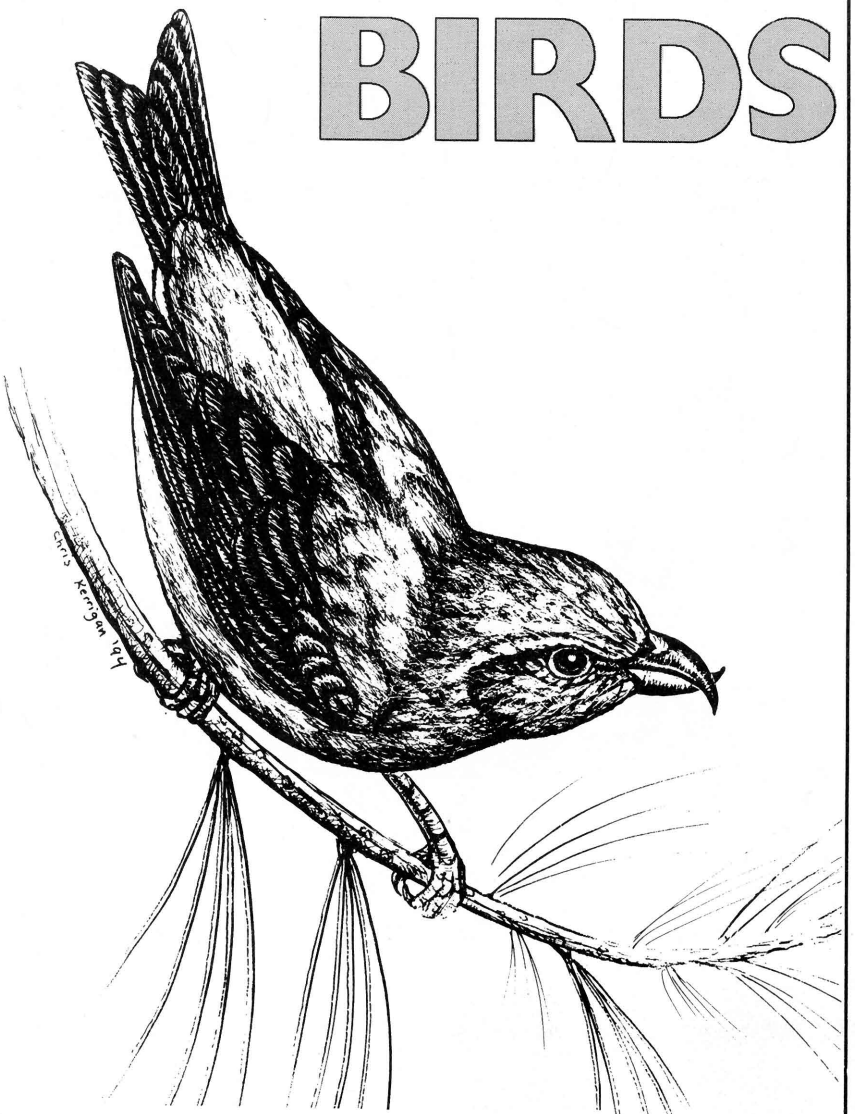
# ONTARIO BIRDS




The Journal of the Ontario Field Ornithologists

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# Ontario Field Ornithologists

Ontario Field Ornithologists is an organization dedicated to the study of birdlife in Ontario. It was formed to unify the ever-growing numbers of field ornithologists (birders/birdwatchers) across the province and to provide a forum for the exchange of ideas and information among its members. The Ontario Field Ornithologists officially oversees the activities of the Ontario Bird Records Committee (OBRC), publishes a newsletter (*OFO News*) and a journal, (*Ontario Birds*), hosts field trips throughout Ontario and holds an Annual General Meeting in the autumn.
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All persons interested in bird study, regardless of their level of expertise, are invited to become members of the Ontario Field Ornithologists. Membership dues are $22.00 (Annual) or $440.00 (Life Membership). All members receive *Ontario Birds* and *OFO News*. Please send memberships to: **Ontario Field Ornithologists, Box 62014, Burlington Mall Postal Outlet, Burlington, Ontario L7R 4K2.**

# Ontario Birds

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The aim of *Ontario Birds* is to provide a vehicle for documentation of the birds of Ontario. We encourage the submission of full length articles and short notes on the status, distribution, identification, and behaviour of birds in Ontario, as well as location guides to significant Ontario birdwatching areas, book reviews, and similar material of interest on Ontario birds.

If possible, material submitted for publication should be double-spaced and typewritten. All submissions are subject to review and editing. Please submit items for publication to the Editors at the address noted above.

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# Letter to the Editors

## Bicknell's Thrush Identification

After reading Henri Ouellet's article *Bicknell's Thrush in Ontario (Ontario Birds* 11: 41-45), I looked at specimens of *bicknelli* in the collection of the Academy of Natural Sciences. The Academy has thirteen specimens, all collected during the breeding season. While all distinguishing characteristics mentioned are readily apparent when comparing birds in the hand, it seems to me that none would be reliably useful in the field.

Aside from size, the most reliable feature of the birds I looked at was the colour of the back and tail. However, some *minimus* specimens were just as brown as *bicknelli.* Other features, such as throat colour, were variable in both *bicknelli* and *minimus,* with a fair degree of overlap.

I find the illustration in the National Geographic Society's *Field Guide to the Birds of North America* particularly misleading in that it shows extreme examples of plumages for both *minimus* and *bicknelli,* without describing the full extent of variation in either race.

Dr. Ouellet mentions, but does not emphasize, the difficulty in identifying this species in the field. Until more is known about *bicknelli,* the identification of individual birds in Ontario (or outside the breeding range) is probably best confirmed by measurements, or by direct comparison with birds in the hand. In short, *bicknelli* should not be identified in the field unless it is singing.

I thank Dr. Ross D. James for his comments on birds in the collection of the Royal Ontario Museum.

David Agro
Academy of Natural Sciences
of Philadelphia

# *Articles*

# Observations on the Nesting Habits of Red-shouldered Hawks in York Region

by
Peter Dent

### Introduction

The nesting habits of Red-shouldered Hawks (*Buteo lineatus*) were studied on a casual basis in York Region in the vicinity of the Oak Ridges Moraine. This report embraces the observations of 46 nests used by what were judged to be 20 different pairs over the last 14 years. It describes the habitat, annual nesting cycle, productivity and ecology of this colourful hawk, now considered "rare" in Ontario (Austen et al. 1994).

**Habitat Selection**

Nests studied were typically in mature, predominantly deciduous, mixed woodlands. Most often maple, specifically Sugar Maple (*Acer saccharum*), was the dominant species in nesting woods with any one or combination of American Beech (*Fagus grandifolia*), Red Oak (*Quercus rubra*), White Birch (*Betula papyrifera*) and Eastern Hemlock (*Tsuga canadensis*) comprising the balance. Other woodland types used are noted in Figure 1.

The Red-shouldered Hawk is known to favour riparian woodlands (Bent 1937, Sharp and Campbell 1982, Szuba and Norman 1989), and most nest sites in this study support this preferred habitat (see Figure 1). The average distance from water was 272.4 m, and nearly 72% of all nests were closer to a waterbody than this mean. Proximity to ponds, in particular, appears to be of importance. Eighteen nests were in stream or pond valleys, with the "knob-and-basin" topography of the Oak Ridges Moraine study area, and the tendency for such terrain to escape clearing and development, contributing to this number.

The favoured tree for nesting was American Beech, with almost half (45.7%) of the nests occurring in this species. Figure 1 lists all the species used. No nests were found in conifers in this study although other sources have indicated that Red-shouldered Hawks will occasionally select conifers (Szuba and Norman 1989). To further support this, my colleague Tim Dyson (pers. comm.) observed a nest in the crown of a spruce (*Picea* sp.) in a soft maple swamp, and (perhaps the most atypical) a pair was reported nesting in a Scotch Pine (*Pinus sylvestris*) plantation (T. Dyson and K. Szuba, pers. comm.). All trees chosen in this study were alive with one exception, a dead poplar (*Populus* sp.) in which the birds used an old squirrel drey (nest). A large beech, used as a nesting site, died this year.

**Spring arrival and nest building**

Early to mid March is the usual time of arrival of Red-shouldered Hawks on their nesting territories; my records span from 28 February to 24 March. In an active territory, the nest to be used, if it is an old nest of usable size, usually has a layer of new twigs and green sprays 9 to 12 cm thick atop the old structure. A new nest is often very colourful, being laced with greenery throughout with the top, as with old nests, carpeted in sprays. In a territory with more than one nest, unused nests may be left untouched or may be well covered with green decoration and have some nest-building twigs as well. Any state within these two extremes can be encountered. Eastern Hemlock is the species of choice for nest adornment while White Pine (*Pinus strobus*), Eastern White Cedar (*Thuja occidentalis*), Scotch Pine, spruce and deciduous sprays are used less often. Broadleaf decoration becomes more prevalent as such species start to leaf out.

On the nest top, the bowl containing the eggs averaged approximately 20 cm across by 9.5 cm deep; this is lined with a variety of materials, hemlock sprays and strips or shreds of inner bark being most commonly used. Other materials include down, chunks of outer bark, other green sprays, grass and straw.

Figure 1: Habitat and site parameters of Red-shouldered Hawk nests in York Region.

| Pair | Nest No. | Nest Tree | Height ( m ) | Woodland Composition | Distance from water (m) | Waterbody |
|---|---|---|---|---|---|---|
| | 1 | White Birch | 7.0 | | 265 | |
| | 2 | Beech | 8.8 | | 260 | |
| | 3 | Beech | 6.7 | Maple, Beech, | 250 | stream |
| A | 4 | Beech | 6.4 | and Hemlock | 260 | and |
| | 5 | Beech | 8.5 | | 290 | ponds |
| | 6 | Sugar Maple | 15.2 | | 270 | |
| | 7 | Beech | 7.6 | | 300 | |
| | 1 | Beech | 11.9 | Maple, Beech, Hemlock | 30 | |
| B | 2 | Red Oak | 12.2 | predominantly, Red Oak | 185 | stream and |
| | 3 | Red Oak | 9.5 | predominantly, Red Oak | 335 | pond |
| | 4 | White Birch | 10.6 | Hemlock, Maple, Birch | 30 | |
| | 1 | White Birch | 13.7 | Red Oak, Beech, Birch | 440 | stream |
| C | 2 | dead Poplar | 14.3 | Birch, Maple, Oak, Poplar | 200 | pond |
| | 3 | Red Maple | 15.5 | Maple, Beech, Hemlock | 70 | stream |
| | 4 | Red Oak | 12.2 | Red Oak, Beech, Birch | 540 | stream |
| | 1 | Red Oak | 15.5 | | 730 | |
| D | 2 | Red Oak | 9.5 | Maple, Red Oak | 640 | stream and |
| | 3 | Red Oak | 13.4 | and Hemlock | 725 | ponds |
| | 4 | Red Oak | 16.2 | | 460 | |
| | 1 | Beech | 9.7 | | 75 | |
| E | 2 | Sugar Maple | 11.6 | Maple, Beech, Hemlock | 60 | pond |
| | 3 | Sugar Maple | 12.2 | | 45 | |
| | 1 | Beech | 11.6 | | 500 | stream |
| F | 2 | Beech | 11.6 | Maple, Beech, White Birch | 500 | and |
| | 3 | Sugar Maple | 12.8 | | 160 | pond |
| | 1 | Beech | 9.7 | | 1300 | |
| G | 2 | Sugar Maple | 14.6 | Maple, Beech | 1200 | stream |
| | 3 | White Ash | 14.0 | | 1000 | |
| | 1 | Beech | 13.1 | | 90 | pond |
| H | 2 | Beech | 7.0 | Maple, Beech, Hemlock | 25 | pond |
| | 3 | Beech | 15.9 | | 65 | stream |
| I | 1 | Beech | 9.5 | Maple, Hemlock | 90 | stream and |
| | 2 | Sugar Maple | 13.7 | | 60 | ponds |
| J | 1 | Beech | 11.6 | Maple, Beech, Hemlock | 115 | stream and |
| | 2 | Beech | 10.6 | | 20 | pond |
| K | 1 | Beech | 16.2 | Maple, Beech, Hemlock | 160 | permanent |
| | 2 | Beech | 14.0 | | 60 | pools |
| L | 1 | Sugar Maple | 19.5 | Maple, Hemlock | 35 | stream |
| M | 1 | Sugar Maple | 15.2 | predominantly Maple | 125 | pools |
| N | 1 | Red Maple | 9.1 | Maple, Birch, Hemlock | 62 | swamp |
| O | 1 | White Birch | 15.8 | Maple, Hemlock, Birch | 25 | ponds |
| P | 1 | White Birch | 16.2 | Maple, Beech, Oak, Birch | 195 | pond |
| Q | 1 | Beech | 11. | Maple, Beech, Hemlock | 85 | pond |
| R | 1 | Sugar Maple | 15.2 | Maple, Beech, Hemlock | 90 | stream |
| S | 1 | Beech | ? | Maple, Beech, Hemlock | 55 | pond |
| T | 1 | Beech | 15.2 | Maple, Hemlock, Beech | 55 | stream |

The types of nest bowl lining and decoration varied with location, with pairs simply using whatever was close by. One rather unique example of this was a pair nesting 90 m from a farm from which the birds gathered a substantial amount of straw, a piece of sod, a length of baling twine and chunks of winter clothing insulation to line their nest.

The nest itself normally occupied the largest fork of the tree trunk, ranging from below to within the lower canopy. Nest heights varied from 6.4 m to 19.5 m with the average being 12.25 m (see Figure 1). Measured nests averaged 38 cm in depth, with mean perpendicularly measured surface diameters of 61 by 46 cm, although a number of nests strayed considerably from these dimensions. The copious amount of green sprays applied to nests fills in between the sticks and twigs so that older, regularly used nests have a humus base. One old nest about 12 m up in a beech tree had an elderberry (*Sambucus* sp.) sprouting from its base.

Red-shouldered Hawk pairs and nesting territories are known for their longevity (Bent 1937). The longest continuously occupied territory under study here was 19 years (T. Dyson, pers. comm.), the original nest still regularly used. This same territory contributed to a maximum density of five different Red-shouldered Hawk pairs' nests within 1.55 square kilometres. This group of active nests occurred in an area of extensive woodlands with multiple watercourses.

## Egg laying and incubation

The average clutch size of pairs studied was 3.2, with 3 clutches of 2 eggs, 10 clutches of 3, and 7 clutches of 4. The sub-elliptical eggs typically had a background colour of white, very faintly tinted with greenish-blue. This latter, more colourful hue was more evident in freshly laid eggs, with eggs close to hatching being dirty white, stained from nest lining materials. The markings on the eggs consisted of flecks, blotches, smears and washes all overlaid, which also became somewhat obscured through incubation by nest staining. Markings were most often browns or beiges often tinted with green; red, purple or yellow and could be more or less evenly distributed over the egg but were more often concentrated at either end. These concentrations came in the form of a wreath about one end, a solid cap of colour, or simply an increased density of markings (see Figure 2).

Thirty-two eggs were measured from 11 clutches and the average size was 43.5 by 55.8 mm with the four extreme measurements underlined in the following eggs: 41.4 by 51.7, 44 by 59.5, and 45 by 54.8 mm. Bent (1937) recorded an average egg size of 43.9 by 54.7 mm, a marginal difference compared to this study's findings.

