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# BLUE JAY

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***Front Cover:*** *Bald eagles* *- Dale Mierau*
***Back Cover:*** Somatochlora cingulata *- David Halstead*

*Green heron (see note page 110)* *- Keith Barr*

*June mystery photo* *- Shelley Banks*

*Female* Araniella proxima *- Harvey Schmidt*

# Blue Jay

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# BIRDS

## THE IDENTITY OF SASKATCHEWAN'S FIRST MAGNIFICENT FRIGATEBIRD (*Fregata magnificens* Mathews) CONFIRMED

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On Sunday afternoon, 18 July 2010 a cottage owner at Leslie Beach, Fishing Lake, Saskatchewan saw what she thought was a frigatebird "harassing fishermen trying to steal their fish. Apparently the fishermen needed to hold sticks above their head as the bird repeatedly swooped at them. That evening she said the bird roosted in some dead trees near the road". She told Stan Shadick and May Haga "she had identified the bird as a frigatebird but rejected that idea when she looked at its range map in a bird book!" (Saskbirds #19217 Shadick).[1] On Tuesday afternoon 20 July Jackie and Ron Simpson saw a large unfamiliar bird perched atop a light standard at Leslie Beach and managed to take several photographs (Photo 1). They never saw the bird fly (Saskbirds #19214 Luterbach, Saskbirds #19217 Shadick).[1] A careful search for the bird in the area by Shadick and Haga on 23 July was unsuccessful.

Subsequently there was an unsubstantiated report of a single frigatebird in Saskatoon along the river on 22 August, and perhaps south of the city two weeks earlier by K. Kirchmeier (Saskbirds #19324 Shadick).[1] Then on 5 Sept at 1445hr Gordon and Reta Taylor watched what they believed was a female Magnificent Frigatebird flying east over the Last Mountain Lake National Wildlife Area until it disappeared from view (Saskbirds #19371 Taylor).[1]

Frigatebirds or Man of War birds are large, highly aerial seabirds, five species being found around tropical oceans of the world. The normal range of the Magnificent Frigatebird (*Fregata magnificens*) includes coastal waters of Mexico and southern Florida and thus is the species most likely to stray north along the coasts to southern Canada and even more rarely into the continental interior. These vagrants are often discovered after powerful tropical storms have apparently taken them off course. To complicate matters, two other species of frigatebird have been recorded as ultra rarities in the Great Plains of North

*Photo 1 - Unidentified frigatebird perched atop a light standard at Leslie Beach, Fishing Lake SK, 20 July, 2010 - Jackie and Ron Simpson.*

America. The Lesser Frigatebird (*F. ariel*) has occurred once in Wyoming 11 July, 2003 and once in Michigan 18 Sept, 2005. And the Great Frigatebird (*F. minor*) has occurred once in Oklahoma on 3 Nov, 1975. Both of these species' normal range is centred in the southern Pacific and Indian Oceans.[2,3]

The two other species of frigatebird have more restricted ranges and have not been recorded in North America. The Christmas Frigatebird (*F. andrewsi*) of the Indian Ocean is critically endangered. The Ascension Frigatebird (*F. aquila*) of the tropical Atlantic Ocean has wandered to Great Britain: one specimen initially being misidentified as a Magnificent (http://en.wikipedia.org/wiki/

Ascension_Frigatebird).

Which then of the three widespread species was the Fishing Lake bird – Great, Lesser or Magnificent?

***The identification problem*:**

Identifying species of frigatebirds has been called one of the most difficult challenges for seabird observers. Frigatebirds are very long lived reaching sexual maturity at 10 years of age. They go through as many as 8 recognizable plumage stages each often confusingly similar to those of different species at comparable ages.[3] As a result, many frigatebirds cannot be identified to species with certainty. However, Howell et al[3] provide insightful guidance on identifying frigatebirds, which I followed in examining the Fishing Lake bird photo.

***Determining age and sex of the bird:***

By careful examination of our bird's plumage its age and sex could be determined relatively easily. This is an important starting point according to Howell et al.[3] Adult males and females have different plumages; males of all 3 species are almost entirely black and some are difficult to separate. Fortunately for us, our bird with a combination of extensive white and black feathering could be either a female or sub adult. Our bird has a black head, throat and belly with the black feathering extending anteriorly to a point in the lower white chest. This is typical of both adult female Magnificent and Lesser frigatebirds.

Adult female Great Frigatebirds have a pale gray-white throat and can be eliminated from our search. Both Christmas and Ascencion frigatebirds are eliminated from our investigation because their adult female plumages do not match our bird.

Continuing to look at plumage for clues to separate the two remaining species, the best characteristic, different patterns of white in the underwing, cannot be seen in this photo. Adult female Lessers have a white collar extending around the back of the neck but this too is not visible in the photo. There is even evidence of iridescence, shared by adults of both species, visible on one of the primaries in the left wing. The brown feathering on the upper wing, the ulnar bar, is found in both species and does not help identify our bird.

We are left with Lesser and Magnificent frigatebirds as candidates for further study.

***Determining size of the bird:***

*Adult frigatebird on post (July 2010)* *- Jackie and Ron Simpson*

*Adult frigatebird on post (July 2010), note white plumage*
*- Jackie and Ron Simpson*

At this stage, the bird's behaviour aids us. Frigatebirds do not readily rest on the water because their feathers are not strongly waterproofed. Instead they habitually perch on high objects - tree branches, wires, towers, boat rigging, and masts. Fortunately our bird was photographed on a manmade perch, a metal light standard, which could perhaps provide an accurate size reference for comparison with the bird.

After investigation I found the light standard was manufactured a short distance west of the Fishing Lakes, at Humboldt, by Commercial Industrial Manufacturing Ltd where Kevin Ulrich was able to give me the exact dimensions of their standard. The pole tapers from an octagonal shape to round before entering the light housing. At the point the pipe enters the housing it has a diameter of 60mm (2 3/8 inches), just to the right of the perched bird in the photo (Photo 2).

I contacted Michel Gosselin, Collection Manager (Birds), Canadian Museum of Nature, Ottawa who kindly offered his experience taking measurements from the Saskatchewan photo of the female frigatebird (Photo 2). By using the known 60mm measurement as a 'reference ruler' the length of two body parts on the bird could be derived. He **estimated the female's left wing chord to be 642 mm and culmen to be 112 mm in length.** Gosselin stated, "...these are certainly minimum figures because the bird is behind the pole and certainly not perfectly perpendicular to the camera". These measurements could then be compared to those published for Lesser and Magnificent frigatebirds.

