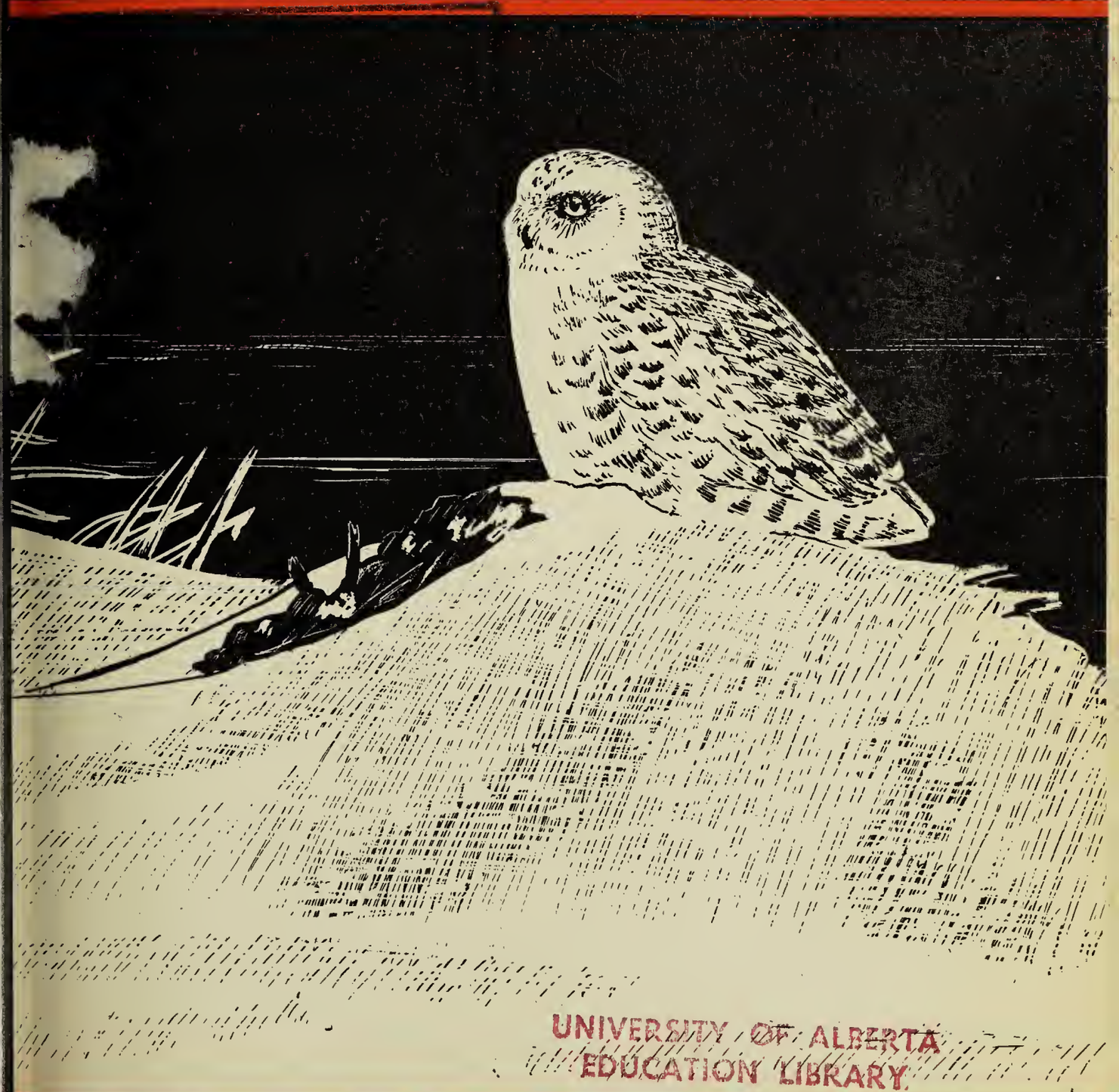
THE Blue Jay

Vol. XV, No. 4 December, 1957



SNOWY OWL Sketch by F. W. Lahrman

Published Quarterly by
THE SASKATCHEWAN NATURAL HISTORY SOCIETY

Membership, including **Blue Jay**, one dollar yearly

—Photo by F. W. Ke

Blue Jay Chatter

With this issue, the **Blue Jay** completes its fifteenth volume. At o annual meeting recently, we took stock once more of our position a realized that both the Saskatchewan Natural History Society and the **Bl Jay** have grown considerably. There are now nearly 3,000 members su scribing to the magazine, and the 1957 **Blue Jay** has for the first tir published a total of 204 pages.

No one is in a better position than the editor to know how generous members have given of their time and knowledge in contributing to t **Blue Jay.** On behalf of the society, I should like to thank these faithf contributors for their pictures and observations. Naturally, as the magazi grows larger we need more and more contributions of this kind.

In other ways as well, members may be of real help to the secretar We can all gain new members and introduce the **Blue Jay** into distric where it is not known. We can all help young people to a better unde standing and appreciation of nature by giving leadership in hikes and cl activities. We can think and plan and work for the conservation of o natural resources.

In its programme of conservation education, the Saskatchewan Natur History Society has been immensely encouraged by the grant of $1,1 made to the Society by the Department of Natural Resources. This gra has allowed us to increase the size and quality of the **Blue Jay.** It will al allow us to carry out other projects that the society has never had fun for. For example, plans are now being made for the publication of a bookl on the Mammals of Saskatchewan by Harvey Beck, which we hope to able to announce in the March issue.

Receipt of this grant encourages us to even greater effort. We mu increase the value of our magazine and the number of subscribers. Wonde ful work has been done this year, and our membership has gone up more than 600. Can we gain another 600 members in 1958? If eve member makes a personal effort, I am sure that this goal can be reache

You can help now by giving the magazine as a Christmas present. Th December number will be sent to announce the gift, and four issues w follow in 1958 — all for one dollar.

MERRY CHRISTMAS TO ALL

The Blue Jay

Published quarterly by the Saskatchewan Natural History Society
Founded in 1942 by Isabel M. Priestly

Vol. XV, No. 4 DECEMBER, 1957 Pages 141-188

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Membership — $1.00

A Message from the President

By FRANK ROY, Saskatoon

Boys born on the prairie are indeed close to Nature. They know the warmth of a winter sun on the southern side of the oatstack, the inquisitive squeaking of the gopher, the first furry buds of the crocus, and the clamorous honks of Canada geese as they fly over golden stubble fields. They have felt moist earth beneath their bare feet as they planted potatoes; they have lain on their backs in a lily-spangled meadow watching a red-tail swing in giant arcs a mile overhead; they have trudged home from school, knee-deep in snow, awed by the pink fullness of the December moon. But prairie boys are frequently uncommunicative; they regard the outdoors with a silent, unspoken affection. They have learned to enjoy Nature in solitude, often because there is no one else with whom they can share that experience.

I was such a boy, fifteen years ago, when I first heard of Mrs. Priestly. The Western Producer announced that a Yorkton woman ha just published the first issue of little magazine entitled "The Blu Jay." She was trying to contac nature-lovers from all over the pro vince. How wonderful — there wer others, and in this province, interes ed in wildlife! I subscribed immedi ately, and thus began my acquain tance with Mrs. Priestly and he young protege, a boy named Stua Houston.

How things have changed sinc 1942. The mimeographed bullet with the hand-coloured cover has be come a compact, well illustrate journal, respected across the conti ent. The total of 80 initial subscribe has swelled to 2,500. Mrs. Priestl the founder, is dead, but her wo lives on in the pages of the Blue Ja and in the Natural History Societi across the province.

The Provincial Society has accon plished a great deal since its fou dation in 1949. Its members ha assisted in co-operative bird mi ration studies, added new species the plant, bird and mammal lists f the province, led in efforts to promo conservation of our wildlife resourc urged the government to build Natural History Museum, organiz summer expeditions to various are of the province—to name but a fe activities. The Society must contin to face up to its growing respo sibilities. Above all, we should wo constantly to support the editor a staff of the Blue Jay by contributi articles and observations, and bringing the magazine to the attenti of an ever-widening circle of reade

We are happy that Saskatoon h been chosen as the site for ne year's annual meeting. We feel su that 1958 will be a year when me bers from the northern half of t province will be able to attend bo the summer outing at Emma La and fall meeting in Saskatoon greater numbers. I know that t provincial organization will be a to count on the loyal support of t Saskatoon Natural History Soci and the staff of the University Saskatchewan in our preparations the meeting next October.

The Lark or Lavrock

By LAVONIA STOCKELBACH, Verona, New Jersey

Editor's Note: Mrs. Stockelbach, artist and author, is a Canadain by birth although she has lived in New Jersey for a number of years. Mrs. Stockelbach, as may be surmised from her article, has done a lot of travelling. For a review of her book, *The Birds of Shakespear*, see page 185.

Of the many delightful surprises on my northwestern pilgrimage this year none was greater than to see and hear the skylark in British Columbia. I had heard that it had become established there, but I did not quite believe that I would have the good fortune to meet *Alauda arvensis*. However, a kind lady was sure she could find him for me, and called early one morning in the middle of May to drive me the few miles from the centre of the city of Victoria to a likely field.

And there, suddenly, as the car went along a country road, was the skylark singing his heart out on a fence post not twenty-five feet away. For more than twelve minutes we listened. It was not necessary to be especially quiet, because the reason for the outburst was a rival skylark on another post across the narrow road. Although I had heard the skylark many times in Europe, this was the first time I had ever heard one singing perched on a fence post. However, on my return home I came across a note to the effect that they are known to sing from such a perch. Their hind claws are very long and straight and they are thus prevented from clasping small twigs but may use larger branches. But I associate skylarks, except when they are in flight, chiefly with the ground.

> So, here the gentle lark, weary of rest,
> From his moist cabinet mounts up on high
> And wakes the morning, from whose silver breast
> The sun ariseth in his majesty;
> Who doth the world so gloriously behold,
> That cedar-tops and hills seem burnished gold.
> —(*Venus and Adonis*)

This particular lark may have wakened the morning—I was not up at such an unearthly hour of May to check—but at ten o'clock he apparently had only one motive, to rousting his rival. We should have had a movie camera to portray the pulsating of the tiny throat feathers like an animated fichu, as he faced us.

It has been noted that larks, as do other birds, sing differently in different countries and indeed in different sections of the same country, but whether you hear him in March with Freza Stark on the island of

Failichah, in the Persian Gulf, on Beachy Head in England, or in Jutland, Denmark, you could never mistake the lark's song. The first loud clangorous notes can startle one if the bird is flushed close by, and it is only after he has attained a certain height that the full glory of his song is manifest.

P. H. Warning of Denmark lays stress upon the careful building up of the lark's song: the composition—sometimes a long composition—has well arranged themes, with varied re-shapings, but always it has a definite framework. There are not many notes: an octave comprises the whole gamut, so his song has not much colour variation, but its clear

tones and silvery trill make up for that lack.

It is indeed pleasant for Canadians to have this bond of union with Europe, and especially with England, the land of Shakespeare. In the more than six hundred references to birds in Shakespeare's plays, a score refer to the skylark. In *Cymbeline,* the delightful song "Hark, Hark! the Lark at Heaven's gate sings" has enchanted thousands of listeners, though Imogen herself vouchsafed no notice. In *Henry* V it sounds so natural and commonplace to have the Dauphin say: "from the rising of the lark to the lodging of the lamb."

As a small boy Shakespeare noted, as have all who know larks, that the first sound as he rises is loud and rather harsh, so in *King Lear* we read "The shrill-gorged lark so far cannot be seen or heard." In *The Merchant of Venice,* Portia says "the crow doth sing as sweetly as the lark when neither is attended," and that humorous statement none can gainsay.

Bird-song seems to have been in every fibre of the man. In *A Midsummer Night's Dream* Helena says enviously to Hermia "your tongue's sweet air is more tuneable than lark to shepherd's ear," and the tragic note is struck in *Richard* II with:

Down Court! Down King!
For night owls shriek where mount
ing larks should sing.

Again, a different note when Troilu says to Cressida "the busy day, wake by the lark, hath roused the ribal crows."

Then in that touching scene *Romeo and Juliet* where Juliet tri to persuade Romeo that he is liste ing to the nightingale, he respond "It was the lark, the herald of th morn — no nightingale — night candles are burnt out and jocund da stands tip-toe on the misty mounta tops."

In the fourteenth stanza of *Th Passionate Pilgrim,* as the frettin sleepless man listens to Philomel the nightingale, singing, he moanin ly wishes "her lays were tuned lik the lark; for she doth welcome da light with her ditty, and drives awa dark dismal-dreaming night."

So all through his life the sma town boy recalls the birds he kne and loved in his youth. These a only a few of the hundreds of refe ences showing an accurate knowled of those that came under Shak speare's own observation, but th encourage one to take greater noti of those within one's own neighbo hood.

Besant – A Memory

By ROSE McLAUGHLIN, Indian Head

Between Caron and Mortlach, Saskatchewan, there lies a scrubby stretch of pasture and wasteland, its choppy hillsides pitted with the sandy scars of eroding winds, and its brushy flats threaded by a trickle which swells into a flood in years of bountiful rainfall. Traversed today by the mainline of the C.N.R., and by Trans-Canada highways and skyways, it was likewise in the stream of man's earliest migrations, for this is the region known as Besant, happy hunting ground of our archaeologists.

In the **Blue Jay** I read of their comings and goings in Besant, and wonder nostalgically if their finds include a sheltered glade carpeted with lawn grass and tiny pink and white clover. Do they have any scientific theory for its presence in that wild and lonely spot? And do they spread their picnic cloth there on the gentle bank by the stream edge, as we have done so often summers past?

To dwellers of the plains, west Moose Jaw, Besant was a place enchantment where one might fi again all the flora and fauna lost the change-over to cultivation. De sometimes strayed into the open, a little gray ground squirrels nibbl furtively at our tossed crusts. Ha thorn, chokecherry, and saskato perfumed the air in spring, and su fused it with color in the fall. T profusion of wildflowers was divid by this frustrated naturalist into t classes: the common ones that ever one knows and the strangers that one knows.

Nowhere have I seen the brev of our prairie summer so emphasiz as at Besant. In July when th queens of the summer — lily, ro

gaillardia, and harebell—are at their peak, one could still find late blossoms of violet and white anemone in the long grass under the trees, while at the same time goldenrod and sunflower were budding along the sunny railroad grade.

Besant had other attractions too. The creek, twisting dankly under a close canopy of willow, widened into swimming hole at one point, at another, just beside the velvety lawn trickle where the wee ones splashed. Excursions along its bank yielded a handful of wild strawberries, a hatful of raspberries or saskatoons. Girls gathered wild flowers along the grade, and little boys loved to roam the pitchy hills—but woe to the bare foot that came down on a cactus! There was, too, an open pasture where an impromptu ball diamond could be laid out.

Here, I remember, in the dry, dry summer of 1948 a Sunday School picnic lunch lay spread, to its last detail, when a sudden splash of rain sent us running to the cars. Late that same summer we came to Besant once again for a cornfeed which almost didn't come off, because the cooks arrived with two coffee pots and no kettle for the corn. However, we cooked it in relays, packed upright in the larger coffee pot, and had a wonderful time. Food, fire, and friends by a sheltered stream still work their ancient, elemental spell.

Seen by a Seer

By J. BOSWELL BELCHER, Dilke, Sask.

This time I have three items to report which I thought were of some interest.

Considering the name of our magazine, I should probably first report the appearance of two Blue Jays in our shelter belt early in October of this year. They were the first I had ever seen, and the only ones I have heard of in our district.

The second incident occurred before the first, on a Saturday afternoon early in August. I had stopped cutting grain in order to make an adjustment on the swather, and I heard a most unusual chirping about me. Although there were many crickets in the fields, I thought it was a rather strange chirping for a cricket. However, I knew it wasn't my machine and surely wasn't interfering with its operation, so I gave it no more thought and went about my swathing. Monday when I stopped in the field the strange chirping was there again. It sounded so much like house sparrows that I glanced about to check, but no bird was in sight. As I walked around the swather I noticed the sound on the other side of me so I became curious and traced the sound right to its source, which seemed to be the heavy pipe frame at the back of the swather. Then I realized I had a family of house sparrows with me which could not be reached without disassembling part of the machine. Each morning after that I noticed the parents feeding the young as the swather sat in the yard. They had found the swather, though it was left standing at night some distance from where it had been when the nest was built. One day at noon I even noticed Mr. Sparrow sitting on the post with his beak full of insects waiting for me to come home. I was never home at night till after dark, so the little birds must have gone quite hungry. Fortunately for the sparrows, however, the crop was not maturing too fast and I only swathed during the afternoons most days for the first week. The sparrows kept on chirping as they rode around and around the fields until near the end of the week when they had cut over 200 acres and decided to leave their home on wheels.

Oddly the third incident occurred first. It was shortly after the middle of July and Dad was cutting hay in a very rough slough about a mile and a half from home. He was quite surprised when a little fawn, by its size and actions obviously only days old, scrambled up from behind the cutter bar and scampered into the wheat on his wobbly little legs. Quite aware of the probability of other fawns being near at hand. Dad thought he'd keep a more careful watch and not have that happen again. But a few rounds later he ran the cutter bar over another tiny fawn, again so well hidden in a

little depression in the ground that Dad saw no sign of it till it got up and hurried into the wheat as the first one did. Each had let out a cry when the mower went over it, so he was afraid to leave the team standing while he went into the whea to see if the fawns had been hurt. However, they appeared unharmed when they ran away. About a month later we saw one run out from the willows and cattails in a large slough nearby. And how it could run by then—no more wobbly legs. It was the first fawn I had seen, although the adult white-tailed deer have not been too uncommon a sight here in the last seven or eight years. Then about mid-September Dad again saw the pair as they ran out from the high weeds in a vacant yard near the cattail slough when he drove into the yard to empty a load of wheat in the barn.

Bird Notes

A QUICK-WITTED YELLOWLEGS

By FRED W. LAHRMAN, Saskatchewan Museum of Natural History

While out observing birds on the Wascana Waterfowl Park at Regina at noon on September 4, 1957, I saw a Prairie Falcon (*Falco mexicanus*) come swinging over the marsh, scaring hordes of shorebirds and ducks. It suddenly swooped swiftly down at a Lesser Yellowlegs (*Totanus flavipes*) which was standing alone in shallow water approximately 50 yards from me. The Yellowlegs remained motionless until the hawk was almost upon it, then it suddenly dove beneath the water in a duck-like manner, submerging completely, and the lightning-swift talons passed harmlessly over. The Yellowlegs bobbed up a moment later, then flew quickly away. The Falcon did not press the attack and continued on its way. Although shorebirds frequently bathe and swim, I have no previous observation of one actually submerging in water. This unusual escape behavior may have saved other Yellowlegs.

