



BLUE JAY

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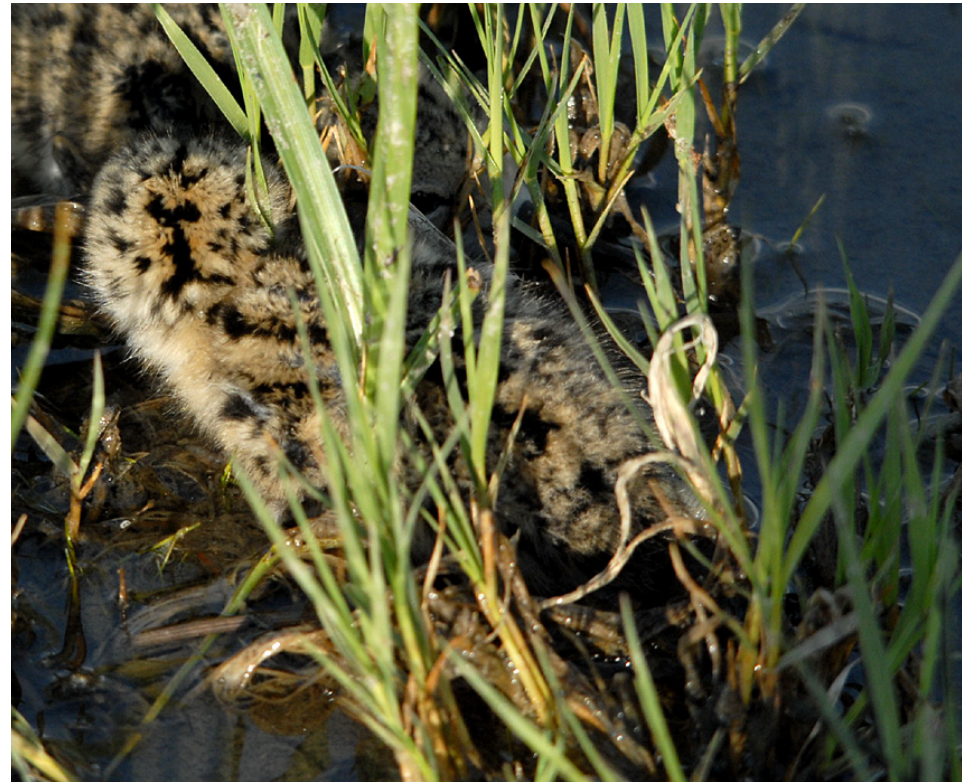
Front Cover: Wood duck hen
Back Cover: Harris sparrow

- Harold Fisher
- John Geale



Long-tailed jaeger eggs amongst ledum

- John Geale



September mystery photo

- Randy McCulloch



Hoar frost

- Kerry Hecker



December mystery photo

- Randy McCulloch

Blue Jay

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BIRDS

BIRDS OF KASBA LAKE, NORTHWEST TERRITORIES AND NUNAVUT

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From 28 June to 2 July, 2013, I visited Kasba Lake Lodge, located at approximately 60° 17' 02" north latitude and 102° 30' 37" west longitude on the west shore of Kasba Lake. A portion of the lake's eastern and southeastern area is in Nunavut, and the rest is in the Northwest Territories, just north of the borders of Manitoba and Saskatchewan (Fig. 1). It is about 70 km long north to south and averages about 15 to 20 km wide east to west, although at the lodge's location it is about 40 km wide.

My purpose was to document as many birds as possible while being taken to various locations around the lake by boat; I was frequently dropped off on shore and was able to walk for up to about three hours before being picked up. While five days is admittedly a short time for documenting the avifauna of such a large area, it is probable that little, if any, birding has been done in the region, and it seems worthwhile to report the results.

Most of the species recorded were those to be expected according to the breeding range maps in *The Birds of Canada*¹ and *Birds of North America*.² However, a few species were observed which seemed to be somewhat out of the breeding range indicated in these publications.

The following is a list of all species recorded, with some comments (based solely on my five days of observation) on abundance, breeding status, habitat and range. Breeding status is based on the evidence criteria used by the *Manitoba Breeding Bird Atlas*.³ See that resource for the corresponding letter codes. NWT refers to the Northwest Territories; NUV refers to Nunavut. Data for confirmed breeding records are shown in Table 1.



Figure 1. Kasba Lake; maps courtesy of Google Earth and Google Maps

- 1 – Kasba Lake Lodge (60.283283°N, 102.508480°W) - NWT
- 2 – northern tundra area (60.642225°N, 102.298023°W) - NWT
- 3 – Kazan River outflow (60.549180°N, 102.177173°W) - NWT
- 4 – Snowbird River mouth (60.336976°N, 102.610447°W) - NWT
- 5 – gull and tern nesting islands in the south (60.081457°N, 101.991436°W) – NUV

Table 1. Confirmed breeding species, Kasba Lake, NWT and NUV

Species	Date, 2013	Map location (see Figure 1) or latitude, longitude	Breeding evidence	Nunavut (NUV) or Northwest Territories (NWT)
Bald Eagle	June 29	1	NY	NWT
Semipalmated Plover	July 1	1	NE	NWT
Least Sandpiper	June 29	2	DD	NWT
Parasitic Jaeger	June 28	60.3332°N, 102.2679°W	NE	NWT
Long-tailed Jaeger	June 29	2	NE	NWT
Ring-billed Gull	June 30	5	NE	NUV
American Herring Gull	June 28	60.3174°N, 102.3464°W	NY	NWT
American Herring Gull	June 30	5	NE	NUV
Common Tern	June 30	5	NE	NUV
Arctic Tern	June 30	5	NE	NUV
Ruby-crowned Kinglet	June 28	60.2334°N, 102.3458°W	CF	NWT
American Robin	June 28	1	CF	NWT
Gray Jay	June 29	60.4938°N, 102.1878°W	FY	NWT
White-winged Crossbill	July 1	1	FY	NWT
Yellow-rumped Warbler	June 28	60.2334°N, 102.3458°W	CF	NWT
Chipping Sparrow	June 28	1	CF	NWT
Fox Sparrow	June 28	60.2334°N, 102.3458°W	CF	NWT
Fox Sparrow	June 30	60.2151°N, 101.8314°W	FY	NUV
White-crowned Sparrow	June 28	60.2334°N, 102.3458°W	CF	NWT
Harris's Sparrow	June 28	60.3206°N, 102.4659°W	NE	NWT
Rusty Blackbird	July 1	4	CF	NWT

Common Loon (*Gavia immer*): Uncommon; breeding status: possible (H, NWT). Seen as single birds widely spaced on the lake; it seems possible that several pairs could nest on this large lake.