Incubation normally commenced in early to mid April, my dates spanning from 1 April (possibly the end of March) to 21 April.

## Chick development and fledging

The time of hatching observed for Red-shouldered Hawk eggs spanned from 13 May to 30 May, and assumed hatching dates from nests with young also indicated mid to late May as the time of hatching. The hatching interval between eggs

Figure 2: A representative clutch, showing distribution of markings.

studied was approximately 2 to 2 1/2 days.

A young hawk's first down is greyish buff above and white below; talons are pale grey, turning black by around eleven days. By two weeks the down is changing to all grey except for a white spot on the back of the head, white leggings and ventral pelvic area. The small white egg tooth is lost at about two weeks. Feathers begin to break out of their sheaths at around 2 1/2 weeks on the remiges. At three weeks (see Figure 3) the down is more definitely grey with white only on the back of the head and leggings; and the remiges are all feathering as are half of the scapulars and a few of the upper wing coverts. The tail feathers are still in sheaths which protrude about 2 cm from the skin, but are visible only about half that length with the down coat. It is at around this time that the nestlings begin to act aggressively towards intruders by sitting upright with spread wings and gaping mouth. By four weeks all feathering appears to have at least started and the nestlings fledge at 5 1/2 to 6 weeks. After fledging, the young may fly about the nesting territory screaming incessantly and, in this way, can easily betray the location of a successful nesting territory. Fledging happens from late June to early July with my records spanning 21 June to 12 July.

My findings show that all duties at the nest itself are predominantly the female's. This includes incubating, brooding and feeding of the young, and post-hatching

decorating (no observations for pre-hatching nest decorating). As the nestlings mature the female's attentiveness and presence at the nest wanes, particularly when the young are around three weeks of age. This allows the male to visit the nest more often, but he is still the less present parent, with the female often perched near the nest while he is away hunting. During the nestling period, food exchanges from male to female were observed either at the nest or away from the nest after the male calls to the female. On one occasion there was food, a dead Meadow Vole (*Microtus pennsylvanicus*), on one pair's unused alternate nest. Exchanges at the nest may involve the female behaving agonistically toward her mate; I have seen one female mantle over the food, squeal and position herself between the male and the young until he left.

All observations of prey items indicate that these hawks have varied diets. Small mammals (mostly voles, with fewer shrews and moles) are most popular, with small to medium sized songbirds, frogs, toads and snakes as regular fare. A trout (*Salmo* sp.) was once observed on a nest.

**Productivity and mortality**

Of 52 observed nesting attempts, the outcome is known for 41. Of these, 24 (58.5%) ended with fledged young. The average number of young fledged per effort was 1.12, while from successful nestings only, this average jumps to an even 2.0. Figure 4 illustrates the productivity and mortality findings from this study. Due to the casual nature of my observations, the numerous types and instances of nesting failure represent only what was observed, and thus may not be completely representative. With such numerous records of failure, it must be noted that slightly over half of these (23 of 42 instances) were of partial and not complete effect; one addled egg in a clutch of 3, for example. The following reasons resulted in complete failure of a nesting attempt: nest prepared but eggs not laid, desertion, predation and unknown. Some explanations of each type of nesting failure follow.

The four records of failure to lay eggs is likely a higher figure than what actually happened since the active nest may not have been found. I believe this does happen occasionally though, since one year an old nest was found with plentiful new build-on, decoration and a lined bowl ready for eggs; the effort ended there. This nest was very well prepared, much unlike an alternate nest. A subsequent extensive search yielded no other nest.

In the two cases of desertion, one followed an inattentive incubation, with three abandoned eggs found on an ageing nest in a cool summer rain storm. The second had two cold eggs only a few days from hatching on a nest built over by squirrels. Sharp and Campbell (1982) witnessed Gray Squirrels (*Sciurus carolinensis*) harassing Red-shouldered Hawks at a nest, so squirrels may have been to blame for this second abandonment, although the eggs were unharmed.

Addled eggs normally sink into a nest and get mostly buried during the nestling period.

I have only once seen a nestling Red-shouldered Hawk die through sibling aggression. One young was repeatedly attacked about the face by

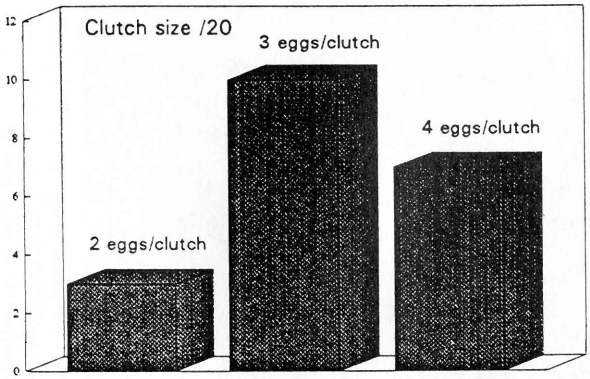
siblings in a brood of four. This young suffered a slow death and soon thereafter disappeared.

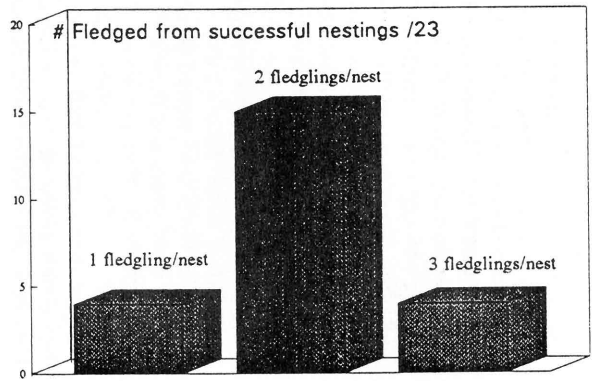
On six occasions I have found young dead on the ground beneath the nest. These young were always well feathered, at least four weeks old. The high number of young dying and eggs or young disappearing (shown in Figure 4) may be due to reasons previously mentioned; however, unknown forces could be at play, and this is a reason for continued study.

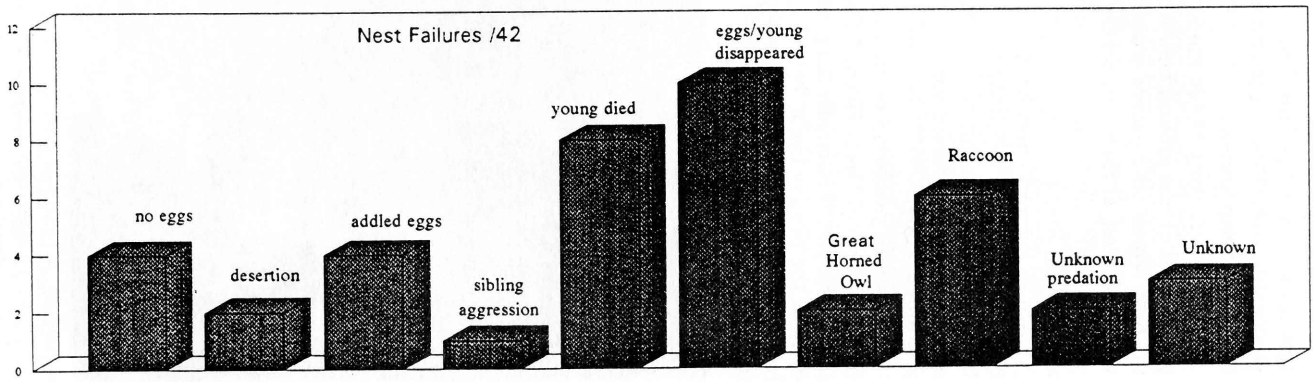
Presumed predation by Raccoons (*Procyon lotor*) or Great Horned Owls (*Bubo virginianus*) normally happened early in the nesting cycle, before eggs hatched. Raccoons were apparently more of a problem with easier-to-climb trees such as thinner-trunked maples and oaks. Craighead and Craighead (1956) expound on the impact that Great Horned Owls have on other nesting raptors; the earlier nesting and aggressive nature of this owl often jeopardizes another species' nesting attempt. With Red-shouldered Hawks, this trend holds true. One extremely reliable pair of hawks was observed not nesting for two years while Great Horned Owls occupied one of their nests. Before this intrusion, the hawks nested there for at least eight years and they have nested there for four years following. Only once did events reverse; one early visit to another Red-shouldered Hawk nest revealed a Great Horned Owl atop old squirrel build-on. Later

Figure 3: A brood of young Red-shouldered Hawks averaging about three weeks of age. The 2 and 2 1/2 day hatching interval indicated in this study is clearly shown in the staggered feathering of this brood.

Figure 4: Productivity and mortality findings of nesting Red-shouldered Hawks in York Region.



that spring, a clutch of four Red-shouldered Hawk eggs sat in a nest built over the owl eggs. Possible owl mortality may have played a role in this instance, though. This example is an exception to the usual trend of the Great Horned Owl being the "bully" of the raptor group. In addition, my colleague Tim Dyson (pers. comm.) cites numerous instances of this owl killing Broad-winged Hawks (*Buteo platypterus*).

The three records of unknown causes for failure were of complete effect and may well have been some sort of predation, but observations are inconclusive.

Human interference and crows (*Corvus brachyrhynchos*) were not observed to cause any direct nesting failure, although one effort suggested crow predation. Proximity to humans did not appear to sway productivity in any way. Three quarters of all territories contained houses and no single nest was farther than 245 m from a human presence, either a house, road or trail. Some nests were virtually in people's backyards. Two nests were only 40 m from the house and, despite this, fledged young. One of these nests was also only 30 m from a successful Raccoon den.

In 1992, exceptionally cool, wet weather may have been to blame for the single most disastrous year for these hawks in terms of productivity. Only one out of five nests studied fledged young.

Myiasis was not uncommon in broods of Red-shouldered Hawks. Maggots were seen in the ears of almost half the young closely observed. Bent (1937) elaborates on the destructive power of this condition, stating that two young hawks skinned at three weeks of age had their eardrums totally destroyed by such maggots. The potential for this infestation to result in nestling or post-nestling handicapping or mortality could indeed be significant.

Pairs showed a tendency to be fairly consistent in terms of productive success or failure. Over the study period I came to grade pairs from good to poor on merit of their reproductivity. Some pairs consistently fledged young while others rarely succeeded in getting through incubation. The reason for such a trend could be the quality of each territory, the competence of individual birds, human disturbance or predators. I believe these could all be to blame, but with known replacement of breeding adults not altering a territory's productivity, the option of competence of birds is weakened. Such a trend appears to be territory-specific and is another reason for continued study.

**Acknowledgements**

This article would not have been possible without the help and expertise of my friend and colleague Tim Dyson. Tim's knowledge of raptors is logical and derived through experience and we studied many things for this report together. I am also thankful for work done by Kandyd Szuba in a 1988 M.N.R. Red-shouldered Hawk survey. Other contributors include Jason Richardson, Chris Risley, the Karn family, Ian Oglesby, Jim Woodhouse, Jim Andrews, F. Newton, and the Horton, Nesland, Kirby and Lindsay families. Brian Naylor deserves mention as well, for reviewing an earlier draft of this paper.

## Literature cited

*Austen, M.J.W., M.D. Cadman and R.D. James.* 1994. Ontario Birds at Risk: Status and Conservation Needs. Federation of Ontario Naturalists, Toronto; and Long Point Bird Observatory, Port Rowan, Ontario.

*Bent, A.C.* 1937. Life Histories of North American Birds of Prey. Part 1. United States National Museum Bulletin 167. Washington, D.C.

*Craighead, J.J. and F.C. Craighead.* 1956. Hawks, Owls and Wildlife. The Stackpole Company, Harrisburg, Pennsylvania and Wildlife Management Institute, Washington, D.C.

*Sharp, M.J. and C.A. Campbell.* 1982. Breeding ecology and status of Red-shouldered Hawks (*Buteo l. lineatus*) in Waterloo Region. Ontario Field Biologist 36: 1-10.

*Szuba, K.J. and A.J. Norman.* 1989. Preliminary survey of nesting Red-shouldered Hawks in Maple District - 1988. Ontario Ministry of Natural Resources, Maple District Office.

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# Cliff Hope at Attawapiskat Lake in 1939

by
Ross D. James

The following article was prepared largely from information gleaned from the field notes of Cliff Hope (Journal numbers 12 and 13) in the archives of the Royal Ontario Museum. Hope's experience there would have provided additional insights. However, I think sufficient detail was preserved to provide a good idea of what he encountered at Attawapiskat Lake.

Hope left Toronto on 2 June 1939 with L.A. Prince and W.B. Scott, travelling by train to Sioux Lookout. From there they flew with Canadian Airways to Lansdowne House on Attawapiskat Lake on 4 June. They were met by the Hudson Bay Factor, a Mr. Bastow, who had arranged accommodation in a Revillon Freres Trading Company House, now owned by the Hudson Bay Company. The party remained at Lansdowne House until 25 August.

Lansdowne House (52°14'N, 87°53'W) lies on the end of a narrow peninsula on the south side of Attawapiskat Lake in the midst of the Boreal Forest in the central part of northern Ontario (Figure 1). The physical location of the town meant that his ability to move about was very restricted. Walking, he could go only south along the narrow peninsula. The party had a canoe, but windy weather restricted travel on such a large lake on many days. The difficulty is perhaps exemplified by their landing on the lake, in what he describes as a "50 to 60 mile/hour" wind (80 to 100 km/h), when "the first *touch* on the water bounced the

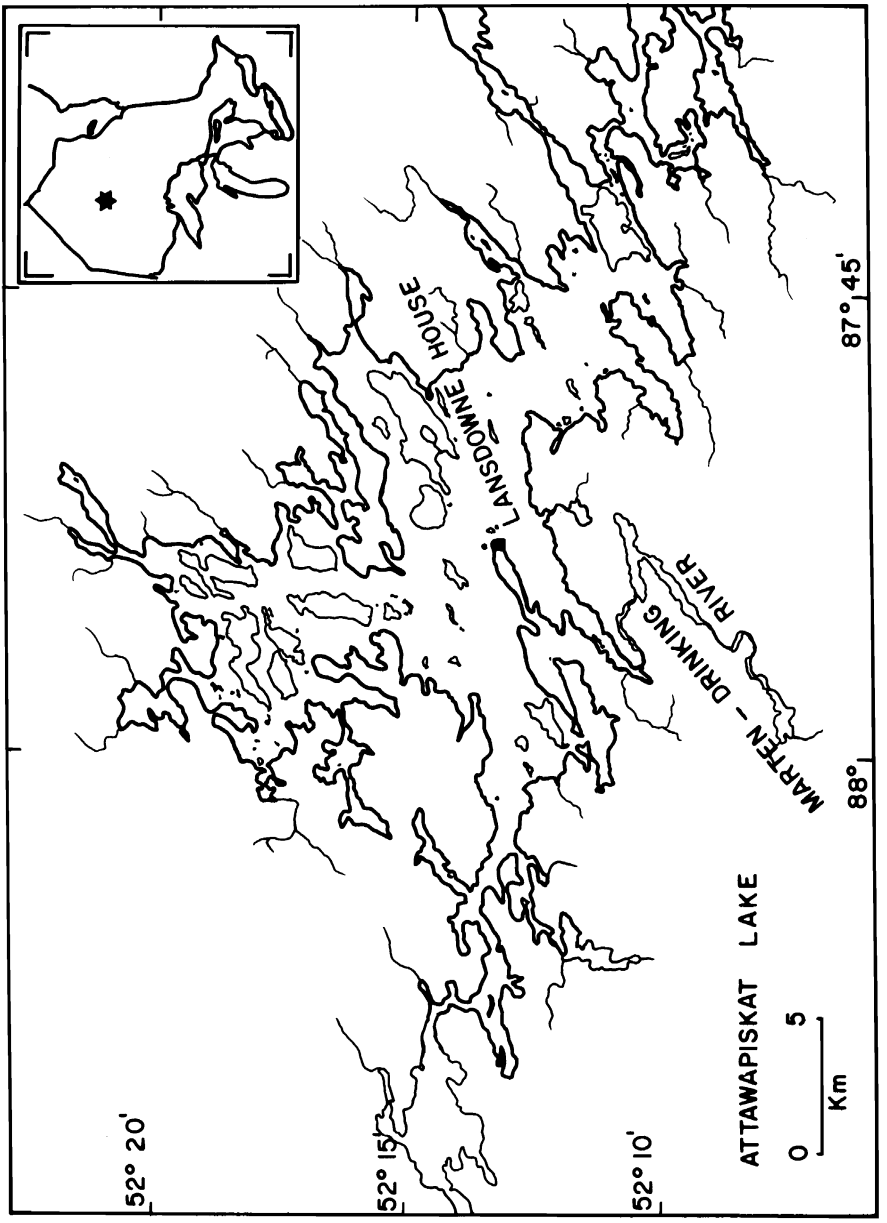


Figure 1: Map of Attawapiskat Lake, Ontario.

plane up 30 feet" (9 m), breaking one of the struts on a float. They had to find a sheltered spot to land and taxi for 30 minutes to manoeuver to the post. They seem to have experienced a great deal of cool and rainy weather through the summer.

