15									
Total Species	82	*89	63	37	30	58	51	30	43	43

Cummings, Albert F. Ganier, Mary Frane Halloway, George Mayfield, Dixon Merritt, Dan Schreiber, Jimmy Shaw, Paul Stout, Mrs. Henry Waters (compiler). The number of Starlings seen was 1253.

MURFREESBORO, TENN.—Dec. 28, 1951. In the field about three hours. Temp. 55, very cloudy, wind high. 30 species, about 284 individuals. H. O. Todd, Jr., Harvard Todd.

GREAT SMOKY MOUNTAINS NATIONAL PARK, TENN.-N. C.—(circle of 7½ mile radius centering on Bull Head of Mt. LeConte; town of Gatlinburg and Pigeon Forge, Tenn., altitude 1200 to 6593 ft.; spruce-fir forest 35%, deciduous forest 30%, farmland and abandoned fields 25%, town and suburbs 10%). Dec. 30, 1951; 6:30 a. m. to 6:00 p. m. Overcast to partly cloudy; temp 45 to 70 degrees; wind variable, 5-25 m. p. h.; snow melting at high altitudes, ground bare in lowlands. Forty observers in 10 parties. Total party-hours, 80 (66 on foot, 14 by car); total party-miles, 205 (70 on foot 135 by car). 58 species, about 1940 individuals. Jon Beasley, Rolf v. Boenninghausen, Mary Ruth Chiles, Brockway Crouch, Richard Culver, Howard Davenport, Hugh Davis, Jr., Ronny Davis, Jack A. Ellis, Robert Hornsby, Jimmy Huff, Philip Huff, Anders Hustvedt, Mr. and Mrs. William Johnson, Hugh Finley Larue, Richard Lawrence, Mr. and Mrs. Frank Leonhard, Henry W. Lix, Richard A. Lorenz, Dorothy MacLean, Mr. and Mrs. R. A. Monroe, Elise Morrell, Carl Newman, Jr., S. A. Ogden, J. B. Owen, Robert Scott, Royal E. Shanks, Arthur Stupka (compiler), Gerhard

Tackmann, Charles Thompson, Louise Thompson, Clyde Trentham, Dietrich Wilde, Ralph G. Williams, William Yambert, (T. O. S., National Park Service, and friends). In the count of 250 are included both Black-capped and Carolina Chickadees. A single Evening Grosbeak was observed at close range in Newfound Gap by Stupka, while a flock of 14 were seen by Yambert, Ogden and Beasley in sycamores along the Little Pigeon River near Pigeon Forge; on Dec. 15 a dozen of these birds were seen at Park Headquarters, the first record for the Great Smokies, and on Jan. 7 a flock of 22 was seen at the same place; this is the southernmost record of this species in the southern Appalachians.

GREENEVILLE, TENN. (7½ mile radius about Greeneville, including Lick Creek, Roaring Fork Creek, Tusculum, Afton, Shiloh, White's Mill, Frank Creek, Brown's Bridge to Bird's Bridge on the Nolichucky River; stream banks 40%, deciduous woods 25%, open fields and thickets 30% city suburbs 5%).—Dec. 28, 1951; 8:00 a. m. to 4:30 p. m. Partly cloudy; temp. 24-45; wind 5 m. p. h. from SW. Seven observers traveling in four parties. Party-hours 49; total miles 75 (15 on foot, 60 by car). 51 species, about 21,863 individuals. Mr. and Mrs. Richard Nevius, Mr. and Mrs. J. B. White, Mr. and Mrs. Alfred Irvine, C. M. Shanks (compiler). The number of crows reported was an estimated 20,000.

JOHNSON CITY, TENN.—Jan. 1, 1952. 30 species, about 267 individuals. One observer, Robert B. Lyle.

ELIZABETHTON, TENN. (same area as in previous years). Dec. 30, 1951; 7:30 a. m. to 5:30 p. m. Overcast with drizzle to clear; temp. 50 to 68; wind 0 to 15 m. p. h. Twelve individuals in 6 parties; 35 party-hours; 22 miles on foot, 128 miles by car. 43 species, about 1691 individuals. Mr. and Mrs. Avery Evans, Mr. and Mrs. J. C. Browning, Mrs. Ruth Hughes, Dickie Hughes, Mr. and Mrs. Lee R. Herndon (compiler), Mrs. Hugh L. Taylor, Mrs. Winnie Range, Miss Mary Cook, Dr. A. R. McKinney.

