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The PASSENGER PIGEON

VOLUME VIII October, 1946 NUMBER 4

GREAT BLUE HERON H. L. ORIANS

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NEWS . . .

We are happy to announce that the Rev. Samuel D. Robbins, Jr., Neillsville, has consented to take over the field notes department of The Passenger Pigeon. He will edit the wayside notes as well as all field records. Please send field notes for the period from September 1 to November 30 immediately. The address is 190 N. Grand Avenue.

Mr. Rosario Mazzeo, author of the article, "Binoculars and Telescopes for Bird Study" appearing in this issue, is Personnel Director of the Boston Symphony Orchestra.

Bird students in Wisconsin who engage in photography as a hobby should not forget that The Passenger Pigeon solicits and publishes good bird photographs.

The Green Bay Bird Club recently went on record favoring an increase in our minimum membership dues annually from $1.00 to $1.50. The purpose of this recommended increase is to offset increased costs of printing The Passenger Pigeon.

Wisconsin was well represented at the sixty-fourth stated meeting of the American Ornithologist's Union held at the University of Illinois in Urbana-Champaign, September 2-6, 1946. Members of the Wisconsin Society for Ornithology present included Clarence Jung, Murl Deusing, Elmer Strehlow, Mr. and Mrs. Cleveland P. Grant, Margaret E. and Mary E. Morse, Owen Gromme, R. G. Stephenson, Anthony DeVos, Allen Stokes, Donald Thompson, Mrs. Clara Hussong, Mrs. Winifred Smith, Agnes Kugel, Mrs. Walter E. Rogers, Aldo Leopold, Robert A. McCabe, A. W. Schorger, J. L. Diedrich, and Mr. and Mrs. Walter E. Scott. Also present was Herbert Stoddard, honorary member of the society, from Thomasville, Georgia.

As many of our members know, the first volume in the series of life histories of North American Birds, by A. C. Bent has been out of print and virtually unobtainable for some time. Because of the value of this series, Dodd, Mead & Company, New York, has reprinted this first volume which deals with the diving birds at a price of $5.00. The publishing company expects to follow with reprints of the complete series.

The Christmas Bird Census in Wisconsin will be published again this year as usual. If you have not sent in your list, please do so immediately.

One recently published bird guide which will certainly please bird students is the Audubon Bird Guide, Eastern Land Birds, by Richard H. Pough. It was published in 1946 by Doubleday & Co., Inc., Garden City, N. Y., at a price of $3.00. More than 400 bird plumages are here illustrated in color by Don Eckelberry. The author supplements the plates with material on identification, song, habits, habitat, range and nest. The book will fit into a large pocket and so can be taken into the field.

The state bird club of Indiana recently became the lucky recipient of a bird sanctuary through the will of one of its members. The area which begins with 251 acres will be expanded to 640 acres as adjacent land is now owned by a party who is sympathetic to the cause. The area naturally abounds in birdlife, virgin timber and wild flowers and can be further developed. A full-time naturalist will reside on the place to develop it and be in charge of its educational program, while a library, auditorium, and museum will be provided.

The Chester T. Thordarson library, which the University of Wisconsin has had under consideration for purchase, contains such notable ornithological books as both the elephant and octavo editions of Audubon, a complete set of Gould's monumental works on the Birds of the World, Mathew's Birds of Australia, and many other lesser known but still important books in this field. Until recently this library was located at the Thordarson estate on Rock Island, off the tip of the Door Peninsula. The entire library, which contains books on almost every forward step in science, is valued by book dealers at approximately one million dollars. Without referring to the price, your board of directors recently prepared a recommendation to be sent to President E. B. Fred of the University urging the acquisition of the library.

In his paper, delivered at the recent A. O. U. convention, C. T. Black pointed out that snowy owl invasions previous to the one of 1945-46 occurred in 1941-42 and 1926-27.

MEMBERSHIP FEE OF $1 INCLUDES 75 CENTS FOR SUBSCRIPTION TO THE PASSENGER PIGEON, QUARTERLY PUBLICATION OF THE WISCONSIN SOCIETY FOR ORNITHOLOGY, INC. SPECIAL MEMBERSHIPS: SUSTAINING $5. LIFE $50. PATRON $100 OR MORE. SEND MEMBERSHIP APPLICATIONS AND DUES TO THE TREASURER, J. HARWOOD EVANS, 517 JACKSON DRIVE, OSHKOSH, WISCONSIN. SEND MANUSCRIPTS TO THE EDITOR, N. R. BARGER, 4333 HILLCREST DRIVE, MADISON 5, WISCONSIN.

ENTERED AS SECOND-CLASS MATTER SEPT. 4, 1940, AT THE POST OFFICE OF MADISON, WISCONSIN, UNDER THE ACT OF MAR. 3, 1879.

THE EFFECTS OF DDT ON BIRDS

By FRANK M. KOZLIK

During July, 1946, the U. S. Bureau of Entomology and Plant Quarantine together with the U. S. Forest Service made experimental aerial sprayings of DDT for the control of the spittle insect, the Saratoga frog hopper. The sprayings were made on red pine and jack pine plantations of the Nicollet Forest in Oconto County, Wisconsin. In conjunction with these experiments, the Wisconsin Conservation Department was invited to make any desired checks of the effect of DDT on animal life, the results of which this paper endeavors to report. Special acknowledgment is given for the excellent cooperation of Dr. H. E. Milliron, entomologist in charge, and to personnel of the U. S. Forest Service ranger station at Lakewood.

The DDT was applied as an oil solution, being sprayed by airplane within a few feet of the top of the forest canopy. The airplane was equipped with a gear pump that metered the solution out in the desired quantities. Study areas were set up in the red pine and in the jack pine plantations. Only part of each plantation was sprayed, leaving the remainder to be used as check areas.

The red pine area was located in Section 25, Range 15E, Township 32N and consisted of 14-year-old plantings in a 6x8-foot density. In places an over story of aspen and white birch appeared, while sweet fern and bracken fern predominated in the ground cover, with some scattering of blackberry, raspberry and hazel.

A tract of approximately four acres, Tract "A", was laid out in the area to be sprayed, and a census was made of the birds. This was accomplished by repeated cruising of the area during the early morning hours. Territories were determined and plotted by location of the singing males. The birds for this area were as follows:

Cedar waxwing (Bombycilla cedrorum)	2	
Red-eyed vireo (Vireo olivaceus)	2	
Oven-bird (Seiurus aurocapillus)	4	
Northern yellowthroat (Geothlypis trichas brachidactyla)	2	
Red-eyed towhee (Pipilo erythrophthalmus erythrophthalmus)	3	(1 young)
Chipping sparrow (Spizello passerina passerina)	4	(2 young)
	17	

Two nests were located on this tract, that of the cedar waxwings which contained five eggs, and that of the chipping sparrows. Both nests were situated in red pine trees at a height of approximately four feet. An account of the latter nest makes an interesting sidelight—all evidences indicated a second nesting of these birds in their original nest. When first discovered, the two adult birds were feeding two fledglings in the vicinity of the nest. For three days they frequented this area, but on the fourth day only one young bird was present and being fed by the male. The female was busy relining the nest. As she was working on the nest, the male flew over and copulated with her. Two days later she laid the

first egg. Later both this nest and that of the cedar waxwings were destroyed, evidently by black bear.

A check tract of equal size, Tract "B", was staked out in similar cover of the area not to be sprayed. Here the bird population was as follows:

Crested flycatcher (Myiarchus crinitus boreus)	2	
Bluejay (Cyanocitta cristata cristata)	4	(2 young)
Black-capped chickadee (Penthestes atricapillus atricapillus)	5	(3 young)
Oven-bird	4	
Field sparrow (Spizella pusilla pusilla)	4	
	19	

Similar sized tracts were studied in the jack pine plantation. These plantings, located in Section 10, Range 15E, Township 32N, consisted of 12-year-old stock in a 6x8-foot density. Here a scattered over story of aspen appeared, and the ground cover was predominantly sweet fern and bracken fern.

The birds listed below appeared on Tract "C" which was in that portion of the jack pine area to be sprayed:

Eastern kingbird (Tyrannus tyrannus)	2
Connecticut warbler (Oporornis agilis)	2
Red-eyed towhee	2
Chipping sparrow	2
Field sparrow	8
	16

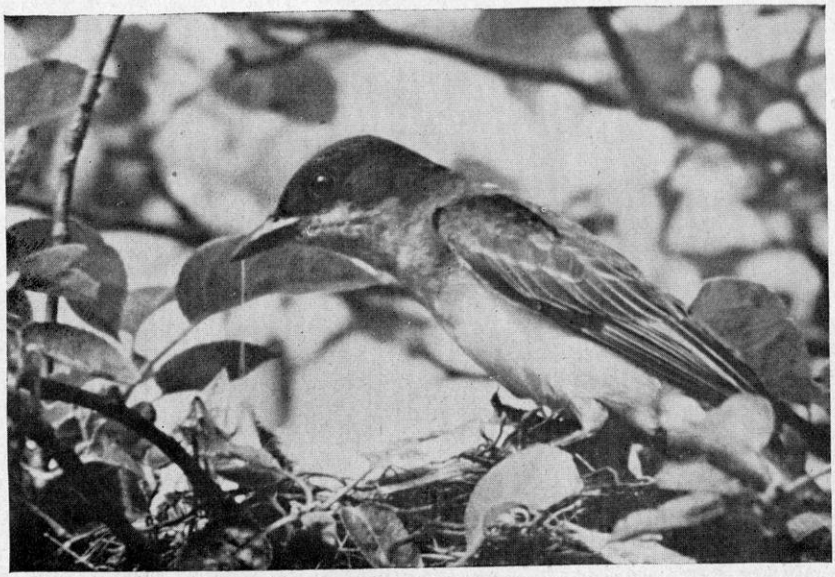
GOLDFINCH AT NEST GORDON ORIANS

On Tract "D", a check plot in the unsprayed jack pine area, the following birds were noted:

Goldfinch (Spinus tristis tristis)	2
Red-eyed towhee	2
Chipping sparrow	4
Field sparrow	6
	14

The study tracts set up were necessarily small, because the writer was working alone and had only a minimum of time to meet the spraying schedule which was to have begun July 12th. However, unfavorable flying conditions and a revised flight schedule delayed spraying over the tracts for 10 days until July 22-23.