They were able on a number of occasions to canoe directly "across" the lake, a half hour paddle, and walk inland to a smaller boggy lake there. (Across apparently meant to the southeast, as he describes an inlet before reaching the river to the lake.) This was apparently the only small lake visited. They visited the few tiny "gravelly" islands offshore of the peninsula, the one larger island about one mile northwest, and some unspecified islands also in that direction. They also made a four day trip southwest to the mouth of the "Drinking River" (presumably the Marten-Drinking River) after a half day delay because of wind, and arriving just prior to another thunderstorm. Only once does he mention paddling for three hours in a northeasterly direction and back without staying. Any of the canoe trips could have been perilous on such a large lake.

When flying in he reports the country was well wooded, but dotted with numerous small lakes and some open muskeg. On the end of the peninsula in the environs of Lansdowne House, there was a lot of scrub willow, birch, poplar and dogwood, but otherwise the peninsula seems to have been covered largely with spruce woods, with some mixed woods near the base. Weather on the more exposed peninsula may have kept trees smaller as he comments about taller spruce trees on the opposite shore. The lake visited on the opposite shore was apparently wooded to the shore except for a few alders near the water. Apart from some marshy areas along the shores of the Marten-Drinking River, no marshes were found. Also along this river some mixed woods and even predominantly deciduous patches were found. Some Jack Pine was present there as was Tamarack, but the latter only as small trees.

Hope received considerable assistance from Prince and Scott, and he helped collect for them also. A few specimens were secured from the native people. In addition to fish, amphibians, birds and mammals, the party collected some insects, mollusks and plants. I have indicated when breeding evidence was found by *, and when specimens were collected by #. Details of nesting records and specimens collected are in the Royal Ontario Museum.

A party of four geologists travelled north on the same train and landed at Lansdowne House the day after the ROM party. Led by Vic Prest, they were on their way to Rowlandson Lake, about 30 km northeast of Lansdowne House. They were there from 7 June to 13 August and contributed a list of bird species seen and nests found there. These are mentioned where they add to Hope's observations from this part of the province.

Hope's notes indicate the name of the lake is derived from white rocks in the lake.

**Common Loon,** *Gavia immer:* * # Rare near Lansdowne House, as they were frequently shot for food. A pair with a downy chick was found on the small inland lake. A nest was also found at Rowlandson Lake.

**American Bittern,** *Botaurus lentiginosus:* # Only one bird was seen, 1 August. This young of the year was probably locally raised, although habitat was scarce. The species was also seen at Rowlandson Lake.

**Green-winged Teal,** *Anas crecca:* # The only sighting was of four young of the year, all capable of flight, on 5 August.

**American Black Duck,** *Anas rubripes:* * # A newly hatched young was brought to Hope on 21 June, and a single adult was seen 27 July on the Marten-Drinking River. Young were apparently seen at Rowlandson Lake.

**Mallard,** *Anas platyrhynchos:* * # A single nearly feathered but still flightless young was brought to Hope on 31 July. It was with an adult and apparently other young.

**Ring-necked Duck,** *Aythya collaris:* * # Two females with broods of five and six recently hatched young were encountered 23 July on the small inland lake.

**Common Goldeneye,** *Bucephala clangula:* Seemed to be relatively rare. He identified only five birds on three occasions, the first on 30 June. Some other unidentified ducks may have been of this species.

**Bufflehead,** *Bucephala albeola:* Only two birds were seen, flying past their "camp" on 5 June.

**Common Merganser,** *Mergus merganser:* # The only merganser identified, and only four were seen. Old nests on the gravelly islands suggested they may have tried to nest in the past.

**Osprey,** *Pandion haliaetus:* # It was rare with single birds seen on three occasions over the lake, and at the Marten-Drinking River a single bird was seen three days in a row.

**Bald Eagle,** *Haliaeetus leucocephalus:* Reported at Rowlandson Lake.

**Northern Harrier,** *Circus cyaneus:* The only record was a single bird seen on 20 August.

**Northern Goshawk,** *Accipiter gentilis:* Reported from Rowlandson Lake.

**Red-tailed Hawk,** *Buteo jamaicensis:* Reported from Rowlandson Lake.

**American Kestrel,** *Falco sparverius:* # Seven birds were seen on five occasions, the first not until 25 June.

**Merlin,** *Falco columbarius:* * # A pair at a nest with five small young was found 25 June. The only other bird identified was one on 17 August chasing shorebirds on the point.

**Spruce Grouse,** *Dendragapus canadensis:* * # Was probably fairly common, encountered on six occasions, twice with broods of young.

**Ruffed Grouse,** *Bonasa umbellus:* * # Was probably common in appropriate habitat; patches of birch and alder. The first of six broods was encountered 26 June, but no others were seen until the end of July, perhaps because habitat was limited.

**Semipalmated Plover,** *Charadrius semipalmatus:* Single, probable migrants, were seen 4 June and 23 July.

**Killdeer,** *Charadrius vociferus:* # A single bird was encountered 27 June on a gravel shore in the post clearing.

**Greater Yellowlegs,** *Tringa melanoleuca:* It was reported from Rowlandson Lake, but at Lansdowne House only one unidentified yellowlegs was noted flying over.

**Semipalmated Sandpiper,** *Calidris pusilla:* # He saw four and six on two days in early August. He also observed a Merlin chasing a flock of about 25 unidentified "peeps" on 17 August, probably this or the following species.

**Least Sandpiper:** *Calidris minutilla:* # Nine birds were seen over three days in early August.

**Herring Gull,** *Larus argentatus:* # Seen rather infrequently and only in ones and twos until August when small flocks were encountered. Although he found no evidence of nesting, there were numerous islands in the lake where they could have nested. Several young of the year were seen on 9 August, but they were flying well. Nests were apparently found at Rowlandson Lake.

**Common Tern,** *Sterna hirundo:* # From one to three birds were seen on only four occasions, suggesting they may not have bred on this lake.

**Common Nighthawk,** *Chordeiles minor:* # Rather uncommon, usually seen singly at irregular intervals throughout the summer.

**Belted Kingfisher,** *Ceryle alcyon:* Two birds were seen 27 July and one on 20 August.

**Yellow-bellied Sapsucker,** *Sphyrapicus varius:* * # A pair at a nest of nearly fledged young was found 27 July near the mouth of the Marten-Drinking River. That was the only encounter.

**Downy Woodpecker,** *Picoides pubescens:* * # Much less numerous than the Hairy Woodpecker. It was seen only once prior to the end of July. Then a juvenile accompanied by an adult male on the 27th, and another juvenile with a female parent on the 28th were seen, both near the mouth of the Marten-Drinking River.

**Hairy Woodpecker,** *Picoides villosus:* * # Seen sporadically throughout the summer, usually single birds in tall spruce woods. A young of the year with a female parent was located 8 July. A nest was reported at Rowlandson Lake.

**Three-toed Woodpecker,** *Picoides tridactylus:* * # Uncommonly encountered one or two at a time. A nest with young was found 24 June at the edge of a wet alder and willow area beside spruce woods.

**Black-backed Woodpecker,** *Picoides arcticus:* # The most commonly encountered woodpecker usually in black spruce bogs. One to three were seen on half the days in early June at least, but evidence of breeding avoided his notice.

**Northern Flicker,** *Colaptes auratus:* # Very rarely seen, except along the Marten-Drinking River where two or three were seen each day.

**Olive-sided Flycatcher,** *Contopus borealis:* # Uncommon, but encountered most days. No nests or evidence of breeding were noted.

**Yellow-bellied Flycatcher,** *Empidonax flaviventris:* # Uncommon, but regularly encountered. No evidence of nesting was secured, but a nest was reported from Rowlandson Lake.

**Alder Flycatcher,** *Empidonax alnorum:* * # A common species, seen almost every day. The only evidence of breeding was a group of three flying immatures apparently still being fed by a female parent on 4 August.

**Least Flycatcher,** *Empidonax minimus:* * It was a common species also. Nests were found 10 June (under construction) and 20 June (fresh eggs).

**Eastern Kingbird,** *Tyrannus tyrannus:* Single birds were seen on three separate occasions, all in the clearings about the settlement. Such occurrences, well north of the then known breeding range, have subsequently proven to represent potential breeders.

**Tree Swallow,** *Tachycineta bicolor:* Although a fairly common species seen most days, no nests were located.

**Bank Swallow,** *Riparia riparia:* It was reported from Rowlandson Lake.

**Gray Jay,** *Perisoreus canadensis:* * # Fairly common and seen most days throughout the summer. Young of the year were seen several times with adults in June and were undoubtedly locally raised.

**American Crow,** *Corvus brachyrhynchos:* * # One or two were seen frequently. A couple of old nests in cedars on the island northwest of the point may have been built by crows, and a single nest with young was found 30 June near the base of the peninsula in fairly dense mixed woods.

**Common Raven,** *Corvus corax:* Never seen or heard until 20 August when a single bird flew over calling.

**Black-capped Chickadee,** *Parus atricapillus:* * # A relatively rare species, the only evidence of breeding was two recently fledged flying juveniles with an adult male in mixed woods at the base of the peninsula on 30 June.

**Boreal Chickadee,** *Parus hudsonicus:* * # Uncommon, and very inconspicuous until young were out of the nest. Family groups with recently fledged young were seen 10, 12 and 17 July in spruce forests.

**Red-breasted Nuthatch,** *Sitta canadensis:* (* ?) # Only one bird was ever seen, a flying young of the year on 5 August, that may have been raised locally.

**Brown Creeper,** *Certhia americana:* * # Uncommon in spruce and mixed woods, nests were found 9 June (with eggs) in a black spruce bog and 27 June (with well feathered young). Family groups were also seen 17 July and 5 August.

**Winter Wren,** *Troglodytes troglodytes:* (* ?) # Uncommon in spruce woods; the only evidence of breeding was an empty nest in upturned roots visited by a singing male.

**Golden-crowned Kinglet,** *Regulus satrapa:* * # Encountered on only two occasions; however, on 17 July two groups of adults and flying young were seen in spruce forest.

**Ruby-crowned Kinglet,** *Regulus calendula:* * # Fairly common; family groups with recently fledged young were encountered 14 and 17 July.

**Swainson's Thrush,** *Catharus ustulatus:* * # A very common and conspicuous species; 14 nests were found between 7 June and 15 July.

**Hermit Thrush,** *Catharus guttatus:* * # It was uncommon and inconspicuous. A single unaccompanied flying juvenile on 23 July was the only evidence of breeding at Attawapiskat Lake. A nest was reported from Rowlandson Lake, however.

**American Robin,** *Turdus migratorius:* * # Common, and although seen virtually every day, no nests were ever found. On 5 July, when a single immature bird was found, breeding was established. Only one other juvenile was ever seen, on 11 August.

**Cedar Waxwing,** *Bombycilla cedrorum:* * # Groups as large as a dozen were common. The first of four nests was found on 13 July. Hope watched one nest frequently that he found on 25 July with two eggs. Its four eggs hatched 8 August, and on 21 August before the young flew, he examined the young for waxy tips on the secondaries. One definitely showed waxy red, two had only an "indefinite suggestion", and one showed none at all.

**European Starling,** *Sturnus vulgaris:* Hope saw two birds on the day of arrival, flying along the shore close to the point. Only 17 years after first reported breeding in Ontario, they had penetrated to this remote settlement. However, none appeared to remain to nest. He saw two on 5 and 6 June, and four on 10 June, but none thereafter.

**Solitary Vireo,** *Vireo solitarius:* # Rarely encountered, usually only single birds, and he was not able to find evidence of breeding.

**Philadelphia Vireo,** *Vireo philadelphicus:* * # It was identified decidedly less frequently and in smaller numbers than the Red-eyed Vireo. He flushed a female from a nest under construction on 23 June. A subsequent nest, located 26 July, with three newly hatched young, also contained an infertile egg. Nests were in aspen woods with alders in the understory.

**Red-eyed Vireo,** *Vireo olivaceus:* * # It was common in the area. A nest was found 3 July in poplar woods with alder-willow understory. As late as 16 August a second nest, still containing one "lice" infested young was located near the settlement.

**Tennessee Warbler,** *Vermivora peregrina:* * # Fairly common; flying juveniles in family groups were encountered 18 July, 9 and 11 August.

**Orange-crowned Warbler,** *Vermivora celata:* * # It was uncommon; a group of four flying juveniles encountered 26 July was the only evidence of breeding.

**Yellow Warbler,** *Dendroica petechia:* * # The most commonly encountered of any species at Attawapiskat Lake, inhabiting the scrubby growth on the peninsula and adjacent islands. He located a dozen nests between 7 June and 6 July.

**Magnolia Warbler,** *Dendroica magnolia:* * # Although seen almost every day, it was uncommon. Three nests were found between 9 June and 15 July.

**Yellow-rumped Warbler,** *Dendroica coronata:* * # It was a common species, and although no nests were found, he four times watched adults feeding recently fledged young between 11 July and 15 August. On 19 June he records coming upon one singing "a perfect rendition of the Mourning Warbler's song". Since he had not yet found that species there (and never did) he went to find it. He said the song was so convincing he had it marked on his checking card. Surprised by what he found, he watched it for some time, but "it gave no attempt of the typical myrtle song".

**Black-throated Green Warbler,** *Dendroica virens:* # A rare species, seen only four times.

**Palm Warbler,** *Dendroica palmarum:* * # He encountered two juveniles 21 July apparently accompanied by a parent, and one immature 8 August for his only observations.

**Bay-breasted Warbler,** *Dendroica castanea:* * # Uncommon and not widespread, the only evidence of breeding was some flying young being fed by adults on 8 July. They were on the large wooded island to the northwest of the point, and thus were probably from a nest on that island.