Adult female Lesser Frigatebird from the South Pacific: wing chord 547 mm (534-562 mm); and bill (presumably culmen) 88 mm (87-90.5 mm).[4] Adult female Magnificent Frigatebird: wing chord 628-674 mm (mean 650 mm)[5]; and exposed culmen (upper mandible) 109.2-130mm (mean 121mm)[5], and 113-133mm.[6]

After comparing the three sets of measurements, it is evident that the estimates for the Saskatchewan frigatebird are significantly larger than those of Lesser Frigatebird, eliminating it as a candidate. Instead, the estimates of the wing chord and culmen fall *within* the expected range of measurements for an adult female Magnificent Frigatebird, according to Palmer.[5]

**Conclusion**

By using a combination of plumage characteristics and measurements taken from the Simpson's

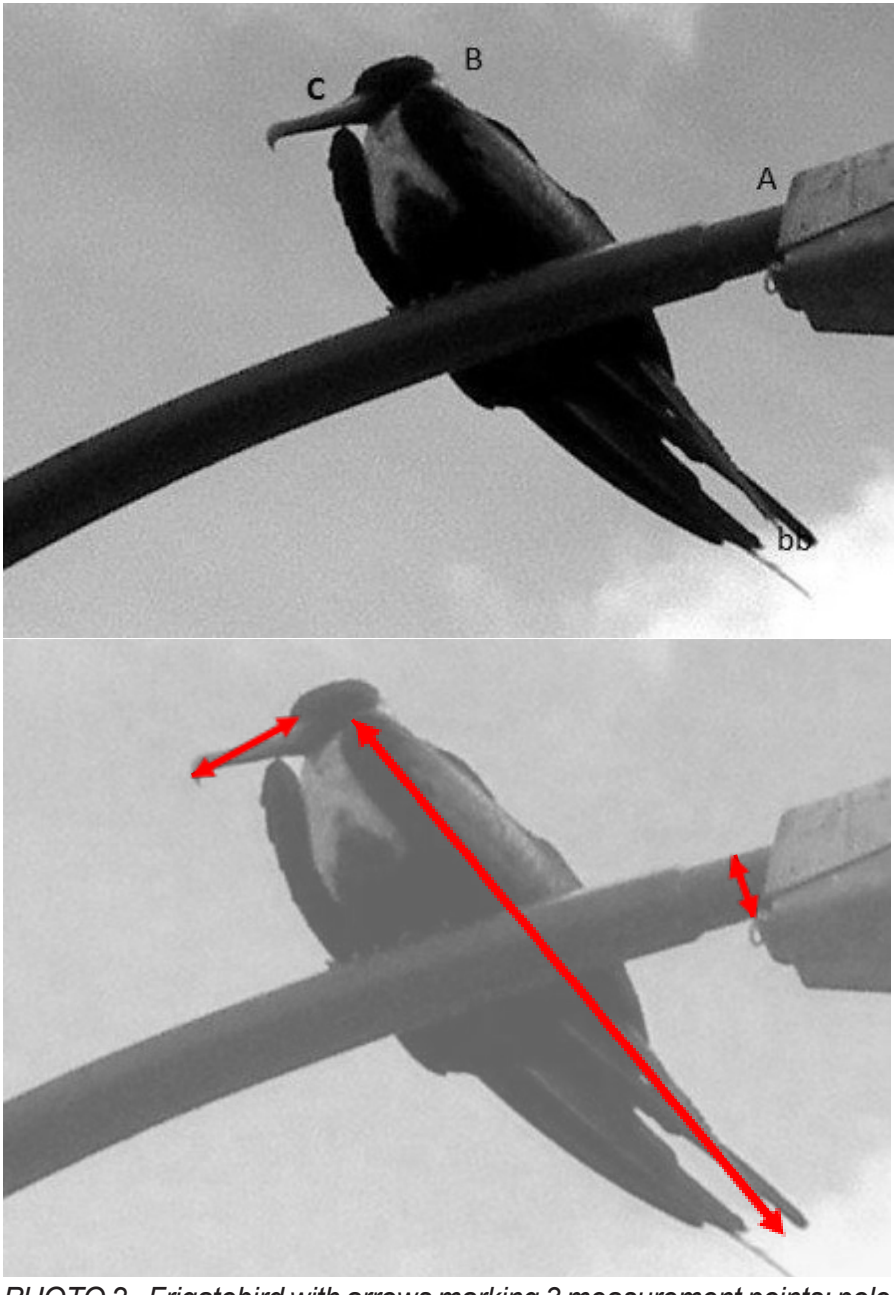


*PHOTO 2 - Frigatebird with arrows marking 3 measurement points: pole diameter closest to the light housing (A): wing chord from wrist bend (B) to tip of longest visible primary feather (BB); culmen or upper mandible (C). - Jackie and Ron Simpson (photo), M. Gosselin (measurements).*

photograph, and with help and a little good luck, the first occurrence of a vagrant Magnificent Frigatebird in Saskatchewan was confirmed. And it is possible that the bird remained in the province after it was first recorded on 18-20 July, visiting more than one location before being last seen on 5 September.

Magnificent Frigatebird is the only species of frigatebird that has been recorded in Canada. There are a few previous records of vagrants to waters off Newfoundland and Nova Scotia, Quebec's St Lawrence River, Ontario's Great Lakes and waters off British Columbia. The Saskatchewan bird is the first found in the Prairie Provinces.

Two cyclones, Hurricane Alex (25 June - 2 July) followed by a second smaller tropical depression (8 - 9 July) passed over NW Gulf of Mexico, bringing heavy rain and winds to southern Texas (http://www.srh.noaa.gov/crp/?n=riograndeflood). These strong weather systems preceded the appearance of the frigatebird in Saskatchewan.

**Acknowledgements**

My thanks to the Jackie and Ron Simpson for sharing their photo and Michel Gosselin for helping verify this record and suggesting improvements on the manuscript. Also, thanks go to Kevin Ulrich of CMI for confirming details regarding their light standard; and Bob Luterbach, Al Smith, J. Frank Roy, and Stan Shadick for their assistance, providing information and editorial comments for this article.

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# INSECTS

## WESTERN RED DAMSEL AT PETTURSON'S RAVINE IN SASKATOON SASKATCHEWAN IN 2013

LORNE DUCZEK[1], PHILIP TAYLOR[2], CRAIG SALISBURY[3], LORRIENE SALISBURY[3]

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A breeding population of Western Red Damsels (*Amphiagrion abbreviatum*) was found on 10 July 2013, and observed again on 28 July and 3 August 2013 in the fen area at Petturson's Ravine, Silverspring Prairie, Saskatoon, Saskatchewan (N 52.16764 W 106.60111). Paulson[1] described the Western Red Damsel as a 24-28 mm long, red and black to red-brown or orange damselfly with a prominent hairy tubercle (bump) under the thorax. The male has a red abdomen with black markings on the basal and middle segments, the thorax is black. Females are similar in colour to males, though the thorax can also be dull brown to orange-brown.

