The BLUE JAY

OFFICIAL BULLETIN

of the

YORKTON NATURAL HISTORY

SOCIETY

In Co-operation with

The Saskatchewan Provincial Museum

THE BLUE JAY

The official organ of the Yorkton Natural History Society continued in loving memory of the founder, our first President and Editor, the late Isabel M. Priestly.

Editor - C. C. Shaw

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Y.N.H.S. Notes

A considerable number of people, other than members of the society attended the December meeting when Mr. Wilbur Young spoke to the society on the subject of beekeeping. The meeting was held in the city hall council chambers, December 16.

Dealing with the business phase of the subject, Mr. Young outlined suggested methods to follow from the time the bees were received in packages until the marketing of the honey. He said there are now approximately 75,000 hives of bees in Saskatchewan and that beekeeping has developed into a $1,000,000 industry in the province.

He told of the three types of bees within a hive, the queen, drones and workers, how each is raised and performs its allotted tasks within the hive. He explained how the worker bees serve an apprenticeship at all phases of work in a hive, such as cleaning out the cells, nursery work, guard duty, collecting honey, ventilating the hive and other similar duties.

He told how the bees by feeding the larvae a different diet are able to produce either workers or a queen bee according to the needs of the hive. Honey, he said, is the purest form of food known to man. Disease germs experimentally injected into honey die within a few minutes.

Mr. Young also told of the work being done by scientists using sulpha drugs to combat the hazard of American foul brood. Following Mr. Young's address, Mr. Paul Wellgan showed several nature films.

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At our first meeting in the new year, held Jan. 20, Mr. W. J. McDonald gave us an interesting report on efforts made the past two summers to locate sites of historic forts along the waters of the Assiniboine river, north-east of Yorkton.

Mr. McDonald said that further maps and descriptions of the location of Fort Alexandria, have been received from the Department of Archives at Ottawa and efforts to find the site will again be made this coming summer. Fort Alexandria, established by Daniel Harmon, was one of the earliest forts built in this part of Saskatchewan. Mr. McDonald said the possible site of the fort has now been narrowed down to a three mile section of the river.

Other fort sites being sought are: Fort Hibernia a North West Company fort built in 1803; Grant's House, known also as Aspin House, built by Cuthbert Grant in 1793; Carlton House, sometimes known as Fort Assiniboine, the first Hudson Bay Company fort on the Assiniboine river built in 1790; Marlboro House opposite Carlton House and Belleau's fort, a free traders establishment near Fort Pelly.

The society has obtained a picture of Fort Pelly and a copy will be placed in the city hall files. Mr. Fred Langstaff described the Fort Pelly buildings and their furnishing as he saw them during visits to the Fort about 1895. Films pertaining to explorations were shown by Mr. Paul Wellgan.

CONSERVATION

Effective conservation of our wild life depends upon the attitude of our youth, and so we should do all in our power to encourage our young men and women to think along these lines.

The following was written by a studen of the Provincial Correspondence school in answer to a question asked on an assignment dealing with conservation problems. We tend our congratulations to Miss Edith Allenbrand of Handel, Saskatchewan.

"Before the red lily (we call it Tiger Lily) became the emblem of our province - before, indeed, I was old enough to know what the word means, my parents taught my brothers and sisters and me high ideals concerning our beautiful flowers. We learned as soon as we learned to walk to turn our footsteps toward nature and we wandered alone, by twos and threes, or the whole family together across the railway track and down the ravine to the Lake.

Down along the Four Mile Lake, as along other small lakes where there is seldom water in July, the Tiger Lily grew brilliant and beautiful. We prized it highly, among all our flowers, perhaps the most highly, probably because five of us are redheads and our vanity nourished on flattering comparisons.

At any rate, we loved the Western Red Lily and it is a love that will never, never die.

According to their way of teaching, Mom and Dad did the things when we were small that they expected us to do when we grew up. When the lilies grew thick we picked some for our table. When they were only scattered among the grasses we left them there "for next year." It was not a conscious conservation. It was the instinct of preservation born in men who love the soil.

With an old Bennett wagon and a team of mules that were colts we didn't get very far from home. Our recreation depended on nature. The thirties were hard years for the red lilies. They became our emblem unconsciously. We dug up a couple of roots for our flower bed, but they didn't survive the summer heat. We found them only near the lake, and they slowly disappeared from there.

Now we are older and greater responsibilities take larger shares of our time. But though visits to nature are less frequent they are still a part of our lives. Last year we wandered along the lake in search of berries as we have always done. And last year, after years of absence, there were lilies. It was not premeditated, a scientific thought or action. It was a rebirth of our childhood. We gazed on them gloriously alive above the sunscorched grasses. Spontaneously we knelt to touch the velvet dresses and rose to leave them glowing in the sunset."

Miss Allenbrand's essay was published in the September, 1947, issue of the Country Guide.

BIRD NOTES

Blue Jay: With Blue Jays being reported as more common than usual in the east central part of Saskatchewan all during the past summer it is most interesting to note that members of the Yorkton N.H.S. noted 7 in their Christmas count at Yorkton.

Willow Ptarmigan: The lone individual noted by C. Stuart Francis at Torch River at Christmas is only the second report of this northern species received by the "Blue Jay" in the past six years. During the 1930's, Ptarmigan were regularly seen each winter in the more northern settled regions.

During 1947 Mr. Arthur Ward, Burnham, reports banding 142 individuals of 24 species, including the following species: Orange-crowned Warbler,1; White-winged Crossbill, 3; Pine Siskin, 5; Least Sandpiper, 1. Three Brown Thrashers banded by Mr. Ward returned to the traps a total of thirteen times during the summer. Mr. Ward lives on the bare prairie and a rather remarkable number of birds are attracted to the shelter belt and lawns around his home.

Mr. Chas. F. Holmes, R. R. 3, Salmon Arm, B. C., writes: "I have changed my address after residing in S.W. Saskatchewan for 39 years. I was sorry to leave for many reasons and particularly sorry to no longer be able to keep tab on the wild life there." Mr. Holmes will be well remembered while residing at Dollard, Sask., for his fine representative collection of birds. Mr. Holmes sends us a Christmas count taken during a walk of some 4 miles south of Shuswap Lake, B. C. Pheasant, 1; Flicker 4; American Crow, 300 (est.) Chickadee, 15; Brown Creeper, 3; Bohemian Waxwing, 25; Pine Grosbeak, 16; Magpie, 4.

THE WINTER OF 1946-47

The winter of 1946-47 was such an outstanding one from the point of depth of snow, that for reference, it should be kept in mind. After the New Year the snow piled up in the woods in a manner rarely seen. Drifts were in many cases 12 to 14 feet deep, and all around the smaller bluffs there were snowdrifts six to twelve feet deep.

The snow was so deep that deer were confined to the centers of quite large areas of bluff and they had places in there that were almost like yards. Deer are browsers and so they gained sufficient food from the small bushes and trees that they like, to keep alive through the winter. However, they were in such poor condition that a great number died from weakness on account of a delayed spring. Some of these weakened deer also fell victims to coyotes. I would say that the loss of deer, due to the hard winter and predators, was at least twenty-five per cent. Many farmers took the trouble to make feed available, and if it were not for this, the loss would have been heavier.

