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Breeding Records of Eared Grebe in Ontario

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INTRODUCTION

The Eared Grebe (*Podiceps nigricollis*) is the most numerous and widespread of the world's grebe species (del Hoyo et al. 1992). It comprises three subspecies. The nominate subspecies (*P. n. nigricollis*) breeds locally throughout much of Eurasia from Britain and southern Scandinavia east to western Siberia, and south to Iraq, Afghanistan, Manchuria, India and Pakistan. It also breeds in Africa from Morocco in the west to the Rift Valley from Ethiopia to northern Tanzania in the east (Cullen et al. 1999). Another subspecies (*P. n. gurneyi*) breeds in South Africa (Transvaal to Cape Province), Angola, Mozambique and Namibia (Harrison 1983, O'Donnel and Fjeldså 1997).

All Eared Grebes in the western hemisphere belong to a third subspecies (*P. n. californicus*) which breeds in Canada in the British Columbia interior (Okanagan Valley, Kootenay Region, Peace River lowlands) (Campbell et al. 1990); Alberta, east of the Rocky Mountains, as far north as Fort Vermillion (Semenchuk 1992); a disjunct population in southern Yukon (Jones 1985); southern Saskatchewan north to Kazan Lake and Nipawin (Smith 1996); southwestern Manitoba north to Shoal Lake (Salt and Salt 1976) and in extreme northwestern Ontario in the Rainy River area (Elder and Simms 1997). It breeds in the United States along the Canadian border between southeastern Washington (Smith 1996), Montana, North Dakota (Stewart 1975) and western Minnesota (Janssen 1987; Boe 1992, 1994) and south to northwestern Iowa (Dinsmore et al. 1984, Dinsmore 1996), central Nebraska (Johnsgard 1979), eastern Colorado (Nelson 1998), northwestern New Mexico (Hubbard 1978), northeastern Arizona (Monson and Phillips 1981), and west through Utah (Hayward et al. 1976), southern Idaho (Stephens and Sturts 1997), northern Nevada (Alcorn 1988), southeastern Oregon (Gilligan et al. 1994), and northeastern California and the Central Valley (Small 1994) southwest into northern Baja California (American Ornithologists' Union 1998). It has bred sporadically east to Wisconsin (Robbins 1991),

northwestern Illinois (Bohlen 1989) and central Texas (Oberholser 1974), and possibly Michigan (Adams 1991, Granlund 1991). Apart from the northwestern Mexico range, an isolated population also breeds locally in central Mexico (Dickerman 1969, Wilson et al. 1988).

In Ontario, the Eared Grebe was the last species of grebe to be added to the provincial bird checklist. Ontario's first record of Eared Grebe involved a pair of birds observed on 28 April 1948 by George W. North in Hamilton Bay, off Carroll's Point, Woodland Cemetery, *Hamilton-Wentworth* (Baillie 1957). In each subsequent decade, the number of Eared Grebe sightings in Ontario has increased, to the point where it is now considered a rare annual migrant in both spring and fall, an occasional winter straggler in the lower Great Lakes, and a rare summer resident at Rainy River (James et al. 1976, James 1991). In 1990, twenty-one records of Eared Grebe were noted in Ontario (Weir 1991). The first confirmed nesting of Eared Grebe in Ontario occurred at the Emo sewage lagoons, *Rainy River*, in 1996 when two young fledged from a single nest (Elder and Simms 1997).

In 2001, the authors discovered an Eared Grebe nest at the Emo sewage lagoons and two pairs of Eared Grebes performing courtship displays at the Rainy River sewage lagoons during field work on behalf of the second Ontario Breeding Bird Atlas (2001–2005). The purposes of this paper are to document this Eared Grebe nest, detail some aspects of breeding biology noted during these observations, and summarize the previous breeding records for Eared Grebe in Ontario.

OBSERVATIONS

Emo, *Rainy River*

David Elder discovered a pair of Eared Grebes in the east pond of the Emo sewage lagoons on 31 May 2001 prior to leading an Ontario Field Ornithologists trip in Rainy River (Roy 2002). He observed a pair of birds on the same lagoon on 2 June 2001.

On 3 June 2001 at 1230h, Glenn Coady visited the Emo sewage lagoons at the start of a two week field trip to the Rainy River area on behalf of the Ontario Breeding Bird Atlas. He noted an Eared Grebe foraging in the east pond, and while circling around the west side of that pond, flushed a second Eared Grebe from shore out into the pond. It emerged from the water in a very vertical fashion, beat both feet on the water sending up a visible spray, and submerged in a folding "crash dive" similar to that described by Cullen et al. (1999) as a frequent response to nest disturbance. A search of the area where the bird appeared to have flushed revealed a partially hidden nest with four eggs, partly covered with vegetation. The nest was a messy pyramidal platform of mud and wet vegetation on a bed of dead, bent-

over cattail (*Typha* sp.) leaves within a stand of living cattail, on the perimeter of the sewage lagoon, very close to the northwest corner of the east pond. It was placed less than a metre from the water's edge and was about 15 cm above the water surface, where the incubating adult could easily slip off into the water if disturbed. (Nest location: 15U 438024 5387558 North American Datum 1983; 48° 38' 16.8" N, 93° 50' 28.5" W.) The four eggs were white and showed some slight light brown staining. They were partially hidden by algae and wet cattail leaves. To minimize disturbance, no attempt was made to obtain nest or egg dimensions. The incubating bird quickly returned to the nest within ten minutes and about an hour later the other member of the pair assumed incubation duties. When not incubating, the birds spent the majority of the time foraging. They were often seen surface feeding or making a series of short (10–15 second) dives, often in the same favoured feeding location on the pond. Such short dive times are typical when foraging in shallow ponds (Sealy 1985). Eared Grebes consume a wide assortment of aquatic prey, primarily invertebrates such as insects (water boatmen, diving beetles, caddis fly larvae, brine flies, mayflies, midges, moths, damselflies, dragonflies) and small crustaceans (particularly brine shrimp in hypersaline environments). They will less frequently consume small fish, molluscs and amphibians (Cullen et al. 1999).

On 7 June 2001 at 1200h, Elder and Brian Ratcliff independently discovered this nest. Upon inspection, the nest was well covered with vegetation, with at least one egg clearly visible, however. On arrival, a pair of birds was present on the east pond and they saw one of the two disappear into the cattails at the west end. They retreated to view the birds with a scope and saw a grebe return to the nest area. When they examined this section of the pond, Ratcliff was able to detect the incubating bird leaving the covered nest.

On 7 June 2001 at 1400h, Coady returned to the Emo lagoons and noted both adult Eared Grebes still present and that the nest still contained four eggs. Both adult Eared Grebes were observed to harass a lone American Coot (*Fulica americana*) in the breeding pond, repeatedly attacking it from beneath the water surface, and eventually driving it out to the other lagoon, likely in defense of their nesting territory. The American Coot is the most prevalent predator of Eared Grebe nests, eating eggs or often damaging them to usurp unguarded nest sites (Boe 1993).

On 7 June 2001 at 1500h, Mark Peck, George Peck and Roy Smith also independently discovered this nest and noted that it contained four eggs. They did not observe the American Coot in either pond.

On 10 June 2001 at 1500h, Coady, the Pecks and Smith returned to Emo and observed the

Eared Grebe nest from a blind. Mark Peck obtained still photographs of the incubating adult at the nest (Figures 1 and 2) and of the nest and eggs (Figure 3). Coady similarly obtained videotape documentation of the nest. It was noted that the water level was perhaps a few centimetres lower than on 7 June, as the bird had to climb slightly higher to reach the nest and was videotaped requiring two attempts to make the climb successfully on one occasion. Eared Grebes also commonly build floating nests anchored to submerged or emergent vegetation over open water (Cullen et al. 1999). Clearly, this strategy poses advantages in terms of greater protection from both fluctuating water levels as well as ground-based mammalian predators, but leaves them at greater risk of nest failure due to wind damage, which is common (Boe 1994).

This same group of observers returned to Emo upon departure from the Rainy River area on 16 June 2001 at 0830h. One Eared Grebe was noted foraging in the nest pond and the other bird was assumed to be incubating. The water level of the pond did not appear appreciably different than it was on 7 June.

On 28 June 2001, Elder returned to Emo on the way to Winnipeg. He found that the water level in the east pond was down almost a metre in depth and that

Figure 1: Adult Eared Grebe incubating nest at Emo sewage lagoon on 10 June 2001. Photo by *Mark K. Peck*.

Figure 2: Adult Eared Grebe inspecting clutch of four eggs at Emo sewage lagoon on 10 June 2001. Photo by *Mark K. Peck*.

Figure 3: Nest and four eggs of Eared Grebes at Emo sewage lagoon on 10 June 2001. Photo by *Mark K. Peck*.

there was about a one-metre wide strip of mud between the water's edge and the nest site in the perimeter cattail bed. The Eared Grebes had abandoned this nest and were no longer present at the sewage lagoons.

In 2002, Elder discovered four Eared Grebes on the Emo sewage lagoons on 1 June, and two were still present on 7 June (Bain 2002), but no evidence of further nesting was discovered.

Rainy River, *Rainy River*

On 1 June 2001, Elder discovered four Eared Grebes in the Rainy River sewage lagoons (Roy 2002).

On 3 June 2001 at 1620h, Coady visited the Rainy River lagoons where four Eared Grebes were still present on the east pond. The four grebes were acting like two separate pairs, as they remained apart in different portions of the pond. Both pairs appeared to be engaged in courtship behaviour. In both pairs, the birds were repeatedly vocalizing and approaching one another, face-to-face, with necks erect and crests stiffly raised. One pair was seen to simultaneously rise up out of the water into a dance posture with crests erected, touching bills and chests in a manner consistent with the "Penguin Dance" detailed by Cullen et al. (1999). Between displays, members of each pair often engaged in ceremonial self-preening before their partners.

On 4 June 2001 at 1120h, Coady again observed four Eared Grebes (two pairs) actively courting in the east pond of the Rainy River lagoons. The birds were very vocal and were still performing dance ceremonies together. One pair performed a weed presentation display, where one partner gave nest material to the other. In ninety minutes of observation, no actual nest construction or copulation was observed, however.

On 5 June 2001 at 1030h, Coady again observed the two pairs of Eared Grebes performing courtship displays. Once, when the two pairs met near the centre of the pond, both members of one pair reared up and simultaneously charged across the water to drive the other pair back to the south end of the pond. Such hostile interactions between pairs are often quite common (McAllister 1958), most often in periods of synchronous egg laying. However, after 45 minutes of observation, no copulation nor construction of copulatory platforms or nests was observed.