BROAD-WINGED HAWK NESTING RECORD AT SPIRIT LAKE

By WM. ANAKA, Spirit Lake

On May 12, 1957, I identified a Broad-winged Hawk in flight over an extensive wooded area near home. At the time I thought I was fortunate to have seen a rare migrant and a new life species. On May 26 I again located a Broad-winged Hawk in the same area. This time it called and circled, but refused to leave. However, a search failed to locate a nest. Returning on June 2 I did find the nest in a balsam poplar, about 20 feet above the ground. The female flew as I started to climb the tree. In the nest were two eggs.

During the succeeding weeks I visited the nest at weekly intervals. On June 18, the nest contained one egg and one newly-hatched young. At no time during my visits did I find any food in the nest. The nest itself was always freshly lined with aspen poplar leaves. One or both adults were always present, protesting my intrusion.

On July 17 there was a severe wind storm, and on the following day only one almost fully grown young hawk was in the nest. The second one was missing from the immediate area. The one in the nest flew as I climbed up, but was unable to maintain altitude, so landed on the ground. I replaced it in the nest. Returning on July 21, I found one young hawk in the nest and the second one perched on a tall stump nearby. Both flew away at my approach.

I did not visit the nest after that date but often observed one or more hawks in flight over the area. My last record for this species was September 1.

Checking with Dr. Stuart Houston, who compiled the list of the Birds of the Yorkton area (*Can. Field Naturalist,* 63:215-241), I find that this is a new species and a new nesting record for the Yorkton district.

LAZULI BUNTING NESTING AT MOOSE JAW

By NANCY DUNN, Moose Jaw

This summer a pair of Lazuli Buntings did us the honour of building their home in our garden above Moose Jaw Creek. Our yard is large and contains many fruit trees. The nest was built in a six foot pear tree, and here a very friendly little family of three was raised.

The father was streamlined and about six inches long. He was clothed in the most magnificent delphinium-blue coat (rich turquoise), the breast was a dull coral, the wings had prominent white stripes across them.

We had great difficulty in distinguishing the mother as she looked like one of our own sparrows. However, when she was on the nest the white wing-stripes (just like father's) could be readily seen. She became very friendly and allowed me to poke my nose two feet from her daily on my morning visit and chat, remaining on the nest all the time.

Her small deep nest was placed at my eye level about five feet from the ground. It contained three chalk-white eggs and one egg which was mauish with spots. This egg did not hatch. The babies were small editions of our sparrows. They were very saucy and they scolded me with a harsh little chirp of a most disgusted one.

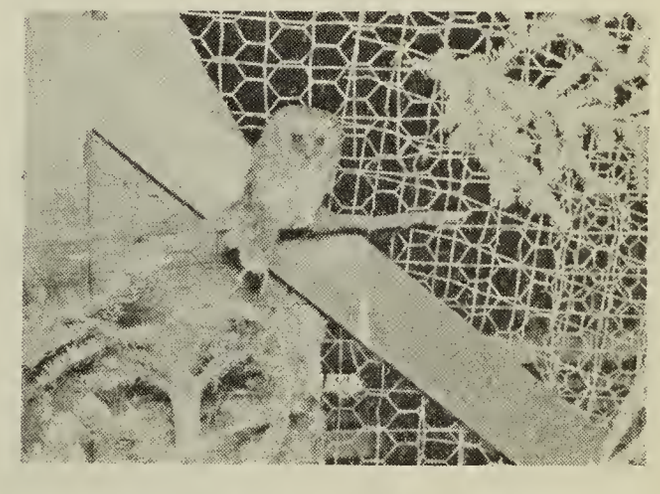
I first noticed these birds when I accidentally discovered their nest. The delphiniums were then about four feet high so this must have been about the end of June. I watched the family with interest then until they left my yard about the end of August. Others to see the birds were Mr. and Mrs. W. G. Davies and their children, Miss N. N. Steele, Miss Hazel Willard, Mr. and Mrs. J. E. Seed and my husband, R. J. Dunn.

The little nest is still in the pear tree and reminds me of my friends, the Lazuli Buntings. Because their chirp is distinctive I know that they have nested here before and I am looking forward to having them nest here again.

Note: The note sent in by Mrs. Dunn is an acceptable record of a relatively uncommon Saskatchewan bird. Museum records of Lazuli Buntings in Saskatchewan include ones from Indian Head (two specimen records, May 24, 1890 and one specimen record, May 26, 1892—George W. Lang), Eastend (sight record, July 1 and July 2, 1908 by L. B. Potter; sight record, 1940, L. B. Potter), Broadview (specimen record, May 26, 1931 by F. G. Bard), Dollard (specimen record, 1934; specimen record, May 30, 1934; and sight record, May 31, 1934—all by C. F. Holmes), Regina (sight record, July 11, 1934, by F. G. Bard; sight record Nov., 1935 by Hugh Knowles; sight record May 30, 1947 by Lyle Ehmans), Arcola (sight record July 13, 1938).

For a revision of Mitchell's *Checklist of Saskatchewan Birds,* 1924, which must soon be undertaken, only the following kinds of records will be accepted: (1) specimen records, (2) photographic records, and (3) well authenticated sight observations by several individuals. Although records must fall into one of these categories before they can be accepted for the preparation of a checklist, other records make quite legitimate reports for submission to the BLUE JAY or to the Museum. A series of such reports helps to establish the distribution of a species. We request your assistance in bringing your observations to our attention. If you report to the BLUE JAY or to the Museum, the results of your field studies will be preserved for future workers.

Fred G. Bard,
Sask. Museum of Natural History



REQUEST FOR NESTING RECORDS OF SAW-WHET OWL — Richard Lumsden of 12026 - 104th Street, Edmonton, who took this photograph of the little Saw-whet Owl, would like to know of localities where Saw-whet Owls have nested recently (1955-57) within a 100-mile radius of Edmonton. He is eager to locate and photograph these beautiful little "night-pipers" of the spruce groves.

Apartment Houses for Mallards?

By W. J. DOUGLAS STEPHEN,
Seasonal Technical Officer, Canadian Wildlife Service

Imagine the surprise on the morning of May 21, 1957 when the author found a Mallard nest in the corner of a barn loft. This barn was on an abandoned farm 11½ miles west and 7 miles south of Kindersley, Sask. He was investigating the loft as a potential source of pigeons for retriever training purposes, while helping to conduct a nesting and population study on the Kindersley waterfowl experimental area. The straw pile on which the nest was found was about three feet high and 12 feet square in a corner of the loft in the shadow of the loft door. The nest was close to the wall. The hen gained entry to the loft either through this loft door which was six feet high and ten feet wide and twelve feet from the ground, or through a window about 30 inches square which was 10 feet above the loft floor and 22 feet from the ground. The ladder leading to the loft entered near the loft door. The duck understandably used the window for escape on two occasions when flushed.

On May 27, an unsuccessful attempt was made to capture the hen in order to neck-band, leg-band and weigh her. However, all 11 eggs were just hatching and each of the nestlings was marked with a fingerling tag in the web of the foot or in the patagium of the wing. A banding crew which consisted of Bernie Gollop, Ron Lamont, and the author were unable to wait to see the exodus of the brood from the barn, but undoubtedly all the chicks made their way out through the open loft door and fluttered the 12 feet to the ground. Investigation of the barn on June 3 revealed only a used nest and empty egg shells.

The potentialities of apartment nesting sites in future management for waterfowl were discussed by the biologists, but opinions were divided by the thought of predatory landlords

Mallard Nesting in Barn at Langenburg

By STUART HOUSTON, Yorkton

On Sunday, May 26, 1957, I drove to the farm of Mr. Frick six and one-half miles north and two miles east of Langenburg to investigate the report of a Mallard duck nesting in a barn.

The nest was in the straw under a manger in an unused barn (Fig. 1). Entrance to the barn had been gained through the narrow space of six inches left by the unclosed door (Fig. 2). The Mallard was "cornered" and didn't fly, allowing herself to be photographed at two feet. Afterwards, she was picked up, banded and placed back on the nest.

Fig. 1. Mallard duck on nest under manger.

Fig. 2. Unclosed door through which mallard entered barn.

Cardinal Near Rosetown

by MRS. TED SCRIVENS, Rosetown

A beautiful Cardinal (male) was seen on July 9, 1957 perched on the branch of an evergreen at our farm some 18 miles northwest of Rosetown. This spruce is growing about twelve feet from the window so the Cardinal could be very clearly seen. It stayed about five minutes, and was not seen again.

Lewis's Woodpecker at Keatley

A. P. Pym reports a Lewis's Woodpecker spending the first three weeks of October in his garden at Keatley. It was still there feeding on the crabapple crop when Mr. Pym gave us this report at the annual meeting on October 18.

New Saskatchewan Species

"The Parasitic Jaeger in Saskatchewan," by Charles D. Bird, Canadian Field-Naturalist, Vol. 71, Jan.-March 1957, p. 37, lists a sight record of this species for Lozinsky's Slough, 9 miles south and 1½ miles west of Kindersley, on June 27, 1956. It also lists two records furnished by Fred G. Bard of the Saskatchewan Museum of Natural History: one suffering from botulism taken at Old Wives Lake by George Lydiard, on Sept. 1 (or Sept. 19), 1933; and a specimen shot by Mr. Vinn Huggins, Oct. 28, 1933, at Imperial Beach, on Last Mountain Lake, 7 miles east of Imperial, Sask.

The above records were overlooked and the Parasitic Jaeger mistakenly listed as "hypothetical" in the Field Checking List of Saskatchewan Birds (Bard and Houston, Feb. 1954).

Waterfowl Habitat in Saskatchewan

By J. BERNARD GOLLOP, Wildlife Biologist, Canadian Wildlife Service

The agencies in North America concerned with the conservation of waterfowl — particularly Ducks Unlimited, provincial and state game departments, the U.S. Bureau of Sport Fisheries and Wildlife and the Canadian Wildlife Service—are currently trying to do something about the problem of the destruction of the continent's wetlands. Their most urgent task is to draw up a plan to counteract drainage that will prove to be unwise in the long run, all of the public's interest being considered.

One phase of this plan is to evaluate the waterfowl habitat currently available in order to determine which type is most valuable and which is most urgently in need of being saved. This evaluation includes an inventory of lakes and sloughs, followed by determinations of waterfowl use the year round, and of potential drainage and drought.

In Saskatchewan, spring and summer inventories and waterfowl use of prairie water areas can be determined from data gathered in the course of aerial breeding pair and brood surveys conducted by the Saskatchewan Wildlife Branch and the U.S. Bureau of Sports Fisheries and Wildlife for the purpose of setting hunting regulations. Ducks Unlimited has begun a more detailed ground survey that will eventually cover the southern half of the province.

The missing link is the September-to-December period. We know that Saskatchewan has probably the best hunting in North America, but we do not have a catalogue of the sloughs and lakes that provide this hunting, nor do we know the relative values of these areas. As a start on this phase of the project the Canadian Wildlife Service is asking the co-operation of members of the Saskatchewan Natural History Society. In the centre of this issue of the BLUE JAY there has been inserted a form that we would like you to fill out and return to us. The form is pretty well self-explanatory, but we would like to emphasize that right now we are interested in areas that have been heavily used by waterfowl in the past couple of years.

We shall very much appreciate any assistance that members may be able to give us in this project. If you yourself are not in a position to fill out the form, possibly you would be good enough to pass it on to someone who is.

The Great Gray Owl in Saskatchewan

By DR. STUART HOUSTON

The Great Gray Owl is our largest owl in terms of length, though its bulk is largely made up of the warm feathers that suit its northern habitat. To those people lucky enough to have seen one, it is one of the most picturesque and beautiful of all birds. E. T. Jones of Edmonton who, with Al Oeming, is a foremost authority on this species, said in 1954 that this bird appears to be following "close on the footsteps of the beautiful Whooping Crane. There is no doubt that the predations of man will eventually force the species into extinction."

The following unpublished records list seven specimens from six localities and sight records from six additional localities, adding considerably to our knowledge of this species in Saskatchewan.

There is a specimen in the Lund Wildlife Exhibit at Prince Albert. Gordon Lund states that this bird was collected perhaps in the late 1930's in the general area of Prince Albert.

A Great Gray Owl is mounted and on display in the office of Saskatoon Quick Freeze Ltd., 22nd St. West, Saskatoon. Charles Kelman, the manager, informs me that this bird was collected eight miles east and two miles north of Sylvania, Sask., probably in the latter part of July, 1951. Two other Great Grays were reported to be with it at the time.

A female Great Gray Owl, now mounted in the Sask. Museum of Natural History in Regina, was obtained by Dr. Tillie, at Watapi Lake, near the Alberta boundary, about 70 miles north of Pierceland, Sask., on March 29, 1952.

Early in the winter of 1955-56, Mr. Jack Chamberlain accidentally caught two Great Gray Owls in his traps at Candle Lake, Sask., while trapping for squirrel and weasel. One was already dead. The other put up such a battle when he tried to release it, that he had to shoot it. Both specimens were sent to John Hunter, Saskatoon taxidermist, and one was then given to the Sask. Museum of Natural History.

H. C. Clark of Usherville, shot two Great Gray Owls about January,

Great Gray Owl from Richardson's *Fauna Boreali Americana* (1831), photographed from the book by Stuart Houston.

1956, taking squirrels from his trap in the Porcupine Forest Reserve about eight miles south of Reserve Sask. One specimen was forwarded by Art McLean, regional game warden at Hudson Bay, via the Prince Albert Game Branch, to the provincial museum.

A Great Gray Owl was captured alive by R. B. Olson at his farm six miles east and one-half mile north of Pleasantdale, Sask. in the late winter or early spring of 1954. He had been sitting in the stubble and identified from Star Weekly picture one night. Next morning the bird was sitting on the corral fence and as Matt Olson attracted his attention from the front, Mr. Olson sneaked up behind and captured him by hand. The bird was sent to Al Oeming of Edmonton and provided the material on feather sequence and molt in a thesis on the Great Gray Owl presented by Mr. Oeming for his M.S. degree at the University of Alberta. The bird is the only one in captivity in the world, and is in the Zoologic

Park of the New York Zoological Society. In a letter of Sept. 9, 1957, Dr. John Tee-Van, the General Director, informed me that the bird is still alive and in very good condition.

Gordon Lund reports from Prince Albert that a Great Gray was sighted as recently as 1952 along the Saskatchewan River between Prince Albert and Fort a la Corne, and then apparently disappeared after the fall hunting season.

Billy Matthews of Nipawin saw three Great Gray Owls on Nov. 17, 1955, 14 miles north and two miles west of Love, Sask., and about six miles from the farm of Stuart Francis where the Francis boys saw two Great Gray Owls in late November of the same year). The Owls seen by Matthews were all sitting on dead poplar stubs within 20 yards of the road, within half a mile of one another. Matthews saw another Great Gray in the top of a black spruce 20 miles northeast of Nipawin, on December 11, 1955.

After the photograph of the Great Gray banded in Saskatoon appeared in the Saskatoon Star-Phoenix of January 7, 1956, two further sight records were received.

R. H. Wallis of Armley wrote that between Christmas and January 1, he had spotted the biggest and darkest owl he had ever seen, beside the Carrot River, two miles north and a mile west of Armley, S.W. ¼, sec. 24, twp. 48, range 15, W2. It had a white mark on the breast in the shape of a moustache. It was very tame and allowed him to approach within fifty feet.

Charles Devlin of Watrous observed a large owl three miles east of Young, Sask., about Dec. 29, 1955. It had a longer tail, no ears, open and shaggy feathers and a comical masquerade-like face. It was sitting on a fence post forty feet from the highway and was so tame that it didn't fly even when he got out of his car in front of it. As soon as he returned home, he consulted his two-volume "Book of Birds" of the National Geographic Society, and noted that his bird was identical with their painting of the Great Gray Owl.

A Great Gray Owl was observed with binoculars at 20 feet, by Anton

—Photo by A. F. Oeming

Great Gray Owl at five weeks, Rocky Mountain House, June 10, 1954

Great Gray Owl and friend, January, 1956

Waycheshen at High Hill, Sask. on Feb. 19, 1956. (High Hill is about ten miles northeast of Kelvington). Another Great Gray was noted on March 10, 1956 between High Hill and Kelvington.

Because of the scarcity of records, I carefully checked the literature to give the following summary of previous records:

The Great Gray Owl is listed by Richardson (1831) in his Introductory Table, as being "common, all the year" on the Saskatchewan, between Carlton and Cumberland, 1820-1827. He lists no dates or specimens for this area. However, Richardson found a nest with three young at Great Bear Lake, in what is now the Northwest Territories, on May 23, 1826. This may have been the first nest ever found. He kept the young for two months until they escaped.

Eugene Coubeaux of Prince Albert (1900), stated it to be a "very rare winter visitor. Only two seen and shot in five years."

Mitchell (1924), listed it as hypothetical: "Apparently rare winter visitant. A few recorded by George Lang during the winters of 1890, 1916 and 1917" (at Indian Head).

R. and D. Hooper (1954), give the following: "Seen three successive years in 1920's by W. A. Black, who once saw about a dozen in one day.'

The only other references are in the "Blue Jay," as follows:

A Great Gray Owl was taken in 1936 on the Assiniboine Indian Reservation south of Sintaluta, by Jack Wilson. The specimen was mounted and is now in Indian Head. The first museum specimen was taken in the winter of 1938 by R. D. Symons at Mountain Cabin, on the Carrot River about 20 miles west of the Manitoba-Saskatchewan boundary. It had been caught in a steel trap, starved and frozen to death. Another Great Gray Owl was identified from feet submitted by F. Missler, of Moosedale Sask. during the 1940-41 winter predator campaign of the Fish and Game League. (**Blue Jay**, Vol VI, No. 1 p. 11).

K. E. Baines of Tisdale shot a Great Gray in the fall of 1925. He found them fairly common near Prairie River in June and July of 1926. More recently, he has seen one twice in the winter at Leaf Lake northeast of Hudson Bay Junction (**Blue Jay,** Vol. 12, No. 2, p. 20).

C. Stuart Francis shot and killed a Great Gray Owl, probably during the winter of 1939-40. It was sitting on a spruce limb about nine or ten feet from the ground, in a very dense and dark patch of black spruce and

ackpine along the valley of the Torch River (**Blue Jay**, Vol. 6, No. 1, . 4).

Billy Matthews saw a Great Gray ear the northeast corner of the Fort la Corne Game Preserve, west of Nipawin, on Jan. 9, 1951 (**Blue Jay**, Vol 9, No. 1, p. 3).

Harry Anaka, Spirit Lake P.O., hot a male Great Gray at dusk on March 27, 1954, thinking it to be a Horned Owl. The specimen was forwarded to the Saskatchewan Museum of Natural History, Regina, where it is now a study skin (**Blue Jay**, Vol. 14, No. 1, p. 11).