Birds seem to be able to withstand any amount of cold as long as they have adequate food, and many of our winter birds came through all right. Many people took pity on the birds and placed out food for them.; that certainly helped to bring many through safely. There is no denying, however, that the heavy snow was hard on certain species. The Hungarian Partridge suffered severely as they are not used to burrowing under the snow, as is customary with the Sharp-tailed Grouse, and their food problem was a big one. Most of those that came through the winter were able to do so because they spent most of the time near a straw-stack, or near some farm yard. The Hungarians have a habit of huddling down all together in a small circle. In case of deep snow and drifting the loss in such cases could embrace the whole covey. The Sharp-tailed Grouse is so different in this regard for they burrow under the snow individually, and only rarely are they unable to break the crusted snow to escape. I have often seen them fly out of an expanse of snow that did not show a trace of where they went in, due to drifting snow after they had made the burrow. Under adverse conditions the Sharp-tail seems able to rustle food more easily than the Hungarian, and so is less subject to heavy losses. I do not think that the Ruffed Grouse suffered in any way. Living as they do in the deeper woods, and having buds that they like to eat available. Reports indicate they came through in fine shape and are increasing.

One rather strange phenomena, which may have had nothing to do with the weather, was the marked decline in the gopher population. This was probably due to some disease and not to the depth of snow or the severity of the weather, for these mammals hibernate underground. At least the farmers are not complaining because the gopher population is reduced.

H. S. Swallow.

1947 Christmas Bird Counts

BATTLEFORD. Dec. 29. Walk of six miles. Time afield: 10 a.m. to 4:30 p.m. Weather clear and frosty. Temp. 15 degrees. Hungarian Partridge, 15; Chuker Partridge, 7 (no details, Ed.) Ring-necked Pheasant, 11; Snowy Owl,1; Hairy Woodpecker, 3; Downy Woodpecker, 2; Blue Jay, 3; American Magpie, 7; Black-capped Chickadee, 11; Evening Grosbeak, 5; Lapland Longspur, 3. Totals, 11 species, 69 individuals. C. INNES.

TULLIS Dec. 24. Fields around the hamlet of Tullis, together with a trip to the South Saskatchewan River and adjoining coulees. Weather clear. Wind, strong, N.W.; 10 inches of snow, drifts to 30 inches. Temp., 33 at start, 30 degrees at return. 3 observers in one group. Total party hours afield, 3½ (1½ by car, 2 on foot); total party miles 22 (18 by car, 4 on foot)

1947 Christmas Bird Counts

Time afield; 11.30 a.m. to 3.00 p.m. Sharp-tailed Grouse, 3; Hungarian Partridge, 33; Snowy Owl, 1; American Magpie, 3; Starling, 15; English Sparrow, 120 (est.); Snow Bunting, 39. Total, 7 species, 214 individuals. (Downy Woodpecker noted Dec. 23. The Starlings represent the first winter record for this district.) J.B. TULLIS, WARREN S. ROY, J. FRANCIS ROY.

KAMSACK to VEREGIN Dec. 26. 2.15 to 3.00 p.m. and 4.00 to 4.45 p.m. Clear bright day; N.W. wind; 2 feet of snow. Temp. 32. 19 mile stretch of highway covered on outgoing and return trips. Hungarian Partridge, 9; Snowy Owl, 1. Total, 2 species, 10 individuals. J. NEIL BLACK.

YORKTON. (area 15 miles in diameter with Yorkton as center.) Dec. 26; 9:00 a.m. to 5:00 p.m. Clear, bright day; calm in morning, but wind at 15 mph by late afternoon; loose snow, averaging 20 to 24 inches in depth. Temp. 20 at start, 34 by 1 p.m. 9 observers in 5 groups. Total party hours afield, 12(5 by car and 7 on foot); total party miles, 38½ (34 by car and 4½ on foot.) Ruffed Grouse, 3; Sharp-tailed Grouse, 76; Hungarian Partridge, 14; Downy Woodpecker,3; Canada Jay, 1; Blue Jay, 7; Magpie, 4; Black-capped Chickadee, 4; Bohemian Waxwing, 58 (est.) English Sparrow, 217; Snow Bunting, 4. Total 11 species, approximately 391 individuals. JIM ALLEN, BROTHER CLARENCE, JIM DAVIS, FRED DICKER, DR. C. J. HOUSTON, C. STUART HOUSTON, FRED LANGSTAFF, MRS. J. MEEKMA, NATHANIEL OLSON. (Members Yorkton Natural History Society.)

BULYEA Dec. 25. Walk of 7 miles. Time afield, 2½ hours. Temp. 25 above. No wind. Black-capped Chicakdee, 3; English Sparrow, 17. Total, 2 species, 20 individuals. CLIFF SHAW.

WAWOTA Jan. 3. Walk of 5 miles. Temperature 20 above. Sky cloudy and wind south. Prairie Chicken, 9(Sharp-tails ? Ed.) Hungarian Partridge, 15; Snowy Owl, 1; Woodpeckers, (species?)3; Magpie, 8; Black-capped Chickadee, 20; English Sparrow, 35; Common Redpoll, 6; Snow Buntings, 31. Total, 9 species, 128 individuals. GEORGE C. WHITE.

BURNHAM (No date given) Snow 8 inches in depth. Temp. 20 above. Eagle, 1 (flying south-west at too great a distance to identify it as to species); Hungarian Partridge, 11; Starling, 6; English Sparrow, 20. Total, 4 species, 38 individuals. ARTHUR WARD.

SASKATOON Dec. 26. In City of Saskatoon. Weather, clear and mild. Temperature 15 to 20 above zero. Time spent afield, 4 hours. Distance covered, 4 miles. Lesser Scaup, 3; Hungarian Partridge, 9; Blackcapped Chickadee, 1; Bohemian Waxwing, 24. Total, 4 species, 37 individuals. (The one male and two female Lesser Scaup were on open water below the dam.) ROY CRAWFORD.

TORCH RIVER Birds seen around the farm yard and trips to logging bush two miles distant between Dec. 20 to Jan. 5. Open field to heavy forest. Mild weather and light winds. First occurrence of each species recorded. Goshawk, 1; Golden Eagle, 1; Ruffed Grouse, 4; Sharp-tailed Grouse, 6; Willow Ptarmigan, 1; Hawk Owl, 1; Saw-whet Owl, 1; Pileated Woodpecker, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Canada Jay, 4; Blue Jay, 6; Magpie, 6; Raven, 3; Black capped Chickadee, 4; White-breasted Nuthatch, 1; English Sparrow, 35 (est) Evening Grosbeak, 2; Pine Grosbeak, 5; Common Redpoll, 4; Snow Bunting, 20(est.) Total, 21 species, approximately 108 individuals. This winter has been notable

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regarding the scarcity of Great Horned Owls, Hudsonian Chickadees and Redpolls. The lone Ptarmigan is the first one I have seen in several years. C. STUART FRANCIS.