On 6 June 2001 at 1130h, Coady found only a single pair of Eared Grebes at the Rainy River lagoons. It is not known whether the other pair had been driven out of the area. Eared Grebes are normally very gregarious and are usually colonial nesters, with territorial defense confined to the immediate nest area (Boe 1994). In fact, dense colonies can have nest platforms as close as 0.5 m apart, and sometimes even touching (Hill et al. 1997). The disappearance of the second pair is thus some-

what enigmatic. Courtship behaviour noted consisted mostly of preening displays by the remaining pair.

On 8 June 2001 at 1845h, Coady, Mark Peck, George Peck and Roy Smith visited the Rainy River sewage lagoons. On this visit, the lone remaining pair of Eared Grebes was still present on the east pond. Both birds were foraging simultaneously with no evidence of any nest incubation. The birds were silent and did not appear to engage in much courtship activity, often even foraging apart from each other. A thorough search of the perimeters of both ponds revealed no evidence of any Eared Grebe nest. Neither pond showed evidence of any emergent or submerged vegetation suitable for the building of floating nests. Further visits to these lagoons on 11 and 15 June failed to find any Eared Grebes present. It is unclear why neither pair of grebes nested at this location. Perhaps the lack of emergent vegetation for a floating nest was a factor. It is also possible they indeed attempted to nest and subsequently failed without detection. It has been shown that as little as three hours is sufficient time for nest platform construction by Eared Grebes (McAllister 1958).

In 2002, Elder discovered a lone Eared Grebe on 1 June at the Rainy River sewage lagoons. No evidence of any nesting attempt was discovered (Bain 2002). The repeated failure of Eared Grebes to nest at this location remains puzzling.

Discussion

All the known records of Eared Grebe in Rainy River District have been at these two sewage lagoons (Elder and Simms 1997). This might simply be a reflection of observer coverage bias in favour of such sewage lagoons versus more natural wetlands in the area. However, Cullen et al. (1999) noted that sewage treatment ponds were often the source of new breeding locations for Eared Grebe and this has been cited in the case of Minnesota (Boe 1992), Illinois (Bohlen 1989) and quite likely Michigan (Adams 1991, Granlund 1991). Thus far, the Ontario breeding records are entirely consistent with this phenomenon.

There may be several factors that explain why Eared Grebes demonstrate a preference for sewage treatment lagoons when colonizing new areas:

1) The combination of a lack of fish predators and unnaturally high nutrient loading may serve to provide highly abundant macroinvertebrate prey communities more similar to the conditions of ease of foraging on the hypersaline lakes upon which they have adapted to staging and wintering.

2) They present ponds of a preferred size, with mostly open water with emergent vegetation and treeless perimeters, often in areas where that preferred combination is in short supply among local natural wetlands.

3) They provide habitat that is less likely to be shared with their major predator, the American Coot, and likelier to avoid competition with Pied-billed Grebe (*Podilymbus podiceps*), a species which often harasses and excludes them (Wetmore 1920, Faaborg 1976).

4) Restricted human access and lack of any recreational pressures provide a habitat with less disturbance than similar local natural wetlands. Boe (1992) demonstrated that wetland selection in Minnesota was negatively associated with public access and recreational usage.

Reported Breeding Records of Eared Grebe in Ontario

The following records summarize the reported breeding records for Ontario, sorted by County or District. (Source: Ontario Nest Records Scheme):

Rainy River

Records of Eared Grebe at the Rainy River sewage lagoons go back to one observed on 1 June 1982 by Ron Tozer (James 1984a). On 29 May 1992, two Eared Grebes were observed at the Rainy River lagoons by Rob Parsons and David and Mary Elder (Weir 1992). By 5-6 June 1992, eight Eared Grebes were being observed there by Don Graham (Bain 1993). A first Ontario nest record seemed inevitable until hopes were dashed when the water levels in the lagoons were drastically lowered and the birds disappeared. A lone bird was recorded there later that summer on 25 June by Doug Sadler and A. Bigg (Ridout 1992). On 24 May 1996, Elder discovered two Eared Grebes on the Rainy River lagoons which remained a few days but once again failed to nest (Ridout 1996, Elder and Simms 1997). On 1 June 2001, Elder discovered four Eared Grebes again at this lagoon. From 3-5 June 2001, Coady observed these two pairs of grebes exhibit territorial and courtship behaviour, with one pair remaining until 8 June. Elder discovered a lone Eared Grebe there on 1 June 2002, but no evidence of breeding was observed. Despite such promise, none of these birds have ever provided any evidence of nesting. It is puzzling why these grebes continually fail to nest at this location.

1996 On 11 May, Elder and Roger Simms discovered an adult Eared Grebe in the Emo sewage lagoons. On 23 May, Elder and others observed two Eared Grebes in the east pond. On 31 May and 3 June, Coady observed two birds engaged in courtship activities and, on 7 June, advised Elder and Simms that he thought nesting was a good possibility. That evening at 1930h, Simms visited the Emo sewage lagoons and found a lone Eared Grebe sitting on a nest anchored to an emergent old clump of cattails. On 14 June at 1000h, Elder and Simms observed a lone adult still incubating this nest. On 22 June at 1215h, Simms observed one downy young on the back of one of two adults present. On 30 June at 1100h, Simms observed one adult with one young on its back and a second young in the water. On 6 July, an adult and one young were observed by Alan Wormington, Glenn Coady, Derick Sweeting and John Keenleyside. Wormington obtained photographs of these two birds to provide conclusive material evidence for Ontario's first nest record (Elder and Simms 1997). On 7 July at 1045h, Simms observed two young with both adults. On 9 July, Simms and Elder observed one adult with one nearly full-grown young. On 14 July at 1430h, Simms observed one adult and one young. On 18 August at 0945h, Simms saw two fully grown immature birds at the Emo lagoons with no adults present. There were

no subsequent observations of Eared Grebes despite a search by Simms on 25 August at 1015h.

1997 On 29 May, David and Mary Elder discovered an Eared Grebe on a nest in the middle of the east pond at the Emo sewage lagoons in virtually the same location as the 1996 nest. Another adult was observed foraging nearby. On 8 June, Roger Simms noted an adult on this nest and the other adult bringing vegetation to help maintain this nest. On 15 June, Simms observed that this first nest was gone but that the two adults were still present. By 18 June, Simms noted a second nest under construction by the two adults. It was near the centre of the east lagoon somewhat to the east of the first nest. On 23 June, Simms noted that this second nest appeared to be abandoned with a Wood Duck (*Aix sponsa*) on top of it. Nearby, he noted the two Eared Grebes constructing a third nest platform. On 27 June, Simms was unable to find this third nest but observed the pair of Eared Grebes initiating a fourth nest. On 28 June, Simms discovered an adult incubating this fourth nest and two additional adults, one attentive to the fourth nest and the other foraging nearby. On 6 July, Simms observed an adult still incubating the fourth nest, another adult incubating a newly discovered fifth nest and another adult foraging nearby. On both 13 and 14 July, Simms noted adults still incubating the fourth and fifth nests with two additional adults foraging nearby. On 20 July, Simms and Elder observed these same four birds and saw the bird incubating the fourth nest turning two whitish eggs. On 24 July, Simms noted one adult seen turning eggs at the fifth nest and nearby another adult was seen swimming with a downy young on its back. On 26 July, Simms noted that both the fourth and fifth nests were unoccupied but four adults were swimming in the east pond, two of which had two downy young each. On 27 July, Simms noted one pair of adults with two young swimming beside them, and a second pair of adults with one young swimming beside them and a second young on one adult's back. On 9 August, Simms noted two adults with four young foraging nearby. On 19 August, Simms observed two adults with four now rather large young foraging along with them. By August 23, Simms and Elder noted two adults and four young still present, and they had molted into winter/immature plumages that were beginning to become difficult to tell apart, particularly with the young being adult-sized. Two pairs of Eared Grebes were successful in raising two young each.

2001 Elder discovered a pair of Eared Grebes on the east pond of the Emo sewage lagoons between 31 May and 2 June. On 3 June, Coady discovered a nest and four eggs on the water's edge in the northwest corner of the east pond. This nest was independently discovered by separate parties of Elder and Brian Ratcliff followed by Mark Peck, George Peck and Roy Smith on 7 June. This nest (still with a clutch of four eggs) was documented with still photographs by Mark Peck and with videotape by Coady on 10 June. On the morning of 16 June, it appeared that this nest was still active. However, by 28 June, Elder found the water levels of the pond had dropped about a metre, leaving the nest location high and dry and deserted by the adult Eared Grebes. In 2002, Elder discovered that four Eared Grebes had returned to the Emo lagoons on 1 June, with two birds still present on 7 June. No evidence of nesting was obtained.

Lambton

1996 On 29 August, Alfred H. Rider discovered an adult Eared Grebe feeding a large juvenile in the Thedford sewage lagoons (Ridout 1997a). On 9 September, he observed the nearly fully grown juvenile Eared Grebe still being fed by an adult. These two birds were also observed by Peter Chapman (pers. comm.) and several

other observers. On 12 September, Rider last observed these two birds, although the juvenile bird was no longer being fed by this date. Several aspects of this occurrence make it quite compelling as a likely breeding record. Jehl (1997) demonstrated that Eared Grebes undergo extreme changes in body composition several times throughout the year, rendering them flightless for a greater period of time than any other North American bird. Throughout a majority of the year, most individual Eared Grebes may be capable of flight only for a few days prior to and after periods of migration. Consequently, Eared Grebes seldom fly except during migration. Migration is entirely nocturnal, with movement from breeding to staging areas with few, if any, stops. The distance a bird can cover on a leg of migration is limited by the length of the period of darkness on the date of migration, as these heavily wing-loaded birds are subject to heavy predation by avian predators if caught still migrating in daylight hours. Adults normally undergo a molt migration away from breeding areas prior to migration by their juveniles. This differential timing of migration was evident with the 1996 Emo nest. Cullen (1998) demonstrated that it is very uncommon for young Eared Grebes to receive bi-parental care after 10 days of age and any parental care at all after 20 days, and that subsequently, adult Eared Grebes normally leave their breeding wetlands before their young are capable of flight. Reviewing Rider's 1996 chronology of observations in light of these aspects of Eared Grebe biology would seemingly leave little likelihood of any explanation other than a local nesting at the Thedford sewage lagoons. Jehl (pers. comm.) concurred with this assessment of these observations. This record is significant not only because it extends the known breeding range into southern Ontario, but also because a search of the literature for jurisdictions south and east of the lower Great Lakes (Hall 1983, Leck 1984, Laughlin and Kibbe 1985, Kain 1987, Adamus 1988, Zeranski and Baptist 1990, Peterjohn and Rice 1991, Brauning 1992, Monroe 1994, Gauthier and Aubry 1996, Levine 1998, McWilliams and Brauning 2000) suggests that this record may represent the easternmost breeding record for North America.