The taxonomy of the Red Damsels is challenging.[1,2] Currently two species are recognized within the genus, with the Western Red Damsel (*Amphiagrion abbreviatum*) typically occurring west of the Northern Great Plains, and the Eastern Red Damsel (*Amphiagrion saucium*) occurring to the east. In additional to the east/west distributions, morphological differences also exist. The Eastern Red Damsel is slightly smaller, with a more slender abdomen than the Western Red Damsel, and the tubercle under the thorax is smaller in the Eastern Red Damsel. In the area of overlapping ranges between the two Red Damsel species (an area which includes Saskatchewan), there could be intermediates or possibly, they could be one clinal species. The individuals found at Petturson's Ravine fit the description for Western Red Damsel, having a large thoracic tubercle (Figure 1). Several mating pairs of Western Red Damsels (Figure 2) as well as single individuals (Figure 1) were observed. We estimated the total number of flying adults at fewer than 20 individuals. There are no other red damselflies likely to occur in Saskatchewan.[1, 2]

Occurrences of this damselfly

are sparse on the northern plains, and apparently it is only observed very locally in suitable habitat.[1,2,3] The fen at Petturson's Ravine is similar to published descriptions of suitable habitat. Cool water seeps out of the east bank from the Forestry Farm Aquifer.[4] It has a pH of approximately 7.6 (G. van der Kamp personal commmunication) and is high in calcium, magnesium and sulfates. The fen covers an area of about 200 $m^2$ and consists of many small (one to a few $m^2$) soft bottomed marl ponds surrounded by short vegetation including sedges (Figure 3). The clear water was flowing in some areas. Nearby, there are two remnant beaver ponds with open water (Figure 4) enlarging the size of the wetland area to about half a hectare. The fen drains into the South Saskatchewan River approximately 400m to the west.

Western Red Damsel is a weak flier. They were frequently observed flying less than 30 cm high off the ground or water surface or in the low vegetation. They usually perched on vegetation near water or on the mats of vegetation in the water. When disturbed they often dropped down into vegetation to escape detection. Males were more conspicuous than females and flew quickly at a greater height, 1 to 1.5 m, when

*Figure 1. Western Red Damsel male 10 July 2013 - L. Duczek.*

*Figure 2. Western Red Damsel mating pair ovipositing on submerged vegetation 28 July 2013 - P. Taylor.*

chasing other males or when moving between ponds. Mating pairs were observed and some were ovipositing in shallow ponds on submerged green algae mats of *Chara* sp. (Figure 2). Ovipositing on floating vegetation agrees with other reports.[1,3] In Alberta they have been seen from the end of May to the end of July [3] while in Montana their flight period is May to September.[1]

Known sightings of Western Red Damsel have occurred in Saskatchewan in the southeast and the southwest. Four specimens of Western Red Damsel, in the collection of Royal Saskatchewan Museum, were collected at Roche Percee in the southeast by Ronald Hooper, two on May 29, 1980 and two on June 29, 1980 (Dr. Cory Sheffield, Curator of Invertebrate Zoology, Royal Saskatchewan Museum, personal communication). There are sightings from two locations south of Maple Creek in the southwest made prior to 2005 (www.odonta.central.org). In Alberta this species has been reported at many locations,[1,3] with the northernmost sighting near the Saskatchewan border east of Red Deer. The range map in Paulson[1] suggests this damselfly is present in the southern halves of Alberta and Manitoba while being virtually absent from Saskatchewan. We

*Figure 3. Small shallow fen ponds - P. Taylor.*

believe this reflects a lack of data rather than a true representative of range.

On 29 July 2013 the fen area at the north end of Last Mountain Lake National Wildlife Area just west of the Wetland Trail was surveyed but no Western Red Damsels were found. Superficially this fen is similar to the Petturson's Ravine fen.

The small fen seep area at Petturson's Ravine could be damaged by foot traffic so an extensive survey of the Western Red Damsel population was not conducted. Given that this unique and fragile habitat could be destroyed in just minutes by heavy equipment, it is daunting to realize just how vulnerable this small group of damselflies is.

**Acknowledgements**
We thank the reviewers and editor of the Blue Jay for their useful and constructive suggested changes.

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*Figure 4. Fen seep area at Petturson's Ravine - L. Duczek.*

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# PHOTO ESSAY

## A DISASTROUS YEAR FOR BALD EAGLES AT LAC LARONGE SASKATCHEWAN IN 2013

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I have owned a cabin on a small island on Lac LaRonge since 1984. The cabin was built in 1975 but was not used until 1984. It sits on a 600 meter by 100-meter rocky island that is 15 kilometers from the town of La Ronge.

Recognizing a Change in Breeding Success of the Bald Eagle

Bald Eagles live long lives and don't breed until the age of six years. Casual observation of population density might not detect a decline of successful breeding pairs. A failure to notice a reduced number of fledgling Bald Eagles could limit the possibilities for a reversal.

Years ago I developed an interest in Bald Eagles and recorded my observations with still images. 2013 was a disastrous year for Bald Eagles on Lac LaRonge, Saskatchewan. Only two nests of nine produced young and only one young bird survived past the fourth week.

Normal Bald Eagle Distribution in Recent Years.

I observed 11 Bald Eagle nests in 2012. The location of the cabin and the nearby nests can be seen in Figure 1.

Nine of the nests were active in 2012 with a pair of eagles attending the nest. The square markers identify the active nests situated within the map area. Three additional active nests were outside the map area. Two nests, identified by the round markers, were abandoned.

Most well established Bald Eagle nests on Lac La Ronge are in birch trees. Newly built nests, or nests that were recently moved, tend to be in tall spruce trees in close proximity to the eventual site of an established nest.

A well-established nest in a birch at the McKee Island site (most easterly round marker) fell down in 2009. The pair moved the nest to a tall spruce on McCulloch Island identified by a star. They moved the nest to a birch closer to the water in 2012.

A pair of birds abandoned a well-established nest on a tall dead tree on an exposed island (the most westerly island with the round marker) in 2012. They built a new nest in a tall spruce on a small island at Camp Island (square marker).

Four nests produced young and I know that three of the young birds fledged in 2012. The four productive nests were at the McCulloch Island Site (identified with a star), Camp Island Site, the Big Island Site (both identified by squares) and the LaRonge Site that is just east of the town site and not in the map area.

*Figure 1 – Bald eagle nest sites*

*Figure 2 - Nestling, 16 June 2013 at McCulloch Island nest*

I did not see the fledgling at the La Ronge site, but I might have not noticed it because I visited it rarely. Using distinctive developmental features of the head and distinct feather patterns I believe two of the birds that fledged in 2012 returned to the area 2013.

