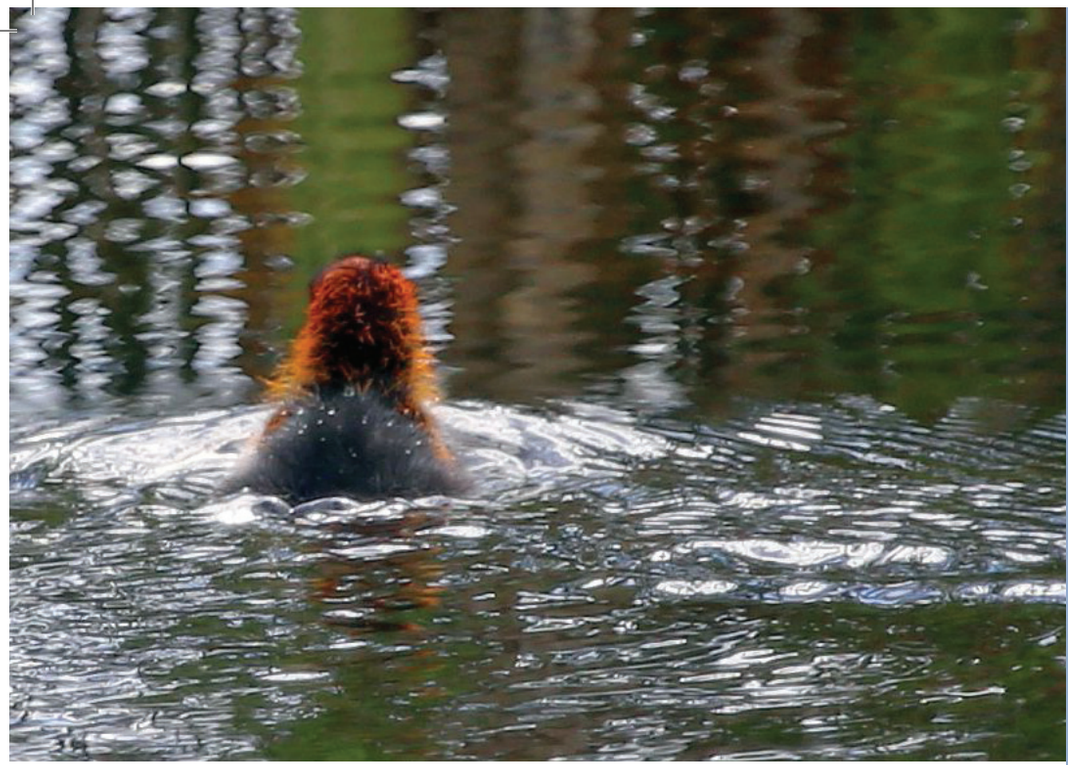

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BLUE JAY

Volume 73 Number 2 June 2015

Thirteen-lined ground squirrel *- May Haga*

Red admiral *- May Haga*

Three fruiting bodies of Hygrocybe conica *(witch's hat). The caps are red- to yellow-hued (like a ripening apple) and on the uprooted one you can see the thick gills peeking out from under the cap and the naturally twisted yellow stem. The caps are less sharply pointed here, but after picking, the mushroom bruised black and continued blackening until fully dry. [from article, pages 89-91]* *- Chris Hay*

Waxcaps in prairie near Grasslands National Park *- Kerry Hecker*

Blue Jay

Vol. 73 No. 2 June 2015 61 - 100

LICHENS

A PRELIMINARY REPORT OF THE LICHEN FLORA IN A PROPOSED LICHEN SANCTUARY SOUTH OF ESTEVAN, SASKATCHEWAN

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

INTRODUCTION

A total of 31 lichens and three bryophytes are reported to date for the proposed lichen sanctuary including two rare species newly recorded for Saskatchewan: *Glypholecia scabra* and *Rhizoplaca peltata* (brown rock-posey).[1]

Although most lichens can easily be observed, still they remain a somewhat underappreciated part of our native flora. This report is a first attempt to document the lichen flora of in this small but highly interesting locality, bringing awareness and understanding of our lichen flora as a valuable part of the biodiversity of this area, and informing the owner (SaskPower) and general public of the importance of protection and management for these two rare species, and their unique habitat.

STUDY AREA

The proposed lichen sanctuary located south of Estevan west of highway # 47 in southeast Saskatchewan is part of the moist-mixed grassland ecoregion in the prairie ecozone. The property could best be described as a few acres of unstable habitat between the highway and an erosion-prone slope, scattered with calcareous and acidic boulders and shallow, parallel and at times sparsely vegetated draws caused by water erosion, with small vegetated gravelly or stony shoulders supporting patches of native grassland with some terrestrial lichens and bryophytes (Figure 1). The area is surrounded by an unstable slope, grassy meadow with some trees, highway #47 and a narrow open corridor leading to a grassy depression. A small sparsely vegetated floodplain is located east of the property between a fence-line and base of erosion draws.

An unusual discovery was a weathered baby shoe on the upper shoulder of an erosion draw close to prickly pear cactus (*Opuntia polycantha*), hoary sage brush (*Artemesia cana*), purple ball cactus (*Escobaria vivipara*)

and creeping juniper (*Juniperus horizontalis*) with some grasses and terrestrial lichens: *Fulgensia bracteata* (tundra sulfur lichen), *Cladonia pocillum* (rosette pixie-cup), *Peltigera rufescens* (field dog-lichen) and *Xanthoparmelia chlorochroa* (tumbleweed shield lichen). This shoe also provided an unusual habitat for some terrestrial, arboreal and saxicolous lichens, and one moss (* in the annotated lichen list). Where the baby shoe came from and how it became lost, remains a mystery.[2]

METHODS

Exploratory visits to the area were made between 2005 and 2008 to examine prospective habitat potential for lichen diversity, and plant communities. In each of the visits additional lichens and bryophytes were found (see appended list).[2]

Lichen samples were collected and examined using a dissecting and compound microscope, while common species were field identified. A very small section of the upper and lower parts of *Rhizoplaca peltata* (brown rock posey) showing apothecia and the characteristic net like pattern of white cracks was taken for study and deposited in the lichen herbarium of the University of Calgary, Alberta. Determinations were also aided by comparison with voucher specimens kept at the author's private herbarium, now at the University of Calgary Herbarium (PMAE).