Canada Goose (*Branta canadensis*): Uncommon; breeding status: possible (H, NWT; H, NUV). Several individuals were seen near suitable nesting habitat, but no other evidence of breeding was found.

American Wigeon (*Anas americana*): Rare; breeding status: probable (P, NWT). Seen on only two occasions; one of these sightings was of a male and a female together.

Mallard (*Anas platyrhynchos*): Uncommon; breeding status: possible (H, NWT; H, NUV). Three separate females were seen, all towards the S end of the lake.

Northern Pintail (*Anas acuta*): Uncommon; breeding status: probable (P, NWT). Seen only on 29 June - about 10 pairs were well out in the lake near the last remaining ice.

Lesser Scaup (*Aythya affinis*): Rare; breeding status: possible (H, NWT). Seen on only one occasion: two males were on a pond near the NE part of the lake, about 8 km S of the Kazan River outflow.

Long-tailed duck (*Clangula hyemalis*): Rare; breeding status: possible (H, NWT). One female was seen on a pond in the northern tundra area.

Black Scoter (*Melanitta nigra*): Uncommon; breeding status: possible (H, NWT). Three males and 2 females were seen well out on the central part of the lake on 29 June, a lone female was seen

later that day on a small tundra pond, and another lone female was in a bay in the lake the next day.

Surf Scoter (*Melanitta perspicillata*): Uncommon (or perhaps locally or temporarily common); breeding status: possible (H, NWT). Two flocks, of about 15 and 30 birds, mostly (or possibly all) males were seen well out on the central part of the lake on 29 July.

White-winged Scoter (*Melanitta fusca*): Uncommon; breeding status: possible (H, NWT). One flock of about 10 birds was seen well out on the central part of the lake on 29 July. Most (possibly all) were males.

Bufflehead (*Bucephala albeola*): Rare; breeding status: possible (H, NWT). A lone female was seen on a pond near the NE part of the lake, about 8 km S of the Kazan River outflow.

Red-breasted Merganser (*Mergus serrator*): Common; breeding status: probable (P, NWT). Seen often, usually near the lake's shore, usually as single birds or small flocks, but occasionally as pairs.

Common Merganser (*Mergus merganser*): Uncommon; breeding status: possible (H, NWT). A few lone males were seen near the shore in the southern part of the lake and near the Snowbird River.

Bald Eagle (*Haliaeetus leucocephalus*): Uncommon; breeding status: confirmed (NY, NWT). A nest to the east of the lodge's airstrip had at least one small young. Another nest on the Snowbird River, but no other information, was reported to me.

Northern Harrier (*Circus cyaneus*): Rare; breeding status: possible (H, NWT). One female was seen flying N past the W side of the lodge's airstrip.

American Golden-Plover (*Pluvialis dominica*): Rare; breeding status: possible (H, NWT). One adult was seen at a pond at the northern tundra area. This area is apparently somewhat S of the known breeding range.

Semipalmated Plover (*Charadrius semipalmatus*): Rare; breeding status: confirmed (NE, NWT). A nest with 4 eggs was on the W edge of the lodge's airstrip; rarely seen elsewhere.

Wilson's Snipe (*Gallinago delicata*): Rare; breeding status: possible (S, NWT). One was

heard on two occasions displaying not far from the lodge; presumably the same bird on both occasions.

Whimbrel (*Numenius phaeopus*): Uncommon; breeding status: probable (A, NWT). Seen only near the Kazan River outflow from the lake and on the northern tundra area not far away.

Lesser Yellowlegs (*Tringa flavipes*): Locally common; breeding status: probable (A, NWT). Common along rivers, where they often acted agitated and called persistently.

Solitary Sandpiper (*Tringa solitaria*): Uncommon; breeding status: probable (A, NWT). Seen infrequently in treed areas near the lake; almost certainly breeds in the area.

Spotted Sandpiper (*Actitis macularia*): Common; breeding status: possible (H, NWT). Seen quite often along the shores of the lake and rivers, and almost certainly nests here.

Least Sandpiper (*Calidris minutilla*): Uncommon; breeding status: confirmed (DD, NWT). Small numbers were seen occasionally along the shore of the lake. In addition, an adult was found performing a vigorous distraction display on the northern tundra area.

Parasitic Jaeger (*Stercorarius parasiticus*): Uncommon; breeding status: confirmed (NE, NWT). Three adults were seen where a pair had a nest (one egg) on an island a few kilometers NE of camp, and three others were seen on the northern tundra area where there was almost certainly another nest. This appears to be a slight southwestward extension of the known breeding range.

Long-tailed Jaeger (*Stercorarius longicaudus*): Rare; breeding status: confirmed (NE, NWT). Three adults were seen on the northern tundra area, where a nest containing two eggs was found. This area is somewhat southwest of the known breeding range.

Ring-billed Gull (*Larus delawarensis*): Locally common; breeding status: confirmed (NE, NUV; X, NWT). About 75 birds were seen apparently just loafing on a well vegetated island NE of the lodge, but there was no sign of nesting. Many were found nesting on two islands (#5 on the map, Fig.1; the more westerly island is small and rocky, while the other is much larger and well-vegetated) towards the S end of the lake; about 150 gulls were present. At this longitude, this appears to be at least a slight breeding range extension.

American Herring Gull (*Larus smithsonianus*): Common; breeding status: confirmed (NY, NWT; NE, NUV). This species nested in single pairs on many islands (generally small and rocky) in the lake, including the small rocky island where Ring-billed Gulls were also nesting.

Bonaparte's Gull (*Larus philadelphia*): Uncommon; breeding status: possible (H, NWT). Seen mainly near the Kazan and Snowbird Rivers. No nesting behaviour was encountered.