1997 Adding further credence to the likelihood of a 1996 nesting by Eared Grebe at the Thedford sewage lagoons, Rider subsequently discovered a pair of adult Eared Grebes on 16 June, actively engaged in courtship displays for seven days before the presumed female disappeared (Ridout 1997b). It is also interesting to note that a very similar situation occurred in Midland County in Michigan on the opposite side of Lake Huron at similar latitude in 1990 (Adams 1991, Granlund 1991). A good example of another predominantly western species that exhibited such an ephemeral, extralimital breeding record in southern Ontario is the Cinnamon Teal (*Anas cyanoptera*), a nest of which was found at the Amherstburg sewage lagoons, *Essex*, on 24 June 1983, by Alan Wormington (James 1984b).

ANALYSIS

Banks and Clapp (1987) documented the recent increase in Eared Grebe sightings along the Atlantic and Gulf coasts and postulated that it represented either an increase in observer competence or a real expansion of winter range. A similar increase in Eared Grebe records has been noted in Ontario and jurisdictions from Wisconsin (Robbins 1991), Michigan (Adams 1991), Ohio (Peterjohn and Rice 1991), New York (Levine 1998), and Pennsylvania (McWilliams and Brauning 2000), to New Jersey (Leck 1984) in the last fifty years. It would seem likely that in this time period, a new wintering tradition

has developed among a small portion of the continent's Eared Grebe population.

Most of the breeding birds in the western part of the Eared Grebe's range migrate to staging areas in the hypersaline environments of Mono Lake, California, and Great Salt Lake, Utah, before migrating to wintering grounds in the Salton Sea and the Gulf of California. An analysis of banding recoveries from 1955-1984 (Jehl and Yochem 1986) showed that a much smaller portion of the breeding population from the eastern part of the breeding range winters in the Gulf of Mexico and northeastern Mexico. It would appear that the increase in records of Eared Grebe in the last 50 years from the provinces and states that border the lower Great Lakes through to the mid-Atlantic coast likely represents a new wintering tradition of a small portion of the population of the east part of the breeding range that migrates to staging areas on the lower Great Lakes and then on to wintering areas on the mid-Atlantic coast. An early recovery of an Eared Grebe banded as a nestling in southwest Saskatchewan on 13 August 1953 and recovered at Niagara Falls on 16 May 1954 (Jehl and Yochem 1987) illustrates how just such a tradition could be started by random vagrants. Such a new wintering tradition could conceivably exert a pull on the eastern limits of the breeding range. Additional species for whom very small portions of their prairie breeding populations have established regular traditions of migrating southeast to the Atlantic coast include Marbled Godwit (*Limosa fedoa*), American Avocet (*Recurvirostra americana*), and Long-billed Curlew (*Numenius americanus*).

SUMMARY

The authors have documented a third confirmed breeding attempt by the Eared Grebe in *Rainy River* District in Ontario, and provided reason to consider the likelihood of an additional breeding record in southern Ontario.

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Smith's Longspur: First Record for Ontario in Winter, and for the Hamilton Area

Bob Curry, John B. Miles, and Curtis A. Marantz

Discovery: Notes by Miles

On Saturday, 2 February 2002, I met a group from the South Peel Field Naturalists at the Tim Horton's in Hagersville for their annual hawks and owls trip around *Haldimand* County. The first stop was on the 2nd Line of Oneida Township, just east of Highway 6, where I had seen some Horned Larks (*Eremophila alpestris*) and Snow Buntings (*Plectrophenax nivalis*) the day before. This site is approximately 4.5 km northeast of the town of Hagersville.

In view were a couple of Rough-legged Hawks (*Buteo lagopus*) and a Northern Harrier (*Circus cyaneus*) which made repeated passes over the large grassy field, keeping a flock of Snow Buntings near the back of the field agitated. Behind the group and back towards the highway, a flock of Horned Larks landed on the road. With them were two Lapland Longspurs (*Calcarius lapponicus*) and an American Pipit (*Anthus rubescens*), which was doing its head-pumping strut; a good winter sighting and only the second I have ever seen in February. We were off to a good start at our first stop, with both Lapland Longspurs and an American Pipit.

We climbed back into the cars and started to proceed east. After a couple of hundred metres, I noticed the Snow Buntings were in the air again and were coming towards us, so I stopped as they had been quite distant before. We had fairly decent looks as the Snow Buntings circled around. Then we noticed, about 50 m out in the field, a flock of Horned Larks. I put my "bins" up and had a buffy bird with light streaks on the chest and sides that I initially thought was the American Pipit, in closer.

However, Maris Apse put his scope on the bird and said it had the head markings of a longspur. I looked through the scope and here was a bird with a longspur head pattern, yellow-buff underparts and side streakings. At this point, we realized that it was certainly not a Lapland Longspur. My immediate thought was a Smith's Longspur (*C. pictus*)! While Maris kept the bird in his scope, I went to my van and flipped open my National Geographic guide to the longspur pages. There on page 423 was what we had in the scope, a winter-plumaged immature male Smith's, although our bird did not seem to have as much rufous in the wing as was illustrated.

I returned to the group and had another look to be sure and then passed the open book to Maris. Group members were stunned when

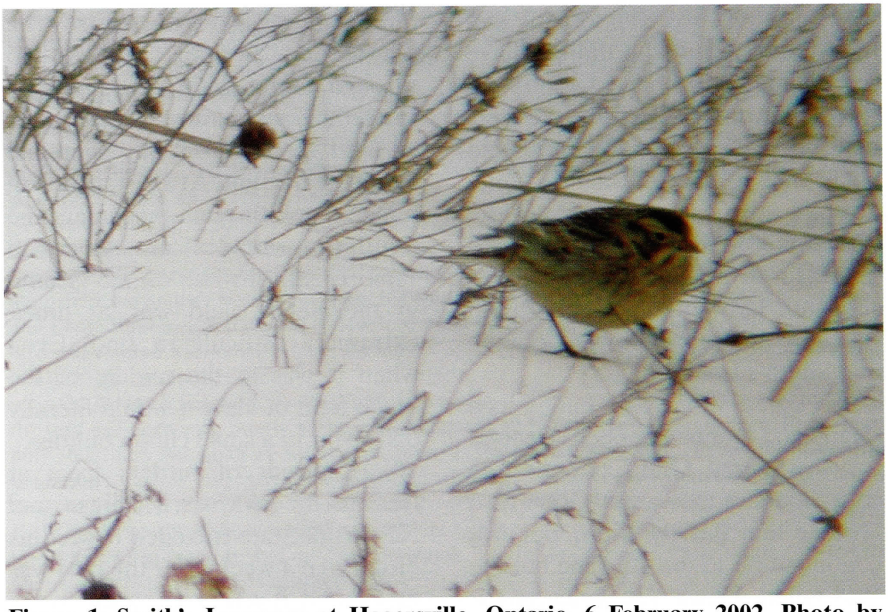

Figure 1: Smith's Longspur at Hagersville, Ontario, 6 February 2002. Photo by *Harold Stiver.*

Figure 2: Smith's Longspur at Hagersville, Ontario, 6 February 2002. Photo by *Harold Stiver.*

we realized we were all looking at a lifer. While those who did not have scopes lined up to have a good look through Maris's telescope, others kept their scopes on the bird and were able to see the mainly white 5th and 6th rectrices whenever the bird fluttered. This is another field mark to distinguish Smith's from Lapland. Everyone present was in full agreement that we were looking at a Smith's Longspur.

I asked if anyone had a cell phone and Donna Shepherd stepped forward. Jerry Guild phoned the coordinator of the Toronto Rare Bird Hotline and put the word out. We continued on to the 4th Line but the Red-tailed Hawk (*B. jamaicensis*) concentration had lost its appeal. We headed to Tim Horton's in Caledonia to bask in the satisfaction of our find. During the rest of the day, we had several more good birds in *Haldimand* but after the Smith's everything was anticlimactic. The word was out and by early afternoon, Glenn Coady, Bill Lindley, Craig McLauchlan, John Olmsted and others studied the bird out in the field.

I have always thought that Smith's Longspur could easily be overlooked. Perhaps they do go through southern Ontario regularly since they nest almost due north of us near the Hudson Bay shoreline along the tree line. At a distance, with a quick look through binoculars, the Smith's resembles an American Pipit. This bird when on the ground in the weedy field was, at times, extremely difficult to find. Even when it was in the middle of the scope field of view, it would literally disappear in a small clump of grass.

Hundreds of birders from at least as far away as Michigan and New York State travelled to see this bird. Even a week after the bird was first found, it was not unusual to see 30 to 50 cars lined up along the road and 50 to 100 people out in the field, standing in a group looking through spotting scopes. Most, with patience, did see the bird but at times it would disappear and it would take the "army" an hour or two to relocate it. But, some birders spent many hours and did not find the bird. Nevertheless, even several weeks later, a careful search revealed that the bird was still present.

Description: Notes by Curry

Although quite a number of birders subsequently saw the bird on Saturday afternoon, a large group was there on Sunday morning. There appeared to be no crop in the field, but rather there were weeds scattered throughout. These were thicker in swales especially 50 m on either side of a mostly frozen creek which flowed diagonally across the field. There were five to eight centimetres of hard snow on the ground; plants extended above the snow surface for eight to 25 centimetres. It was on these plant seeds that all the birds were feeding.

On 3 February, we and a group of Hamilton birders were there at first light. There were groups of Horned Larks and Snow Buntings feeding and flying over the field. Among these birds were two Lapland Longspurs, one with considerable black on the breast and another with restricted black.

At this time, we were watching from the road, some in our cars and some out. After about 20 minutes, at about 0740h, I heard the rattle of a longspur flying near the road, except that the

notes were more widely spaced and therefore more discrete than with Lapland. Each individual call (set of notes) only lasted about one second but I said, "get on this bird". Fortunately, it landed on the shoulder and pecked at grit. Over the next five minutes or so we had quite nice studies through binoculars and scopes and confirmed to our satisfaction and elation that this was indeed the Smith's Longspur. The bird was entirely by itself.

Either because it had ingested sufficient grit or because of the arrival of more cars, it flew north into the field and disappeared. Cars continued to arrive; we counted about 40 with almost 80 birders before we left that morning.

After an hour of waiting by the roadside, we decided that the whole group should proceed slowly into the field in a phalanx. By so doing, we managed to find the bird in areas adjacent to the creek. Of course, the buntings arose and settled nervously as they do. Most times when this happened, the Smith's would take flight but would settle off to the outside of the Horned Larks and Snow Buntings. Sometimes it flew into taller weeds and fed on its own. We watched the bird and chatted with other birders for almost an hour. On this day, it was windy and overcast but the light was fairly good.