That portion of the red pine plantation which included Tract "A" received a concentration of one pound of DDT per acre. Following the



KINGBIRD AT NEST H. L. ORIANS

spraying, repeated bird counts were made. Although the bird population had decreased, a similar condition was noted on Tract "B" in the unsprayed area. These decreases can be attributed to natural movements following nesting activities. No dead birds were found on Tract "A". The bird populations following spraying operations appear below:

Tract "A" (1 pound DDT per acre)

Red-eyed vireo	2
Oven-bird	2
Northern yellowthroat	2
Red-eyed towhee	3
	9

(47% decrease)

Tract "B" (unsprayed)

Black-capped chickadee	5
Oven-bird	2
Field sparrow	4
	11

(42% decrease)

The sprayed area in the jack pine plantation which included Tract "C" received a concentration of two pounds of DDT per acre. Bird counts made following spraying on Tract "C" and on Tract "D" in the unsprayed area both showed natural decreases with no direct evidence of any adverse effect upon bird life. The counts for the respective areas follow:

Tract "C" (2 pounds DDT per acre)	
Goldfinch	2
(moved in after spraying)	
Red-eyed towhee	2
Chipping sparrow	2
Field sparrow	4
	10
(38% decrease)	

Tract "D" (unsprayed)	
Goldfinch	2
Red-eyed towhee	2
Chipping sparrow	2
Field sparrow	2
	8
(43% decrease)	

In the sprayed portion of the jack pine plantation but outside study Tract "C", Dr. Milliron had placed insect trays under individual jack pines to catch the dead and dying insects as they dropped from the trees. Some of these trays had low insect kill returns. Two in particular were failing to produce, and close examination revealed bird droppings and insect fragments upon the trays. Near these trays a pair of indigo buntings (Passerina cyanea) and a pair of chestnut-sided warblers (Dendroica pensylvanica) were observed. Their behavior indicated that nests were nearby, and a search in some clumps of hazel revealed the respective nests. Each nest had three well-developed full-feathered young. The nest of the indigo buntings was approximately 15 feet from the closest tray, while that of the chestnut-sided warblers was about 35 feet away. These birds were using the trays as a source of food and carrying the insects to their young. The nestlings not only were eating the DDT-killed insects, but also had been sprayed upon, all of which seemed to have no apparent effect since the young indigo buntings left their nest on July 25th and the chestnut-sided warblers followed on July 26th (three days after spraying). These birds continued to frequent the area for two more days before dispersing.

All evidence gathered from this study indicates that DDT concentrations of one pound and two pounds per acre have no apparent adverse effect upon birds. This substantiates findings of Fish and Wildlife Service technicians which indicated a DDT concentration of five pounds per acre before any dead birds were found. Properly applied, light concentrations of DDT should give good insect kills without harmful effect to birds. However, repeated annual spraying of an area may so reduce the insect population that bird populations would be affected by the depleted food supply.

References

Cottom, Clarence, and Elmer Higgins. 1946. DDT: its effect on fish and wildlife. U. S. Dept. Interior, Fish and Wildlife Service, Circ. 11, 14 pp.

Hotchkiss, Neil, and Richard H. Pough. 1946. Effect on forest birds of DDT used for gypsy moth control in Pennsylvania. Journ. of Wildlife Management 10:202-207.

Mitchel, R. T. 1946. Effects of DDT spray on eggs and nestlings of birds. Journ. Wildlife Management 10:192-194.

Stewart, Robert E., James B. Cope, Chandler S. Robbins, and John W. Brainerd. 1946. Effects of DDT on birds at the Patuxent Research Refuge. Journ. Wildlife Management 10:195-201.

Storer, Tracy I. 1946. DDT and wildlife. Journ. Wildlife Management 10:181-183.

Madison, Wisconsin.

DR. T. S. ROBERTS

1858-1946

Dr. Thomas Sadler Roberts was not a resident of Wisconsin but became almost as well known because of his outstanding work, "The Birds of Minnesota." The material contained within these volumes is useful throughout the entire midwest and it is well presented. It won the Brewster medal in 1938. Dr. Roberts is also well known because he promoted the Museum of Natural History located in Minneapolis.

Born in Philadelphia, Feb. 16, 1858, Roberts came to Minnesota at the age of nine where he remained until he had completed two years in the University of Minnesota. Then he won his M. D. degree at the University of Pennsylvania, graduating in 1885. Dr. Roberts practiced medicine in Minneapolis for thirty years and taught Pediatrics in the University from 1901 to 1913. When he retired from practice he became professor of Ornithology and director of the museum. He began keeping bird notes in 1874 and was elected a fellow of the American Ornithologist's Union in 1883. He excelled in his medical career and became a good botanist. He was also a good organizer. His Logbook, which is a collection of bird records gathered from people in the state from 1917 to 1937, was published in 1938.

Dr. Roberts was married in 1885 and had three children. This wife died in 1932 but Roberts married again in 1937. The second wife died July 14, only a few months after Robert's death on April 19, 1946.

FURTHER STUDIES ON THE CARDINAL

By HOWARD YOUNG

The continual spread and increase of the Eastern Cardinal (Richmondena cardinalis cardinalis) has been frequently noted in various ornithological journals, but other than Sherman's paper in 1912[1], and the previous paper in the Passenger Pigeon[2], no attempts to explain or trace the movement have been published. The additional data here presented may therefore be of general interest.

Scope and Method of Study

The purpose of the study is to augment the previous work, and to correct it where new information makes this possible. The material was gathered to a large extent from the Audubon Magazine Christmas Bird Censuses; a great deal of statistical breakdown on these was available from work previously done by Dr. Leonard Wing of Pullman, Washington. The number of cardinals noted, per man-hour, was recorded for all censuses from 1900 through 1945. This included all states east of the Mississippi, with the exception of Florida, where the picture is complicated by a sub-species, and the first tier of states west of the Mississippi, plus Colorado, and excluding Texas (further sub-species complications). Questionnaires were sent to observers and banders in the state, and all back issues of the Auk, Wilson Bulletin, and Passenger Pigeon were thoroughly searched from the earliest available issues to date.

Cardinal Populations

By means of the Christmas census statistics it is possible to map the densities of the cardinal. When this is done it is apparent that the center of population lies generally in Kentucky and Missouri, and that the density tends to become progressively less in every direction from these centers. (See Fig. 1). In interpreting these statistics it must be kept in mind that the weather, zeal and ability of the observer, and type of habitat observed are all variables affecting the figures, so that only general conclusions may be drawn. However, the consistently high densities reported in the areas above mentioned, over a period of forty-five years, cannot be ignored. Their value is enhanced by the fact that the cardinal is a conspicuous bird, one not easily overlooked, and is distinctive enough so that there is little probability of its being confused with other species.

It may be noted at this time that the comparison of cardinals seen per man-hour, year by year, presents a very confused picture. Near the center of its range violent fluctuations in density appear from one year to another. (See Fig. 2). These fluctuations are irregular in nature, and vary from state to state, with little or no correlation. Doubtless some of the factors previously mentioned are at least partially responsible. When the combined figures for all states are plotted it appears that the cardinal is showing a slow increase. In 1900 the average was .37 birds per man-hour, and a density of 1 bird per man-hour was unusual previous to 1914. Since 1928 the average has not fallen below 1 bird per man-hour, and in 1945 it was 1.78. No indications of any cycle were found.

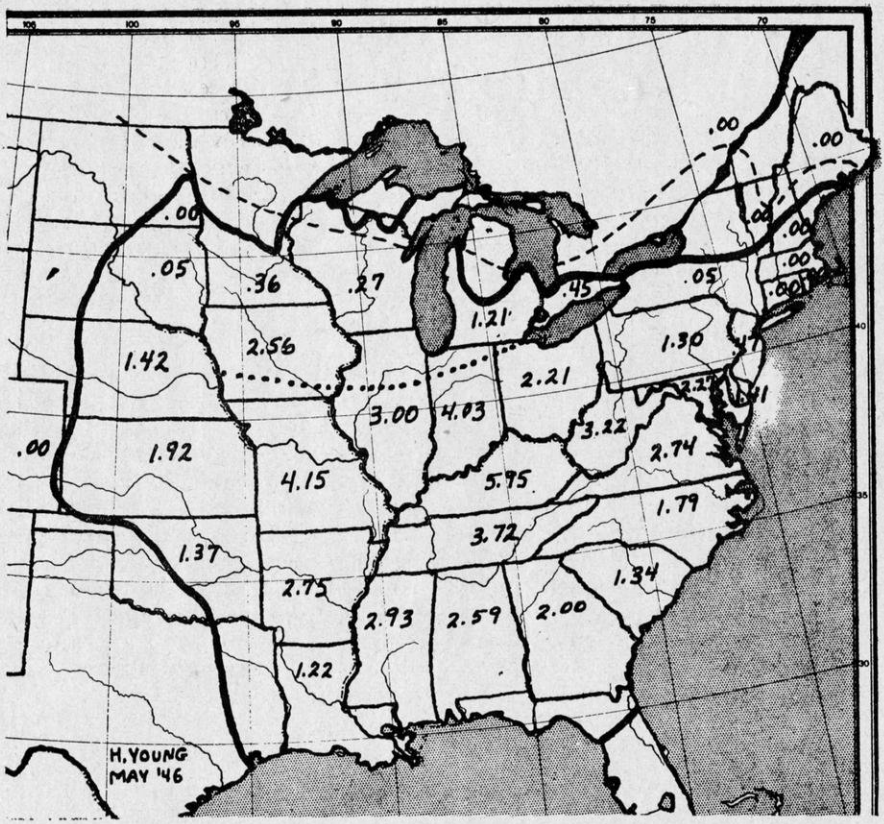


FIG. 1. THE CARDINAL RANGE
(CENSUS AVERAGES 1936-1945 INCLUSIVE)

——APPROXIMATE RANGE BOUNDARIES
- - - SOUTHERN LIMIT OF CANADIAN ZONE
. . . . LINE OF RANGE EXPANSION

One possibility is that population pressure may be the mechanism of the spread. The notorious pugnacity of the cardinal, and the common intolerance of non-gregarious species would be supporting evidence of this view. Observers occasionally note cardinals in sizeable flocks during censuses in the southern states; a situation seldom, if ever, noted in Wisconsin, which could possibly be interpreted as a pre-migrational phenomenon. The populations to the south are much higher than in Wisconsin; for example, in 1943 the observers in Ohio counted 1214 cardinals in 18 censuses, but its density was still lower than that of Indiana, Tennessee, Missouri or Kentucky for the same year. In contradiction, the average for the entire range from 1900 through 1946 is 1.55 while the average for 1936 to 1945 is only 1.59, showing very little increase in recent years.