Common Tern (*Sterna hirundo*): Locally common; breeding status: confirmed (NE, NUV; H, NWT). Seen only towards the S part of Kasba Lake. Several nests were found on a well-vegetated island towards the S of the lake.

Arctic Tern (*Sterna paradisaea*): Locally common; breeding status: confirmed (NE, NUV; H, NWT). Arctic Terns were seen on several islands towards the northern part of the lake, but there was no sign of nesting. However, there were several nests on a well-vegetated island to the S where Ring-billed Gulls and Common Terns were also nesting.

Yellow-bellied Flycatcher (*Empidonax flaviventris*): Possible; breeding status: possible (S, NWT). A bird was heard early in the morning of 29 June which was small in size, had wingbars, and an eye ring making it an *Empidonax*. The only *Empidonax* species whose known breeding range gets anywhere near Kasba Lake are Least, Alder, and Yellow-bellied. I am familiar with Least and Alder Flycatchers - this song had neither the clean sharpness of a Least's "che-beck!", nor the burry and enthusiastic sound of an Alder. After comparing songs with on-line sources, I believe that this was a Yellow-bellied Flycatcher. It (presumably the same bird) was heard twice subsequently - once in mid-afternoon on 1 July on the ridge running N from the lodge (two songs, not seen), and once early the next morning further N on the same ridge (one song, not seen, not far from where it was heard the first morning).

Tree Swallow (*Tachycineta bicolor*): Rare; breeding status: possible (H, NWT). One individual was seen at the lodge's float plane dock our first morning, but no more were seen.

Ruby-crowned Kinglet (*Regulus calendula*): Common; breeding status: confirmed (CF, NWT; H, NUV). This species was frequently

seen and heard singing in forested areas.

Bohemian Waxwing (*Bombycilla garrulous*): Uncommon; breeding status: possible (H, NWT). Individuals were seen flycatching near the Kazan and Snowbird Rivers, and very occasionally elsewhere.

Gray-cheeked Thrush (*Catharus minimus*): Uncommon; breeding status: possible (S, NWT; S, NUV). Seldom seen, but heard singing fairly often, this species was widespread in forested areas.

Swainson's Thrush (*Catharus ustulatus*): Uncommon; breeding status: possible (S, NWT; S, NUV). Widespread in forested areas; heard singing fairly often, but never seen.

American Robin (*Turdus migratorius*): Common; breeding status: confirmed (CF, NWT; H, NUV). This species was common and ubiquitous wherever there were trees.

Boreal Chickadee (*Poecile hudsonica*): Rare; breeding status: possible (H, NWT). Seen only twice, but the species does tend to be inconspicuous and may be more common than this suggests.

Gray Jay (*Perisoreus canadensis*): Uncommon; breeding status: confirmed (?) (FY, NWT – the

juveniles seen were NOT “incapable of sustained flight”). Gray Jays were seen several times around the lodge and a few times elsewhere. This year’s young were seen.

Pine Grosbeak (*Pinicola enucleator*): Uncommon; breeding status: probable (P, NWT). Tended to be seen feeding quietly, including a pair just west of the lodge’s airstrip.

White-winged Crossbill (*Loxia leucoptera*): Common; breeding status: confirmed (FY, NWT). Most often noted flying overhead; a pair was seen with two fledged young near the lodge’s airstrip.

Tennessee Warbler (*Vermivora peregrina*): Common; breeding status: possible (S, NWT; S, NUV). Heard singing persistently in many places. It seemed almost certain that the species nests here.

Yellow-rumped Warbler (*Dendroica coronata*): Common; breeding status: confirmed (CF, NWT; H, NUV). This species was common everywhere there were trees.

Blackpoll Warbler (*Dendroica striata*): Rare (perhaps uncommon); breeding status: probable (P, NWT). A pair was seen on one occasion, and a female on another. The song is hard for me to hear, and this species may be more common than my observations suggest.

Northern Waterthrush (*Seiurus noveboracensis*): Common; breeding status: possible (S, NWT; S, NUV). Commonly heard singing near the shore of the lake and on some of the islands; almost certainly breeds here.

Common Yellowthroat (*Geothlypis trichas*): Rare; breeding status: possible (S, NWT). One was heard singing a few kilometers southeast of the lodge. The Kasba Lake area is well north of the known breeding range.

American Tree Sparrow (*Spizella arborea*): Uncommon; breeding status: possible (S, NWT). A few were seen and heard singing near the northern tundra area and on well-vegetated islands in the central and northern portions of the lake.

Chipping Sparrow (*Spizella passerina*): Rare; breeding status: confirmed (CF, NWT). An adult was seen singing and carrying food at the S end of the lodge’s airstrip. No others were seen.

Savannah Sparrow (*Passerculus sandwichensis*): Rare; breeding status: possible (H, NWT). One adult was seen near the lake’s shore at the northern tundra area.

Fox Sparrow (*Passerella iliaca*): Common; breeding status: confirmed (FY, NUV; CF, NWT). Common wherever there were trees.

Lincoln's Sparrow (*Melospiza lincolni*): Rare; breeding status: probable (A, NWT). One agitated pair was observed a few kilometers southeast of the lodge; no others were seen.

White-crowned Sparrow (*Zonotrichia leucophrys*): Common; breeding status: confirmed (CF, NWT). Common everywhere on the mainland where there were trees or shrubs.

Harris's Sparrow (*Zonotrichia querula*): Common; breeding status: confirmed (NE, NWT). Common everywhere on the mainland where there were trees or shrubs.

Dark-eyed Junco (*Junco hyemalis*): Uncommon; breeding status: probable (A, NWT; H, NUV). While less common than the previous two species, juncos were fairly frequent in treed areas.

Smith's Longspur (*Calcarius pictus*): Rare; breeding status: possible (H, NWT). Two males, or one seen twice, were on the northern tundra area. This area is somewhat south of the known breeding range.

Rusty Blackbird (*Euphagus carolinus*): Common; breeding status: confirmed (CF, NWT). Often seen feeding along the lakeshore, particularly in wet grassy areas.

