

# SOUTH DAKOTA BIRD NOTES

Official Publication  
of  
SOUTH DAKOTA ORNITHOLOGISTS' UNION  
(Organized 1949)

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Vol. XI, No.'s 1 & 2

MARCH-JUNE, 1959

Whole No.'s 40, 41

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## Tenth Anniversary Issue



South Dakota Bird Notes, the Organ of South Dakota Ornithologists' Union, is sent to all members whose dues are paid for the current year. Adults, \$3.00; Juniors (12-16) \$1.00 per year. Subscription rate (for non-members) \$4.00 per year, single copies \$1.00. Published Quarterly.

Volume XI, No.'s 1 & 2

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## President's Page

THE year 1959 marks our tenth anniversary, which we have fittingly celebrated with a joint meeting in Yankton with the Nebraska Ornithologists' Union. I consider it a great honor and privilege to be re-elected president of SDOU to bridge the gap between the first and second decades. With this issue of South Dakota Bird Notes, it seems fitting to review the past briefly and then to contemplate the future.



The first ten years have seen the growth of SDOU to its present size. Many of you know the history better than I do, since I was not among the charter members. Herbert Krause capably outlined it for us at the 1957 meeting in Martin, and he and Herman Chapman have both described it in detail elsewhere in this issue. According to our constitution, our aims are these: "to encourage the study of birds in South Dakota and to promote the study of ornithology by more closely uniting the students of this branch of natural science." To accomplish these aims, we have published a quarterly journal devoted to bird study in South Dakota, we have drawn up a checklist of the birds of South Dakota, and we have held annual meetings and field trips. For completion of these steps, thanks are due to our past presidents—Herman Chapman, Gerald Spawn, Scott Findley, Kenneth Krumm, Cecil Haight, J. O. Johnson, Charles Crutchett, and Her-

bert Krause—for their leadership. Especial recognition is also due to our three past editors—E. R. Lamster, Herman Chapman, and Scott Findley—whose job is the most demanding and time-consuming that we have in the organization. With this tenth anniversary issue, a new editor, J. W. Johnson of Huron, assumes the position.

Now what of the future? Our Journal and our annual meetings will continue on the same schedule. Our checklist committee, Krause, Froiland and Rosine—are in the midst of research which will eventually lead to the publication of a definitive book on the birds of South Dakota. In 1958 the meeting at Sioux Falls was devoted to a symposium on problems of bird study in South Dakota, and as these are published in the Journal, we should all study them and try to solve the problems that we can.

Our further aim, not specifically mentioned in the constitution, which seems to interest most members is the protection of birds and the conservation of wildlife in general. I think that this is certainly a proper project for SDOU, and I believe that an aggressive interest is important. Specifically, we should have organized liaison with other groups in the state, such as the sportsmen's groups, the Department of Game, Fish and Parks, and the state legislature, in order to make our views on such subjects heard. If we have anything close to unanimity of opinion on questions of bird protection, we should be an effective organization. I brought this problem up at the Yankton meeting, and will say more about it in a future President's Page.

—N. R. Whitney, M. D.

# How It Looks From Here . . . In Retrospect

H. F. Chapman

SOON after SDOU was organized in January, 1949, a prominent conservationist game official who had attended the meeting said:

"The start is auspicious. Time alone will tell whether the organization will become a vital factor in South Dakota ornithology and ecology or sink into innocuous desuetude."

Ten years have now elapsed. That period is probably too brief to justify final judgment on the fundamental question. However, it is long enough to permit a preliminary appraisal and to warrant some conclusions. So, as was once said, "Let's look at the record."

First of all—For ten years there has been a statewide organization devoted to the study of the bird-life of the entire area—something which had not existed before.

Next—During all of the same period there has been published regularly a periodical dealing exclusively with avian activities in this great area 360 miles east and west by 250 miles north and south. This unique publication has gone to members throughout the state and in a few other states, and by exchange with similar publications into many other states. It has become a recognized source of dependable data relating to the bird-life of the state.

The preparation of an Index covering the first 5 years of Bird Notes by Herbert Krause was a stupendous undertaking. Its value may not be recognized generally now, but 50 years hence researchers will bless the skill and intelligence of the author of that Index!

Activity in and contacts through SDOU have inspired a number of its members to extend their interest to ornithological organizations of broader scope. A number of South Dakotans now belong to A. ●. U., Wilson, Coop-

er, and Audubon. Attendance at the annual meetings of these nation-wide organizations has become a common experience of some of these local folks. The Auk, Wilson Bulletin, and Condor are now available in libraries and homes in South Dakota where they were never found 10 years ago.

Audubon Christmas bird censuses have been taken each year for most of the last 10 years by a number of groups which have been organized largely through SDOU interest.

The several federal wildlife refuges in the state have been visited by a substantial number of SDOUers throughout recent years and the activities of these establishments are familiar material for its annual meetings.

For many years Bird-banding was conducted in this state by a very few individuals. Of late, members of SDOU have taken part in this useful form of bird study increasing number and through it some noteworthy additions have been made to the scientific record of South Dakota ornithology.

These are all evidences of development of substantial individual interest and scientific activity and the direct result of SDOU being in active existence during the last decade.

But there is other evidence that SDOU has been and is vital, and under sound conservative leadership:

There has never been a number of Bird Notes issued without sufficient money in the treasury to pay for publishing and mailing, etc. Mr. and Mrs. Stevens of Hot Springs made a \$50.00 donation to SDOU. The late Mary Nelson of Canton made a \$200 legacy to SDOU which has been held in trust as the beginning of an endowment fund which will surely grow. Alma Findley has for years conducted a year-round sale of stationery items and books have

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# A Periodic Check-up and a Prescription

J. S. Findley

NOW that SDOU has celebrated its tenth birthday, perhaps it is in order to put down some thoughts about whether it has accomplished its aims, or to have a check-up. Not that SDOU is a patient definitely needing attention, but rather to make sure it is doing as well as it should and to keep it healthy and growing. Perhaps I am not the one to make the examination and prescribe, although I have been well acquainted with SDOU during all its life and even assisted at its birth.

Before beginning the check-up, or any evaluation of SDOU's accomplishments, it may be well to think of its aims,—we can't tell how far we have gone until we know where we are going. Article I, section 2 of our constitution says,

"Its aim shall be to encourage the study of birds in South Dakota and to promote the study of ornithology by more closely uniting the students of this branch of natural science."

Encouraging the study of birds certainly can not be criticized and SDOU has been successful in introducing to each other bird students scattered over our large state and through their cooperation has increased bird study. It is difficult to measure the success because there is no way of knowing just how many are interested in birds.

Promotion of the study of ornithology can be made a small matter or a big one. I think SDOU owes much to its first president, H. F. Chapman, who also was the prime mover in the organization of the Union and as well the first editor of Bird Notes. He saw the big reason for SDOU and always insisted on making a contribution to ornithology, adding some thing to the sum of knowledge about birds. He recognized the many gaps to fill in South Dakota

and that SDOU and South Dakota Bird Notes could make very definite contributions by publishing the bird observations of members, and by taking a place among other state and regional organizations and their publications.

SDOU has been successful in publishing an interesting magazine with much factual material about our birds, rare and new species for the state, observations of many events in the life histories, food habits, nesting, migrations, that are of interest to professional ornithologist and to bird watcher alike.

Now for our findings: The organization is healthy. There are no organic defects. The going has been hard, the membership is small and hence there is a too small operating budget resulting in some under-nourishment. But the prognosis is good. There is no reason why it should not grow stronger in the next decade. There are still many unexplored areas in the state and in the life histories of our birds. There may be still other species that come to the state accidentally, occasionally, or even regularly in small numbers, that have not been identified and recorded.

I will prescribe more active birding, more exploration of the large areas seldom visited by ornithologists, more intense study of all areas, more reporting of observations to the editor for possible publication in Bird Notes; the appointment of every member of SDOU to the membership committee to increase our membership within and outside of the state for our mutual benefit and to increase our revenue to allow for publication of an index for the second five years of Bird Notes, the use of more pictures, for printing an annotated list of South Dakota birds, for more meetings.

Take the prescription frequently in large doses.

# SDOU . . . Tomorrow

By Herbert Krause

THIS YEAR, 1959, is a good time in the history of SDOU to look backward—pridefully—and forward—optimistically. The first decade was one of beginnings, rootings, steady development; of realizing an objective attitude toward the subject. The foundation was well laid yesterday; it is firm today. What of tomorrow?

It is high time we made ourselves known, associated more widely with neighboring societies and accepted a wider responsibility among the state organizations devoted to the study of our plant and animal life, particularly birds. I suggest that we see what benefits may be derived from closer ties with the S. D. Academy of Science, especially the Junior Academy with its host of coming young scientists; with the various biological and zoological societies at the colleges and universities in the state; above all with the biological and zoological classes in our academic institutions, for when the enlarging varicose veins and arthritic joints of the present membership no longer permit field trips and attendance at SDOU conventions, it is from our young people that strength and interest must come.

I suggest an awareness of the possibilities in such organizations as the State Game and Fish Department and the officials of the U. S. Fish and Wildlife Service, the game technicians and managers at our state and federal wildlife refuges, with their huge backlog of data on waterfowl, upland game birds and frequently many other species; the field technicians and the local game wardens; the department of forestry, its technicians and field men.

Many a significant observation may have been lost or buried in the files because no one encouraged its publication.

Scientific expeditions into South Dakota dating from at least 1843 (though many were earlier) have collected and removed from the state a significant amount of avian material in the form of bird skins, eggs and nests as well as information about species, locations, behavior and habitat. Most of these data were placed in museums, public and private, both here and abroad. As much as possible the data contained in these materials, especially as to species, localities, habitat and behavior, ought to be procured, assembled and placed on file for bird study in the state.

I suggest we examine the potentialities in such organizations as the National Wildlife Federation, with its state chapter, the South Dakota Wildlife Federation; the state and local Izaak Walton Leagues and other kindred groups.

Other projects have been frequently discussed. Last but not least, I suggest a bigger SDOU. Let every member consider himself or herself a director. Talk to neighbors and friends about SDOU. Spread the news. Show that SDOU is vitally concerned about waterfowl and upland game programs. Take folks on trips; let them see the wonder of a green-winged teal or a scarlet tanager through a binocular. Encourage them into membership. The next decade rings with promise.

-Department of English, Augustana College,  
Sioux Falls, S. Dak.

# Robin Banding

George Jonkel, Huron, S. Dak.

SEVERAL acres of trees east of the James River at Huron's water treatment plant serves as a roost for thousands of the City's birds. Birds from Huron and surrounding farm land start coming to the roost about an hour before sunset. The most numerous bird to be seen coming in is the bronzed grackle. Before sunset the grackles enter, coming in quite high and alighting in the taller trees. At this same time thousands of English sparrows, redwing and a very few yellow headed blackbirds, cowbirds and starlings shuttle back and forth and into the roost. One area in the northwest corner of the roost appears to be used mostly by mourning doves. Other birds entering at various locations are kingbirds, orioles, purple martins and robins.

The robins are later in going to roost than most of the other birds. Only a few of them are seen entering before sundown. Their main flight usually occurs during the fifteen or twenty minutes just before dark. Apparently many of the robins going to roost stop at the river or in adjacent fields before the last short flight to the roost. At any rate, many of them come in flying low to the ground and only a few feet over a dike that borders the water treatment plant and the roost trees on the west and south sides.

Watching the low flight over the dike gave us the impression that the birds could be caught in mist nets when they crossed the dike. The net we had to use was a standard mist net thirty feet long and six feet wide with five strands. It is supported by two twelve foot poles that are in three sections and painted dull black to make them less conspicuous. Our first opportunity to try our luck on the birds

was on July 19, 1959. Shortly before sunset the Jim Johnsons, my wife, Jean, and I set up the net. By dark we had caught and banded seventeen robins.

On subsequent evenings since we have banded an average of 23 birds for a total of 449. On our busiest night we banded 39. Fortunately Mr. Johnson had some visiting birders along that night to help take the birds from the net. We keep a holding cage in readiness for times when the robins come too fast for the bander to keep up with them.

We have also had ten repeats of banded birds. A repeat is a recapture of a bird banded by ourselves during the previous 90 days. To date one of these birds has been reported to the U. S. Fish and Wildlife Service in Laurel, Maryland, but return data on this robin has not been received by us yet.

With the exception of a few droplets of blood from net creases under the wing of one robin, no robins have been injured during netting. Several robins with injuries were taken; the chief injuries noted were lost feet or legs on three birds. One bird also had a broken lower bill. Two robins that appeared to be handicapped to the point where their survival would be in doubt were released unhandled.

One adult male robin taken in the net was a partial albino. He was an odd looking, but very beautiful bird. He had white feathers in both wings, in his tail and breast. His back was almost all white, but his head was like any common male robin!