KINGSPORT, TENN. (Gray Station, Colonial Heights, residential district, Ridgefields, North and South Fork Holston River; residential area 20%, wooded land 30%, open fields 40%, rivers and ponds 10%).—Dec. 30, 1951; 7:00 a. m. to 5:30 p. m. Overcast and sunshine; temp. 40 to 70; wind 0-5 m. p. h; no ice or snow. Fourteen observers in 6 parties. Total party-hours, 23 (21 on foot, 2 in car); total party-miles, 47 (15 on foot, 32 in car). 42 species, about 2175 individuals. Dr. and Mrs. M. J. Adams, Carlton Crane, Paul Guthrie, Ed Gift, Richard Gift, Helen Harris, Mr. and Mrs. W. C. McHarris (compiler), Dorothy Pike, Deborah Pike, Anne Switzer, Eddie Triebe, Dorothy Vestal. The two Ring-necked Pheasants were seen in the Cliffside area by Carlton Crane. We think these birds are survivors of two dozen that were planted in the Holston Defense area, approximately 7 miles west of Cliffside, in October 1949 by the Rod and Gun Club. About a year ago two pheasants were seen near Bays Mountain across from Holston Defense area, and according to a statement by one of the Rod and Gun Club members, the two birds reported here are the only ones seen since that time. The number of Starlings was 1500.

ROAN MOUNTAIN AND GRASSY BALD MOUNTAIN, TENN.-N. C.

(from Tenn. side to Carver's Gap and Roan High Knob, Round Bald, Jane Bald, Grassy Bald and return; altitude range 3750 to 6200 ft.; deciduous woods 60%, spruce and fir mixed with rhododendron and alder 20%; alder balds 20%).—Dec. 30, 1951, 7:00 a. m. to 4:00 p. m.; cloudy till noon with mountain tops above 5500 ft. in clouds, sunny but hazy in afternoon; temp. 48-44-46; wind SW 5-25 m. p. h.; 2-3 inches crusted snow in woods on northern slopes, balds bare but ground wet, old road covered with ice in many places. Total hrs., 9; total miles, 10 (on foot). Ruffed Grouse, 2(4800 and 5300 ft.); Downy Woodpecker, 5 (4800 to 5100 ft.); Blue Jay, 2 (5300 ft.); Raven, 1 (6200 ft.); Am. Crow, 2 (4100 ft.); Tufted Titmouse, 8 (4800 to 5000 ft.); White-breasted Nuthatch, 2 (4800 ft.); Red-breasted Nuthatch, 1 (4800 ft.); Carolina Wren, 1 (3900 ft.); Cardinal, 1 (4600 ft.); Slate-colored Junco, 6 (3900 to 5500 ft.); Song Sparrow, 1 (3900 ft.). Total, 12 species, 32 individuals. Note: no small birds in coniferous forest and on balds from 5500 to 6200 ft.—Fred W. Behrend (Elizabethton Chapter, T. O. S.).

THE ROUND TABLE

MIGRATING TURKEY VULTURES—On October 20, 1951, the writer witnessed a migrating flock of 130 birds of this species (*Cathartes aura*), at a point near Ashland City, 20 miles west of Nashville. When first seen, at 5 p. m., about 75 of them were milling about at about 1200 feet above the ground, over the north side of the Cumberland River. About 30 more then straggled in from the eastward, catching up as it were, and then the entire flock strung out and drifted westward down the river. There they joined another flock of 25 or more which were scouting the Sulphur Springs cliffs a mile away. It is probable that they spent the night on the cliffs or in the heavy forest back of them. Next morning at 8:30, about 40 of them were still present at the cliffs but these departed westward down the river during the morning. No Black Vultures appeared, as would have been the case had the other species gathered for a food attraction. At a later date the location was checked at sundown and no vultures were found present. Migrating flocks, such as the one described, are believed to be individuals which come from the northern portion of their range, enroute to points further south. This species is fairly common during the summer but is uncommon during the winter about Nashville.—ALBERT F. GANIER, Nashville 12, Tenn.

ORANGE-CROWNED WARBLER IN DECEMBER—On Dec. 2, 1951, I identified one of these birds near Nashville and it was a matter of especial interest since it is the first record made for this area during the three winter months. In fact, local observers regard it as a rare transient. Upon superficial examination, it might be confused with other brush frequenting warblers such as the female Maryland Yellowthroat, the Tennessee, or the Nashville Warblers, but the lack of yellow and the entirely greenish appearance, below as well as above, makes for certain identity. The bird was feeding in head-high Johnson grass on the bank of the Cumberland

River in Bell's Bend, in company with Song and Swamp Sparrows. This warbler has been found a number of times at Memphis in winter, by Coffey, Tucker, Burdick, Smith and others.—A. F. GANIER, Nashville 12, Tenn.