Acknowledgements

I would like to thank Harold "Buster" Welch for proposing this trip, for driving me around the entire lake (including getting us home safely in a significant storm), and for advice on early drafts of this article. Robert Hill (Managing Director of Kasba Lake Lodge) readily accepted the proposal for this trip and kindly facilitated our visit. He and other members of the Hill family and all members of the Kasba Lake Lodge staff treated my wife and myself to a first-class visit with excellent accommodation, service and meals. Kerry Hecker and an anonymous reviewer offered useful suggestions on early drafts of this article.

1. Godfrey WE (1986) The Birds of Canada, revised edition. National Museums of Canada, Ottawa, ON.
2. National Geographic Society (1987) Field guide to the Birds of North America, third edition. National Geographic Society, Washington, DC.
3. Manitoba Breeding Bird Atlas website: <http://www.birdatlas.mb.ca/mbdata/codes.jsp?lang=en&pg=breeding>



Arctic tern



Common tern



Harris's Sparrow



Harris's Sparrow

(see back outside cover for colour image)



Harris's Sparrow



Lincoln's sparrow



Long-tailed jaeger eggs amongst Ledum (circled)



Long-tailed jaeger eggs amongst Ledum (see front inside cover for colour photo)



Parasitic jaeger



Ring-billed gulls at nest island near south end of Kasba Lake



Habitat for all three scoters 29 June 2013



Typical shoreline habitat - grasses along the shore, alder shrubs behind, and spruce trees with open areas of reindeer moss



Treeline habitat on shore of Kasba Lake



Open spruce treeline habitat



Solitary sandpiper



Yellow-rumped warbler



Bald eagle at nest with one young



There is a pleasure in the pathless woods,
There is a rapture on the lonely shore,
There is society, where none intrudes,
By the deep sea, and music in its roar:
I love not man the less, but Nature more.

*~George Gordon, Lord Byron,
Childe Harold's Pilgrimage*

PHOTO ESSAY

A FALL DRIVE IN SOUTHERN SASKATCHEWAN

JO JAARSMA Caronport, SK Email: <joken@sasktel.net>

November 8, 2014, my husband Ken and I took a drive in search of migrating snow geese. Taking the grid roads from our home in Caronport Saskatchewan, we headed west to Pelican lake and then North, zig zagging along until finally ending up at Brownlee SK. One of the first rewards of our drive was the sighting of a mature bald eagle.



Our search for snow geese was not in vain as we came across three separate large flocks. Although the flocks were large, they were skittish and quickly flew off as soon as we stopped the car. Snapping as best





we could, using point and shoot cameras with a large zoom feature, we were pleased with a few good shots. As thrilling as the flocks of geese were, another delight awaited us. As we headed home along



SK-643 from Keeler SK, we noticed a bright blob of white on the side of the road. As we came closer, our first snowy owl of the season flew up in front of us, giving us a clear view of its startling yellow eyes. It flew a good distance away, and we were unable to get any clear pictures. A few more miles passed and we noticed a large bird in a tree. When we stopped the car, the bird remained. Ken got out of the car, the bird remained and seemed quite calm. The immature bald eagle seemed almost pleased to have Ken take his picture. Almost home,



we came across the mature bald eagle once again. Only a few hours had passed, but the wonder at seeing and experiencing so much of God's creation continues.





I love to think of nature as an unlimited broadcasting station, through which God speaks to us every hour, if we will only tune in.

~George Washington Carver

MYOTIS CILIOLABRUM FOUND EAST OF ITS KNOWN RANGE

SHELBY J. BOHN¹, NICOLE LERMINIAUX, ALYSSA STULBERG

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The range of the western small-footed bat (*Myotis ciliolabrum*) traditionally includes the SW corner of Saskatchewan, S of the South Saskatchewan River and W of Regina.¹ On May 27, 2014 a dead specimen of *M. ciliolabrum* was found at the Indian Head Golf Club in Indian Head, Saskatchewan (50°32'22" N, 103°39'42" W), well east of its usual range. The specimen had light fur and the dark eye mask characteristic of this species. This location was unusual because this species generally prefers arid or semi arid environments where individuals roost in rock crevices², while Indian Head, SK and the surrounding area is wetter, and lacks rocky outcrops. This suggests that the bat was transient, especially since the last few years have been even wetter than average. The bat was found underneath a drainpipe leading to the ground following a heavy downpour. It is possible that the bat may have been roosting within the pipe when the rain started.

1. van Zyll de Jong, C.G. 1985. Handbook of Canadian Mammals 2 - Bats. National Museums of Canada. Ottawa, ON.
2. Holloway, G.L. and Barclay, M.R. 2001. *Myotis ciliolabrum*. Mammalian Species. 670:1-5.



Western small-footed bat

- Brock Fenton



FOOD IN A NEST WHERE FEMALE GREAT HORNED OWL DIED

DAN ZAZELNCHUK, *email: danzaz@sasktel.net*

The female great horned owl (*Bubo virginianus*) was electrocuted 6 May, 2014. This was the food the male had brought up to 18 May, 2014: 6 rock pigeons, 4 Nuttall's cottontails, a black-billed magpie, a Richardson's ground squirrel and a sora rail.

Fortunately, he must have brought smaller prey as well - voles, mice - because the two young were healthy. But, they must have been hungry and begging quite a bit,

because he kept bringing food, a lot of it too big for them to eat. Some of it was getting a little ripe.

More support for the hypothesis that the male isn't programmed to feed the young, just bring the food. As well as a good hunter, the male was protective too. He got a good shot in on Martin while Martin was up the tree, and he made many passes during the banding. Often the male is the shy one, leaving the attacks to the female.



Food items from nest



Great horned owl

- Lowell Strauss



NOTES and LETTERS

A BREEDING RECORD FOR WOOD DUCK (*AIX SPONSA*) IN CENTRAL SASKATCHEWAN

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I maintain a set of 100 nest boxes as part of a study on Northern Saw-whet and Boreal Owls in the Prince Albert area. Extensive flooding during recent years has placed some of these boxes over water, making them less attractive as nesting choices for small owls and has created some issues for nest inspection.

Nest box #20 is located 13 km SE of Prince Albert in a 30 ha woodlot of Trembling Aspen surrounded by cultivated farmland. The nest box is on a 25 cm (DBH) aspen at a height of 5.2 m with the nest opening facing SE. The area was dry when the box was erected in 2008, but with the flooding of recent years the tree now stands in 1 m of water.