A Great Gray Owl was trapped unharmed at the Beaver Creek Game Farm by Keith Thue, and banded by the writer on January 7, 1956 (**Blue Jay**, Vol. 14, No. 1, p. 11).

To date we have no definite record of this species nesting in Saskatchewan.

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Notes on the Barred Owl and the Snowy Owl in Alberta

(A summary of observations of the Barred and Snowy Owls made in Alberta from 1952 to 1957 by A. F. Oeming, President of the Edmonton Zoological Society)

NTRODUCTION

In 1955 A. F. Oeming submitted master's thesis to the Zoology Department of the University of Alberta ntitled *Preliminary Study of the Great Gray Owl in Alberta*. This hesis was a report on a study of he Great Gray Owl carried on for our seasons (1952-1955) in the forest nd muskeg areas of Alberta. During he study, there emerged interesting ecords of the occurrence and distribution of other species of owls n Alberta. Of particular interest, in iew of additional later records sent o the BLUE JAY by Mr. Oeming, are he records of the Barred and Snowy Owls. The Snowy is a winter visitor n Saskatchewan as well as in Alberta, and its movements during the winter season merit study. For the Barred Owl, on the other hand, there re really no authentic Saskatchewan ecords. Perhaps the Alberta discoveries may spark an all-out search or the Barred Owl in Saskatchewan.

BARRED OWLS (*Strix varia*)

Previous to the Great Gray Owl tudy, only four records of the Barred Owl in Alberta were known to Mr. Oeming. During the investigation of he Great Gray, however, eleven records of the Barred Owl were added o the Alberta list. Six of these ecords were published by A. F. Oeming and E. T. Jones in the *Canadian Field-Naturalist* (Vol. 69, pp. 66-67). All eleven records, of course, appear in the thesis. Since the submission of the thesis, Mr. Oeming has these two new records to report:

"April 27, 1957. While on a Grizzly Bear investigation trip I chanced to stop at the Imperial Lumber Camp at Kidney Lake, approximately 38 miles northwest of Fort Assiniboine. Ron Ashmore, foreman of the camp, informed me that he had the carcass of an owl which had entered his weasel trap and which he was unable to identify. The bird proved to be a Barred Owl. The bird was too badly decomposed to make a worthwhile skin.

June 15, 1957. While travelling by pack horse in the Tony Creek country west of the Little Smoky River, I picked up a Barred Owl breast feather on a cut line in heavily treed country. This is a completely wild area but unquestionably this feather came from a Barred Owl in the area."

The eleven records from the thesis and the two subsequent records indicate that the Barred Owl has a general distribution throughout Alberta. Its preference for heavy timber in remote areas has undoubtedly been the major reason for the fact that the bird had hitherto almost

totally escaped notice. With more competent field observers, there is reason to believe that a nest will be discovered in Alberta.

SNOWY OWL (*Nyctea scandiaca*)

This species is a winter visitor to Alberta, arriving as early as September and remaining as late as May. Very few Snowy Owls have been banded during their winter movements and consequently little is known of their routes to and from the Arctic breeding grounds. The main concern of Mr. Oeming's study programme with Snowy Owls, therefore, was banding, and in his thesis he gives the following account of his methods and conclusions. In the interest of banding as many birds as possible, none were collected for stomach analyses, although a thorough study of the bird's food habits in the province is badly needed to ascertain its economic status and the extent of its supposed game depredations. It is difficult to make food analyses for this species from castings or pellets because fresh or drifting snow makes recovery of sufficient pellets uncertain, and because the majority of birds are incessantly moving about.

A special trap was designed to facilitate capture of the birds without injury. An owl was approached, normally within four hundred yards, and while an assistant set up the trap which was baited with a dead pigeon, a live pigeon was allowed to flutter attached to a thirty foot cord. When satisfied that the owl had seen the fluttering bird, a hasty withdrawal was made with the live pigeon. The owl, if hungry, would fly immediately to the spot and pounce upon the dead pigeon, thus releasing the spring action of the trap and instantly throwing both meshed sides over it.

Prior to release after banding, the birds were weighed and the color of the plumage noted. This was an attempt on the basis of weight to corroborate the sex identification based on color (determined earlier by field collectors from sexed skins) which assumed light plumage birds to be males and the dark birds females (Gladden, 1936). As with most raptors, the female is considerably larger than the male.

Photo by Oeming

Close-up of Male Snowy Owl

SUMMARY

1. Twenty-three birds weighed four pounds or over and averaged four pounds eleven and one-half ounces. These were all of dark plumage and considerably darker than the twelve remaining birds which weighed under four pounds each. It may be assumed on the basis of weight that these darker birds were females.

2. Twelve birds weighed under four pounds and averaged three pounds ten ounces. These were all of lighter plumage and in three cases almost totally white. The weight difference would suggest that these were the male birds.

3. The average weight difference between males and females is 15.8 ounces, with the female the heavier bird.

(Note: Added to the 35 birds described above are 17 Snowy Owls taken since the publication of the thesis. Here again the average weight of males and females is very close to that established with the 35 birds. A female weighing 6 pounds 2 ounces, captured after the first 35 were taken, was the record weight recorded in this study of the Snowy Owl).

FOUR YEAR CYCLE OF SNOWY OWL MOVEMENTS

In reviewing the literature of the movements southward of the Snowy Owl, it is seen that in many instances peak numbers have occurred at intervals of four to five years or multiples of that length of time. Gross (1927-31-47) states that this cyclic periodicity is correlated with the established periodic abundance of Arctic Fox and lemmings in the north. Gross recorded peak numbers for Snowy Owls during migration in 1945. Allowing an average of four years for the building up of another peak, peaks should have occurred in 1949 and again in 1953. This was confirmed by personal observation in northern Alberta for those years. Snowy Owls were exceptionally numerous throughout the winter of 1949-50 and again in the winter of 1953-54, when as many as twenty-eight were observed in one day in the Morinville area.

A congregation of numbers for a return movement has been observed in Alberta. From the middle of March until their departure for the north, these owls gather in certain areas in such numbers as to become up to three times as numerous there as in previous months. The Morinville area north of Edmonton is particularly notable in this respect. An almost daily check of this area during March and April, since 1948, offers evidence that a build-up for a return movement takes place during that period. Gross (1947) suggests the build-up for the return movement as a possibility, and the above observations seem to establish this as a fact.

BANDING RECOVERIES

On January 10, 1955, a female owl wearing band No. 509-02669 was captured in the Morinville area, weighing 4 lbs. 10 oz. This bird had been banded exactly one mile from the spot on March 4, 1954, and the weight was identical.

Further recoveries since the publication of the thesis: a dead Snowy Owl female wearing band No. 509-2684 was found in January , 1957 by a farmer in the Namao district, east of Edmonton. This bird was banded in the same area on January 29, 1955. A bird banded by Oeming in the Morinville area, approximately 25 miles north of Edmonton was reported killed on January 21, 1957, 12 miles northwest of Unity, Sask.

On the strength of two returns which indicated the owls did return to the same winter area, one cannot of course establish a definite pattern of migration for Snowy Owls in Alberta. Further study and banding, with more returns reported, will doubtless shed more light on the Snowy migrations.

A PLEA FOR THE SNOWY OWL

Each winter the somewhat drab countryside of the prairies is beautified by the presence of that Arctic envoy, the Snowy Owl. For years the Snowy has been an easy target for those gun-happy souls who thought they might be doing sportsmen and farmers a good turn by shooting it. The work I have done on Snowy Owls has indicated that their diet runs overwhelmingly to mice and small rodents. I have yet to notice any serious depredation by Snowy Owls on Alberta game bird populations. Fortunately, the Alberta Government has acted and placed the Snowy Owl along with all other hawks and owls under complete protection.

During my banding operations I

Dr. Hohn and J. Gadden with female Snowy Owl. Note dark plumage.

A. F. Oeming holding male Snowy Owl with nearly pure white plumage.

have spent countless hours observing Snowy Owls. I have had a ringside view of all their activities, including feeding. My unbiased contention is that we need the Snowy Owl in Alberta, economically and esthetically. Let us forever preserve this noble Arctic visitor. Saskatchewan can help by instituting legislation similar to that in Alberta protecting all the birds of prey. The time to do it is now.

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SIXTEENTH ANNUAL SASK. CHRISTMAS BIRD COUNT, 1957

Send in your report for the **ONE BEST DAY between December 21 and January 1.** (Note these dates carefully; they correspond with the dates chosen by the Audubon Society for the rest of the continent).

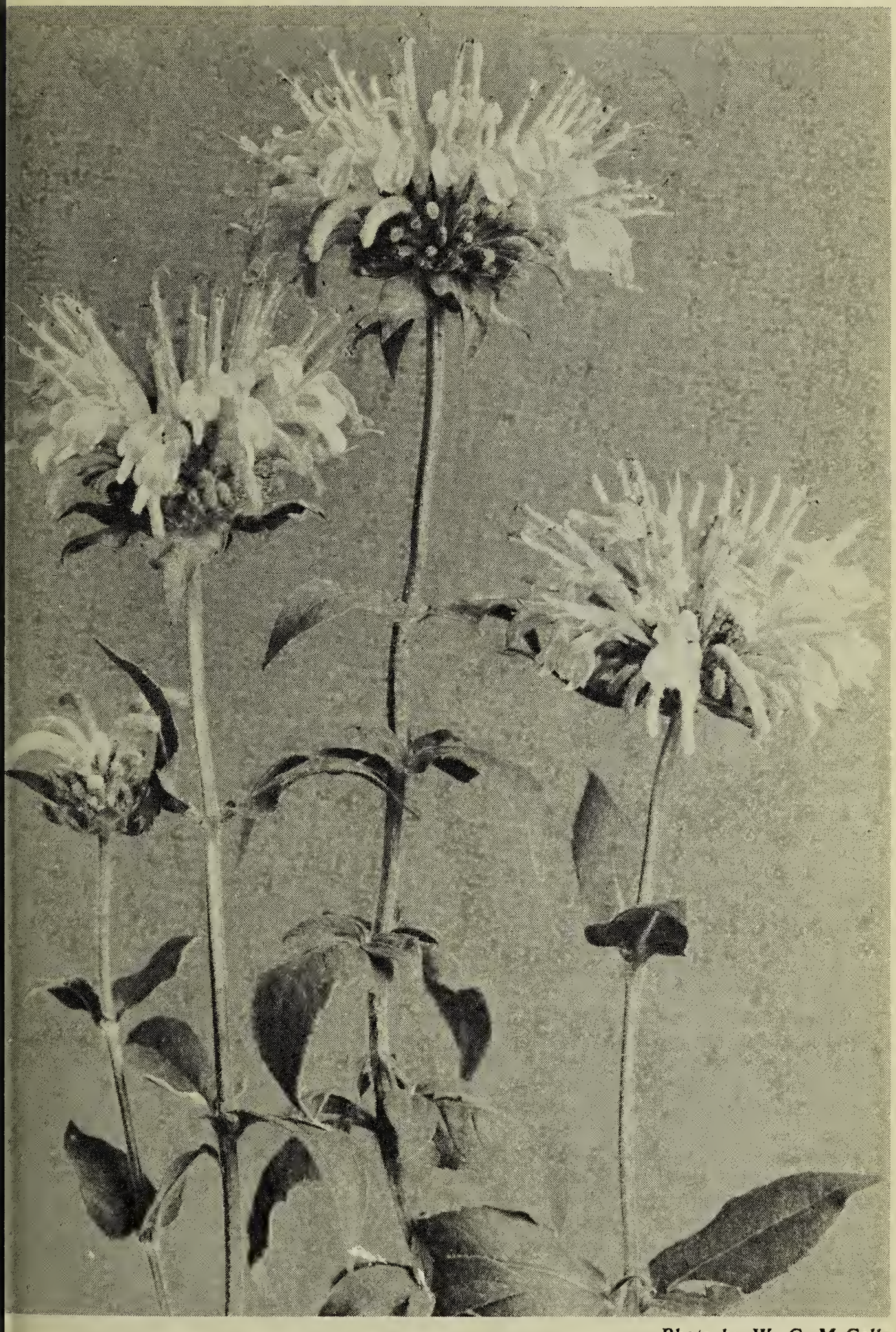
List the numbers of each species seen during that day. Following this, list other species seen between Dec. 21 and Jan. 1, other than on the day of the count. List numbers of individuals and the date seen for these birds. List species in the order of the Sask. Field Check-list, Peterson's Field Guide, or Taverner's "Birds of Canada."

If possible, the area should not be more than 15 miles in diameter. Preferably, six or more hours should be spent afield. Counts covering less than two hours will not be printed.

Note the date, hour of starting and of finishing, wind, temperature, whether clear or cloudy, and how many inches of snow. List the total party miles by car and on foot and the total party hours by car and on foot.

Send reports as soon as possible to Dr. Stuart Houston, Box 278, Yorkton, Sask.

Plant Notes



—*Photo by W. C. McCalla*

WESTERN WILD BERGAMOT

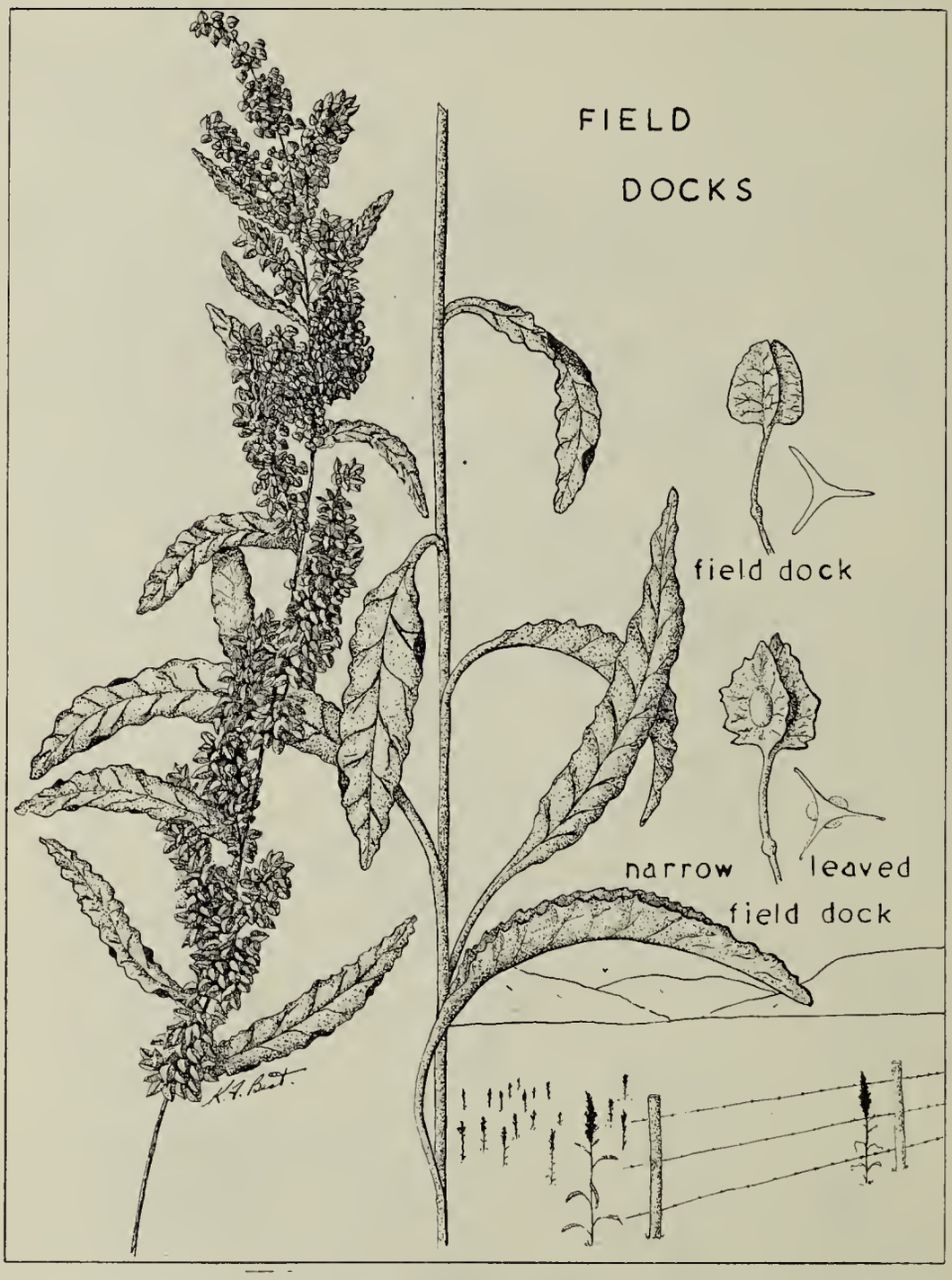
Monarda fistulosa L. var. *menthaefolia* (Grah.) Fern.

The Western Wild Bergamot is a handsome and aromatic plant of the Mint Family. Its pink, lilac, or rarely white, flowers are common on the prairie and in the open woods of the southern half of Saskatchewan.

Field Docks

(Rumex fennicus and Rumex stenophyllus)

By KEITH BEST, Dom. Experimental Farm, Swift Current



These two introduced Eurasian docks, commonly called field docks, closely resemble the common Western dock of the wet areas, but can be distinguished by the small enlarged joint below the middle of the stalk of the fruiting valves. In addition, the native Western dock has no tubercles in the valves of the fruit but one of these new docks has three tubercles, one in each valve, while the other dock may sometimes bear one tubercle. The margins of the valves are somewhat toothed in narrow-leaved field dock, but merely wavy in field dock and Western dock. All have long, broad leaves and may grow to a height of from 3 to 4 feet. While Western dock is mainly a plant of moist areas, t field docks seem to thrive ever where and even invade the gra fields.

First noticed about 1942, the fie docks have now become one of t most common weeds throughout t southwestern part of the provinc and are rapidly spreading in eve direction. They are perennials b spread mainly by seed of which in mense quantities are produced. T large brown fruiting heads are familiar and conspicuous sight alo the roadsides and in the fields. Bein resistant to chemical weedicides, t only control is good cultivation prac tices to prevent seed formation an to weaken and destroy the roots.

THE WORK OF THE CANADIAN WILDLIFE SERVICE

Conservation in Canada

By W. WINSTON MAIR, Chief of the Canadian Wildlife Service

As the fourth in the series of conservation inserts for 1957, the *BLUE JAY* is pleased to publish a condensation of the address given by W. Winston Mair to the annual meeting of the Saskatchewan Natural History Society, October 19, 1957.

There are probably as many interpretations of the meaning of conservation among us as there are persons here this evening — depending upon our background, our environment and our interests. Some water conservationists believe in dams for every place or situation; some forest conservationists are against fire any place at any time; some agriculturists have encouraged us to rid our fences of bushes and weed tangles to make more soil available for grain, to save moisture or keep down weeds, others have advocated hedge rows for the same areas as good conservation practice. Wildlife conservationists, if they are good ones, tend to recommend moderation in most things. But I think I can safely say that we too are divided in our thinking, in fact perhaps too much. And perhaps herein lies part of our problem in that we are not positive enough.