In 2013, a disastrous year, the only productive nest that produced a fledgling was at the Lisee site (most southerly star marker). This nest sits on an exposed small island that is 2.5 kilometers southwest of our cabin. The Lisee nest was not productive in 2012. In the spring of 2013, the pair at the Lisee site moved the nest from a tall spruce to a more sheltered birch situated in the middle of the island.

Only two of nine active nests hatched young in 2013 (identified by stars on the map) and only one young at the Lisee Site survived beyond four weeks. A nestling was photographed at McCulloch Island nest on 16 June 2013 but it died sometime during the third week in June (Fig. 2).

*Figure 3 - Nestling, 18 June 2013 at Lisee nest.*

Amber, the female young Bald Eagle that I observed in 2013, was sitting in the nest at the Lisee site on 18 June 2013 (Fig. 3).

There was a second hatchling at the Lisee site but I did not see it until its carcass was visible on the edge of the nest on July 2 (Fig. 4)

Amber thrived (Fig 5). Mother did most of the flight training before Amber branched.

Amber was a voracious eater. Father fed her most of the time, even after she fledged (Fig 6).

She was obviously larger than her father and at least as large as her mother in late August (Fig. 7). The male did most of the training to hunt. This family of Bald Eagles did not hunt from the nesting island. Rather they used perches on islands nearby.

What might have contributed to the low breeding success of Bald Eagles on Lac LaRonge in 2013?

*Figure 4 - Adult with nestling, note dead chick on side of nest. 2 July 2013, Lisee nest*

1. It could just be an extreme variation of normal.

2. The low rate of breeding success could signal a trend toward a lower number of Bald Eagles on the lake, which could be related to the availability of food. In 2008 an informal assessment of the population of sport fish in Lac La Ronge documented sparse numbers of surface fish such as Northern Pike (*Esox lucius*). [1]

3. Bald Eagle breeding success is likely adversely affected by bad weather. Females that are in poor physical condition when they arrive at the breeding ground are less likely to breed successfully. In 1975, a spring blizzard was thought to result in a fifty percent reduction of the expected number fledglings on Besnard Lake and a lower number of fledglings in the Greater Yellowstone Ecosystem.[2] Spring weather arrived later than usual in Saskatchewan in 2013. There were severe snowstorms in late March and in late April. This

*Figure 5 - Nestling strengthening wings, Lisee nest*

unusually harsh weather is one of the more likely explanations for the low number of active nests on Lac LaRonge in 2013.

4. A late spring and cool weather might delay the warming of lake water and adversely affect the timely rise of shallow water fish to the shallows where they are available to eagles. In 1996, the ice did not disappear on Lac La Ronge until the first weekend in June, a full two weeks later than usual. The lake ice on Besnard Lake, which is close to Lac LaRonge, did not go off until June 6. This late spring thaw was followed by a reduced number of occupied nests.[3]

5. The water level at Lac LaRonge reached a record high during the summer of 2011. The water level remained high through the winter. Water levels remained high in 2012 and were higher than normal in the spring of 2013. The high water level had an adverse effect on plant life near the water's edge (Fig. 8).

*Figure 6 - Lisee nest, fledgling being fed by adult.*

While this could have had an effect on shallow water fish populations, these fish are more sensitive to a decline in water levels than an increase. There is no evidence that the populations of burbot (*Lota Lota)*, sucker (*Catostomus commersonii*) or cisco (*Coregonus artedi*) are on the decline at Lac La Ronge.[4] It is possible, though, that the high water levels had an adverse effect, not on the number of fish, but on the availability of shallow water fish to feeding Bald Eagles.

On 13 August 2013, Amber's afternoon meal was a 2-pound burbot. The male, holding the fish, did most of the hunting and feeding at this stage (Fig. 9).

6. A high ratio of first, second, third and fourth year Bald Eagles might increase the competition for food. In the summer of 2013, I saw two one-year-old birds, two two-year-olds, one three-year-old and one four-year-old birds in the

*Figure 7 - Adult and juvenile, late August 2013, Lisee site*

area under observation. These subadult birds remained fairly close to the eight nests that did not produce a fledgling, including the nest at the McCulloch site. Adult Bald Eagles protect an active nest with some vigor. However, eagles with empty nests do not seem to be nearly as territorial. The one-year-old bird that fledged at the McCulloch site in 2012 returned to the nesting area on McCulloch Island in 2013. However, I did not see it until mid July. It remained near the nest through the rest of the summer and fall often sitting near the nest with one or both mature adults. Its characteristic markings as a one-year-old and an unusual appearance of one of its eyes convinced me that it was same bird that I saw as a fledgling the year before (Fig 10).

The two mature Bald Eagles at the McColluch site did not seem

*Figure 8 - High water levels around tree roots, Lac LaRonge, spring 2013*

at all disturbed by the presence of the one-year-old even though the nest did produce young that did not survive past 16 June. I did not see any sub adult eagles within a kilometer of the Lisee site in the summer of 2013. This observation is curious because there is evidence that sub adult Bald Eagles in the Chesapeake Bay area rarely return to their lake of origin.[4] This might not be the case in the Lac La Ronge area.

I didn't get on the lake until the second weekend in June in 2013. I hope spring arrives early in 2014 so I can get on the lake in May. However, the likelihood of this is waning due to the unusually cold winter and the large amount of snow on the ice. A high priority in 2014 will be to observe the number and ages of returning of sub adults. This will depend on light winds to allow more time on the water.

*Figure 9 - Adult, Lisee nest.*

The author acknowledges the support and encouragement of Stuart Houston. Mark Duffy provided valuable information about fish stocks at Lac LaRonge.

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*Figure 10 - Subadult bald eagle at McCulloch Island, 2013*

# NOTES and LETTERS

## DRAGONFLY SOCIETY OF THE AMERICAS CONVERGES ON NORTH CENTRAL SASKATCHEWAN

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The 2013 Annual Meeting of the Dragonfly Society of the Americas (DSA) was hosted this past summer in Prince Albert and Missinipe Saskatchewan (10 – 18 July). This is the first time an event such as this has ever taken place in our province. The boreal forest of northern Saskatchewan proved to be an attractive destination with approximately 50 dragonfly experts and enthusiasts making the trip to one of the least explored regions of North America. Even the NWT has received more dragonfly survey interest than northern Saskatchewan! Most of the participants were from the southern U.S. with representation from as far away as Denmark (Fig 1).