On 5 June 2013, the landowner, Jim Helm, and I waded out to the nest box and tapped on the tree. A duck immediately emerged from the box and paused in the opening. Jim immediately recognized the bird as a female Wood Duck. Although I was unable to photograph the bird at this time, I had my nest inspection

camera with me, so was able to photograph the nest contents. Photographs showed the nest to contain at least 11 eggs (Fig. 1)

I needed a photo of the bird, so Jim and I returned to the nest box on 12 June 2014, this time with chest waders and I was able to get a photo of the female leaving the nest. The photograph clearly shows the characteristic white eye patch of the female Wood Duck (Fig. 2).

I did not return to the nest site and cannot comment on the outcome of the nest.

The breeding range of the Wood Duck in North America includes most of the eastern half of the United States, including the Mississippi River basin and the west coast to southern California. In Canada its range includes portions of New Brunswick, Prince Edward Island, Nova Scotia, southern Ontario, with isolated records north to Lake Nipigon, The Pas in southern Manitoba and Cedar Lake in western Manitoba.¹

In Saskatchewan the range of the Wood Duck has been limited largely to the wooded rivers of the extreme eastern regions where it is a rare to uncommon resident.² There are scattered breeding records from the Pasquia Hills, the Souris, Qu'Appelle and Assiniboia River systems and Greenwater Park. In May of 1999, a nest containing 9 eggs was found south of White Bear, although this nest was later found to be abandoned. On 17 June 2008 a brood of 13 fledglings was observed by R. Marchigiano on Wascana Marsh, Regina and on July 1 of the same year 4 fledglings were observed by D. Sawatzky and R. Dudragne at Estuary.³

The extreme moisture conditions since 2010 have resulted in large areas of flooded timber in the parkland region of central

Saskatchewan, creating prime habitat for this species. While this breeding record is a single occurrence, it may represent at least a temporary range expansion of the Wood Duck while wet conditions prevail.

1. HEPP GR, and BELLROSE FC. 2013. Wood Duck (*Aix sponsa*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/169>

2. SMITH AR. Atlas of Saskatchewan Birds, Special Publication No. 22, Nature Saskatchewan, Regina, 1996

3. SMITH AR, Saskatchewan Bird Data Bank, 2013



Fig 1 - Wood duck eggs



Fig 2 - Female wood duck leaving nest box



LICHEN SERIES - LICHENS OF OUR GRASSLANDS

BERNARD DE VRIES *email: bdevries@accesscomm.ca*

During our rambles over native prairie, we marvel at its wild flora and bird life which are important elements of prairie biodiversity. But there is another important element; our grassland lichen flora. Seemingly insignificant, terrestrial lichens are pioneer species. Growing on calcareous to gravelly open, disturbed soils often caused by wind erosion, cattle wallows or overgrazing, they slowly decay and create humus. In time seeds of vascular plants can germinate in the humus and stabilize such soils.

The most noticeable of these pioneer species are: 1. gray-green carpet pixie-cup, (*Cladonia pocillum*; Photo 1); 2. the greenish-gray to almost white cowpie lichen (*Diploschistes muscorum*; Photo 2), which becomes established as a parasite on *Cladonia* and other lichens, before becoming independent upon maturity, and; 3. the sulfur yellow tundra sulphur lichen (*Fulgensia bracteata*; Photo 3). Other interesting soil lichens are blushing scale (*Psora decipiens*; Photo 4) which has pale red to brick red scale-like lobes with frayed white margins and tumbleweed shield lichen (*Xanthoparmelia chlorochroa*; Photo 5) which is a vagrant species

with in-rolled pale greenish-white lobes. Most lichens display various hues of gray, green, orange, red or yellow, we do have a blue-grey species, blue blister lichen (*Toninia sedifolia*; Photo 6) on calcareous soil in open grassland. Although most ground lichens are common and wide spread throughout the grasslands, there is one rare species with the interesting name of brain scale (*Psora cerebriformis*; Photo 7), which has pale yellowish-brown convex squamules with deep lines resembling a brain, and occurs on exposed soil in open grassland.

Next are rock lichens. The colourful and common species can be found scattered across the grasslands on calcareous or acidic boulders, outcrops, large rock fragments, pebbles and rock piles. The most eye-catching are desert fire-dot lichen (*Caloplaca trachyphylla*; Photo 8) and elegant sun burst lichen (*Xanthoria elegans*; Photo 9) which form large, almost round circles of red or reddish-orange lobes with small, closely attached central fruiting bodies (apothecia). These lichens are the most common and widely dispersed rock lichens you can't miss seeing them, even from

a distance. Equally showy are orange rock posy (*Rhizoplaca chrysoleuca*; Photo 10) which has abundant orange to dark pink apothecia, sharply contrasting with the pale yellowish-green lichen body (thallus), common goldspeck lichen (*Candelariella vitellina*; Photo 11) a vivid yellow lichen on non-calcareous or granitic rock, the more greenish-yellow golden moonglow lichen (*Dimelaena oreina*; Photo 12), and gold cobblestone lichen (*Acarospora contigua*; Photo 13). Less colourful and not as common are the pale yellowish-grey hoary cobblestone lichen (*Acarospora strigata* Photo 14), green rock posy (*Rhizoplaca melanophthalma*; Photo 15) with characteristic crowded pale yellow brown to black apothecia, and the grey salted rock-shield lichen (*Xanthoparmelia mexicana*; photo 16) with dense central vegetative reproductive structures (isidea) and often forming large circles on calcareous rock.

A minor component of grassland lichens are those found on bark of trees and large shrubs. The most common is the pale to dark grey hoary rosette lichen (*Physcia aipolia*; Photo 17) with white spotted lobes and often frosted apothecia, and the more showy yellow to yellow-orange hooded lobed hooded sunburst lichen (*Xanthomendoza fallax*; Photo

18). Interestingly, these two often form a species pair on tree bark.

Colour variation among lichens is caused by differences in concentration of pigments from one species to another, but also due to age, genetic structure, exposure to sunlight and others factors. A careful observer may also notice that lichens exposed to open sunny locations tend to be more coloured than lichens in a boreal forest where sunlight is more subdued. It has been said that the pigments in the upper layer of the lichen body protects the delicate algae from harmful ultra violet radiation. The name given to a lichen is that of its fungus (micobiont), while its partner the green or blue-green algae (photobiont) have their own scientific names.