Out of the total birds we classed 39 as adult females and 105 as adult males leaving 305 immature birds. We suspect that one reason for so few adult females being taken is that they may be roosting in Huron with one or more

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# Problems of Bird Study In Eastern-Central South Dakota

Ruth Habeger, Madison, S. Dak.

**T**HE purpose of this paper is to present some problems of bird study in Eastern-Central South Dakota and to suggest to residents of this area some studies which might help to solve these problems.

The only bird problem I have attempted has been on migration dates. (A Few Spring Arrival Dates in BIRD NOTES 17956, Vol. VII, No. 2, pp. 25-26). From records over a period of nine years I give the first arrival dates and average date of a hundred common birds of the Madison area. Besides this, I only dabble in bird banding and bird guiding and for that reason I cannot speak from personal experience on other bird problems. But I did find this work of others in the study of bird problems most fascinating and I wish to thank the program committee for assigning me this topic. I think I can now direct my efforts in bird study a little better, and I hope the information I found to report to you will inspire you to start bird problems suitable to your special environment.

First, let me give the physiographic features of the area which has been designated as Eastern-Central South Dakota. It covers a block of ten counties in the eastern part of the state and is bounded on the west by the James River. There is the **Central Lowlands**, an area which is divided into two parts. One part is called the **Prairie Hills Division** and the other the **James River Division**. The **Prairie Hills Division** is further divided into the **Old Drifts Section** (east of the Big Sioux River) and the **Lake Section** on both sides of the glacial moraine which runs almost due north. The top of this moraine is 1800

feet above sea level and is the highest elevation of the area.

The Old Glacial Drifts Section in the east has long been exposed to the action of wind and streams and has been seamed with many valleys in Minnehaha County. Farther north the valleys have been partly covered with a veneer of glacial drift called the Iowan Drift left by the second great ice sheet which visited South Dakota. Old stream valleys are still visible as broad shallow depressions, all leading to the main drainage, the Big Sioux River. This part is not so rough. The hills and valleys appear in great swells on the surface. In some places the original Kansan drift from the first glacier is exposed.

Because the land west of the drifts area is dotted with lakes, it has been called the Lake Section. Some of the lakes are very deep and hold water during the longest dry spells. Others are very shallow and hold water only during wet seasons. Most of these lakes are spring-fed and are drained by an outlet. These fresh water lakes afford a splendid habitat for fish, game and water fowl.

The left bank of the middle third of the James River belongs to this area I am describing. It includes the highlands west of the 1800 foot moraine and the flood plains to the James River. The roughness of much of the surface is due to the drift of 50 feet or more in thickness left by the last or Wisconsin ice sheet. The drift was piled up in an irregular fashion and so recently that erosion has had little time to smooth it over. The James River is called the world's longest unnavigable.



igable stream. This portion has a consistent width of about half a mile with a very wide meandering valley. The contour of the basin is a direct contrast to the old basin of the Big Sioux. Cliffs descend suddenly to the flat floor of the valley with some very abrupt outcroppings of hills. Straggly streams wander over the poorly drained basin.

The vegetation of the area is mainly prairie, treeless except along streams or around lakes. There are a few prairie groves. These usually fringe the lakes or streams and are mainly dominated by bur oaks. Sometimes they become straggling scrub growth out in the prairie.

"Bottom Land Forests" are dominated by willows, cottonwoods, and box elders. In some bottomlands ash and the American elm are fairly constant.

Prairie shrubs form characteristic clumps in the ravines on the less exposed slopes and occasionally are scattered in the open prairie. The shrubs are predominated by snow-berry, choke-cherry and black current.

Most of the prairie of this area is now under cultivation or has been overgrazed, and only a few of the native grasses persist in scattered patches and along railroad right of ways. These are the big and little bluestem, wild rye and needlegrass. Most pastures are predominantly Kentucky bluegrass which is not native. The prairie forbs have withstood the intrusion of foreign species better than the grasses. There are still some *Anemone* patents (our state flower) on the uncultivated hills. The Canadian wild flower, prairie cone-flower, prairie catpaw, wild rose, sage, and even an occasional fringed gentian can be found by the persistent.

Then, too, there is a variety of wet land habitats depending on the depth of the water level. If the soil is water-logged and often covered to a depth

of 6 inches the vegetation will include spikerush, cattails and pickleweed. Inland deep fresh marshes six to three feet deep include bullrushes and wild rice. These constitute the best breeding habitats in the area and are also important feeding places for migratory birds, especially the diving ducks.

In some slough areas, like Buffalo Slough near Chester, the government biologists have decided to practice a "drawdown." They predict that if they let down the water level there, natural flora and fauna which have been killed by the deep water will return. Thus a suitable habitat for migratory breeding waterfowl will again be acquired.

Deeper fresh water lakes less than ten feet deep are bordered with vegetation which includes pondweed, duckweed and watermilfoil. Where vegetation is plentiful, these lakes are used as feeding and resting areas by ducks, geese and coots, especially during the migratory periods.

#### Migratory Study Problems

The first problems which I will present for this area are those which deal with migration.

Nation-wide cooperative migratory studies are being made by Mr. James H. Zimmerman (2114 Van His Avenue, Madison, Wisconsin) and others who say they have all-too-few cooperators in South Dakota. They would like at least one observer in each county for both spring and fall migration studies. They will send you a list of selected species and ask you to report on their abundance, dates of arrival and peak dates. The study aims primarily to ascertain the role of weather in migration of birds.

A similar country-wide cooperative study of national migration has been undertaken by Lowery (1951) and Newmann (1952). The procedure is to

make observations on migratory movements across the face of the moon with a telescope of at least 15 power. Instructions for such study can be obtained from the Museum of Zoology at the Louisiana State University where reports will be analyzed and published.

**A Laboratory and Field Manual of Ornithology** by Olin Sewall Pettingill, Jr. (Third Edition, Burger Publishing Company) gives explicit directions for many types of bird studies. There is an abundance of material especially on migratory studies on "Effect of Weather on Migration" and "Migratory Waves and Flight Lanes" were problems that seemed appropriate to our use.

Normal weather alternates between fair and severe. The movements of the vast majority of migrants show a close correlation with barometric pressure patterns, temperature, and wind directions. With the aid of daily weather maps, it is not difficult to keep records of these data in the charts Pettingill gives and to correlate the effects of weather on migration.

In spite of the effects of weather on migrations, migratory travel over a period of years is regular on the average. From my records of first arrival dates, I can predict within a few days when these birds will appear in the Madison area. It is wise also to keep records of the departure of transients and I intend to add that information. There is much less regularity in arrival and departure of migrant species in the fall, and securing records is difficult. Slight weather changes have strong effects. If it is a warm fall, migrants may linger long. If it is cool in late summer, migrants may arrive surprisingly early. Further complications set in, because the birds usually do not sing in fall migration and they have inconspicuous and sometimes confusing plumage. But such difficulties should

be a challenge to S.D.O.U. members.

Regularity of migrations over a period of years is also revealed in the so called migratory waves. The first wave is in early spring when the "hardy" birds come: robins, meadow-larks, blackbirds, etc.; about a month later the second wave comes. This includes the flycatchers, vireos, warblers, and other insect-eating birds.

There seem to be definite Flight Lanes in the migratory movements north or southward. Some species tend to favor certain topographic features which tend to run in a north-south direction. There may be three distinct topographic lanes in the Eastern-central area which I previously described; the Big Sioux River Valley, the north-south moraine, and the James Basin valley and river. In addition, there may be lake-to-lake lanes in the Lake Section, or a grove-to-grove lane in the wooded area. There may be a dispersed migratory flight over the prairie where there is no definite lane. Nocturnal migration studies by Lowery reveal that there are no flight lanes for these birds, but that they fly in a widely dispersed fashion. Perhaps with some idea of the topography of this Eastern-central area you bird watchers may discover such lanes in your migratory studies.

#### **Population Density Studies**

By taking breeding-bird census we can determine the population or the density of species occurring in a certain area. For such study it is advisable to choose a typical area of not less than 15 acres. If S. D. O. U. members living in Old Drifts Section, the Lake Section, or the James Basin area could choose a typical region and set up a study, it would be true pioneering because we have so little data on Breeding Birds of this area. Full directions for taking such a census will be sent you free of charge by Audubon

Field Notes, National Audubon Society, 1130 Fifth Avenue, New York, 28, New York. Ask for a reprint of April 1950 Audubon Field Notes.

Gorman M. Bond in Audubon Field Notes (Vol. 10, No. 6, December 1956) gives a comparison of "Bird-Breeding Populations of Deciduous Shelterbelts in North Dakota." He gives instructions for taking such a census. Since we have many shelterbelts in this area which are usually available to all, this could be an interesting study.

Our chairman, Dr. Whitney, has a report in the April 1950 Audubon Field Notes on "Open Ponderosa Pine Forest Summer Breeding Species". I am sure he could help you to begin such a project. Government biologists in the game and wildlife service will gladly help you on any technical problem you tackle. They know by experience how to give you help.

Fluctuation in population over a period of time could be measured by our members. First one would need to keep accurate accounts of the species in question over a number of years. When possible an attempt should be made to determine the cause of fluctuation. Maurice Anderson from the government Fish and Game Service gave me some data on population fluctuation of duck density for the state. He quoted that the index of breeding duck density for the state in 1957 was 5.3 ducks per square mile, and in 1953 it was 13.6 per square mile, almost three times last year's density. He said there was a change in index of breeding anywhere from 10 to 250 per cent depending directly on the moisture content of the area. The water density index was 5 in 1957 and it was 7.4 in 1953.

I have noticed fluctuations in certain bird species near Madison. I know I see more green herons, more cardinals, more starlings than I saw in the Madison area 10 years ago but I have made no population studies. A cardinal cen-

sus and records should not be difficult to take since there must not be more than five pairs of cardinals now nesting in Madison. I also know there are fewer Bitterns and fewer sora rails for the same area in the last 10 years; this could be due to change in plant succession caused by the ever-changing water level of our sloughs. Subsidized drainage has no doubt made great changes. Physical factors as air temperature, relative humidity, precipitation, and land uses by man could be causes. Biological factors as: predation, competition, condition of vegetation and abnormal sex ration could be factors. It is necessary to keep in view the suspected factors and the bird population changes if we want to keep correct data.

I have not mentioned Christmas census as a possible problem. This census is not meant to be an accurate index on population levels, but a step in the direction of a continent-wide demonstration of unity and cooperation among those who are interested in birds.

Most people see only the birds which come to their bird feeds in winter time and have no idea of the approximate kinds of species present in mid-winter for a definite area. In Madison, we get about the same twenty-three species in our Christmas census each year. But if there was a good hawk authority with us or a hunter with his dog who beat the shrubs and slough grasses to stir up the birds, we would get a greater count and a greater number of species of birds in our Christmas census. Some people get their Christmas counts by observing only from car windows, so you can see that this census cannot be used for population density data.

Of course, the avid bird-bander is of invaluable help in solving all these problems. A few more good banders in our area who would be willing to set traps in untouched areas could

give us data for both migration and population problems.

I will conclude by suggesting four problems to you:

1. Report the significant change in birdlife you have observed in your region. Get some figures, preferably over a number of years and send your information to Herbert Krause. He edits this material for Audubon Field Notes.

2. Make a breeding-bird census for an untouched area or shelterbelt area. We need much more information on prairie species of the Old Drifts Section, the Lake Section and the James River Basin.

3. Participate in the spring and fall migration studies, on dates of arrival, peak dates, and last dates and on the abundance of a selected number of migratory species. Send your results to James H. Zimmerman, Madison, Wisconsin.

4. Make a study of your own on population fluctuation of certain species of your area. Write your results for South Dakota Bird Notes.

\*Presented by the author at the S.D.●U. Convention at Sioux Falls, S. D., May 17, 1958.