EVENING GROSBEAKS NEAR GREENEVILLE—Eleven Evening Grosbeaks were seen at our home near Tusculum, Greene County, Tennessee, on Saturday, Nov. 17, 1951. They were in a box-elder tree which had a large supply of seeds, remaining in the tree for four days until they left on Nov. 20. One single bird reappeared on Nov. 22, and was seen by J. B. White, Robert White, and myself. The eleven were seen by Mr. and Mrs. J. B. White, Mrs. Alfred Irvine, and myself.—ALFRED IRVINE, Tusculum, Tennessee.

NOTES FROM THE MEMPHIS AREA—Mild weather was interrupted Oct. 9 with a record cold (37 dg.) while the earliest snow in forty years came Nov. 2, still earlier than last year's "norther" on Thanksgiving. Early December was mild, reaching 76 on the 6th. The ducks, reportedly in greatest numbers of the decade, came in with the cold weather and spread out in the flooded bottomlands. Of interest were 25 Redheads, 1000 Ruddy Ducks, and 19 Horned Grebes at or near Horseshoe Lake, Ark., Nov. 4 (R. D. Smith, Jr.). At 8:30 p. m., Nov. 15, a flock of Blue and Snow Geese were headed south of Coffey Grounds. They passed over and were seen low enough for a rough count of 200. The Geese, late transients and going north, were evidently confused on this drizzly night. Six hours later R. D. Smith, Jr., heard 20 to 30 moving west.

T. O. S. members on the watch for migrating hawks saw only one group, 7 Broad-wings, Oct. 6, Overton Park (O'Callaghans and others). Don Wolf of Buffalo, N. Y., now at the Naval Base, reported 183 Broad-wings near Mason, Tenn., on Sept. 22, and an estimated 850 over the base on Sept. 27. With the Broad-wings in the first flock he reported 3 Sharp-shins, 1 Red-tail, 1 Osprey, and 6 others; in the second flock were 20 Sharp-shins, 4 Red-tails, and 7 Sparrow Hawks.

A Golden Eagle was seen Dec. 16 by R. D. Smith, Jr., and Floy Barefield on U. S. 70 in Monroe Co., Ark., just east of the Prairie Co. line. Shore bird records at the Lonoke, Ark., fish hatchery include: Sept. 30—Dowitcher, 4; Stilt Sandpiper, 4; Dec. 16—Least Sandpiper, 108; Wilson's Snipe, 410. At Mud Lake, Oct. 28—Greater Yellowlegs, 2; Lesser Yellowlegs, 1. A late Pectoral Sandpiper was seen on the Penal Farm on Nov. 4. A Bonaparte's Gull was seen Nov. 11 at the Georgia Street sewer.

Nuthatches reported at Hickory Flat, Miss., by Floy Barefield were: Nov. 11—3 Red-breasted, no Brown-headed; Nov. 25—1 Red-breasted, 6 Brown-headed. The Penal Farm continues to furnish records on species of interest. Our first LeConte's Sparrow there was seen Dec. 16. Western Meadowlarks returned for their third winter: at least 4 on Nov. 22; 2 on Dec. 1 and 1 on Dec. 16. Lapland Longspurs noted there: Nov. 4—1, and from 135 on Nov. 22 to 204 on Dec. 16. American Pipits on the Lakeview Levee were 35 on Nov. 18 and 150 a week later (R. D. S.).—BEN B. COFFEY, Memphis, Tenn.

FALL MIGRATION DATES FROM KINGSTON, TENN. — The following dates of first arrival in the fall of 1951 in the vicinity of Kingston, Tenn., are earlier than the earliest recorded dates, furnished by James T. Tanner, for these birds in nearby Knox County: Loon, Oct. 21; Brown Creeper, Oct. 10; Nashville Warbler, Aug. 30; Magnolia Warbler, Aug. 25; Wilson's Warbler, Aug. 24; Fox Sparrow, Oct. 20; Swamp Sparrow, Oct. 9. At Paint Rock Refuge, between Kingston and Loudon, 12 immature and 12 adult Blue Geese were observed on Nov. 4, 10 on Nov. 10, and none on Nov. 17. One Snow Goose was at the same place on Nov. 4. An American Egret was also on the refuge on Nov. 10, a late date. — MRS. E. M. WEST, c/o TVA, Harriman, Tenn.