The DSA Annual Meeting is rather unique since it involves more survey days than meeting days. Two survey days were scheduled in advance of the Annual Meeting to whet the appetites of participants for some of the rarer, more elusive types, of dragonflies. The first day involved a trip to Narrow Hills Provincial Park where no less than eight species of Emerald (Family Corduliidae; Fig 2) were captured. Clubtail (Family Gomphidae) enthusiasts were not to be disappointed either (Fig 3). The North Saskatchewan River had long been suspected as habitat for two species of Stylurids. Adults of the brimstone and elusive clubtail (*Styluris intricatus* and *Styluris notatus*) were both captured inside Prince Albert city limits. As well, the more common boreal snaketail (*Ophiogomphus colubrinus*) and pale snaketail (*Ophiogomphus severus*) generated tremendous excitement among attendees from southern U.S. states who gleefully added them to their life lists.

Day two saw the variety of interests expanded to include orchids and owls. Keith and Carman Dodge of Nature Prince Albert introduced the group to the rare plants and orchids of MacDowall Bog. At the same time, Harold Fisher took a group of odonatologists/ornithologists north to seek out northern hawk owls and barred owls.


*Figure 1 - Map showing of participant home locations*

*Figure 2 - Emerald dragonfly (colour image outside back cover)*

Unfortunately the bird survey ended in disappointment, but long faces were quickly transformed into smiles when participants were given the opportunity to handle and tag northern saw whet owls at a number of nest boxes Harold maintains for that purpose.

The Annual Meeting (Fig 4) consisted of one day of meetings and presentations hosted by SIAST Technology Division, bookended by two days of survey activities in Prince Albert National Park. I kicked off the formal proceedings with a welcome and brief overview of reported dragonfly distributions in the region. This was followed by a presentation from Celeste Mazzacano of the Xerces Society on the Dragonfly Migration Partnership and its role in deciphering the mysteries of dragonfly migration. Scott King gave a very informative presentation aimed at untangling phylogenetic confusion around various species of Meadowhawk (*Sympetrum* spp.). Nick Donnelly provided an equally informative discussion on the morphometry and phylogenetic relationships of *Erythemis collocata* and *simplicicollis*. Erland Nielsen then dazzled us with a visual display of dragonfly photos from around the world. Ken Tennessen concluded

*Figure 3 - Clubtail dragonfly*

the formal presentations with a discussion on the coincident distributions of white pine (*Pinus strobus*) and zebra clubtails (*Stylurus scudderi*). Ken was also awarded a much deserved plaque for his many years of service to the society and for his impressive contributions to the study of Odonata. A business meeting followed the proceedings. Guests were then treated to a full-on steak and pickerel supper at Cooke Municipal golf course.

Survey activities in P.A. National Park yielded many rare species of dragonfly and damselfly. A black–tipped darner (*Aeshna tuberculifera*) was captured by Jim Johnson in a parking lot along Highway 263. Boundary bog also yielded some interesting specimens including sweetflag spreadwing (*Lestes forcipatus*) and a low latitude occurrence of Canada whiteface (*Leucorrhinia patricia*). These two rarities were captured by Nick Donnelly and Chris Hill respectively. One of the favourite locations was along the Waskesiu River trail where Ken Tennessen sampled a Hudsonian Emerald larva (*Somatochlora hudsonica*).

While the pre-meeting and Annual Meeting more than satisfied the requirements of this event, it was the unspoiled

wetlands of our Canadian shield that really captivated the interest of attendees. The post-meeting survey was held in Missinipe, SK, approximately 80 kilometres north of Lac LaRonge, from 15 – 18 July 2013. Everything exceeded expectations from the luxurious lakefront accommodations provided by Thompson Cabins to the endless succession of roadside bogs, fens, lakes, and northern streams. Survey results were also surprising with numerous range extensions and a couple of new provincial records. The plains forktail (*Ischnura damula*) had already been considered an unusual find in the region but the discovery of the eastern forktail (*Ischnura verticalis*) further north had many of us scratching our heads. Perhaps even more surprising was Cary Kearst's discovery of a racket-tailed emerald (*Dorocordulia libera*). Racket-tailed emeralds are normally restricted to the north-eastern United States with minor incursions into south-eastern Manitoba.

Taxon-specific events such as this offer a great opportunity to expand our knowledge regarding the conservation status of poorly studied groups of organisms. Be it bats, birds, or dragonflies, the ability to attract leading world authorities more than makes up for the cost of planning and organization. In addition to the species list presented below, additional data concerning species richness and community types were also gathered. As well, a number of specimens will be donated to the Royal Saskatchewan Museum. We still have a lot to learn in Saskatchewan, why not invite the world to share in our discovery?

Note: if you want to experience the meeting through the eyes of one of the attendees you are encouraged to check out DSA Annual Meeting posts 1 to 6 on Bryan Pfieffer's blog: http://bryanpfeiffer.com/2013/07/10/dsa-update-no-1-elusive-exclusive/

## DSA Annual Meeting 2013 Species List

### Calopterygidae – Broad winged Damsels

*Calopteryx aequabilis* – River Jewelwing

**Lestidae – Spreadwings**

*Lestes disjunctus* – Common Spreadwing
*Lestes dryas* – Emerald Spreadwing
*Lestes forcipatus* – Sweetflag Spreadwing
*Lestes unguiculatus* – Lyre-tipped Spreadwing

**Coenagrionidae – Bluets**

*Coenagrion angulatum* – Prairie Bluet
*Coenagrion interrogatum* - Subarctic Bluet
*Coenagrion resolutum* – Taiga Bluet
*Enallagma boreale* – Boreal Bluet
*Enallagma annexum* – Northern Bluet
*Enallagma ebrium* – Marsh Bluet
*Enallagma hageni* – Hagen's Bluet
*Ischnura damula* – Plain's Forktail
*Ischnura verticalis* – Eastern Forktail
*Nehalennia irene* – Sedge Sprite

**Aeshnidae – Darners**

*Aeshna canadensis* – Canada Darner
*Aeshna eremita* – Lake Darner
*Aeshna interrupta* – Variable Darner
*Aeshna juncea* – Sedge Darner
*Aeshna sitchensis* – Zig-zag Darner
*Aeshna subarctica* – Subarctic Darner
*Aeshna tuberculifera* – Black-tipped Darner
*Aeshna umbrosa* - Shadow Darner
*Basiaeschna janata* – Springtime Darner

**Gomphidae – Clubtails**

*Ophiogomphus colubrinus* – Boreal Snaketail
*Ophiogomphus severus* – Pale Snaketail
*Stylurus intricatus* – Brimstone Clubtail
*Stylurus notatus* – Elusive Clubtail

**Corduliidae – Emeralds**

*Cordulia shurtleffi* – American Emerald
*Dorocordulia libera* – Racket-tailed Emerald

*Epitheca canis* – Beaverpond Baskettail
*Epitheca spinigera* – Spiny Baskettail
*Somatochlora albicincta* – Ringed Emerald
*Somatochlora cingulata* –Lake Emerald
*Somatochlora forcipata* – Forcipate Emerald
*Somatochlora franklini* – Delicate Emerald
*Somatochlora hudsonica* - Hudsonian Emerald (larvae only)
*Somatochlora kennedyi* – Kennedy's Emerald
*Somatochlora minor* – Ocellated Emerald
*Somatochlora walshii* – Brush-tipped Emerald
*Somatochlora williamsoni* – Williamson's Emerald