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### PLANT SPECIES

#### Trees

*Quercus macrocarps*—bur oak  
*Fraxinus pennsylvanica lanceolata*—ash  
*Ulnus americana*—American elm  
*Salix*—willows  
*Populus deltoidis*—cottonwood  
*Acer negundo*—box elders

#### Shrubs

*Syn-phoricarpus orbiculatus*—snowberry  
*Prunus virginiana*—chokecherry  
*Ribes petiolure*—black current

#### Prairie Grass

*Andropogon furcatus*—big blue-stem  
*Andropogon acorparius*—little blue-stem  
*Elymus canadensis*—wild rye  
*Stipa spurtina*—needlegrass  
*Poa pratensis*—Kentucky blue grass

#### Prairie Forbs

*Anenome patena*—pasque  
*Ratebida columnifera*—prairie cornflower  
*Antennaria neglecta*—prairie catspaw  
*Anemone canadensis*—Canadian windflower  
*Rose muliflora*—wild rose  
*Salvia*—sage  
*Gentiana puberula*—gentian

#### Wetland and Water Plants

*Eleocharis palustris*—spikerush  
*Typha*—cattails  
*Pontedria*—pickleweed  
*Myriophyllum verticillatum*—watermilfoil  
*Scripus acutus*—bullrushes  
*Zizania aquatia*—wild rice  
*Lemna minor*—duckweed  
*Polamogeton pectinatus*—pond weed

# First Sight Record of Vermillion Flycatcher (*Pyrocephalus rubinus*) in South Dakota

L. M. Baylor, Dakota Wesleyan University

AT THE southeast corner of Grace-land Cemetery, Mitchell, South Dakota, on the afternoon of 24 May 1958, Mr. Francis Gilmore, Mrs. Florence Baylor and L. M. Baylor observed a Vermillion Flycatcher (*Pyrocephalus rubinus*) for a period of fifteen minutes through 7x35 binoculars. The first impulse on seeing the brilliant red underparts was to think that we had a Scarlet Tanager (*Piranga olivacea*). However, this small bird, appearing to be about six inches in length, showed a sharp division between the brilliant red of the crown, which crested slightly in the breeze, and the slightly grayish black of the nape and back. There were no wing-bars, and the tail and wings were also grayish black. The bird perched in an upright posture on the top strand of a barbed wire fence, and once it was observed to dart out, up and back to the fence as though feeding on the wing.

On 24 June 1958 I had the opportunity to study skins at the Denver Museum of Natural History. After comparison of markings and sizes of the Vermillion Flycatcher and the Scarlet Tanager, I am convinced that the bird we saw was an adult male *Pyrocephalus rubinus*. At the time of observation the writer sensed the value of collecting such an unusual specimen, but he possessed neither the equipment for collection nor a collector's permit. Lacking collection, I submit this as a first sight record of *P. rubinus* in South Dakota.

The A.O.U. Check List of North American Birds, fifth edition, 1957, pp. 350-351, gives the following informa-

tion relative to the range of *P. rubinus*.

## *P. r. mexicanus*

Casual in Colorado, north-central Texas, Arkansas, northwestern Mississippi and eastern Florida. Accidental in Ontario (Toronto).

## *P. r. flammeus*

Breeds from southeastern California, southern Nevada, southwestern Utah, central Arizona, southwestern New Mexico and western Texas, south to southern Baja, California and Nayarit. Casual in Colorado and Nebraska.

In recent years the occurrence of Vermillion Flycatcher has been reported from widely scattered northern and eastern points. Swift (*Auk.*, 67, 1950: 517-518) reports the collection of an immature male *P. rubinus* at Toronto, Ontario on 1 November 1949, this being the first Canadian record and the northernmost occurrence of the species in North America.

Ryder (*Condor*, 54, 1952: 317-318) records the collection of a female *P. rubinus* on 16 May 1950 eight miles south of Monte Crista, Colorado. Colorado ornithologists also report a sight record of an immature male *P. rubinus* at Barr Lake, Adams County, about 20 miles northwest of Denver on 11, 12 and 13 October 1952 (Flavin, *Condor*, 55, 1953:215). The records of the Denver Museum of Natural History, compiled by Director Alfred M. Bailey and associates for a forthcoming annotated check list of the birds of Colorado, include the notation of the collection of a female Vermillion Flycatcher by Professor A. Sidney Hyde on 18 November

1952 five miles west of Gunnison, Colorado.

Rapp (*Nebraska Bird Review*, 23, 1955:28-29) reports the collection of an immature male *P. rubinus* by Doris B. Gates on 11 December 1954 at the University of Nebraska Agricultural Experiment Station south of North Platte, Nebraska and a sight record of *P. rubinus* by Mr. and Mrs. R. G. Cortelyou at Carter Lake, Omaha on 21 November 1954.

Loetscher (*Auk*, 74, 1957:268) reports the collection of a single immature male *P. rubinus* one mile northeast of Danville, Boyle County, Kentucky on 8 October 1955 for the first record of Vermillion Flycatcher in Kentucky.

Meanly (*Wilson Buletin*, 63, 1951:203-204) lists six records of *P. rubinus* in Arkansas. J. R. Forbes collected a specimen and saw another near Magnolia, Arkansas in November of 1941, and he identified another individual near Mena, Arkansas on 21 October 1954. Meanly collected two specimens, 6 November 1950 and 28 November 1950 near Stuttgart, Arkansas, and he identified a third *P. rubinus* in the same area on 6 November 1950.

The above records may indicate a tendency on the part of vagrant Flycatchers to extend their range northward and eastward, thus implementing the likelihood for this species to occur even in South Dakota.

Two curiosities are to be noted. With the exception of the record of 16 May 1950 near Monte Vista, Colorado, all of the previous records in this northward and eastward trend have been for fall dates when ordinary migrants are moving southward. The northern latitude for Toronto and Mitchell, South Dakota is almost identical, thus making the occurrence of *P. rubinus* in South Dakota on 25 May 1958 compar-

able to the previous northernmost record, as well as the northernmost spring occurrence of this species noted to date in North America.

—Mitchell, S. D., July 16, 1958

\* \* \*

(Editor's Note: Nearly a year after the above was written, John Bauman, manager, Sully's Hill Game Preserve, Fort Totten, North Dakota, in his report to Herbert Krause, Regional Editor, AFN, describes the occurrence of a male of this species near the refuge in late June, 1959. "A male Vermillion Flycatcher can hardly be mistaken at close range," concluded Mr. Bauman.)

\* \* \*

## Krause Wants Help

Herbert Krause, English Department, Augustana College, Sioux Falls, has been asked to do the chapter on Chestnut-collared Longspurs for the Bent series of Life Histories.

Not much is known about these little birds; his job won't be just a library chore. Original sources—the birds themselves, or the people who see them doing what they do—will have to be consulted.

So he asks for special attention to this species this fall and winter, continuing on for next spring and summer. Send him all the information you have or can get on nesting, eggs, behavior, dates of arrival anywhere in the state — or elsewhere, dates of departure, song — in fact, he says, "Just about anything on the Chestnut-collared Longspur."

# The Life Of Our Martins

J. W. Johnson, Huron, S. Dak.

## CHAPTER III

1958

**ARRIVAL.** The martin house was raised on April 4, 1958, a few days earlier than in the past two years. I had hoped to do something about the sparrow nuisance before the martins came.

The rat traps on the platforms were just getting into the harvest of nest building sparrows when the first martin appeared on April 10. Only luck allowed us to see the martin in time to remove the traps before it was killed.

The first arrival was not clad in full purple. My note of the date: "Dark gray breast with darker central stripe." But the next was a purple male, first seen on April 13.

No others appeared until April 23. The first two were not seen during the

intervening ten days. The weather was not bad for the period but forbidding for martins. Whether they could have survived is a question.

To save space and give a clearer picture of the arrival pattern, data from my notes is tabulated below. The 18 apartments of the house were numbered from left to right and from top to bottom, separately for each side. The east side, toward our windows, is indicated by an "E" and the west side by a "W". The east side had the best observation because it was visible from our windows. The west side could only be seen by going outside and nearly to the back of the lot. Obviously much that went on about the west apartments was missed, compared to the east side.

### ARRIVAL AND ACTIVITY BY DATES

Date	Color of Bird		Remarks
	Gray No.	Purple No.	
April 4			House raised.
10	1		First martin—dark gray breast with darker central stripe
13		1	First seen at noon.
23			4 passed and circled at 4:30 p. m. Not sure of color. 2 passed and circled at 6:30 p. m. Not sure of color. None stopped on house or wires.
25		1	Lighted on house 9 a. m., 2 p. m., 5:30 p. m.
26	2	1	First seen at 7:30 a. m.
27	1		On platform at 7 E in late p. m. Took off at 5:10 to return in ten minutes. Seen still huddled on platform in cold wind at 6:15 p. m.
29	1	1	Pair in 5 E at 6:30 a. m. Temp. 20.
		1	In 7E. Saw him wake up at 7:10 a. m. All three flying in afternoon.
30	2	1	Flying in forenoon. Chatting on house at 6:30 p. m.
May 1	3	4	Four additional birds, 3 purple, 1 gray, appeared about 5:30 p. m.
2	4	4	Seen 6:00 p. m.
3	2	5	High wind. Temp. 60.
6	3	5	At least 5 spending the night here.
7	2	2	0.70" rain early in a. m. and chill wind.

8	1	2	One, purple, picking up twigs from ground and carrying to 8 E, pair visible in 2E. Four others, color uncertain, arrived at 6:30 p. m.
	3	4	Loudly chattering in late p. m.
9	5	5	Seen 7:45 - 8:00 p. m. and later
10	3	3	Three pairs picking up twigs from ground - 6:15 a. m.
12	3	3	Ditto. Also pair copulating in air.
14	4	4	Four pairs in nest building activity.
19	5	4	
20	6	6	Nest building general.
23	6	6	All seen sitting on wires or in house in pairs.
25			Pair copulating on wire.
29			Pair copulating on wire.

The total number of birds last above is about the number in the colony at the end of last season. At the same time it seems improbable that the sex ratio would be 1 without some movement to and from other colonies.

Accordingly we have a problem here—in addition to the others. Remember that purple males were notably absent last year in the area after the devastation of the cold wet weather late in the spring.

NESTING. During the last days of May, all of June and the first week of July nesting and associated activities went on. Birds were coming and going at all times during the day. Only at rare intervals were the entire 12 to be seen at one time.

No attempt was made to keep complete records of their activities because of the impossibility of identifying individual birds. Time for observation was also sadly lacking. Only indications of change of status were recorded and these would only be seen by chance.

In all seven broods of young were reared—the 7th (in apartment 7W) passing unobserved until the young, the last to leave, were out of the house. Since no more than six pairs were seen at any one time I will leave the explanation to the future, other than to admit inadequate observation.

Two broods were brought off on the east side and 5 on the west. Other nests were started in the east but were aban-

doned at various stages under the pressure of the sparrows.

One brood of four could be seen. In others only two young were ever visible. Possibly some nests contained more but they were not seen.

This is probably as good a place as any to explain that I refrained almost completely from molesting the sparrows or martins all through the nesting season. It came about because of experiences the year before and the need for establishing a normal condition before undertaking some radical interference in later years.

Last year (1957) I had attempted to keep the sparrows' nests torn out of the house. So far as I could tell the martins were in no way disturbed by such activity.

But I found it accomplished little against the sparrows so far as the immediate competition was concerned. Also there was always the possibility that the martins were affected more than appeared. In fact it had occurred to me that part of the restlessness of that colony could have been due to my regular work about the house in removing sparrows' nests.

Accordingly I carried the hands-off policy to the extent of avoiding climbing up to make close inspection of the young martins. I did, however, observe them as well as possible from a short distance away with a good binocular.

Tabulation is continued below for the activities of the nesting period and only for the apartments where the broods



were actually reared:

As indicated, only activities showing a change of status are noted. All the while the flock was busy with the normal tasks of a summer martin colony,

of six or seven pairs. Periodic fights with encroaching sparrows occurred with varying results. In general the martins tended to give way to sparrows sooner or later.

### NESTING ACTIVITY

Date	Activity
June	
23	Dead martin found on ground under house. Female. Stiff and cold. Heard young in 1 E when food carried in.
26	Feeding activity indicates young in 1 E, 7E, 6W, 9W. Eleven adult martins present at one time.
29	Feces carried from 6 W by purple male. A few minutes later a young martin seen in opening.
30	Very young martin seen in 1 E.
July	
1	Very young martin seen in 7 E.
3	Two young visible in 1 E & 7 E. Also 1 in 6 W.
4	Pair settled in 8 W.
8	Four young in 1 E, 1 in 7 E, 2 in 6 W, sitting in 8 W (or could be brooding hatched young).
12	Eleven adult martins present. Later 5 pairs, so arranged, were sitting on the wires. Two very young martins seen in 8 W. Youngster from 7 E came out on platform and was persuaded to return by male who instantly lit on outer edge of platform and kept it from falling off.
18	Young gone from 7 E and sparrows take over. At 8 p. m. purple male called to young on wire and supervised their return to 5 W for the night. Yellow at the corners of their mouths. Two very young in 8 W, one young still in 1 E.
19	All young out of east side.
22	Sixteen martins on wires. Seems to be 8 of them young.
24	Two young still in 8 W (but look like they will be out soon).
25	21 (or 22) martins on wires and house (not counting 2 known young still inside).
26	25 martins (six purple) on wires — 3 (or four) seen still in house not counted)
27	Young martin fallen from nest given plain Al. band on right leg and left on ground where found.
29	Banded martin seen on wire 6:45 a. m., being fed by purple male. 20 martins, including young but none banded, on wires. 4 (or 5) in nest not counted.
30	Banded martin on power pole with four other young, being fed. All birds out of nests today. Five, including banded one, returned to house for night.
August	
1	Banded bird in flock of five that came home at 7:30 p. m.
2	Banded martin seen on wire at 7:30 p. m.
3	Banded martin seen on wire at 8:00 p. m.
8	No martins seen all day or for last few days.
9	13 martins on wires. Only 3 purple. Banded one not with them. In fact no young believed present at all.
15	No martins seen at house for last few days.