DISCUSSION and CONCLUSION

Glypholecia scabrata was first recorded for Saskatchewan by the late Jan Looman near Halbright-Lamond C.P. about 20 km southeast of Weyburn in southeast Saskatchewan on erratic calcareous rock in 1960. [1] This location has since been extirpated and the new record made from the SaskPower property on the upper surface of a calcareous boulder. The equally rare *Rhizoplaca peltata* was discovered and recorded for the same locality on the upper surface of an acidic boulder. To date neither species has been rediscovered for Saskatchewan outside this locality, and thus are ranked S1 (de Vries, 2005, unpublished).

It is possible that Thomson's[3] distribution map for *Glypholecia scabra* was based on Looman's record. However, his record of *Rhizoplaca peltata* for southeast Saskatchewan (Estevan?) remains somewhat puzzling and could have been based on *Rhizoplaca melanophthalma* recorded by Looman for Estevan which superficially looks identical,

but differentiates in the lacking a lower white net-like pattern and the chemical component zeorin.

Although Brodo et al.[4] presumably based the distribution of *Rhizoplaca peltata* on a record by McCure,[5] no record of the species for Saskatchewan exists in the Canadian Museum of Nature Lichen Herbarium, only specimens for Alberta, British Columbia, Yukon, Montana, Utah, Nevada, Arozona and Europe (Freebury C. 2014, pers. comm.). The SaskPower property records then remain the only known for these rare species to date for Saskatchewan (de Vries 2005, unpublished).

It is interesting though that Thomson,[3] McCure,[5] and Brodo et al.[4] noted *Rhizoplaca peltata* as presumably based on a previous record by Looman south of Estevan. Could this have been the proposed lichen sanctuary?. Colin Freebury in his recent study of lichens and lichenological fungi in Grasslands National Park did not record these species.[6]

Macrolichens were found on bark of scattered shrubs and trees, while microlichens commonly occurred on boulders and rocks. Terrestrial lichens were poorly represented due to an unstable habitat and were mainly found on gritty calcareous soil on upper relatively stable vegetated shoulders of erosion draws.

This isolated proposed lichen sanctuary located in in the moist-mixed grassland ecoregion of southeastern Saskatchewan, can be seen as an important refuge for lichens and other forms of life because of habitat loss due to agricultural and commercial activities.

Although the property is small compared to other larger nature sanctuaries in Saskatchewan, it does provide critical habitat not only for lichens and mosses, but also for vascular plants and their pollinators as well as other forms of life in this unique habitat.

The low number of lichens, especially terrestrial species, is not surprising, particularly in an unstable environment subject to water and wind erosion. The vegetated shoulders of erosion draws, and large boulders offered more or less stable substrates for lichen diversity.

Water erosion by heavy rains and melt water runoff is the greatest risk facing terrestrial lichens by altering draws and vegetated shoulders; rock lichens are at risk by wind and snow-drift abrasion. Equally,

invasions of non-native noxious plants especially leafy spurge (*Euphorbia esula*), crested wheat grass (*Agropyron cristatum*) and yellow clover (*Meliotus officinalis*) can quickly establish themselves, posing a serious threat to the native vegetation of the locality.

After several years of negotiations between SaskPower and the Author to give this unique property protective status for the rare and vulnerable *Rhizoplaca peltata* (two very small specimens) and *Glypholecia scabra* (three specimens) now known for Saskatchewan only in this locality, no significant progress has been made so far. Although we are fortunate that these two rare species are on private property, positive action is still urgently needed. The author hopes that SaskPtower will be encouraged to protect these rare species.

ANNOTATED LICHEN LIST

A total of 31 species including 17 saxicolous, 12 terricolous and 2 arboreal are alphabetically listed with synonyms, common name, occurrence and substrates following Brodo[3]. *Denotes lichens on baby shoe.[2]

This relatively low number is not surprising given the small and highly unstable habitat of the property and few shrubs.

Acarospora strigata (hoary cobblestone lichen). Common on upper surface of large calcareous rock in a deep erosion draw.

Amadinea punctata – Buellia punctata (tiny button lichen). Scattered on bark of various small shrubs.

Aspicillia cinerea (cinder lichen). Uncommon on upper east facing acidic rock at base of shallow erosion draw.

**Caloplaca cerina* (gray-rimmed firedot lichen). Small specimens scattered on bark of American elm (*Ulmus americana*) and canvas of upper surface of weathered baby shoe.

**Calplaca holocarpa* (firedot lichen). Locally on branches of a low Saskatoon bush (*Amelanchier alnifolia*), as well as a few small specimens on canvas of upper body of weathered baby shoe.

Caloplaca trachyphylla (desert firedot lichen). Common on upper surface of calcareous rock in deep erosion draw.

**Candelariella aurella* (hidden goldspeck lichen). Uncommon on base of calcareous rock imbedded in deep erosion draw and some specimens on weathered leather and canvas of old baby shoe.

Candelariella terrigena (tundra goldspeck lichen). Locally scattered

over calcareous soil of upper vegetated shoulder of shallow erosion draw.