**Libellulidae – Skimmers**
*Leucorrhinia borealis* – Boreal Whiteface
*Leucorrhinia glacialis* – Crimson-ringed Whiteface
*Leucorrhinia hudsonica* - Hudsonian Whiteface
*Leucorrhinia intacta* – Dot-tailed Whiteface
*Leucorrhinia patricia* – Canada Whiteface
*Leucorrhinia proxima* – Red-waisted Whiteface
*Ladona julia* – Chalk-fronted Corporal
*Libellula quadrimaculata* – Four-spotted Skimmer
*Sympetrum danae* – Black Meadowhawk
*Sympetrum internum* – Cherry-faced Meadowhawk
*Sympetrum madidum* – Red-veined Meadowhawk
*Sympetrum obtrusum* – White-faced Meadowhawk

**Acknowledgements**

Some really great volunteers assisted me in putting on the DSA Annual Meeting including: Jeanette Delisle, Rory Doerksen, Ericka Donald, Blair Hunter, Roy Fremont, Lena Halstead, Nicole Pillipow, Keith Dodge, Carman Dodge, and Harold Fisher. Sponsorship was gratefully received from: Prince Albert Destination Marketing; SIAST Technology Division including Natural Resource Technology; Tourism Saskatchewan, and; the Ministry of Environment. I am also eternally grateful to the Travelodge Motor Hotel in Prince Albert, the good people of Prince Albert National Park, and Thompson Cabins in Missinipe for going over and above their usual level of service to make this, by many accounts, the best DSA annual meeting ever.

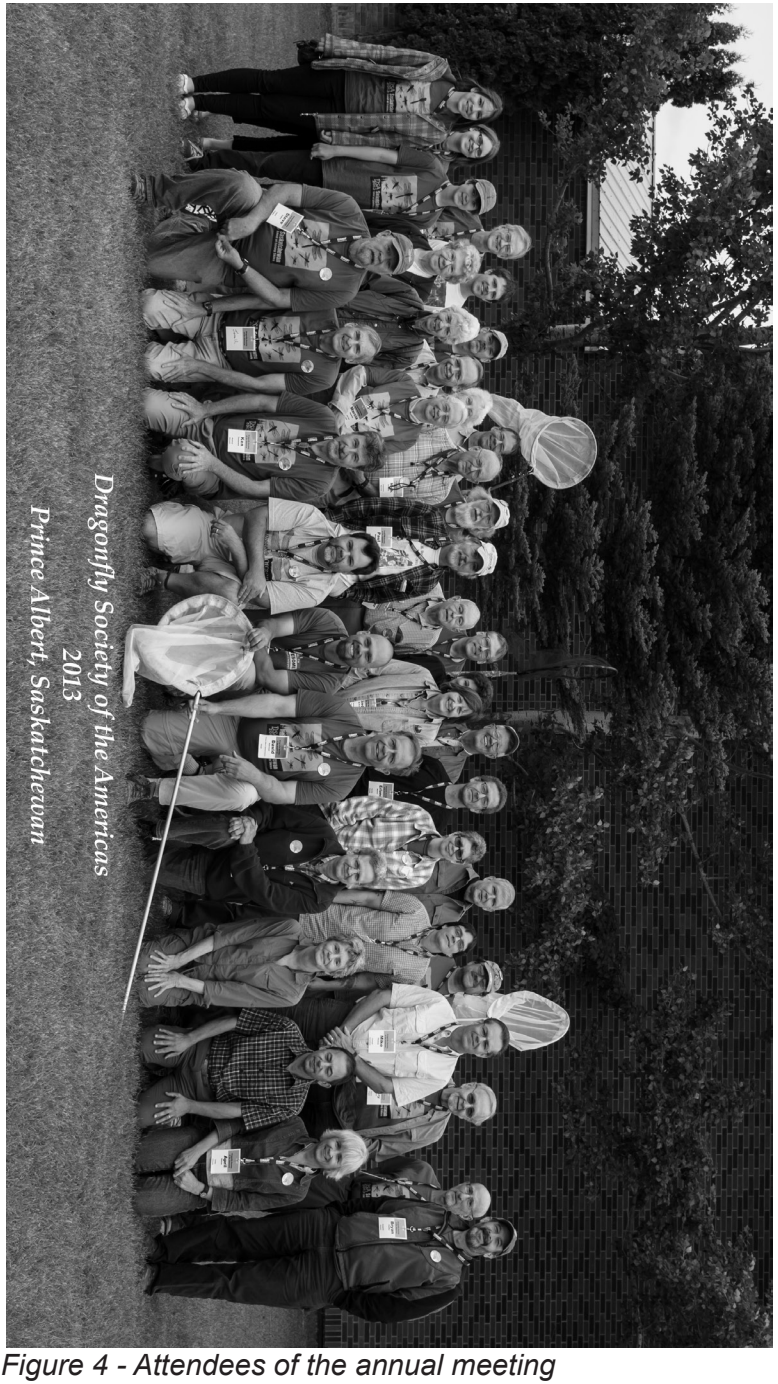



*Figure 4 - Attendees of the annual meeting*

# RED FOX CATCHES GOSLING

ANDREA CLARKE, 2C Photography, Weburn, SK.

On Wednesday 28 May 2014, [I took] just a couple of snap shots this evening. I wondered why this fox didn't leave when I stepped out of the truck. Turns out, its meal was in the grass! Looks like it's baby goose for supper. I think the gosling was still alive. I expected it to be more floppy if it were dead. Also, the eye is still shiny. Normally, eyes dry within minutes of death. The fox took off into the trees right after this shot, so it was a very brief episode!