The total young of the year surviving is estimated at 16 (one brood of four and six of 2 each). These plus 11 adults surviving of the 12 that started the season totals 27. The actual number quite probably is two or three more, as indicated in the note of July 26.

**DEPARTURE.** Strangest of all martin behavior this year was their departure on fall migration. In fact, compared to the two previous years, their departure was so different as to raise serious question about how representative for this activity the two past seasons might be.

Evidence of the moment indicates that they did not all leave as one flock this year. Rather, they seemed to filter away a few at a time, as fast as the young were in shape for the trip.

To add to this situation, there is some evidence that the young went first, leaving the old birds behind for a few days.

The maximum number was present on July 25 and 26, before all the young were out. By the 29th the number was falling off and continued to do so.

After a few days when none were seen, 13 appeared briefly on August 9. After that they were seen no more. All showed every sign of being old birds and not young.

Other colonies in the area also left about the same time. Edwin Mann's colony at Lake Byron, consisting of about a hundred birds total, left between August 10 and August 17.

As near as I can determine after the fact, other colonies also left that week or near it.

The community roost was checked on July 19, 1958 and counts of the martins on the wires there are as follows:

7:40 p. m.	9
7:45	14
7:46	20
7:49	25
7:50	30

8:00	40
8:10 p. m.	50 (max.)

On the assumption that parents and young were generally still at the houses this gave no indication of anything unusual. The roost was checked again on August 3 and the maximum number counted was 35. None were full purple, though others flying about included a few.

A later check, on August 7, found no martins at all on the wires though a dozen were flying as though feeding. On August 18 only six martins were at the roost—where 80 had been seen in 1957 and 300 in 1956. That the change was peculiar to the martins alone was shown by other species of birds moving in each evening by their usual hundreds and thousands.

On August 20 and 22 only two martins were seen over Dakota Ave. in Huron in the mornings. Only two (the same?) were at the community roost the evening of August 22. They did not light on the wires at all that evening.

In the previous two years the martins had appeared to leave in a flock and within the period: August 26 to September 2.

This year they appeared to have spread their departure over a considerable period, starting near, or even before, the first of August and being practically gone by August 18.

**DISCUSSION.** This year's observations have emphasized a fact that needs to be kept in mind at all times: We are still in the data gathering stage in our study. Any conclusion can only be of a most tentative nature.

It is a fact that, from late July through August, the weather was unusually dry and hot compared to the last 15 years. Without other evidence it is tempting to believe the early departure weather connected. At the moment this, too, is only a guess.

# Birds Seen in South Dakota by the Custer Expedition, 1874

Richard M. Hurd and Margaret P. Hurd

In some instances we have substituted common names now in general usage for those given in the official report. However, before doing so we carefully checked Latin names accompanying those common names in the report against Latin names paired with the common names we used. We believe that they agree in all instances even though there sometimes have been changes in Latin names since the "Report" was written. All bracketed remarks following the name of the bird are ours and should be so understood by the reader. None of the other remarks have been changed in meaning although not all have been quoted.

**T**HE Custer Expedition left Fort Abraham Lincoln, near Bismarck, North Dakota, July 2, 1874 and returned on August 30. This trip was primarily a reconnaissance of the Black Hills for military and scientific purposes. During this reconnaissance, birds, larger animals, and plants were recorded. Apparently no particular effort was made to build a "check list" of the flora and fauna nor is there positive evidence that all birds seen were recorded; perhaps they were. More than likely the list and the few descriptive words came from notes jotted down during the day's journey.

The expedition consisted of 200 wagons and approximately 1000 men. During the 60 days "in the field" the expedition covered 883 miles. The Black Hills were entered from the Wyoming side on July 24 at what was called "Floral Valley" and the expedition departed the area August 16 as it passed Bear Butte and crossed the Belle Fourche River. During the period "permanent" camp and several temporary camps were made within the Black Hills to permit further exploration.

Captain William Ludlow, engineer of the expedition, wrote a rather detailed account of the trip in his re-

port to military headquarters. Accompanying this report were those on the geology (including botany), paleontology and zoology. Mr. George Bird Grinnell prepared the zoology and paleontology reports. The birds seen in South Dakota, as best as can be determined from the account, and excerpts or verbatim comments were:

**Common Merganser**—A female with a brood about a week old was seen on Castle Creek, in the Black Hills.

**Turkey Vulture**—Very abundant on the plains.

**Red-tailed Hawk**—"This was the most common hawk seen on the trip. It was equally abundant on the plains and in the Black Hills, breeding sometimes in trees, and, where these are wanting, in the clefts and hollows in sandstone buttes that occur at short intervals everywhere on the plains of Dakota."

**Swainson's Hawk**—Seen only occasionally. (Locations not given so uncertain whether seen in South Dakota.)

**Ferruginous Hawk**—Abundant on the plains.

**Golden Eagle**—Single bird killed in the Short Pine Buttes. (Harding County, S. D.) "This bird is said to occur all through the country between the Missouri River and the Rocky Mountains, though it is nowhere common. It is highly prized by the Indians, who use the tailfeathers to adorn their war head-dresses. So much is this the case that two of these birds are worth a horse, i. e., \$40 to \$60, among the Sioux."

**Marsh Hawk**—Quite numerous on the plains.

**Prairie Falcon**—Abundant everywhere

- on the plains, but was not seen in the Black Hills. Breeding places found on almost every high butte.
- Sparrow Hawk—Abundant everywhere.
- Dusky Grouse—"Single bird of this species was seen in the dense pine forests of the higher portions of the Black Hills."
- Ruffed Grouse—Abundant in the Black Hills.
- Sharp-tailed Grouse—" . . . abundant in the Black Hills" where "it seemed to prefer steep hillsides that had been burned over and are now overgrown with quaking aspen brush."
- Sandhill Crane—"This species was occasionally seen on the plains, but it was not until we reached the Black Hills that it became at all abundant. There, however, it was numerous, breeding, the young being about two-thirds grown late in July. A nest, which contained one young, was found about this time. It was in a tall pine tree." A specimen obtained.
- Upland Plover—Found everywhere on the plains in the greatest abundance.
- Mourning Dove—Abundant on the plains and nests frequently found, always on the ground.
- Great Horned Owl—"Although none of these birds were seen in the Black Hills, they were said by the Indians to be quite abundant there. I saw many dresses of the Sioux that were ornamented with their feathers."
- Burrowing Owl—"This species was abundant in the prairie-dog towns which we passed."
- Long-eared Owl—Common in the Black Hills.
- Common Nighthawk—Abundant everywhere on the plains and in the broken country bordering the Black Hills.
- Swift—Small numbers, seen only twice in the Black Hills and flying high. (The scientific name was that of the Chimney Swift but was questioned in the report.)
- Red-shafted Flicker—Rather common all through the Black Hills.
- Red-headed Woodpecker—" . . . in the Black Hills it was especially abundant. It seemed to me the most common species there, and its harsh cries resounded through the forest from morning till night."
- Lewis's Woodpecker—" . . . by no means common in the Black Hills, and I saw but few specimens while there."
- Downy Woodpecker—"A single specimen, probably of this species, was seen in the Black Hills, but unfortunately I was unable to secure it."
- Eastern Kingbird—Very numerous along creeks and wooded ravines from Missouri River to Black Hills.
- Western Kingbird—Quite abundant to and through the Black Hills.
- Say's Phoebe—River bottom of Belle Fourche (Wyoming? South Dakota?)
- Western Wood Pewee—"I did not observe it until we had reached the Black Hills, and had penetrated some little distance into the heavy pine woods, with which their sides are clothed. When it did appear, however, it was in such numbers that it seemed that every tree had one or two occupants of this species, and the woods fairly resounded with their loud, harsh cries."
- Olive-sided Flycatcher—"A female of this species was taken August 16 on the northeastern edge of the Black Hills, near Bear Butte. It was found in a dense pine forest."
- Horned Lark—Found in the "greatest abundance" all the way from Fort Lincoln to the Black Hills. Nests with well advanced eggs found in early July.
- Violet-green Swallow—Numerous in the Black Hills.
- Barn Swallow—Numerous in the Black Hills.
- Purple Martin—"This species was very abundant in the Black Hills. Early in August I observed them in families, resting on the highest branches of

the tall dead pines, whence they made short excursions. They were quite tame; one little group in top of a high tree, out of reach of fine shot, remaining until three of their number had been killed by Mr. North with his rifle."

Gray Jay—Four birds seen on Elk Creek, Black Hills.

Black-billed Magpie—Rather common all through the country traversed.

Common Raven—" . . . observed in the Black Hills" and commonly seen on the plains to the Black Hills but not numerous.

Common Crow—Observed occasionally in small flocks on Little Missouri River. (Although not reported in South Dakota the entry is included to suggest that Ravens were not misidentified.)

Black-capped Chickadee—Rather common in the Black Hills.

White-breasted Nuthatch—" . . . I saw for the first time in the heavy pine timber near Elk Creek . . . "

Red-breasted Nuthatch—A single family was seen along Elk Creek, Black Hills.

Dipper—Single specimen seen in Elk Creek, Black Hills.

Robin—Seen in flocks in the Black Hills.

Mountain Bluebird—Very abundant in the Black Hills.

Loggerhead Shrike—Common along the Belle Fourche River "and all along the edge of the Black Hills. I saw none, however, among the dense woods of the mountains."

Plumbeous (Solitary) Vireo—Considerable numbers near Harney Peak, Black Hills.

Warbling Vireo—A single specimen was taken August 15 near Bear Butte, northeast of the Black Hills.

Audubon's Warbler—A single specimen taken near Harney Peak, Black Hills.

Western Meadowlark—Abundant on the

plains and in the parks and valleys of the Black Hills.

Bullock's Oriole—Single bird seen near Belle Fourche River. (Wyoming?)

Brewer's Blackbird—Observed in considerable numbers along edge of the Black Hills. By August 1, flocks of 200-300 individuals were seen.

Common Cowbird—Abundant everywhere on the trip. A large number accompanying the column throughout most of the day; indifferent to man. Eggs found only in lark bunting nests.

Western Tanager—Abundant in the Black Hills.

American Goldfinch—Seen on plains after leaving Black Hills.

Spotted Towhee—From Fort Lincoln to the Black Hills—"was seen on every wooded butte".

Lark Bunting—" . . . found in large numbers until we reached the Black Hills. They were generally seen among the low bushes along the borders of streams, but were by no means common in such localities . . . I found this species sitting on fresh eggs July 9 and 10, no doubt a second brood; and in every nest that I found there was a cow-bunting's (cowbird) egg."

Vesper Sparrow—Common everywhere on the plains.

Lark Sparrow—"After leaving Fort Lincoln, I did not see this species again until we reached Short-Pine Buttes, near the Little Missouri. From this point on we found them abundant about wooded buttes."

Western Yellow-winged Sparrow (Grasshopper Sparrow?)—Collected near Bear Butte, northeast of the Black Hills.

White-winged Junco—" . . . very numerous in the Black Hills near Harney's Peak . . . I think this is the most common bird in the more elevated portions of the Black Hills."

Chipping Sparrow—A few seen in the

Black Hills.

Clay-Colored Sparrow—Abundant in the Black Hills.

McCown's Longspur—Found on the high plains but not as abundant as Chestnut-collared Longspur. (Report not specific whether species was seen in South Dakota).

Chestnut-collared Longspur—" . . . most abundant from Fort Lincoln to the Black Hills . . . it was breeding on the high desert plains over which we passed, and I found many nests in these localities. They breed early, and by July 10 the eggs of the second laying are deposited."

We wish to thank Mr. I. H. Chase, Rapid City, for the loan of his copy of "Report of a Reconnaissance of the Black Hills of Dakota, Made in the Summer of 1874", by Captain William Ludlow, Corps of Engineers, and dated April 28, 1875.

—Rapid City, S. Dak.

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## How It Looks From Here . . . In Retrospect

(Continued from Page 4)

been sold at annual meetings. All profit from this has gone into the working fund. This voluntary association has been solvent throughout its entire existence.

On this splendid record, it is my judgment that the South Dakota Ornithologists Union has become and is a vital factor in South Dakota ornithology and ecology!!

—Sioux Falls, S. Dak.

\* \* \*

## Robin Banding

(Continued from Page 7)

of their last brood. It appears the young are flying for some time before they start using the roost.

We are hoping the banding activity

sheds some light on where Huron's robins winter, how many come back to Huron and whether or not our winter and summer birds are of the same flock.

\* \* \*

MR. H. F. CHAPMAN, 516 SECURITY BANK BUILDING, SIOUX FALLS, S. DAK., IS MAKING A STUDY OF BURROWING OWLS and their distribution in South Dakota in 1959. He asks that all who have knowledge of the location of these birds to give him report, indicating whether they are known to be nesting or merely sighted, and if these are repeats of years before or seen in 1959 for the first time. Suggestions as to sources of further information will be appreciated by him also.