**Blackpoll Warbler,** *Dendroica striata:* (* ?) # Rare, but probably bred sparingly nearby. A singing male in breeding condition 13 June in appropriate open black spruce bog, a female with an incubation patch 17 July, and an immature with traces of juvenile plumage 15 August all suggest breeding.

**Black-and-white Warbler,** *Mniotilta varia:* * # It was uncommon; a juvenile bird still accompanied by a parent on 9 August was the only evidence of breeding.

**American Redstart,** *Setophaga ruticilla:* * # Relatively rarely encountered, and the only evidence of breeding was the observation of a brood of four young accompanied by an adult on 9 August.

**Ovenbird,** *Seiurus aurocapillus:* Reported only from Rowlandson Lake.

**Northern Waterthrush,** *Seiurus noveboracensis:* * # A common species seen daily. He found a nest with eggs 19 June, and stubby-tailed young on 8 July to confirm breeding.

**Connecticut Warbler,** *Oporornis agilis:* (*) # It was decidedly rare. He encountered only one singing male at the edge of a small bog lake until 15 August when he collected a single immature bird. The immature, although flying, was probably raised reasonably close by, and was the first specimen evidence indicating breeding in the province.

**Wilson's Warbler,** *Wilsonia pusilla:* * # A relatively common species in wet open alder and spruce woods. He located two nests with eggs 16 and 20 June, and observed juveniles a couple of times in early August.

**Canada Warbler,** *Wilsonia canadensis:* (* ?) # A very rare species encountered on only three occasions. However, a very agitated female carrying food 21 July suggested breeding.

**Chipping Sparrow,** *Spizella passerina:* (* ?) # Although very rare, it probably nested as a juvenile bird was taken 8 August.

**Le Conte's Sparrow,** *Ammodramus leconteii:* (* ?) # A single flying juvenile was the only bird of this species encountered. It was in tall grass in the post clearing on 16 August, probably raised not too far away.

**Fox Sparrow,** *Passerella iliaca:* (* ?) # While it was a very rare species there, it probably bred locally. A single male was singing on 13 June, and no further birds were found until 4 August when two young of the year, still retaining some juvenile plumage, were secured.

**Song Sparrow,** *Melospiza melodia:* * # One of the most abundant species, with 10 to 20 seen on numerous days. A single nest was found 11 June and young of the year a couple of times in July. A nest was also reported from Rowlandson Lake.

**Lincoln's Sparrow,** *Melospiza lincolnii:* * # It was uncommon, but regularly encountered throughout the summer. He was elated to find a nest 20 June at the edge of a spruce bog. He comments that he had searched in vain for four years for the nest of this species.

**Swamp Sparrow,** *Melospiza georgiana:* * # It was locally uncommon. Although no nests were found, flying juveniles were encountered half a dozen times after 18 July.

**White-throated Sparrow,** *Zonotrichia albicollis:* * # This was one of the commonest species of the woodlands there. He found four nests between 9 and 24 June.

**Dark-eyed Junco,** *Junco hyemalis:* * # Fairly common, seen most days throughout the summer. Young of the year in family groups were encountered several times after 8 July. A nest was reported from Rowlandson Lake.

**Lapland Longspur,** *Calcarius lapponicus:* * # A single bird, probably a migrant, was secured 13 June in the post clearing.

**Red-winged Blackbird,** *Agelaius phoeniceus:* # Rare, encountered on only four occasions. Hope never found what he considered suitable marsh habitat until visiting the Marten-Drinking River, and he found only a single bird in a small marsh there.

**Rusty Blackbird,** *Euphagus carolinus:* # He had only one observation through June and most of July. However, in the last few days of July and through August he saw small flocks virtually every day, among them being young of the year raised elsewhere, although probably not too far away.

**Brewer's Blackbird,** *Euphagus cyanocephalus:* # A single male was collected 5 June in the post clearing. It was foraging silently on the ground. At that time it was not known to nest in Ontario, and there had been only a very few observations in the province.

**Purple Finch,** *Carpodacus purpureus:* # Uncommon in June, and evidence of breeding was only indirect as an immature was collected in August when the species was seen more commonly.

**White-winged Crossbill,** *Loxia curvirostra:* # Seen sporadically throughout most of July and August when small groups or flocks of birds were noted.

**Common Redpoll,** *Carduelis flammea:* (* ?) # Only a single bird was encountered on 13 August in deciduous growth near the settlement. It sat quite still and silent. Plumage was that of a juvenile, the skull was "clear" and the ovaries "vague". Given the young age of the bird, a time of year when migration is unlikely, and that redpolls do at least occasionally nest far south of their more usual tundra habitats, it seems probable that this bird was raised somewhere in the vicinity of Attawapiskat Lake.

**Pine Siskin,** *Carduelis pinus:* Only two individuals were encountered, 6 June and 23 July.

**House Sparrow,** *Passer domesticus:* # Hope secured a female on 5 June. A resident informed him that two had been about the post for some time, but she thought her cat had caught the other one.

As might be expected, Hope and the others had a difficult time with blackflies and mosquitoes. He several times noted they couldn't stay out long because of them. Indoors, he also records making a "mosquito hat" for his bed. Even if weather and flies had not been troublesome, being nearly surrounded with water of such a large lake, he faced considerable difficulty in gaining access to a wide selection of country. The canoe trips he does record across expanses of open water seem somewhat heroic considering that he was unable to swim, (L.A. Prince, pers. comm.).

However, he recorded 86 species at Attawapiskat Lake and had breeding evidence for 42 of them. Most of the rest probably bred reasonably close by and he had an indication of that for 10 additional species. Prest recorded 53 species at Rowlandson Lake, half a dozen of which were additions to those seen by Hope.

Of the observations he made, perhaps the most notable concerned the breeding of Connecticut Warbler and Common Redpoll, and the occurrence of European Starling and House Sparrow. In addition the Philadelphia Vireo egg was only the second "clutch" taken in Ontario, the Lincoln's Sparrow nest was the fifth found in the province, and the Wilson's Warbler nests were the third and fourth.

The six most numerous species were Yellow Warbler, Song Sparrow, Swainson's Thrush, White-throated Sparrow, Northern Waterthrush, and Least Flycatcher. These reflect the shrubby nature of the habitat about Lansdowne House and the open wet forests elsewhere.

Of the birds not recorded, there are some notable absences. Not seeing Common Snipe, Greater Yellowlegs, Sharp-tailed Grouse and Savannah Sparrow indicates clearly that the wetland habitats that support them just weren't available where he was able to travel. The absence of Northern Hawk Owl, Bonaparte's Gull and the dearth of waterfowl suggests partly a lack of habitat, or that any that did show up were eaten. The remoteness of the location may partly explain why there were no Barn Swallows, but why there were not more ravens is a mystery.

The Boreal Forest can be a difficult place to work. His efforts, with those of Prince and Scott, provided a useful summary of the summer bird life there at that time and a useful reference for today.

**Acknowledgements**

For the observations presented here I am indebted to the late Cliff Hope. However, I would also like to acknowledge recent correspondence with Dr. L.A. Prince who accompanied Hope to both

Favourable Lake and Attawapiskat Lake. Dr. Prince indicated that at Favourable Lake they had a canoe and did portage it through the bush for many kilometres in order to access remote lakes. When setting and hauling nets in lakes near the mine they tied two oil drums under a couple of poles strapped across the struts of the canoe. These "outriggers" prevented overturning. But they were not portaged to other lakes where everyone took their chances, including the nonswimmer Hope. Dr. Prince also indicated that the raft used on Rathouse Bay was the property of the local people who were very helpful at all times.

The librarians at the ROM provided access to Hope's journals, and Charlotte Goodwin made copies for me. The figure was prepared with the assistance of Brian Boyle in the ROM Photography Department.

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# Red Crossbills Feeding at Mineral Sources

by
Ron Tozer

## Introduction

The habit of various cardueline finches, including the Red Crossbill (*Loxia curvirostra*), to feed on sand and salt spread on road surfaces in winter has been widely observed and reported (e.g. Meade 1942; Lawrence 1949, 1982; Bent 1968; Terres 1982). Very small stones (in the "sand") are ingested as a source of grit required for digesting vegetable material in the gizzards of these granivorous birds (Lawrence 1949, Ehrlich et al. 1988). However, the apparent attraction to salt is not as readily explained, even though it has been known for a long time (e.g. Fisher 1888). Red Crossbills have been observed feeding at a wide variety of seemingly unusual mineral sources, including: coal ashes on which salt had been thrown, soapy dishwater, and snow discoloured by dog urine (Lawrence 1949); material from cattle salt blocks (Marshall 1940); salt spilled around ice cream freezers (Dawson et al. 1965); and "the material left in salt pork barrels" thrown outside lumber camps (Bent 1968)! It has been suggested that finches may be attempting "to satisfy a requirement for some mineral that they do not obtain in sufficient quantity in their food" (Dawson et al. 1965) when they undertake such behaviour.

Observations of various feeding activities by Red Crossbills recorded in Algonquin Provincial Park increased my interest in the subject, and so I undertook a search of the literature to learn more about it. This article summarizes what I found, and documents some of the sightings from the Park.

**Sodium**

Sodium sources have been reported as attractions for various birds, mammals, and even butterflies (Fraser 1985, Otis 1994). The birds may be attracted due to mineral dietary deficiencies, as previously noted. However, while the results of experiments on sodium chloride metabolism in captive Red Crossbills did not "exclude this possibility", it was concluded that "the ingestion of salt beyond that present in the food is unnecessary for maintenance of sodium balance and apparent good health by crossbills" even after they were fed a vegetable diet "relatively high in potassium and low in sodium, for many months" (Dawson et al. 1965). While we may not fully understand why Red Crossbills are attracted to sodium sources, there are many examples of its occurrence.

The most commonly observed situation which attracts Red Crossbills, and other finches, to sodium involves birds on roads in winter. De-icing salt (sodium chloride), usually mixed with sand, is commonly spread on roads and can be available to finches in massive quantities. For example, Fraser (1985) estimated that sodium chloride was spread on the Trans-Canada Highway near Wawa, Ontario at a "rate of 30-40 tonnes/km" each winter! Red Crossbills can be attracted to this road salt in large numbers; for instance, I counted over 300 birds along a 20 km stretch of Highway 60 between the West Gate and Found Lake in Algonquin Park on 28 February 1985. Also, due to the heavy winter application of sodium chloride, roadside pools of stagnant water can develop a sodium content of 100 to 600 parts per million (ppm) during the rest of the year (Fraser 1985). Many of these pools and puddles "are recharged with brine at each rainfall and show little tendency for Na (sodium) levels to decline during the summer" (Fraser 1985). Several finch species have been recorded "pecking in areas of damp soil near the salty water" of these puddles (Fraser 1985). Pools of this type in Algonquin Park are heavily used by moose (*Alces alces*), especially during spring and early summer, and also attract Red Crossbills. For example, on 27 September 1994, I observed fifteen individuals appearing to ingest mud at a heavily trampled "moose puddle" along Highway 60 near Kearney Lake, Sproule Township. On 11 November 1994, at another "moose puddle" beside the highway near Park (Long) Lake, Finlayson Township, I counted about 40 Red Crossbills feeding on the mud. Sixteen individuals were tightly clustered on a small stump (which appeared to have been previously submerged in the muddy water), crawling over it and probing in its crevices like a group of miniature parrots!

Natural mineral springs ("licks") can contain "50-200 ppm Na plus high levels of some other minerals" (Fraser 1985). These licks may have "14 to 120 times more sodium" than other nearby non-lick areas (Fraser 1980), and were recorded as major attractions for birds such as Purple Finch (*Carpodacus purpureus*) and Pine Siskin (*Carduelis pinus*) in a study at Sibley (now Sleeping Giant) Provincial Park (Fraser 1985). Speirs (1985) reported Red Crossbills "hopping about our feet at a salt lick at Montreal Falls by Lake Superior

one summer".

Aquatic plants growing in shallow lakes and ponds are another rich source of sodium, having up to 500 times more sodium than leaves of woody plants (Fraser et al. 1980). Moose consume large quantities of aquatic plants during summer, apparently because of a "specific hunger for Na" (Fraser 1980). Actively growing aquatic plants are not a food source for finches, but these plants may become an attraction after they die. Red Crossbills are frequently observed feeding on exposed areas of "mud" (consisting of rotting aquatic plants and their roots) at lakes and ponds which attract moose in Algonquin Park (e.g. six birds feeding on "mud" at Hobo Lake, Finlayson Township, on 29 July 1994, reported by Doug Tozer). I suspect these crossbills are attracted to the sodium released from the rotting aquatic vegetation at these sites.

**Calcium**

Seeds of Scots Pine (*Pinus sylvestris*) and Norway Spruce (*Picea abies*), which were eaten by crossbills in Finland, consisted of about 95 per cent organic matter and 5 per cent inorganic matter (Pulliainen 1972). Nearly 4 per cent of the latter was nitrogen, while potassium, phosphorus, magnesium and calcium were contained in the remaining 1 per cent. Such findings may suggest a calcium (or other mineral) deficiency in the diet of crossbills. A wide variety of crossbill feeding behaviours have been reported which may be manifestations of a hypothetical need for calcium.

Meade (1942) reported large numbers of White-winged Crossbills (*L. leucoptera*) and small numbers of Red Crossbills that were ingesting a mixture of calcium chloride and sand spread on a road in New York state during March. In this case it was theorized that the attraction might have been the fine gravel, a craving for salt, and/or moisture gathered by the calcium chloride.

Ingestion of supplementary calcium in the breeding season has been documented for several bird species in northern areas (Ficken 1989). For example, nestling Lapland Longspurs (*Calcarius lapponicus*) in Alaska "ate bones and egg shell fragments" (Seastedt and MacLean 1971). Females might be attracted to sources of this mineral since "calcium needs for egg laying may be particularly high" (Ficken 1989). Nethersole-Thompson (1975) observed female Scottish Crossbills (*L. scotica*) nibbling "a capercaillie's (*Tetrao urogallus*) skeleton" and carrying "a mountain hare's bone to the top of a pine", when breeding during March, and concluded that "these birds evidently needed calcium". Similarly, Baily (1953) reported that Red Crossbills had secured "scrapings from the bleached bones of deer" during the breeding cycle.

Wood ash is rich in calcium, and its consumption has been reported for various birds, both during the breeding period and at other seasons. Species reported eating ash include: Red Crossbills (Bent 1968); Parrot Crossbills (*L. pytyopsittacus*) and Common Redpolls (*Carduelis flammea*) (Pulliainen et al. 1978); Boreal Chickadees (*Parus hudsonicus*) (Ficken 1989); and even hummingbirds (*Trochilidae*) (des Lauriers 1994)! In the case of Boreal Chickadees, it was

shown that the ash where the birds repeatedly fed was much higher in calcium (2580 ppm) than nearby ash (600 ppm) where they never fed, suggesting an ability to detect richer concentrations (Ficken 1989). There have been numerous observations of Red Crossbills eating wood ash at campfire sites in Algonquin Park (e.g. three males and two females at Opalescent Lake, Stratton Township, 9 September 1963, reported by Russ Rutter).

Parrot Crossbills in Finland were reported eating the outer layer of decaying old pine logs, in the walls of buildings and lying on the ground. "Nutrient analyses showed high ash and calcium contents in the wood samples" (Pulliainen et al. 1978). I did not find reports of this behaviour by Red Crossbills, but it may well occur.