Candelariella vitellina (common goldspeck lichen). Scattered over upper surface of sandstone in shallow erosion draw.

Circinnaria contorta - *Aspicilia contorta* (chiseled sunken disk lichen). Locally on north-east facing sandstone at base of vegetated shoulder of shallow erosion draw.

Cladonia poccilum (rosette pixie cup). Uncommon with a few clubmoss (*Selaginella densa*) on gravelly calcareous soil of upper vegetated shoulder of shallow erosion draw.

Cladonia pyxidata (pebbled pixie cup). Scattered over gravelly calcareous soil of upper vegetated shoulder of shallow erosion draw.

Dimelaena oreina – Rinidina oreina (golden moonglow lichen). Scattered on upper surface of large calcareous rock embedded in deep erosion draw.

Diploschistes muscorum (cowpie lichen). Locally on upper surface of calcareous soil on upper shoulder of shallow vegetated ersosion draw as a parasitic on *Cladonia* sp. and as scattered unattached specimens.

Endocarpon pusillum (scaly stipple lichen). Scattered over calcareous soil of vegetated shoulder of shallow sparsly vegetated shallow erosion draw.

Fulgensia bracteata (tundra sulphur lichen). Scattered over calcareous soil of upper vegetated shoulder of shallow erosion draw.

Glypholecia scabra (no common name). Locally on upper surface of large calcareous rock in deep erosion draw. This is the only location for this lichen in Saskatchewan (perhaps Canada?) to date and should have protected status.

**Lecanora hagenii* (Hagen's rim lichen). Locally on branch of a low Saskatoon bush (*Amelanchier alnifolia*) and a few individuals found on upper canvas margins of weathered baby shoe.

Lecanora muralis (stonewall rim-lichen). Locally on upper east facing calcareous rock imbedded in deep erosion draw near base of vegetated shoulder.

Lecidea tesselata (tile lichen). Locally on upper surface of non-calcareous rock imbedded in deep erosion draw.

Melanelia cfr. disjuncta-Parmelia disjuncta (mealy camouflage lichen). Locally on east facing granitic rock near base of vegetated shoulder of deep erosion draw.

**Placidium cfr. lacinulatum – Catapyrenium lacinulatum* (brown

stipplescale).Locally on soil of upper vegetated shoulder of shallow erosion draw. Small specimens of this species were also found on weathered leather of old baby shoe. Turns green when wet.

Psora decipiens (blushing scale). Locally on calcareous soil of lightly vegetated upper shoulder of shallow erosion draw.

Rhizoplaca chrysoleuca (orange rock posey). Scattered on upper surface of acidic rock partly imbedded in low vegetated area.

Rhizoplaca melanophthalma (green rock posey). Scattered on upper surface of calcareous rock near base of vegetated shoulder of shallow erosion draw.

Rhizoplaca peltata (brown rock posey). On upper surface of large calcareous rock in shallow erosion draw. Found once as two very small specimens. To date the species has not been recorded for the Province outside its present locality and needs urgent protection.

Xanthoparmelia chlorochroa (tumbleweed shield lichen). Uncommon on open calcareous soil.

Xanthoparmelia mexicana (salted rock-shield lichen). Locally on upper surface of large acidic rock imbedded in open grassy area.

Xanthoparmelia wyomingica (shingled rock-shield). Found once on soil in open area attached to base of small rock.

Xanthoria elegans (elegant sunburst lichen). Locally on upper surface of acidic rock near base of vegetated shoulder of deep erosion draw.

ANNOTATED BRYOPHYTES LIST

Ditrichum flexicaulis (slender stemmed hair moss). Locally, dry calcareous soil of stony shoulder.

Tortella fragilis (fragile screw moss). Locally, gravelly calcareous soil on upper shoulder of shallow draw. Associated flora: creeping juniper.

**Tortula ruralis* (sidewalk moss). Locally, calcareous soil at base of stony vegetated shoulder and a few occurring in a seam between the sole and body of a weathered baby shoe. Associated flora: creeping juniper.

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Figure 1. The proposed rare lichen preserve south of Estevan, SK - Bernard de Vries

PHOTO ESSAY

OBSERVATIONS OF BALD EAGLES ON LAC LA RONGE IN 2014

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In the spring, summer and fall of 2013 I observed 11 Bald Eagle (*Haliaeetus leucocephalus*) nests on Lac LaRonge, Saskatchewan. That year was a disastrous year for Bald Eagles on the lake.[1] Only one fledgling survived in an area of observation that included eleven nests, eight of which were active.[1] I returned to the lake in early June 2014 to continue the project. Three nests had been abandoned by breeding pairs and 2014 was the last year that I'll visit them. The diamond shapes identify two of those nests and one is outside the map area on Big Island. Late in the 2014 season, I discovered two additional active nests at Slant Island and Howard Island to bring the number of nests in the area of observation to thirteen (Figure 1). Both of the recently discovered nests were well established and were in the area of observation in 2013; I just hadn't yet found them. The Lisee nest is the most recently constructed nest in the area followed by the Camp nest. The oldest nest is on Hooge Island.

Breeding Success for Bald Eagles on Lac La Ronge in 2014

The 2014 season ushered in a turn-around for breeding success in the observation area with eight fledglings at seven of the ten active nests. White stars on the map identify the nests of the seven successful breeding pairs. The Camp nest produced two young that thrived (Figure 2). There was an eaglet at the Lisee nest (white droplet on the map) in early June but it did not survive past June 15. I have not yet located the Mandel/Lanceley nest. However, I, and others, observed the fledgling and parents on, or nearby, a rocky outcrop on Mandel Island in late August and early September. Sub-adults often used this location as an eating station in 2013.