*Red fox with Canada goose gosling - Andrea Clarke 2C Photography*

# WREN NESTS IN SKULL

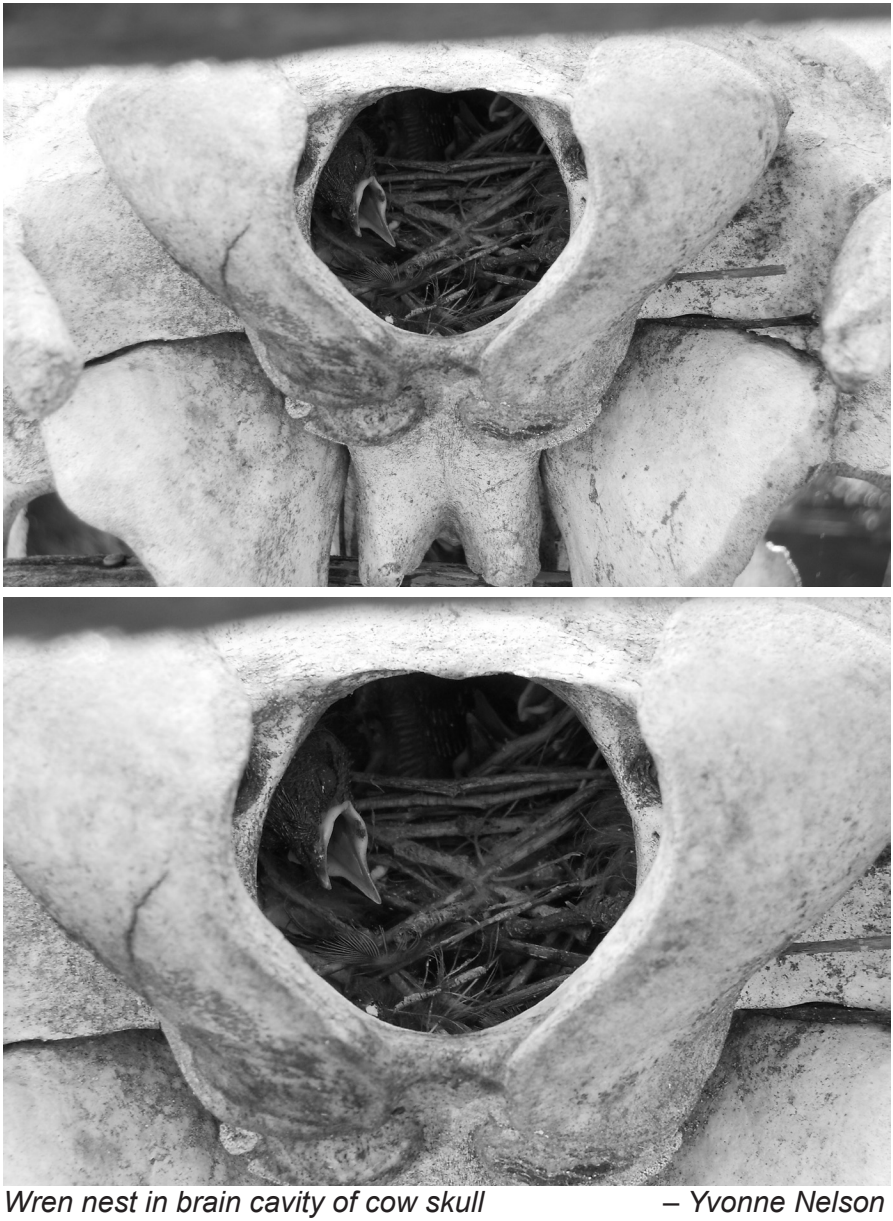
YVONNE NELSON, Kyle, SK

We have had wrens in our yard for about 8 years. Every morning the chorus wakes us up, starting with the robins and then the wrens. My husband will get up, growl out the window for the birds to shut up and close the window. Then the wren, disturbed by the noise would fly to the kitchen window and continue to sing and sing and sing. Every time he goes outside, the wren seems to come and see what we are up to. I think it is trying to chase off a threat (being us) but we like to think it is coming to see us.

Because the wren song particularly annoys him, everywhere we camp or visit, a wren seems to be nesting nearby and likes to sing in the morning. One Christmas, we received a clock from my sister that could wake us up with a recording of birdsong. Right in the middle of the loop was the wren. We didn't use that setting much.

*Location of cow skull* *– Yvonne Nelson*

This summer, the sitting area on our patio was due for an update. We had a skull so we put it up on a decorative chair. Soon, the wren was busy flitting about. We looked into the brain cavity and saw the nest. It didn't matter that we used the patio almost daily, the birds stayed and raised a family. This is a picture of the young wrens in the skull nest.



*Wren nest in brain cavity of cow skull* *– Yvonne Nelson*

# CONGREGATION OF ROUGH-LEGGED HAWKS *BUTEO LAGOPUS*

BOB GODWIN, 1125 4th St. East, Saskatoon SK. S7H 1K7

On 27 March 2014, I was driving south from Rosetown and saw a larger number of Rough-legged Hawks than I have ever seen at one time before - 76 between Rosetown and Kyle. It seemed rather unusual to me, although I have observed reasonably high numbers before. When I say I saw 76, not all were identified individually as Rough-legged Hawks, as they were on posts removed from the highway and a spotting scope would have been required to study them. It would have taken me hours to stop and check each one; as it was, it slowed up my trip considerably. However, I did look at approximately 15 of them well enough for identification, and every one was a Rough-legged Hawk.

A particular concentration occurred in the area north from Elrose, where I observed 28 individual Rough-legged Hawks in a distance of six to seven kilometers. In this area, there is a high voltage transmission line, where the supports for the lines consist of two large vertical wooden poles joined near the top by a large wooden cross pole. Often there was more than one hawk on one of these support systems; in one instance there were four hawks on a single structure. Twenty-six hawks were in a 17 pole stretch, which, based on an average pole spacing of 193 m in this region as measured from Google Earth imagery, was estimated to be 3.1 km.

*Rough-legged hawk in flight* *- Randy McCulloch*

*Adult Rough-legged hawk* *- Randy McCulloch*

# GREEN HERON AT DUNNET PARK

KEITH BARR, Regina, SK.

I took the photo of the green heron (*Butorides virescens*) at Dunnet Park near Avonlea, on Thursday May 8th 2014 and it was spotted on Wednesday May 7th. We spent about three hours there and took several photos and videos of it. Al [Smith] showed up to have another look at it when we were there. It was a nice warm sunny day.

Note: The green heron was seen from 7-11 May. This is the 20th record for the province and the first since 2007. It was seen in a tree bordered oxbow in Dunnet Park, which is pretty typical of it habitat farther south.

*Green heron in a tree in Dunnet Regional Park, SK – Keith Barr*
*(for colour image, see outside back cover)*

# LICHEN SERIES - *USNEA LAPPONICUM* (POWDERED BEARD LICHEN)
# SYNONYMS: *USNEA LARICINA*

BERNARD DE VRIES

Many of you who hiked through our boreal forest might have noticed graceful garlands hanging from deciduous or coniferous trees and shrubs or on conifer snags and dead wood or wooden fence rails, where they receive more light and moisture which all lichens need for their metabolism and which are favored substrates for these garlands known as *Usnea* (beard lichen).

Powdered beard lichen is a somewhat shrubby, tufted to slightly pendant species, with few pale yellowish green main stems, a pale black base and many perpendicular side branches bearing numerous soredia, often encircling branches, and at times becoming deeply excavate, showing the white inner fungal cord, especially when mature; isidia are absent.