The Range of the Cardinal

The approximate range limits of the cardinal are shown in Fig. 1. The greater portion of it lies east of the Mississippi, following the southern border of the Great Lakes, and shows a close correlation with the

extent of the humid divisions of the Austral Region. What is believed to be the most northern record for the species was in northeastern North Dakota in 1921[3]. Chapman[4] lists it as a characteristic species of the Carolinian Fauna, and it is in this region that it reaches its highest densities. Most references limit it to the northern part of the gulf states, but censuses from Georgia, Alabama and Louisiana reveal that it extends to the coast. It has been introduced in the vicinity of Los Angeles, and is a resident in Bermuda. The great plains have so far proven an effective barrier to the west. The most western record is from Colorado around 1883[5]. Murray[6], studying birds in the mountains of North Carolina, found it restricted to below the 4000 foot line where the Canadian Zone started, and various other observers later substantiated him. Yet in recent years it has penetrated the Canadian Zone which covers

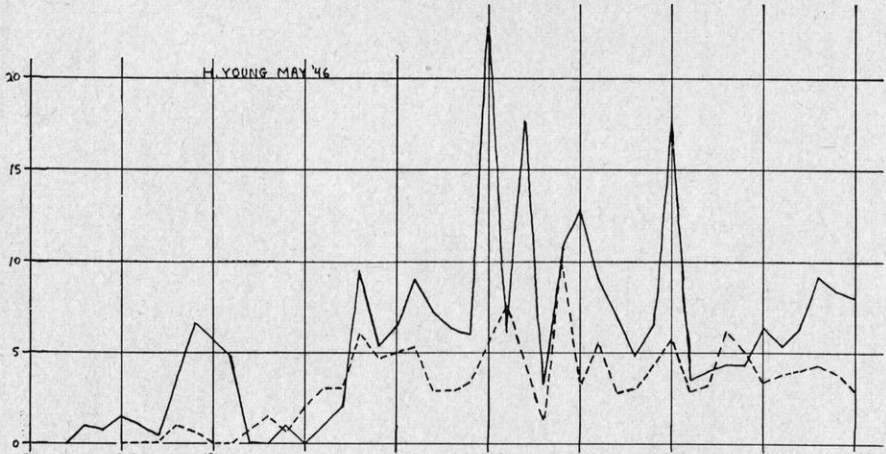


FIG. 2. CARDINALS PER MAN-HOUR

northernmost Wisconsin. (See Figs. 1 & 3). There are also two records of the cardinal in New Brunswick[7], and one from the upper Michigan peninsula[8], both well within the Canadian Zone.

Range Expansion

In reading the old journals little mention of any range expansion is found prior to 1900. At this time and extending through 1920 there is an abundance of references which describe a sudden spread over a wide area extending from western Iowa to eastern Michigan. It is interesting to note that the only reports of new appearances of cardinals were along this front.

Of the many articles appearing during this time, the following are typical: Talbot[9] states that the cardinal was first seen at Sioux City, Iowa, in 1900; Jones[10] found them on islands in western Lake Ontario in 1901; Sherman[11] states they moved into northern Iowa in 1903; Tavener[12] notes them invading southern Michigan in 1906; Fleming[13] classified them as "accidental" for Toronto in 1907, but by 1915 they were being regularly reported in Ontario Christmas censuses.

The cardinal has been seen many years ago at points well in advance of the present spread. Early northern records include Michigan in 1837[14], Wisconsin in 1847[15], and Minnesota in 1875[16]. And various reports from correspondence and literature substantiate the conclusion of the previous paper that the northern invasions have been somewhat sporadic. In Wisconsin the cardinal was recorded for Forest County in 1910*, but many more southern counties have no records until two decades later.

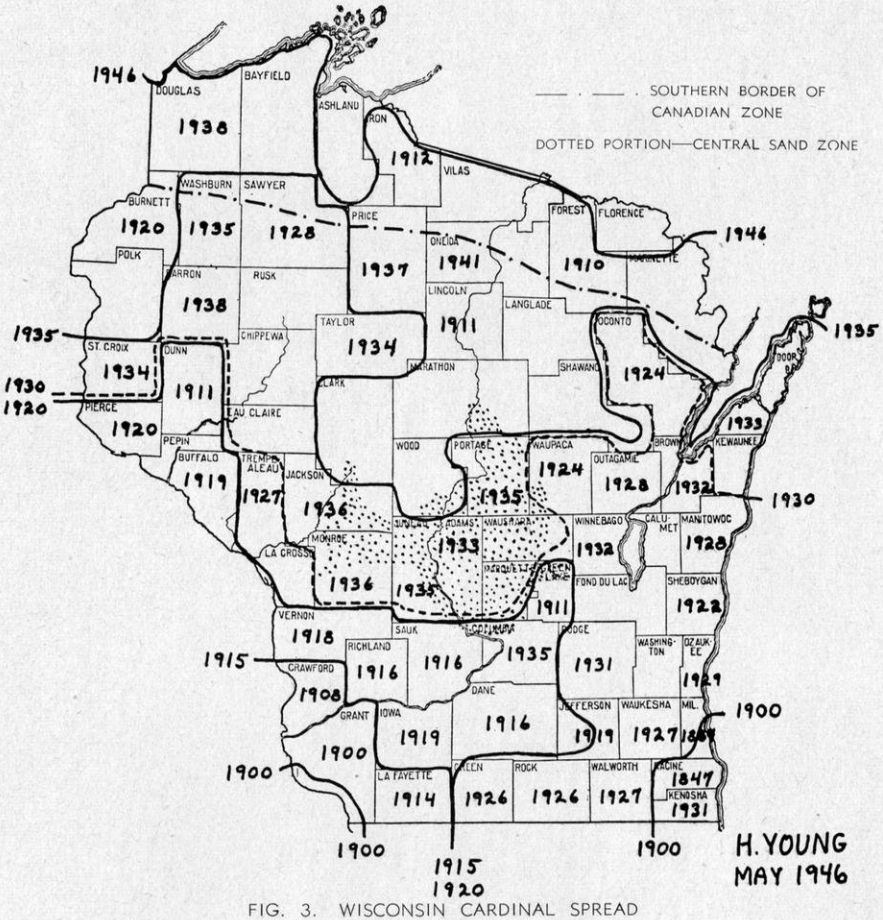


FIG. 3. WISCONSIN CARDINAL SPREAD
(DATES DENOTE EARLIEST RECORD FOR COUNTY)

The earliest ascertained date for Brown County, as an example, is 1932. In connection with this, the 1907 notes of Swala and Tavener[17], in reference to Michigan, are of interest:

> There is no doubt but that the cardinal is on the increase . . . there seems to be good evidence that some half century ago it was a still more common feature of our landscape. . . .

*Most county records are from answers to questionnaires, and the co-operators are not listed in the bibliography for reasons of space economy.

Perhaps the recession was not complete, leaving northern "islands" which would explain the occasional reports of continuous presence in northern Wisconsin counties.

The Cardinal in Wisconsin

In considering the spread of the cardinal in Wisconsin some assumptions must be made. No data is available for some counties, and in others the information on hand obviously presents an incorrect picture. In Columbia county, for example, 1935 was the only record date uncovered by time of writing.

Generally speaking, the main impetus of the movement has been from the west, and the spread has come from the valleys of the Mississippi and Wisconsin Rivers, and their tributaries. The birds tended to avoid the central sand area, although they have now entered it. (See Fig. 3). As previously mentioned, in the northern counties they have penetrated the Canadian Faunal Zone.

The earliest records show the cardinal present in Wisconsin as early as 1847[15], at least in the extreme southeastern corner. They eventually disappeared from this area, and there are no more definite records for the state until 1900. At this time they appeared again in Milwaukee County[18], and also the west in Grant County[19]. The following chronological list of records shows the spread as indicated in Fig. 3.

In the next five years there was little movement, but by 1920 the cardinal had extended along the Mississippi to Pierce County, along the Wisconsin to Sauk, and west to Jefferson County. From 1920 to 1930 the movement was mainly in the eastern part of the state where the range was extended to Waupaca, Oconto and Manitowoc Counties. There were some small scale cardinal plantings in Milwaukee County (Grant Park) in 1928, which may have affected part of the movement.**

Summary

1. The cardinal populations center around Kentucky and Missouri, becoming progressively less in any direction from these centers.
2. Christmas Census statistics show a slow increase in the general cardinal population since 1900.
3. The cardinal apparently is non-cyclic.
4. The cardinal generally is confined to the zones of the Austral Region, but is now penetrating the Canadian Zone.

**Letter from Mrs. F. L. Hook describing the appearance of an unmated male, the purchase and liberation of a mate for him, the trapping and holding of birds over the winter, and later additional plantings.
By 1935 the cardinal had moved into Juneau, Adams and Portage Counties in central Wisconsin, and had moved west from the Mississippi to Taylor. At the present time there are cardinal records for all the northernmost counties except Ashland and Florence, so while it is more common in the south, it may now be considered as occurring throughout the state. No data has been found for occasional counties such as Washington and Rusk, but the presence of birds farther to the north indicates that this is due to a lack of records rather than of cardinals.

5. There are numerous northern records of cardinals antedating the present spread.
6. In Wisconsin the spread is since 1900, and in the main part has been from the valleys of the major rivers in the western part of the state. The spread was slow into the central sand area.

BIBLIOGRAPHY

1. Sherman, Althea R., **The increase of the cardinal in the upper Mississippi valley,** Wilson Bulletin, Vol. XXV, No. 84
2. Young, Howard, et al., **The spread of the cardinal through Wisconsin,** Passenger Pigeon, Vol. III, No. 1
3. Williams, H. V., **Birds of the Red River Valley of northeastern North Dakota,** Wilson Bulletin, Vol. 36 (1926)
4. Chapman, Frank M., **Handbook of Birds of Eastern North America,** 2nd Rev. Ed., D. Appleton 1934, pp. 30-34, 504
5. Bergtold, W. H., **The cardinal in Colorado,** The Auk, 1927, p. 108
6. Murray, J. J., **Notes from western North Carolina,** The Auk, 1932, p. 103
7. Moore, Wm. H., **New Brunswick Notes,** The Auk, 1901, p. 201
8. Tyrrell, W. B., **Notes from Whitefish Point, Michigan,** The Auk, 1931, p. 131
9. Talbot, D. H., **The cardinal breeding at Sioux City, Iowa,** The Auk, 1902, p. 86
10. Jones, Lynds, **A study of the avi-fauna of the Lake Erie Islands,** (The Birds of Pelee Islands, Ontario, Canada), Wilson Bulletin, Vol. XXIV, Nos. 1-4
11. Sherman, Althea R., **Carolinian Fauna in N. E. Iowa,** The Auk, Jan. 1913, pp. 78-79
12. Tavener, P. A., **The yellow-breasted chat in Michigan,** The Auk, 1906
13. Fleming, James H., **Birds of Toronto, Canada,** The Auk, 1907, p. 81
14. Wood, N. A., **A correction of "Some notes from Southwestern Michigan,"** The Auk, 1926, p. 555
15. Hoy, P. R., **Man's influence on the avifauna of southestern Wisconsin,** Proc. Wisc. Nat. Hist. Soc., March 1885
16. Commons, Frank W., **Cardinals in Minnesota,** Wilson Bulletin, Sept. 1928, p. 206
17. Swala, B. H., and Taverner, P. A., **Recent ornithological developments in southeastern Michigan,** The Auk, 1907, p. 146
18. Kumlien & Hollister, **The birds of Wisconsin,** Bull. Wisc. Nat. Hist. Soc., Vol. III, Nos. 1-3
19. Schorger, A. W., **Birds of Dane County,** Trans. Wisc. Acad. Sci. Arts & Letters 24 (1929) & 36 (1931)

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Sac Prairie Autumn

By AUGUST DERLETH

21 September: A lone nighthawk foraged over the Lower Meadow in the twilight, and there, too, robins called querulously, with fragments of songs, and a song sparrow sang near the Triangle of trees between the rim of the meadow and the railroad embankment at the south end of the meadow. From behind Lenson's farm, in the Pocket there, killdeers cried plaintively. But no other bird gave voice, despite the mellowness of the evening.