No Sub-Adult Bald Eagles in the Area of Observation in 2014

Six sub-adult Bald Eagles (birds in their first to fourth molts) were a significant presence in 2013. This group of sub-adults included two in the first molt, two in the second, one in the third and one in the

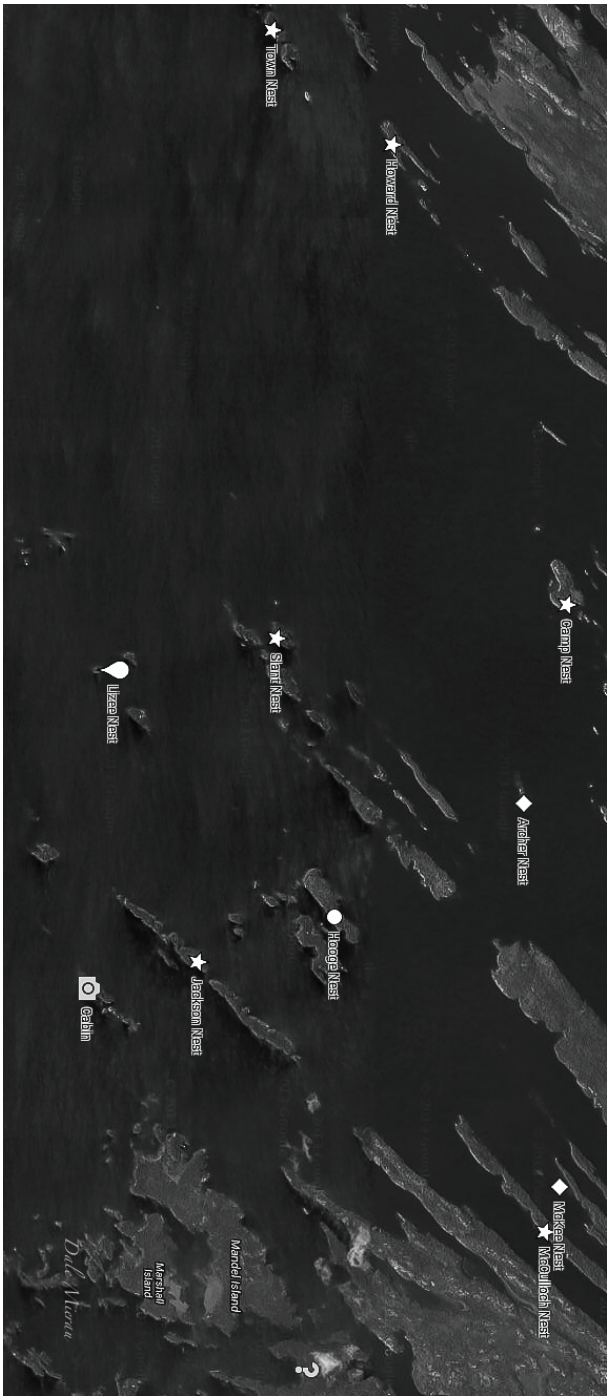

Figure 1. Map of the nest sites in the observation area in 2014

Figure 2. Bald Eagle family at Camp Island on June 20, 2014

fourth molt. A one-year-old was in close proximity to the McCulloch nest all season and was often perched in the same tree as an adult. A two-year old was often seen perched on Mandel Island. A three-year-old spent the summer on the Jackson Islands and was often perched very close to the nest (Figure 3). Slant Island was in the hunting territory of a four-year-old. In 2014, I did not see a single sub-adult Bald Eagle in the area of observation or anywhere else on the lake.

Variability in the Time that Bald Eagles Leave the Nest

I was able to observe only one active nest in 2013 due to the poor breeding success that year. The lone fledgling, at the Lisee nest, branched on August 18, 2013 and left the nesting tree on August 29. With the increase in breeding success in 2014, I was able to closely observe four young birds (eaglets) at three nest sites. This provided an opportunity to make note of when the young birds reached the milestones of branching, fledging and leaving the nest tree. The time that Bald Eagles reach these developmental milestones is variable and seems to depend, to some extent, on necessity and/or local conditions. The dates on which the fledglings had clearly left the nesting tree are summarized in Table 1.

Table 1. Dates on which Fledglings Left the Nesting Tree

Nest Location	Date
McCulloch	August 3, 2014
Camp Male	August 13, 2014
Camp Female	August 19, 2014
Lisee	August 29, 2013
Jackson	September 2, 2014

Figure 3. Three year old Bald Eagle at Jackson Island on July 14, 2013

Figure 4. Adult and fledgling atop a tree remote from the McCulloch nest on August 3, 2014

Figure 5. Fledgling at McCulloch Island returned to the nest to feed for weeks after it left the nest – August 17, 2014

The McCulloch nest appeared damaged on August 1 and the eaglet was not in the nest. I did not see it again until August 3 when it was perched in a tall coniferous tree that was quite remote from the nest (Figure 4). It appeared to prefer the tall perch to the nest but it did return to the nest to feed (Figure 5). I suspect that necessity forced the young bird at the McCulloch nest to leave the nest early and skip the milestone of branching.

The nest at Camp Island is only three years old. It is a relatively small nest tucked in at the top of a Black Spruce tree. When all four birds were at the nest during feeding the quarters were cramped and the structure of the nest deteriorated quickly (Figure 6). The male eaglet at the Camp nest branched on July 29, one week before his sister. On August 13, he was on the ground but was able to fly across a small bay (Figure 7). Days later he landed successfully on a small tree. It might be that the nest became too crowded or too 'rickety' for all four birds forcing the male fledgling to leave the nest early. The other possibility is that an early attempt at flight failed and he was forced to ground. Both fledglings at Camp Island took to perches on a larger island remote from the nesting island on August 19 (Figure 8).