Red Crossbills in Crater Lake National Park, Oregon, were observed to feed on a powdery crust ("probably made up of calcium salts dissolved from the rock material") that formed on cliff faces of pumice (Aldrich 1939). The crossbills clung to the cliff faces, placed their heads sideways against the crust (which was loose and only one-sixteenth of an inch thick), and licked it off with their tongues while holding their bills open widely (Aldrich 1939). This same manner of feeding has been recorded at various man-made mineral sources, as noted below.

Dr. Alan Knox (*British Birds* 71: 541) noted that "crossbills are well known for their habits of picking

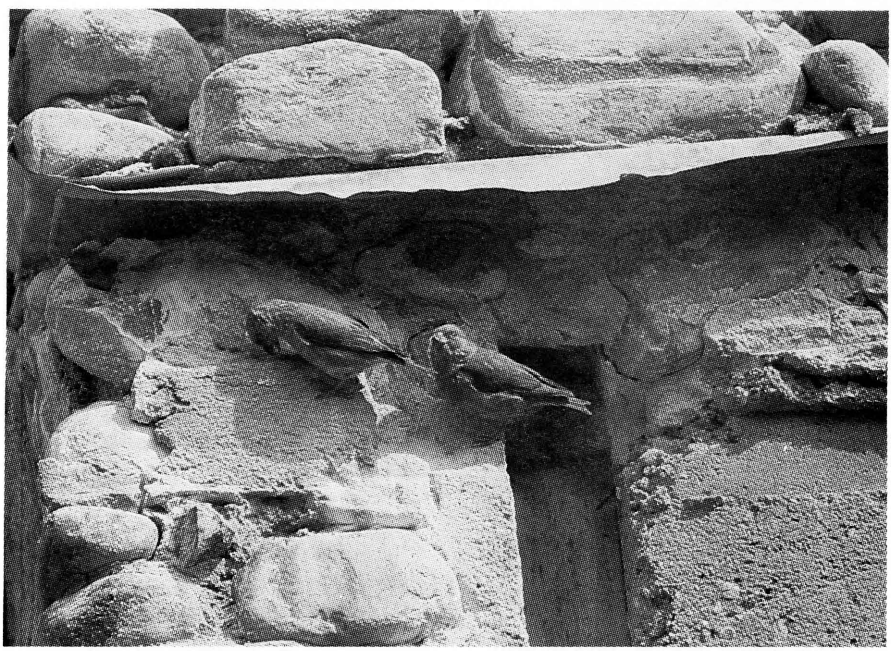

Figure 1: Red Crossbills on chimney at Lake Travers, Algonquin Park. Photo by *Michael Runtz.*

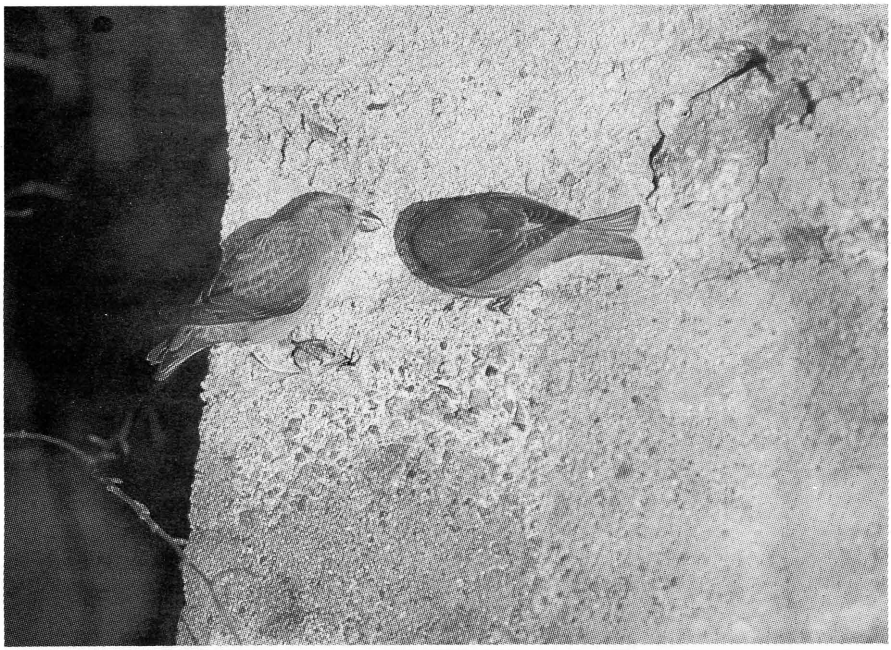

Figure 2: Red Crossbills on chimney, feeding where a patch of material has been removed. Photo by *Michael Runtz.*

around chimney-stacks and eating putty", but that while "this behaviour is very common" it is "surprisingly poorly documented". There are various reports (especially in the European literature) involving crossbills feeding on mortar and putty, apparently attracted to their calcium carbonate content. For instance, Red Crossbills in Germany appeared to eat soil from below a stone wall, but analysis showed they were consuming flakes of calcium carbonate from the wall (Sainsbury 1978). Scottish Crossbills were seen to eat putty from windows (Watson 1955, Nethersole-Thompson 1975). About 150 Red Crossbills were reported eating mortar "on the wall of a very dilapidated two storey house" in Yugoslavia (Susic 1981). Nuttall (1907) wrote in 1891 that Red Crossbills in North America were "observed even to pick off the clay from the logs of the house". Baynes (1915) even claimed that Red Crossbills would come to the hand for pounded dried mortar!

The mortar and cement of chimneys hold a special attraction for crossbills. Scottish Crossbills have been reported feeding on the mortar of chimney-stacks (Nethersole-Thompson 1975, Bartlett 1976). Parrot Crossbills and Common Redpolls were often seen eating mortar from chimneys during a study in northeastern Lapland (Pulliainen et al. 1978). William Brewster (1938) described numbers of Red Crossbills coming early on October mornings to

cling to the sides, and cluster about the top, of a brick chimney in the Lake Umbagog region of Maine. Lawrence (1949), reporting on Red Crossbills at Pimisi Bay, Ontario, noted that they were often "seen clinging to our cobble stone chimney, pecking and eating the mortar".

Red Crossbills consuming mortar and cement have been observed on numerous occasions in Algonquin Park. The most frequently used site (Figure 1) is the Turtle Club on Lake Travers, White Township, where five stone chimneys are all that remains of a log building erected in 1933 (Runtz 1993). Red Crossbills appear to have eaten away patches of material on these chimneys to a depth of more than 2 cm in some places (Figure 2). Typical of sightings there were eight birds on 19 April 1988, and 30 birds on 14 April 1989, reported by Michael Runtz. Similarly, I observed nine Red Crossbills eating mortar from a wall of the "stonehouse" at Achray on Grand Lake, Stratton Township, on 3 May 1983. Red Crossbills allow a very close approach when eating mortar or cement, indicating their strong motivation to feed on this material.

## Conclusion

A wide variety of unusual Red Crossbill feeding activities have been documented in the literature, and many of these have been observed in Algonquin Park. These behaviours appear to involve an attraction to minerals such as sodium and calcium, perhaps related to dietary deficiencies. In contrast, I did not find reports of White-winged Crossbills undertaking such activities, apart from feeding at salted road sand (Benkman 1992). Could these apparent behavioural differences reflect dietary differences between these two crossbill species? That and other questions will have to await further study.

I would be interested in hearing about any unusual crossbill feeding activities which readers may have observed or noted in the literature. I hope this article will serve to encourage birders to learn more about unusual aspects of behaviour among bird species that may otherwise seem quite "familiar" to us. It can be a rewarding experience.

## Acknowledgements

I wish to thank John Reynolds for his very valuable assistance in obtaining several references for this article at Oxford University, and Jim Richards for access to his ornithological library. Michael Runtz kindly supplied the photographs. Finally, I appreciated the critical review of an earlier draft by Bill Crins, Ron Pittaway, and Dan Strickland.

## Literature cited

*Aldrich, E.C.* 1939. Notes on the salt-feeding habits of the Red Crossbill. Condor 41: 172-173.

*Baily, A.L.* 1953. The Red Crossbills in Colorado. Part 2. 1952 observations of the Red Crossbills. Denver Museum of Natural History Pictorial No. 9: 33-63.

*Bartlett, E.* 1976. Crossbills feeding at chimney-stacks. British Birds 69: 312-313.

*Baynes, E.H.* 1915. Wild Bird Guests. E.P. Dutton, New York.

*Benkman, C.W.* 1992. White-winged Crossbill. *In* A. Poole, P. Stettenheim, and F. Gill (Editors). The Birds of North America. No. 27. Academy of Natural Sciences, Philadelphia; and American Ornithologists' Union, Washington, D.C.

***Bent, A.C. (and collaborators).*** 1968. Life Histories of North American Cardinals, Grosbeaks, Buntings, Towhees, Finches, Sparrows and Allies. Part 1. United States National Museum Bulletin 237. Washington, D.C.

***Brewster, W.*** 1938. The birds of the Lake Umbagog region of Maine, compiled from the diaries and journals of William Brewster by Ludlow Griscom. Bulletin of the Museum of Comparative Zoology 66(4): 525-620.

***Dawson, W.R., V.H. Shoemaker, H.B. Tordoff and A. Borut.*** 1965. Observations on metabolism of sodium chloride in the Red Crossbill. Auk 82: 606-623.

***des Lauriers, J.R.*** 1994. Hummingbirds eating ashes. Auk 111: 755-756.

***Ehrlich, P.R., D.S. Dobkin and D. Wheye.*** 1988. The Birder's Handbook: A Field Guide to the Natural History of North American Birds. Simon & Schuster, New York.

***Ficken, M.S.*** 1989. Boreal Chickadees eat ash high in calcium. Wilson Bulletin 101: 349-351.

***Fisher, W.H.*** 1888. The American Crossbill, as to some of its habits and its fondness for salt. Journal of the Cincinnati Society of Natural History 10: 203-204.

***Fraser, D.*** 1980. Moose and salt: a review of recent research in Ontario. Proceedings of the North American Moose Conference and Workshop 16: 51-68.

***Fraser, D.*** 1985. Mammals, birds, and butterflies at sodium sources in northern Ontario forests. Canadian Field-Naturalist 99: 365-367.

***Fraser, D., D. Arthur, J.K. Morton and B.K. Thompson.*** 1980. Aquatic feeding by moose *Alces alces* in a Canadian lake. Holarctic Ecology 3: 218-223.

***Lawrence, L. de K.*** 1949. The Red Crossbill at Pimisi Bay, Ontario. Canadian Field-Naturalist 63: 147-160.

***Lawrence, L. de K.*** 1982. A dash of salt. Nature Canada 11(4): 28-32.

***Marshall, W.H.*** 1940. More notes on salt-feeding of Red Crossbills. Condor 42: 218-219.

***Meade, G.M.*** 1942. Calcium chloride - a death lure for crossbills. Auk 59: 439-440.

***Nethersole-Thompson, D.*** 1975. Pine Crossbills. T. and A.D. Poyser, Berkhamsted, England.

***Nuttall, T.*** 1907. A Popular Handbook of the Birds of Canada and the United States. Musson, Toronto.

***Otis, G.W.*** 1994. Butterflies of Algonquin Provincial Park. The Friends of Algonquin Park, Whitney, Ontario.

***Pulliainen, E.*** 1972. Summer nutrition of crossbills (*Loxia pytyopsittacus, L. curvirostra* and *L. leucoptera*) in northeastern Lapland in 1971. Annalen Zoologici Fennici 9: 28-31.

***Pulliainen, E., T. Kallio and A.-M. Hallaksela.*** 1978. Eating of wood by Parrot Crossbills, *Loxia pytyopsittacus*, and Redpolls, *Carduelis flammea*. Aquilo Ser. Zool. 18: 23-27.

***Runtz, M.W.P.*** 1993. The Explorer's Guide to Algonquin Park. Stoddart, Toronto.

***Sainsbury, M.*** 1978. Crossbills "feeding" on soil. British Birds 71: 540-541.

***Seastedt, T.R. and S.F. MacLean, Jr.*** 1971. Calcium supplements in the diet of nestling Lapland Longspurs *Calcarius lapponicus* near Barrow, Alaska. Ibis 119: 531-533.

***Speirs, J.M.*** 1985. Birds of Ontario. Volume 2. Natural Heritage, Toronto.

***Susic, G.*** 1981. Red Crossbill (*Loxia curvirostra* L. 1758) feeding on mortar in a wall. Larus 33-35: 197-200.

***Terres, J.K.*** 1982. The Audubon Society Encyclopedia of North American Birds. Alfred A. Knopf, New York.

***Watson, A.*** 1955. Crossbills breeding in Aberdeenshire. Scottish Naturalist 67: 121-122.

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# *Recognizable Forms*

## Subspecies of the Horned Lark

by
Ron Pittaway

### Introduction

The very first recognizable forms I learned as a young birder were the Prairie Horned Lark (*Eremophila alpestris praticola*) and the Northern Horned Lark (*E. a. alpestris*). The two forms were often mentioned by John Bird in his Saturday column in the *Ottawa Journal*. As an example, he reported on 6 February 1965, "Earl Godfrey found three Northern Horned Larks near Fallowfield. He had a close enough look to identify them as Northerns. Prairie Horned Larks would have been more suggestive of migration."

In what follows, I discuss the differences in coloration, size, behaviour, song, migration, habitat, breeding times and ranges which taken together distinguish the three recognizable forms of the Horned Lark in Ontario.

### Taxonomy

The American Ornithologists' Union (AOU) (1957) and Godfrey (1986) list four subspecies (races) of the Horned Lark in Ontario: nominate *E. a. alpestris, E. a. praticola, E. a. hoyti* and *E. a. enthymia*. The listing of *enthymia* in Ontario by the above authorities is based on Snyder (1938) who collected specimens in western Rainy River District for the Royal Ontario Museum. However, James (1991) who re-evaluated Snyder's work does not list *enthymia* in Ontario because the Rainy River birds are "more like *praticola* than *enthymia*". Peters (1960) treats *enthymia* as "doubtfully distinct" from the more western *leucolaema*. Affinities of *enthymia* and *leucolaema* require study (Godfrey 1986). Below, I discuss *enthymia* in more detail under the Saskatchewan Horned Lark.

### Plumages, Molts, Ageing and Sexing

Horned Larks have only two plumages: juvenile (juvenal) and adult (definitive basic). The briefly held spotted juvenile plumage is quite unlike the adult and has tempted some birders to believe they have found a rare pipit or longspur! See the illustration (poor quality) of a juvenile on page 295 in the National Geographic Guide (Scott 1987) and the photograph on page 297 in Volume 2 of the Master Guide (Farrand 1983).

Horned Larks acquire their first adult plumage by late summer of their hatching year (Earl Godfrey, pers. comm.). Unlike most birds, the post-juvenile (first prebasic) molt is complete (all feathers). First year adults are on average duller than older adults; extremes may be separable with experience (Pyle et al. 1987). On males, the black collar, mask, crown and "horns" (erectile feathers) are more distinct than on females. Males are also larger than females.