FLYING BIRDS DAMAGE AIRPLANES—Recently a C-47 plane returning to Sewart Air Force Base near Nashville from Ft. Campbell, Ky., had a strange but by no means unique accident. Two officers were in the cockpit, an instructor pilot and his companion who had been flying by instruments only, an operation during which the pilot sits under a plexiglass hood. While circling the base preparatory to landing, the instructor saw a Vulture approaching on a course which threatened collision. Warning the pilot and at the same time tilting the nose of the plane down, he vainly attempted to avoid the bird, which crashed into the right windshield. Only the plexiglass shield, which still remained in place, saved the pilot from possible serious injury when the impact smashed the windshield and showered glass throughout the cockpit. The bird's remains were dislodged and the plane landed safely. It should be noted that the windshields of aircraft are made of very strong glass but the impact of even a medium sized bird, when encountered at flying speed, is far greater than is generally realized. Photographs of the remains of the vulture and of the damaged plane were temporarily loaned from the Air Force and shown by the writer at a recent T. O. S. meeting.

Inquiries into the above incident revealed the occurrence of another one involving far more serious consequences. This mishap occurred at Pope A. F. B. in North Carolina and to a C-82 Troop Carrying aircraft. The C-82 is equipped with a large airscoop near each of its two engines. Shortly after takeoff, the plane loaded with paratroopers flew into a large flock of Starlings when only 400 feet in the air. Both airscoops became blocked with birds and both engines quit. All but one of the parachutists were able to jump, in spite of the low altitude. The aircraft crash landed, caught on fire and two of the crewmen were killed, the others miraculously escaping injury.—KENNETH A. LABAND, Sewart Air Force Base, Smyrna, Tenn.

BOOK REVIEWS

STALKING BIRDS WITH COLOR CAMERA, by Arthur A. Allen. 328 p. 1951. National Geographic Society, Washington, D. C. \$7.50.

Prof. Arthur A. Allen of Cornell University, the author of this book, is widely known as an ornithologist and photographer of birds. During the last several years most of his illustrated popular writing has been published in the "National Geographic Magazine". This book is largely composed of the material that has appeared in the "Geographic", with some new plates and writing added, and this has made possible the production of a book so profusely and colorfully illustrated at its price.

There are 331 natural color photographs of 266 species of birds, plus about 100 black and white illustrations. The greatest charm and value of the book lies in these pictures. Many of them are superb portraits and reveal details of the appearances and attitudes of birds in a wonderful way. I find myself returning to look at some of them again and again. A very few are of the rare kind of picture that is particularly appealing: scenes, landscapes or seascapes, of which birds are an integral part. There is a wide spread in the quality and attractiveness of the photographs, but the majority are good which is an achievement considering the large number that are here. Two chapters contain illustrations of birds made by high speed photography and reveal them "frozen in flight"; one of these is by H. E. Edgerton and others, the only chapter not by Arthur Allen, and contains pictures of hummingbirds in flight.

The book ranges from Labrador to Florida, from Alaska to Mexico, and from loons to sparrows. Some of the chapters are descriptions in simple language of the habits and characteristics of birds, the kind of writing by which Dr. Allen has stimulated the interest in birds of so many people. Other chapters are accounts of searching for birds and the trials and triumphs of photographing them. The most exciting of these is the account of discovering for the first time the nesting grounds and nest of the Bristle-thighed Curlew.—JAMES T. TANNER

THE HISTORY OF AMERICAN ORNITHOLOGY BEFORE AUDUBON, by Elsa Guerdrum Allen. Trans. of the American Philosophical Soc., vol. 41, part 3. 206 p. 1951. American Philosophical Society, Independence Square, Philadelphia 6, Pa. \$2.00.

This book is more than its title indicates, for it starts with the very beginnings of ornithology as a study and a science and then it presents considerable biographical detail about all ornithologists and natural historians of birds of this country up to the time of Alexander Wilson. The author, who is the wife of Arthur A. Allen, did much original research on her subject, traveling to libraries in this country and Europe, and has unearthed history buried in forgotten books and letters. One of her accomplishments in writing this book has been to portray the lives and deeds of several little known and even previously unknown American naturalists.