There are signs that we in Canada are beginning to think more about this conservation business, and are beginning to ask ourselves what we mean by it, and what we want of it. I was interested to read recently that there is today at the Wilderness Research Centre at Basswood Lake, in the Minnesota Superior Forest and the Ontario Quetico Park, a study in progress concerning exactly how much value is afforded by a holiday in wilderness country.

And I could go on — one reads editorials on outdoor recreation and its benefits, on wildlife, on natural history activities in general. And this is good.

I should like, however, in establishing a back-drop to a short summary of our activities in the Canadian Wildlife Service, to go a bit further and comment briefly upon a problem that I consider one of the most serious facing us today in conservation. This is the development of what I choose to call an ecological conscience within every citizen, that we may face the future at least with hope if not with complete equanimity. Ecology, as you know, is the study of the organism in relation to its total environment, and what I am trying to get at is the need for us to understand our mutual relationship with the living community, plant and animal, of which we are a part. If we do not develop this understanding now, we shall not need to think in terms of the future, for, as W. Leonard put it recently (*Pennsylvania Angler* 25 (3): 6-9), "There will be no future, at least no material future we can foresee, if we are all blown to Glory in one spectacular atomic whoosh."

"But granting that we do not blast ourselves to eternity in such a fine pyrotechnic display," Leonard continues, "there are still grounds for suspicion that our cunning exceeds our understanding. It disturbs me that the Cornucopians, in outlining their reassuring schemes for feeding unlimited population growth from the bounty of the sea or the possible mastery of the secret of photosynthesis, make no mention of what kind of life this food will sustain. I am willing to grant that future generations may be able to keep soul and body together. But the vigor of the body means little if the soul is starved."

Like Leonard, I am not at all certain that many of us can readily survive to the ultimate in development of our populations and resources. Every new fact learned regarding stress, in animals and humans, strongly supports the belief that we cannot. And I agree with Leonard that it is not at all certain that we should wish to live in a world where there was standing room only, even if our bellies were full.

Let us confine our thinking, for the moment, to the more immediate future. There is grave reason to doubt that we are presently sufficiently aware of our own place in

the web of life to utilize our natural resources intelligently. Not that I subscribe to the thought that all progress must stand aside for wildlife and so-called recreational interests. I would never suggest we should consider the era of the outdoor privy as the desirable goal in social and material progress. I enjoy electricity and all the modern benefits that accrue therefrom. But I refuse to admit that a forest of TV aerials is preferable to the normal forest that at least some of us still know. I suggest we need to consider seriously what it is we are looking for in life.

Many conflicts have been produced by technological progress. For example, the development of a multitude of chemical control agents has been one of the greatest accomplishments and at the same time the greatest dangers of the last twenty years. Malaria has been beaten back; mosquitoes have been reduced; weeds have been selectively removed; even our lawn can be controlled so it only needs cutting once or twice a year! But in our undiscerning enthusiasm for technology we have proceeded, often without a minimum of prior research, to use these tools as cure-alls for every imaginable sort of thing, ignoring the many and complex ecological factors involved, even to the extent of eliminating obviously desirable species of our flora and fauna. To quote from John Lindsay Blackford's recent article in **Nature Magazine** (49 (4): 176-180): "When we get t'monkeyin' around too much with what the Old Man put out for us we sure gets ourselves into it bad. Leastways them fellers don't never figger up what we're fixing t'lose. Mostly, I guess 'cause they'll never know."

I could go on and cite problem after problem, but would only come up with the same thought that too frequently we don't figure what we are fixing to lose, mostly because we don't know, until it's too late.

Do we really care what becomes of our wildlife, of our renewable natural resources? I wonder just how many of us mourn the passing of a species; how many care that our increasing standard of living is being bought only at a price, often an unnecessarily high price. Within the past year, I was asked this question regarding the Whooping Cranes: "Why are you trying to save them? You can't eat them, can you?" This man spoke with sincerity, but he typified the philosophy that everything must have a dollar value.

What is to be done? That is the problem facing us today. We cannot ask, in fact would not wish, that progress should be halted, that our standard of living should be lowered. We must, then, bring to our people an appreciation of their kinship with the soil and the resources it nurtures, help them to develop an appreciation of the foundation of the good life we enjoy, and to discriminate, in this age of gimmickry, between what is essential and what is not. Only so can we hope to halt the trend that, giving us the highest standard of living in the world, threatens to leave us bankrupt and stripped bare of vital living space.

Having provided you now with some background respecting my thinking on conservation, I want to tell you a bit about the work of our Service.

The Canadian Wildlife Service is a young and active organization charged with the task of carrying out federal responsibilities with respect to wildlife, a resource of ever-increasing importance to the national welfare. Organized in 1947 to meet the growing need for scientific research in the management of Canada's wildlife resources, it is now a division of the National Parks Branch, Department of Northern Affairs and National Resources. It consists of 36 professional wildlife biologists, 29 of whom are field men, a supporting administrative staff of 32 and a further 25 part time migratory bird wardens and sanctuary caretakers. The Service employs eleven university students as technical officers to assist in the research each summer.

It would be the simplest task for me to explain our work by saying that it is essentially the same as that of your own Wildlife Branch, only diluted sufficiently to take in Canada as a whole. But this would not be quite telling the whole truth. Constitutionally, all Canadian wild creatures belong to and are managed by the province (or territory) in which they are found. The British North American Act, however, provides that the Federal Government

has all the powers required to carry out the terms of a treaty with a foreign country. Migratory birds, therefore, continue to be provincial property, but the responsibility for their protection and management under the terms of the Migratory Birds Treaty, signed with the United States in 1916, rests primarily with the Federation Government. Within our National Parks, wildlife is a direct federal responsibility, and in the Northwest Territories and the Yukon the Canadian Wildlife Service carries out all wildlife research and advises on management.

It is not possible for me to cover our activities in detail. I shall, then, generalize respecting the broad divisions of our work, and point up a few specific researches we have undertaken or are presently carrying out, to give you a nodding acquaintance with our Service.

The Migratory Birds Convention Act which we administer deals mainly with restrictions on the hunting of migratory game birds. Many of its provisions remain constant from year to year, but others, such as open seasons, change. A great deal of information is needed to make and keep the regulations up to date, and this work is carried out by our Ornithological section. The most important annual investigation for this purpose is, of course, the extensive survey of waterfowl breeding grounds carried out by teams of wildlife biologists from the Canadian Wildlife Service, the U. S. Fish and Wildlife Service, provincial game branches, Ducks Unlimited (Canada).

Many of the ornithological projects involve intensive studies of individual species—the murre in Newfoundland, the greater snow geese which rest each spring and fall at Cap Tourmente, Quebec, the blue and lesser snow geese which are a source of food for Eskimos and Indians, the eider ducks which might form the basis of a profitable eider industry for the Eskimos, and so on.

Then there are our banding operations. All bird banding activities in Canada are carried on under federal permit, and we maintain a bird-banding section in Ottawa to deal with these permits and to maintain the official bird-banding records. To avoid confusion, serially-numbered bands supplied by the U. S. Fish and Wildlife Service are used in Canada as well as in the United States.

The methods used by private persons and organizations which participate in the work, often voluntarily, and by Service personnel, are varied and interesting. In the West, most of the waterfowl are caught by drive-trapping. The term is, I think, self-explanatory, but I assure you it does fail to conjure up a true picture of the work involved in getting young birds and frightless adults to go into a trap! A more specialized technique, used in special cases for ducks but more commonly for geese, is the use of the boom trap. A long net is carefully laid out and connected to mortars which when fired will throw the net over the birds baited to within mortar range. the last few years we in the Service have been placing more and more reliance on dogs for capture of birds for banding. A problem in the past has been to ensure that young birds were actually banded on the area where they were hatched and that all young in broods were caught. Excellent results have been obtained with dogs, and a paper has been presented on the subject by the Service. Many of you, I am certain, will be familiar with the work of Mr. Bernie Gollop and Mr. Alex Dzubin of our Service in Saskatchewan.

You will, I know, be interested in whooping cranes. Actually, I can tell you in Saskatchewan little that is new about whoopers. Twenty-three whoopers went north last spring, and we have determined from our aerial surveys out of Fort Smith this past summer that three young at least have been produced. Time does not permit a detailed expose of this whole matter, but the vital point to be considered is the absolute necessity of a positive approach to the problem. Once such a purposeful stand has been taken, the research to establish management techniques (if any) required to build up the flock, and the proper time and sequence for such management steps to be taken can and will be the subject of the greatest care and scrutiny by the committee on whooping crane management that has been formed and by the Federal Services. We do feel that on no grounds can we support a philosophy

of wait and see, bolstered only by the uncertain promise to ourselves that if things get tough (assuming they are not now) we will make plans to do something in the future. Bitter experience has taught us that such later plans, followed by much later actions, are always too late.

A second important feature of our work concerns our National Parks. Most of the National Parks provide living space for a profusion of species of flora and fauna typical of the Canadian scene. They are wonderful outdoor museums or natural zoological gardens in which we may see wildlife at its best. Our task is to keep them so. We investigate mammals, birds and fish, and advise the National Parks Service on management, helping to make our Parks serve one of their fundamental purposes — that of providing natural laboratories for wildlife research.

Since the Service was formed in 1947 we have been slowly building up our staff of northern wildlife biologists, and our range of interests has broadened more than proportionately. The wide range of species investigated in the north includes: caribou, moose, sheep, reindeer, muskrat, beaver, marten, white whales, Arctic fox, buffalo, musk ox, seals. For the officers of the Service working in the north, who travel by canoe, aircraft and dog team, with bombardiers, snow toboggans and Peterheads filling in, it is a rugged life but a challenging one.

In speaking of this research, I should like to mention especially our work on caribou. This was started in 1948 when a survey and research study of caribou in the mainland area between the Mackenzie River and Hudson's Bay was undertaken. Work has been carried on continuously since that time. Last April an 18-month research programme jointly financed by Manitoba, Saskatchewan, the Northwest Territories and the federal agencies and expected to cost about $100,000 was begun, with the purpose in mind of staying with a caribou herd continuously from winter range to summer range.

The programme is being jointly staffed—your Wildlife Branch is providing two members of the team—and our Service has placed three wildlife biologists, a range specialist and a wildlife pathologist on this research.

I have outlined for you the work done by the Canadian Wildlife Service for conservation in Canada, and I should like to leave with you a challenge that I phrased in these words when speaking in Vancouver last year:

"We must insure that our people become intellectually and emotionally concerned with the land and water and the complex pattern of growth they support. Unless we can do this, to the end that every person, from the trapper and farmer to the business magnate and legislator, is proud to work with our living natural resources rather than ready to abuse them, we are fighting a losing battle."

BOYS' AND GIRLS' SECTION

Doreen Kovalyk, age 14, Springside, Sask.

Comments and Prize Winners

Prizes have been awarded to Joan Anderson for her story "A Surprize Visit" and Doreen Kovalyk for her drawing of a skunk. We also want to thank Doreen's teacher, Miss Kozlow, for encouraging Doreen to enter the contest. Teachers are frequently aware of some boy or girl who is quite interested in nature and by encouraging him or her to send work in to the *Blue Jay* may help to develop a future naturalist or scientist. In appreciation for Miss Kozlow's interest we are sending her a prize too.

Joan's story is interesting and well told. A few more details about the Nuthatch wold have added to the story. How large was it and what were the markings by which it was identified? Most of the letters sent in this time could have been improved by adding more details.

Doreen sent several drawings. Somehow the skunk had particular appeal drawn as it was with a large space around it! Doreen sent some pictures of birds, too, which were quite well done, complete with a note on the back as to when that particular bird was seen. Her drawings show as well where the bird was seen. The Slate-colored Junco for example is shown sitting on some low bushes and that is exactly where juncos are seen. Doreen has made the drawings directly from her own observations of live birds and mammals. That is what is wanted for this contest. Many of the drawings sent in are copies from other drawings or photographs and as a result they are not considered for publication.

We are always pleased to get work from Agnes Dobryden. She stated that she was not entering the contest but sent her work in anyway. Agnes has been sending in very good work and we feel that any time she wishes to she can "graduate" and send her work to the adult section. So if you don't find anything by Agnes in the "Boy's and Girl's Section" from now on, look for it elsewhere in the *Blue Jay*.

One parting word to all those who write about their observations—remember details! Even if you can't name it, describe it.

Contest Rules

1. Entries must be first-hand observations in the form of letters, stories, poems, black-and-white

sketches, or photographs. Letters and stories should not exceed 500 words.

2. All entries must be accompanied by the name, age and address of the sender, and the name of his or her school.

3. Entries should be addressed to Boys' and Girls' Section, *Blue Jay,* 2335 Athol St., Regina. The closing date for the next issue of the *Blue Jay* is January 15, 1958.

4. This contest is open to any young person.

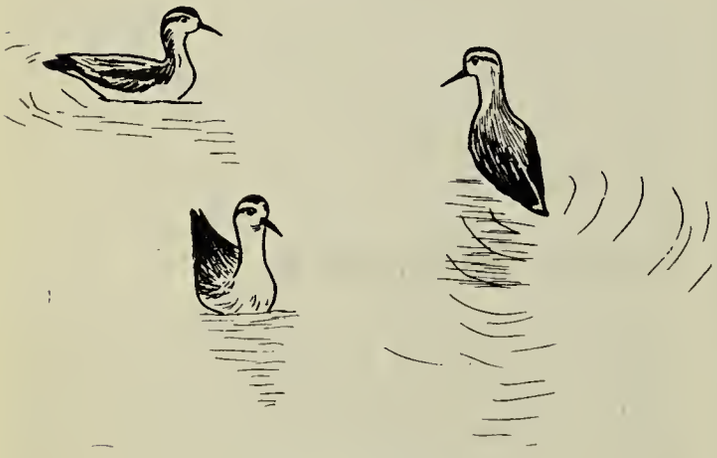
5. Entries from students may be sent in by the teacher or by the students themselves.

6. Teachers who send in entries from their pupils also qualify for a prize. One teacher will be chosen each time from among those who have sent in prize-winning entries from their pupils.

PRIZES: Prizes will be donated by the Saskatchewan Natural History Society. Three prizes will be awarded to student entries each issue, provided they are of prize-winning standard. The prize-winners are to select their prize from the following list of books: The Peterson Field Guide series (birds, butterflies, mammals, rocks and minerals, trees and shrubs, amphibians and reptiles, ferns, animal tracks), Budd's *Wild Plants of the Canadian Prairies, Photography for Teenagers, The Bird Watchers,* or a year's subscription to *Canadian Nature.*

Photographing Phaloropes

by Agnes Dobryden, Sanford, Manitoba



PHALAROPE
by Agnes Dobryden

A few weeks ago (mid-Sept.), I spent a most enjoyable afternoon watching four phalaropes in our pond. These birds did not seem the least bit disturbed to have someone watch them and would not retreat when I would come from behind the bushes and into full view.

The phalarope's habit is very amusing. When they are swimming, it actually seems as though they are walking in the water for they constantly jerk their heads forward and back and peck into the water as they swim along.

Seeing that the phalaropes were so exceedingly tame, I decided to go to the house and get the camera. Upon returning, I found the birds still there. But every time I would get the camera focused correctly, a wild rose twig would spring in front and block the view. The twigs were not the only obstacle, for my sister tugged on my jacket so that I would not lose my balance and join the phalaropes. Just as the phalaropes began to near our side of the pond, a cloud covered the sun and it soon began to drizzle. With the camera under my jacket, my sister and I waited for the sunshine to come again. When more rain came we edged under a huge willow tree. If we had been seen, someone would have got the impression that we were astronomers scanning the sky. For many cramped minutes we scanned that patch of azure. Finally the sunshine came. I pressed on the shutter—being so relieved that I almost forgot to release it. We then made for the house, on wobbly stiff legs accompanied by numb fingers. I have not as yet had the photographs developed but I am not certain what to expect—a group of phalaropes or a twig of wild rose.

The Blue Jay

by Joel Loseth, age 8,
Shell Lake, Sask.

Once we had a Blue Jay. The dog found him for us. We made a cage for him but he always got out and flew around. At first when the cage was made he couldn't get out. If we opened it he would come out.

One night we could not find him. He came back at 5:00 a.m. One other time we could not find him for a couple of days. And one day we found some Blue Jay feathers. We knew that the cat had caught him.

A Shrew Report

by Donna Anderson, age 11,
Coderre, Sask.

Our teacher takes the *Blue Jay* magazine. She often reads articles out of it. Today she happened to find a shrew, a tiny little fellow. Its body is about one inch and half long, its tail is about one inch. We were able to identify the shrew from the "Book of Knowledge." This is the second shrew that has been found in the school yard. Our school, Wood Valley No. 4441, is four miles south of Coderre, near Wood River.

SHARP-TAILED GROUSE
by Dan Pawlivisky, age 10, Square Hill, Sask.

A Squirrel's Nest

by Kenneth Howland, age 12,
Adams, Sask.

About two years ago my brother and I found a squirrel's nest. We were walking in the valley and a red squirrel ran out of an old crow's nest and started scolding us. I climbed up the tree and looked at the nest. The squirrel had chewed bark and put it in the crow's nest. Inside the nest there were four little pink squirrels. All the time I was looking at the nest the mother squirrel was running around the trees scolding me.

When we got up to the house we decided to phone and tell Doug Gilroy. When Doug came over to look at the baby squirrels they were gone. The mother must have moved them to another place after we had discovered them. It was too bad he missed them but there's always another time.

NOTE: Doug Gilroy writes a weekly nature column in the *Western Producer*.

A Surprise Visitor

by Joan Anderson, Age 12,
Coderre, Sask.

One lovely autumn day, when the soft fleecy clouds were floating in the sky, the autumn leaves swirling to the ground, we had a visitor.

The day was really too nice to be in school especially when the Nurse was here with her needles!

The school door stood open to let the sushine in. All at once we heard a flutter and a chirp out on the porch, it announced the entrance of a tiny bird. He settled himself on the school globe. We children said he was looking at the globe to see were he was going to spend the winter!

In a minute we were all excited. We closed the door, captured our frightened visitor with the butterfly catcher, made of a coat hanger and mosquito netting. Poor little fellow, we could feel his little heart pounding. We got out our bird book and identified him as a Redbreasted Nuthatch. We wished him good luck, took him to the door and away he flew.

Strange Noise

by Garry Thompson, Age 15
Rokeby, Sask.

When I was five or six or maybe older I heard a noise in the morning and early at night. It was like Indians playing their war drums, but it would stop and start. I would run in the house and tell them of the strange noise I heard and they would say. "You are hearing things." That's the way it was for a few years.