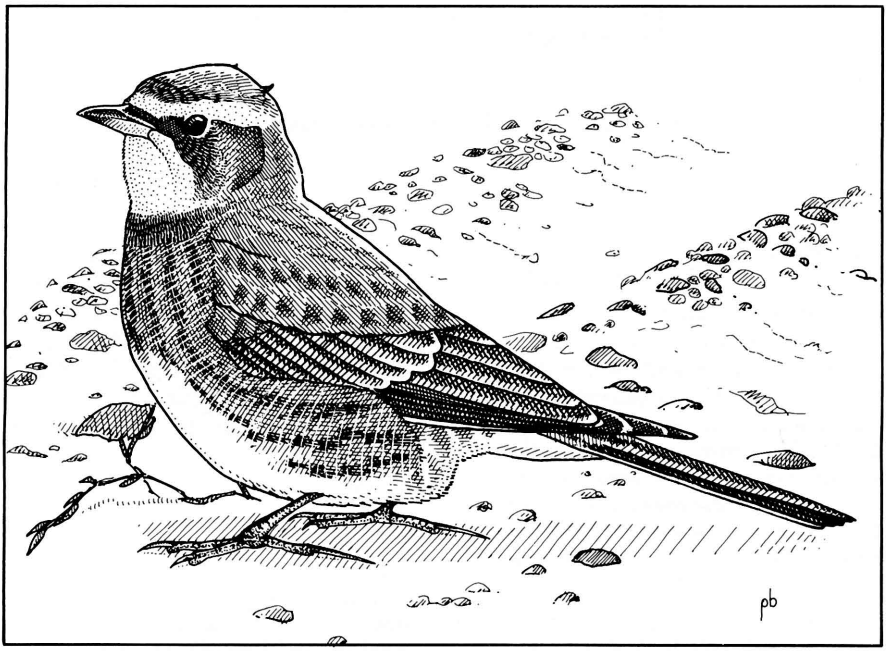


Figure 1: Adult male Northern Horned Lark in fresh plumage. Drawing by *Peter Burke.*

Adults have one complete molt a year after breeding but before fall migration. On fresh fall and slightly worn winter birds, the black markings on the head (including "horns") and breast are obscured by pale feather fringes and the birds are more pinkish, buffy and streaked (Figure 1). There is no prebreeding (prealternate) molt. The breeding dress is acquired by the gradual wearing away of the feather edgings, bringing the black markings into prominence. During the breeding season, the normally inconspicuous "horns" are often erected in display. Note that birds depicted in field guides are in worn (not fresh) plumage!

In summary, Horned Larks have the same plumage year round but the appearance of fresh fall birds is markedly different from worn spring and summer birds. See Ridgway (1907), Bent (1942) and Roberts (1955) for detailed plumage descriptions of each subspecies.

**Prairie Horned Lark: (*E. a. praticola*)**

The Prairie Horned Lark breeds commonly in southern Ontario south of the Canadian Shield, locally and sparsely in farming areas north to the Clay Belt, as well as in western Rainy River District (James 1991). The breeding range of the Prairie subspecies is separated from the breeding ranges of the two northern subspecies by a wide band of boreal forest.

Small numbers of Prairie Horned Larks winter (December-January) in southern Ontario, but are normally outnumbered by the Northern subspecies (Dennis Rupert, pers. comm.).

Prairie Horned Larks are very early spring migrants (earliest landbird) arriving in numbers north of Lake Erie by early February and north of Lake Ontario by mid-February. Prairie birds are usually paired, and males are singing on territories when the first flocks of Northern Horned Larks move through southern Ontario (Devitt 1967, Sadler 1983). The top of Figure 2 shows a typical early March scene near Toronto with a "skylarking" male Prairie Horned Lark singing over its breeding territory.

Separation of Prairie and Northern Horned Larks is usually straightforward. The superciliary (eyebrow) stripe is white in the Prairie (sometimes very pale yellow in front of the eye), whereas the superciliary stripe is usually bright yellow in the Northern (Figure 2). A typical Prairie Horned Lark in worn plumage is illustrated on Plate 55 in *The Birds of Canada* (Godfrey 1986). Peterson (1980) illustrates both Prairie and Northern subspecies on page 201.

Note that the Hoyt's Horned Lark is larger but very similar in appearance to the Prairie subspecies; see discussion under account of Hoyt's Horned Lark below.

**Northern Horned Lark:**
**(*E. a. alpestris*)**

The nominate subspecies is the northeastern form. It breeds from "northern Quebec and northern Labrador south to southern James Bay, southeastern Quebec (Gaspé Peninsula, Madeleine Islands), and Newfoundland" (Godfrey 1986). It intergrades with *E. a. hoyti* in northern Ontario (James 1991). See the discussion below under the heading "Intergrades".

In southern Ontario, Northern and Prairie Horned Larks have different migration and behaviour patterns that help to distinguish them. In spring, Northerns migrate later than Prairies with numbers peaking from March to mid-April after most Prairies have begun nesting. Northern Horned Larks normally do not sing during winter and on spring migration in southern Ontario. Farther north in Algonquin Park, Tozer (1994) shows the different spring migration times of Prairies (28 February to 1 April) and Northerns (16 April to 4 June). Peter Burke's illustration at the bottom of Figure 2 shows migrant Northerns in early May at the airfield in Algonquin Park. A few early Northerns probably reach James Bay in April, but most arrive there from mid-May to early June (Manning 1952, Manning 1981, Todd 1963).

In autumn, the first Northerns arrive in southern Ontario by mid-September and peak through October with numbers falling off in November. Dates in Algonquin Park for Northerns range from 6 September to 19 November (Tozer 1994). Unlike Prairie birds, flocks of Northerns are often seen along the shorelines of the Great Lakes in autumn. Small numbers of Northerns winter in southern Ontario, rarely north to Ottawa, and normally outnumber the Prairie subspecies in mid-winter (Tozer and Richards 1974,

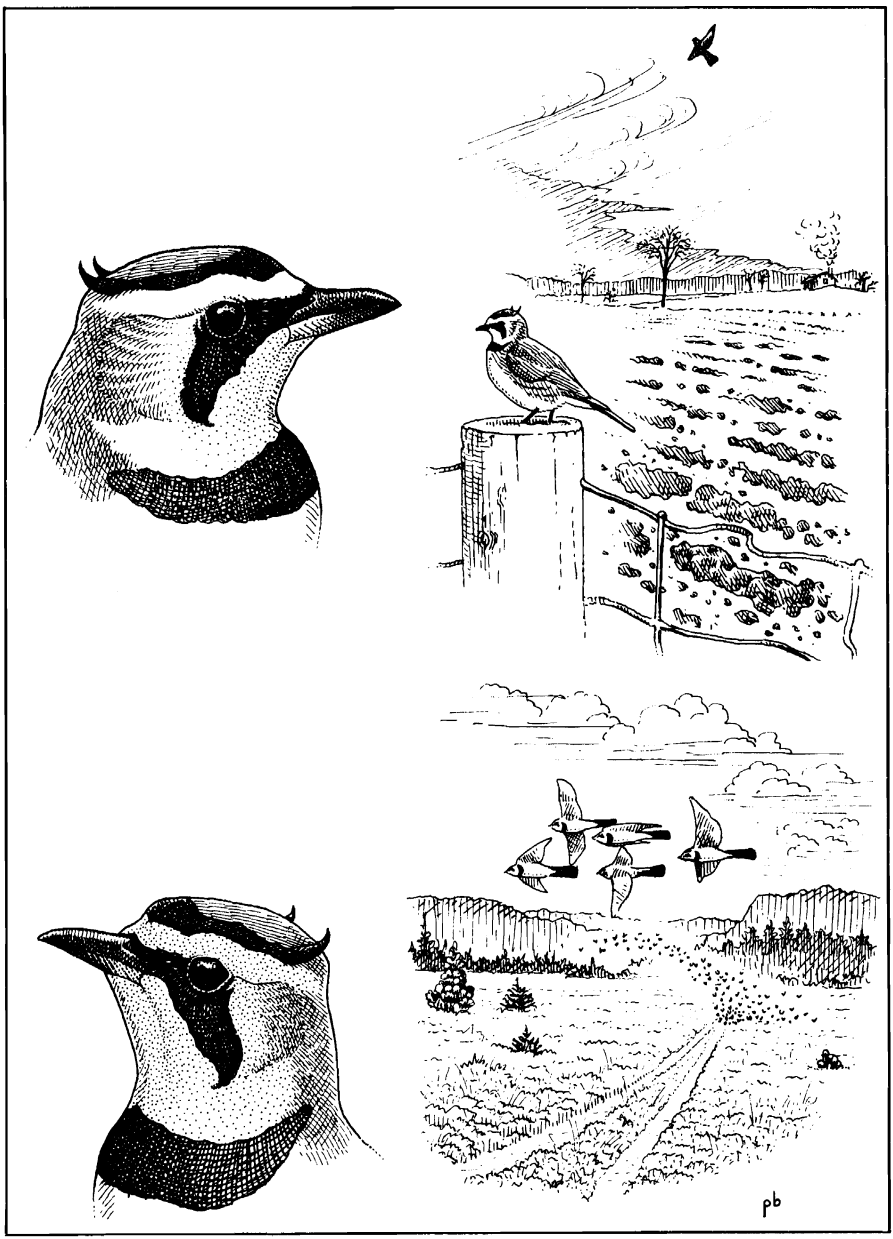


Figure 2: (Top) Adult male Prairie Horned Lark in worn plumage and breeding birds on territory near Toronto in March.
(Bottom) Adult male Northern Horned Lark in worn plumage and May migrants in Algonquin Park. Drawing by *Peter Burke.*

Weir 1989 and Dennis Rupert pers. comm.).

Compared with the Prairie subspecies, the Northern is larger and more robust (noticeable in the field), and the eyebrows, forehead, cheeks and throat are distinctly yellow (Roberts 1955, Todd 1963).

### Hoyt's Horned Lark: (*E. a. hoyti*)

Hoyt's is the northcentral subspecies. It breeds on the "arctic islands south to northeastern Alberta, northwestern Saskatchewan, northeastern Manitoba, extreme northwestern Ontario (Fort Severn)" (Godfrey 1986). It intergrades with *alpestris* along the coast of Hudson Bay in Ontario (James 1991). Hoyt's migrates mainly through the Prairie Provinces (Taverner 1937) and is a regular migrant from Lake Superior westward (Alan Wormington, pers. comm.).

Hoyt's is a large bird like *alpestris* but similar in appearance to *praticola*, typically with a white supercilium and pale yellow restricted to the middle of the throat (Ridgway 1907, Roberts 1955).

It is a rare to uncommon migrant and winter visitor to southern Ontario usually mixed in with large flocks of Northerns. For example, Don Sutherland, Bill Crins and Rory MacKay found one Hoyt's among 83 Northern Horned Larks and four Lapland Longspurs (*Calcarius lapponicus*) in Algonquin Park on 7 October 1984. Sutherland (*in litt.*) describes the Hoyt's as being "conspicuous amongst the Northerns" with its "white supercilium, forehead, throat and breast; the latter two features showing just the faintest hint of yellowish wash". In addition, Don Sutherland (*in litt.*), Paul Pratt and Alan Wormington visited a feeder in Leamington in February 1982, "where a wintering flock of Horned Larks contained many *praticola* and two *hoyti* amongst the predominant *alpestris*. There, compared side by side, the *hoyti* dwarfed the otherwise similar *praticola*, and seemed larger and distinctly paler than *alpestris*." However, the paler colour may only be obvious when the birds are compared side by side.

Dates for Hoyt's in southern Ontario, based on specimens in the Canadian Museum of Nature, range from 22 September to 26 May (Bruce Di Labio, pers. comm.).

### Saskatchewan Horned Lark (*E. a. enthymia*)

This pale subspecies of the Prairie Provinces is listed by the AOU (1957) and Godfrey (1986) for extreme western Ontario, based on Snyder (1938). However, James (1991) states, "The birds from western Rainy River, considered by Snyder (1938) to be *enthymia* from the central prairies, are darker than birds from Manitoba, and scarcely lighter than birds from southern Ontario. The western birds may be somewhat intermediate, but are more like *praticola* than *enthymia*, in my estimation." Therefore *enthymia* is not listed for Ontario (James 1991).

Nevertheless, observers in the Rainy River area should check flocks of smaller Prairie Horned Larks for similar-sized but very pale Horned Larks suggestive of *enthymia*. See the illustration (poor quality) on page 295 in the National Geographic Guide (Scott 1987).

## Intergrades

Subspecies (races) are not species and by definition interbreed freely where their ranges meet. Intergrades are birds showing characteristics intermediate between two subspecies (Earl Godfrey, pers. comm.). Most breeding birds along the Ontario coast of Hudson Bay are intergrades between *alpestris* and *hoyti*. James (1991) states, "Birds from northern Ontario may be similar to either *hoyti*, paler yellowish about the head with a less vinaceous colour, or to *alpestris*, with strong yellows and darker backs. Most, however, are intermediate with rather paler yellows and more vinaceous backs." Therefore one may encounter intergrades in southern Ontario, but most migrants should be either pure *alpestris* or pure *hoyti* because the large populations of each subspecies greatly outnumber the much smaller population of intergrades. This is borne out by specimens in the Canadian Museum of Nature (Michel Gosselin, pers. comm.).

## Summary

The identification of Prairie and Northern Horned Larks is usually straightforward in southern Ontario where most larks are either one or the other. Hoyt's Horned Lark is a rare to uncommon migrant and winter visitor to southern Ontario, normally found associating with flocks of Northerns. Hoyt's is a large subspecies like the Northern, but very similar in appearance to the smaller Prairie, and should be identified with caution. The identification of subspecies should be based on a number of characteristics taken together. Be aware of intergrades, and remember, you just cannot identify all birds to subspecies!

## Acknowledgements

I thank David Agro (Academy of Natural Sciences of Philadelphia), Peter Burke, Bill Crins, Bruce DiLabio, Earl Godfrey, Michel Gosselin (Canadian Museum of Nature), Jean Iron, Ross James (Royal Ontario Museum), Dennis Rupert, Don Sutherland, Ron Tozer, Mike Turner and Alan Wormington for much valuable advice and assistance. A study such as this is only possible because of the information gained from the staff and collections at the Canadian Museum of Nature, the Royal Ontario Museum and the Academy of Natural Sciences of Philadelphia. Once again, I am indebted to Peter Burke for his marvellous illustrations and strong support for the concept of recognizable forms.

## Literature cited

***American Ornithologists' Union.*** 1957. Check-list of North American Birds, 5th Edition. American Ornithologists' Union, Washington, D.C.

***Bent, A.C.*** 1942. Life Histories of North American Flycatchers, Larks, Swallows, and Their Allies. United States National Museum Bulletin 179. Washington, D.C.

***Devitt, O.E.*** 1967. The Birds of Simcoe County. The Brereton Field Naturalists' Club, Barrie, Ontario.

***Farrand, J.F. Jr. (Editor).*** 1983. The Audubon Society Master Guide to Birding. Volume 2. Alfred Knopf, New York.

***Godfrey, W.E.*** 1986. The Birds of Canada. Revised Edition. National Museum of Canada. Ottawa.

***James, R.D.*** 1991. Annotated Checklist of the Birds of Ontario. Second Edition. Life Sciences Miscellaneous Publications, Royal Ontario Museum, Toronto.

*Manning, T.H.* 1952. Birds of the West James Bay and Southern Hudson Bay Coast. Bulletin No. 125, National Museum of Canada.