(The editor can't forbear further comment, having suffered human nature for no few years: Don't sit on your information until after the study is done and published, then tell everybody how it is incomplete because it doesn't include the birds you know about. Get the material to Mr. Chapman so it will be his fault if the study lacks something.)

\* \* \* \*

## THE COVER

A drawing of a lark bunting by Wayne Trimm graced the cover of Volume 1, No. 1. Through the courtesy of Mr. H. F. Chapman another drawing of the same species by the same artist was provided for the tenth anniversary issue.

Wayne Trim is now artist for the New York Conservationist, where his covers and double page spreads, all in color, are a joy to behold.

# Problems of Black Hills Ornithology

N. R. Whitney, M. D. \*

THE Black Hills of South Dakota, located in the southwestern corner of the state, have long been known as an outstanding area both scenically and historically. Ornithologically, they are equally important, although this aspect has not received such wide attention. Students of many phases of natural history have visited the Black Hills, and Dr. Pitelka, mapping the major biotic communities of North America, has indicated the Hills region as an island of coniferous forest in a sea of grassland. Ornithologists who have visited the Hills have called attention to the fact that one endemic species, the White-winged Junco, is found here, and that in addition many of the breeding species of the Rocky Mountains reach the easternmost limit of their ranges in the Black Hills.

On the basis of total breeding range, the breeding species of the Black Hills can be divided into five categories. The first, and probably the largest, includes birds of continent-wide distribution, which also breed on all sides of the Black Hills. This category includes such familiar birds as Spotted Sandpiper, Common Nighthawk, and Robin. The second, probably the next largest, includes breeding species of the Rocky Mountains which reach the eastern edge of their breeding ranges in the Black Hills. Examples are the Dipper, Lewis Woodpecker, and Western Tanager. The third category are those species which are characteristic of the coniferous forest biome as a whole—Gray Jay, Red-breasted Nuthatch, and Pine Siskin. The fourth group includes the eastern forest species which reach the western edge of their range at or near the Black Hills. This is a very small group, but includes the Blue Jay, Ovenbird, and American Redstart. The

endemic White-winged Junco is alone in the last category, but it is part of a coniferous forest genus.

Problems connected with bird study in the Black Hills are endless, and depend only upon the investigator's imagination and interests. Life history studies could profitably be carried out on each species in the Hills. A comprehensive banding program to mark several hundred individuals of each species in the Black Hills could provide valuable information about migration routes and longevity. Taxonomic studies might add to the understanding of the Black Hills avifauna by showing the closest affinities of our breeding populations. Since most S.D.O.U. members have neither banding nor collecting equipment, however, I want to limit this discussion to the following questions:

1. Are there differences in utilization of various habitats?
2. Why are some Rocky Mountain species found in the Hills and others not?
3. Do closely related species tend to choose different habitats?
4. What is the status of such groups as *Carpodacus* finches and hummingbirds?

First, the major habitat in the Black Hills is the ponderosa pine forest, but other important ones are spruce forest, aspen thickets, deciduous hollows, and willow-cottonwood stream bottoms. To some extent, the differences in birds inhabiting each habitat are obvious. Solitary Vireos inhabit the pines, Golden-crowned Kinglets the spruces, Yellow-bellied Sapsuckers the aspens, and Bullock's Orioles the cottonwoods. Rob-

ins, on the other hand, can be found in all habitats, as can the Western Wood Pewees. For the past several years, **Audubon Field Notes** has run an issue each year devoted to breeding bird censuses in various habitats. I have made several studies in the pine forests around Rapid City, but further investigations should be made in all the habitats of the Black Hills, to bring out quantitative as well as qualitative differences.

Second, is the problem of why some but not all of the characteristic breeding species of the Rocky Mountains breed regularly in the Black Hills. Among the breeding species of the Rockies which reach the eastern extremity of their breeding ranges in the Black Hills are Poor-will, White-throated Swift, Lewis Woodpecker, Western Flycatcher, Violet-green Swallow, Pinon Jay, Clark's Nutcracker, Dipper, Canon Wren, Townsend's Solitaire, Audubon's Warbler, MacGillivray's Warbler, Brewer's Blackbird, Western Tanager, Lazuli Bunting, and Black-headed Grosbeak. Why, then, are Williamson's Sapsucker, Steller's Jay, Mountain Chickadee, Pigmy Nuthatch, and Green-tailed Towhee missing? Possibly they are not missing, but merely waiting to be found as breeding species. The Pigmy Nuthatch is known from the Hills, but not as a definite breeding species. A friend of mine, who knows birds, states that he has seen Steller's Jays frequently in the Hills, but I have never found them when working close to his home. Careful studies of some of these species on their Colorado or Wyoming nesting grounds might be of definite value in showing why some species do not come this far east. The absence of tundra in the Black Hills explains why some breeding species, such as Ptarmigan, Pipit, and Rosy Finch are absent. The Raven is also a high-country species, but it usually nests around cliffs, and so its absence from the Black

Hills is not explained by its habitat preference.

The third question deals with differences in habitat among related species. An obvious case is that of the vireos. The Solitary Vireo is a widespread breeding species of the Ponderosa Pine forests, and the Red-eyed Vireo is common in the cottonwoods and elms along lower Rapid Creek, making it one of the most conspicuous species in the residential sections of Rapid City. The Warbling Vireo breeds throughout the Hills in deciduous brush, utilizing the cottonwoods and willows around Rapid City and the birch thickets in the higher Black Hills. The corvids seem to segregate themselves into different habitats for the most part also. In the highest Hills are the Gray Jays and a few Clark's Nutcrackers and in the foothills around Rapid City are Pinon Jays and a few Blue Jays. I have been trying to determine whether there is any overlap in the breeding distribution of Gray and Pinon Jays. Both species nest in pines, but the altitude preferences may separate them completely. The Black-billed Magpie likewise breeds in the pine forest, but whether it lives in harmony with its relatives is uncertain. By contrast, the Red-breasted and White-breasted Nuthatches seem often to inhabit the same small area of forest. Probably the Red-breasted is more numerous in the higher hills and particularly in the spruce forests, but this remains for further investigation. As a final example, I want to mention the two species of Three-toed Woodpeckers, both of which are known from the Black Hills and undoubtedly breed here. Possibly one is confined to the northern Hills and one to the southern, or possibly one prefers a higher altitude than the other. Or perhaps they do range over the same area.

In the final category I want to mention two particular groups whose status in the Black Hills is uncertain in my



mind: the hummingbirds and the finches of the genus *Carpodacus*. Hummingbirds are often reported in the Black Hills, and Prof. Haight reported several species a few years ago on the identification of the Bennets of Spearfish. Since some of these species were far from their known breeding ranges, it seems better not to list any species of hummingbird as a definite breeding bird of the Black Hills until further confirmatory studies can be made. The AOU Checklist does not list any hummingbirds as breeding in the Black Hills, but the three Rocky Mountain species which might be here are the Black-chinned, Broad-tailed, and Rufous. Over and Thomas may be correct in listing the Broad-tailed as a breeding species.

When I first came to the Black Hills, I had several winter observations of a member of the genus *Carpodacus*, which I listed as the Eastern Purple Finch. These birds are apparently sporadic winter visitants, since I have not seen them many years. In 1958, however, Dennis Carter, an astute observer with many years of experience in various parts of the country, found in August some birds that after careful study he identified as Cassin's Purple Finches, representatives of a breeding species of the Rocky Mountains, at Jewel Cave National Monument. The same summer I observed two birds near Merritt, on the Pennington-Lawrence County line, that appeared to me to be House Finches, although I did not have opportunity to watch them long enough to confirm this impression. But I mention it to show that there are undoubtedly breeding species in the Black Hills which have not been reported from here.

Thus we see that the Black Hills hold many unsolved problems of bird distribution. I have listed several that come to my mind, and obviously I have not mentioned all the questions. Those listed, however, require no special

techniques, such as collecting, banding, or Berlezing, and can be investigated by any observer who has patience and an adequate knowledge of identification. We who live in the Black Hills will welcome all investigators and help wherever necessary in planning the studies.

—Rapid City, S. D.

\*Presented by the author at the S.D.O.U. Convention at Sioux Falls, S. D., May 17, 1958.

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**SOME BANDING REPORTS**—Ruth Habeger, Madison, asked for the story on her banding activities gives the following for the period April, 1958 to April, 1959: 8 Bronze Grackles, 1 barn swallow, 14 robins, 8 red-winged blackbirds, 2 cow birds, 2 mourning doves, 2 killdeers. She had one recover: A bronze Grackle, banded May 1, 1958, killed at Roxton, Texas, March 25, 1959.

Lowry Elliott, Milbank, lists the following banded in the calendar year of 1958: 1640 birds of 67 kinds, including 19 kinds of warblers, oven bird, mourning, black and white, Nashville, bay-breasted, orange-crowned, Tennessee, yellow, black-throated blue, myrtle, chestnut-sided, magnolia, black-poll, black-throated green, Connecticut, yellow-throat, redstart, Wilson's, Sanada—142 birds in all.

Sparrows, 14 kinds, 637 birds; Field, Savannah, song, vesper, Harris, White-crowned, Gambel's, white-throated, tree, chipping, slate-colored junco, Oregon junco, Lincoln's, Swamp.

Some other kinds includes 2 spotted sandpipers, 1 black-billed cuckoo, 11 eastern wood pewees, 2 yellow-bellied flycatchers, 111 redpolls, 1 cardinal, 3 Bohemian waxwings, 1 northern shrike other more common kinds of birds.

Editor's Note: We would like to make a regular feature of the banding reports, including those banded outside the state but near the border. (It depends on the material that comes in.)

# Migration Dates, Spring of 1958

Alfred Peterson

The long period of scant rainfall, resulting in the drying up of very many sloughs and open ponds throughout this region and far beyond, has brought about changes in the program of bird observation to such an extent that many favorite spots of former years are now barren. Often, however, at the proper stage of water near the end, in those ponds of a more persistent character, there can be such a concentration of Shore Birds as to suggest an abundance but thought of the many places now birdless brings the average back to normal.

Take Fox Lake, for example. This 100-acre lake, of late more properly called a swamp or slough, was extraordinary in the spring of 1958. Black-

bellied Plovers, White-rumped Sandpipers, Dunlins, Dowitchers and Hudsonian Godwits stopped over in surprising numbers, some to linger beyond their usual time. They were attracted by a rich feed-bed as the lake declined (coming to an end in early August). Fox Lake died splendidly.

It has of course been impossible to get a correct count on the swarms of birds seen on Fox Lake. The best that I could hope for was to make a good estimate of totals, and then to apportion these into species as they appeared to me; all of these to equal estimated grand total. In all cases where exact count could not be made I believe that I have been low rather than high.

## 1958

- April 1—A pair Common Goldeneyes; 6 Herring Gulls; 10 Ring-billed Gulls.
- April 2—About 200 White-fronted Geese; very many Mallards; 1 or 2 Gadwalls; few Pintails; few Baldpates; 10 Canvasbacks; 3 Red-tailed Hawks; 2 Marsh Hawks; about 40 Coots; 2 Ring-billed Gulls; 1 Tree Sparrow.
- April 4—S. E. wind, rain all day. 2 Herring Gulls; 20 Ring-billed Gulls.
- April 5—N. E. wind, snow 8 a. m. until 10 a. m. to 3" and thawed by night. Drizzle at night, and by morning 3" new snow.
- April 6—N. E. wind, snow forenoon.
- April 7—Freeze. Some ice in ponds. 1 Pied-billed Grebe; 3 Great Blue Herons; many Mallards; about 30 Common Mergansers; 2 Marsh Hawks, 1 Sparrow Hawk; some Ring-billed Gulls; 1 Belted Kingfisher.
- April 8—Some 150 White-fronted Geese; 6 Ring-necked Ducks; about 20 Common Mergansers; 2 Marsh Hawks; many Red-winged Blackbirds.
- April 9—Slight freeze, 3rd morning. 2 Pied-billed Grebes; few Lesser Scaup; few Common Mergansers.
- April 10—Rather hard freeze, with small ponds iced over. About 40 White Pelicans; 20 Double-crested Cormorants; many White-fronted Geese; Mallards; more Pintails; 2 pairs Blue-winged Teal; 1 Redhead; 20 Canvasbacks; many Lesser Scaup; 1 Bufflehead; 1 Red-tailed Hawk; 1 Swainson's Hawk; 1 Spar-

row Hawk; 1 Lesser Yellowlegs; 2 Herring Gulls; few Ring-billed Gulls; few Slate-colored Juncos; 1 Fox Sparrow.

April 11—Forty White Pelicans; few Double-crested Cormorants; 1 Common Snipe; 1 Fox Sparrow.