On Friday, 8 February, we returned to the field. Arriving at about 0930h, we learned that the bird had been seen briefly at the roadside about an hour earlier, but not since. There were only 10 birders, but again we walked out towards the creek. Eventually, Glenda Slessor found the Smith's feeding diligently in thick patches of weeds. For the next 40 minutes, we all studied the bird at 10–15 metres through scopes at powers up to 50x. There was little or no wind and fairly bright sunshine shone over our shoulders. Upon returning to the car, I dictated a description which Glenda wrote into my field notebook. The following description is based upon this second observation, except as noted below.

Size, shape and proportions: It was somewhat smaller than nearby Horned Larks and Snow Buntings. Indeed, it was a moderately large "sparrow", not much different in shape and proportions than a Vesper Sparrow (*Pooecetes gramineus*). It could appear relatively slender and attenuated as when it reached up to procure a higher seed or craned its neck to look about. However, most of the time it crouched down and had a very distinctive flattened oval shape when seen from directly in front or directly behind. This effect was exaggerated by the crouching behaviour when feeding, with the legs barely noticeable, and by its habit of fluffing out feathers on the flanks and on the scapulars. The shape (and indeed some aspects of the plumage) reminded me of the shape of a Baird's Sandpiper (*Calidris bairdii*).

Head: The crown was essentially dark. It was densely and finely streaked black. On the forehead, there was a white median stripe but towards the rear of the crown this disappeared amidst the fine black streaks. There was a dusky auricular patch defined as follows. There was a broad off-white superciliary stripe whose anterior half was clear but a few fine black streaks marked the posterior half. A broad white sub-moustachial stripe bordered the auriculars from below, and this light colour extended up on the posterior side of the ear patch. The auriculars were even more delineated by being bordered in black. The black border was especially thick along the bottom (the moustachial stripe) and the lower rear edge. Within the dusky patch, there was a light oval patch that was joined to the light area to the rear of the auriculars as the black border was slightly broken. There was a neat, fine white eye ring which was very slightly tear-shaped posteriorly.

Upperparts: The black streaking continued from the crown onto the nape and back and right down onto the rump. On either side of the back were two white "suspender straps" created by the edges of scapulars. These were slightly warmer or buff anteriorly.

Underparts: Below the sub-moustachial stripe were two fine black malar stripes on either side of a whitish throat. The breast was a warm rich buff colour (it appeared orange-buff on the first

day under duller conditions but not so rich on the day of sunshine and snow reflection). Across the breast was a necklace of fine black streaks which then extended as a chestnut brown streak down each flank. The lower breast and belly to vent was a slightly lighter buff or clay colour.

Wings: The primaries were dark brown with fine white tips. The tertiaries were dark brown with lighter brown inner webs. The upper greater secondary coverts were warm brown and tipped white, creating a narrow white wingbar. The median coverts had jet-black centres and pure white fringes, thus creating a distinct bold bar. I only saw the lesser coverts once—just as the bird took off from the roadside on 3 February. At least the lower row of these was pure white so I saw a flash of white as it took off. Having read the literature before the second study, I particularly looked at the primary extension, i.e., the number of primary tips visible beyond the tips of the tertiaries. There were four—two extended a short distance beyond, and with a relatively short distance between these tips. Then there was a longer gap (twice as much primary showing) before the penultimate tip, and then a short gap before the final tip.

Tail: Dark brown fairly long and slightly forked. On the ground, I could see white on the outer edges of the dark brown tail. I could not determine the extent of this white. However, as the bird left the road on 3 February, I got the impression of a lot more white than is seen on the tail of Lapland Longspur.

Soft parts: The eye was black. The legs were dull flesh-coloured except that the "shins" (front of the tarsi) were brown, as were the tops of the feet and toes. The bill was fairly typical of a sparrow, being thick at the base and tapering to a fairly fine point. It was a flesh-horn colour except that the culmen and tip of the mandibles were dark brown.

Description: Notes by Marantz

At about 0740h on 3 February, a single bird flew in giving a loud rattle whose notes were spaced clearly enough to differentiate. Though I commented to Cheryl Edgecombe at the time that we should check out birds with rattles like that, it was Bob Curry who really keyed in on the rattle, and I believe it was Gerard McNaughton who first spotted the bird on the ground. The bird landed by itself along the open margin of the road only 15–20 metres from us and remained there for maybe three to five minutes, providing us with exceptional views at close range. This bird then flew when the Snow Buntings and Horned Larks took flight upon the approach of another carload of birders. It was over an hour later, and only after people began walking out into the field, that the bird was again relocated in loose association with the larks and buntings.

Despite its clearly being associated with the other birds, the Smith's Longspur often remained at the edge of the flock, and more than most of the other birds, it remained both alone and in closer proximity to the denser clusters of short weeds. Although we never again obtained views of the bird as good as our initial ones (with the bird generally 50-75 m away from the now large group that was observing it), we were able to study the bird over an extended period of time. I clearly heard the bird rattle only when it first flew in, and again when it took off from the edge of the road. Though it may have called when out in the field, the longspur was both at a greater distance from us and more closely associated with the other birds, these together probably precluding us from hearing its call (with the noise of the crowd probably adding to the difficulty). Whereas the bird was foraging almost motionless along the side of the road (possibly for grit) when we first saw it, it was later quite active as it hopped around on the ice, seemingly in search of something associated with the small clusters of dried vegetation. I saw the bird several times in flight, but generally not well, because with so many jackets on, I was a little slow at switching from my scope to my binoculars when the bird took flight. I therefore used almost exclusively my 20–60x spotting scope to observe this bird, which, amazingly, was often in unobstructed view as it moved about on the ice, often obscured by only scattered stalks of dried vegetation. The light cast by the early and mid-morning sun blocked by a full

overcast was excellent for observation, with our observations complicated primarily by the wind, which at least was at our backs.

This bird was a typical longspur with respect to its size and shape. It seemed comparable in both size and shape to the two Lapland Longspurs in the flock, and about the same shape as the Snow Buntings, though maybe a little bit smaller. Relative to the Horned Larks, this bird was distinctly smaller, plumper-bodied, and proportionately shorter-tailed. The longspur had a sharp-tipped, conical bill that seemed relatively small to me. Behind this, the forehead was relatively steep and the head rounded, though with a weak peak in the crown that seemed to be just behind the eyes. The longspur both stood and hopped around on the ice with a relatively upright stance, and not by shuffling along with the belly nearly touching the ground that is typical of many longspurs. I estimated that the tail was about half as long as the body without it; it was generally kept pointed downward at an angle towards the ground. In short, this bird looked about the same size and shape as the Lapland Longspurs in the flock, but with both a rather buffy and also a rather evenly coloured appearance.

Despite its appearing largely rich buff from a distance, close inspection of the bird revealed the complex and intricate patterns that are typical of most sparrows. The forehead and crown generally looked dark-brown to nearly blackish, but with fine streaking of rich buff. Although I never really detected a median crown-stripe, there did appear to be a narrow region of pale coloration extending back a short way from the forehead. The buffy streaking, which was quite limited on the forehead and central crown, appeared to become more conspicuous towards the rear part of the crown, especially in the centre (possibly representing the rear end of a weak median stripe). The nape was a rich-buff in colour, though possibly with some dark streaking. The scaly pattern of the back appeared to result from buffy fringes on blackish-centred feathers. Although the buffy fringes seemed to extend all the way around the tips of most of these feathers, they may have been broader as edges than as tips, so the back often appeared more streaked than scaled. I also noted, though I could never be sure precisely where, what appeared to be some whitish fringes in the back that at times almost looked like whitish braces on the mantle.

Because several key characters for separating Lapland and Smith's Longspurs lie in the wing pattern, I did my best to note the wings carefully. I was never convinced that I ever saw either the lesser coverts or the primary coverts, so the pattern apparent on the wings resulted from the median and greater coverts combined with the remiges. The median coverts had crisp, white fringes that contrasted sharply with jet-black centres to produce a scaly, upper wingbar. The greater coverts also had black centres, but their fringes combined cinnamon-buff edges with white tips. Although both the edges and tips appeared to be of comparable width, and both were equally sharp in their contrast with the centres of the feathers, the white tips stood out more conspicuously than the buffy edges to produce a relatively obvious lower wingbar. The remiges likewise appeared to have jet-black centres that contrasted with what appeared to be cinnamon-buff edges on most, if not all, of the feathers. I further believe that the innermost secondaries (the "tertials") had some white distally, but I was less certain of its placement because my best views of the bird were from the side. Despite my noting both what appeared to be three or four primaries extending beyond the longest secondary, and a medium-length primary projection, I never noted the precise length of the primary extension relative to the longest secondaries. As far as I could determine, the wingtips reached to about the tips of the undertail coverts, which may have been as much as a third of the way out the tail. The distal primaries were black with whitish to pale-buff edges that seemed to extend all the way to the tips of the feathers. One thing that I all but failed to see was the tail pattern. When the bird was on the ground, I noted only that the tail was largely dark, and when I saw the bird relatively well once in flight, I noted only that the white on the sides of the tail was both relatively extensive (I would estimate more than a single pair of rectrices were largely white), and that the demarcation ran parallel to the sides of the tail. Although the tail seemed slightly notched when the bird was on the ground, I never really noted its shape on the flying bird.

I also did my best to look at the bird's face pattern, but even still, I missed some of the fine details. As far as I could determine, the dark forehead extended all the way to the base of the upper mandible. Just below this was a bold superciliary that was a rich buff in colour. Complementing the superciliary was a bold, buffy eye ring, but I never noted the pattern in the lores. Given that the eye ring always seemed complete, I imagine that the dark surround to the auriculars never reached the back of the eye (though I did not note this specifically). The auriculars were boldly surrounded on all sides by a dusky to blackish border that extended back from the eye to the upper, rear corner of the auriculars (with the above proviso). From here, it extended downward to the lower corner, and then curved back forward towards the bill. Although the border reached at least nearly to the eyes, I was never certain whether it continued under the eyes to the base of the bill. As far as I could determine, the pale superciliary extended all the way back to the rich, buffy nape, and I was quite certain that the sides of the neck were this same, rich-buff in colour, these separating the dark auricular-border from the dark back. Finally, the bold sub-moustachial stripes represented the lower margin of the dark border of the auriculars. Unlike those of the Lapland Longspurs, the centre of this bird's auriculars formed a conspicuous, pale spot that appeared to be bordered on all sides. Relative to the buffy regions of the rest of the face, the sub-moustachial stripes were obviously more whitish. In fact, these stripes were quite conspicuous when the bird was seen from the front, appearing much like a pale moustache. Whereas the sub-moustachial stripes obviously reached to the base of the bill, and at times, they appeared to connect under the chin, the dusky malar stripes were both narrow and quite short (seemingly extending from the rear corners of the throat not quite to the bill). Though the chin appeared slightly paler (as implied above), the throat itself was quite buffy, and as such, it did not really appear to contrast with the breast. In fact, apart from the chin and the undertail coverts, the bird appeared both quite evenly and quite richly coloured below. Several times, however, it appeared that the undertail coverts were paler than the rest of the underparts. Though they may possibly have been whitish in colour, they were more likely just a paler shade of buff. Complementing the dusky malar stripes was a band of short and narrow streaks that extended across the breast and then continued more extensively as narrow, dusky streaks running along the sides and down the flanks. Although I doubt that there were more than two or three of these streaks on the flanks, the bird sometimes looked moderately streaked when seen from the side. As far as I could determine, the lower breast and the centre of the belly were unmarked, but about the same rich-buff colour as the throat and breast. This bird certainly lacked the contrast between the breast and belly that is typical of even the dullest Lapland Longspurs.