29 September: I went into the marshes tonight, along the railroad tracks, despite a steady mist of rain falling; but the air was pleasantly warm and aromatic, and the peepers were fluting, quite as in April. Of birds—the solitary sandpipers called along the Wisconsin's shores, whitethroated sparrows sang in the woods, robins made their complaints, a few song sparrows sang—occasionally breaking off or almost grotesquely mutilating the familiar song-pattern, and a lone chewink sent forth his metallic cry from the depths of Bergen's Island. Because of the moisture, the sounds were all strong and clear.

3 October: As I lay in the dip at the head of the big hill across the river from the village this pleasant, sunny afternoon, a pair of ospreys flew cruising up and down the river. One of the birds came very close to me. overhead, and, turning its head this way and that, made a kind of yapping sound, an exploratory sound, it seemed to me. The birds, of which I had not seen one in some time, moved above the river for some time, flying almost up to the Sugar Loaf, and back down well toward the lower end of Bergen's Island, a range of over a mile, at first very low, but presently mounting higher and higher, riding the wind and the air-currents counter to the wind—wonderfully magnificent to see!

In the vicinity of the Spring Slough this evening, just after sundown, with dusk settled there already under the trees, a loon called once, sharply but unmistakably—a migrant bird, doubtless.

4 October: In the deep woods this afternoon migrating myrtle warblers fed upon elderberries, together with some robins. I counted well over a hundred myrtle warblers, together with twenty-one robins, and seven redstarts, all in and among the berry-bushes fringing the hilltop field of Breunig's Hill. Pewees there were also along the line-fence, but these gave no sound, only tipping there, and flying insectward from time to time. From every corner of the wood bordering the field came the muted cries of blue jays. The birds fed not only on elderberries, but also on black haws and bittersweet, though tending to leave the bittersweet until the last.

9 October: Just north of the railroad bridge this morning, while I was walking into the village, I heard redwings and other, less familiar voices in song and call, and saw a flock of purple finches in the locust trees there, some of them very brightly colored because the sunlight fell upon their crowns and down along their backs. There were almost thirty of them in evidence, and doubtless others I did not see farther up along

the shore where the foliage was still dense. They made a constant, if muted, todo of calls and songs.

10 October: A redheaded woodpecker harried a squirrel in the vicinity of the brook this afternoon. The animal had flattened himself as closely as he could to the bole of an elm tree in the bottoms there, just beyond a large maple north of the brook; but he made no move to escape, while the redheaded woodpecker swung in a low arc, pecking at him from time to time, launching himself off a blunt old bole east of the squirrel, delivering his peck, and taking refuge in the elm beyond the squirrel, only to swing back the opposite way in good time. From each resting or pausing-place, the woodpecker called angrily, and from time to time the squirrel chattered back. It seemed, indeed, far more a game than anything else, for the bird never seemed to touch the squirrel, and the squirrel might easily have escaped to safety, I thought.

13 October: This morning along the river, south of the railroad bridge, there were not only redwings singing, but cedar waxwings in some numbers. They were evidently feeding there, but on what I could not determine, unless the fallen seeds of locusts, which were scarce, since there had been few flowers during the past Spring.

During this murky, misty evening, fragrant and pungent with the smells of autumn in air, I heard overhead the distress cries of wild geese. They were evidently lost, blinded by the lights and the low clouds, and were flying in great circles. Meeting Bob Noel, I learned that in past time the village had occasionally put out all streetlights for ten minutes or so on occasions like this, during which time the birds again found the course of the Wisconsin by the starlight reflected in the water, or simply the water's glowing on nights of cloud, and were gone.

18 October: The combination of warmth, which was Spring-like, and the moonlight perhaps stirred a woodcock to making an attempt at an aerial dance this evening in the marshes. The bird soared up just ahead of me, and did go partially through the aerial dance pattern before disappearing southward. He did not reappear, though I waited for some time.

26 October: A chill morning, with a film of ice on pools and hoarfrost on the grass. Walking in along the Lower Mill Road, I heard quail quirting, starlings mocking (the familiar lark mimicry), redwings (in calls and the familiar **conqueree,** or **okalee**), English and tree sparrows, goldfinches, and killdeers making their nostalgic crying. Redwings were this morning flying about in considerably larger flocks, suggesting that the time for their migration approached. A solitary Western meadowlark called this morning from a field, among some horned larks feeding there.

29 October: At the Spring Slough today there was a constant todo of grackles, a large number of the birds having taken possession of the shore on both sides of the slough south of the trestle, with sentries posted high in the near trees, evidently for the purpose of foraging and bathing in the shallow water along the rim of the pond, an occupation at which I did not disturb them, coming along to stand at the trestle's east approach. Apart from the cheerful, spring-like voices of the grackles, the redwings sang in some numbers along the Upper Meadow and at the

brook; moreover, the juncos' gentle, whispered song sounded in the willows, and the voices of crows, blue jays, killdeers, nuthatches, song sparrows, and goldfinches rose from time to time.

5 November: A loon swam placidly about in the Wisconsin just below the wing dam, in the quiet backwater there. The bird was quite unmistakable in plumage and, when subsequently it flew up, it traveled in the typical flight pattern of the loon, dragging its feet for some distance and keeping low over the water, as if too ponderous to rise easily, for well past three-fourths the river's width before it lifted itself and flew north, not very high above the water.

Late tonight a wood-duck cried steadily at the Ferry Bluff, the insistent **cree-eee,,** raucous and shrill, rising at intervals of half a minute, with fair steadiness.

10 November: En route to the village this morning, I observed many flocks of redwings and bronzed grackles—at least a score of them—ranging in size from thirty birds to well over a hundred. In one flock, a blue jay had somehow been caught up, and, at the moment I caught sight of him, was being harassed by the attacks of two redwings which darted down out of the flock on wing from time to time and flew at him; but he made his escape into an oak along the road, and there clung while the flock passed over and were gone.

25 November: Walking into the village this afternoon, I saw a little flock of cardinals, fluttering about in an oak tree and a scrub growth of wild cherry, making their **tchek** of alarm. I counted eleven in all, seven of them males.

6 December: A grey marsh harrier coursed up the meadows this afternoon, with such effortless movements that I could not take my eyes from him. He was apparently foraging, for he flew very low, dipping earthward from time to time, but not, seemingly, taking any prey. He went up and down the meadow with the utmost grace and leisureliness, and made no sound.

Sauk City, Wisconsin.

MARSH HAWK EDWARD PRINS

BINOCULARS AND TELESCOPES FOR BIRD STUDY

By ROSARIO MAZZEO

Drawings by Arthur W. Argue

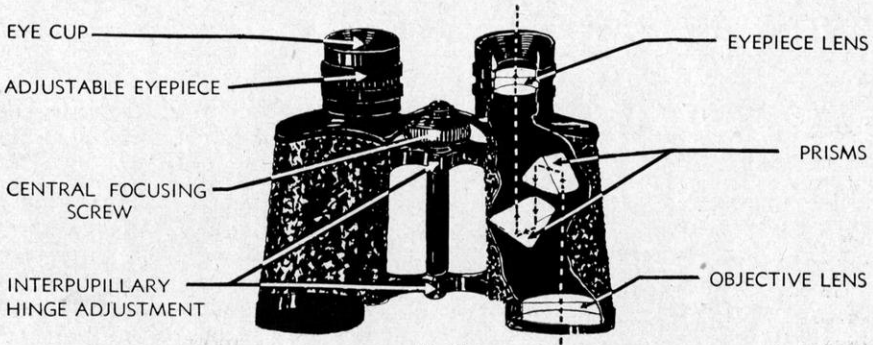

Fig. 1

So much in the avian world that is of interest is beyond the usual powers of our vision that to see well it is necessary to supplement these powers with some exterior help. Time, patience and silence, together with a choice of the proper locale, sometimes combine to give us completely intimate and revealing views of such aspects of birds as we wish to observe. There are, however, numberless occasions when new opportunities for seeing can be ours only when we are equipped with optical aids. A good binocular and a notebook and pencil will open the way to a world of endless interest.

This article does not purport to be either a technical or a popular dissertation on the subject of binoculars and telescopes. Rather, it hopes to combine such aspects of both as should interest the average bird student.

To begin with, everyone speaks of his "binoculars," when properly it is "binocular"—singular.

There are two types of binoculars, Galilean and prismatic. The Gallilean are double telescopes with direct vision through the lenses. Because of resulting bulk they are seldom constructed to give magnifications of more than 3x or 4x. The field of view is small. The prismatic type makes possible shorter length, compact design, more separation between the two telescope systems (giving enhanced stereoscopic effect) and it permits the use of long focus objectives (giving greater magnification).

There are seven important factors to be considered in selecting a binocular for bird study, and we list them in the order of importance.

1. **Sharp, Brilliant Definition of Image.** This should always remain the principal point upon which to make a selection. It is easier to identify surely a sharp, brilliant image magnified four times than a blurry one magnified eight times. Good image quality is absolutely essential. It is

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*Reprinted from The Bulletin of the Massachusetts Audubon Society, June, 1946, with the kind permission of C. Russell Mason, editor, and Rosario Mazzeo, author.

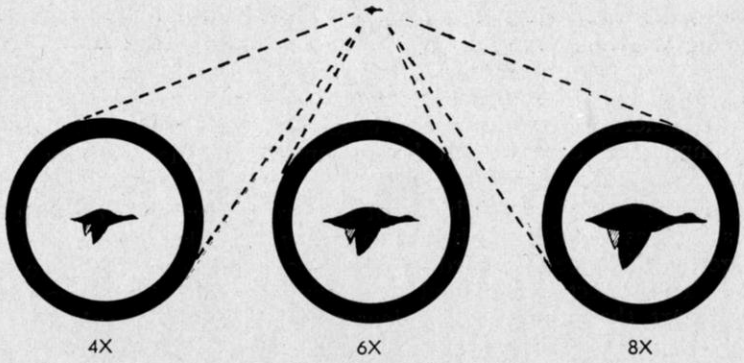
determined by many factors, but chiefly by the optical design, quality of workmanship and accuracy of the alignment of the optical system. The very best lens system is of little value unless accurately aligned **and kept that way.** Spherical and chromatic aberrations must be corrected to as great an extent as possible, color fringe being particularly objectionable in making out fine shades of coloring on a bird. Bird students do not seem to realize sufficiently that the prolonged use of a binocular with poor lens correction or alignment can cause quite marked eyestrain.

2. **High High-Transmitting Power and Luminosity** are very necessary because, added to the quality of definition, they make possible a clear, bright view of the bird. Besides, these qualities make the binocular usable under the widest possible variety of conditions of light. The larger the objectives, the higher is the degree of luminosity—assuming, of course, a comparison between binoculars of equal magnification, because larger objectives collect more light rays. The efficiency of a binocular is decreased somewhat by a loss of light in its passing through the optical system. This loss can now be sharply cut down by the new "coating" process which the principal manufacturers are now applying to their lenses and which increases the efficiency as to the light-gathering power by about 40 per cent. Unquestionably, all or most of the binoculars made from now on will have coated lenses, and it seems safe to assume that most manufacturers may undertake to coat the binoculars which they made before the advent of the process. As yet there has been no indication from the manufacturers as to the cost for this treatment.