*Manning, T.H.* 1981. Birds of the Twin Islands, James Bay, N.W.T., Canada. Syllogeus No. 30, National Museums of Canada.

*Peters, J.L.* 1960. Checklist of the Birds of the World. Volume 9. Harvard University Press, Cambridge, Massachusetts.

*Peterson, R.T.* 1980. A Field Guide to Eastern Birds. Houghton Mifflin Company, Boston.

*Pyle, P., S.N.G. Howell, R.P. Yunick, D.F. DeSante.* 1987. Identification of North American Passerines. Slate Creek Press, Bolinas, California.

*Ridgway, R.* 1907. The Birds of North and Middle America. Bulletin of the United States National Museum, No. 50. Smithsonian Institution, Washington, D.C.

*Roberts, T.S.* 1955. The Birds of Minnesota. University of Minnesota Press, Minneapolis.

*Sadler, D.* 1983. Our Heritage of Birds, Peterborough County in the Kawarthas. Orchid Press, Peterborough, Ontario.

*Scott, S.L. (Editor).* 1987. Field Guide to the Birds of North America. National Geographic Society, Washington, D.C.

*Snyder, L.L.* 1938. A faunal investigation of western Rainy River District, Ontario. Transactions of the Royal Canadian Institute 47: 157-213.

*Taverner, P.A.* 1937. Birds of Canada. The National Museum of Canada. Ottawa.

*Todd, W.E.C.* 1963. Birds of the Labrador Peninsula and Adjacent Areas. Carnegie Museum and University of Toronto Press.

*Tozer, R.* 1994. Checklist and Seasonal Status of the Birds of Algonquin Provincial Park. Algonquin Park Technical Bulletin No. 9. The Friends of Algonquin Park, Whitney, Ontario.

*Tozer, R.G., and J.M. Richards.* 1974. Birds of Oshawa-Lake Scugog Region, Ontario. Published by the Authors.

*Weir, R.D.* 1989. Birds of the Kingston Region. Quarry Press, Kingston, Ontario.

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# *Notes*

## Blue-gray Gnatcatcher Killed by Entanglement on Burdock

by
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There have been several recent publications on the subject of entanglement of small birds on the heads of Common Burdock (*Arctium minus*). McNicholl (1988) reviewed the literature to that date, unearthing a surprising number of documented occurrences. Not surprisingly, very small birds were the most usual victims, with more recorded instances for the Golden-crowned Kinglet (*Regulus satrapa*) than for any

other species. However, birds as large as a Solitary Vireo (*Vireo solitarius*) have also been trapped (McNicholl 1988), as well as small bats. This note records the death by this cause of a Blue-gray Gnatcatcher (*Polioptila caerulea*), a species not previously documented as a victim.

On 21 August 1993, at the Mountsberg Wildlife Centre near Campbellville, Ontario, I found the corpse of a Blue-gray Gnatcatcher caught by its legs and belly-feathers on a burdock head (Figure 1). The plant was about one metre high, growing beside a patch of scrub between Mountsberg Lake and some cultivated fields. The body was fairly mummified and had clearly been there for at least a week and possibly longer. Due to the state of the specimen, the age and sex of the bird could not be determined, although it lacked the black forehead of an adult male. The wing-length (51 mm) was not helpful.

The Blue-gray Gnatcatcher is a regular but rather sparse breeder in southern Wellington County. It has become substantially more common in recent years.

## Literature cited

***McNicholl, M.K.*** 1988. Bats and birds stuck on burdock. Prairie Naturalist 20: 157-160.

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Figure 1: Blue-gray Gnatcatcher entangled on Common Burdock, Mountsberg Wildlife Centre. Photo by *A. David Brewer.*

# Additional Records of Birds Caught on Burdock

by
Martin K. McNicholl

As noted by Brewer (1994), I prepared a review of instances of bats and birds caught on burdock (*Arctium* spp.) a few years ago (McNicholl 1988). The review was stimulated by the publication of several short notes on specific instances by authors who were able to find no or few references to similar observations. The only publication to that time which cited several other records was that of Taylor and Cameron (1985). Because most of the records I had found were published in regional and even more localized serials, I surmised that my review was probably incomplete. Since my initial review, I have located several additional instances, including records of two species (Blue-gray Gnatcatcher and Magnolia Warbler) not mentioned in the earlier review. The purpose of this note is thus to update the earlier review.

I urge other observers to record such instances, as other small species may also be susceptible to getting stuck on the seeds of burdock. Although I have not yet found any records of wrens stuck on burdock, Hampson (1970) reported a House Wren (*Troglodytes aedon*) that successfully freed itself from entanglement in Beggars Lice (*Hackelia virginiana*).

As Scoggan (1979) indicates that four species of burdock have been reported from Canada (all including Ontario), all introduced from Europe or Eurasia, I have not assumed that any particular species was involved. Common Burdock (*Arctium minus*) is the species most frequently mentioned specifically in the literature that I have reviewed to date.

**Ruby-throated Hummingbird**
(*Archilochus colubris*)

In my earlier review, I listed two records, involving at least three birds reported from New York and Ontario. I accidentally omitted another record of a female found dead on a burdock at Shirley's Bay, near Ottawa, Ontario by Douglas Craig on 1 September 1985 (Di Labio 1986).

**Black-capped Chickadee**
(*Parus atricapillus*)

In my earlier review, I listed two records of one bird each reported from Ontario and at an unspecified location. In addition, Richard Tuft found a dead Black-capped Chickadee in Syracuse, New York on an unspecified date (Stegeman 1953).

**Red-breasted Nuthatch**
(*Sitta canadensis*)

One record of one bird has been reported from Massachusetts (McNicholl 1988).

**Golden-crowned Kinglet**
(*Regulus satrapa*)

In my earlier review, I listed one record from each of Illinois, Massachusetts and New York, and

four records from Ontario. All involved one or two birds except that the Illinois report involved "scores" found stuck to burdock by Floyd Hartman and James G. Needham (Needham 1909). In addition, I overlooked a record of a male found dead on *Arctium lappa* at the George C. Reifel Migratory Bird Sanctuary at Delta, British Columbia by Val McLeod on 4 February 1974 (Dawe 1974). More recently, Kubisz (1989) reported finding a female caught on a burdock in Resources Road Ravine, Toronto in early May 1989. Barbara Charlton (pers. comm., 18 October 1991) found and released a male from a burdock at Winona, Ontario on 12 October 1991 and reported that George Naylor had found one dead on burdock there a day or two earlier.

**Ruby-crowned Kinglet**
(*Regulus calendula*)

In my earlier review, I noted one record from North Dakota. In addition, Baillie (1944) reported that H.C. Bliss found a mummified Ruby-crowned Kinglet stuck on burs in Haliburton, Ontario in October 1943. In addition to burdock, Beggars Lice has trapped at least one Ruby-crowned Kinglet, apparently in Illinois (Hampson 1970).

**Blue-gray Gnatcatcher**
(*Polioptila caerulea*)

As documented in an accompanying note, Brewer (1994) discovered a dead gnatcatcher stuck to burdock near Campbellville, Ontario on 21 August 1993.

**Solitary Vireo**
(*Vireo solitarius*)

The only record I located was that of Taylor and Cameron (1985) in Ottawa, Ontario.

**Warbler** sp.

In addition to the warblers listed below, Stegeman (1953) and Stensaas (1989) each reported finding one dead warbler of undetermined species stuck on a burdock on an unspecified date in Syracuse, New York and in September 1987 in Duluth, Minnesota, respectively.

**Magnolia Warbler**
(*Dendroica magnolia*)

After my earlier review was published, I discovered a record of a Magnolia Warbler found struggling on a burdock in Syracuse, New York on 20 September 1969 (Burnett 1970). The bird flew off after Burnett released it.

**Yellow-rumped Warbler**
(*Dendroica coronata*)

There is one report involving one bird in New York (McNicholl 1988).

**Common Yellowthroat**
(*Geothlypis trichas*)

There is one report of one victim in New Jersey (McNicholl 1988).

**Pine Siskin**
(*Carduelis pinus*)

There is one report of one trapped bird in New York (McNicholl 1988).

**American Goldfinch**
(*Carduelis tristis*)

In my earlier review, I listed two reports of one bird each in New York, one report of one bird in Ohio, and one report of an unspecified number of birds in Ontario. In

addition, Kelsey (1970) published a photograph of a dead goldfinch entangled in burdock on an unspecified date in an unspecified location with the remark that such deaths were not unusual.

### Acknowledgements

Susan Morsean of the Wilson Ornithological Society's Josselyn Van Tyne Library kindly supplied me with a copy of Burnett (1970). I thank Barbara Charlton for sharing her kinglet observations and David Brewer for writing up his gnatcatcher observation to accompany this note.

### Literature cited

*Anglin, L.* undated (1992). Birder Extraordinaire: The Life and Legacy of James L. Baillie (1904-1970). Toronto Ornithological Club and Long Point Bird Observatory, Toronto.

*Baillie, J.L. Jr.* 1944. How birds die. In Birdland No. 657, Toronto Evening Telegram 4 March 1944: 13; also reprinted in Anglin (undated (1992)): 69-70.

*Brewer, A.D.* 1994. Blue-gray Gnatcatcher (*Polioptila caerulea*) killed by entanglement on burdock (*Arctium minus*). Ontario Birds: 12: 115-116.

*Burnett, C.* 1970. Magnolia Warbler caught in burrs. Kingbird 20: 73.

*Dawe, N.K.* 1974. Golden-crowned Kinglet death on burdock. Murrelet 55: 29.

*Di Labio, B.M.* 1986. Another victim of burdock. Trail & Landscape 20: 29.

*Hampson, J.* 1970. A kinglet tragedy. Inland Bird Banding News 42: 79.

*Kelsey, P.M.* 1970. You think you've got troubles. Conservationist 24(5): 33.

*Kubisz, M.A.* 1989. Burdock as a hazard to Golden-crowned Kinglets and other small birds. Ontario Birds 7: 112-114.

*McNicholl, M.K.* 1988. Bats and birds stuck on burdock. Prairie Naturalist 20: 157-160.

*Needham, J.G.* 1909. Kinglets captured by burdocks. Bird-Lore 11: 261-262.

*Scoggan, H.J.* 1979. The flora of Canada. Part 4 - Dicotyledoneae (Loasceae to Compositae). National Museum of Natural Sciences Publications in Botany 7 (4), National Museums of Canada, Ottawa.

*Stegeman, L.C.* 1953. Burdock and bird. Nature Magazine 46: 192.

*Stensaas, M.* 1989. Warbler entangled in burdock. Loon 61: 49.

*Taylor, R. and A. Cameron.* 1985. Burdock claims avian victim. Trail & Landscape 19: 208-211.

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# A Probable Wood Duck x Ring-necked Duck hybrid in Ontario

by

Bruce M. Di Labio and Michel Gosselin

Hybridization is a well-known phenomenon in birds; nearly 10% of all bird species are known to hybridize in the wild. In ducks and geese (the Anatidae), over 40% of the species have hybridized. This is the highest proportion in any bird family, and the figures are even more staggering when hybrid Anatids produced in captivity are taken into account (Grant and Grant 1992). Many factors have apparently contributed to the high proportion of hybrids reported among Anatidae: the

mating system of these birds, and the fact that females sometimes lay in the nests of other species are particularly important ones (Sibley 1957, Sibley 1994). The large number of ducks and geese which are handled each year by hunters and wildlife biologists, and the ease with which Anatids can be examined and identified to species in the field, have also certainly helped to increase the reports of hybrids.

In the wild, most hybrid pairings among ducks involve species of the same genus (congeners), but there are instances of inter-generic pairings (Grant and Grant 1992). Care has to be used when assessing occurrences of inter-generic hybrids, because the real phylogenetic affinities of several groups of species are poorly understood; the dendrograms of Sibley and Ahlquist (1990), for example, show that some of our current "genera" are inaccurate indicators of the real genetic distance between bird species.

**The Casselman hybrid**

On 2 June 1986, B.M. Di Labio found a duck that showed characters of a hybrid Wood Duck (*Aix sponsa*) x Ring-necked Duck (*Aythya collaris*) at the Casselman sewage pond in Russell County. The square tail and slightly raised rear-end were reminiscent of a Wood Duck, while the bill and body coloration pointed to a Ring-necked Duck. The bird was not closely associated with any of the dabblers present, and no Wood Ducks or Ring-necked Ducks were on the pond at that time of the year. In the hand (Figure 1), the bird proved to be an adult male, with many of the plumage features intermediate between the presumed parent species. The irides were yellow with a dusky inner ring, and the legs were yellowish-flesh, with darker joints and dusky webs. The specimen is now deposited in the Canadian Museum of Nature under catalogue number 83683.

The head of this bird bears the white chin spot and bill markings of the Ring-necked Duck. The breast displays a mixture of brown and blackish mottling, merging in the belly and flank pattern. As in the Ring-necked Duck the flanks show vermiculations, which extend over the entire belly in an attenuated form. Primaries are lighter, as in the Ring-necked Duck, while secondaries and secondary coverts are overlaid with the greenish sheen as in the Wood Duck; only a few small terminal white tips are present on the secondaries. The three penultimate primaries are widely emarginated, as is the case in the Wood Duck. The tail has the colour and shape of a Wood Duck tail, although its size (62 mm) is intermediate between the average for Wood Duck (102 mm) and Ring-necked Duck (58 mm) - all measurements are from Godfrey (1986). At 42 mm, bill length is also intermediate between the Wood Duck (33 mm) and Ring-necked Duck (48 mm). Some characters, however, are not present in either of the presumed parents, like the pale cheek pattern intersected by a "negative" of the male Wood Duck face pattern, a feature often seen in the hybrid progeny of Wood Ducks (E. Gillham, pers. comm.). The brown back and underwings are also absent in both presumed parent species. The wing measurements of the Casselman hybrid (180.4 mm) are below the mean for both the Wood Duck (223

mm) and the Ring-necked Duck (195.6 mm), although the Ring-necked Duck is our smallest *Aythya*.

In short, the diagnostic shape and coloration of the wings and tail clearly point to the Wood Duck as one of the parent species. The closely related Mandarin Duck (*Aix galericulata*), common in aviaries, has never produced viable hybrids with any duck other than the Wood Duck, apparently because of its peculiar chromosomal arrangement (Johnsgard 1968). The combination of small size, white chinspot, bill, upperparts, and flank coloration point to the Ring-necked Duck as the most likely second parent of the Casselman hybrid.

Although the Wood Duck is known to hybridize with other *Aythya* species in the wild and in captivity, this is apparently the first instance of hybridization between the Wood Duck and the Ring-necked Duck (Panov 1989). We follow Gillham (1993) in regarding all hybrids as probable unless the actual parents are known, or unless the aspect of the hybrid has previously been documented from birds of known parentage.

**Acknowledgements**

We thank Eric Gillham for his useful comments and information on hybrid ducks.