BENITO, Man. (Just a few miles from Saskatchewan boundary.) Jan. 3. Six miles through open country, scattered with poplar bluffs and ravines, S.W. wind, drifting snow. Temperature 30 above. Ruffed Grouse, 5; Sharp-tailed Grouse, 3; Blue Jay, 1; Magpie, 1; Raven, 3; Blackcapped Chickadee, 3; Evening Grosbeak, 2; Pine Grosbeak, 1; Snow Bunting, 10. Total, 9 species, 37 individuals. Grouse sign good. Predators not very numerous. A. ISFELD.

SANDWITH Jan. 1. Birds seen around the farm. Temp. 5 above zero. Sharp-tailed Grouse, 4; Saw-whet Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Blue Jay, 1; Magpie, 7; Northern Shrike, 1; English Sparrow, 9; Pine Grosbeak, 9; Snow Bunting, 37. Total, 10 species, 71 individuals. GUSTAVE J. YAKI.

NAICAM Jan. 2. Birds observed during a walk of 5 miles, beginning at 11 a.m. Weather, clear, wind at 20 mph. Temp. 25 above. Magpie, 1; Black-capped Chickadee, 3; English Sparrow, 8; Snow Bunting, 6. Total, 4 species, 18 individuals. W. YANCHINSKI.

GRENFELL Birds seen on an 11 mile drive from farm to Grenfell, by team and sleigh, Jan. 6. Two observers Bluff country. Wind S. E. at 15 mph. Sharp tailed Grouse, 20; Magpie, 1; Black-capped Chickadee, 1; Snow Bunting, small flock. Total, 4 species, over 22 individuals. MR. & MRS. JOHN HUBBARD JR.

SHEHO Birds seen while doing chores on farm, Dec. 30. Sky mostly clear, wind light, S.E. Temperature - 25 in morning - 05 at noon. Sharp-tailed Grouse, 12; Great Horned Owl, 2; Hairy Woodpecker, 2; Downy Woodpecker, 1; Magpie, 3; Black-capped Chickadee, 3; Pine Grosbeak, 17; Snow Bunting, 20. Total, 8 species, 60 individuals. (Goshawk seen January 2.) WM. NIVEN.

SKULL CREEK A drive of 4 miles by sleigh, Dec. 28, and a walk of 1 mile through bush the following day. Temperature, 42 above Dec. 28 and 6 below Dec. 29. Amer. Rough-legged Hawk, 1; Golden Eagle, 1; Ruffed Grouse, 2; Sharp-tailed Grouse, 13; Hungarian Partridge, 5; Great Horned Owl, 2; Hairy Woodpecker, 2; Downy Woodpecker, 1; Horned Lark, 9; American Magpie, 46; Black-capped Chickadee, 5; Northern Shrike, 2; English Sparrow, 32; Brewer's Blackbird 1; Pine Grosbeak, 1; Tree sparrow, 4; Snow Bunting, 60. Total, 17 species, 187 individuals. STEVE A. MANN.

SCOTT Dec. 26. A walk of 2 miles over field, along hedges and about buildings. Approx. 6 inches of snow on the level. Calm day. Temperature 29 to 34 above. Hungarian Partridge, 62 (7 coveys); American Magpie, 3; European Starling, 2; English Sparrow, 60 (est.) Total, 4 species, approx. 127 individuals. F. ROUSE.

GLASLYN A drive of 36 miles through the park country north of Glaslyn Jan. 3. 1 species only, American Magpie, 1. CHARLES I. THACKER.

SPIRIT LAKE Jan. 3. A snowshoe hike of 4 miles through bush and into the sandhills. Time spent afield, 3 hours. Weather foggy. Temp. zero to 22 above. Two feet of snow with drifts of 5 to 6 feet. Downy Woodpecker, 1; American Magpie, 2; Black-capped Chickadee, 2. Three species, 5 individuals.

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(Bohemian Waxwings seen Dec. 19; Pine Grosbeaks, Nov. 3 and Redpolls Nov. 18. Hanging dried fruit abundant. JOYCE GUNN.

LAIRD Jan. 1. A walk of 2 hours through clumps of trees and brush. Distance covered, three to four miles. High wind, Temp. 12 to 15 above. Blue Jay, 1 (others heard); English Sparrow, 50 (est.); Blackbird (species ?) 1. Total, 3 species, approx. 52 individuals. D. MURRAY.

TISDALE Dec. 25. At or near the feeding station of E. W. VanBlaricom, K.C. and in nearby woods. Pileated Woodpecker, 1; Hairy Woodpecker 1; Downy Woodpecker, 1; Blue Jay, 2; American Magpie, 1; Bohemian Waxwing, 55; English Sparrow, 6; Evening Grosbeak, 8. Total, 8 species, 75 individuals (no Canada Jays or Redpolls this winter.) E. W. VAN BLARICOM.

GERALD Jan. 1. Count taken around the home yard. Sky clear. Temperature 20 above at 3 p.m. Downy Woodpecker, 1; Blue Jay, 1; Blackcapped Chickadee, 1; Bohemian Waxwing, 30; English Sparrow, 6; Evening Grosbeak, 9; Pine Grosbeak, 25. Total, 7 species, 72 individuals. LADISLOVE MARTINOVSKY

HAWARDEN Dec. 27. Observations made while doing farm work about the yard from 10 a.m. to 3 p.m. Snow 15 inches in depth. Temp. 22 above. Light wind. Sky clear to partly cloudy in late afternoon. Open prairie, no trees except groves around farms. Hungarian Partridge, 12; Snowy Owl, 1; Magpie, 1; English Sparrow, 125 (est.) Total, 4 species, 139 individuals, (est.) Snow Buntings seen during early Dec. Northern Shrike, Dec. 12. One Golden Eagle, Dec 2. Starling, Dec. 22. HAROLD KVINGE.

NIPAWIN Jan. 2. Birds seen during a walk of five miles, through town and along east side of the Saskatchewan River. Snow 22 inches in depth. Wind S.W. at 15 mph. Sky clear to slightly overcast. Time afield, 4 hours. Two observers together. Ruffed Grouse, 2; Great Horned Owl, 1; Canada Jay, 3; Blue Jay, 3; Magpie, 2; Black-capped Chickadee, 3; Hudsonian Chickadee, 5; Bohemian Waxwing, 50; English Sparrow, 10; Bronzed Grackle, 1; (grackle present about grain elevators since early November) Pine Grosbeak, 8; Common Redpoll, 4. Total 12 species, 92 individuals. Other species seen during Christmas week include, Hairy Woodpecker, Raven, Evening Grosbeak and Snow Bunting. ALEX. WRIGHT, DAVID H. WRIGHT.

WAUCHOPE Dec. 27. From Nixon farm to Wauchope 3½ miles, then from Redvers west 2½ miles. Sharp-tailed Grouse, 2; Pheasant, 1; Magpie, 2; English Sparrow, 200 (est.) Total, 4 species, approx. 205 individuals. An exceptional dearth of wildlife; a flock of Bohemian Waxwings early in November and a small flock of Pine Grosbeaks just before Christmas. Snow Buntings came early but are very scarce. MRS. MARION NIXON.

HAZLET. Jan. 1. Bright sunny day. Temperature 35 above. Hungarian Partridge, 4; Starling, 12; English Sparrow, 4. Total, 3 species, 20 individuals. Very few birds. MRS. OLSGARD.