The Jackson fledgling lived in a very robust longstanding nest in a dead Birch tree that is well protected from wind and weather. He still had not branched on August 12 (Figure 9). He did not leave the nest until September 2 (Figure 10).

COMPARING THE OBSERVATIONS OF 2013 AND 2014.

Popualation Density of Sub-Adult Bald Eagles in the Area of Observation

The number of Bald Eagles in the area of observation was nearly the same in 2013 and 2014 despite the marked increase of breeding success in 2014. In 2013, there were six sub-adult Bald Eagles and only one fledgling for a total of seven birds of non-breeding age. In 2014, Bald Eagles produced 8 fledglings in the observation area. Not one sub-adult spent the season within the area in 2014. On the face of it, it appears that the fledglings of 2014 replaced the group of sub-adult Bald Eagles in 2013. It's possible that sub-adults are unwelcome, or their presence is actively discouraged, in breeding areas with high survival rates. I've seen breeding adults chase sub-adults away from nest sites in other years. However, I did not see any territorial behavior by the breeding adults against

*Figure 6. Aggressive posturing over a cisco (*Coregonus artedi*) at the Camp nest on July 25, 2014.*

Figure 7. The male fledgling on the ground at the Camp nest site on August 13, 2014.

Figure 8. Fledglings at Camp Island spent most of their time away from the nest after August 19.

sub-adults in 2014 because of the absence of sub-adults.

The Time to Leaving the Nest for Bald Eagles in the Area of Observation

Bald Eagle eggs hatch on Lac La Ronge during mid-May. The hatchlings are three to four weeks old when I first see them in early June (Figure 11). At that milestone the hatchlings can thermoregulate and can be left on their own for short periods. The

Figure 9. The young male Bald Eagle at the Jackson nest still had not fledged on August 12, 2014.

Figure 10. The young male Bald Eagle at Jackson Island finally left the nest on September 2, 2014.

young eagles are fully feathered at nine to ten weeks of age after which it would be possible for them to fly (Figure 12). Young Bald Eagles can leave the nest from as early as eight weeks to as late as fourteen weeks after hatching. (2) Therefore one would expect fledgling Bald Eagles in northern Saskatchewan to leave the nest

Figure 11. The three-week-old hatchling at McCulloch Island on June 8, 2014.

between July 20 and September 12. Males tend to leave the nest one or two days before the female regardless of hatching order. (2)

In 2013, the Lisee fledgling (a female) did not stray from the nesting tree until August 29. In 2014, the McCulloch fledgling left the nest to a remote perch on August 3 after the nest appeared

Figure 12. The female fledgling at Camp Island was flexing her muscles on August 5, 2014.

damaged. The male and female fledglings at the Camp nest were perched on an island remote to the nest on August 19. The Jackson fledgling left the nesting tree on September 2, 2014, four weeks later than the McCulloch fledgling. The fledgling at the Jackson nest still had not branched when the McCulloch fledgling was already a highly skilled aerialist (Figure 13) and the Camp fledglings were powerful flyers (Figure 14).

The observations in 2014 suggest that the time to leave the nest is quite variable even in the same year. It's possible that the stimulus to leave the nest is driven, to some degree, by factors other than growth and development. One factor could be poor nest conditions, such as damage to the nest. Alternately, an unsuccessful early flight attempt could force the fledgling to ground. It's known that parents continue to feed a grounded fledgling and, if unhurt, the young bird will survive to eventually fly to perch in a tree. (2)

All four fledglings were hunting by mid-September.

SUMMARY

Observations of the behavior of the Bald Eagles on the Lac La Ronge in the spring, summer and fall of 2013 and 2014 revealed significant differences between the two years.

2013 stood out as disastrous breeding year for Bald Eagles when only one hatchling survived past June 15. One explanation was the abnormally severe spring weather conditions in the Northern US and Saskatchewan. This weather anomaly might have had an adverse effect on the health of the migrating birds.

2014 brought milder spring conditions and a remarkable increase in breeding success. Seven Bald Eagle pairs produced eight young that survived to leave the nest. Another observation of note was the complete absence of sub-adult Bald Eagles in the area of observation, and beyond, in 2014.

ACKNOWLEDGMENTS

The author wishes to acknowledge the encouragement and editing skills provided by Dr. Roland Dyck.

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NOTES and LETTERS

INTERESTING NIPAWIN AREA BIRD NESTS

C. Stuart Houston 863 University Drive, Saskatoon, SK S7N 0J8

These are notes from the late Maurice G. Street, about 1961:

COMMON LOON. One nest on the muskeg slough south of Candle Lake had one young hatching, June 20, 1941. With my brother, Stanley, the two of us watched the loon drive an elk away from the flat rock on which the nest was placed. The loon's vigorous wing-flapping, splashing of water, and cries could be heard for miles.

MALLARD. I first noted the female duck with her brood of nine downy ducklings, raised on the grounds of a farmyard two miles east of Codette. I took fuel deliveries there about every ten days. Most of the ducklings survived, raised entirely on dry land. I knew of no waterbody closer than five miles.

EASTERN KINGBIRD. By 1958, I had found sixteen nests with three to five eggs, found by observing the nervous behaviour of the adult, which often dived at me. I saw a surprising variety of nest sites, in forks of trees, on horizontal branches, on the flat top of a dead tree-stub, in brush-piles, and on an unused implement, at a variety of elevations above ground. The most unusual nest was built on the ledge above the open door of a farm tool-shed, the kingbird eggs laid in a nest a pair of robins had built the week before. I reported that in Blue Jay.[1]

BOREAL CHICKADEE. I described three nests in Houston and Street 1959:138. All were in rotten spruce or tamarack stumps, where the wood ants had eaten away the heart of the stump. All were closer to the ground than any Black-capped cavity; my fourth Boreal nest was only a foot above ground. Each cavity was heavily felted with rabbit fur and a few feathers.