I noted the colour of the eyes, legs, and feet only as dark, and in the case of the legs and feet, I am not even completely certain of this (though they were not conspicuously pale). The bill generally looked dark, but I thought that I may have seen a pinkish base to the lower mandible when the bird was close to us (it looked entirely dark during our later observations). The bill seemed smallish for a Longspur, but again, I doubt that I could have said much about it beyond the fact that it did not appear large and swollen like that of a McCown's Longspur (*C. mccownii*). Unfortunately, I never saw this bird in direct comparison with the Lapland Longspurs, so fine comparisons of size, shape, and plumage patterns were never really possible.

Discussion

There is no doubt that this was a Smith's Longspur. The primary extension is diagnostic, as are the entirely buff underparts. Also diagnostic of a male Smith's Longspur are the pattern on the lesser and median upper wing coverts. No other longspur has this combination of characteristics.

Smith's Longspur nests in Ontario along the Hudson Bay coast tundra (Hussell 1987) and

winters in the south central United States (Kemsies and Randle 1964; Rising 1996). It is, therefore, surprising that so few records exist for southern Ontario. There are only three accepted records in the annual reports of the Ontario Bird Records Committee (Wormington 1985, 1986; Dobos 1998). We know of only two more published records (Devitt 1950), which may or may not be correct. Perhaps it is not so surprising. Kemsies (1968) called it a bird of mystery, nowhere plentiful and so elusive that it is hard to find in the field even when it is known to be present. How prescient are these remarks when pertaining to the Hagersville bird! Several authors indicated that this is probably the hardest longspur to see on the ground and described the careful approach and patience required (Dunn and Beadle 1998, Bailey 2002, Sheppard 2002). Ryff (1987) entitled his account of this bird and the paucity of migration records as "A Case of Neglect".

Moreover, there has never been a winter season report in Ontario, leading to the question as to what conditions resulted in this bird being at this location. The answer is pure speculation. It is possible that strong southwesterly winds a few days before the first sighting brought the bird here. Or it could have accompanied the "Northern" Horned Larks (*E.a. alpestris*) which arrived in numbers about a week earlier. Or it could have arrived in the fall and spent the entire winter in this field.

Smith's Longspur migrates northward through the Midwest in March and April (Dunn and Beadle 1998). In Illinois, which lies almost entirely to the south of Ontario, 20 March–15 April is peak time (Bailey 2002, Whan 2002). Therefore, it is unlikely that it would be moving in late January or early February and thus potentially be diverted by strong winds. In addition, the bird did not associate with the larks and buntings, so why would it migrate with them? In fact, Dunn and Beadle (1998) pointed out that Smith's Longspur seldom associates with other species.

Ryff (1987) suggested that the migration route of Smith's Longspur is elliptical, being south through the central part of the continent in the fall but drifting somewhat eastward on southwesterly winds in spring. There are, however, fall records from the east. A bird was collected on Long Island, New York, on 22 September 1974 (Davis 1976) and a flock of 13 was at the Oxford Airport in southwestern Ohio on 15 November 1958 (Sheppard 1959). Victor W. Fazio observed a bird at Long Point Tip, *Haldimand-Norfolk*, from 31 October–2 November 1984 (Wormington 1986).

In spring, there is a specimen taken in Connecticut on 24 March 1969 (Bulmer 1969). Moreover, at least formerly, spring flocks were seen at an airport in southwestern Ohio (Kemsies and Randle 1964, Kemsies 1968, Tucker 2002, Whan

2002). Peterjohn (2001) indicated that Smith's Longspur was, but seems no longer to be, a regular migrant in parts of western Ohio, generally in spring but more rarely in fall. He doubted the validity of a single undocumented winter report from Ohio. In summary, Smith's Longspur has been found in about 15 states and provinces from Michigan eastward but in most cases, not including Ohio, there are only one or two records per state or province (Dunn and Beadle 1998).

The two other OBRC records are a female seen by Ron Scovell et al. on 20 April 1980 at Long Point Provincial Park (Wormington 1985), and another female found by Doug McRae on 18 May 1997 and photographed by J. David Andrews at the Two Rivers Airfield in Algonquin Provincial Park (Dobos 1998). The bird identified by Ott Devitt and his wife on 22 May 1949 near Elmvale, Simcoe, certainly fits the pattern (Devitt 1950).

So, in all likelihood, the Hagersville bird arrived in fall and wintered in this 2nd Line field. There was plenty of food available for a seedeater. The owner of this field, Gerry Vanderzanden, described to me the recent planting activity in this 75-acre field. It was planted in oats in spring 2001, then twice chopped at one foot in height; then it was sown in hay with the mixture ratio as follows: alfalfa 5; timothy 3; trefoil 3 and red clover 1. This was not cut. Thus, a field heavily laden with seeds was left all winter. There was no episode of heavy snow all winter and food was easily obtainable.

The bird was last reported on 10 March (Dobos 2002). It may well have been present in this field or somewhere nearby until considerably later. Smith's Longspurs do not arrive on their breeding grounds at Churchill, Manitoba, until late May (Jehl 1968). There is no reason for the bird to leave until late April or May and the Ontario spring records bear this out.

This record is all the more unusual on account of its winter occurrence. It is doubtful that Smith's Longspur occurs regularly in southern Ontario in winter, as they do not occur in winter in Midwest states that lie to the south of Ontario. Ontario birders interested in finding this species would do better to check large corn stubble fields in open treeless areas in April. Particularly good cornfields are those that also have large amounts of Foxtail (*Setaria viridis*), a yellowish grass (Frankton 1955, McCoy 2002).

Whatever its origin, this is an exciting new addition to the birds of the Hamilton Study Area. The record has been accepted by the Ontario Bird Records Committee (Bill Crins, pers. comm.). We estimate that at least 500 birders journeyed to Hagersville and most saw the Smith's Longspur. At least several long-time birders and World travellers got this as a life bird!

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Ontario Gray Jays Help on the World Stage: Part 1

Dan Strickland

Readers of *Ontario Birds* may not be generally aware of the phenomenon of "helping" in birds. Found in over 200 species worldwide and sometimes called cooperative or communal breeding, helping is characterized by more than two adults participating in parental activities such as nest building, attacking nest predators, and especially the feeding of nestlings. Ontario birders are also probably unaware that study of one of our province's common species, the Gray Jay (*Perisoreus canadensis*), may have provided a useful contribution to understanding this behaviour. In December 2001, Tom Waite of Ohio State University and I developed this idea in an article published in the *Canadian Journal of Zoology* (Strickland and Waite 2001). I am pleased to present a less technical version in this and the following issue of *Ontario Birds* which I hope will explain our idea to a wider audience. Here, in Part 1, I summarize the present thinking about communal breeding (as I much prefer to call helping) and describe the challenge to this thinking that the Gray Jay poses. In Part 2, I will discuss the hypothesis we offer to explain the Gray Jay's puzzling social behaviour. I will also suggest how our Gray Jay perspective may be extended to help explain the absence or presence of communal breeding around the world.

Communal breeding in birds was first reported in 1935 by Alexander F. Skutch, the great American naturalist who has spent over 70 years, mostly in Costa Rica, documenting the lives of neotropical birds. Skutch described how the nests of three species (Brown Jay *Cyanocorax morio*, Black-eared Bushtit *Psaltriparus minimus*, and Banded Cactus Wren *Campylorhynchus zonatus*) were regularly attended by more than two adults (Skutch 1935). Because the extra birds made numerous trips to the nest with food for the nestlings, Skutch called the extra birds (and his paper) "Helpers at the nest". Unfortunately, the words "helper, help, and helping" have stuck ever since (see box, "The Name 'Helping' is not Helpful!").

Little or no attention was paid to Skutch's discovery for several decades but, in the 1960s, people began to recognize what a paradox it represented. The intellectual underpinning of biology is evolution through natural selection. That is, everything we see in an organ-

The Name "Helping" is not Helpful!

The name "helping" is unfortunate because it carries an inescapable connotation of benefit. It may seem self-evident that nonbreeding birds must be doing something positive when they direct parent-like behaviour to another bird's young but, until proven, that idea is only presumption—not a fact.

Even worse is the equally widespread use of "helping" to designate the specific act of feeding another bird's young. To see why, consider the situation in the Florida Scrub-Jay (*Aphelocoma coerulescens*). In this well-known communal breeder, nonbreeders associate with, and feed the nestlings of, about half of all breeding pairs. Pairs with nonbreeders produce more young than do pairs without nonbreeders and it may therefore seem justified to conclude that the extra feeders are helping the breeders when they feed the nestlings. The trouble is that the improved production of young is brought about by the improved nest defence provided by the nonbreeders, not by the food they bring. If we were to use "helping" to designate the feeding of nestlings by nonbreeders, therefore, we would logically be able to say that "nonbreeding Florida Scrub-Jays help (i.e., confer benefit), but not when they help (i.e., feed nestlings)".

The way to avoid such confusion is to define and use clear terms that carry no presumption about the function of the behaviour they refer to. Thus, we should never use the terms "cooperative breeding" or "helping" unless we have evidence that actual cooperation or benefits are involved. Until then, when we see more than two birds involved in a nesting effort, we should say "communal breeding". Similarly, we should never assume that feeding another bird's nestlings amounts to "help". Instead, we should use the term "allofeed" as suggested by one of the leading scientists in the field, Jerram Brown (1987). Then we can say—sensibly this time—that nonbreeding Florida Scrub-Jays help, but not when they allofeed. And, if it seems that I am splitting hairs here, trust me; as far as Gray Jays are concerned, the old, still entrenched terms (helping and cooperative breeding) were serious impediments to understanding the behaviour of these birds.

ism, from its physical make-up to its behaviour, is thought to be the way it is because the feature in question results in the greatest survival and mating success—and ultimately in the greatest production of surviving young. Any individual that has some heritable property which results in a longer life or greater success in mating will, other things being equal, leave more descendants than its rivals and consequently the beneficial property will become more and more widespread

in the species with each passing generation. Conversely, if an individual has some new heritable physical feature or behaviour that results in a shorter life and/or less breeding success, the new feature will not spread or become established in the population. Instead, it will disappear—quickly weeded out by an unconscious "natural selection"—just as surely as if, say, a human animal breeder were deciding which individual dogs or pigeons will be prevented from passing on their properties to the next generation.