To measure the light-gathering qualities of an uncoated binocular, take the diameter of the full aperture of the objective in millimeters, divide it by the magnification, and square the quotient. Thus a 7x35 mm. uncoated binocular has a light value expressed as 25—i.e., $(35/7)^2$. Dividing the objective aperture by the magnification also gives the diameter of the exit pupil. It has been proved that an exit pupil of 9 mm. can actually be utilized since the pupil of the eye can expand to 9.5 mm., but for the average bird students' use a binocular having an exit pupil of about 5 mm. will be found most useful. This will permit prolonged observation in either brilliant sunlight or at dusk and in each case will cause little or no eyestrain. To be sure, a 7x70 mm. glass will allow, under very difficult light conditions, the distinguishing of characters which might otherwise be overlooked, but these occasions are so extremely rare as to make the excessive size and expense of such a binocular unnecessary.

3. **Magnification.** Magnification (or power, as it is sometimes called) means the number of times the image seen through the glass is larger than the object appears to the naked eye. (Fig. 2). The aim should be suitable magnification for the general purposes intended rather than maximum magnification. Beginners, especially, are inclined to select a binocular by its magnification rather than by a combination of qualities which make up its over-all efficiency. It is infinitely more desirable to have a fine 4x36 mm. glass than a mediocre or poor 8x30 mm.

As to what magnification is most useful, if one considers the great variety of circumstances under which bird observations are carried on he will at once see that a too high magnification can be a serious handicap. Often are the occasions, when standing on an exposed situation in



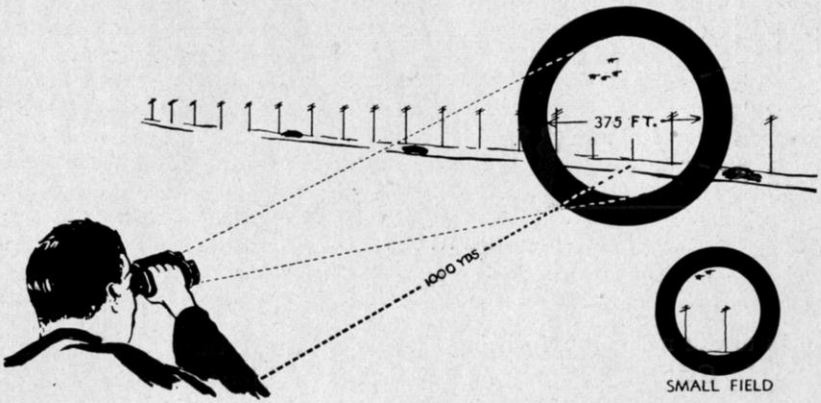
MAGNIFICATION

Fig. 2

a high wind, that a glass with a magnification of 7x or 8x is as much as one can hope to hold steadily in hand—or the quick pursuit of a bird to a point of satisfactory observation leaves one breathless and unable to hold a glass too steadily. (In any event, at such times you should steady yourself against a tree or other object.) Considering all of these factors, you will find that the most useful magnifications for a hand-held glass are 8x or less.

4. **Wide Field of View.** This adds to the usefulness of the instrument and makes it more easily possible to quickly find a small object in a large area. For example, a hawk at a distance of a mile or two is much more easily found if your glass has a wide angle of view. The same is true for finding a warbler in a nearby mass of foliage.

The average 7x glass should give a field of approximately 375 feet when viewed at a distance of 1000 yards. (Fig. 3). If you wear eyeglasses you will find that equipping your binocular with flat eyecups will bring the lenses closer to your eyes and thereby permit you to get the benefit of the widest field of view possible with your glass. For myself, although



FIELD

Fig. 3

I wear eyeglasses, I find that (using the normal eyecups) I prefer to push my glasses up out of the way with one hand, or with the eyecups. This permits the binocular to come snugly against the brow, thereby shutting out side light and consequently giving me fuller advantage of the light-gathering qualities of my binocular. This procedure is not to be recommended except with horn-rimmed or other heavily framed glasses.

5. **Steroscopic Effect.** This is of the greatest value because it gives depth as well as breadth and height to a view. It makes it infinitely easier to judge the distance of a bird from you—and therefore easier to judge its size. This effect is achieved by having the objective lenses much farther apart than the eyepiece lenses and is possible only in prism binoculars.

6. **Focusing.** This is the process of bringing together the rays of light after they have passed through the lenses, thus making an object as clear as possible to the eyes. Most prism binoculars and some Galilean glasses have a central hinge to make possible the altering of the distance between the eyepieces to suit the individual's eyes. To do this, swing the two sides of the binocular apart as much as possible and, while looking through them, move them together until you have two overlapping circles which allow you to see one continuous view with both eyes.

Without extending this paper to the point of completely describing all the ramifications of focusing, it is sufficient for the purpose at hand to say that, when you have focused your binocular sharply on an object, some objects immediately before and behind it will also be sufficiently clear to the eyes so as to be described as "in focus." The distance of this clearness before and behind the object increases as the point of sharpest focus is more removed from you. With a binocular of little magnification the space would be greater, with one of greater magnification the space would be less. In any event, sharpness falls off as you look forward or back of the point of sharpest focus until it is unsatisfactory to the eye and then appears as "out of focus." (Fig. 4).

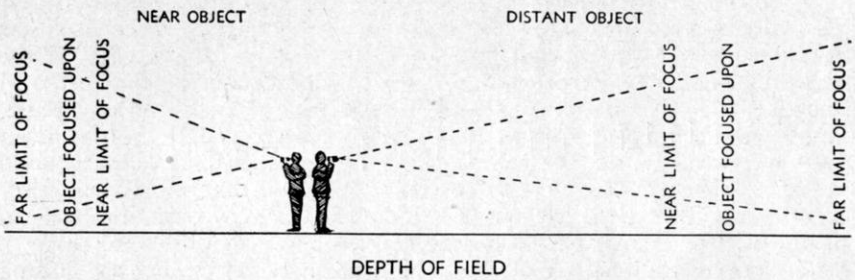
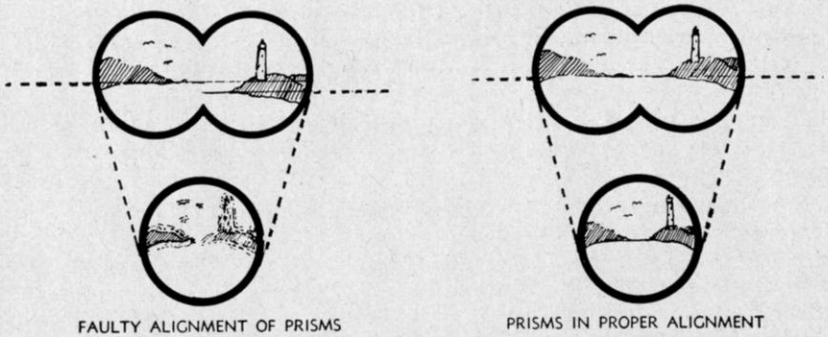


Fig. 4

As to the means for focusing sharply there are three possibilities.

a. In Galilean and in very few prismatic binoculars there is only one adjustment—a central screw which moves both eyepieces simultaneously. This is satisfactory only to the extent that both eyes are of equal vision.



ALIGNMENT
Fig. 5

b. Individual focusing. This type of focusing is used as standard by both the U. S. Army and Navy. Its principal advantage is that it makes the binocular dustproof and watertight. Its disadvantage is that each eyepiece must be focused separately. This is not a matter of much importance if most of your viewing is at a considerable distance. For bird students this method offers a distinct disadvantage (except in prolonged observations at one distance) in that it takes more time to refocus sharply on any new bird which comes to your attention. This is particularly so where the distances are short. Many observers get around this handicap by having each eyepiece painted with a very easily distinguishable mark for each of several distances—very near (10 feet), medium distance (25 feet) and infinity. The great harm that can come from this is that rarely is the bird at precisely the point of sharpest focus and therefore the watcher (unless he refocuses) must be content to receive an image of somewhat less good quality than his binocular is capable of giving. Continuous use under these conditions can cause severe eyestrain.

c. Central focusing with one eyepiece adjustable to compensate for unequal vision. This has the disadvantage of being somewhat less dustproof and moistureproof, and of being slightly less sturdy. While acknowledging these shortcomings I feel compelled to say that my own binocular (of this type) is in constant use as in as varied a set of circumstances as intensive bird-watching makes necessary and it has never given me any trouble. In any event, a binocular which is much used should be checked and cleaned (preferably by the maker) at least every second year. It is perfectly possible for even the very best binocular to get out of adjustment and yet not be noticeable to the observer. (Fig. 5). When you get a binocular of this type place it before your eyes, closing the eye on the side that has the separate focusing eyepiece. Extend the glass by means of the central screw to its greatest length. Then, while watching an object, move the central screw until the object comes to the sharpest focus (don't move the screw back and forth over this point —if you pass it, start again). Then close the eye you have been using and repeat the process with the other eye, but focusing **only** by means of the separately focusing eyepiece. This is a more difficult adjustment and should therefore be made very carefully. Both eyepieces should

now be balanced to give equal sharpness of vision. Note the reading on the adjustment scale and see that the eyepiece is always set there. After this, all focusing is done with the central screw, and is easily and quickly accomplished.

7. **Weight, Size, General Ruggedness, and Cost.** Considering the fact that most bird students have their binoculars suspended from a neck strap for long periods of time, it is well to have the weight at a minimum. In the case of a binocular of high magnification, it might be better to have a heavyweight glass for ease in steadying it. I consistently use a 7x binocular weighing but 19 ounces and have never experienced any difficulty in keeping it firmly trained on an object. Incidently, I use and highly recommend a short, wide neck strap. It is infinitely more comfortable than the usual long ones and is a safety factor in that it does not permit the binocular too much dangling motion, a particularly valuable point when darting through underbrush. It helps avoid the possibility of a sharp knock, which could easily put even the sturdiest glass out of alignment.

As to size, for the average bird observer it will be best to have a binocular that is not too large to carry for long periods on a neck strap, nor too large to tuck into the coat pocket of a suit or handbag. So many times I've found myself taking my binocular with me because I could easily do this, when a larger, more cumbersome instrument would have been left at home with a consequent loss of observation time. The average birder studies birds as a hobby, and there are many occasions while engaged in his more usual occupations that the incidental presence of a binocular can give him extra observation time. While acknowledging certain superior points about the larger and heavier instruments, it is obvious that they are most useful on full-dress occasions.

Thus far no mention has been made of cost. As with all optical goods, be sure to buy from the most reliable source the very best that you can afford. There is no economy in cheap optical equipment. It is far better to select a binocular of more limited possibilities but of excellent construction.

For the amateur there are several well-built 4x30 to 40 mm. glasses. Prices ranged (before the war) from ten dollars to forty dollars, depending mostly on quality of construction. Some had a central hinge for interpupillary adjustment. A first-class glass of this sort is much to be preferred to a mediocre 8x30 mm. binocular. I have a little one called the **Rambler** (made by the Wollensak Company) which I usually keep in my car and which has been eminently useful. Note the specifications: There are really few occasions when you cannot keep a glass of this size near at hand.