SUMMARY OF 1947 XMAS BIRD COUNTS

25 counts, from almost every section of the province, thanks to the continued co-operation of our members, resulted in 37 species and over 2161 individuals being recorded. Despite the count being taken in rather milder weather than any previous Census, no greater number of species or individuals were noted by reason of this. Deep and drifted snow in some areas caused the

number of miles traversed by observers to be rather less than in previous counts.

Four species not recorded in any previous count were noted. These were Lesser Scaup at Saskatoon; Chukar Partridge at Battleford, Hawk Owl at Torch River, and Bronzed Grackle at Nipawin. These new records bring the total species recorded in mid-winter in Saskatchewan, in six years of Christmas Bird Counts, to a rather amazing 58.

The Magpie is still the most commonly recorded species, along with the English Sparrow. To offset this, sportsmen should be heartened to hear that our Game Birds - Sharp-tailed Grouse and Hungarian Partridge, and to some extent Ruffed Grouse- seem to be making a fair comback and with luck and a good breeding season in 1948 should be well on their way to recovery after being at a very low ebb during the past few years. At the same time, birds of prey appear to be very scarce.

Winter birds from the north such as the Pine Grosbeak, Evening Grosbeak and Bohemian Waxwing, while apparently well distributed over the province are present in much smaller numbers than last winter, in the more southern parts. Redpolls, usually an abundant visitor, prove to be extremely scarce, there being only 10 individuals reported from three points.

A Note on Richardson's Ground Squirrel in Saskatchewan.

By W. A. Fuller.

Richardson's ground squirrel, the prairie "gopher", is a well-known animal to most Saskatchewan residents. It is probably the most familiar of our native wild mammals. Such a well-known mammal, however, is apt to be taken too much for granted and consequently, many of the details of its life history go unnoticed.

Zoologically, Richardson's ground squirrel is known as Citellus richardsonii Sabine. Its near relatives in Saskatchewan are two in number, Citelus franklini, the grey or bush "gopher" and Citellus tridecemlineatus, the 13-lined or striped "gopher." More distant relatives are other members of the squirrel family including the red squirrel, chipmunk, ground hog, and in the extreme southwest corner of the province, the black-tailed prairie dog. The proper common name for the genus Citellus is ground squirrel. The term "gopher" should be reserved for the pocket gopher which is all too often incorrectly labelled "mole" in Saskatchewan.

A study of the abundance of ground squirrels has been done in Alberta by J. H. Brown of the Alberta Rodent Plague Survey. His results, based on actual counts of burrows, show that native prairie, the natural habitat of the animals, harbors the greatest number of individuals - about 5,120 per section (Brown & Ray 1943.) This type is followed by "abandoned" (3,840) "grassland" (3,200) and "cultivated" (1920.) On irrigated land, flooding keeps the population down to a minimum.

A small amount of information concerning the reproductive cycle was collected in the springs of 1946 and 1947, mainly near Saskatoon. In 1946, the animals were first seen to be active during the last week of March. The first individuals were collected on April 15 - a female carrying 8 embryos. A week later, April 23, two females, each with 10 embryos nearly at term, were collected. On April 25, two females collected had just given birth to their litters and were nursing. The young were first seen above ground at Estevan on May 15, a warm sunny day. The spring of 1947 was generally much earlier than that of 1946, however, the first active ground squirrel was "drowned out"

on March 22, a bright sunny day. Three days later, all small puddles were again frozen over, yet several were seen and one collected. On March 27, (the day the river ice broke at Saskatoon) two females were collected and both were in breeding condition. Nearly four weeks later, April 21 and 23, three females collected were pregnant and near term as evidenced by the size of the embryos. This is in close agreement with Brown & Ray's statement that the gestation period is 27 days. The number of embryos observed in 1947 was smaller than in 1946, and there was evidence that some had died and were being reabsorbed.

Ground squirrels are regularly infested with parasites; fleas, lice and ticks in their fur and various round and flat worms in their internal organs. The fleas and ticks, on account of their disease-transmitting propensities, are reasonably well known, however, much study is still needed on the species of internal parasites, their life histories and general effect on the animals.

The economic importance of the Richardson ground squirrel is overwhelmingly on the negative side. The destruction it wreaks on agricultural crops is too well known to prairie people to need enlargement here. A note on its role as a vector of disease, however, may be of some interest. It may be a reservoir for at least three serious diseases to which man is subject. The first of these, bubonic plague, or black death, has spread through the western United States, into Alberta, and is now known to be in Saskatchewan. It is transmitted from animal to animal and to man by fleas of various species. At least 3 species of fleas, capable of transmitting plague, infest Saskatchewan ground squirrels. Humans may also acquire the disease by handling infected animals. Tularemia, also known to be in Saskatchewan, is transmitted by numerous methods including ticks and handling infected animals. Rocky Mountain Spotted Fever, also transmitted by ticks, has not yet been reported from Saskatchewan, although it is prevalent in Montana and Alberta.

It should be obvious, then, that the payment of a bounty for tails removed from ground squirrels is an unsound policy from the public health point of view. Other artificial means of control are legion and will not be entered into here. A quotation from Brown & Ray, concerning the role of natural predators should be of interest, however. "Hawks are the greatest single factor in the natural contest of ground squirrels and every effort should be made to encourage their increase by declaring them a protected bird." Other important predators are owls, weasels, badgers, coyotes and snakes.

This outline is by no means a complete study and is based mainly on fragmentary observations. It may, however, serve to illustrate that much remains to be discovered about even our commonest mammals, and that chance observations, accurately recorded, may ultimately prove to be of some value.

Reference: Brown, J. H. & G. D. Ray, 1943 - The Richardson ground squirrel Cittellus richardsonii Sabine, in southern Alberta: its importance and control. Scientific Agric. Vol. 24, No. 4, Sec. 1943.

ENTOMOLOGY

TREE & SHRUB INSECTS

by L.O.T. Peterson

In the survey of tree and shrub insects carried out in the Agricultural Areas of the Prairie Provinces during the 1947 season, more attention was given to middle eastern Saskatchewan than had been possible in preceding years. In this

work, considerable time was spent by J. L. Green, Forest Insect Ranger, and assistance was also given by persons living in the area who co-operated in the Survey undertaking. In consequence, many pests of importance to trees and shrubs, and of interest to rural and urban residents were encountered. The following notes give some information on the more important species. For purposes of simplicifcation, these are grouped according to the trees and shrubs which they attack.

SPRUCE PESTS

Yellow-Headed Spruce Sawfly - The larvae of this sawfly devour the needles of spruce. They are first seen on the trees in late June or early July and may continue to be present until mid August. The larvae are greenish with brownish longitudinal stripes and a reddish-brown head. When full grown they are about one inch long. This sawfly is chiefly destructive to planted shelterbelts and to ornamental spruce, though trees in native stands may also be attacked. During the 1947 season the yellow-headed spruce sawfly was observed at Archerwill, Barford, Barrier Creek, Canora, Churchbridge, Dahlton, Elfros, Foam Lake, Fosston, Gerald, Goodeve, Hazel Dell, Invermay, Ituna, Jasmine, Kamsack, Kelvington, Ketchen, Langenburg, Lemberg, Lorlie, Margo Mehan, Nora, Norquay, Oakla, Preeceville, Rama, Rose Valley, Saltcoats, Sasman, Stenan, Stockholm, Sturgis, Theodore, Tisdale, Wadena, and Yorkton.