GRAY CATBIRD. Here, at the northern edge of their range, catbirds build their well-hidden nests composed of rootlets, bark and a few leaves, in chokecherry or willows. One nest contained a piece of string.

CANADA WARBLER. Seven nests were found under piles of leaves or in crevices on the sides of damp gullies and ravines. Several nests were destroyed by heavy June rains that washed down the sides of the steep banks.

CLAY-COLORED SPARROW. One Sunday afternoon I found 23 nests that contained 51 clay-colored eggs and 13 cowbird eggs, together with 17 young sparrows and one young cowbird. That day I also discovered two White-throated Sparrow nests and one each of the Blue Jay, Red-eyed Vireo, Magnolia Warbler, Slate-colored Junco, and Fox Sparrow.

BREWER'S BLACKBIRD. Brewer's Blackbirds increased as land was cleared of poplars. They favoured "grubbed land" after the trees had been pushed over, but before the advance of the plow. Equal numbers were in low trees and on the ground.

COMMON GRACKLE. Nests are found in brush-piles, on bridge girders, and around buildings, but most are in willow clumps near water. One nest had seven eggs.

Notes from CS. Houston:

"The provincial government has leased land in the Maurice Street Wildlife Sanctuary to the Saskatchewan Natural History Society since 1968, five years after Phillips and optometrist Stan Riome – Phillips's camping and canoeing friend – began talking about the idea.

Joining Phillips as stewards are Doug Pegg and Rick Douslin. Both Pegg and Douslin are outdoor people. They worked as conservation officers for Saskatchewan Environment." (Figure 1)

Recently I consulted my file of unpublished nest descriptions, written by Maurice G. Street, the all-time unsurpassed finder of birds' nests in Saskatchewan – 3116 nests of 133 species plus flightless young of another 10 species, all within a short drive from Nipawin. When he and Lawrence H. Walkinshaw, on 1946 and 1947 trips searching for the then unknown nesting area of the Whooping Crane, went birding together near Nipawin, each admitted that he had finally found another observer who had developed an equal knack for finding nests. Unlike other oologists, who regularly took full sets of eggs, Maurice took only a single egg from the first nest he found of each species, and he did not trade eggs with other collectors. I was hoping to find descriptions of the tree species for the six Ruby-throated Hummingbird nests Street found in his lifetime near Nipawin, but that aspect of my search came up dry.

Stan Riome's diary, October 27, 1966: "Maurice Street suffered a fatal coronary thrombosis at 10 am -- death probably instant. He was found on the Imperial Oil office floor by Bruce Haywood, lying with his head in his crooked arm. This man was in intimate communion with nature, which was his God – serenity, composure, sensitivity, compassion, intelligence and unsurpassed skill caused him to be revered and respected by those very few whom he allowed to know him. My life has been enriched by his love and companionship."

Two of Maurice's friends spent an entire afternoon to find a tiny white spruce that contained a Chipping Sparrow nest, to place on his gravesite after interment. "Above all, Maurice liked a little white spruce.[3]" (Figure 2)

1. Street M (1946) Bird Notes; Eastern Kingbird. *Blue Jay* 5(1) p2.

2. Houston CS (1966) Maurice G. Street. *Blue Jay* 24 (4)158-159, 168.

Figure 1


Figure 2

CLIFF SWALLOWS ARE GATHERING MUD

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These Cliff Swallows are gathering mud to make their nests. Those nests are under the old cement bridge in the Qu'Appelle Valley north of Indian Head, SK (the old #56 Highway Bridge). Photos taken Monday July 6th 2015.

Qu'Appelle Valley

Old cement bridge - Qu'Appelle Valley

Cliff swallows gathering mud

Cliff swallows gathering mud

MUSHROOM SERIES

THE WONDERFUL WORLD OF WAXCAPS

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The waxcaps are, you guessed it, a group of mushrooms with waxy caps. That is, they feel and look somewhat like wax. Even the gills are thick and have a similar texture. The family for this group is the Hygrophoraceae, comprised of two genera: *Hygrocybe* and *Hygrophorus*. *Hygrocybe* consists of mushrooms with bright, almost fluorescent, shades of red, orange, yellow, and green; *Hygrophorus* on the other hand is made up of plain grayish tones. Think Kansas in monochrome sepia versus the technicolour land of Oz.

However, recent phylogenetic studies have shown the true relationships in this family are not so fairy tale simple. New genera have been proposed and some reorganizing has been done,[1] but this hasn't yet trickled down into common usage. The scope of the family has been expanded and now includes, along with the typical waxcaps, some lichens and corticoid (crust) fungi. How interesting that such an assemblage would be more related than other agaric (cap, gills, and stem) fungi! The common thread in the scientific names here is "hygro" which comes from the Greek "hugros" meaning "wet". Often the cap surface appears shiny or is actually slimy.