April 12—Twenty White-fronted Geese; very many Mallards. (Not less than 1000.)

April 13—About 100 Canada Geese; 100 Snow Geese and 50 Blue Geese; many transient Mallards; a pair Baldpates; few Redheads; few Lesser Scaup; 1 Sparrow Hawk; 1 Hermit Thrush; a number Juncos; 1 Fox Sparrow.

April 14—One Olive-backed Thrush.

April 15—Again the Snow Geese and the Blue, somewhat increased in number; many Mallards; pair Ring-necked Ducks; a number Lesser Scaup; 2 Sparrow Hawks; 2 Common Snipe.

April 16—Many Snow Geese and Blue Geese; Mallards; few Pintails; a number Baldpates; several Shovellers; 1 Bufflehead; 1 Sparrow Hawk; 2 Common Snipe; 1 Greater Yellowlegs; 1 Lesser Yellowlegs.

April 17—Many Snow and Blue Geese; more Coots; 6 Greater Yellowlegs.

April 18—Two Franklin's Gulls; 3 Cowbirds.

April 19—Half inch rain and mild during night. Pair Green-winged Teal; 15 Blue-winged Teal; 2 Greater Yellowlegs; 30 Lesser Yellowlegs; 1 Hairy Woodpecker; 1 Downy Woodpecker; 2 White-breasted Nuthatches; 1 Ruby-crowned Kinglet.

April 20—Ten Canada Geese; 1 Greater Yellowlegs; 1 Lesser Yellowlegs; 1 Downy Woodpecker; 1 Slate-colored Junco.

April 21—Three Franklin's Gulls.

April 22—Clear, N. W. wind, 26 above. 1 Sparrow Hawk; 10 Greater Yellowlegs; few Ring-billed Gulls; 4 Franklin's Gulls.

April 23—Cloudy, N. E. wind, about 40 above.

April 24—Many Pelicans; few Double-crested Cormorants; flock of 40 or so Canada Geese; Mallards; some Gadwalls; few Pintails; many Baldpates; several Blue-winged Teal; few Shovellers; about 30 Ring-necked Ducks; a number Lesser Scaup; 1 Sparrow Hawk; 3 Greater Yellowlegs; few Ring-billed Gulls; about 38 Forster's Terns; 1 Kingfisher; 1 Chickadee; 1 Myrtle Warbler.

April 25—Cloudy, N. E. wind, 23 above.

April 26—Frost, strong S. E. wind. Not out.

April 27—Frost, strong S. E. wind. Not out.

April 29—Part cloudy, S. W. wind, 17 above the lowest at Watertown. 5 Horned Grebes; 3 Willets; few Franklin's Gulls; 2 Ruby-crowned Kinglets.

April 30—Dozen Horned Grebes; 1 Sparrow Hawk; 5 Willets; a number Lesser

Yellowlegs; few White-rumped Sandpipers; 17 Dowitchers; few Semi-palmated Sandpipers; about 200 Wilson's Phalaropes; 1 Barn Swallow; 2 Yellow-headed Blackbirds.

May 1—Seven Horned Grebes; few Gadwalls; several Baldpates; 30 Ringnecked Ducks; some Lesser Scaup; 1 Ruddy Duck; 17 Willets; some Lesser Yellowlegs; good number Pectoral Sandpipers; 1 Least Sandpiper seen; about 40 Dowitchers; 1 Marbled Godwit; 11 Hudsonian Godwits; about 200 Wilson's Phalaropes; many Franklin's Gulls; 1 White-breasted Nuthatch; plenty of Yellow-headed Blackbirds; 1 Spotted Towhee; 1 White-crowned Sparrow; 2 Lincoln's Sparrows.

May 2—No Shore Birds seen today. 1 House Wren; 1 Loggerhead Shrike; Vesper Sparrows; several Chipping Sparrows; 1 White-throated Sparrow; 1 White-crowned Sparrow; few Lincoln's Sparrows.

May 3—One Upland Plover; 1 Willet; a number Lesser Yellowlegs; few Pectoral Sandpipers; several Semipalmated Sandpipers; 1 Hudsonian Godwit; several Wilson's Phalaropes; many Forster's Terns; 1 Brown Thrasher; 5 Cedar Waxwings; 1 Myrtle Warbler.

May 4—Five Semipalmated Plover; few Pectoral Sandpipers; 20 Dowitchers; few Semipalmated Sandpipers; 200 Wilson's Phalaropes; 2 Chickadees; 1 White-throated Sparrow.

May 5—Two Western Grebes; many Cormorants; about 150 Snow and Blue Geese; many Shovellers; many Lesser Scaup; 10 Marbled Godwits; 20 Avocets; many Wilson's Phalaropes; a number Forster's Terns.

May 6—Two Stilt Sandpipers; about 40 Semipalmated Sandpipers; few Wilson's Phalaropes; about 30 Forster's Terns; a small Flycatcher; 1 Ruby-crowned Kinglet; 1 Orange-crowned Warbler; 1 Vesper Sparrow; 1 Lincoln's Sparrow.

May 7—One Sora heard; 1 Downy Woodpecker; 16 Pine Siskins.

May 8—One small Flycatcher; 1 Catbird; 1 Gray-cheeked Thrush; 1 Palm Warbler; 16 Pine Siskins; 1 Harris's Sparrow; 2 White-crowned Sparrows; several White-throated Sparrows; several Lincoln's Sparrows.

May 9—Not out.

May 10—One Bittern; 2 Hungarian Partridges; 2 Brown Thrashers; 1 Sora; 1 Clay-colored Sparrow; 1 White-crowned Sparrow; 2 White-throated Sparrows.

May 11—One Downy Woodpecker; 1 Chickadee; several Brown Thrashers; several Olive-backed Thrushes; several Gray-cheeked Thrushes.

May 12—One Upland Plover; 1 Red-headed Woodpecker; 1 Eastern Kingbird; 1 Red-breasted Nuthatch; 1 Yellow Warbler; 1 Blackpoll Warbler; 1 Yellowthroat; 1 Wilson's Warbler; 1 Orchard Oriole; 2 Baltimore Orioles; 2 Harris's Sparrows; 1 White-crowned Sparrow; several White-throated Sparrows; several Lincoln's Sparrows.

May 13—Some Lesser Yellowlegs; many Pectoral Sandpipers; many Semipalmated Sandpipers; 45 Hudsonian Godwits; 2 Red-headed Woodpeckers; 3 Eastern Kingbirds; 1 Western Kingbird; few House Wrens; 1 Catbird; several Brown Thrashers; 1 Warbling Vireo; 1 Black and White Warbler; 1

Woodpecker; 1 Downy Woodpecker; several Catbirds; several Brown Thrashers; few Gray-cheeked Thrushes; 2 Warbling Vireos; 2 Black and White Warblers; 2 Nashville Warblers; 1 Yellow Warbler; 2 Magnolia Warblers; 1 Myrtle Warbler; 2 Ovenbirds; 2 Grinnell's Water-Thrushes; 2 Chestnut-sided Warblers; several Yellowthroats; 2 Wilson's Warblers; 1 Canada Warbler; 7 Redstarts; 1 Orchard Oriole; 1 Rose-breasted Grosbeak.

May 15—Many Pectoral Sandpipers; 20 Stilt Sandpipers; about 60 Black Terns; 1 Hummingbird; 2 Red-headed Woodpeckers; 1 Downy Woodpecker; several Eastern Kingbirds; 2 Western Kingbirds; small Flycatchers; few Catbirds; many Brown Thrashers; few Olive-backed Thrushes; few Gray-cheeked Thrushes; 2 Tennessee Warblers; 1 Orange-crowned Warbler; several Yellow Warblers; 3 Magnolia Warblers; 4 Ovenbirds; 2 Grinnell's Water-Thrushes; few Yellowthroats; 3 Wilson's Warblers; several Redstarts; 1 Bobolink; 1 Orange Oriole; several Baltimore Orioles; 2 Rose-breasted Grosbeaks, male and female; 1 Harris's Sparrow; 1 Lincoln's Sparrow.

May 16—Upwards of 60 Hudsonian Godwits; 2 Red-headed Woodpeckers; 1 Warbling Vireo; 1 Black and White Warbler; 1 Tennessee Warbler; 1 Yellowthroat; 1 Redstart; 1 Rose-breasted Grosbeak; 2 White-throated Sparrows. Near Colman, S. Dak., at farm place; Few Pectoral Sandpipers; 12 Dowitchers; 8 stilt Sandpipers; 2 Hudsonian Godwits; 2 Wilson's Phalaropes.

May 17—At Sioux Falls attending S. D. O. U.'s Annual Meeting.

May 18—On field trip to Oakwood Lakes, which is within my territory. 4 Red-heads; 6 Canvasbacks; few Lesser Scaup; 6 Ruddy Turnstones; few Dowitchers; some Stilt Sandpipers; many Semipalmated Sandpipers; 2 Avocets; many Wilson's Phalaropes; large colony Black Swallows.

May 19—At Oakwood Lakes. A Sora heard; 3 Black-bellied Plover; 2 Ruddy Turnstones; 2 Willets; few Least Sandpipers; few Pectoral Sandpipers; 8 Dowitchers; 200 Semipalmated Sandpipers; 40 Wilson's Phalaropes; some Least Sandpipers. Enroute, 6 Baldpates. At Fox Lake, near Brandt; 18 Semipalmated Plover; 20 Dunlins; few Stilt Sandpipers; many Semipalmated Sandpipers; 91 Hudsonian Godwits.

May 20—Three Snow Geese; 6 Blue Geese; 2 Canvasbacks; 14 Black-bellied Plover; few Pectoral Sandpipers; 100 White-rumped Sandpipers; 100 Dunlins; 100 Dowitchers; 100 Stilt Sandpipers; many Semipalmated Sandpipers; 91 Hudsonian Godwits; few Wilson's Phalaropes; 1 Eastern Kingbird; 1 Catbird; 1 Tennessee Warbler; 1 Yellow Warbler; 1 Orchard Oriole; 1 Baltimore Oriole; 2 Harris's Sparrows.

May 21—Two Blue Geese; several Semipalmated Plover; few Lesser Yellowlegs; a number White-rumped Sandpipers; 50 Dowitchers; dozen or so Least Sandpipers; 20 Stilt Sandpipers; about 50 Semipalmated Sandpipers; 65 Hudsonian Godwits; several small Flycatchers; Catbirds; 2 Gray-cheeked Thrushes; 1 Magnolia Warbler; 1 Yellow-throat; 1 pair Redstarts; 1 female Baltimore Oriole; pair Rose-breasted Grosbeaks; 1 Red Crossbill female; 2 Harris's Sparrows.

May 22—Few Semipalmated Plover; 2 Black-bellied Plover; 1 Willet; a number White-rumped Sandpipers; good number Dunlins; some Stilt Sandpipers; many Semipalmated Sandpipers; 60 Hudsonian Godwits; 1 Magnolia Warbler; 1 Wilson's Warbler; 1 Redstart female.