Balsam Fir Sawfly - Like the yellow-headed spruce sawfly, this insect also feeds on the foliage of spruce. The larvae are olive green with jet-black heads. The cocoons formed by mature larvae are attached to the needles whereas those of the yellow-headed spruce sawfly occur in the soil. The balsam fir sawfly is more abundant in Manitoba than the yellow-headed spruce sawfly, but less abundant in Saskatchewan. In middle eastern Saskatchewan, it was encountered at Archerwill, Barrier Creek, Crystal Lake, Dahlton, Hyas, Nora, Norquay, Pelly, Saltcoats, Stenan, Sturgis, Wadena and Yorkton.

Pine Needle Scale - Although this scale often infests pine, its principle host in the Prairie Provinces is spruce. Trees grown under shelterbelt conditions or for shade or ornamental purposes are often seriously attacked, whereas trees in native stands seem almost immune. Very heavy populations of this scale occurred in some locations in the City of Yorkton and serious damage from it was already much in evidence.

Balsam fir aphid - This small light green aphid infests the new growth. The honeydew which it secretes causes the needles to adhere to one another in a sticky mass. Occasionally it is quite abundant. Only a few light and scattered infestations were encountered.

Spruce Gall Aphids - The aphids belonging to the Adelges group cause the new terminal growth of the twigs to swell into compact, almost pineapple-like growths or galls. In the Pineus group only the basal portion of the needles are affected, and the resultant galls have a small diameter and are less compact in structure. Both kinds of galls were present throughout the area and occurred in native stands as well as in planted shetler belts and on ornamental trees.

Spruce Mite - Though not an insect this mite is a very important pest. Very often it causes serious damage to spruce grown in shelterbelts and as shade and ornamental trees. It is too small to be seen with the unaided eye but its presence is usually revealed by a dull mottled discoloration of the needles and by the occurrence between the needles of a fine compact webbing which is readily

observed from the undersides of the branches and twigs. Heavy infestations of this mite were encountered at Esterhazy, Kelliher, and in the City of Yorkton. Lighter infestations were observed at Canora, Churchbridge, Foam Lake, Gerald, Invermay, Ituna, Kamsack, Kelvington, Mehan, Theodore, Tisdale and Wadena.

Since the spruce mite may give rise to as many as six generations annually, its numbers can increase very rapidly.

LARCH PESTS

The Larch Sawfly - Tamarack, and native and introduced larches are hosts of this sawfly. In colour and size the larvae resemble somewhat the balsam fir sawfly larvae. They are more gregarious, however, and usually occur in clusters on the foliage. The larch sawfly was found at Archerwill, Barrier Creek, Gerald, Langenburg, Norquay, Pelly, Sturgis, Tisdale and Yorkton.

POPLAR AND WILLOW PESTS

The Western Willow Leaf Beetle - The fire-swept appearance of native willow noticeable during the summer months, and the stripping of poplar, especially young aspen during the spring and fall are typical of the damage caused by this insect. The adults are small brownish-black beetles which may be seen on both willow and poplar, occasionally in very large numbers. The larvae are small black grubs, found only on willow. Both adults and larvae are gregarious.

In general, damage to poplar and willow from this pest occurred throughout the whole of middle eastern Saskatchewan as well as in much wider areas also covered by the Survey. The damage was not continuous and varied from light to severe.

Besides being a very important pest of poplar and willow, the western willow leaf beetle is very interesting because of its swarming and migratory habits. Observations made during several seasons have revealed that just prior to egg laying in the spring, literally millions of adults may be seen clustered on willows and poplars, in a comparatively small area, and for reasons unknown, may take to flight and travel long distances, before coming to rest on trees again.

Poplar Borer This borer is best known as the large white grub which forms large open galleries in aspen trees. It was present in almost all stands of native poplar examined in the area. Although other species of poplar may be attacked by it, aspen is the preferred host. In dense stands, marginal trees are usually the only ones affected.

MANITOBA MAPLE PESTS

Boxelder Leaf Roller - The presence of this insect is first indicated by the occurrence in the spring of small white-appearing tortuous mines in the leaves. Later these are followed by the formation of blotch-like mines, and when the larvae emerge from the latter, by the curling of the leaves, beginning at one of the tips. Small amounts of damage by this insect was observed at Kelvington, Lorlie, Sasman, Theodore and Yorkton. When abundant, the boxelder leaf roller is capable of causing very severe defoliation.

Manitoba maple Payllid - This small fawn-coloured aphid-like insect is often very abundant on Manitoba maple. Like aphids it secretes a sticky substance known as honeydew which gives the leaves a shiny appearance. When winged, this insect flies out from the foliage in "swarms" upon the slightest disturbance. This payllid was encountered in several districts throughout the area.

Salt and Pepper Currant Moth - The caterpillars of this moth are loopers. They vary in colour from dull green to brown, and when full grown are nearly two inches long. Very light infestations were observed at Elfros, Goodeve, Lorlie and Yorkton. Caterpillars of the salt and pepper currant moth may also attack caragana.

Spotted Halisidote - The black and yellow-banded woolly bears of this arctiid moth are present in the late summer and fall. Rarely have they become sufficiently numerous to cause much stripping of the foliage. Manitoba maple appears to be their preferred food plant. Small numbers of these woolly bears were seen at Goodeve and Melville, and at Lorlie noticeable defoliation by this insect was noted in one Manitoba maple shelterbelt.

Manitoba Maple Twig Borer - The larvae of this small moth burrow into the succulent growing tips of Manitoba maple, causing them to develop into long spindle-shaped woody galls. Very often such growing tips are killed, resulting in a pruning effect on the trees. Damage from this borer was noticed in several districts in the area.

AMERICAN ELM PESTS

Two species of aphids were encountered in a few districts visited. The one species, Eriosoma americanum Riley, causes the leaves to curl, usually beginning at one of the margins. Within these curls, large numbers of aphids are present. The other species, Eriosoma lanigerum Haus, causes a rosette-like development of the leaves. It is usually less common than the former species.

VIRGINIA CREEPER PESTS

The Grape Leafhopper - This leafhopper was present on Virginia creeper in several districts and in many cases very severe damage to the foliage was caused.

The grape leafhopper is a small fawn coloured insect. In its immature stage it is wingless and the young may be seen on the undersides of the leaves. In the adult stage it is winged and very active, and has the habit of flying out from infested vines in large numbers, whenever the latter are disturbed or approached.

ENTOMOLOGY

A PLEA FOR MORE ASSISTANCE

For some years the Shelterbelt Insect Laboratory at Indian Head, Saskatchewan, has endeavoured to develop and carry out an annual survey of insects affecting trees and shrubs in the Agricultural Areas of the Prairie Provinces. To achieve an undertaking of this kind, a great deal of co-operation and help must be obtained from private persons, as laboratory personnel will never be adequate to do the job alone. Such assistance has been forthcoming in many districts, and is indeed very much appreciated. In numerous other districts, however, it has not been obtained, with the result that much

of the information accumulated annually on tree and shrub insects is sketchy and incomplete.