Diameter of objectives	33 mm.
Relative brightness	68
Magnification	4x
Linear field	225 feet at 1000 yards
Focusing	Central screw
Height	3⅜ inches
Weight	8 ounces
Interpupillary distance	63 mm. (not adjustable)
Price	$15.25

The next most useful glass would be a 6x30 mm. prism binocular which would have specifications somewhat along this order:

Diameter of objectives	30 mm.
Relative brightness	25
Magnification	6x
Exit pupil	5
Angular field	8° 29′
Linear field	445 feet at 1000 yards
Focusing	Central screw with individual adjustment of one eyepiece. Central hinge.
Height	4 11/16 inches
Weight	15 ounces
Price	$50.00-$90.00

The binocular which I use and consider an ideal balance of all the desirable features is a lightweight 7x35 mm. Specifications are:

Diameter of objectives	35 mm.
Relative brightness	25
Magnification	7x
Exit pupil	5
Angular field	7° 17′
Linear field	381 feet at 1000 yards
Focusing	Central screw with individual adjustment of one eyepiece. Central hinge.
Height	5 7/16 inches
Weight	19 ounces

This instrument was made by the Bausch & Lomb Company and before the war cost just under $100.00. Add to this now the price of coating.

The 7x50 mm. binocular is also very near to being ideal. It admits more light but has the disadvantages of more bulk, weight and greater cost.

There are many medium-grade 8x30 mm. glasses on the market but they are not nearly of the general effectiveness of a good 6x30 mm. from one of the better manufacturers. With the war over, there are bound to be a great many glasses offered for sale. Many of these are excellent, but the buyer will do well to bear in mind **all** the points affecting the usefulness to him. Most of these instruments were built to fill needs where weight and bulk were of no consideration.

* * *

The really serious bird student will find many occasions when his binocular could well be supplemented by a telescope. Particularly in observing shore birds and ducks will he find a scope a distinct asset.

Before discussing the selection of a scope, I should like to point out the one absolute **must** for any telescope or glass which magnifies more than 10x—a tripod, or other rest. I have seen so many observers with perfectly good telescopes in hand getting poor or negligible views of a bird because of their inability to keep the scope trained on the

subject. Tripods come in all sizes and weights. If you go to the trouble of carrying two to four pounds of telescope, it is such a small addition to carry two or three pounds of tripod, and it will make an enormous difference in the results obtained.

The factors to consider in selecting a telescope are exactly the same as for a binocular. Most telescopes are of the drawtube Galilean type, the principal shortcoming of which is a small field of view. Because of the more limited use to which a telescope is put, this is easily obviated by two means:

1. A steady tripod.
2. Mounting a small rifle sight on the scope, by means of which you can quickly aim the scope at the bird.

The most useful size of objective for a scope is from 50 to 65 mm., and the most useful magnification about 20x. Larger objectives can result only in more weight and bulk and therefore will seriously limit the number of occasions when you can have the scope with you. There will be numberless times when the incidental presence of a convenient portable instrument will mean the sure identification of a bird. The larger, heavier scope will usually be left at home, or at least in the car, except for those occasions where you are sure you are to use it and when you have not too far to walk. A 20x50 mm. scope would be the most useful adjunct to a fine 7x35 mm. binocular. If the image given by the scope is not clear and sharp, you will find yourself using your 7x or 8x binocular despite the difference in magnification. By all means, be sure to use the sun shade which is usually an integral part of the instrument.

The telescope which I find ideal for my use is of the prism type, with a 60 mm. objective and three oculars (12x, 24x and 42x), mounted on a revolving drum by means of which each ocular can be brought into position. This makes it possible to meet almost any demands of light or distance. The arrangement for attaching the scope to the tripod is such that it can be easily swung to or locked in any position.

At a great deal less cost one can find prism scopes made by the Bausch & Lomb Company with objectives of 50 or 65 mm. and with removable eyepieces ranging from 13x to 36x. The 50 mm. model is particularly well suited for constant use, since it weights only 2½ pounds and is only 13 inches long. Equipped with a fine 7x35 mm. glass and an equally good 20x50 mm. scope, the most ambitious of bird students will find himself admirably equipped for practically every occasion.

MARTHA ANDERSON WYMAN

1868 — 1946

Small and to all appearances frail, yet possessing wiry endurance, Martha Wyman was unique among cultured gentlewomen.

With her heavy grey-white hair fastened into a tight knot at the nape of her small neck, her grey eyes ever sparkling, her tiny hands, soft as petals, her rare sense of humor, she seemed ageless to us, who had the privilege of her friendship for more than a score of years.

Seldom was she inactive; for her reading was of great scope and variety and her interests manifold. As a guide for others in pursuance of them, her enthusiasm and knowledge led the way.

For many years Martha Wyman was authoritatively engaged in the study of bird and plant identification. She led us, her admiring students, afield into the woods and to the shores of lakes and ponds. Weather conditions, brambles, fences or rough ground never deterred her from finding objects of search.

A faint song, a chirp, a moving line or flash of bright feathers were instantly observed, then quietly drawing closer to sound or movement, the low spoken identification was made known to us, who marvelled at such alertness of sight and hearing.

It was Martha Wyman's particular skill to identify birds by the rapid mental process of elimination. If, however, there was the least doubt in her mind regarding the aspect or characteristics of the bird in question, and despite fatigue from hours of walking and peering through binoculars, Mrs. Wyman seldom failed to consult her many books or those in the city library for just that one described phase of color, sound, flight or habit which gave the clue to sure identification.

I can well remember when, on many occasions, Mrs. Wyman came upon a tiny plant. Stooping to cup its foliage or blossom with gently stroking fingers, as if she were drawing from the plant itself the murmur of its name, her eyes spoke recognition even before she replied to my query.

Trees to her were life-time friends and often as she emerged from their shade or wintry tracery on snow, Martha Wyman seemed to be part of the quiet beauty of nature which she so intensely loved and understood.—G. A. N.

The Student's Page

Edited by MRS. N. R. BARGER

In our last issue we discussed winter bird feeding trays as a means of attracting birds to our homes. If we wish to hold these visitors during the breeding season also we must provide nesting places for them. A simple method, though it does not apply to all species, is to build bird houses.

Everyone knows about wren houses, martin houses or even bluebird houses, but did you know that you can also attract birds such as nuthatches, chickadees, crested flycatchers, woodpeckers or even certain owls? Of course the surroundings as well as the house itself must be adapted to the bird you wish to attract.

Many nesting sites are eliminated today when farmers brush out fence rows, when park authorities remove dead wood, and when English sparrows and starlings "grab" available cavities. We can satisfy a very real need, therefore, by providing nesting boxes for the various kinds of birds that will use them. Perhaps we can help to increase the bird population also, which is so useful in the control of harmful insects.

When building a bird house certain general rules that cover all types of houses should be followed as well as specific requirements for individual species. A well-built bird house should be durable, rain-proof, cool, and easily cleaned. Wood is the best choice of material. Metal should be

avoided because it gets intensely hot in the sun. Cypress is the most easily handled as well as the most durable wood, although pine or yellow poplar are also good choices. Rough slabs with bark are interesting for rustic houses.

If the house is painted, a dull green, brown, or gray should be used rather than a bright color. Protective coloring, as you know, is of great value to a nesting bird, so it is wise to follow through with that idea even in bird houses. Martin houses, however, which are always placed in large open areas, can be painted white to reflect heat.

To help make a house rain-proof the roof should be pitched enough so that it will shed water easily. There should be an overhang of two or three inches at the entrance hole to prevent driving rains from coming in. If the entrance hole is bored on an upward slant, that too will help keep out the rain. Small holes at the bottom drain the house in case of severe rains.

One or two small auger holes through the walls near the top of the box will give enough ventilation for an air-cooled bird home.

Perches should not be added as they are an aid only to predators and are not necessary for the birds.

Since houses are often occupied by uninvited guests it is desirable to build them so that they can be cleaned easily. The simplest way to do this is to put on a hinged roof. The houses should always be cleaned and repaired just before the nesting season and should be inspected regularly as long as the birds stay.

Perhaps house wrens are attracted the most easily. Since they require an entrance of but one inch in diameter, English sparrows cannot enter or rob them of their homes. However, the wren is a little fighter and often does not tolerate other bird life near his nesting site. So if you prefer other birds to nest too, it may be better not to erect a wren house or at least not in the area that is attractive to other birds. Wrens like a partly sunlit area in a backyard or orchard.

If you have a large open sunny area with an orchard nearby, you have the ideal location for a bluebird house. It may be placed on a fence post or nearby tree between five to fifteen feet from the ground facing the sunny area, but the opening should be away from prevailing winds. Illustration No. 1 gives you the general appearance of a bluebird house. The inside dimensions are 5x5x8 inches with the entrance hole six inches above the floor. The diameter of the entrance hole should be one and one-half inches.

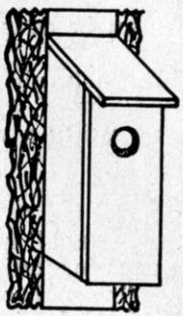


FIG. 1

FIG. 2

FIG. 3

Often nesting sites for robins are lacking, therefore a nesting shelf erected under the eaves of the house or on a tree trunk in a sheltered location will be attractive to robins. We have made interesting observations of several robin families raised on our robin shelf. Much can be learned by giving careful attention to the activities of a nesting pair and their young. Illustration No. 2 will help you in planning a robin shelf to be placed on a tree trunk. The shelf should be at least seven inches square.

Phoebes will nest in the same type of shelf but they like to be near lakes and rivers.

Crested flycatchers will nest in rustic houses or in holes made from natural stubs because their nests are usually found in abandoned woodpecker holes or in natural cavities in trees. A house built like the bluebird house with the floor larger (6x6 inches) and with a two-inch hole will serve. It should be erected somewhat higher above the ground.

Woodpeckers will nest in man-made nesting sites provided they are of the proper sizes for the various species.

Chickadees and nuthatches nest in abandoned woodpecker holes and in natural cavities and will therefore accept also a rustic house built of weathered lumber or slabs of wood with the bark left on. If you have the proper surroundings for nesting chickadees why not build a house for them. If you had them at your tray this winter continue feeding this spring with suet, nutmeats or peanut butter as an added inducement to nest in your nesting box. Place the box in a natural location. Although we have seen chickadees nest in a stump not much over a foot from the ground, boxes should be placed higher for safety. Illustration No. 3 gives you a suggestion of what can be done for the chickadees. They like a smaller house than the bluebird, four inches square on the inside and eight to ten inches deep with the entrance hole, which should be a little over one inch in diameter, placed two inches from the top.

Now is the time, perhaps on a stormy Saturday, to plan and build a bird house so that it will be ready before the nesting season begins. We want to keep in mind too, if we invite the birds to live in our yards, that we must try to keep them safe from their enemies. The stray cat particularly, and sometimes even your pet cat, can become their most dangerous enemy. This is especially true in the case of chickadees which generally are low nesters.

Remember, I would like to receive lots of stories about your results with bird houses and if you have other bird experiences which you would like to tell about I shall be glad to hear from you.

BY THE WAYSIDE . . .