- May 23—Trip to Waubay Lakes. Many Western Grebes; very many Double-crested Cormorants at the rocky island of long record as a nesting ground; 1 Black-crowned Night Heron; a Blue-winged Teal from nest containing 7 eggs; dozen or more Redheads; 6 Ruddy Ducks; 2 Semipalmated Plover; about 30 Black-bellied Plover; 1 Upland Plover; about 60 Ruddy Turnstones; 5 Willets; about 20 White-rumped Sandpipers; about 50 Dunlins; some Semipalmated Sandpipers; the 20 Avocets; several Wilson's Phalaropes; 30 Northern Phalaropes; a few Forster's Terns; more Eastern Kingbirds; few Western Kingbirds.
- May 24—Clear, strong N. W. Wind, and cool. (Light freeze the 23d.) 12 Semipalmated Plover; 24 Black-bellied Plover; perhaps 150 White-rumped Sandpipers; some Least Sandpipers; about 200 Dunlins; about 30 Stilt Sandpipers; many Semipalmated Sandpipers; few Wilson's Phalaropes.
- May 25—Twelve Semipalmated Plover; 1 Golden Plover; 5 Black-bellied Plover; 2 Pectoral Sandpipers; 150 White-rumped Sandpipers; a number of Least Sandpipers; 200 Dunlins; about 30 Stilt Sandpipers; many Semipalmated Sandpipers; 14 Hudsonian Godwits; some Wilson's Phalaropes; 1 Redstart; an immature Orchard Oriole and mate.
- May 26—One Black-crowned Night Heron; 1 Black-bellied Plover; 20 White-rumped Sandpipers; some Least Sandpipers; about 50 Dunlins; few Semipalmated Sandpipers.
- May 27—One Green Heron; 2 Ruddy Turnstones; 4 Pectoral Sandpipers; 250 White-rumped Sandpipers; few Least Sandpipers; about 500 Dunlins; 20 Stilt Sandpipers; very many Semipalmated Sandpipers; 3 Hudsonian Godwits; 1 Sanderling.
- May 28—Some 250 White-rumped Sandpipers; perhaps 500 Dunlins; 20 Stilt Sandpipers; 200 Semipalmated Sandpipers; 5 Hudsonian Godwits; 1 Tree Swallow.
- May 29—Two Semipalmated Plover; only a few White-rumped Sandpipers and Dunlins remain; well over 200 Semipalmated Sandpipers. Water low in Fox Lake where Shore Birds feed, and soon there will be but dry bottom.
- May 30—Two hundred Semipalmated Sandpipers; some White-rumped Sandpipers; about 20 Dunlins; 1 Black-billed Cuckoo; 3 Chimney Swifts.
- May 31—Rain 7 a. m. until 8:30 a. m.,  $\frac{1}{2}$  inch and misty all day. The Shore Birds apparently the same as on the 30th. 3 Chimney Swifts at home.
- June 1—At Fox Lake: 1 Black-crowned Night Heron; 20 Barn Swallows; 1 Song Sparrow; 1 Ring Plover; Killdeer; 1 Golden Plover; 9 Ruddy Turnstones; 1 Spotted Sandpiper; 20 Pectoral Sandpipers; 250 White-rumped Sandpipers; 20 Dunlins; many Semipalmated Sandpipers; 1 Hudsonian Godwit; few Wilson's Phalaropes; 8 or 10 Northern Phalaropes.
- June 2—At Fox Lake: 1 Black-bellied Plover; several hundred White-rumped Sandpipers; few Semipalmated Sandpipers; 2 Wilson's Phalaropes.
- June 4—At Fox Lake: 4 Ring Plover; over 100 White-rumped Sandpipers.
- June 5—At Fox Lake: About 250 White-rumped Sandpipers. Near Thomas: Mallard Duck with 9 young ducklings; Gadwall Duck with 5 ducklings; 20 Ruddy Ducks; few Western Grebes; 1 Willet; 15 White-rumped Sandpipers; 2 Semi-

Orange-crowned Warbler; 2 Yellow Warblers; 1 Magnolia Warbler; 2 Myrtle Warblers; 1 Black-poll Warbler; 1 Grinnell's Water-Thrush; 1 Yellowthroat; 1 Wilson's Warbler; Redstart male and female; 1 Orchard Oriole; 1 Baltimore Oriole.

May 14—Three Semipalmated Plover; many Pectoral Sandpipers; 1 Stilt Sandpiper; some Semipalmated Sandpipers; 45 Hudsonian Godwits; 2 Red-headed palmed Sandpipers. At Hayti: 1 Willet. At Stone Bridge, Dry Lake—Poinsett: 30 Ruddy Turnstones and 30 Sanderlings along the surf on Dry Lake. The two species did not practice segregation, but seemed to enjoy each other's company.

June 6—At Fox Lake: About 200 White-rumped Sandpipers; many Least Sandpipers; 1 Northern Phalarope.

June 7—At Fox Lake: A number of White-rumped Sandpipers; few Least Sandpipers; 2 Sanderlings. At home: 4 Chimney Swifts.

June 8—Still a considerable number of White-rumped Sandpipers and some Least Sandpipers on Fox Lake.

June 9—Perhaps 100 White-rumped Sandpipers on Fox Lake.

June 10—About 70 White-rumped Sandpipers on Fox Lake.

June 11—On Dry Lake at Poinsett: 60 Pelicans, perhaps more. At Fox Lake: 70 White-rumped Sandpipers; 1 Ring-billed Gull.

June 12-13-14-15—● on Fox Lake: 70 White-rumped Sandpipers.

June 14—Red-tailed Hawk.

June 16—At Fox Lake: 1 Black-billed Cuckoo; 40 White-rumped Sandpipers.

June 17—Very many Franklin's Gulls last few days, especially today. At Fox Lake: 14 White-rumped Sandpipers.

June 18—At Fox Lake: 3 Lesser Yellowlegs; 21 White-rumped Sandpipers; 1 Black-billed Cuckoo.

Snow and Blue Geese found safe refuge and good feed at Fox Lake, which is located five miles east of Brandt. From 250 to 400 of them dropped in April 13, and were seen daily until about May 10, although the flock had begun to diminish. By the 20th of May 3 Snow and 6 Blue remained and the next day 2 Blues only.

Hundreds upon hundreds of Mallards were settled on Fox Lake March 29, and worked out from that place until April 12, feeding on corn in the muddy fields as if in feed lots.

Black-bellied Plover, White-rumped Sandpipers, Dunlins, Dowitchers and Hudsonian Godwits stopped over in unexpected numbers, some to linger beyond their usual time.

As to weather, nothing exceptional happened. A rain now and then, and frosts of frequent occurrence, did not affect migration movements to any degree.

—Alfred Peterson.



—Photo by Huron Recreation Board

## Remember?

### S. D. O. U. OFFICERS 1950

(Left to right: W. B. Mallory, Secy.; Gerald B. Spawn, Pres.; S. H. Rames, Treas.; E. R. Lamster; J. O. Johnson, Director. Seated: H. F. Chapman, Editor.)

This picture formerly appeared in Volume II, No. 1. Taken at the second annual meeting in Huron, January 16, 1950.



## *General Notes of Special Interest*

**ROCK WREN IN YANKTON COUNTY**  
—The South Dakota Check-list calls the Rock Wren a summer resident in the southeastern, and all the other divisions of the State except the northeastern, although it is only occasionally seen east of the Missouri River. However, it has been seen with some regularity at the site of the old cement plant in the bluffs near the Gavin's Point dam.

During the field trip at the time of the joint meeting of SDOU and Nebraska OU on May 17, 1959, two of these wrens were found by the H. F. Chapmans and the M. Wheelers in the old cement plant's quarry. They were carrying pebbles and pieces of shale as if to construct the usual pavement to their nest. However, the nest was not found among the many possible places. A month later, June 16, 1959, the Charles Rogges took the Findleys on an all day picnic and field trip and visited the quarry among other places. The Rock Wrens were found without difficulty and were observed leisurely but no nesting activity was noted.

Later a little reading uncovered a few interesting facts in Bent's Life Histories of North American Nuthatches, Wrens, Thrashers and Their Allies:

The species breeding range extends "East to . . . western South Dakota (Pierre, Rosebud, and *casually to Yankton County*)". (underscoring added).

"Casual records . . . one was seen at Dell Rapids, S. Dak., on July 20, 1924; one at Pipestone, Minn. on May 13, 1922 . . . There are several records of its occurrence in Iowa as far east as National, on September 27, 1914, and on record of its breeding near Sioux City in June 1898. Birds were seen there in other years but no evidence of breeding."—**J. S. Findley, Sioux Falls, S. D.**

**BLUE GROSBEAKS NEST NEAR DELMONT**—On July 19, 1959, at the farm home of Mr. Lawrence Jenney, two miles east and five miles south of Delmont, Miss Elice Jenney showed us the last year's nest of a pair of blue grosbeaks. The nest was in a lilac bush within two feet of a window of the Jenney home.

The birds are again nesting in the lilacs there, for the fourth consecutive year. We had some good views of the male and fleeting glimpses of his mate.—**Mr. and Mrs. Chas. P. Crutchett, Armour, S. Dak.**

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**WOOD THRUSH IN SIOUX FALLS**—On August 3, 1959, I noticed a strange bird eating fallen apples with the robins under the tree in our garden. At first glance I thought it was a young brown thrasher, and then a gray-cheeked thrush, but another glance showed it was none of these.

It was a small trim bird with its breast speckled with round dark spots and with an olive back. When it moved into the sun it was very evident that the olive had a very decided reddish tone on the bird's head and nape. It couldn't be anything but a Wood Thrush.

Its marks were clearly visible to the naked eye at the distance of about 20-25 feet and we also watched it through a 7x35 binocular. We saw it again that day and once the next day. We think it was attracted by the apples near the rather dense shrubbery.—**Mrs. Melvin Wheeler, Sioux Falls, S. D.**

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**GREAT HORNED OWL NEST**—On March 28, 1955, we discovered a great horned owl on a nest in the topmost branches of a large cottonwood. A brood was reared and the nest found vacant on May 7. On May 28, the nest was more than half torn down, presumably the work of the parents as the site was inaccessible to humans. (See cut.)

On November 9, 1958, I found a new nest, apparently a great horned owl's, in the same tree and on the same branch as the nest of 1955. An owl was seen on this new nest February 14, 1959. A brood was again reared in this tree.—Mr. and Mrs. Chas. P. Crutchett, Armour, S. Dak.



●OWL NEST—1959

Photo of the 1955 nest shows identical location.

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**RED-WING NESTING**—This year I found three red-wing nests on upland fields. One in an alfalfa field, hanging on the fence, another on barley plant stems about 3 feet high (no other stems to support it, which amazed me) and the third one also on barley stems, but its main support was the stalks of two milkweed plants. One nest had three young almost ready to fly. The other two were empty but the young must have been near because the parents made a fuss when we got near enough to examine the nests. Do you suppose that the red-wing cling to a territory, even though the pot holes are gone—and they have found a dry environment satisfactory for nesting? Or have red-winged blackbirds always nested in barley and alfalfa fields and I have never observed them before?—**Ruth Habeger, Madison, S. Dak.**

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**PIPING PLOVER NESTS NEAR YANKTON**—While at the joint meeting of the South Dakota and Nebraska Ornithologists' Unions at Yankton, South Dakota, on May 17, 1959, we found about 6 Piping Plover on a sand bar in the Missouri River just below the Gavin's Point dam. We captured and banded 2 of them. The actions of one of the banded birds led to the discovery of its nest after a little search.

The nest was a slight depression in the sand that had been paved with a collection of small pebbles. It contained 4 creamy-white eggs speckled with brown.

Bent (Life Histories of North American Shore Birds) describes the range of the Piping Plover as “. . . West to Nebraska (Goss); South Dakota (Miner County); North Dakota (Stump Lake, Minnewaukon, Kenmare); and southern Saskatchewan,” and adds “there are many gaps in the range above outlined and the species has been extirpated from parts of its breeding grounds.”

Bent also gives "Egg Dates, Dakotas: 13 records, May 26 to July 1; 7 records, May 28 to June 6."

Our positive nesting record may help to fill one of the gaps and the egg date is earlier than the other Dakota dates.

The Check-list of South Dakota Birds (Bird Notes, VIII: 12-17) lists the Piping Plover as a summer resident in the northeastern and the northwestern divisions of the State and a transient visitor in the southeastern and prairie divisions. Perhaps a little more study should be given to its status in the southeast.—**Carl M. Johnson, Rochester, Minn., Scott Findley, Sioux Falls, S. Dak.**

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**PINION JAY AT HURON**—It was like a solitaire or catbird except: No black cap, no red on under tail coverts, not slim enough for a catbird, no buff on wings, even in flight, no eye-ring. Head large and smooth, heavier even than a solitaire's. Beak long and heavy, more like a flicker's, and dark. Acted more like a woodpecker than a catbird or solitaire. Very light gray throat. Rest of color about catbird or lighter gray. Length about that of cuckoo.

The location was about 4 miles northwest of Huron. The date June 28, 1959. Mrs. Johnson and I studied the bird with 7x50 binoculars for 15 minutes in good light at close range.—30 to 40 feet—while it moved about a small dead tree. It then moved on and out of sight. We had no doubt that it was a pinion jay—our first.

September 5, at a point two and one half miles north of the other, this bird was seen again—we assume the same individual. This time Miss Blanche Battin was with us, saw the bird and confirmed our identification. Here the pinion jay was being heckled by a flock of a dozen blue jays that were dividing their invective between him and a sparrow hawk.—**Mr. and Mrs. J. W. Johnson.**

**BURROWING OWL**—On Sept. 14, 1959, I found a group of Burrowing Owls, 5 in number, up from the north bank of Hidewood Valley just off Highway 77, one mile south of Clear Lake. Perched on fence posts or on wire, as they were, in full view of all passers-by, it gave me a start to think that I had failed to sight them during the course of four months from their arrival in May until Sept. 14. (See 1959 arrival date.) However, they do not show themselves so boldly until the young become strong flyers. Two adults and 4 young checked on Sept. 19, and again two days later. Thenceforth 2 to 5 could be seen on any visit. The latest date of 1958, Sept. 29, saw 2.

For the season of 1959, I have had full opportunity to watch the progress of a one-pair nesting, from May onward. Not until July 1 did I see more than 1, and then only 2. Thereafter, from 3 to 5 were to be seen at any time, early or late in the day. Since I have not noted any feeding activity by these owls I am inclined to believe that they feed by night. July 10, 1 dead on highway and Aug. 15 (?) a second, shows they do not know to avoid a speeding car.