The Laboratory would very much like to see the present situation remedied, as the more complete the Survey, the more help can the Laboratory give to the public in coping with such problems as may arise. A direct appeal is made, therefore, to persons, regardless of their place of residence, or their vocation, interested in insects or in the well-being of trees and shrubs, to signify their willingness to assist with this work. Would such persons write to the Laboratory and full particulars on the Survey will be gladly forwarded.

Lloyd O. Peterson,
Officer in Charge,

The following excerpts have been taken from an excellent article "Rats on the Warpath" by Charles Neville and appeared in the Jan. 15, 1948, issue of McLeans Magazine. The article is well prepared and should strike home the importance of determined action on our part to clear out the rats.

Any natural agency such as owls, weasels should be given every protection. Too much emphasis has been placed on the questionable harm caused by coyotes, wolves, skunks, weasels, badgers, crows, hawks, and owls. The damage here results in the individual, never the species. To repeat from Mr. Neville's article "The rat does more damage than all the world's other mammal pests combined"

Fred G. Bard.

RATS ON THE WARPATH

In a railway yard, the rat forces of the East met those of the West, bridging the world's last no rat's land in the man-versus-rat war which began many centuries ago.

Man can no longer boast that he alone, of all the earth's creatures, has spread out to occupy the entire world. With the fall of Alberta, the last rat frontier, the rat hordes, too, can now claim that every habitable corner of the globe is theirs.

A filthy, ravenous, flea-bitten glutton so completely domesticated that he will live only with man, the rat does more damage than all the world's other mammal pests combined. He will eat little else except the food that we ourselves eat, and damages far more food than he actually consumes. In Canada, for instance, it costs every man, woman and child two dollars a year to feed some rat - for there are just about as many rats as there are people in the Dominion.

Rats are destroying 200 million bushels of grain every year across the border, according to the U. S. Fish and Wildlife Service - more than one third of what the U. S. is planning to export for hunger relief in Western Europe and twice as much as President Truman has asked the country to save through his "halt-all-waste" campaign.

But the rat is an even greater danger as a destroyer of human life. Centuries before mankind every dreamed of bacterial warfare, the rat was waging his own germ war on a mammoth scale, spreading several of our deadliest diseases such as bubonic plague and typhus. Biologists say, and they can quote figures to prove it, that the rat was caused more human deaths than all the wars in history.

To-day there are rats in Alaska, in Iceland and Greenland, on most of the islands of the Pacific and on a few islands of the Antarctic Sea almost to Antarctica - and, of course, on every one of the five world continents.

Rats belong to the rodent group of mammals, not-so-distant kin to the mouse, squirrel, rabbit, beaver, muskrat, porcupine, woodchuck, prairie dog and guinea pig. Mrs. Rat is a solicitous mother. In a burrow under your basement or barn, or less frequently in a partition above ground, she fashions a snug round nest where for two weeks she suckles and lovingly cares for her brood of around 10 youngsters.

The commonest house rat in Canada and in most parts of the world is the brown rat, alias Norway rat, wharf rat and sewer rat.

The brown rat weighs about a pound, is 16 to 18 inches long from snout to tip of tail, greyish-brown in color and his tail, when bent forward does not reach the end of his nose. The black rat is smaller - about two thirds the size of the brown - is dusky black instead of brownish, but he flouts a tail that can extend considerably beyond the tip of his nose. All house rats have naked scaly tails.

Both rat species originated in the Orient where man first became a civilized being. Since prehistoric times they have dogged man's footsteps, following him when he was a wandering tent-dwelling hunter and entering his home to live from the scraps of his table as soon as he learned to erect more permanent dwellings. The black rat got ambitions of world conquest first. He moved into Europe around 1000 A.D. By the early 1700's he had occupied every country of Europe - but then the brown rat got the bug for conquest. The brown rat is bigger and tougher and since he hates his black cousin he drove Blackie out and took all but complete possession for himself.

The black rat came to America first, but the bullying brown rat made his appearance around the 1770's and soon had the black on the run again.

Rats destroy and defile three times as much as they actually eat - by chewing up bushels of apples, for instance, just to get the seeds. They kill vast numbers of young poultry. They gnaw holes in bags, boxes, doors and foundations to reach the food they want. They cause fires by gnawing the insulation off electric wires. In Toronto a section of lead water pipe had been gnawed through, the rat had been attracted by the sound of water. Many sleeping children have been bitten by rats, occasionally the bites have introduced ratbite fever or other diseases which has caused death.

In 1934 biologists of the U.S. Public Health Service discovered that plague infection was present in thousands of burrowing rodents -- ground squirrels, prairie dogs and chipmunks-in western U.S. The original source was traced to San Francisco where, during the plague epidemic of 1900, many rats fled into the suburbs and transferred their contaminated fleas to wild squirrels.

In 1943 it was discovered that the disease had spread among prairie rodents almost as far eastward as the Mississippi and northward into Alberta. Departments of public health in Alberta have had field men out every summer since 1938 tracing the extent of the infection and Saskatchewan has been on guard since 1942. It is reported to be present in two areas of Alberta-around Stanmore and Hanna-but has not yet been discovered in Saskatchewan, although many wild rodents in North Dakota are infested. Should the rodents transmit the disease back to

our town and city rats again, medical authorities would be up against one of the stiffest disease battles of American history. Despite some aid from new drugs, bubonic plague is still one of the worst potential killers among all diseases.

Other rat-borne diseases are a form of typhus fever known as Brill's disease (also spread by the rat flea), spirochetal jaundice (contracted from food, water or soil contaminated by the urine of the rat), trichinosis (a worm disease spread from rats to pigs and then to humans through insufficiently cooked pork), and ratbite fever and rabies from rat-bites).

Looking at the matter of multiplication, in the temperate climate Zone, rats average six litters of young a year and about 10 youngsters to a litter. Every one of those rats when it becomes three months old commences producing young of its own. At this rate in three years--the rat's average life span - one pair of rats could become 359,709,480 rats - a pile approximately the size of Toronto's 34 story Bank of Commerce building. Of course, natural factors like disease, food supply and enemies hold all animal populations at a down-to-earth level.

The rat has been dependent on man for so many centuries that he has developed characteristics that are amazingly human. Like man, his appetite is practically omnivorous, he breeds at all seasons, makes himself at home in almost any climate, has his racial prejudices (brown versus black) and.. ahem ... the males are more muscular, the females stoutish: Animal psychiatrists claim that laboratory rats, when thwarted in some desire or when faced with a difficult decision, chew fingernails like humans.

But their long association with humans has had the greatest effect on their intelligence. Dogs, cats and horses are potentially clever, but usually they have to be trained: the rat is naturally resourceful and he is capable of thinking things out for himself without human tutorship.