When you compare a mushroom with a lichen, you will notice that both lichens and mushrooms have one thing in common, both their bodies contain a mass of tightly woven fungal threads (hyphae).

The difference is that mushroom spores, upon germination, form an underground network of hyphae (mycelium) and later on produce mostly upright fruiting bodies, while lichen fungus spores must find a suitable green or blue-green algal cells to germinate, a complex process known as lichenization. Also the fungi of lichens have formed associations

of controlled parasitism with different species of the photobiont, where the photobiont is a victim, not a partner, of the mycobiont as it uses some of the nutrients manufactured by the photobiont. Both mushrooms and lichens have species that are edible and/or have medicinal properties.

So, on your next nature outing enjoy these grassland lichen species and observe their important environmental niche in the prairie. You be amazed by what you learn about lichen biodiversity, and the important part they are of the biological web that links us all together.



Photo 1 - Carpet pixie-cup Cladonia pocillum



Photo 2 - Cowpie lichen Diploschistes muscorum

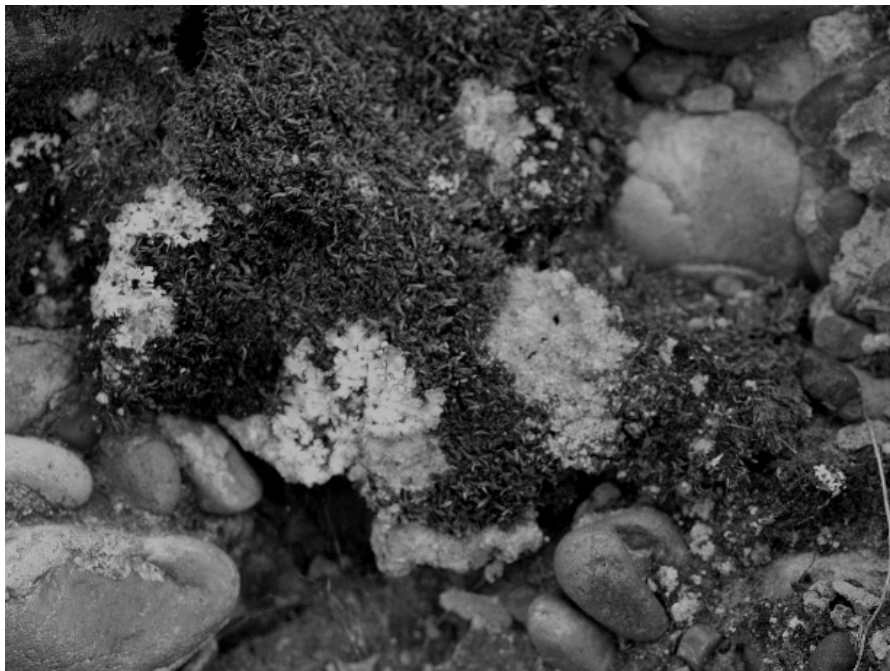


Photo 3 - Tundra sulphur lichen *Fulgensia bracteata*



Photo 4 - Blushing scale *Psora decipiens*



Photo 5 - Tumbleweed shield lichen Xanthoparmelia chlorochroa



Photo 6 - Blue blister lichen Toninia sedifolia



Photo 7 - Brain scale Psora cerebriformis



Photo 8 - Desert fire-dot lichen Caloplaca trachyphylla

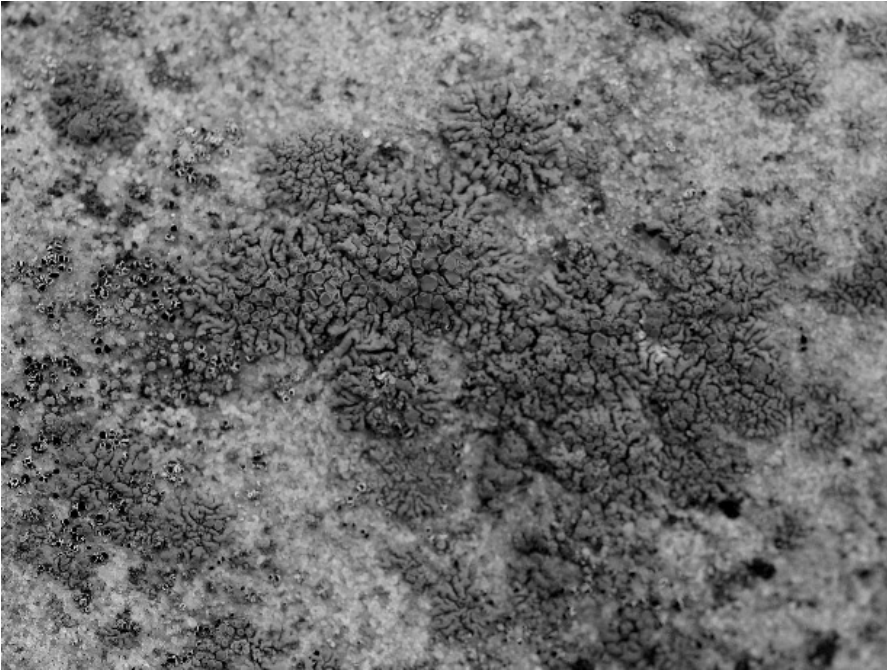


Photo 9 - Elegant sun burst lichen Xanthoria elegans

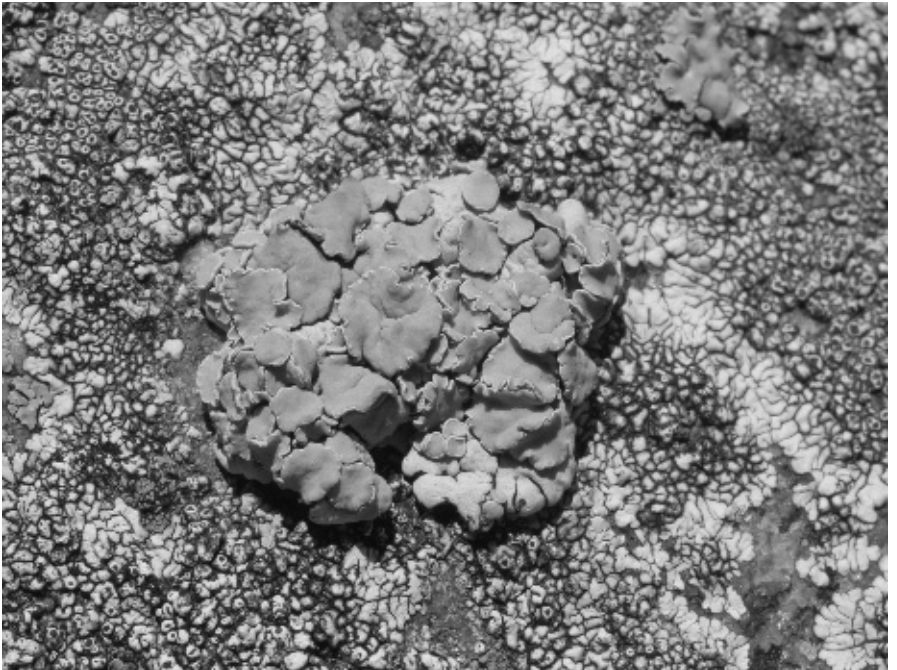


Photo 10 - Orange rock posy Rhizoplaca chrysoleuca

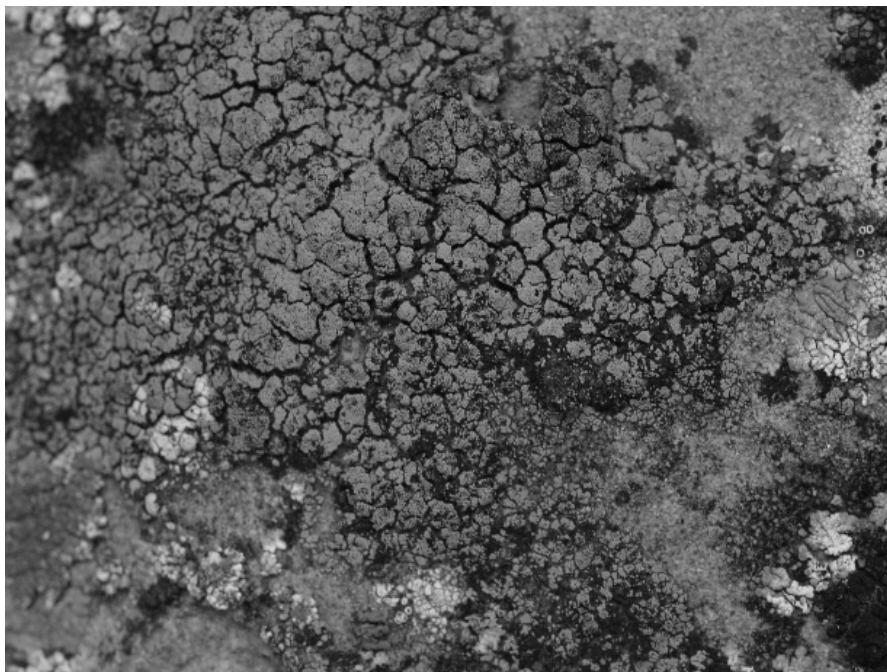


Photo 11 Common goldspeck lichen Candelariella vitellina

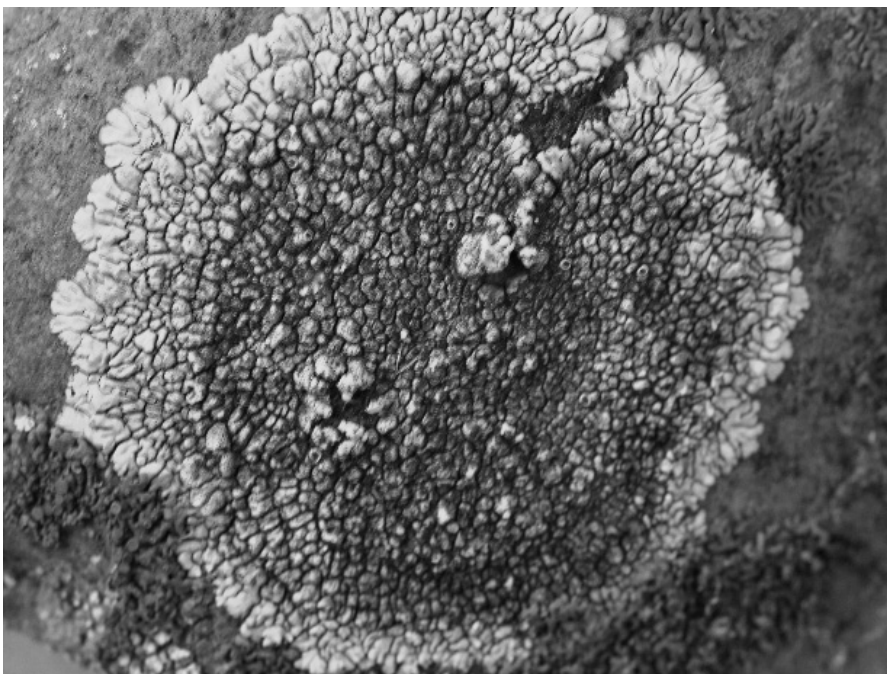


Photo 12 - Golden moonglow lichen Dimelaena oreina

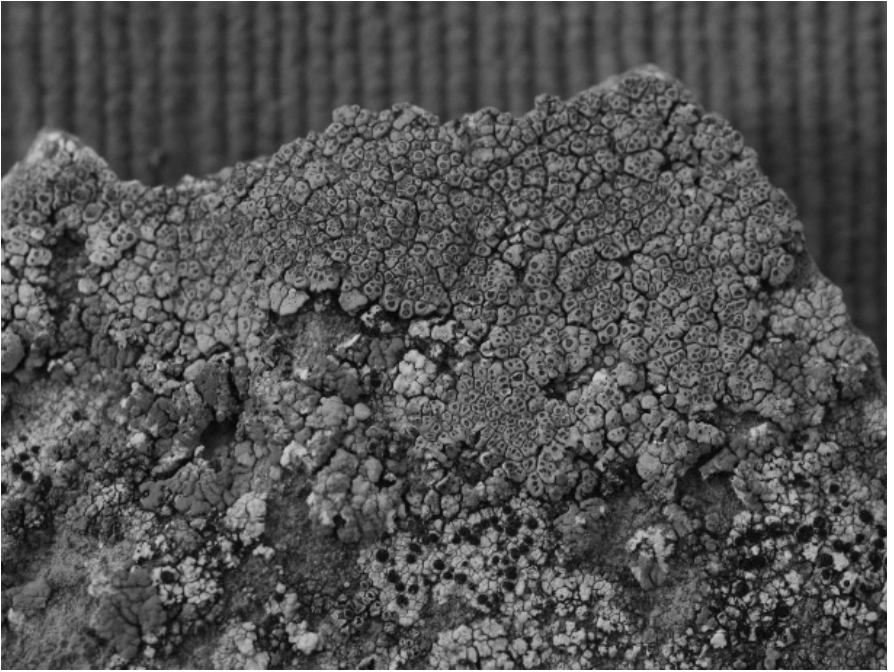


Photo 13 - Gold cobblestone lichen Acarospora contigua



Photo 14 - Hoary cobblestone lichen Acarospora strigata

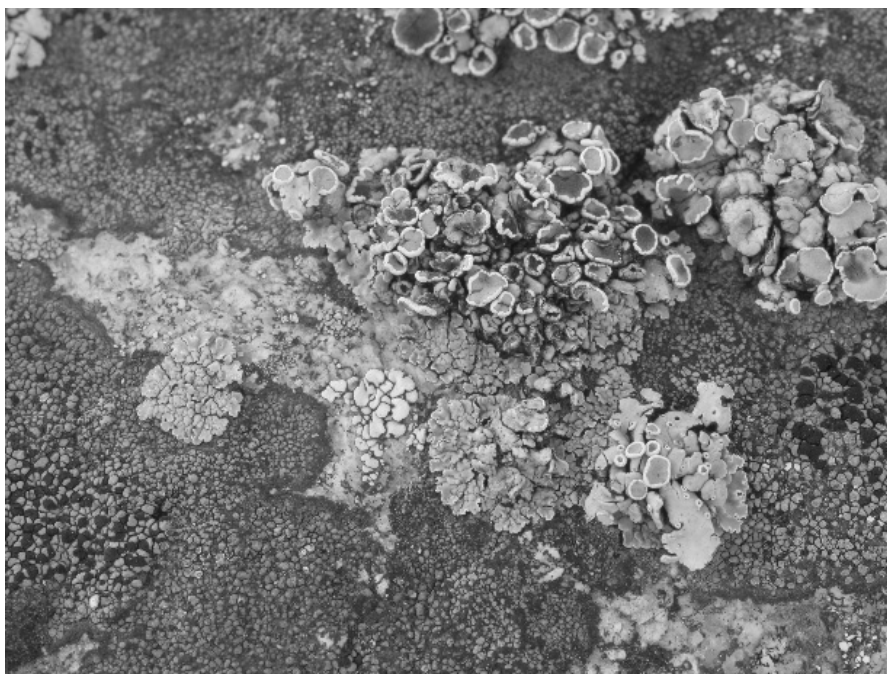


Photo 15 - Green rock posy Rhizoplaca melanophthalma



Photo 16 - Salted rock-shield lichen Xanthoparmelia mexicana



Photo 17 - Hoary rosette lichen Physcia aipolia

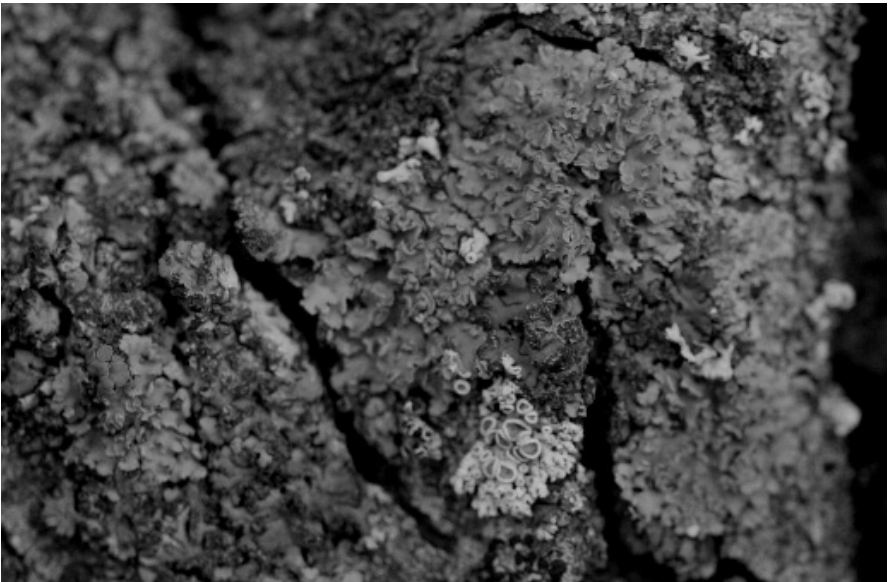


Photo 18 - Hooded sunburst lichen Xanthomendoza fallax

Editor's note: This is the last article of the lichen series. Thanks to Lichenologist Bernard de Vries for his enthusiasm in sharing the world of lichens with us. The author hopes you enjoyed learning more about these interesting plants. Next issue we will begin a series on fungi.



MYSTERY PHOTO

December 2014 Mystery Photo:

Our Mystery Photo is again from avid photographer and Blue Jay reader Randy McCullough. He writes: "This mushroom appears to be sweating. There was not a rain, however conditions were humid. Photos were in the boreal forest at Nelson Lake, 15km south east of Air Ronge, near LaRonge"

The question is: Why is this mushroom sweating? Nervous about having its photo taken? Bonus points for genus, more bonus points for species!

Please send your answers to the Blue Jay editors:

bluejay@naturesask.ca





Answer to September 2014 Mystery Photo:

You can find the eye just above the photo's dead center (see white circle) This photo is of a black-necked stilt chick, about a day old.

- Randy McCullough



- colour photo on inside back cover

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