But, given this fundamental truth about the evolution of living organisms, how can we possibly explain "helping" or communal breeding in birds? How can individuals that refrain from breeding pass along the genes for such restraint to succeeding generations? How can individuals with a proclivity to forgo breeding themselves and instead to "help" the breeding of others possibly persist in a species? Seen in this light, communal breeding was recognized, not as some inconsequential side-show of nature, but as a major challenge to the idea of evolution by natural selection—and therefore to the very foundations of modern biology.

Attracted by the huge implications of resolving—or not resolving—such a big question, dozens of ornithologists began detailed, long-term studies of colour-banded populations of communally breeding species on every continent. In the 1970s and 80s, this became one of the hottest fields in ornithology and it continues to be one of the most fascinating to many scientists right up to the present. Specific studies have investigated Dunnocks (*Prunella modularis*) in Europe; Pied Kingfishers (*Ceryle rudis*), White-throated Bee-eaters (*Merops bullockoides*), and Green Woodhoopoes (*Phoeniculus purpureus*) in Africa; Superb Blue Wrens (*Malurus cyaneus*), Noisy Miners (*Manorina melanocephala*), and Grey-crowned Babblers (*Pomatostomus temporalis*) in Australia; Hoatzins (*Opisthocomus hoazin*) and Stripe-backed Wrens (*Campylorhynchus nuchalis*) in South America; and, closer to home, Florida Scrub-Jays, Mexican Jays (*Aphelocoma ultramarina*), Pinyon Jays (*Gymnorhinus cyanocephalus*), and Acorn Wood-peckers (*Melanerpes formicivorus*) here in North America. Although many of the original questions had been partly or completely solved by the 1990s (see box, "Why Stay at Home and Feed Young That Aren't Yours?"), there still remained a number of unanswered questions about communal breeding. One of these concerned the uneven distribution of communally breeding birds around the world. It was understandable that many would be tropical species because it is in the tropics that birds tend to be permanently territorial. Tropical species are also often at "saturation density" because their numbers aren't decimated once or twice a year in long and dangerous migrations. Both of

Figure 1: Nestling Gray Jays are fed exclusively by their own parents, never by any nonbreeder that may also be on the territory. Photo by *Dan Strickland.*

Figure 2: A fledgling Gray Jay like this one is sometimes fed by a nonbreeder as well as by its own parents. Photo by *Dan Strickland.*

Why Stay at Home and Feed Young That Aren't Yours?

Communal breeding turned out to be less of a paradox than it first appeared. For one thing, in most species, allofeeders (i.e., "helpers") were almost never refraining from breeding. They had little or no choice. Usually they were young birds still living with their parents because they had been unable to find territories of their own. Other times, they belonged to species where only older birds with a great deal of experience had any hope of breeding successfully. Either way, the young birds had almost no chance of breeding themselves. Still, this does nothing to explain why the nonbreeders should actually spend energy feeding young birds that aren't their own.

From various studies, it emerged that there was not just one possible answer to this important question. Indeed, the leading theoreticians in the field, both as it happens from just next door to Ontario (Jerram Brown of the State University of New York at Albany, and Steve Emlen of Cornell University in Ithaca), have listed at least nine hypotheses that may explain how communal breeding could be useful in one species or another (Brown 1987, Emlen et al. 1991). Basically, these hypotheses are of two types. In the first category, the proposed explanations suggest that the allofeeder benefits *directly* from his or her actions. One idea, for example, is that, by helping to raise young birds, the allofeeder gains valuable experience that will make it a more productive parent when it becomes a breeder itself. Another idea in this category is exemplified by the Florida Scrub-Jay (Woolfenden and Fitzpatrick 1984). In this species, a nonbreeding bird improves its chances of becoming a breeder by helping a breeding pair to raise more young birds than it would otherwise. The consequently enlarged family expands its territory at the expense of smaller neighbouring groups and then the nonbreeder "buds off" part of the

these factors tend to produce conditions where young birds can't find vacant territories and are therefore forced to stay at home as nonbreeders. Still, other features about the geographic distribution of communal breeders were not so obvious. In particular, such species are especially abundant in Australia. About 10 percent of birds down under breed communally, as opposed to only 2 percent elsewhere, even including ecologically apparently similar areas in Africa, Asia, and South America.

Another mystery was why some birds here and there around the world lived in family groups but, at least in the nestling period, did not exhibit communal breeding. These included the Western Scrub-Jay (*A.*

new, bigger territory and claims it as his own. The nonbreeder has become a breeder, in effect, by helping the adults to "raise an army" that ends up conquering a territory for his use.

The second type of explanation that has been proposed to explain communal breeding relies on the fact that allofeeders are usually still at home with their parents. The allofeeders are, therefore, feeding their own younger brothers and sisters. These younger siblings and the helpers consequently share half their genes. This is the same proportion of genes that would be shared by an allofeeder and its own offspring if it had any. In other words, by helping to raise more or healthier siblings, an allofeeder is *indirectly* advancing the cause of its own genes much the way it would be doing *directly* if it could raise young of its own.

Of course, all of these proposed explanations rest on the assumption that "helpers" really do gain and/or confer some benefit. But is this really true? At first blush, this may seem like a silly question. Surely it is self-evident that the act of putting food down the throats of nestlings can only be helpful. Everyone knows how hard bird parents have to work to find food for their young and a fundamental prediction of evolutionary theory is that birds should lay clutches that result in the maximum number of healthy, surviving young. Surely, under these circumstances, the efforts of nonbreeders can only be of benefit.

Well, not necessarily. Detailed studies in many species have failed to reveal any improvement in the production of young when allofeeders are present. That is, in some species, unaided parents do just as well as those supposedly benefiting from the "help" of allofeeders. And, as we shall see in Part 2, there is at least one way that allofeeding could be anything but helpful. It could be downright harmful.

californica) at the southern end of its range near Oaxaca, Mexico (Burt and Peterson 1993), and the Siberian Jay (*P. infaustus*; Blomgren 1971, Ekman et al. 1994), the Eurasian counterpart of our own Gray Jay. The Green Jays (*Cyanocorax yncas*) of Texas were another example of a species where nonbreeders are present in family groups but apparently never feed young (Gayou 1986). This was especially mysterious because an earlier study had shown that communal breeding does occur in Green Jays in Colombia (Alvarez 1975). Why would the same species exhibit the behaviour in one place but not in another?

The Gray Jay is also one of these exceptional species in which

nonbreeders in the family group do not feed nestlings (Strickland and Ouellet 1993) and for years I pondered why. If multiple good reasons had been proposed for communal breeding in other birds, why did Gray Jay nonbreeders fail to collect on these supposed benefits? In Algonquin Park, about 20 percent of all breeding pairs are accompanied by nonbreeders (most commonly one of their own young from the previous year) at the beginning of the breeding season around March 1. These nonbreeders are usually males and have no chance, at that late date, to find an unoccupied territory and a mate, let alone successfully breed. Why, then, since they have nothing better to do, do they not help Mom and Dad feed their current batch of nestlings? Would the nonbreeders not gain valuable experience by doing so? By increasing the production of younger brothers and sisters, would they not improve the transmission of their common genes to the next generation? And how could they fail to improve the production of nestlings by joining the adults in feeding them? Remember, the act of feeding nestlings by nonbreeders was universally known by the loaded term, "helping". And surely, if any species needed help with its nesting, it was the Gray Jay. Throughout the boreal and subalpine forests of North America, this species nests when the snow lies deep on the ground and the thermometer usually indicates well below freezing. It brings its young off the nest long before most migratory species have even returned to the boreal forest, let alone started to nest themselves. Under such conditions, how could a pair of nesting Gray Jays not benefit from the assistance of an extra forager? And yet, the truth was, as I saw many times, that nesting Gray Jays actively harassed any nonbreeder that was present, including their own young from the year before. Parental hostility towards nonbreeders usually begins in the nest-building period and reaches a peak in the nestling period. Most of the time any nonbreeder, if seen at all during the nesting season, is far from the nest. And, if the adults are present, they often chase it relentlessly.

I readily confess that this Gray Jay behaviour in the nesting season completely stymied me. And, if anything, things got even more mysterious before they got better. In 1994, Tom Waite, fresh from a Ph.D. based on his winter food storage studies of the Gray Jay in Alaska, came to Algonquin Park and made a surprising discovery. He found a group of fledglings being fed, not only by their parents, but also by GOSLWOPR (acronym for the bands Green Over Standard Left, White Over Purple Right), their older brother born on the same territory the year before. And, over the next two weeks, GOSLWOPR went on to account for fully 22 percent of observed feedings.

The following year, we made

further observations of the same pair and confirmed that the behaviour we watched in 1994 was not a fluke. In particular, we saw that, in our Algonquin Park Gray Jays at least, allofeeding behaviour starts only in the fledgling period. The 1995 nonbreeder tried to reach the nest many times in the nestling period but he never got there. He was vigorously chased, or even struck in mid-air, whenever he approached the nest. And yet, the day after the one young left the nest, the nonbreeder began to feed it. Indeed, the 1995 nonbreeder accounted for 39 percent of all the feedings of the fledgling (compared to 50 percent by the breeding male and 11% by the female). Since then, we have observed four more cases of nonbreeders (at least one of them completely unrelated to the family involved) failing to feed nestlings but starting to feed them in the fledgling period. We have also observed at least one case where a nonbreeder refused to feed his younger fledged siblings, even though he was not prevented from doing so by the adults and in spite of the fact that the fledglings often begged at him.

When we had assimilated the discovery that allofeeding sometimes occurs in Gray Jays, but only after those siblings have fledged, we saw that we had an even bigger problem to explain. No longer could we ask "merely" why communal breeding does not occur in this species. Now we had to explain why it does not occur in the nestling period but can sometimes occur in the fledgling period! Why would Gray Jay parents suppress allofeeding in the often wintry nestling period and then allow it in the fledgling period, precisely when new food is starting to become readily available and extra "help" from a nonbreeder would seem to be less important?

This, then, was the challenge in trying to understand Gray Jay social behaviour. In Part 2, to be published in the next issue of *Ontario Birds*, I will present what Tom Waite and I propose as an answer to this challenge. In the meantime, why not try to solve the puzzle yourself? Come up with as many hypotheses as you like, see if you can reconcile them with Gray

Jay behaviour as described above, and try to imagine ways that you might use to actually test your hypotheses. Have fun!*

*To be fair, you will need one more clue to come up with a hypothesis—or at least the same one we develop in our paper and through the same reasoning. Here it is: while we were watching adult Gray Jays feeding fledglings, we noticed that the young birds were fed by their parents much more frequently than in the nestling period.