Traps and ordinary types of poisons, like red squill and arsenic, can always be relied upon to knock off a few rats, but there are always a few more smart enough to recognize a trap or smell out a poison bait before they get within six feet of it. And any control measure that allows a few rats to escape is practically useless, for those few can become hundreds in a matter of weeks. Recently a new type of poison called ANTU, containing phenyl thiourea, has been developed which leaves no telltale taste or smell, and professional exterminators are now having better luck with this new brand.

But, in general, trapping and poisoning is not an efficient method of waging war on the rat. Experts say the best method of controlling them is to rat-proof all buildings where they are likely to find food and to dispose of all garbage before it can become a rat banquet table. This creates a food-and-housing shortage for the rats; they resort to cannibalism and when they can no longer east each other they'll starve to death.

Whooping Cranes: Fred G. Bard

From Texas comes the good news of the arrival of six baby Whooping Cranes. While Mr. R. P. (Bob) Allen is busy checking and photographing every bird, the total count will not be known until later.

We know roughly 27 birds came north in the spring of 1947. Six young returned south in the fall. One young bird had only one parent. Somewhere in their travels an adult died, we don't know where or how. This leaves our total at 32 birds, plus 2 captives in parks.

This is encouraging news, but the Whooping Cranes are still in jeopardy; we must give these birds every protection.

The survey will continue this spring, Mr. Allen again in charge of field activities, will arrive in company with Mr. R.H. (Bob) Smith, Flyway Biologist with the Fish and Wildlife Service. Mr. Smith pilots the Amphibian plane, the Grumman Widgeon. These men will be searching for the Whooping Crane's long sought nesting grounds, while also covering a waterfowl survey. They plan to arrive June 3rd enroute to Aklavik where they will establish their base for operations, since we are fairly certain the Cranes no longer nest in Saskatchewan, but much farther north.

We are anxious to obtain, as usual, migration dates, etc., old photographs of birds taken by hunters, as well as stories of their occurrence in the early days, are also needed.

The Provincial Museum will welcome these records and photographs, they are intended for Mr. Allen's use in compiling material for the Whooping Crane's life history.

SASKATCHEWAN VIOLETS

By Lloyd T. Carmichael

". . . . purple violets lurk ,
With all the lovely children of the shade."

Now that the feel of spring is in the air, we look forward with pleasure to early green meadows and the first arrival of flowers, among these no others are more universally recognized and admired than the modest violet. It is the oldest of all national flowers, having been adopted by the City of Athens in the days of its glory. Over forty species have been observed in America and of these about a dozen grow in Saskatchewan. The flower is interesting, not only because of the innocent face-like expression of the blossom, but by the fact that many of them have hidden flowers which never open, where self-fertilization takes place and the seeds are ripened in the dark hear or beneath the ground. Unfortunately our violets lack that fragrance which is such a pleasing characteristic of several species in Eastern Canada.

We can divide our species into two groups; those which are stemless with leaf and flower stocks coming from a short rootstock, and those which are leafy stemmed. I will describe briefly ten species, the first five of which are quite common, while the other five are fairly wide-spread but thinly scattered.

CANADA VIOLET
Viola rugulosa Greene

This is our most common violet, growing around the edges and in the shade of bluffs everywhere. Its lovely white petals are tinged and veined with purple, and sometimes they are nearly mauve pink. It continues to bloom from early summer until frost in the fall. Its leafy stems are from eight to fifteen inches long. The leaves are heart-shaped and most of them are wider than long. Some are 3 inches wide and 2½ inches long but the average are about 2 inches wide and 1½ inches long. As the plant grows from creeping underground stolons, it quickly spreads and is very hardy. It is one of the most fascinating of our wild flowers to transplant in the home garden and will brighten a shady nook for years without fail.

I am calling the flower the Canada Violet advisably, not only because it is best known as such by amateur naturalists but because it is the appropriate name given to the plant by Ruth Ashton in her "Plants of the Rocky Mountain National Park". It is listed in the Fraser and Russell List as Rydberg's Violet becaue its other name is Viola rugulosa Rydberg. It very closely resembles its Eastern cousin Viola Canadensis -- the real Canada Violet. This latter species has no underground creeping stem, and its leaves are smaller and nearly always longer than wide.

EARLY PURPLE VIOLET

Viola nephrophylla Greene.

Since this is our most beautiful and most loved species I hesitate to give it the listed name of Northern Bog Violet, but instead follow the example of William McCalla in his "Wild Flowers of Western Canada" and designate it in a name familiar to so many. It is the charming violet first appearing about May 24 in wet meadows and beside cool, shaded valley springs and streams. It is a stemless species, but its large rich velvet faces -- an inch or more across-- are borne on flower stems up to eight inches high. The leaves are all heart-shaped and many of them are reddish underneath.. The mature leaves are rounded or blunt at the apex. It must have been of this violet, the true type of modesty, that Jane Thatcher wrote;

"Then let me to the valley go, this pretty flower to see;
That I might also learn to grow in sweet humility."

EARLY BLUE VIOLET

Viola adunca Smith

Very early in May, growing perhaps among flowering crocuses, in the shelter of short prairie rose stems, on the sunny slope of a railway embankment, or in moist shady situations under the leafless aspens, our first blue violets appear. This short-stemmed species is typical of the western prairie. The plants grow in clumps, each section having from ten to fifteen leaves which are slightly heart shaped and longer than wide. The average is about 1" x 5/8". The steam and leaves appear smooth and even under a strong magnifying glass are seen to be almost void of fine hairs. The blossom is from a quarter to half an inch across, as blue as the sky and delicately penciled. Sometimes the blossoms are pure white.

SAND VIOLET

Viola subvestita.

This species might easily be mistaken for the last described. The blossom is very similar. The plant ordinarily thrives in a drier and warmer habitat, growing among the short grass on light sandy land and sunny hillsides. It is more leafy than V. adunca, each plant having from 20 to 40 springing from the one rootstock. Only the outside basal leaves are heart-shaped, others are ovate and some are long and quite narrow. The leaves and leaf stems are puberulent. The fine hairs may easily be seen with a magnifying glass. The corolla is lilac, shading into violet.

NUTTALL'S VIOLET

Viola Nuttallii.

It is a thrill, early in May, to find a warm valley slope, bare of ornament except for the short prairie grass, thickly sprinkled with the dainty flowers of this golden yellow violet. The two upper petals are striped with fine purple lines behind and the three lower ones have black stripes at the bases. The short stems are numerous, bearing from 20 to 30 lanceolate leaves, tapering at the base. No typical heart-shaped leaves are in evidence. The plants grow from one to six inches high. The name commemorates Thomas Nuttall, one of the foremost American botanists, who collected plants on a journey up the Mississippi River in 1811.

YELLOW MEADOW VIOLET

Viola vallicola A. Nels.

This yellow gem does not thrive on the dry hillsides but is found in moist valleys and meadows on the south fringe of our park lands. The blossoms are similar to Viola Nuttallii, but the two upper petals are often tinged with purple. The basal leaves are almost elliptic, the others being ovate to lanceolate. This characteristic alone will distinguish it from the former species.

CROWFOOT VIOLET

Viola pedatifida G. Don.