One night when I was twelve years old, I was taking the cows home. I heard that same noise very close to me. I walked up closer to find it and I saw six Ruffled Grouse with all their black feathers ruffed out around their neck. Their wings were down and their tails all spread out. They were making the drumming sound by filling up their wind bags in their throat and letting the air out, and dancing on the hard cow path.

NOTE: It is not surprising that the noise Garry heard resembled the rhythm of Indian drums. The Plains Indians would imitate the dance of the grouse. As part of their dancing

costume they would wear a "tail" using grouse feathers in its construction. Their dancing would imitate the dance of the grouse.

Some of the details in Garry's report are a bit cofused, which can perhaps be explained by the fact that he reported something he saw several years ago. There are seven species of grouse in Saskatchewan, each with a distinctive mating dance.

The Ruffed Grouse dances alone, choosing as a rule a hollow log. Here he "drums" by rapidly beating the air with his wings. The Ruffed Grouse does not have the air sacs that some of the other grouse have, but does have a ruff of feathers from which it gets its name.

The Sharp-tailed Grouse usually dances in groups. They have air sacs which pump air in and out.

NOTE: The booklet "Sharp-tailed Grouse in Saskatchewan," which is reviewed on page 185, can be obtained by writing:

Conservation and Information Service,
Department of Natural Resources,
Regina, Saskatchewan.

Small But Scary

by Gerald Kreba,
Rokeby, Sask.

One day Dad told me and my brother David to go down the power line and look for fence posts. The power line is a place with lots of bush near our place. As we were walking along we heard a loud screeching noise. We fell to the ground and listened. Then it came again. We decided to get a look at it. I thought it might be a bear, but David said, "Don't be silly."

As we were sneaking along we saw a small bird sitting on a branch. It was smaller than a grouse. David said it was a small grouse but we decided differently when it looked at us. The bird's eyes were like marbles. In its mouth it held a struggling mouse. He was so busy with the mouse we got real close and had a good look at it. I thought it was a kind of owl. When we got home we looked at some pictures and found that our scary friend was a Screech Owl.

NOTE: The Screech Owl is one of our smaller owls and is found in the southern part of the province. Its diet consists almost entirely of small rodents—mice, rats, ground squirrels—and is therefore considered beneficial.

I Wish

By Helen Furtan and Elenor Konechny, White Rose School, Kegworth)

I wish:

I could sing like the meadowlark in the show.

I could pick a husband like the Wilson's Phalarope to look after the children so I could go and visit the museum every day when I grow up.

I could run like an antelope.

I could fish like a pelican.

I had a windpipe as long as the Trumpeter Swan to call with.

I was as pretty as the Trumpeter Swan.

I had ears as long as the southern Jack rabbit so I could hear better.

We could all live in towns like the prairie dogs.

The boy sage hens wouldn't strut around like that.

I had perfume like the sage brush.

I had long legs like the deer to jump with.

I was a porcupine with all those quills to stick somebody when I'm cross.

I was a skunk, so if boys come around me I could skunk them.

I was a buffalo to have a thick fur coat.

But I'm glad:

I'm not a snake having one meal in two weeks.

I'm not a cowbird eating ticks and lice off the buffalo.

I'm not a father Wilson's Phalarope and have to watch the baby birds alone.

That I went to the Saskatchewan Museum.

EDITOR'S NOTE: This poem was inspired by a tour of the Museum made by the pupils of White Rose School. Guided tours are a regular part of the Museum's extension program. For information and application forms write to:

Extension Officer,
Sask Museum of Natural History,
Regina, Saskatchewan.

The Long Creek Site

By BOYD WETTLAUFER, Saskatchewan Museum of Natural History.

—Photo by Boyd Wettlaufer

Clearing the floor of deep excavation Project B, level No. 8. *Left to right*: Albert Swanston, Bruce Shier, Douglas Sameota, Wolfram Neissen and Leonard Arndt.

Because the new $40,000,000 power plant being built by the Saskatchewan Power Corporation requires a continuous supply of water for cooling purposes, a dam (known as the Boundary Dam) is being constructed near the mouth of Long Creek. It is evident that with the construction of this dam a considerable portion of the Long Creek Valley will be flooded.

Early in the spring of 1957, a Museum party visited the valley to ascertain if any sites of historic or prehistoric importance would be buried beneath the water of the dam. They reported that the valley showed much evidence of early occupation and upon their recommendation the Saskatchewan Power Corporation hired Dr. W. J. Mayer-Oakes of the University of Toronto to undertake an archaeological survey of the valley bottom. Dr. Mayer-Oakes, with the assistance of Bruce McCorquodale, Albert Swanston and Wolfram Neissen, conducted the survey and made tests of the various sites. Allan Hudson also spent some time in the valley. In all, 27 sites were plotted.

After much deliberation, BDR No. 6 was chosen as the richest of these locations, and excavation was started early in July under the supervision of Dr. Mayer Oakes. The site proved to be large and rich in cultural material. As the season progressed more and more evidence of early

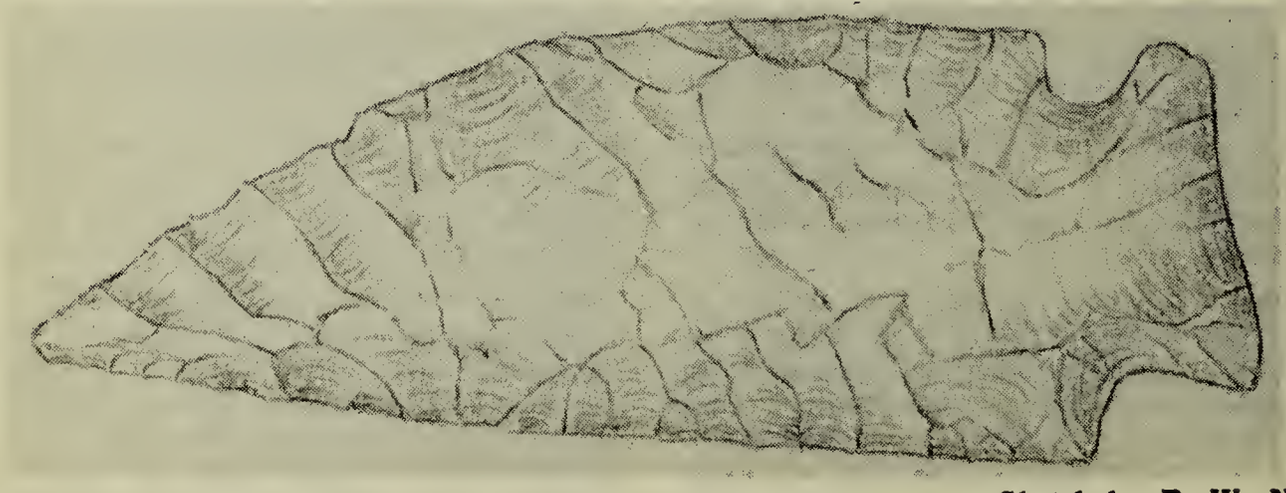
occupation was found and emphasis swung from upper level richness to age. By the end of August, at which time Dr. Mayer-Oakes had to return to Toronto, six levels of occupation had been found and more than 7,000 specimens had been catalogued. Since the bottom of the site had not yet been reached, Dr. Mayer Oakes advised continuing excavation as long as weather would permit. At this point I was called in to carry on this work.

It was evident that a speed-up program was necessary if a good sampling of the lower levels was to be obtained before winter ended the excavation. The west part of the site where the major excavation was being carried on received attention first. Dr. Mayer-Oakes' squares were deepened, uncovering two more levels of occupation. The east end of the site still remained a mystery, so a bulldozer cut was made in the most likely looking part of this area. This was made as close as the bulldozer could go to the water table and was aproximately 13 feet deep. All of the levels of occupation present in the west end of the site were to be found in this cut and level No. 8, one not very well developed in the west end (Project "A"), was heavy with bones, firestone and ash. This area (Project "B") became the centre of concentration of our efforts and a very good cross-section of material was obtained from the lower levels. A ninth level of occupation was found in this part of the site and some cultural material was obtained from it. Tents were pitched over the excavations in Project "A" and when weather became unbearably cold work continued in these excavations using a Coleman stove for heat. On October 22 a heavy snowfall made excavation difficult. We worked on until October 25 but it was obvious that the project would have to be abandoned.

During the excavation of the site the crew had varied considerably. Most of the time the staff of the Museum worked on the excavation; Bruce McCorquodale, Albert Swanston, Bruce Shier and Wolfram Neissen and Fred Lahrman being the main contributors. Three conservation officers worked for some time at the "dig": Leonard Arndt, Douglas Sameoto and Mervin Huckerby. Two high school students were hired for the first eight weeks of the "dig": Edward Majden and Dennis Poudrier. The last month two labourers were added to the staff: John Molleken and Graybon Robbilliard. The local conservation officer, Vic Carson, assisted throughout the excavation. The excavation was under the administration of Fred Bard, Director of the Saskatchewan Museum of Natural History and Roy Young, Director of the Conservation Branch, Department of Natural Resources. The Saskatchewan Power Corporation kindly supplied quarters for the crew at their dormitory and assisted in many ways during excavation.

The site proved to be quite rich in cultural material, over 15,000 specimens being collected. These specimens consisted of artifacts, bones and shells, carbon and soil samples for dating, etc. These are being studied in the laboratory at present. A scientific report of the study will be published at a later date by the Saskatchewan Museum of Natural History and the Saskatchewan Power Corporation.

All levels except numbers five and six were well represented by cultural material. Pottery appeared in the two upper levels which are separable



—Sketch by R. W. Nero

Offset, notched blade from Level No. 9 (natural size). Let the Museum know if you have one of these in your collection.

both stratigraphically and culturally. The fourth level of occupation contains a corner-notched projectile point quite similar to the "Pelican Lake" culture of Mortlach. Although un-notched basal-thinned points were found in level No. 8, notched points were predominant. In fact, notched points were found from top to bottom of the site. Level No. 9—the lowest found—contained an unusual hafted blade, having a scraping face on one side and a cutting edge on the other. This has been drawn for you by Dr. Bob Nero.

Geologically speaking, the site represents successive periods of formation of top soil by vegetative growth separated by flood plain deposits. These deposits in the lower levels, from level 5 downward, contain clay and silt layers, representing occasional lake or ponded water conditions. Several upper levels contain gravel beds and have received much material by slump and slope wash. The buried soil layers are grey or black and for the most part contain the cultural material since they represent times when the valley was covered with plant growth and was habitable. A large spring flows through the centre of the site between Project A and Project B and must have supplied water to the inhabitants over dozens of centuries.

The site is an important one—not only does it supply us with nine distinct zones of occupation very well separated stratigraphically, but it adds a number of new chapters to the story told at Mortlach. Carbon-14 samples were obtained from five levels of occupation. These samples were pure carbon and are more reliable than the bone submitted for carbon analysis from Mortlach. Many of these artifacts are found for the first time "in situ" in Saskatchewan. The hafted blade will have a carbon date and will help us link the site to similar ones found in the northern plains of United States.

With the excavation and publication of the material from Long Creek site, several new chapters will be added to the history of Saskatchewan.

Another Petroglyph from Saskatoon

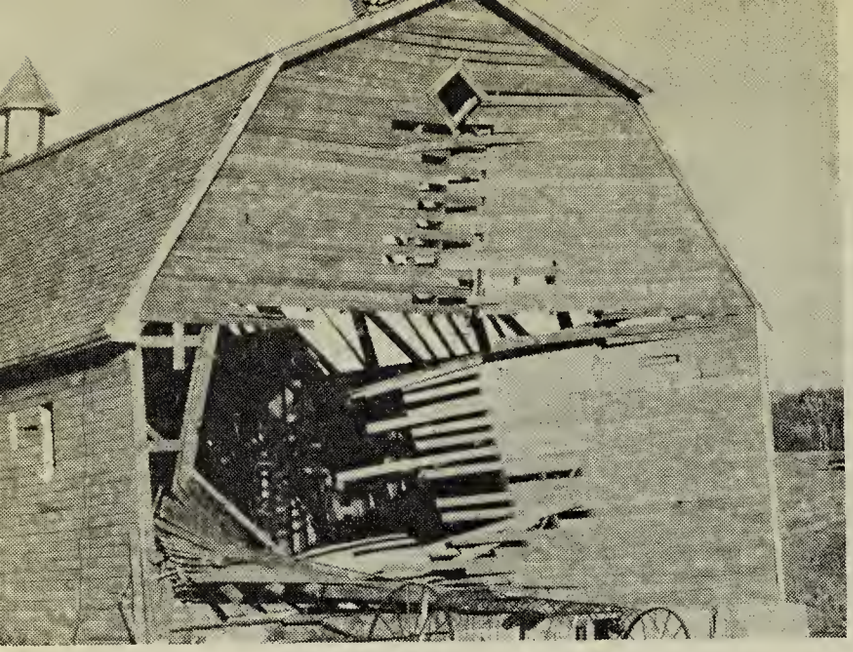
by H. K. Cronk, Secretary of the Saskatoon Archaeological Society

Spade and Screen November 1948, Vol. 5, No. 2 published a picture of a petroglyph from the collection of the late Dr. Vigfusson, an original member of the Saskatoon Archaeological Society.

Here is a picture of a very rare and interesting find. It is No. 180 in the collection of E. L. Bowes of the Saskatoon Society, and was found two miles west of Tisdale on No. 3 highway and a mile south. Petroglyphs are scarce on the prairies, perhaps because collectors are not observant. This picture may stimulate an interest in this type of artifact (petroglyphs). The place to look is on a flat stone. Limestone, being softer, was more easily worked and most petroglyphs are found on that type.

ATTENTION: We need your help. If you have any information whatsoever about archaeological sites in the South Saskatchewan River valley from Elbow to the Alberta border please let the Museum know as soon as possible. Information on sites in the valley may help us obtain a programme of archaeological salvage work in that area.

Hail Damage in the July 17 Storm

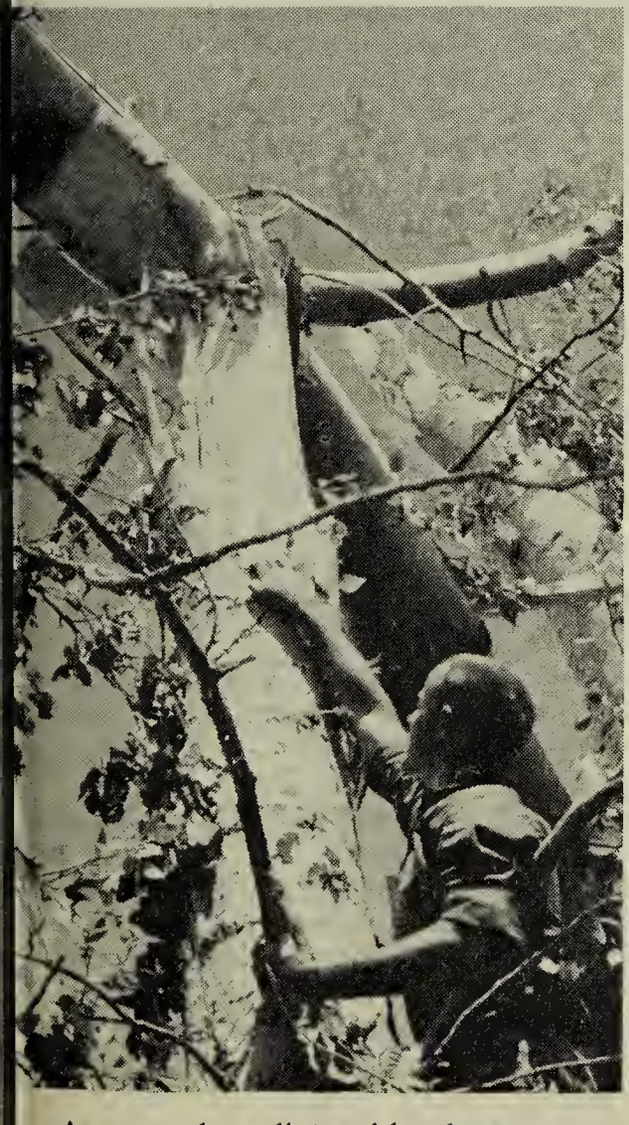


Barn damaged by hail and wind during the July storm, 10 miles northeast of Moose Jaw.

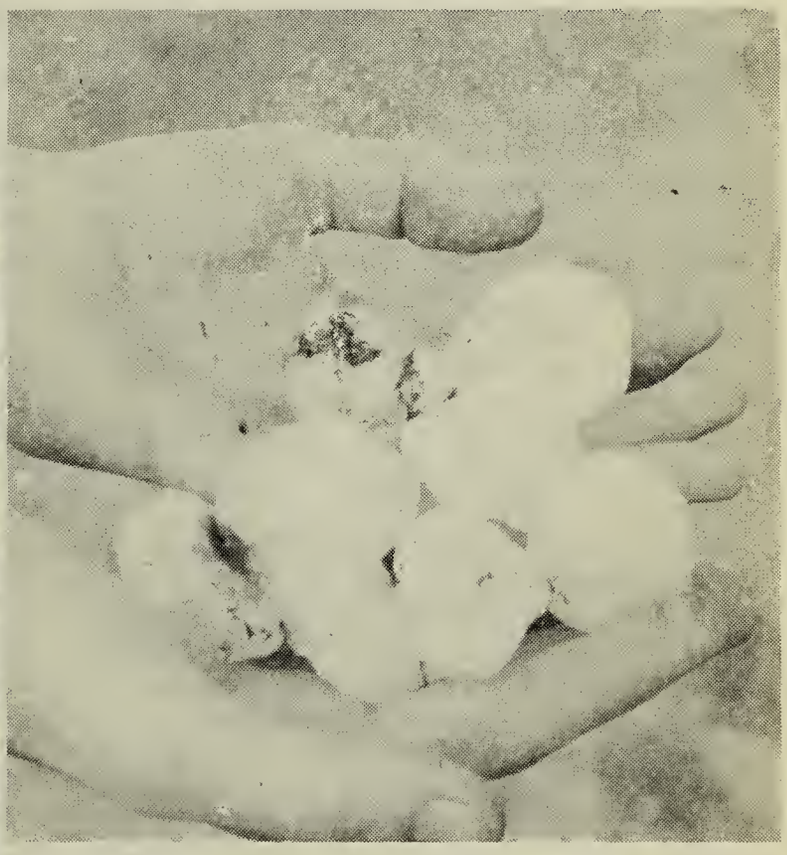
Cat-tails cut down by hail, 12 miles southwest of Regina Beach.

Dr. R. Nero examines a crop completely destroyed by hail on a farm northeast of Moose Jaw.

Dr. R. Nero examines 44 ducks and one willet killed on a large slough southwest of Regina Beach.



Aspen poplar splintered by the storm, six miles south of Regina Beach.