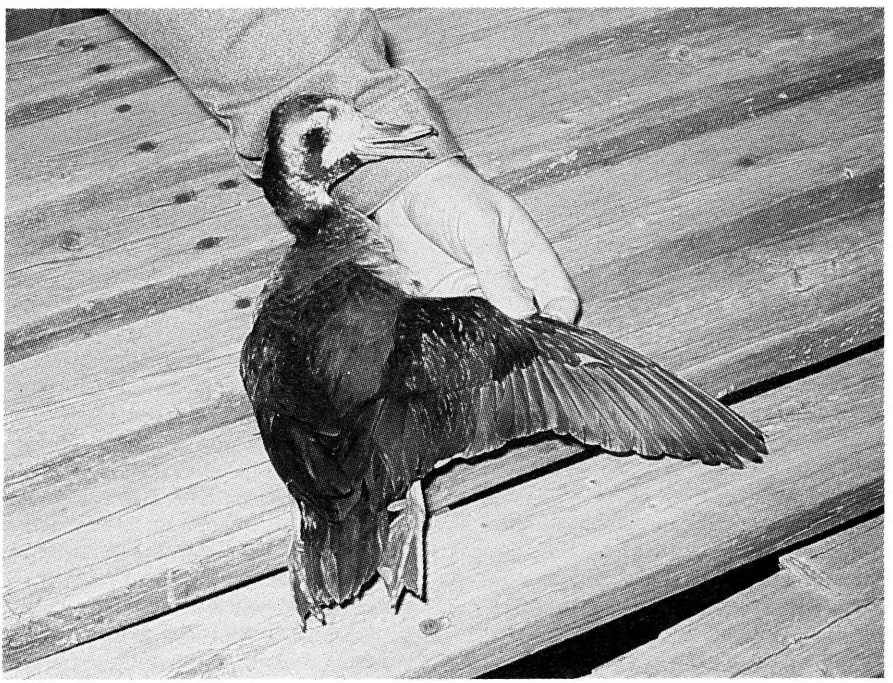

Figure 1: The Casselman hybrid in the hand. Photo by *Bruce Di Labio.*

## Literature cited

*Gillham, E.* 1993. Some unusual hybrid ducks. Avicultural Magazine 99: 35-42.

*Godfrey, W.E.* 1986. The Birds of Canada. Second Edition. National Museum of Canada, Ottawa.

*Grant, P.R. and B.R. Grant.* 1992. Hybridization of bird species. Science 256: 193-197.

*Johnsgard, P.A.* 1968. Some putative Mandarin Duck hybrids. Bulletin of the British Ornithological Club 88: 140-148.

*Panov, E.N.* 1989. Natural Hybridization and Ethological Isolation in Birds. Nauka, Moscow.

*Sibley, C.G.* 1957. The evolutionary and taxonomic significance of sexual dimorphism and hybridization in birds. Condor 59: 166-191.

*Sibley, C.G. and J. Ahlquist.* 1990. Phylogeny and Classification of Birds. Yale University Press, New Haven.

*Sibley, D.* 1994. A guide to finding and identifying hybrid birds. Birding 26: 162-177.

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# White-throated Sparrow Scavenges Carcass of Conspecific

by
Anthony L. Lang

The food of the White-throated Sparrow (*Zonotrichia albicollis*) usually consists largely of insects, seeds, and fruit (Lowther and Falls 1968, Ehrlich et al. 1988). Here I report on a White-throated Sparrow feeding on an unusual food source: the carcass of a conspecific. I also speculate that the choice of this food source resulted from a local scarcity of the usual food of this species.

On 17 May 1994 at about 09:30h, in a small parkette at the base of First Canadian Place, a tall office tower in the downtown business district of Toronto, Ontario, Canada, I observed a White-throated Sparrow feeding on the remains of another bird. The carcass had been mostly eaten when I began the observations so it is impossible to determine how much was consumed by the White-throated Sparrow. The sparrow picked flesh from the carcass until I approached to identify the species represented by the remains. At that time I determined that the carcass was that of a White-throated Sparrow. Given the type of bill that the White-throated Sparrow has, it is unlikely that it was able to break the skin of a complete carcass. Rather, it is more probable that the bird was preyed upon or scavenged by a domestic cat, Ring-billed Gull (*Larus delawarensis*), American Crow (*Corvus brachyrhynchos*), or Common Grackle (*Quiscalis quiscula*), which consumed

most of the carcass. A Common Grackle was frequently observed to prey on migrant passerines in this parkette in the spring of 1992 (Davidson 1994). Although White-throated Sparrows will eat dog food in captivity (J.B. Falls, pers. comm.), there are no reports of this species eating the remains of vertebrates in the wild.

The sparrow's use of this extraordinary food source may have been due to the lack of accessible sources of this species' usual types of food. The parkette is small (approximately 36 x 30 m) and only about half of the area is covered with grass, shrubs, or trees (Davidson 1994). It is also surrounded by office towers in excess of 50 storeys in height, which probably severely restrict movements of migrant birds out ot the parkette. Given that there were approximately 10 to 30 migrant passerines in the parkette on days prior to observation (pers. obs.), the rate of consumption of insects, seed, blossoms, and fruit by these and resident birds at that time of year could often have exceeded the rate of replenishment. Therefore, the small size of the park and its use by a relatively large number of stranded migrants probably led to a food shortage. This in turn would have forced the White-throated Sparrow to search for alternative sources of food and thus to scavenge the carcass of a member of its own species.

### Literature cited

***Davidson, A.H.*** 1994. Common Grackle predation on adult passerines. Wilson Bulletin 106: 174-175.

***Ehrlich, P.R., D.S. Dobkin, and D. Wheye.*** 1988. The Birders' Handbook. Simon & Schuster, New York.

***Lowther, J.K. and J.B. Falls.*** 1968. *Zonotrichia albicollis* White-throated Sparrow, pp. 1364-1392 *In:* A.C. Bent (O.L. Austin Jr. (ed.) ), Life Histories of North American Cardinals, Grosbeaks, Buntings, Towhees, Finches, Sparrows, and Allies. Part 3, United States National Museum Bulletin 237. Washington, D.C.

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# *Book Reviews*

***Finches and Sparrows: An Identification Guide.*** 1993. By *Peter Clement*, illustrated by *Alan Harris* and *John Davis*. Princeton University Press, Princeton, New Jersey. Hardcover, 500 pages, 73 colour plates and 281 range maps plus line drawings. $76.95 Canadian.

This book is one of the latest in a series which includes such classics as *Seabirds, Shorebirds, Waterfowl, Swallows and Martins* and most recently *Warblers*. These extremely detailed and comprehensive identification guides are syntheses of the current knowledge on each group from worldwide sources.

In *Finches and Sparrows*, 290

species in three mainly Old World families, Fringillidae, Estrildidae and Passeridae, are beautifully illustrated. Well-marked subspecies and morphs are also depicted. The 73 colour plates are grouped at the beginning of the book. On the opposite pages are colour-coded range maps and key descriptions of adult male, adult female and juvenile of each species. For more information, the reader is referred to the detailed species accounts on identification, plumages, subspecies, voice, habitat, behaviour, status, distribution, measurements and selected references. The artwork is magnificent. However, in a few species the shapes are off, for example, the Pine Grosbeaks on Plate 31 are too chunky and big-headed and their bills are too heavy.

The title of the book is somewhat misleading to North Americans because our native sparrows (subfamily Emberizinae) like the Song Sparrow and Vesper Sparrow are not included since they are not true sparrows. Our North American sparrows are in fact "buntings", but I'm not advocating changing the names! Clement reserves the name sparrow for the true sparrows in the family Passeridae such as the introduced House Sparrow and European Tree Sparrow. The book includes familiar winter finches such as Evening Grosbeak, Purple Finch, Pine Grosbeak, redpolls, crossbills, etc. The three North American Rosy-Finches that were re-split in 1993 by the American Ornithologists' Union are considered one species with the Old World forms. Also included are well-known cagebirds like the Java Sparrow and Zebra Finch, and other Eurasian, Australian and African finches. Therefore the book is useful for identifying escaped cagebirds.

There are a few minor errors. For example, the sexes of adult Common Redpolls of the nominate subspecies are not alike as stated on page 243, and Godfrey's *The Birds of Canada* is listed throughout the text as having been published in 1979 instead of 1966 (first edition) or 1986 (revised edition).

I would have preferred more information on plumage and molt. Species like the American Goldfinch that have a pre-breeding molt and distinctive breeding plumage are described in the same way as species that acquire their breeding dress through wear such as redpolls. In many cases, Clement does not distinguish clearly between juvenile (first covering of feathers before molt) and first year plumages.

It is difficult to recommend this expensive book to strictly North American birders because only 20 or so out of the 290 species are found here. Notwithstanding, this beautiful and brilliant reference work should be in the libraries of all well-travelled birders and those who yearn to be.

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***Birds of Tropical America*** A watcher's introduction to behaviour, breeding and diversity. 1994. By *Steven Hilty*. Chapters Publishing Ltd., Shelburne, Vermont 05482. Softcover, 304 pp. $12.95 Canadian.

While visiting a Toronto book store recently I was surprised to see this book, along with seven others of its kind, in the usual nature field guides section. The title immediately appealed to me; indeed, when I saw the name of the author with whom I was familiar because of a few path-crossings in several neotropical countries, I knew that I wanted it. For the past two decades Steve has led birding tours throughout South and Central America for Victor Emanuel Nature Tours. His previous book, *A Guide to the Birds of Colombia*, has been praised by Robert Ridgely, author of the *Birds of Panama*, when he stated "No other book on neotropical birds comes close to this one".

Last week, fully armed with my new book, a tooth brush and shaver, I confidently headed into our local hospital prepared for abdominal surgery. After a few hours of regaining consciousness, I took up the book and was immediately transported once again to the thrill and excitement of tropical birding. The back cover title, I realized, was truthful when it said "The Book That Picks Up Where Field Guides Leave Off!"

After almost twenty-five years of birding the neotropics, during which time I achieved a fair list of birds (and field guides!), I have found that I wanted to learn more about the lives of those birds. I never got the answers to many questions that I had in the field, as a new bird sighting immediately after would cause me to forget.

The author confesses that, because tropical environments are enormously complex and dynamic, it is often difficult to answer even simple questions of those environments. With a Ph.D. in Zoology and his vast experience he answers most to my satisfaction as each page contains several thought-provoking items and loads of information.

I've often wondered why I have had many sightings of King Vultures that appeared as mere dots in the sky whereas I have seen five in a nearby tree on just one occasion? Why do they fly so high? Why were there so many more colourful large birds in the tropics? As the majority of tropical birds are dull in colour, why do drab, sparrow-sized antbirds never leave their dark, forest floor habitat? Answers to these and hundreds of others are contained in this book.

There are many enlightening statements regarding our North American migrants, as well .. One that surprised me concerned our Eastern Kingbird, fearless during his northern nesting period, as he easily scares off crows and blackbirds from his often exposed nest site, Hilty says that the kingbird pugnacity is traded for docile subordination to virtually all of its tropical relatives, and its territoriality is traded for a period of nomadic wandering. Gathering in large flocks, nervously acting like waxwings that wheel and turn on a dime, they plunge into giant fruiting trees. Humph! Their winters are spent as fruit-eaters!

In that I hope I have you hooked on getting this book to read, may I add a last personal and unforgettable observation regarding Eastern Kingbirds? On 1 April 1970, along with my long-time birding companion, Norm Chesterfield of Wheatley, Ontario, I stood at the top of Cerro Azul, a hill near Panama City, where, after stepping out of a bus, we gazed down in the valley below us to see a wide swath of Eastern Kingbirds flying north and extending in both directions as far as the eye could see. This lucky observation had to take place between its crowded, Amazon basin winter home and our open, green areas where it chooses to nest.

This book has no glossy pages, only information-crammed text. I make no apologies for making this review sound more like a eulogy of Steve Hilty's work than a critique. It's excellent and the price is unlike that of other tropical bird books!

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# *Photo Quiz*

by
Bob Curry

Most readers will quickly have identified last issue's quiz waterbird with the stout dagger-like bill as a loon. In addition to the fairly obvious overall impression, only grebes and loons have the feet set so far back on the body. Grebes have much less impressive bills and are more delicately proportioned especially in the head and neck area than is this bird. But which loon is it?

Red-throated Loon is a more finely built bird with a serpentine head and neck. Almost always the bill of Red-throated is more delicate with a straight culmen and a lower mandible which sweeps upward. This shape coupled with a head and bill which are held up at an angle to the horizontal lend it a unique profile allowing for at least probable identification at great distances over the water. Moreover the white forepart of the throat and neck extend well onto the sides and the crown and nape are pale grey which give the entire head and neck an almost ghostly pale appearance. If all this is not enough, at close range such as our subject bird, the back is finely spotted with white on juvenile and winter plumaged Red-throated Loons.

Great care must be taken if one believes one has a small loon which may be a Pacific/Arctic. Hereafter, I will use the appelation "Pacific", the only one of this species-pair known to occur in Ontario. Some loons — probably juveniles — can appear

remarkably smaller and more delicate than all others in the vicinity (or, worse still, a single bird may appear to be very small). Light feather margins can give juvenile Pacific a scaly appearance like the photo bird. However, the bill of Pacific would be slimmer and less robust than ours with no angle of gonys on the lower mandible although, it must be admitted, there is precious little gonydeal angle on our bird. More importantly the entire head and neck plumage is different from this. There is a smooth, sharp demarcation between the black of the side of the neck and the white foreneck in Pacific — not "bays" of white extending into the dark and at least one "peninsula" of dark penetrating the white foreneck. The black of the sides of the head extend down to include at least the upper half of the eyes so that there is never an eye surrounded by white in Pacific. The overall effect is of a sharp clean crisp appearance in Pacific as opposed to a fuzzier effect in Common Loon. The crown and nape of Pacific Loon is a lovely soft grey and the head seems puffy like that of an aroused cobra. In fact the head profile tends to be more rounded and softer than on Common Loon without the angles fore and aft of a more flattened crown.

So we have a large loon that is quite pale in appearance and has a whitish looking bill. Do we have a Yellow-billed (*Gavia adamsii*)? Before rushing to the nearest telephone let's take a deep breath and check out some details. The whitish-buff margins on the back feathers of Yellow-billed are very broad and the overall effect is of a series of transverse scalloped bars. The colour of the head and neck is a pale brown with extensive dirty white areas posterior to the eyes and on the sides of the neck. Almost always there is a black smudge or vague spot of dark in the ear coverts set against this lighter ground colour. The head shape of *adamsii* is even more angular than in Common Loon (*G. immer*) with sometimes a kind of raised "bump" at the anterior and posterior ends of the crown. Several bill characteristics are diagnostic in distinguishing the two large loons. Common Loon in winter has a bluish white bill whereas in *adamsii* it is a creamy white. More important, in *adamsii* just the base of the bill may be brownish or blackish with the entire culmen, save for about the basal one quarter, unmarked. In *immer* at least the distal half of the culmen ridge is blackish.

Usually the culmen in *adamsii* is straight and there is a more pronounced angle of gonys although both these features are less developed in young birds. Yellow-billed holds its bill upwards in the manner of Red-throated which accentuates the differences in bill character from *immer*.

As is the case in all similar appearing birds a combination of characters is required to clinch identification. Such a combination leads us to the inevitable conclusion that the quiz bird is a juvenile **Common Loon**. If you wish to read more about loon identification I can recommend two excellent articles which have appeared in *British Birds* (Appleby et al. 1986, Burn and Mather 1974).

## Literature cited

*Appleby, R.H., S.C. Madge and K. Mullarney.* 1986. Identification of divers in immature and winter plumages. British Birds 79: 365-391.

*Burn, D.M. and J.R. Mather.* 1974. The White-billed Diver in Britain. British Birds 67: 258-296.

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**Editors' Note:**
Our next quiz species is a landbird!


OFO