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Notes

About Crossbill Bills

John Schmelefske

2001 could certainly be described as the year of the crossbill in areas of Ontario south of the Canadian Shield. The first nest of White-winged Crossbill (*Loxia leucoptera*) in the Greater Toronto Area was discovered in the Palgrave Conservation Area in February of 2001 (Coady 2001). In the fall of 2001, as predicted by many observers in the north, the poor cone crop on the Canadian Shield resulted in a large movement of finches southward. On my own property, approximately 5 km south of Alliston, Ontario, from September through November, I observed Purple Finches (*Carpodacus purpureus*), Evening Grosbeaks (*Coccothraustes vespertinus*), Pine Grosbeaks (*Pinicola enucleator*), Pine Siskins (*Carduelis pinus*), White-winged Crossbills and Common Redpolls (*Carduelis flammea*) at various times, along with the usual American Golfinches (*Carduelis tristis*) and House Finches (*Carpodacus mexicanus*).

Crossbills have always gotten a lot of attention for their amazing bill adaptation, and rightly so. Last fall was the first time I had ever had White-winged Crossbills coming to my feeder. The first arrivals were two juveniles, which I first noticed on 28 October 2001. By 2 November, there was a small flock of six or seven birds hanging around the feeders. This provided me with a great opportunity to test out my new digital camera.

The feeders I use are clear plastic tubes with tiny teardrop-shaped holes for access to the seeds. I remember many years ago when I bought my first niger feeder, I initially thought I had gotten a faulty unit because the holes where so small it did not seem possible that the birds could get the seeds out. Of course, it proved to be no problem for finches. This time around I wondered whether their crossed bills would actually make it harder for crossbills to feed from a niger feeder. I soon realized that crossbills could use their tongues very effectively to manipulate seeds. They would stick their upper mandible in the feeder and leave the lower mandible pointing to the side. Then they would use their tongue to wedge a seed against the upper mandible and slide it out of the feeder (see Figure 1). Clearly, the unusual beak is only one of their assets. It makes sense that while the bill would be helpful in prying cones open, they would need

a dexterous tongue to finish the job.

Unfortunately, one of my White-winged Crossbill visitors had a terminal encounter with our sliding doors. The autopsy revealed curious markings on the upper mandible of the beak (Figure 2). I wondered if these abrasions might have been etched into the bill by the edges of the openings in the bird feeder. I had bought new niger feeders that year and thought that perhaps the sharp edges of the plastic were hard enough to cause this kind of damage. The scratches were superficial, but potentially, this could have a significant impact on wintering birds during years when resources are low and crossbills start coming to feeders, as they did in 2001. My impression was that these marks were not deep enough to cause serious damage, but that over a whole winter it might be a problem. It may be that, because of the bill shape, crossbills have to do more maneuvering to access niger feeders and consequently are more susceptible to bill damage.

Discussion

I have no way of knowing with any certainty whether the bill markings were actually made by the feeder openings. I did not notice the marks on the beak until I looked at the

Figure 1: White-winged Crossbill removing seeds from niger feeder. Photo by *John Schmelefske.*

Figure 2: Dead White-winged Crossbill with abrasions on the bill. Photo by *John Schmelefske.*

pictures later, long after tossing the remains over the back fence. I went over the 60 other photos that I took of crossbills at the feeders, and saw no obvious similar markings, but this may be because the pictures were taken at too great a distance to pick up such details. Are there other possible explanations for these marks? Well, I doubt whether conifer cones would have the degree of hardness necessary to cause such damage. I considered whether the marks might have resulted from the impact on the window, but they look like etchings on the surface, not fractures due to impact.

Craig Benkman, crossbill expert and author of the White-winged Crossbill account in *The Birds of North America* (Benkman 1992), kindly examined my photograph and considered that the "conclusions concerning wear on the bill seem reasonable, although I doubt that such wear even over a winter would prove harmful to the bird" (Craig Benkman, pers. comm.).

Thinking about crossbills got me thinking about crossed bills. One thing I noticed from my pictures was that some crossed bills go top-to-the-left and bottom-to-the-right, while others go top-to-the-right and bottom-to-the-left. I won-

dered whether there is a theory as to why they go either way and whether the ratio of each alternative had been measured?

A search of the crossbill literature revealed that the lower mandible of the North American subspecies of the White-winged Crossbill (*L. l. leucoptera*) crosses to the right approximately three times more often than to the left (Benkman 1988), while the lower mandible of the Red Crossbill (*L. curvirostra*) "crosses to right as often as to left" (Adkisson 1996). Why the difference? Benkman (1996) theorized that the 1:1 bill type ratio in Red Crossbills "results from negative frequency-dependent selection favouring the rarer morph. A crossbill always orients toward closed conifer cones so that its lower mandible is directed towards the cone axis (Benkman 1987). Thus, only part of the cone can be reached easily when crossbills have few perch sites and the cone cannot be removed from the branch or otherwise turned around. Since crossbills may visit cones which have previously been foraged on by other individuals, an equal frequency of left-to-right mandible crossings may minimize overlap in the use of cones and enhance foraging efficiency." In contrast, our White-winged Crossbills "forage on cones that are easily twisted and removed from branches", and since they manipulate the cones for efficient foraging, there is no selective advantage for the rarer morph (i.e., lower mandible crossing to the left) in that species (Benkman 1996).

Even more intriguing is whether one variant spins the cones one way when it eats and the other spins them the opposite way? Craig Benkman (pers. comm.) stated that this does not appear to happen, but that he had not systematically tested it. Does one approach cones from the left, and the other from the right?

According to Bent (1968), based on studies of captive Red Crossbills by Tordoff (1954): "Birds are either right-handed or left-handed in opening cones, according to which way the mandibles are crossed. In feeding, the birds carry pine cones with their bills to a perch, hold the cones with their feet, and insert the tips of the open mandibles. With the long axis of the bird's head approximately at right angles to the long axis of the cone, the tip of the lower mandible presses towards the central axis of the cone and raises a scale against the essentially stationary tip of the upper mandible. The tongue then probes and removes the seeds."

Perhaps even more fascinating is the following account of Red Crossbill roosting behaviour in Bent (1968), again based on research by Tordoff (1954): "Before going to sleep birds extend and retract their tongues, three to five times a second, for as many seconds. After a pause, they repeat the process. The tongue may project on either side of the mandibles, and it extends well

beyond the tips. Sizable clusters of white frothy bubbles appear at the ends of the bills. These clusters soon break, leaving the mandibles wet and shining. Coincident with the tongue action the birds open and close their bills, but at a slower rate. Also, they close the bill in the "wrong" direction, resulting in a peculiar appearance because the mouth will not close evenly. It is possible that this procedure brings about a wearing down of the non-occluding edges of the bill by abrasion, with the moisture acting like water on a whetstone."

Clearly, the crossbill is a bird worthy of observation. In many ways they remind me of parrots, with their highly evolved and dexterous bill and tongue. Behaviourally, the way they forage so gregariously in groups, hanging upside down and stretching to reach food, makes me think of them as the boreal parrot.

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J. Bruce Falls: Distinguished Ornithologist

Ron Tasker

I am honoured to present my long-time friend and field companion, Dr. J. Bruce Falls, Professor Emeritus, Department of Zoology, University of Toronto, for receipt of the prestigious OFO Distinguished Ornithologist Award on 28 September 2002. I am honoured, both by being asked to do so by OFO, in whose institution as a distinct organization from the FON, I was involved as the FON Board representative, and by such a close identification with Bruce, wearing two of his many hats: that of internationally recognized professional biologist and all round naturalist and birder.

We both graduated from Victoria College in 1948 in Honour Science, he in Honour Biology. Bruce joined the University of Toronto Department of Zoology in 1954, was tenured in 1961, and promoted to full professor in 1966, serving as undergraduate secretary from 1969 to 1975 and associate chair from 1975 to 1980. He was appointed Professor Emeritus in 1989.

Thinking back to those earlier years, birding was not the big budget item it is today. We had to rely on the Red, Green and Blue Books of the *Birds of North America* (1931). Nor was good equipment available. Where I relied on family opera glasses, Bruce was more inventive with a badly scratched World War I gun site, used as a 6X30 monocular, which he bought from John Crosby for $4.00, and an ersatz telescope built out of one of his father's surveying instruments.

Most important, birding buddies were scarce. One almost never saw another person looking at birds, and I at least felt significantly insecure as to try to hide my activities when I went out. Whereas Bruce was inspired by a neighbour, Gord Giles, teachers and by Sunnyside and High Park, I got turned on by my father and the Don Valley where his Taylor antecedents farmed for several generations.

It was not until I started university in 1944 that I first met other naturalists, when John Speakman and Joe Wheeler invited me to join them on their raptor nest bicycle expeditions, north of Toronto. In the fall of 1945, I first met Bruce who at the time was returning to second year Honour Biology after serving his tour in the RCAF from 1943 to 1945.

He took me out to surrounding "hot spots" and very slowly I began to learn how to tell one bird from another and to distinguish their songs. I also bought my first Eastern Peterson. Bruce introduced me to such luminaries as Terry Short, Lester Snyder, Ken Mayall, Cliff Hope and Jim Baillie. He spon-

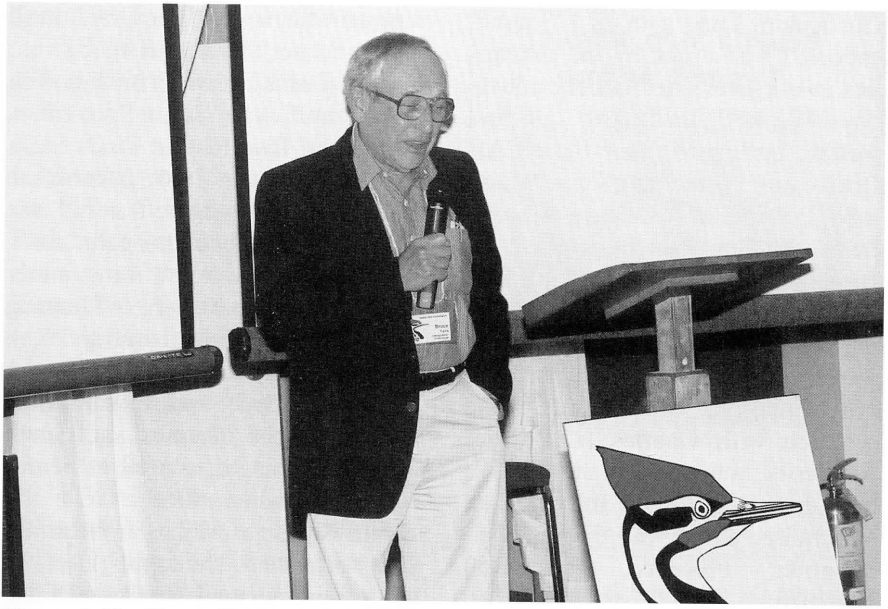

Figure 1: Dr. Bruce Falls accepting the Distinguished Ornithologist Award at the OFO Annual Convention in Kingston, Ontario, 28 September 2002. Photo by *Rory MacKay*.

sored me for membership in the TOC and Brodie Club, and most important, introduced me to his friends, including Bob Ritchie, Bob Lanning, John Crosby, Yorke Edwards and Alex Cringan, who was my future wife's (Mary Craig) cousin. I had never heard of a birding trip until Bruce and his entourage took me to Hamilton, introducing me to Rock Chapel, Lake Medad and then to Long Point in March 1946.