"Birds of the Northwest," Government Printing Office, 1874, an exploring expedition report by Elliott Coues, contains a good account of this Owl in its relations with Prairie Dogs or Badgers.—**Alfred Peterson, Brandt.**

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**WOODCOCK AT SIOUX FALLS**—A woodcock was seen and definitely identified in Sioux Falls on July 22, 1959.

It was observed most of the afternoon and evening on the lawn in the back yard of a home in a quiet residential district. Some of the time several flickers were also on the lawn, driving their bills into the sod, as was the woodcock. The latter would keep its bill embedded considerably longer, however.

The day was quite hot, but this lawn is small and completely surrounded with very dense shrubbery, therefore more damp, sheltered and secluded than most nearby areas.

The woodcock remained on the lawn feeding in this manner until almost dusk when it wandered into the shrubs and could not be seen again. It appeared in good health and uninjured, although not seen to fly.—**John S. Tut-hill, Sioux Falls.**

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**HAWK WEARING STRAPS**—April 28, 1959, at 12:20 p. m., Mrs. Johnson and I were driving on highway 24 about 3 miles west of Camp Point, Illinois and about 20 miles east of Quincy.

A red-tailed hawk flew low across the road just ahead of the car. The bird had straps on its legs, one hanging down a foot or so, the other caught in a loop that made it about half as long. The straps seemed to be about half an inch wide with loop or buckle ends.

At 5:10 p. m. the same day, on highway 60 in Iowa, just nine miles inside the south border and south of Centerville, a red-tailed hawk crossed the road in front of the car. This bird was wearing straps on its legs, apparently identical with the first.

Assuming it was the same bird, it had made good about 80 miles in 4 hours and 50 minutes and that across country, from one watershed to another, or an average of some 15 miles an hour, plus its wanderings.

On May 17, Dr. Moriarty of Watertown saw a hawk near Yankton wearing something like a strap. In answer to my questions he wrote:

"Mrs. Moriarty, myself, Mrs. Breen, and daughter saw a red-tailed hawk about 7 miles west of Yankton, S. Dak., and about a mile north of Lewis and

Clark Lake on our field trip. The others saw it in flight with some object dangling from the leg. They thought it was some victim of the hawk. They were using binoculars. I got a very good look with my 22x7 mounted scope and watched it until the hawk landed in a tree.

"I am very sure it was a strap about a foot long, with either a loop or buckle on the end. I feel certain it was not a snake or other prey. The bird was dark and apparently a first year bird. I could see the red tail well upon its lighting."

The location given scales a little over 300 miles, air line, from the vicinity of Centerville, Ia., and the grand total, from the point first seen is not far from 400 miles to the Yankton location.

Possibly other sightings were made and, if brought together, with their dates, might give several fixes on the path of this bird, as it wandered north-westerly on spring migration.—**J. W. Johnson, Huron, S. Dak.**

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**WAVE OF PASSERINES AT SIOUX FALLS**—A combination of atmospheric phenomena apparently halted a large wave of passerines, mostly warblers, in Sioux Falls during May 19-21, 1959. Previous to the 18th warm southerly winds had been blowing pretty steadily for several days with temperatures in the 70's and 80's. On the 18th overcast skies brought some precipitation. During the night a cold front rode in with the wind switching to the northeast. It brought a sharp electrical storm in the afternoon of the 19th with falling temperatures (high of 84 degrees on the 19th, 54 on the 20th) followed by chilly drizzle-weather. By the 21st the air current changed to the northwest with an inch of moisture falling and with temperatures in the fifties. On the 18th in following my reg-

ularly scheduled route of observation, I encountered only the usual birds in spring migration and in no great numbers: 4 yellow warblers, 1 black poll, 2 Wilson's, 1 Magnolia, 1 chestnut-sided, although Tennessees were present in small numbers. I counted 12. But on the morning of the 19th, with the change in weather, the influx began; or rather, the cold front was beginning to bring the northward wave to a halt and damming it up apparently in this area. That morning early, I counted 39 Tennessees and observed Black-and-White, blackpoll, 11 yellows, a Wilson's, a mourning, as well as 2 Philadelphia and 2 warbling vireos. The next day, the 20th, was pure fun. Warblers were everywhere and in the chilly drizzle seemed to be less wary and easier to see. They were present in such numbers and species that I could not begin to keep an accurate tally. I noted 75 Tennessees, as many as 25 in one spruce tree row, but there were scores and scores more which I both heard and saw. Other warblers, however, kept fouling up my count. I observed 9 blackpolls; 8 Philadelphia vireos (although many more were singing), 3 solitary, 2 red-eyed, 1 yellow-throated and 6 warbling; the first time in my experience that I saw five of the six vireo one may expect to see in South Dakota and saw them on one morning. But the uncommon warblers were the thrillers, those which I see one or two in a spring's migration. I counted 4 mourning warblers, including one female; 8 Wilson's, 10 magnolias, a Nashville singing, a Black-throated green, a chestnut-sided, a bay-breasted, a Blackburnian; and best of all, my old friend, the Canada Warbler, which I had watched for a whole summer in the wilderness of Northern Michigan at the U. of Michigan Biological Station. I saw 8 Canadas, 2 being females. And they were singing, a lapse on their part, for some authorities think this species does not burst into song until

it reaches the nesting ground. Added to these were a scarlet tanager, several orchard orioles, a couple of ovenbirds, a good supply of redstarts and yellow warblers, and other run of the mill species, making a rememberable birding morning. On the 21st the Tennessees had dropped to a count of 40, though there were certainly many singing, suggesting that the wave had not diminished too much. I noted 14 magnolias, 6 mourning, 6 blackpolls, 3 chestnut-sided, 3 bay-breasted, 3 Canadas, 1 Nashville and 1 Connecticut warbler. Actually there were many more blackpolls but the Connecticut provided serious interference, since it was in rather nondescript and puzzling plumage. By the 22nd the numbers had dwindled almost drastically with only here and there a Tennessee lifting its sprightly song. On the evening of the 22nd the wind changed to the southeast and the next morning under a clear sky and a warm sun, I found the area as empty of warblers as if a mighty broom had swept through it. Not even a solitary Tennessee sang. Naturally, all my counts are very rough estimates. Actually, the trees and bushes literally fluttered with restlessly moving birds. While I was counting the numbers of one species, another would arrive and disrupt my calculations. But as a sampling, the numbers may suffice. The disheartening part of the experience was that in this excellent concentration of passerines, I saw not one myrtle warbler, a bird which even at this date should be present at least in some numbers. It strikes me that is a good example of how meteorological phenomena may influence the progress of northward migration in spring or southward movement in fall. A cold front halting and grounding a concentration of birds in spring, with a subsequent lowering of temperatures, might spell disaster for the flight, as the mortality among early-arriving swallows frequently testifies. It seems to me

that SDOU-ers might well be most alert during any season in reporting the relationship between weather and the birdlife in their area.—**Herbert Krause, Dept. of English, Augustana College, Sioux Falls, S. Dak.**

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**MARTIN BEHAVIOR**—Lowry Elliott's note on Martin Behavior in the December 1958 issue: We too have seen martins bringing in green leaves to the nest. Our birds break off pieces of honeysuckle leaves from nearby bushes that look about an inch square, roughly.

They are carried in during the period of incubation, principally, at least, and, I found by inspection of the house this summer, are thrown about over the nest, often covering the eggs more or less completely. The weather is hot and dry often during this period but it seems the small amount of moisture added to the air in the house, or the heat absorbed from its evaporation would not be measurable. So we cannot imagine what real benefit the practice might be.—**J. W. Johnson, Huron.**

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**NOTES FROM BIRD HAVEN**—Lowery Elliott . . . Drought continues with creeks dry, sloughs (even some of those usually considered permanent) are dry for the first time in thirty years.

What do you think of this idea: Ask every member of SDOU to give a Junior membership (12-16) some time during the year to a Boy Scout, Girl Scout, Campfire Girl, 4-H, friend, or relative at \$1 each. Many future full member-

ships might be obtained in that way, as the boys and girls grow older.

We need some members and reliable correspondents from northwestern South Dakota, in Harding, Perkins, Corson, and Dewey Counties.

Northern birds of the winter of 1958-59: Those little redpolls that were so plentiful last winter did not visit us this winter. Saw only a few and banded none.

There were no crossbills or snowy owls and only a few red-breasted nuthatches.

The major invasion of Bohemian waxwings appeared just before Christmas. Roving about in different sized flocks (largest 75) they fed on Russian olives, mountain ash, highbush cranberries, hawthorne berries, but mainly on frozen crab apples.

They were very tame at times and other flocks quite wild. They are trap shy but I did manage to catch 3 birds on Christmas Day, using red maraschino cherries as bait. Caught and banded one other bird later. Some birds remained all winter but most went on further during the coldest part of the winter when frozen crab apples were too hard to eat. The last week of February they increased in numbers and were gone about March 20. Some cedar waxwings were with the last Bohemians.

To attract both kinds of waxwings to feeders use fresh apples, raisins, dried fruits, dates, canned peas and berries from trees mentioned above.—**Lowery Elliott, Milbank.**

## Editorial Comment

**T**HE bird news this year is disaster, one after another—the ever mounting toll of wildlife caused by the spreading of “insect” poisons over the land.

The U. S. Fish and Wildlife Service has just been allowed funds for research on the effect of these poisons and, presumably, is getting the work under way as rapidly as possible, being aware of the critical situation. Enough information must already be in the files to make a good start.

But we should realize, however, that this is another case of too little too late. And undoubtedly the findings of the Service will meet too much resistance and delay of acceptance to save our birds, or more than a remnant of their present numbers, at best.

Starting research at this stage may seem more than a little late to some. But there is no need to ask why it wasn't done first, as is the obvious thing. We are just too impatient for the new—all of us. We can't wait to try out the new toy, regardless of consequences.

One chemical company has demonstrated its view of the gravity of the danger by stopping manufacture of such materials until enough is known about them for safe use. Too bad others taking the same step will be too few to help much.

Free use of these poisons, from airplanes spraying to hand power has become the accepted thing. Few seem to realize what they are doing. The mother wren and her little ones dead together in their nest can have no possible cause in the little hand sprayer used in the neighbor's garden.

And, indeed, it is hard to realize that

many of our favorite birds are so nearly gone already. Or that DDT and chlordane, generally the effective ingredients in so many trade named sprays will last for we don't know how many years, accumulating in the ground until they are fatal to any bird that stops by. Even if the spraying were to end right now, the loss of birds would go on at an increasing rate for a long time.

Only when we remember we are entering our third migration period with practically no myrtle warblers, that our robins are down to less than half of what they were only a couple of years ago, are we sure that something is badly wrong.

And most discouraging is the cavalier way in which DDT and chlordane are recommended by garden magazines, people in all levels of government, and curbstone gardeners generally for everything from crab grass to web worms. Not even with fine print to warn that these are deadly poisons to animals and birds as well or that they will last in the ground for years.

However, badly as we feel about the loss of our birds, we need also to realize this is only a portent, a symbol of the basic disaster: The upsetting of the natural balance of insect life in a manner quite unpredictable, with results that can only be guessed at.

The same poisons that kill the “bad” bugs eating our crops, trees, and ourselves also wipe out their insect enemies—our allies that we may not be able to live without. Violent changes in the behavior of insects and their numbers—with strains resistant to ever increasing numbers of poisons would be certain. Only the degrees and the rate of change would be in doubt.

Like other wars, this one was so

easy to start—and will not be at all easy to stop.

The fact that most of the known insects (using the term in its popular sense, of course) are useful to man is commonplace among entomologists it escapes mention generally and may need emphasis before it is accepted by most people who "don't like bugs anyhow."

While the extent of the coming catastrophe is unknown, its beginnings already face us. Flies resistant to DDT are now common. Mixtures of poisons still work firly well on them but we cannot expect that to last forever.

In southern Europe and on Long Island the Colorado potato beetle has already learned to live with the new poisons that, just a few years ago, were being said by entomologists, to have eliminated it as a problem.

Dr. Briejer, Director, Dutch Plant Protection Service, after recounting the above facts and others in the *Atlantic Naturalist* of April-June 1959, goes on:

"I must admit I once said this was so. The penitent garment adorns a man and I gladly put it on in admitting

that mine was an ill considered statement . . . The often expressed opinion that new means are sure to be found merely proves that people persist in mental error. It is essential that a stop be put to this and research be placed on a solid and responsible foundation.

"I should like to make it a principle that natural controls, I mean cultural methods, the growing of resistant varieties, the stimulation of natural balance and the like."

For a Scientist to admit error, even error that misleads government, is to be expected, though not as common as it should be. The prompt acceptance of truth is essential to the scientific method, if science is to have meaning. For government to admit that it has been misled is harder to visualize.

Much of the poison program is promoted, or, at least, recommended by government at various levels. The inertia of officialdom will not allow quick about face. The guilty are too many and higher echelons are committed.

Accordingly, the best hope of timely action would seem to lie with Congress.