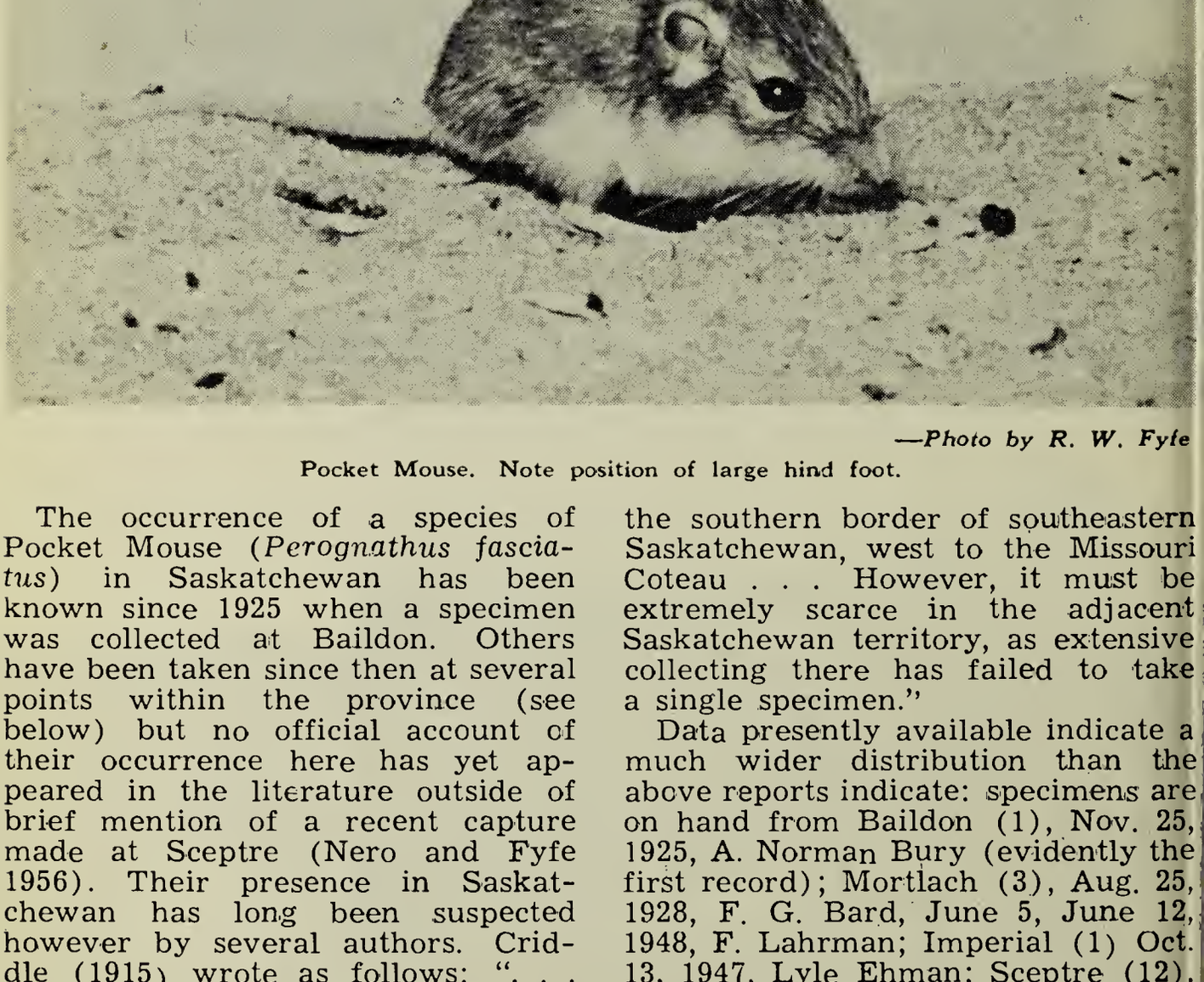


Hailstones collected at Boharm after the storm of July 17, 1957.

Photos by Richard Fyfe

The Pocket Mouse in Saskatchewan

by ROBERT W. NERO, Saskatchewan Museum of Natural History



—Photo by R. W. Fyfe

Pocket Mouse. Note position of large hind foot.

The occurrence of a species of Pocket Mouse (*Perognathus fasciatus*) in Saskatchewan has been known since 1925 when a specimen was collected at Baildon. Others have been taken since then at several points within the province (see below) but no official account of their occurrence here has yet appeared in the literature outside of brief mention of a recent capture made at Sceptre (Nero and Fyfe 1956). Their presence in Saskatchewan has long been suspected however by several authors. Criddle (1915) wrote as follows: ". . . probably occurs over much of the territory of southern Manitoba, Saskatchewan and Alberta . . .". According to Anderson (1946:130) this mouse occurred in the "Upper Sonoran and Transition zones of northwestern Wyoming and northwestern South Dakota, western North Dakota and eastern Montana; northward into southwestern Manitoba (Aweme, Oak Lake, Treesbank, and junction of Antler and Souris Rivers); probably also in parts of southeastern (sic.) Saskatchewan, as the U.S.N.M. has specimens from Frenchman River near the southern Saskatchewan boundary." And Rand (1948) stated: ". . . recorded in Manitoba and ? in Saskatchewan, and is to be expected in southern Alberta." Soper (1946:144) stated: "The species is assumed to range along the southern border of southeastern Saskatchewan, west to the Missouri Coteau . . . However, it must be extremely scarce in the adjacent Saskatchewan territory, as extensive collecting there has failed to take a single specimen."

Data presently available indicate a much wider distribution than the above reports indicate: specimens are on hand from Baildon (1), Nov. 25, 1925, A. Norman Bury (evidently the first record); Mortlach (3), Aug. 25, 1928, F. G. Bard, June 5, June 12, 1948, F. Lahrman; Imperial (1) Oct. 13, 1947, Lyle Ehman; Sceptre (12), Sept. 18, 1956; Piapot (1) April 23, 1957, F. G. Bard; Skull Creek (2), June 20, 1957, H. Williams, and Sept. 12, 1957, Steve Mann. These records suggest that this species occurs at least locally across southern Saskatchewan (see figure 1). Our Pocket Mouse has been identified by Dr. R. L. Peterson as Maximilian's Pocket Mouse (*Perognathus fasciatus fasciatus*).

The presence of Pocket Mice in southern Saskatchewan adds a further name to the list of species typical of the Upper Sonoran life zone. This animal more than any of the others is adapted for living under arid or semi-arid conditions, being able to exist completely without green vegetation or fresh water, subsisting on seeds and insects soley. The importance of insects in the diet of Pocket

Mice as suggested by Criddle (1915: 134) has been verified for one species (*Perognathus parvus*) in California by Jameson (1954:592). As further evidence of their adaptation to a desert environment (or to an environment periodically suffering drought conditions) Bartholomew and Cade (1957) point to their habits of storing food, burrowing and their capacity for remaining dormant for long periods. In laboratory experiments it was possible to induce long periods of fasting at low temperatures.

These appear to be years of abundance for Pocket Mice. Eighteen which were collected south of Sceptre in the Great Sand Hills (see *Blue Jay*, 14:107-110) were caught in three nights by hand in the headlights of the car or were found dead on the road after our vehicle had passed by. They were found in the Sand Hills crossing a road bordered by buckbrush, in an open pasture of bare sand and sage plants, and were especially numerous on a weedy road bordered by grass and adjacent to alfalfa and wheat-stubble fields. One specimen found dead on the road in the latter location still had its cheek pouches full of weed seeds; the right pocket contained 195 seeds, the left 140. All 335 seeds were alike and have been identified by Mr. L. Bell, Saskatoon, Dom. Dept. Agri., as Knotweed (*Polygonum exsertum*).

One of the Pocket Mice (*Perognathus longimembris*) is the smallest North American rodent; ours is certainly the smallest rodent in Saskatchewan. Specimens taken here are about five inches in total length, are olive-gray on the back and on the sides, and are white beneath. A yellow wash is apparent low on the sides. They can be recognized at once by their external fur-lined cheek pouches which have an opening on both sides of the lower head beside the mouth. Since they are nocturnal one needs to look for them late in the evening or after dark. They prefer rather bare open country with weedy places and make tiny burrows in the ground. Additional specimens are needed to fill out the incomplete range picture shown by the map.

Distribution of the Pocket Mouse in Saskatchewan.

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Behaviour of a Captive Pocket Mouse

by *Robert W. Nero*, Saskatchewan Museum of Natural History

A Pocket Mouse (*Perognathus fasciatus*) captured at Sceptre, Sask. on September 18, 1956 has been kept alive in a small cage at my home right up to the present. In addition to providing a great deal of amusement over this period, keeping the mouse has allowed me to make certain observations which seem worth recording. Its only food throughout this period has been Budgie bird seed. It was offered water, apple and celery at first but showed no signs of interest in these. Oddly

enough one Pocket Mouse which was kept alive at the Museum for several weeks regularly ate a considerable amount of apple whenever this was offered. According to Cahalane (1947:439) a species of Pocket Mouse survived for seven years on a diet solely of bird seed, necessary water being obtained from this food by digestive processes evidently peculiar to these mice. Living quarters for my mouse consisted of a glass jar with a screen top and later, a tin box with a glass front. Fine sand provided a medium in which the mouse seemed comfortable. Bird seed was simply dumped into the cage at irregular intervals; the handling and storage of this food was one of the major activities of the mouse. A good deal of the time was spent burying whole or hulled seeds in caches; the seeds were frequently later moved again and cached elsewhere. The method of hulling the seeds was as follows: they were picked up with the forepaws and hulled, the cleaned seeds being placed in the pockets, the hulls falling to the ground. Every few seconds the litter of hulls was swept back behind the mouse by a few backward kicks of the hindfeet. The seeds were usually removed from the loaded pockets when being cached by a swift sweeping forward motion of the forepaws, although sometimes the seeds seemed to be dumped without the use of the paws.

Caches of seeds were usually concealed beneath the sand but when the mouse was given a tiny flowerpot it cached its food in this container. Once when the pot was lying on one side the mouse emptied its pouches through the quarter-inch hole in the bottom of the pot, flipping the seeds through the hole rapidly and one by one with a fast, regular motion of its forepaws. A little later it tried persistently to remove the seeds through the same hole, but it could not reach the seeds. It then gnawed and scratched on the edge of the hole in an evident attempt to enlarge it, sprawling and twisting its body about while vainly attempting to reach the seeds with a forepaw stretched inside the hole. A few seconds later it went around the pot to the large opening, crawled inside and went to sleep next to the seeds. When locating buried seeds it pushed its nose deep into the sand and appeared to find them by smelling them.

The mouse spent most of its time moving sand about, altering the shape of the floor of its quarters. Sand was moved by three rather stereotyped methods which occurred in more or less regular sequence: the mouse would first dig backwards like a dog, scratching sand with its forepaws between its widely-spaced hindfeet (fig. 1) and then suddenly kick rapidly backwards with its hindfeet which were brought close together (fig 2). It would then turn about and push the accumulated sand with a rapid shoving motion of its nose and braced forepaws (fig 3), while at the same time it pushed with its hindfeet. It would also employ a shovelling-like motion thrusting upward and forward with its rigid forefeet. Sand was moved the greatest distance by these pushing movements. Finally, the sand would be patted or "drummed" into place, frequently in a corner, or against an edge, by rapid and alternate pounding with its forepows (fig. 4). Seeds were frequently packed into place in a cache by drumming. A buzzing sound was often produced when the mouse was drumming, especially when drumming against the side of the container, the whole body quivering with the resultant vibration. During this process it would also move its forequarters about with its nose close to its paws as if sensing and measuring the amount of change in the surface of the sand. The combined method of digging and transporting sand as described above was very effective; a hole up to three inches in depth could be dug and the sand moved to the far end of the cage in a few minutes.

Pocket Mice are generally supposed to be voiceless and certainly no loud squeaking was ever given by this mouse. However, when the mouse was held rather tightly in the hand a barely audible but constant, soft and rapid squeaking was emitted. I could perceive this sound up to a distance of about 12 inches. When the squeaking mouse was held near a Kangaroo Rat (*Dipodomys ordii*) the latter at once responded to the sound, scampering over to the entrance, climbing on my hand and bitting hard and scratching with its forefeet in an attempt to reach the mouse. On one occasion the Ra

g. 1.

Fig. 2.

g. 3.

Fig. 4.

uddenly turned and took a quick and bath (see below) and then t once returned to attempting to each the mouse in my hand. Sand athing under these conditions appeared to be a displacement behavior, e., a discharge of nervous energy hrough an inappropiate activity.

Something more should be said bout the evident aggression of the Kangaroo Rat toward the Pocket Mouse. When a Pocket Mouse was ntroduced into a large cage with wo rats it was at once severely itten and chased furiously by a at. It recovered and lived and is n fact the hero of this story. Whenver a rat was allowed to smell a Pocket Mouse held in my hand it vas at once aggressively interested nd would bite hard on my hand n an attempt to reach the mouse. Once aroused the Rat would often ttack my hand furiously for several ninutes. This antagonism on the art of the Rat, however, was not imited to the Pocket Mouse. When White-footed Mouse (*Peromyscus p.*) was placed in the cage with a Rat, the latter, as soon as it smelled he mouse, leaped on it and tore t it with its hind claws, these seemng to be its most effective weapons. Both Rat and Pocket Mouse are nutually intolerant of their own kind nd each will kill its own kind when confined in small quarters. Our Pocket Mice and Kangaroo Rats had o be transported in separate cages. Females of both species seemed to e far more aggressive and intolerant han the males. In one instance my emale Pocket Mouse killed a male which was kept in the same conainer—a six-inch square jar with a screen top. The male had continually leaped to the screen where it spent much time gnawing, as if attempting to escape. The female had showed no such inclination.

Sand-bathing, i.e., dressing or cleaning the fur by rubbing in or rolling in sand was performed only rarely by the Pocket Mouse but could regularly be elicited by wetting the head of the mouse. Its behavior when bathing was quite similar to that of the Kangaroo Rat. Usually it would rub its head sideways and forward in the sand. Once after being wetted it first dug in the sand and then rolled the side of its head into the sand, thrusting its head and shoulder along in the sand with abrupt motions, then it did a quick half-roll rubbing the side and part of the back, then it made a fast movement with the whole side and part of the back being rubbed.

Pocket Mice are placed in the same family as Kangaroo Rats and have several similarities in addition to that of sand-bathing. For example, they commonly rest upright on their hindfeet, braced by the tail, while handling food. However, it is as an adaption of its specialized foraging habits that the Pocket Mouse has evolved enlarged hind legs, reduced front legs, etc., according to Bartholomew and Cary (1954). They have shown that locomotion in Pocket Mice is quadrupedal rather than bipedal as in the Rats.

The fur-lined cheek pouches of the mouse were frequently turned inside out and cleaned. The pockets were everted suddenly, evidently by a quick motion of its forefeet. Observations made on a typical occasion follow: the left pocket was being

cleaned by a stretching and stroking motion—pulling with both forepaws at the same time; the mouse made six strokes from the "chin" to the end of the everted pocket, then five more rapid strokes — each time stretching the pink flabby everted pocket and letting it contract suddenly when released. This was repeated with both pockets pulled out. When stroking, i.e., pulling on the pocket with the forefeet, the head and nose were lifted, thus increasing the effect of the motion. The mouse often moved about with its pockets inside out, occasionally stopping to stroke them again. Sometimes the everted pockets (which appeared to be tender) were pushed along in the sand. The pockets sometimes were left out for several minutes (fig. 5) and were apparently returned quite suddenly without the use of the forefeet. They would be retracted at once when the mouse was picked up.

The mouse yawned with the head raised and the mouth wide open. It often stretched both hind legs straight out behind at the same time; the front legs were stretched the same way. It slept or rested in several positions: on one side with the forefeet together near the chin and the tail curled around the bottom of the body; on its side with the tail beneath the body, all four feet drawn up close tightly; on its back—quite upside down—with its forefeet crossed (fig. 6); frequently, upright with the head bowed under to such an extent that the nose touched the belly and the

Fig. 5 —*Photos by R. W. Fyfe*

head lay on the sand (fig. 6), the tail curled around the right side of the body and in front and touching the head, the forefeet being held between the chin and the chest. In this latter position the mouse rested on its hindfeet and the top of its head. Sometimes the hind toes were also tucked up against the belly. When the mouse assumed this position the head was tucked under in one quick motion.

The tendency toward torpidity in Pocket Mice described by several authors was noticed in my mouse. Several times in Septmber and October, 1956, and September, 1957, it was found in a torpid condition, especially early in the morning, huddled up or on one side with no apparent movement. When the mouse was picked up the eyes would open only partly and a slow rate of breathing accompanied by slow movements was evident. Many a time, at first, the mouse was assumed to be dead or dying, but each time it would awaken fully after several minutes.

BARTHOLOMEW, G. A. and CARY, G. R.—1954. Locomotion in Pocket Mice. *Journ. Mamm.*, 35:386-392.

CAHALANE, V. H.—1947. - Mammals of North America. *Macmillan Co., N.Y.*

Fig 6.

Badger's Cold Storage Plant

by JOYCE DEW, Saskatchewan Museum of Natural History

The Badger (*Taxidea taxus*), the largest member of the mustelid family on the Saskatchewan plains, is a rodent destroyer of some consequence. Cahalane in "Mammals of North America" gives the following information on his diet: "Rodents make up by far the largest item; but ground squirrels, field mice, and deer mice, rabbits, insects and ground-nesting birds and their eggs are included in the northern and eastern parts of the United States. In the southwest, the badger eats ground squirrels, prairie dogs, pocket gophers, kangaroo rats, wood rats, mice, insects and lizards. It picks up birds' eggs as it chances upon them, not by systematic search."

With these preliminaries I feel reasonably safe in telling the following incident about a badger. Let not the scale of prejudices be weighted against his species for this episode. Cahalane mentions an incident whereby a Badger put some dead skunks in cold storage but as far as I know there is no previous published report of a Badger storing chickens. This happened on my father's farm at Riverhurst several years ago. Chickens were missing from the hen house. Sometimes several in one night would disappear; at other times several nights would pass with no depredations being made. Investigation showed that a Badger was entering the hen house through a tunnel which he had excavated, beginning a few feet from the outer wall and going down underneath the foundation and up into the building. Attempts to capture the illusive beast proved futile. After some 40 fowls had disappeared the survivors were moved to other quarters. Test holes were dug in an attempt to find a tunnel apart from the one which the Badger used to enter the building. One such test disclosed a dead chicken, well preserved in the slightly damp, cold sand. Further digging revealed more chickens, each packed in sand and separated from the others in the tunnel. After unearthing five or six birds we abandoned the search. Undoubtedly furthur digging would have revealed more of the missing fowls. Whether or not the badger was storing the birds for winter use is a matter of speculation. None of the birds unearthed was mutilated and the fall season was well enough advanced to make cold storage feasible. Since beginning the preparation of this article, I have heard another report of a Badger engaged in a similar activity. Fred Lahrman states that on his father's farm at Mortlach, a dozen or more fowls were found packed in sand where they had been hidden by an errant Badger.