Waxcaps are interesting from a conservation perspective. There has been great interest in studying "waxcap grasslands", especially in the United Kingdom since the '80s. From years of research there are now well established survey records and this has allowed for a flourishing of conservation initiatives surrounding these fungi. Ancient grasslands and their distinct fungi have become a treasured part of the ecological heritage across Europe. What are the treasured fungi of Saskatchewan's mixed-grass prairies, I wonder? Old, "unimproved" grasslands such as those found in the Netherlands will have a very different waxcap composition than those where fertilizer has been applied.[2] With rising demands on natural areas there is increasing concern over protecting them. A grassland assessment system has even been developed, using waxcaps in addition to other mushroom groups common to this ecosystem: Clavarioids (fairy clubs), *Hygrocybe* sensu lato (the waxcaps), Entolomataceae

(another largely agaric family), Geoglossaceae (earth tongues), and *Dermaloma* (more agarics) – the CHEGD system.[3]

Within Saskatchewan, waxcaps can be found in a variety of places and sometimes lead to surprising encounters. I have heard several reports (and been sent photos) of single orange to red waxcaps being found within vast grasslands, each individual like a little glowing ember hiding in the wide open field. Sometimes they are even seen sprouting from crevices amidst cliffs where there is some soil. However, like most mushrooms they are also seen in forests, particularly *Hygrophorus* which are ectomycorrhizal with trees. The true ecology of *Hygrocybe* is still a mystery – are they saprotrophs? Parasites? Mycorrhizal with grasses or maybe mosses? All of the above? Research has been done in this area,[4] but the picture isn't clear yet.

Hygrocybe conica is the waxcap I have found most often and that I recommend looking out for. This species (maybe a group of species) is a well known mushroom with the common name "witch's hat". This is fitting not only since the cap shape is conical (like a witch's hat) but since the mushroom is usually deep red. Also, like a curse, it will always transform pitch black with age or after being picked. So your beautiful vibrant specimen turns into a shrivelly black hag. Thoughts come to mind of the red apple and the evil queen from Snow White.

I hope for many waxcap surprise encounters in your future! Perhaps when you see one you will think of how they helped to conserve ancient grasslands half way around the world, wonder at what ecological role they are serving, or remember a fairy tale from your childhood.

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Three fruiting bodies of Hygrocybe conica*. The caps are red- to yellow-hued (like a ripening apple) and on the uprooted one you can see the thick gills peeking out from under the cap and the naturally twisted yellow stem. The caps are less sharply pointed here, but after picking, the mushroom bruised black and continued blackening until fully dry. [see colour photo on inside back cover]* *- Chris Hay*

IN MEMORIUM

HORACE HEDLEY MITCHELL (1868-1953)

E. Charles Nelson[1], C. Stuart Houston[2]
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Horace Hedley Mitchell, a landmark figure in the history of ornithology in Saskatchewan, was employed as a taxidermist in the Provincial Museum in Regina in 1913, wrote the 18-page "Catalogue of the Birds of Saskatchewan" in 1924, and retired in 1933. Had he been trained in England? Where and when did he die? We set out to solve these mysteries.

Horace Hedley Mitchell, usually known as Hedley Mitchell, was born in Exeter, Devon, on 20 March 1868, the son of William and Kitty Mitchell, who were married on 31 May 1857 in Colyton, about 20 miles east of Exeter. Hedley's father, originally a tailor in Colyton, served in the Devon Constabulary in Exeter, Barnstaple and Tavistock, rising to the rank of Superintendent.[1] Hedley emigrated to Ontario prior to 1891, the year the Canadian census showed "Henry" (undoubtedly an enumerator's mistake for Hedley) Mitchell, a photographer, as a lodger in the Onondaga Drive home of Walter Schofield, a carpenter, his wife Priscilla, and three daughters, the eldest, Annie, a teacher. Hedley, age 24, married Annie Schofield, aged 20, on 18 January 1893, in Hamilton, Wentworth County. The 1901 Canadian census listed Annie and Hedley, again listed as a photographer, still living in the Schofield home[2]; his father-in-law Walter Schofield's birth date was now available, 20 August 1840; Priscilla's 27 March 1840, Annie's 16 July 1871, and Annie and Hedley's daughter Dorothy Mitchell, now nearly 3 years old, 29 June 1898.

Early in the next century, Hedley learned the art and science of taxidermy, and became employed by Oliver Spanner, the "dean of Canadian taxidermists, "an 'able tutor' in teaching others taxidermy skills," and the "recipient of a gold medal."[3]

The Saskatchewan census of 1916 listed Horace Mitchell (age 46, taxidermist) with his wife Priscilla (40) and daughter Dorothy (17), living at Angus Crescent, Regina.[4]

Hedley Mitchell was hired as a taxidermist by Fred Bradshaw in 1913, and served until 20 March 1933[5] when he retired with the designation Provincial Naturalist. He collected birds and birds' eggs during field camps as follows:

In 1917, at Willowbunch Lake in late April, at Valeport on 9 May, at Frenchman River valley near Eastend in late May, and at Kutawagan Lake in early June (Mitchell in Bradshaw 1918:39-41).

In 1918, at Moose Mountain in June and the north end of Last Mountain Lake in early July (Mitchell in Bradshaw 1919:73-74).

In 1919, at Valeport in late May, west of Eastend on 9 to at least 18 June, at Carievale, 4-6 July, at Birch Hills, 15 to at least 21 July (Mitchell in Bradshaw 1920:41-43).

In 1920, Mitchell camped where the Arm River joined Last Mountain lake, two miles west of Regina Beach, from 6 May to 2 June, and again, with C.H. Young, of the National Museum of Canada (NMC), from 18 June to the first week in September. Mitchell also visited Kutawagan Lake with P.A. Taverner and C.H. Young from 10-17 June (Mitchell in Bradshaw 1921:128-130).

In 1921, Cypress Hills, 12 May to 22 July; north shore of Old Wives Lake, 26 July to 3 September (Mitchell in Bradshaw 1922:381-382).

In 1922, Big River, 18 May to 24 June; Valeport and Craven, early July; St. Victor and Fife Lake, 10-20 July; Gainsborough, 9 Aug to 7 September (Mitchell in Bradshaw 1923:48-51).