*Usnea lapponicum,* often known in older literature as *Usnea substerilis* and *Usnea sorediifolia*, is often confused with other beard lichens in similar habitat such as *Usnea substerilis* (embossed beard lichen) which does not has deeply excavate soredia but often develops isidia. *Usnea lapponicum, Usnea hirta* (bristly beard lichen) which is similar in colour, more tufted, not blackened at base, lacking papillae and soredia but with copious isidia on its branches; preferring hard weathered wood to grow on, and *Usnea subfloridana* (nit beard lichen) with clusters of peg-like isidia on its branches, which are often obscured and not easily seen.

Powdered beard lichen is often associated with *Evernia mesomorpha* (boreal oak moss), which by colour, pendent or tufted thallus, coarse soredia, and habitat can also resemble *Usnea*, although the species lacks an inner cord, characteristic of beard lichens, *Physcia aipolia* (hoary rosette lichen), *Ramalina dilacerata* (punctured ramalina and some light coloured *Bryoria* – (horsetail lichens) which have a rather loose medulla.)

Another pendant species *Usnea cavernosa*-(pitted beard lichen) is identical in colour, but lacks sorediae, and has irregular, thicker, and foveolate branches. Apothecia are rare.

The presence of usnic acid gives these lichens their pale-yellow colour, and has antibiotic properties; Streptomycin derived from this acid, was widely used as a medical drug against tuberculosis and other infectious diseases, while some species are commercial used to obtain dyes, or used as nesting

material by certain forest birds.

The genus *Usnea* provides also a valuable winter nutrient to Woodland Caribou and other large undulates, and due to their large body mass, are important bioindicators of atmospheric and forest health.

As you can see *Usnea* is not only a very useful and important genus in the forest ecosystems, but also a graceful member of the forest lichen flora.

The generic name *Usnea* comes from the Arabic word for moss and the specific name *lapponica* refers to Lapland, where the species presumably was first discovered. The common name powdered beard lichen possibly refers to the powdery soredia and beard-like form.

It might also be interesting to know that the scientific name of this lichen is that of the fungus (mycobiont), while its partner the green alga (photobiont) has its own name: “trebauxia”. Spanish moss : *Tillandsia usneoides* (old man’s beard among others), a species of the Bromeliaceae and often mistaken for a lichen, is not a moss nor a lichen, but a blue-gray vascular epiphyte draping from trees up to 30 m. long favouring a warm, humid climate and often used by florists. The specific name *usneoides* refers to resembling *Usnea*, not in colour but in lacking roots, able to absorb dissolved nutrients from atmospheric moisture, needing sunlight and pendent habit much like beard lichens. Usneas can be recognized by their fruticose thallus, attached to the substratum by a single holdfast. The main axis often with a black base, can be smooth, papilllate, tuberculate, caveate, or foveolate and has a tough inner cord. The long or short peripheral branches often differing from the main stem, have soredia or isidia; apothecia are mostly rare.

So, on your next ramble in the boreal forest enjoy these lichens and other equally important forest species be it vascular or non-vascular, for each is an irreplaceable and essential part of the forest ecosystems and health.

**Glossary**

*Apothecia* – a disk or cup-shaped fruiting body.
*Caveate* – deeply pitted or excavated.
*Cortex* – hard outer covering of lichen stems.
*Foveolate* – having small pits or depressions.
*Fruiticose* – a lichen that is stalked, pendent, bushy or tufted.
*Hold-fast* – a thick attachment point of some lichens, esp. Usnea.
*Isidia* – tiny warty outgrowth with a hard outer cortex containing alga cells and serving as vegetative propagules.
*Medulla* – the white inner layer of fungal hyphae in the thallus. The inner cord in Usnea.

*Mycobiont* – the fungal partner in a lichen.
*Papillae* – small rounded or cylindrical bumps on the cortex.
*Photobiont* – the photosynthetic partner in a lichen e.g. green or blue-green algae.
*Propagule* – a vegetative unit containing algal cells and fungal filaments.
*Soredia* – localized powdery masses of algal cells entwined by fungal filaments without a cortex.
*Thallus* – the vegetative body of a lichen containing both algal and fungal components.

*Powdered beard lichen* *-Bernard de Vries*

# MYSTERY PHOTO

June 2014 - Blue Jay reader Shelley Banks has had an interesting visitor to her backyard this spring (April 2014). Does anyone recognise this striking little bird?

Please send your answers to the Blue Jay editors *bluejay@naturesask.ca*

*- See back cover for colour photo*

*March 2013 mystery photo* (Rudbeckia hirta L.)

In March 2013 we asked if anyone knew what was happening to this black-eyed Susan (*Rudbeckia hirta* L.). We received quite a few fascinating answers!

Fasciation (or cresting) is a relatively rare condition of abnormal growth in vascular plants in which the apical meristem (growing tip), that normally is concentrated around a single point and produces approximately cylindrical tissue, instead becomes elongated perpendicularly to the direction of growth, thus producing flattened, ribbon-like, crested, or elaborately contorted tissue. Fasciation can also cause plant parts to increase in weight and volume in some instances. The phenomenon may occur in the stem, root, fruit, or flower head. Some plants are grown and prized aesthetically for their development of fasciation. Any occurrence of fasciation has several possible causes, including hormonal, genetic, bacterial, fungal, viral and environmental. [source: Wikipedia: Fasciation]

Thanks to Blue Jay Reader Cheryl Andrist from Estevan for her correct guess - she wins the prize from Nature Sask!

UPDATE: December Mystery Photo. *Ed's note: We have space in this issue for a more detailed answer for the Dec 2013 mystery photo. Thanks to Harvey Schmidt for putting this together for us!*

On July 28, 2013, a co-worker left a small glass jar on my desk at work. There was a tiny green spider inside, about 7mm in length. She had found it at her cabin at Lake Athapapaskow, a lake in the northern boreal forest, about 15 km from Creighton, SK. When I got home from work I placed the spider on a piece of bark and began taking photographs. I was surprised to find a large fake face on the backside of its abdomen. I didn't know what species it was so I uploaded the photos to Bugguide.net which is hosted by the Iowa State University Entomology Department. I frequently use this site when trying to get a positive ID on a bug I don't know. Soon after, three spider experts narrowed it down to *Araniella cucurbitina* or *Araniella proxima*, but they needed additional photos of the epigyne (the external genital structure) to make a positive ID. I took a series of photos of the epigyne, from which they were able to determine that it's a female *Araniella proxima*, a member of the Orb Weaver Family.

- Harvey Schmidt

*Suzanne Leclerc sent in the correct answer for this mystery, and because she was the only one, she wins the prize from Nature Sask!*

*Female* Araniella proxima *- Harvey Schmidt*
*http://spiders-n-stuff.blogspot.ca/*

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