After a summary of the early history of ornithology in our civilization, the book covers the period when American birds were first described in

the notes of the first explorers and colonists. Then comes the founder of American ornithology, Mark Catesby, who travelled "extensively in the Carolinas" to make natural history observations. His biography is followed by accounts of a number of lesser lights. The text of the book concludes with an interesting and sympathetic biography of Alexander Wilson, the first man to publish a series of books on the birds of America.

The book is enlivened by numerous portraits (most of them apparently very unflattering) of these early naturalists and by several reproductions of paintings and drawings by the many of them that were artists. There is a tremendous bibliography, of about 800 titles, and an index. The American Philosophical Society is to be complimented for publishing this work.—JAMES T. TANNER.

HOW TO CHOOSE AND USE FIELD-GLASSES, by E. M. Nicholson. 8 pp., Field Guide No. 2, British Trust for Ornithology, 91 Banbury Road, Oxford, England. 9d.

It is somewhat surprising to learn how many bird-watchers are ignorant of the necessary information which would enable them to secure a satisfactory pair of glasses for field study. For those who are dissatisfied with their present glasses, or for those who contemplate a purchase, the paper in review will be quite useful. Mr. Nicholson briefly sets forth the qualities of a good glass for bird-watching, e.g., optical excellence, magnification, light-gathering power, frame design, focus adjustment, weight, and price. Special purpose binoculars and telescopes are very briefly treated, and the use and care of optical equipment rounds out the report. For general bird-watching, Nicholson recommends the finest optical quality glass of 6 to 9 power, light weight frame, central focus adjustment, and coated lenses. Several British and German glasses are mentioned, but none are discussed. No American equipment is listed.—ANDREW J. MEYERRIECKS.

THE INSIDE STORY OF BINOCULARS, by Robert J. and Elsa Reichert. 12 pp., Mirakel Repair Company, Mount Vernon, New York, 25 cents.

KNOW YOUR BINOCULARS, by Robert J. and Elsa Reichert, reprinted from the Jan.-Feb. and Mar.-Apr., 1951, issues of "Audubon Magazine". Obtainable from Mirakel Repair Company, Mount Vernon, New York, 1-19 copies at 10 cents each, 20 copies for \$1.00.

These two papers offer a very fine, detailed treatment of optics and of binocular choice and care for both the beginner and the expert. The first paper is especially thorough in its definitions of such optical terms as field of view, exit pupil diameter, and relative brightness. In addition, the paper discusses in some detail the qualities of a good glass for field study, various methods of checking optical and mechanical alignment, and lens coating. The last third of the paper consists of a fine review of many domestic and foreign makes and models of binoculars.

The second paper by the Reicherts is a shorter treatment of the essential points of the first. Anyone interested in securing the right pair of binoculars, and what birder doesn't want the best possible look at an elusive species, will be amply repaid by the purchase of these papers.—ANDREW J. MEYERRIECKS.

THE MIGRANT

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**The simple truth about birds is interesting enough;
it is not necessary to go beyond it.**

DISTRIBUTION AND POPULATIONS OF SUMMER BIRDS IN SOUTHWESTERN GEORGIA, by Robert A. Norris. 67 p. 1951. The University of Georgia Press, Athens, Ga. \$1.25.

Description of the topography and the vegetation of the region, an annotated list of the summer birds, results of three breeding bird censuses, and the conclusions that can be drawn from these data make up this report. The area is not particularly interesting or exciting to an ornithologist because it is not unique nor especially attractive to a large number of birds, but just because it is not unique, just because it is fairly typical of a large part of the southeastern States, the information this book contains is valuable. The annotated list describes the relative abundance, local habitats, and subspecific identifications of 96 species. The breeding bird census data report the results of a census in each of three major habitats. The combination in this one report of these two different methods of obtaining and presenting the information on the birds of a region makes this an interesting work.

About eight species of birds are reported as reaching their southern limit of range in this region. These extend farther southward here than they do in other regions of the southeastern States, and the author believes that these range extensions are influenced by the proximity of the Piedmont and the presence of rivers coursing north to south. These conclusions are supported by the locations of breeding records and by comparisons of breeding bird censuses in this region, the Piedmont, and the Coastal Plain.—JAMES T. TANNER

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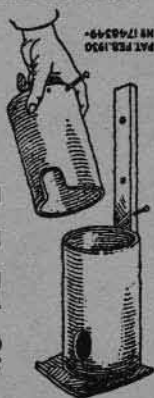
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