Extension of the Range of the Short-tailed Shrew

by ROBERT W. NERO, Sakatchewan Museum of Natural History

Members of the 4-H Club participating in the leadership training course at Wakaw Lake, 35 miles south of Prince Albert, received a very special reward for their efforts in operating a small mammal trapline. On August 19, 1957, they caught a Short-tailed Shrew (*Blarina brevicauda*), thereby extending the known range of *Blarina* some 75 miles northwest to within 20 miles of the South Saskatchewan River. Judging by this new record this species occupies a range in Saskatchewan covering at least all of the parkland belt from the Manitoba border to the Saskatchewan River (see *Blue Jay*, 14:45, 15:121). It is questionable whether they occur north of the river since J. Dewey Soper did not find any in Prince Albert National Park (1951. The mammals of P.A.N.P., Sask., *Can. Wildlife Mgt. Bull.*, Series 1, No. 5. Ottawa). However, only further collecting will provide the final answer.

The trap-line activity of the 4-H leaders at Camp Wakaw was directed by Richard W. Fyfe, Museum Extension Officer, and was part of a

programme aimed at broadening the interests of 4-H Club leaders and instructing them in activities which could be carried out as individual or group projects in each of the 4-H Councils of the province. Mr. Fyfe reported that both boys and girls showed considerable interest in the trap-line and other aspects of th natural history programme. If som of these young people maintain the interest in this phase of nature stud we can look forward to getting a increasing number of specimens an more information—and to havin more naturalists among us.

Deer

by Doug Gilroy, Regina

—*Photo by Doug Gilro*

Deer against the sky.

What thrills one more than to see two or three white-tailed deer go bounding across an open field or to see a mule deer race up the side of a hill, then stop and pose for a moment against the sky, then disappear over the other side?

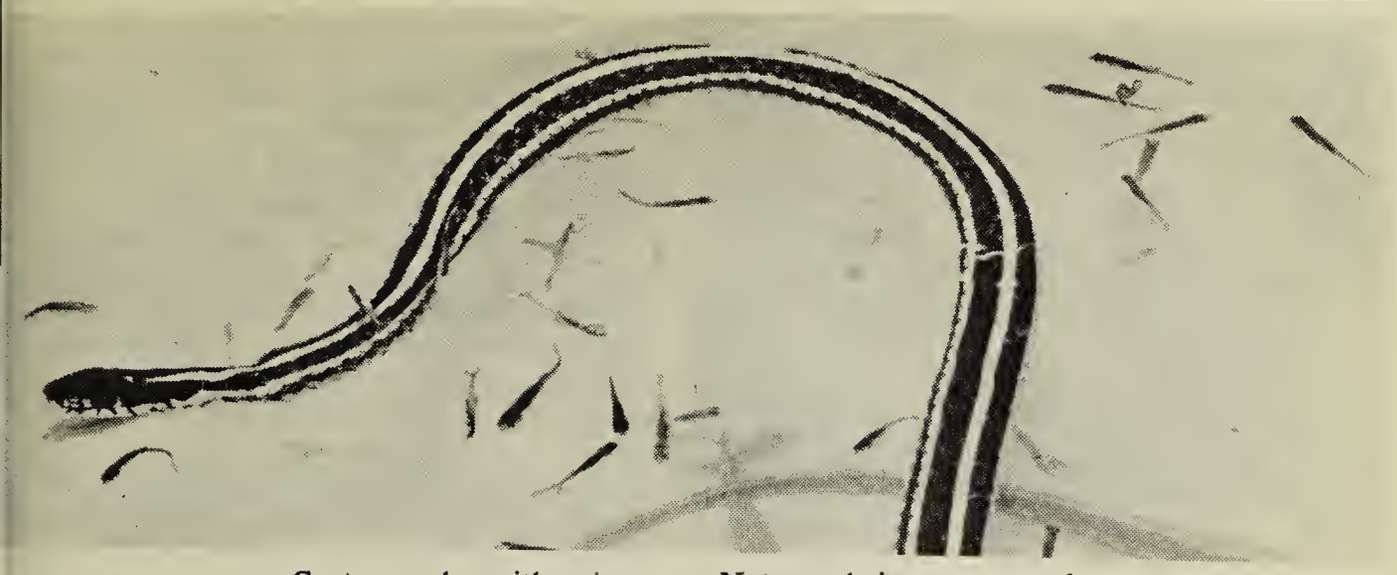
We got our accompanying picture one day last spring. The deer here are mule deer. It might be noted that there are no signs of antlers on the bucks. This is because it was past shedding time.

When a white-tail is flushed h usually high-tails it away as fa as he possibly can, not stopping f a backward look. But a mule deer different; he is curious, and usual after a short spurt will pause look back to see just what kind creature intruded on his hiding plac This habit often proves his undoin for the hunter is quick to take a vantage of it.

Garter Snakes Eating Minnows

by FRANCES McKAY and JOYCE DEW
Saskatchewan Museum of Natural History

Our children's program at the museum this summer attracted many children, among them Bob Kerr who sat down one morning to read *In Ponds and Stream* by Margaret Waring Buck. He read that "The garter snake is sometimes found near water. It eats frogs, toads, sala manders, crayfish and minnows as well as insects, worms and mice Bob then insisted that he try mi nows on our captive garter snake One of these was a Plains Gart Snake (*Thamnophis radix*) and th



Garter snake with minnows. Note snake's open mouth.

other is a Red-sided Garter Snake (*Thamnophis sirtalis parietalis*); both were about 30 inches long and had been in captivity for four months.

The minnows, caught in Wascana Creek, averaged an inch and a half in length. They were put in a goldfish bowl which was placed in the snakes' cage. We then picked up and held the snakes over the top of the bowl in order to direct their attention to the minnows. One of them crawled into the bowl and started swimming and feeding almost immediately, but it took several minutes before the other became interested. Feeding was accomplished by what appeared to be random movements; sometimes the snakes would literally bump into their prey. This seemingly non-directional search appeared to be a general "fishing" behavior which was evidently a reaction to the presence of water and minnows. Both snakes darted through the water first in one direction and then the other with their mouths held wide open. Most of the time when each snake had its mouth open it would swim along the surface of the water with its lower jaw submerged. Although it swam mostly with its mouth open, it did sometimes swim with closed mouth. The darting tongue which is typical of the behavior of a snake travelling about on the ground was seen only occasionally when the snake was under water.

Upon catching the minnows, the snake would jerk its head to the side, bringing it in quite close to its neck, then jerk it from side to side. A snake was observed to go through this performance once after it just missed catching a minnow. To eat the minnows which they caught, the snakes would usually raise their heads above the water or come entirely out of it. Less frequently, they consumed minnows while completely submerged. The minnow was seldom swallowed in a single gulp. Usually it was caught broadside, and the snake would work its jaw sideways over the minnow, first one end of the minnow disappearing and then the other. Sometimes several minnows were taken in quick succession. At other times as much as ten minutes would elapse before a snake would be successful in catching a minnow. In the interval it would swim through the water in an apparent search for food.

Each of the three times we observed snakes eating minnows the larger ones were caught first or nearly first. The shorter minnows were only one-half an inch long and were probably more difficult to manipulate. At times, the open-mouth behavior seemed to indicate general excitement or interest on the snake's part. This was particularly noticeable after a long duration of "fishing" attempts when we were photographing the snakes. After three-quarters of an hour and repeated attempts to get them in focus with their mouths open, we noticed the snakes were showing lack of interest in food, crawling out of the pan, and swimming with mouths closed.. At that point we dangled minnows in front of them. Then fingers were substituted for minnows and one snake suddenly reacted with mouth open and swam more actively than it had been doing. It was so active that the finger was quickly withdrawn! The snake darted quickly from side to side with mouth open out of the water as well as while under the water.

Garter snake eating minnow.

One of the times when the snakes were fed minnows, the fish bowl was placed in the cage at two in the afternoon and the snakes were put into the water. They were observed for a few minutes and then left in the water. At five p.m. they were still as active as at two. In fact, they were both in the bowl completely submerged. Judging from the amount of water in the sand outside the bowl and the amount of sand in the bowl, they had been in and out of the water all afternoon. There were ten of the 40 minnows left (mostly small ones) which would indicate that each snake ate an average of 15 minnows. We offered a few of the remaining minnows to the snakes and they were most cooperative, opening their mouths when they saw our fingers approaching. When we took the fish bowl out of their cage the snakes appeared to be quite excited and darted around in their water dish apparently searching for more minnows. The snakes ate both dead and live minnows. The dead minnows were not taken first although occasionally a dead minnow would be eaten when live minnows were still available. Garter snakes evidently will vary their diet to include other than live food.

During the summer the snakes were on a diet of earthworms and frogs, but now are apparently doing well on a diet of raw beef, minnows and other live animals being less readily available. To get the snakes to eat raw meat, it was first held and wiggled in front of the snake's nose without it paying any attention to it for a minute or two. Then the snake showed interest by raising its head toward the meat. As the meat was moved gradually back and forth in front of the snake it followed with its head and forepart of its body. After the snake's interest was thus aroused the meat was dropped in front of it. The meat fell on the bottom of the cage. With one dart the snake had it in its mouth and proceeded to swallow it. All that was necessary subsequently to interest the snake in pieces of meat was to hold a piece in front of it. The snake would grab the meat and eat it.

How Bright the Stars?

by JOHN HODGES, Regina Astronomical Society

In previous articles, we have described the overall motion of the heavens throughout the year and the grouping of the stars in constellations. We have thus shown how to tell when certain constellations will be visible and how to find any particular star we might be looking for. Another problem of the amateur astronomer is how to tell or compare the brightness of the stars. This is not as difficult as it seems.

Most phenomena in the sky are measured by brightness—the nearness of an approaching planet or a comet, a meteor's behaviour as it streaks across the sky, the outlining of a constellation. The measure of this brightness is called magnitude.

The system now in use to measure a star's brightness had an interesting origin. Hipparchus, the greatest of the Greek astronomers, made two tremendously important contributions to astronomy. He catalogued 1,080 stars, and he divided them into groups according to their brightness. Six divisions or classes of brilliance were established, the first twenty bright stars being described as of first magnitude and the faintest that were visible to the naked eye of sixth magnitude. Note that the smaller the number, the brighter the star. Ptolemy, who succeeded Hipparchus, modified the original catalogue, but little realized that his efforts were to remain the standard reference for some 1,500 years. His catalogue of stars was used by Columbus to di

cover America and by Vasco da Gama to round the Cope of Good Hope.

The original choice by Hipparchus was a very fortunate one as we shall see. When the English astronomer Pogson set about to find how much difference there was between magnitudes in 1850, he was able to report that each magnitude was about two and a half times the previous magnitude. In other words, a magnitude two star is two and a half times fainter than a magnitude one star. It is interesting to note that the ratio between magnitudes one and six is very nearly 100.

Modern star charts indicate magnitude by the size of the dots used to represent stars. A table of a few stars and their magnitudes follows this article. More precise maps may confuse you because of negative magnitudes. As soon as telescopes were used, it was found that some of the brightest stars were brighter than magnitude one and so a zero magnitude was created. Sirius, the brightest star in the sky, is still brighter so it has a magnitude of -1.6 (the use of a decimal point gives a very precise magnitude). By this scale the full moon has a magnitude of -12.6 and the sun a magnitude of -26.8.

Amateurs observing meteors for the I. G. Y. programme are asked to judge magnitude to half a magnitude. This is not too dificult if you are familiar with the more conspicuous constellations and the stars they contain. Let us take the Little Dipper (Ursa Minor) as an example. Polaris, which forms the first star in the handle, is of 2.0 magnitude. The four stars of the bowl are of second, third, fourth and fifth magnitudes. Do not forget that the brightest of these will have the smallest number. You can tell with the naked eye which is which, and you now have a standard.

You may find a few more constellations easily by starting with the Big Dipper (Ursa Major) and using the following scheme. The pointer stars are five degrees apart, and six times this distance away or thirty degrees lies Polaris. The bottom of the bowl in a direction away from the handle points to Castor in the constellation Gemini. The two stars on the handle side of the bowl point to Regulus in Leo. Following the curve of the handle will guide you to Arcturus in Bootes.

TABLE OF MAGNITUDES

Star	*Magnitude*	*Constellation*	*Month when overhead at 9:00 p.m.*
Polaris	2.0	Little Dipper (Ursa Minor)	June, December
Mizar	1.9	Big Dipper (Ursa Major)	April
Castor	1.0	Twins (Gemini)	February
Regulus	1.0	Lion (Leo)	April
Arcturus	0	Shepherd (Bootes)	June

A Record of Boloria toddi toddi double brooded at the Pas, Manitoba

by WALTER KRIVDA, the Pas, Manitoba

I have collected butterflies in the area of the Pas, Manitoba for almost ten years now, but this is the first year that I have found *Boloria toddi toddi* double broooded.

The typical brood appears about the middle of June. The flight period begins with a preponderance of males, followed by the gradual appearance of the females. As the flight ends, fresh females can still be taken on the wing, but males are tattered and worn. The flight is usually over by the first week of July. The females are the last to die.

The best spot for this small Fritillary in the Pas area is Devon Park, which is almost native "lawn" with such plant species as *Anemone riparia, Sisyrinchium angustifolium, Astragalus goniatus, Antemmaria* sp. (sterile rosettes), *Vicia cracca* and *Poa palustris*. This "lawn" is mowed infrequently, permitting the establishment and persistence of a fine colony of *Boloria toddi*. They probably feed on *Viola rugulosa* growing among the rocks along the Saskatchewan River.

On August 2, 1957, near the east gate of the golf course, in a low,

damp, sedgy area I netted a fresh *Boloria* which proved to be a *Boloria toddi toddi*. In the next 15 days a series of some 40 specimens was taken in this same spot by Carl Berger. The second brood flew close to the ground and was difficult to see. It was on the average darker and perhaps a shade smaller. The flight period lasted about two weeks.

On August 15, I took 10 specimens at "Big Eddy," five miles north. We drove into the area on a gravel road running through sphagnum bogs, and the butterflies were seen flying low along the roadside puddles. This flight, too, was weak. It was terminated a few days later by several days of cold, rainy weather.

It seems that at the Pas we have possibly a partial second brood in favourable years. This year, when June was dry and cool, conditions were apparently suitable for the appearance of the second brood some two months later.

You Were Asking?

Question: While travelling along the Qu'Appelle Lakes a short distance off No. 9 Highway, we found a dead racoon on the road. It appeared to have been killed by a car a short time before. We would just like to know if these animals live wild in the province or if this one had been carried there by some other means. If they do live here, just how do they live through our severe winters?—George G. Taite, Melville, Sask.

Answer: Racoons are seen or shot occasionally in Saskatchewan, particularly in the southern part of the province. The Museum has received specimens from the following places —Carlyle, Disley, Kelstern, Meadow Lake, Moose Mountain, North Portal, Vantage, Wauchope. Reports of racoons taken at Bear Creek in the Cypress Hills area in the early winter of 1955-56, and of one at Good Spirit Lake that same winter were published in the **Blue Jay** (Vol. 14: 27). Following the publication of these two records, Charles F. Southey of Young wrote to the **Blue Jay** giving two reports of racoons seen in that district. The first was seen in September 1955 by Phil Teneycke close to a small creek about 12 miles southwest of Young. The second was reported in February 1956 four miles northwest of Young by H. Harpold who found the racoon in an old house used as a granary. When startled, the racoon made a leap for an old chimney where he got lodged so tightly that he could not be removed alive. The coon had apparently entered by the chimney and had been thriving well, judging by the fact that he was very fat. **Any further reports of racoons in the province would be welcomed by the Blue Jay.** As B. A. Nelson, ecologist with the Wildlife Research Division of the Department of Natural Resources points out, the distribution of the raccoon in Saskatchewan has not been studied, and it would be interesting to map its present range.

Mr. Nelson also gives this information about the racoon. Like bears and skunks in cold climates, the racoon hibernates and is thus able to survive our severe winters. In the southern part of the region it is active throughout the winter. The racoon prefers aquatic habitats, and hunts chiefly at night along marshes, lakes and streams. Its food includes frogs, fish, fowl, eggs, reptiles, insects, shell-fish, fruit, nuts, grain and vegetables. Its home is a den in a hollow tree or a hole in the ground. The young are born in May and average about four to a litter.

Question: In *Museum Notes* I note that five shrews are found in Saskatchewan including one called "Common Shrew" but no "Cinereus" shrew is listed. In A. L. Rand's *Mammals of the Eastern Rockies and Western Plains* five shrews are listed but not a "Common" shrew. In 1941 I sent A. L. Rand a shrew which he said was a cinereus shrew, *Sorex cinereus haydeni*. Is this the "common" shrew, or is the "common" shrew something not found in Alberta?—Mrs. J. Hubbard, Grenfell, Sask.

Answer: *Sorex cinereus cinereus* is alled the common Cinereous Shrew y Anderson (1946 Catalogue of anadian recent mammals. Nat. Mus. an., Bull. 102). It occurs in northrn Saskatchewan. *Sorex cinereus aydeni* is called Hayden's Cinereous hrew. It is found in southern Sasktchewan. The exact ranges of these wo races or subspecies are not nown, so individuals may be of ither race. This fine determination an only be made by measurements nd careful examination of the skull. hrews of this genus and species orex *cinereus* not identified as to ubspecies are being considered on he species level only are called inereous Shrew, Masked Shrew or ommon Shrew. The latter term nds much use because this species s often the shrew most commonly ncountered. There are six species f shrews known to occur in Sasktchewan. These are: *Sorex cinereus* -Common Shrew, *Sorex vagrans*— Vandering Shrew, *Sorex arcticus*— addle-backed Shrew, *Sorex palustris* -Water Shrew, *Microsorex hoyi*— igmy Shrew, and *Blarina brevi-auda*—Short-tailed Shrew.—R.W.N.

Question: Can you quote prices for eprints from the *Blue Jay?* Should hey be ordered from the Editor or irectly from Midwest Litho, Saskaoon?—Stuart Housten, Yorkton.

Answer: Order reprints either dirctly from Midwest Litho, Saskaoon, or from the Editor, 2335 Athol t., Regina. Recent prices quoted by Midwest Litho for reprints follow: ne page (printed one side)—50 opies $7.50; 100 copies $7.70; 200 opies $8.10. Two pages (one sheet rinted both sides) 50 copies $10.45; 00 copies $10.70; 200 copies $11.15. our pages 50 copies $19.25; 100 opies $19.60; 200 copies $20.30.