In 1923, near Hudson Bay [Junction], 15 - 21 May on the Red Deer River, then on the Fir River to 21 June (Mitchell in Bradshaw 1924:330-331).

In 1924, Imperial Beach, Last Mountain Lake, 22 May to 5 June; Moose Mountain, 11 to about 30 June.

In 1925, Fairwell Creek, west of Ravenscrag, 15 May - ? Assisted by Fred G. Bard.

In 1926, Duck Mountain Provincial Park, 6 May - June 19. Assisted by Fred G. Bard.

In 1927, Roddick Lake, 21 May - 22 June (Barton, *Blue Jay 62(2):* 2004:66-70). Assisted by Fred G. Bard. Short trips to Old Wives Lake, Gull Lake and Regina Beach/Kedleston.

In 1928, Rush Lake, "spring migration and nesting season".

In 1929, Mitchell worked in the museum, assembling a group of fishes for display.

In 1929, Frenchman River, 12 miles NW of Val Marie, May and June.

In 1930, Old Wives Lake, 21 June.

A preliminary list of Saskatchewan species, without annotations, was compiled in 1918 and printed in Bradshaw's annual report (1919:57-60). Mitchell's "Catalogue of the Birds of Saskatchewan," occupied a full issue of the *Canadian Field-Naturalist* (volume 38, No. 6) in May 1924, and contained 47 taxa added since the 1918/1919 list, with annotations. One species was extinct (the Passenger Pigeon) and two had been introduced (Gray Partridge and House Sparrow). R.D. Symons (1966) wrote about his friend Mitchell as follows: "A man of great charm, much humility and wide knowledge … always ready to encourage, to share information, and with a tremendous capacity for living, this good-natured and humorous man was also a good preparator and a keen observer."[6]

A death notice in the *Vancouver Sun,* 27 January 1953, read: MITCHELL, -- Horace Hedley Mitchell, late of 1275 Burris St., South Burnaby, passed away Jan. 24, 1953, at the age 84 years. He is survived by 1 daughter, Mrs. J.C. Hackney, S. Burnaby; 1 brother, Wallace R.[7], Ontario; 1 sister, Mrs. E. Barrett, Cornwall, England. Funeral service will be held in the Columbia Funeral Chapel, New Westminster, Wednesday, Jan. 28, at 1 p.m., Rev. D.W. Elstead officiating. Interment Forest Lawn Memorial Park.

1 England census returns for 1861 (Colyton), 1871 (St Sidwell, Exeter) and 1881 (Tavistock) available on www.findmypast.co.uk (accessed 27 September 2014: GBC-1861-1373-00540A.jpg, GBC-1871-2061-0038.jpg and GBC-1881-4315015-00706.jpg, respectively). See also http://www.devon-mitchells.co.uk/getperson.p?personID=I151&tree=Colyton2 (accessed 27 September 2014).

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Oliver Spanner, son of Walter and Caroline Spanner, was born in Newport, Isle of Wight, on 22 December 1857. The Spanner family emigrated to Canada in 1868 and in the 1881 census, Oliver was listed as a carpenter. By 1895 the Oliver Spanner and Co. taxidermy shop at 358 Yonge Street, Toronto, had become a meeting place for Toronto birders

and according to the 1911 census was the residence of Hedley, Annie and Dorothy Mitchell. In this shop the world's foremost bird-study skin collector, John Henry Fleming, first met P.A. Taverner. Spanner died in Toronto on 20 January 1939.

4. Census of Manitoba, Saskatchewan and Alberta 1916 (31228_4363972-00300.pdf, accessed 13 October 2014).

5. Fred Bradshaw, "Report of the Provincial Museum of Natural History, for the year ended April 30, 1933". Roland S. Garrett, King's Printer, Regina.

6. R.D. Symons, "Personal recollections of some early Saskatchewan naturalists," *Blue Jay* 24(1):2-6.

7. Wallace Reginald Mitchell, Hedley's youngest brother, was born in Barnstaple, Devon, and was 12 years old in 1891; he was then living in Tavistock with his parents and three of his older siblings (English census returns for 1891 (Tavistock, see note 1; GBC-1891-1749-0130.jpg; accessed 28 September 2014). Later, Wallace emigrated to Canada, and married Bessie Florence Mitylene Schofield, sister of Hedley's wife, Annie (for this information we are grateful to Ian Mitchell, email to ECN, 29 September 2014).

MYSTERY PHOTO

June 2015 Mystery Photo:

Our mystery photo is submitted by Anne Brigham, who writes: “this might make a great mystery critter...as it could possibly be mammal or bird from this angle”
The question is: What is this creature? Bonus points for genus and species!

Please send your answers to the Blue Jay editors:
bluejay@naturesask.ca
correct answers will be entered into a draw for a prize from Nature Sask.

June 2015 mystery photo is submitted by Anne Brigham (full image in colour on back cover)

Answer to March 2015 Mystery Photo

This mule deer buck has just lost his antlers! You can see a little bit of blood streaking from the now-empty antler sockets down around his eyes.

Deer lose their antlers from approximately mid-December until early March. A drop in testosterone levels triggers specialized cells called osteoclasts to activate. Osteoclasts eat away at the bone at the base of an antler and allow the antler to fall off. The process occurs quickly often within a day or two.

A deer's physical condition can contribute to early shedding. Wounded deer often cast their antlers early. Injuries cause testosterone levels to drop early and trigger osteoclast activation. Older deer tend to cast their antlers earlier than young healthy deer. The demands of the rut lower a deer's physical condition and especially in dominant bucks, a poorer physical condition may cause early antler loss.

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