Albino English Sparrows at Winghaven. Albino English sparrows were no rarity to us this summer. When the Green Bay Bird Club visited our home, in June, one of the members saw a white bird, which we finally identified as an albino English sparrow. A few days later, this bird was captured in our chicken yard, and has now become an interesting little pet who seems to thrive in captivity. A month after "Alby's" capture, a second albino was seen on our grounds. This young bird was being fed by normal English sparrow parents. It stayed in the imme-

diate vicinity for about two weeks. Since then it has been reported as being seen several miles from here.—Mrs. Winifred Smith, Two Rivers.

White-eyed Vireo Found in Milwaukee. On August 31 in the Whitnall Park golf course I found a white-eyed vireo. It was feeding in the lower branches of a clump of trees just off the fairway, accompanied by a group of warblers. The wing bars and the white eye ring attracted my attention, and I noticed a light yellow wash on the breast but not on the throat. In comparison with the warblers nearby, this bird moved with the more sluggish actions of the vireo family.—Gordon Orians, Milwaukee.

Cooper's Hawks Attack Grebes. On April 5 I saw two adult female Cooper's hawks over a large pond, flying strangely and calling angrily. Two grebes on the pond of some ten or more pied-billed grebes were the object of their anger. The flight, a perfect imitation of the marsh hawk flight, was used to approach the grebes. Then when some 40-50 yards away, the hawks would revert to their typical flight of fast, powerful wing-beats for speed and the long gliding dive into the kill. As soon as the hawk went into the dive, the grebe submerged, being much too quick for the hawk to even come close, thus causing the hawks to be so angry. After four or five tries they left.—Edward Prins, Racine.

Acadian Flycatcher in Madison. Acadian flycatchers occur regularly along the Mississippi and Wisconsin river bottoms, but rarely are they found in Madison. During the past two summers, however, I have come across a singing male on Picnic Point. On June 10, 1945, and again on Aug. 12, I heard the distinctive song of this bird, but did not have the opportunity to investigate any possibility of nesting. Again on May 23 and 24, 1946, I found a singing male in the same place, and visiting the area again with my brother Chandler on June 27, we again heard the bird sing. On July 2 my brother made a search for a possible nest, but found no evidence of a mate or nest, so in all probability there has been only the one male present.—Sam Robbins, Neillsville.

Incidents in Least Bittern Family Life. In working on the life history of the least bittern, I came upon a nest with two of the five eggs destroyed, and another perforated by what seemed to be the work of some bird. I left the perforated egg in the nest with two newly hatched young for the pictures and did not remove it when I left. Upon returning the next day, the egg had hatched and the young seemed perfectly healthy. It is surprising to note the lack of fear in these newly hatched birds. However, on the fourth day they became quite belligerent and would strike at one's hand. At the age of seven days they showed considerable fear and on approaching the nest they would immediately scramble over the edge and disappear among the cattails. The parent birds were very reluctant to come in and feed the young while the camera lens was visible through the opening in the blind. But I believe this fear in the adult birds is individualistic, because in the past I have found the least bittern very accommodating about coming in and feeding the young and paying no attention to the camera nor the whirring sound while running.—Earl G. Wright, Green Bay.

Red-wings Nest in Trees. Some of our red-wings have taken to nesting in trees this year. On May 15 I found two red-wing nests built near the topmost branches of young trees in our plum orchard. One nest contained two eggs and the other was partly finished but contained an

egg by May 17. These nests were built within twenty feet of each other, one being nine feet from the ground, and the other eleven feet. The nearest water is a small garden pond about 100 feet from the plum grove. This tree nesting was probably due to the dry weather, in that the rye and hay crops were not of sufficient height for nest building at the time. The nests being only twenty feet apart is explained by the fact that there was only one male for the two females; hence no disputes over territory.—Harold Kruse, Loganville.

THE SUMMER SEASON . . .

(All field notes for the period September 1 to November 30 should be sent immediately to Sam Robbins, 190 North Grand Avenue, Neillsville, Wisconsin.)

With the exception of high water along the west shore of Green Bay during the early part of the nesting season, the breeding season was generally free from adverse weather conditions, and the subsequent nesting results seem to have been quite successful. An unusually large number of egrets invaded the state in July and August, and by the end of August good numbers of shorebirds were present along Lake Michigan. Otherwise the beginnings of the migration in August, with both ducks and land birds, was about normal.

Horned Grebe: Milwaukee, Aug. 12, early (Gordon Orians).

Pied-billed Grebe: Four eggs being incubated in Oconto County, June 29 (Richter). Female with four young observed in Appleton, July 5 (Mrs. Rogers).

White Pelican: Horicon, July 10, probably the same two reported a month earlier (Hopkins).

American Egret: First reported in Wood County, July 5 (Becker-Mathiak). Eight birds reached Sawyer County August 7 (Kahmann). Largest flocks reported along the Mississippi River in Vernon and La Crosse Counties, and in Dane County.

Least Bittern: New nest in Oconto County, June 29 (Richter).

Gadwall: Several on an island in Green Bay, June 24 (Howard Orians).

Pintail: Few in Horicon Marsh during the summer (Hopkins).

Green-winged Teal: First fall migrants in Dane County, August 29 (Barger-Robbins).

Wood Duck: 25 in Rhinelander, August 1 (Loyster). Post-breeding season movement into the Green Bay marshes noted by August 18 (Richter).

Ring-necked Duck: Dane County, August 29 (Barger-Robbins).

Canvas-back: Male in Appleton, July 5 (Mrs. Rogers).

Scaup Duck: Milwaukee, August 12 (Gordon Orians).

Ruddy Duck: Horicon Marsh, August 8 (Hopkins).

Hooded Merganser: Females noted in two places in the Madison area, June 27-28 (Chan and Sam Robbins). Unusual so far south in summer.

Turkey Vulture: One seen in Milwaukee, June 25 (H. C. Mueller).

Goshawk: Two seen in Vernon County, May 15 (Strelitzer).

Sharp-shinned Hawk: Noted in Ashland County, June 27 (Becker). Migrating in Dane County, August 29 (Robbins).

Broad-winger Hawk: One in Rusk County, June 7 (Dahlberg). Migrating in Dane County, August 30 (Robbins).

Bald Eagle: Eight observed in Vernon County, May 15 (Strelitzer). One immature in Forest County, June 18 (Bradle).

Osprey: Single individuals in Shawano County, June 19, and in Ashland County, June 27 (Becker). Present all summer in Mercer (Mrs. Sell).

Duck Hawk: Peninsula State Park, Door County, June 24 (Howard Orians).

Ruffed Grouse: Hen with eleven chicks, Ashland County, June 24 (Becker). Hen with four small chicks, Forest County, June 4 (Bradle). Brood of 10-15, Sawyer County, June 5 (Dahlberg). Present in the Devil's Lake area of Sauk County throughout June (J. Zimmerman).

Sandhill Crane: Five in Pepin County during July (Neugebauer).

King Rail: Parent and brood seen in Dane County, June 29 (Barger-Robbinses). One in Horicon March, August 26 (Hopkins).

Florida Gallinule: Reported on the increase in Green Bay (Wright). Nest with five eggs and one young, Oconto County, June 29 (Richter). Nesting in Appleton, July 5 (Mrs. Rogers).

Coot: Many in Green Bay during summer (Wright). Young swimming in Dane County, August 18 (Mrs. Koehler).

Semi-palmated Plover: Reported in Milwaukee, August 8 (Mueller-Sharp), and in Dane County, August 29 (Barger-Robbins).

Killdeer: Young on road with two adults, Rusk County, June 19 (King).

Black-bellied Plover: Milwaukee, August 17 (Gordon Orians). Sturgeon Bay, August 24 (Treichel).

Ruddy Turnstone: Milwaukee, August 30 (H. C. Mueller).

Woodcock: Three eggs hatched near Milwaukee, June 16 (Mary Donald).

Upland Plover: Ten seen near Lone Rock, June 26 (Miss Morse). Seen near Loganville, August 19 (Kruse).

Spotted Sandpiper: Nest with one fresh egg, Oconto County, June 19 (Richter).

Solitary Sandpiper: Arrived in Sauk County, July 17 (Kruse).

Greater Yellow-legs: Arrived in Horicon, July 18 (Hopkins).

Lesser Yellow-legs: Reported from Vernon County, July 21 (Miss Morse), and from Appleton (Mrs. Rogers) and Horicon (Hopkins) on July 25.

Pectoral Sandpiper: Milwaukee, August 8 (Mueller-Sharp).

Baird's Sandpiper: Found in Milwaukee on August 1 (Mueller-Sharp) and on August 21 (Gordon Orians).

Least Sandpiper: Milwaukee, August 1 (Mueller-Sharp). Genoa, August 21 (Miss Morse).

Semipalmated Sandpiper: Milwaukee, Aug. 1 (Mueller-Sharp). Dane County, August 29 (Barger-Robbins).

Common Tern: 150 pairs nesting on an island in Green Bay, June 24 (Howard Orians). Two nests, each with two eggs, Oconto County, June 29 (Richter).

Black-billed Cuckoo: Young being fed by adult, Rusk County, July 9 (King).

Barn Owl: Reported from Winnebago County, July 5 (Kaspar).

Nighthawk: Two partly incubated eggs in Oconto, June 23 (Richter). Numbers reported migrating in late August in Appleton (Mrs. Rogers) and Milwaukee (Mrs. Schwendener). A very poor flight is reported from Sauk County (Kruse).

Yellow-bellied Sapsucker: Two adults and three young seen, Mercer, July 15 (Mrs. Sell).

Acadian Flycatcher: Singing male in Madison in late June and early July (Chan and Sam Robbins). Details elsewhere in this issue.

Alder Flycatcher: Wyalusing Park, Aug. 6 (Scotts). One in Dane County, August 28 (Robbins).

Olive-sided Flycatcher: One in Madison, August 28 (Robbins).

Bank Swallow: 800-1000 congregated near Oshkosh, July 10 (Kruse). Last seen in Loganville, July 21 (Kruse). Seen in Dane County, August 29 (Barger-Robbins).

Rough-winged Swallow: Dane County, August 29 (Barger-Robbins).

Raven: Forest County, June 3 (Bradle). One in Marinette County, August 25 (Richter).

Red-breasted Nuthatch: Apparently late in beginning to move south. First migrant reported from Iron County, August 21 (Mrs. Sell).

Winter Wren: At least three males were heard singing near Devil's Lake, Sauk County, through June and July (James Zimmerman-Chan Robbins). Unusually far south for summer records, although cool ravines offer suitable habitat for them.

Carolina Wren: One reported from Janesville, August 1 (Mrs. Randall). One in Cedar Grove, Sheboygan County, August 25 (Mueller-Sharp).

Bewick's Wren: A brood of this uncommon species was found in Richland County on July 1 (Barger-Chan. Robbins).

Prairie Marsh Wren: Nest and one fresh egg, Oconto County, June 29 (Richter).

Olive-backed Thrush: First fall arrival for southern Wisconsin reported from Madison, August 28 (Robbins).

White-eyed Vireo: Reported from Milwaukee, August 31 (Gordon Orians). Details will be found elsewhere in this issue.