In addition to these reprints that ay be ordered at cost, the Museum as a list of reprints from the *Blue ay* that are available free. The Museum list includes reprints of cerin articles on birds, reptiles, insects, rchaeology, etc., written by members f the Museum staff.

LETTERS

Audubon Bird Call

On page 135 of the September, 1957, **Blue Jay** E.W.V.B. of Tisdale asks how you get results from an Audubon bird call.

I have stood in winter woods where it seemed there was absolutely nothing around, squeaked my call for perhaps three minutes, and have suddenly been answered from all sides by chickadees. They appeared as if by magic. Nuthatches will respond, too. I am told that sometimes in spring warblers will answer briefly, but they are not as curious as the chickadee, and do not pay too much attention.

I turn my squeaker rapidly, to make a short, high-pitched chattery sound, or a series of staccato "pips." I cannot really describe the sound adequately but something of a high note seems to work best.--Margaret J. Cope, Calgary.

A Fish Story

Most articles in the **Blue Jay** are about birds or animals, but I want to tell you a fish story.

In October I was re-building our cottage at Fort Qu'Appelle. After lunch, while I was resting and enjoying the antics of a red squirrel and a chipmunk near the water line on Mission Lake, my helper dropped a heavy piece of lumber on the verandah floor. Immediately thousands of minnows leaped a couple of inches from the water, about eight or 10 feet from the shore. A few moments later, he dropped another piece, and the same thing happened. Wondering if it were a coincidence, I asked him to drop it again while I watched the water. But the piece he dropped that time was a small one, and nothing happened. Then he dropped the first piece again, and to his and my amazement, the minnows again jumped from the water. He did this several times again, each time with the same result.

We measured the distance from the water to the cottage, and found it to be 100 feet, with the cottage rising about 25 feet above the water.

This may be a common occurrence, but it is the first time that I had seen it or heard of it. It is a mystery to me how the sound or vibration could be felt by those minnows, and make them leap out of the water. And that is my fish story.—G. W. Stewart, Regina.

Red Fox and Blue Jays

Today, November 2, I had the rare privilege of seeing a red fox in our district. We were driving down a country road at 8.30 a.m. when we noticed a golden eagle fly up from a stubble field a hundred feet from the road. Simultaneously, two magpies and the fox caught our attention. I immediately recognized the fox as a red fox by the white tail tip and the reddish-brown colour of the fur. It ran a short way from us as we drove by, then stopped and watched us disappear. It was gone when we returned an hour later. The only other record of the red fox that I have heard of around here was a fox shot by my father in 1930.

Another rarity I have to report is a pair of blue jays that have been in our area for the last month. The first time the blue jays showed up was on October 1. They have been around nearly every second day or so, since. I saw them only yesterday. They feed on our Siberian crabs for a few minutes, calling raucously; then they fly into our poplar groves as they leave. They can often be heard half a mile away.

This is the first time I have seen blue jays in our district since I began watching birds in 1945. I may have seen one in 1946, but the bird was too far off to identify it definitely.—P. Lawrence Beckie, Bladworth.

Hummingbirds In a Summer Garden

It is August 15, and two tiny visitors are back in our garden probing the flowers of the scarlet runner beans for nectar. Every year for the past ten years or so, a pair of ruby-throated hummingbirds have paid us a short visit. Year after year I have planted runner beans in the sam spot on the south of the house and has been a thrill to watch thes small colourful birds visit them, thei wings whirring and their long beak busily probing every flower. I hav noticed that the hummingbirds seer to prefer the red flowers in ou garden.

In its search for nectar, th hummingbird hovers momentaril like a helicopter over each flowe then passes on to the next. He neve rests until the whole patch has bee thoroughly gone over. Then, satisfie that a complete coverage has bee made, he will settle for the next fiv or ten minutes on the over-hea power wires or the clothes line. Si ting on the wire, he looks like a entirely different bird, more like very small wren.—Carl A. Anderso Saskatoon.

Great Blue Heron

—*Photo by Doug Gilr*

Several letters have come to **Bl Jay** recently with pictures of Gre Blue Herons. A snapshot of a you Great Blue Heron taken at Frenc man's Creek about 10 miles north Climax was sent by Marion Stuart Climax, and one of the Heron Isla on Anglin Lake by Tony Capust of Prince Albert. The Great Bl Heron pictured above was phot graphed in the Qu'Appelle Valley Doug Gilroy.

The Blue Jay Bookshelf

The Birds of Shakespeare

By Lavonia Stockelbach
London, B. T. Batsford, 1953

This summer your editor and I had the pleasure of meeting Mrs. Stockelbach. This charming lady combines globe trotting with an intense interest in birds, flowers, and other natural phenomena. She was doing a series of provincial flower emblems this year and was looking for a Western Red Lily when she arrived in Regina. Fortunately, one was found and she spent some time making sketches of it. One afternoon she went with us out to Doug Gilroy's farm, and a picture we will never forget is of this lady in her New York suit (complete with maple leaf embroidered on the lapel) stepping happily into a "blind" in Doug's field so that she might enjoy the antics of some burrowing owls!

As you will have seen in her article in *The Lavrock* (p. 143-144), Mrs. Stocklebach knows her Shakespeare; her book, *The Birds of Shakespeare,* is a lovely one, valuable not only to the literary student but also of keen interest to the artist who will enjoy these life-like pictures of birds, posed like Audubon's, against a background of flowers and trees from their natural habitat. The bird watcher (or even a "seer") will be surprised how many Shakespearean birds he recognizes; the ones that are different, such as the "loon" (really the Great-crested Grebe), will prove intriguing to him.

This book is not merely a picture book with appropriate Shakespearean quotations beneath each picture. There is an interesting discussion on the technique of the paintings which were done on holly wood with water colour by means of a "line on line" process developed by the artist-author. There are also various notes scattered here and there which catch the eye; for example, this one from the introduction.

"It is indeed a blessed relief, after reading statistical accounts of their usefulness to humans, to go back to Shakespeare to enjoy birds as birds and never to dwell on what we can get out of them for our own benefit."

Again, in a note on the Sparrow, we find this:

"The domestic sparrow does not really inspire the imagination of the bird-lover, yet as you hold the cock-sparrow in your hand to observe the black lace bib of his winter attire, or try to capture the colours of his back as he sits to have his portrait painted, you are taken by the mild beauty of the browns and golden lights."

The one sad thing about the book is its price, $17.50. This is not surprising, of course, considering the number of plates in the book, but the average person would not casually purchase it for his own library. However, if you have any influence with your public library this book would be a valuable addition to it.

—MARJORIE LEDINGHAM,
Regina.

Sharp-tailed Grouse in Saskatchewan

Conservation Bulletin No. 4. Conservation Information Service, Saskatchewan Department of Natural Resources. 1957. 24 pp., illus.

The purpose of this series of bulletins is to "describe the natural resources of Saskatchewan and outline sound methods for their management and utilization." Previous numbers in this series have dealt with beaver, white-tailed deer and fisheries research. The booklets present an attractive appearance and are well illustrated with photographs, maps and drawings. The major sections of those about a particular species deal with its distribution, life history, environment, habitat and management.

In the sharptail bulletin, it is stated that this is the most numerous and widely distributed of all Saskatchewan upland game birds. It is less common now than previously and the main cause for its decline is given as man-made habitat changes, however imperceptible these may be from year to year. This is contrary to the beliefs of many nature lovers and even sportsmen who often hold that hunting has been the main decimating factor. It may come as a surprise to some Natural History Society members to learn that most hunters are not out to endanger the sharptail's existence. Each year at Fish and Game League annual conventions there are several resolutions in favour of closed seasons on sharptails province-wide or in certain zones,

and for shorter or later seasons. Others call for increased research on the species and for habitat improvement projects. Resolutions concerning seasons are usually referred to the Game Advisory Committee and the others are usually carried unanimously by the delegates.

An interesting example is given of the hunting pressure that one Saskatchewan sharptail population could stand and how the best estimate of the actual kill is well below this figure. Whether the data for this one area can be applied to the province as a whole calls for additional investigation. Other evidence that there is still much to be learned about this species can be seen in the assumptions that have to be made about migration and its effect on the populations in poor habitat and in heavily shot areas. The claim that predators kill "diseased and unfit sharptails" might also be worth investigating.

The management section might be criticized for not explaining the survey techniques on which regulations are based. It might offer some comfort to anxious naturalists and sportsmen to know what lengths the Wildlife Branch is going to ensure sound sharptail management. Present plans call for conservation officers in the Southern District to check dancing grounds in each game management zone (41 zones south of Prince Albert), aerial surveys are contemplated, the intensive research program on the 16 square-mile study area west of Bulyea is being continued, kill surveys are being extended, and other phases of the sharptail's ecology are being investigated.

The entire series of conservation bulletins is well worth reading—more than once. — J. Bernard Gollop, Canadian Wildlife Service, Saskatoon.

Wild Life of Australia and New Guinea

By Charles Barrett
London, Wm. Heineman Ltd., 1955. 229 p., 36 pl., 83 illus. 21s.

Mr. Barrett describes the habits and habitats of kangaroos, cuscuses, bandicoots, numbats, wombats, phascogales, echnidnas, dingos, jerboas, platypuses, whales, dugongs, emus, cassowaries, brolgas, curlews, eagle-hawks, frogmouths, cormorants, petrels, pelicans, and fowls of swamp, sea, water and jungle. There are chapters on crocodiles, lizards and goannas, snakes, spiders and insects.

I found especially interesting the chapter on the megapodes (of which the brush-turkey is a member) which builds mounds to use as incubators. Another intriguing species is the "tom-tit" which builds a two storey nest, the second storey probably being used by the male as sleeping quarters — Tony Capuste, Prince Albert.

Little Moments Make Big Days

A report of the S.N.H.S. Annual Meeting, October 18-19, 1957
by Elizabeth Cruickshank, Regina

We rose at dawn for the birding expedition that began the Saturday sessions of the Saskatchewan Natural History Society's annual meeting. At that early hour when we find all things made new, a dainty crescent moon glowed in the southern sky and Mercury supplied the candlelight. With the sun painting the eastern sky with shades of pink we drove to Regina college where Margaret Belcher and Helen Mann—both bright as the stars of the morning—met us with smiles, bubbling coffee, steaming pots of tea, and rolls.

Birders who get together twice a year excitedly exchanged experiences. Doctors, professors, and dentists, a nurse, an artist, a store-keeper and a museum director, farmers, accountants, teachers and housewives, grandparents, middle-aged and young devotees—all young in heart and radiant. Sunrise is the time to enjoy birds, and people! George MacMillan from Maple Creek disturbed no one when he remarked "Birders are crazy, but it helps!"

Fred Bard led the motorcade to the Waterfowl Park where his geese, answering his call, came sailing under the bridge. There are now ninety-four birds; a month ago there were one hundred. One bird shot with sight of home returned to the pack to die.

There were ducks all over the water, a few crowding shoulder to shoulder in a sunny inlet. Sharing the sanctuary were three casualties —a pelican, a sandpiper and an avocet.

Many pairs of field glases were focussed on the birds. Fred Lahrman set up his tripod and 20 power glasses several times to settle arguments about the identification of certain species. Even experts, Bob Nero told us, d i s a g r e e among themselves! Twenty-eight species of water birds were checked and enjoyed and left behind at the sanctuary where we could continue to think of them protected from the hunter's gun.

From a thicket our first company of redpolls flew in chorus of soft twittering music. That made seventeen species other than water birds. Among the birds seen was a northern shrike. This led Steve Mann to tell us about the way in which he has observed these predators capturing sparrows. A shrike will perch not far from a company of house sparrows. For some time no bird will move. Then one sparrow will fly away. The shrike will pursue it. It will not return. We all wondered whether one bird was sacrificed to the shrike, and, if so, how that bird was chosen.

Another predator was busy in the marsh. A mink entered an opening in the bank; a muskrat came out as though jet-propelled. The mink must have stayed in the den for breakfast, for we did not see him again.

Back at the Museum after the early birding trip, members enjoyed a full day's program of talks and pictures. *John Hodges* had observed birds in nocturnal flights, and wondered how they fared in auroral storms. For *Fred Lahrman* it must have been a thrilling experience to be the bearer of the amazing pictures of the land-nesting Western grebes and Bob Nero's story of them to the A.O.U. convention in New Jersey. Some of the scientific charts at the meeting may have looked, as he said, "like snarled-up fishing gear," but there was nothing perplexing about the fine film and commentary he shared with us.

At the afternoon session, *R. Folker* explained the province's sharp-tailed grouse research program. We are glad that we do not have to share his office piled high with wings and tails sent in by hunters to provide further data.

Short grass prairie is one environment without moss, but *M. Welsh* of Prince Albert gave such interesting information about moss and showed such beautiful slides that we were moved to feel that here was a hobby we should like to pursue, though collecting specimens would take us far from home.

Bernie Gollop discussed methods used to discourage ducks from feeding in grain fields. Since ducks can't read, it seems a hopeless task; even hunters, who can read and know better, trespass on farmers' fields!

Boyd Wettlaufer, as always, absorbed the attention of his audience as he described archaeological excavations at Estevan — the first major salvage program in Saskatchewan where man, causing destruction, is aware of it and prepared to salvage what he can. The archaeological story of Saskatchewan is just now beginning to be told, he said.

Members shared kodachromes representing their special interests: *Tony Capusten* showed us his oddest and most beautiful mushrooms; *Elmer Fox* featured his prize photo of an avocet; *Dr. Houston* showed his recent bird pictures; *Dr. Rawson* brought samples of mountain flowers and fish; and *Mrs. Skinner* shared with us a few pages from the life story of Squicker, a squirrel guest at their feeding station.

The evening address was given by *W. Winston Mair*, Chief of the Canadian Wildlife Service, who explained what that service means across Canada. A summary of his speech appears in this issue of the BLUE JAY.

On display in the rotunda of the Museum during the meeting was a fine collection of Rocky Mountain plants collected and pressed this summer by one of the youngest members of the society, nine-year-old *Jonathon Gerrard* of Saskatoon.

We look forward to next year's meetings in the north. We missed some of our regular members this year, but hope to meet them and others whom we know only by name at the summer meeting at Emma Lake or at the 1958 annual meeting at Saskatoon. There is a kinship among all nature lovers which it is a delight to share.

Registration at the Annual Meeting

Registered at the annual meeting of the Saskatchewan Natural History Society October 18 and 19 were 74 persons from 23 points in Saskatchewan. **From Regina:** J. H. Taylor, L. T. Carmichael, F. H. Brazier, B. Shir, Mr. and Mrs. J. V. Hodges, A. A. Morrison, Dr. and Mrs. G. F. Ledingham, E. L. Fox and Reg Fox, B. Knox, Margaret Belcher, Edna Colbeck, Mrs. W. K. Cruickshank, F. G. Bard, Pearl Guest, B. A. Nelson, Marguerite Robertson, Mrs. M. Willers, H. Moulding, Mrs. L. Lamont, E. L. Paynter, Lucy Murray, Mrs. J. L. Beattie, L. Bennetto, Joyce Dew; **from Saskatoon:** F. Roy, Dr. D. S. Rawson, R. Pravada, J. B. Gollop, W. H. Beck, Mr. and Mrs. A. Dzubin, Mrs. M. Evans, Helen Mann, R. Mills, T. Sterling, R. V. Folker; **from Yorkton:** Dr. and Mrs. S. Houston, Mr. and Mrs. C. Shaw; **from Prince Albert:** M. A. Welsh, A. Capusten; **from Moose Jaw:** Mrs. F. B. Taylor, Dr. E. K. Schuh, Mrs. M. Dunn; **from North Battleford:** Mr. and Mrs. W. R. Mair; **from Skull Creek:** S. Mann; **from Fort San:** E. M. Callin, Dr. H. D. Jenner, Dr. J. G. Fyfe; **from Naicam:** W. Yanchinski, O. Guttormson; **from Tisdale:** K. E. Baines; **from Maple Creek:** Mr. and Mrs. G. MacMillan; **from Lockwood:** R. Willems; **from Keatley:** A. P. Pym; **from Hazelcliffe:** J. Provick; **from Neudorf:** R. W. Elmore; **from Francis:** Mrs. G. C. Buchanan; **from Indian Head:** Mrs. R. McLaughlin, Mrs. K. H. Skinner, Mrs. H. Newton; **from McLean:** Mrs. H. Bray; **from Abernethy:** R. Stueck; **from Dilke:** J. B. Belcher; **from Swift Current:** R. Caldwell; **from Rocanville:** Mr. and Mrs. E. Symons; **from Fairy Hill:** Mrs. C. Stewart; with special guests from outside the province: B. Wettlaufer of California and W. W. Mair of Ottawa.

Treasurer's Report

STATEMENT OF INCOME AND EXPENSES
for the year ending October 18, 1957

INCOME		
Sale of Blue Jays	$2,732.11	
Annual Meeting, 1956	127.00	
Interest	13.80	
Department of Natural Resources Grant	1,100.00	$3,972.9
EXPENSES		
Printing four issues of **Blue Jay**	$2,591.12	
Miscellaneous printing	153.59	
Postage	148.44	
Annual Meeting, 1956	127.03	
Stationery	49.60	
Labels and typing	74.01	
Bank Charges	13.82	
Honoria	350.00	$3,507.6
Excess of Revenue over Expenses		**465.3**

COMPARATIVE STATEMENT OF NET WORTH

October 18, 1957		
Cash in Bank Current Account	$ 398.75	
Cash in Bank Savings Account	451.12	
Bonds	302.25	$1,152.1
October 22, 1956		
Cash in Bank Current Account	$ 161.50	
Cash in Bank Savings Account	223.07	
Bonds	302.25	$ 686.8
Increase in Net Worth		465.3

THE SASKATCHEWAN NATURAL HISTORY SOCIETY

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With this issue your membership probably expires and the March issue will not be sent to you unless your dues of $1.00 for 1958 are sent in. If there is a blue renewal slip in this copy please return it as soon as possible with your remittance. Prompt renewal saves us money because we do not have to print or mail reminders. Please help us keep our expenses down. Receipts will not be sent out unless return postage is enclosed with your renewal. Please notify us if you do not receive your BLUE JAY.

A larger circulation reduces the cost of the BLUE JAY proportionately. New members are always welcome and necessary. If you have enjoyed the BLUE JAY introduce it to your friends and send in a dollar for them too. New members joining at this time will receive five issues for the price of four as long as our supply of this issue lasts.

MEMBERSHIPS

All persons interested in any aspect of nature are invited to join the Saskatchewan Natural History Society. Membership dues are per calendar year and are $1.00 per year. The BLUE JAY is sent without charge to all members not in arrears for dues. Send your membership dues to the Treasurer, Elmer L. Fox, 1053 Gladmer Park, Regina, Saskatchewan, Canada. Cheques must include exchange.

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FEMALE GREAT GRAY OWL —*Photo by A. F. Oeming*

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