In my experience these flowers are few and far between. Like the sand violet it prefers the dry prairie and valley hillsides. The flowers are larger than those of the Sand Violet but are much the same color. The most distinguishing characteristic are the deeply cut leaves. They are three-parted and the divisions are again cut into linear lobes. It is this feature which gives the name to the species. The plant is stemless and the leaves grow directly from the rootstock.

MARSH VIOLET

Viola palustris L.

This violet and the one whose description follows does not grow on the open prairie but is found in the spruce swamps, wet springy ground and cold bogs farther north. The flower with its pale lilac to white petals springs from a mass of heart-shaped leaves. Specimens are quite common at Lake Waskesiu and Emma Lake and in similar habitats to the north. Mr. A. J. Breitung has collected specimens on wet ground at McKague. (Can. Field Naturalist, Vol. 61, No. 3.) Like the Canada Violet this plant grows from creeping rootstocks.

KIDNEY-LEAVED VIOLET

Viola renifolia A. Gray

The typical kidney-shaped leaves will distinguish this species from the one just described. The petals are white and beardless, the lower ones being streaked with purple veins. The capsules of the cleistogamous (self-fertilizing) flowers are quite purple. Mr. Breitung reports that he has collected this species in low damp shaded ground at Tisdale and McKague.

JOHNNY-JUMP-UP

Viola arvensis Murray

This is probably our most insignificant violet and apparently has not been commonly noticed in this province. We have been informed from the Division of Botany, at Ottawa that it is new to Saskatchewan. The flower is light yellow and small and is partly hidden by the long green sepals. Many leaves grow from each branching stem which are from 3 to 6 inches high. Only the basal ones are heart-shaped ($\frac{1}{4}$" x $\frac{1}{4}$"), the rest are long with lobed edges (3/4" x $\frac{1}{4}$"). I first came across this plant while on an indian relic hunting expedition with our President, Mr. Cliff Shaw, in the vicinity of Canora. Hundreds of the plants grew around the edges of a sand blown field. Some of the specimens now grow in my rock garden and come up from seed year after year.

We will welcome reports of the finding of any of the five last described species.

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Mr. Sidney F. Tinkner, field officer with the Department of Natural Resources at Prairie River reports that last summer he discovered a fine specimen of the Red Lily. Instead of being its usual color, however, it was a bright yellow, with a pinkish heart. He has staked out its location and will examine the plant again this year. We hope to hear more of this.

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MUSEUM NOTES FRED G. BARD

Snowy Owls:

In the Regina district Snowy Owls are scarce. Early in the winter a single bird appeared and was seen for two weeks. One day it flew over me, it appeared to be about 25 feet away. Its beautiful yellow eyes looking at me as it passed. The freshness of its white plumage speckled with black stood out in contrast against the blue of the sky. Occasions like this are gems in the memories of a bird student.

Observers are asked to send their observations of Snowy Owls for this past winter.

Rabbits:

Since rabbits constitute one of the main sources of food for Owls, Eagles, Foxes, Coyotes, etc., we are anxious to know what their status is, and how they compare with other years.

White-tailed Jack Rabbit Have been seen on several occasions even on streets along the outskirts of the city around Regina. They seem to be coming back but still are far from common.

American Varying Hare (Bush Rabbit) (Snowshoe Rabbit) in the bush approaching the valley, these hares are occasionally seen, but more plentiful in the coulees and Qu'Appelle itself.

Nebraska Cottontail: While no specimens are in the Provincial Museum, it is suspected this will occur in the southeastern part of Saskatchewan.

Black Hills Cottontail: Found generally in the southwestern part of Saskatchewan, indications are its spreading eastward. Specimens from both sections of the Province are desirable.

Ducks Wintering:

The hundred odd ducks wintering in Regina, near the power house, where a few acres of water are free of ice, were not doing so well.

No effort was made to feed these birds until The Regina Natural History Society undertook to feed them. Thanks are due Mr. J. Buckley of the Wheat Pool for obtaining the feed, and to Mr. David Anderson who resides near the spot, who has undertaken to see they are fed.

While covering this area for Mr. J. Dewey Soper on behalf of the Waterfowl Winter Census, the following birds were seen:

Mallard	63	50 male	13 female
Canvasback	1		
Lesser Scaup	3		
Golden - eye	1		
Bufflehead	2		
Eared Grebe	1		

With reports of two other spots in the city, it is believed about 130 ducks remained here at freeze-up. Some had perished before feeding was arranged. In other years even when feeding these ducks, I found roughly one third perish.

Field Notes and Observers:

Over the last 20 or 30 years, many enthusiasts kept records of birds appearances. We regret to say that apart from H. H. Mitchells', and the writers field notes the Museum is without records. This is a serious oversight on the part of observers.

Through Mrs. Alan Beecroft (nee Mary Lang) of Cawston, B.C. and C. Stuart Houston the records of George Lang's activities at Indian Head are to be kept permanently at the Provincial Museum.

Many feel their observations contain only a few records and may not be worth sending in. All records are of value and collectively we obtain a better overall picture for the Province. Conditions are rapidly changing, before long many of our waders or shorebirds will no longer be native to us. The demand for soil use, leaves too little wild land for these creatures to accept the change, the result is permanent reduction in the bird population, especially the birds that require wild land.

Following our request for records of reptiles and amphibians, replies were received from two observers--Mrs. Olsgard of Hazlet and Earl Shannon of Prince Albert. Requests will be made from time to time in the Blue Jay, for assistance. I therefore suggest each observer review some of the past issues, list these requests for part of this next season's activities. We, as observers, have a solemn duty to assist in the better understanding and appreciation of our wild life resources.

The quiet solitudes of the great outdoors are being sought, some place to get away from it all, some place that has not been spoilt by the hand of man and immediately set about to make it like all the rest. We do not know sufficient about these resources to treat them as we do. There is a need, a very great need, for a better understanding and a guarantee these wildlife resources will be here for generations yet unborn to enjoy.

BLUE JAY

Museum Accessions:

During the last few months we have received a number of welcome accessions to the Museum.

From Miss Irene Noble of Calgary we have received a collection of souvenirs gathered while on a trip to Brazil as a delegate to the world's Sunday School Convention held in Rio de Janeiro, also items collected on a trip to the Orient.

The collection illustrates the handiwork of natives in many parts of the world: some of the most interesting is the many varieties of coral, the panama hat from Peru, a lei made of seeds from Honolulu, the collection has 38 pieces.

Visitors from country points have sent in stone artifacts, which they have gathered on the farm. Mr, Bratt of Regina donated the same Ox yoke which he brought from London, Ontario, in 1889. These mention only a few, but the point is, the visitors are being public spirited enough to realize the value of such material when on display in the Museum. Here we enter a special plea to those having historical material, or know where such material exists. Please assist us to gather for display in the Museum, all objects of a historical nature. Single items at home are precious to those knowing its significance, but to the younger people, especially in our cities we find little available to stimulate historical appreciation unless exhibited in our Museum. Many folks have been generous and we express our gratefulness. We need more material, therefore parcel up those items with a story telling of the early days, express them collect to the Provincial Museum, Regina. Through our annual report we acknowledge all such items, this report tells of the Museum's progress. Requests for this report should be sent to the Provincial Museum, Regina.