Red-eyed Vireo: Nest with one egg found in Rusk County, June 27 (Hovind).

Black and White Warbler: One seen in Winnebago County, July 21 (Kaspar). Migrating in Madison by August 28 (Robbins).

Blue-winged Warbler: Rarely seen in the Milwaukee region, especially in fall. Reported from that area on August 19 by Gordon Orians.

Tennessee Warbler: First fall migrant reported from southern Wisconsin: August 30, Madison (Hale).

Magnolia Warbler: Migrating through Mercer, August 21 (Mrs. Sell), and through Madison, August 28 (Robbins).

Yellow Warbler: Madison, August 30 (Hale).

Cerulean Warbler: Singing male heard often in New London, July 2-6 (Robbins). Unusual summer record that far north.

Blackburnian Warbler: Madison, August 30 (Robbins).

Connecticut Warbler: Seen in Madison, August 28 (Robbins).

Mourning Warbler: Two nests with four and five eggs partially incubated found in Oconto County, June 24 (Richter).

Yellow-breasted Chat: Seen and heard singing in Madison on June 28 (Barger-Robbinses). Rarely found in summer away from the Mississippi and Wisconsin Rivers.

Canada Warbler: Feeding young in tamarack swamp, Oconto County, June 29 (Richter). Migrating in Madison, August 30 (Hale).

Yellow-headed Blackbird: Found nesting in Appleton, July 5 (Mrs. Rogers), and in Oconto County the same day (Richter).

Orchard Oriole: Parent feeding young near Lone Rock, June 26 (Miss Morse). Seen and heard singing near Madison, June 30 (Barger-Chan Robbins).

Rose-breasted Grosbeak: Nest and three fresh eggs found in top of elm tree 58 feet from ground, Oconto, August 1. "Highest elevation recorded by me for nesting" (Richter).

Pine Siskin: Reported in Rhinelander, August 1 (Loyster).

Lark Sparrow: One seen in Vernon County, May 15 (Strelitzer). Found to be numerous in the Lone Rock region, June 26 (Miss Morse).

Clay-colored Sparrow: Nest with four half-grown young found in Oconto County, July 7 (Richter).

White-throated Sparrow: Nest with four fresh eggs, Oconto County, June 28 (Richter).

A WORD FROM THE NEW FIELD NOTE EDITOR

The field note department of the Passenger Pigeon is intended to give a complete, accurate and compact picture of the bird life in Wisconsin for each passing season. It can become so only with a much greater measure of cooperation on the part of bird-lovers all over the state than has developed so far. We need more reports from many more observers —especially observers in areas where there are few bird-watchers. We need fuller reports from those who are already contributing. Reports of unusual birds are welcome, but they form only a part of the total picture. There is a need for more complete arrival and departure dates of the more common species—whether the dates are unusual or not—and information about migration peaks, noticeable absences of expected species, etc. We need greater promptness and regularity in turning in reports to the editor. Consequently I want to make the following suggestions:

(1) Try to keep more complete records of field observations in order to be able to determine dates of arrival, or peak numbers, and of departure of the more common species, as well as of the rarer ones. Such data is badly needed.

(2) Draw a circle around the dates March 10, June 10, September 10 and December 10 on your calendars. We are revising the period to be covered in each season to make the seasons coincide a little better with the migration periods. Thus the spring season will include the period

March 1-May 31; the summer season will run from June 1 to August 31; the autumn season from September 1 to November 30; and the winter season from December 1 to February 28. The dates mentioned above are the deadlines for the mailing of reports for that period. It is desirable all the way around to send in reports promptly, especially because at that time the season just completed is still fresh in the observer's mind.

(3) Please send to the field notes editor immediately all field notes —as complete notes as possible—for the autumn season, September 1-November 30, 1946. Send with these notes any notes of interest for December, and any other observations for the year that might be of value for the annual summary of 1946. In looking over the reports for 1946 at hand, I find no record for the spruce grouse, Hungarian partridge, red-backed sandpiper, sanderling, Forster's tern, long-eared owl, short-eared owl, pipit, Bell's vireo, red crossbill, white-winged crossbill, Nelson's sparrow, and many rarer species. Any information you have about these or other birds that might be of value in an annual summary will be most welcome. Please send them to Sam Robbins, 190 North Grand Avenue, Neillsville.

Peter Robin

Our state bird, the American robin, can have a long life. This is borne out in the following story of a captive pet robin. It was born in May, 1927, and died on July 16, 1946, at the age of nineteen years and two months. It was kept in captivity almost all of its life which was rudely threatened at a tender age when a marauding grackle tossed it and two more nestlings to the ground. A kind woman gathered them up. One was dead, but with care the other two grew into strong, well nurtured birds. She planned to release them as soon as they would be able to fly. Knowing I banded birds she asked me to band them. This was done and the birds released. They did not leave the neighborhood and every time Mrs. Kaeppel appeared outdoors they came to her.

Then tragedy befell one of them. Mrs. Kaeppel witnessed the end when a cat caught and devoured it. She immediately called the remaining robin to her and brought it into the house for safekeeping. There I called for it at her request, agreeing to release it in my neighborhood. It was readily seen that the bird would not be able to fend for itself—it had been too long in captivity. Anyone could walk up to it, hold out a finger and Peter would perch upon it. Without such an invitation he would simply alight on one's head and refuse to leave.

About this time, some friends of mine, Mr. and Mrs. Robert Doughty, of Milwaukee, voiced a desire for a pet bird, preferably not a canary or a parrot. Off went Peter to the Doughtys, who cared for him the rest of his life. He was a beautiful male and made a wonderful pet. His food consisted mainly of raw meat and fruit. He relished grapes, raisins, and cherries, but also took carrots, peas, peaches, plums, watermelon and ice-cream . Cooked meat was also acceptable. He was sick only once, he seemed to have a bad cold at the age of three, but tender care plus a dose of lard and red pepper pulled him through. Ever since

then lard and red pepper were a part of his diet. In the springtime his voice was loud and full and his song was decidedly robin, but in late summer, fall and winter, he warbled canarylike. During his long stay with the Doughtys he learned to mimic and would distinctly say "Bye-Bye" whenever anyone left the house. Frequently he would boast "Pretty, pretty, Petie, Petie." Ripley records him as the "only talking robin." His cage, almost always open, was only his resting place at night, as he had an entire room to himself, with various perches and a bathing bowl. He responded to attention and liked to play. A favorite game of his was played with Mr. Doughty, who would seat himself and extend his foot. Peter would promptly perch on the foot and when raised up would take off, circle the room and come back to the foot begging for more.

The spring of 1946 brought a great change for Peter. Never had he migrated to a warmer climate as other robins did. Yes, the Doughtys left for California on April 6th and so did Peter, arriving there on the 26th. Although he was jostled around quite a bit on this long auto trip, his cheery song was much in evidence. Despite his new surroudings in his California home, his appetite was good. However, his eyesight failed. This trouble began in 1945 and became very apparent the last two months of his life. His death was an easy one, Peter just fell asleep.

—Paul Wm. Hoffmann, Wauwatosa, Wis.

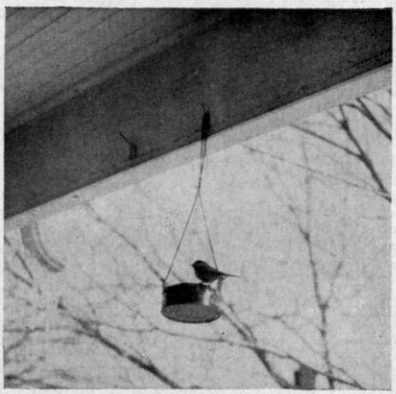
NEW MEMBERS AND RENEWALS

ACTIVE

Aitken, Mrs. Myrtle, 138 Wilson Street, Antigo
Bauers, Harold A., 2321 North 32nd Street, Milwaukee 10
Bundy, Malcolm F., Atlanta, Indiana
Buntrock, Carlton W., 112 West Meinecke Avenue, Milwaukee 12
Gerski, Miss Felecia M., 1813 South 22nd Street, Milwaukee 4
Le Clair, Mrs. Frank, R. R. 1, Two Rivers
Library, Appleton, Public, Appleton
Library, Reedsburg Public, Reedsburg
Mandel, Mrs. Earl, Two Rivers
Mullenix, Mrs. R. A., 2710 Third Street South, Wisconsin Rapids
Neis, James, 306 Virginia Terrace, Madison 5
Palacheck, Stanley, 3914 North Prospect Avenue, Milwaukee
Porter, Mrs. Lyell, R. F. D. 1, Evansville
Schmutzler, Raymond H., Rambling Lane, Heafford Junction
Schmutzler, Mrs. R. H., Rambling Lane, Heafford Junction
Smith, Earl, 119 Waugoo Street, Oshkosh
Snoeyenbas, Mrs. L., Baldwin
Springer, Paul, 427 West Wilson Street, Madison 3
Wagner, Russel O., Lake Mills
Walsh, Mrs. C. B., Barron
Welch, Mrs. Lola, South Wayne

STUDENT

Tagatz, Marlin, 96 McKinley Avenue, Oshkosh



CHICKADEE AT SQUIRREL-PROOF FEEDER. PHOTO BY F. J. BOLENDER

This supplements the list of November, 1945, and brings it up to date as of about December 23, 1946

MANUSCRIPT FOR THE PASSENGER PIGEON

Articles of general interest on Wisconsin birds are published in The Passenger Pigeon. They should be based on original studies, that is, they should present some new angle of the subject treated. There is no limit to the number of aspects that may be treated, and there is probably no bird student in Wisconsin who could not write an article of interest.

Manuals, such as Hickey's "Guide to Bird Watching" and Pettingill's "Field and Laboratory Manual" may be consulted for suggestions on how to organize the material, as well as how to attack chosen problems.

Manuscript should be typed on one side of letter-size paper double-spaced. Photographs should be included if possible, but they should be of excellent quality, clear, and of good contrast.

OFFICERS

SEVENTH CONVENTION

of the

Wisconsin Society for Ornithology

MADISON . . . MAY 9-11

(Reserve these dates on your calendar today!)

Friday evening, May 9, Memorial Union

Registration, reception and exhibitions.

Saturday, May 10, Memorial Union

Registration, presentation of papers, group photograph, business meeting and feature lecture. Banquet location still to be determined. Exhibition of ornithological books at University Library.

Sunday, May 11, Madison and Wyalusing

Early morning field trips at University Arboretum and Wyalusing State Park in Grant county. Unveiling of Passenger Pigeon Monument with appropriate ceremonies at Wyalusing, completed by early afternoon.

Detailed program announcements will be sent to members later.

NOTICE TO MEMBERS

All members desiring to present papers at the annual meeting are requested to submit titles as soon as possible to program chairman Walter E. Scott, Mendota Beach Heights, Madison 5. Give facts regarding time required, movie or slide projectors desired, and brief explanation of subject. It is preferred that papers do not exceed 15 minutes unless accompanied by movies or slides.

Members are advised that any desired changes in the Society's Constitution must be recommended by at least ten members to the Secretary of the Board of Directors no later than March 10.

A committee for housing will help you find a place to stay!

Come to Madison in 1947!