In May of the same year, he took me to the ultimate destination, Point Pelee. I will never forget the 6+ hour drive in Bruce's father's car, almost driving off the Leamington dock into Lake Erie in the dark, camping out on a sand dune, which in the morning turned out to be covered by Prickly Pear Cactus, now long gone. I cannot recall a better fallout of especially warblers in the flowering apple trees in the orchard, also long gone. Entering the park was simple then. The gates were usually open, rarely policed by the RCMP, and you could drive and camp anywhere you liked. No crowds then; birders were few on the ground. The trip culminated with us all convincing ourselves we had found a Richardson's Owl among the cottages near the base.

Although Bruce then went on to become an international figure, whereas I simply enjoyed natural history, while I was reviewing his

Curriculum Vitae with its 126 publications, I was struck by the similarities in our lives after undergraduate days. We both thrilled to our first western birding. While in the RCAF, Bruce was posted at Souris, Manitoba, Penhold and Calgary, Alberta, from whence he hitchhiked to Bismark, North Dakota, Banff, Red Deer and Vancouver. Perhaps you did better in uniform because my first western trip to Heron Lake in southern Minnesota, while I was doing research with Charles H. Best at Rochester, was not too smooth. We both belonged to the Intermediate Naturalists, along with Jim Baillie's daughter, Florence, and Bob Bateman.

We both experienced similar embarrassments. While Bruce's mother unknowingly admonished Professor Dick Saunders not to get snow on her floor when he came into the house to telephone, after Bruce had shown him a Bohemian Waxwing, the "twitch" that followed Dick (Jim Baillie was away) to see my Varied Thrush at Maple in 1961 upset my neighbour by telling him not to come out of his own house for fear he would frighten the bird! Jim Baillie obligingly eliminated the cause of the disturbance a few days later.

Bruce recounts his embarrassment when leading a birding group in Toronto in place of Dick Saunders, when he could not identify a loud warbler song that turned out to emanate from a Connecticut. "Professor Saunders would have known what it was", they said. I will never forget falling off a log into four feet of muck when birding with Bruce and Ann, John Speakman, Mary, and Ron Ridout in La Selva in Costa Rica in 1989. It took me half an hour before I could see through my binoculars again.

We both worked at summer jobs for the Department of Planning and Development under Ken Mayall and Fred Ide, doing stream surveys, in Bruce's case with Andy Lawrie in the Thames and South Nation drainages, as well as nearer Toronto, and in mine also in the South Nation as well as in the James Bay watershed. The highlight of the latter summer was Kesagami Lake and River, now a provincial park.

In 1947, Bruce's summer work took him to the Wildlife Research Station at Lake Sasajewun in Algonquin Park with David Fowle and Jim Bendell. With Norm Martin, he worked under Professor Dymond in the Park Naturalist Program. Bruce stayed with the Wildlife Station, working with such people as Yorke Edwards, Cliff Hope and Doug Miller, for the rest of his academic career, eventually serving as U of T Department of Zoology representative.

We were both influenced by the same people, in Bruce's case, molding his career. "Covers" (A. F. Coventry) provided advice and support. E. M. Walker brought him into dragonflies, Dymond into fish. It is hard to forget J. R.'s mnemonic for the song of the White-crowned

Sparrow: "poor Jo Jo peed his pants".

Whereas Bruce became a major part of the Wildlife Station, I had a briefer but fruitful time at the Fish Lab, now the Harkness Laboratory of Fisheries Research on Lake Opeongo in Algonquin Park, that introduced me to Jack Price and Jake (now Senator) Kenny of Trinidad, as well as Murray Speirs, Professor A. G. Huntsman, and of course, Professor Harkness, Fred Fry and Ray Langford. Jack and Jake led me to my first exotic trips to Florida and the Everglades in 1945, and Trinidad in 1952, very different places in those days to what they are now. Both Bruce and I were influenced by Bill Gunn, this leading to Bruce's recognition as an international figure in animal communication and behaviour, with the first publication in 1959, and especially his interest in bird song. He went on to work out the anatomy and physiology of bird song as well, using Great Tits, meadowlarks, and of course, White-throated Sparrows, as subjects.

Both of us love the wilderness, Bruce with his Apsley property in Peterborough County, and we with our tract of Lake Huron shoreline, alvar and pseudoboreal forest on Manitoulin Island. But whereas we had our neighbour Ivan Bailey reconstruct two pioneer log houses on the site, Bruce built his own 19th century Ontario Victorian home at Apsley with his own two hands. He also built his own cottage on Go

Home Lake. Anyone who tires of the summer crowding of Georgian Bay should let Bruce take them on a naturalist's tour away from the madding crowd to see such wonders as the botany of the old Champlain Sea.

Bruce was a member of the committee that established the Nature Conservancy of Canada, was NCC Chair from 1971 to 1974, and has remained a major figure in that organization, on which I also served as a Board member. We both served in the Conservation Council of Ontario, and we both had Long Point connections. Bruce was President of the Federation of Ontario Naturalists from 1962 to 1964.

With Don Smith and Witek Klawe in 1950 and 1951, Bruce camped out near the lighthouse at the tip of Long Point to begin his long career studying deer mice, at that time for his Ph.D. thesis. There they met Lorne Brown, the naturalist lightkeeper, who in 1948 gave me a lighthouse-killed Kentucky Warbler skin he had prepared. Jim Baillie said it was Ontario's seventh record.

Both of us became involved with the Long Point Bird Observatory. Bruce was already an Honourary Director, since 1970, and chaired the Program Committee from 1991 to 1992. Both of us served as Chairman of the Board. Bruce played a major role in the conversion of the former Long Point Bird Observatory to its national and even more scientific successor, Bird Studies Canada.

Obviously, his post-doctorate fellowship at Oxford, 1953–1954, and his Visiting Scientist appointments in 1964 at CSIRO in Canberra, Australia, as well as in 1973 at UBC, Visiting Scientist appointment at Rockefeller University in 1980 and Visiting Fellowship at Wolfson College Oxford, 1981 and 1988, sculpted his professional career. But they also contributed to his birding abilities. He was as much at home in Europe when Mary and I visited him there as he would be at Long Point, finding Curlew Sandpipers, as I recall, and easily distinguishing, to me apparently identical, migrant *Phylloscopus* warblers.

He is ingenious in the field, as demonstrated during an early Birdathon to raise money for the Long Point Bird Observatory. We began to get inundated with rain, and with no alternative to start over on another day, Bruce fashioned a green garbage bag rain cape for each of us, carefully cutting out the eye and mouth holes, allowing us to continue counting!

In addition to our Costa Rica trip mentioned above in 1989, we had great trips together to Venezuela in 1993, India in 1996 and Brazil in 1997. Many of you will have seen his beautifully edited video, for example, of our trip to Kazaranga in Assam, particularly elephant rides through marshes to closely approach fighting Asiatic one horn rhinoceros.

But Bruce will be immortalized by especially his work on White-throated Sparrow morphs, Eastern and Western meadowlark song, and

of course, deer mice.

However, more important is his influence on younger scientists. Just as Baillie, Mayall, Dymond, Walker, Ide, Coventry and others left their impressions on him, he has left his mark on 36 graduate students in the field, as Bruce succinctly puts it, of "behavioural mechanisms contributing to population regulation, dispersion and use of resources by wild species". His work continues, with 15 publications currently in preparation or press in the past five years.

He has been honoured previously many times, in Canada, the USA, UK, and Germany in particular, and in addition to important posts already mentioned, he was associate editor of the Canadian Journal of Zoology from 1982 to 1989, Chair to the Scientific Program Committee of the 19th International Ornithological Congress in Ottawa, and involved in others before and after (good chances to do exotic birding!), and President of the Society of Canadian Ornithologists, 1991 to 1993. Bruce is a member of the Laboratory of Ornithology at Cornell, the Ecological Society of America, and the Wilson Ornithological Society (Council member 1962–1964), and a Fellow of the American Ornithologists' Union and the Deutsche Ornithologen Gesellschaft. And now, OFO has most appropriately presented him with its Distinguished Ornithologist Award.

Ron Tasker, 12 Cluny Drive, Toronto, Ontario M4W 2P7

The Distinguished Ornithologist Award is granted to individuals who have made outstanding and authoritative contributions to the scientific study of birds in Ontario and Canada, who have been a resource to OFO and the Ontario birding community, and whose research on birds has resulted in many publications and a significant increase in new knowledge. Previous recipients were the late Earl Godfrey (1997), Ross James (1998), the late Murray Speirs (2000), and George Peck (2001).

American Crow Nesting on Building

Mark K. Peck

On 2 April 2002, an American Crow (*Corvus brachyrhynchos*) was observed carrying several sticks to an interior corner of an upper ledge on the northwest side of the Royal Ontario Museum (ROM), Toronto, *Toronto*. The ledge was 21 m above ground and 3 m from the roof of the Museum. During the next 30 minutes, a pair of crows made three visits to the site. Sticks were seen being collected on the ground or taken from trees within 100 m of the nest. The birds then flew to a large Northern Catalpa (*Catalpa speciosa*) located in front of the ledge, before proceeding to the nest site (ONRS 168785). Although difficult to see from the ground, the amount of material on the ledge suggested that nest-building had been initiated a day or two earlier.

Nest-building continued on 3 (Ron Pittaway, pers. comm.), 4 and 5 April 2002. On 9 April, an adult was seen sitting on the nest. On 12 April, a crow was seen near the nest, calling loudly and flying at a Grey Squirrel (*Sciurus carolinensis*) as it moved along the upper branches of the catalpa. The crow continued to follow the squirrel until it had moved into a nearby tree. The bird then returned to the nest. The nest appeared intact and the ground below the nest contained numerous twigs and some dried grasses. On 15 April, no activity was observed at or near the nest. The nest appeared damaged and the ground below the nest contained additional twigs, grasses and the broken remains of three crow eggs. The area was rechecked on 17 April, and no activity was seen at the nest site or in the surrounding vicinity.

On 17 April, a pair of American Crows was observed carrying twigs and trying to place them in various locations on the rooftop along the south side of the Legislative Building at nearby Queen's Park. The birds tried to place the twigs in several locations but, after approximately 20 minutes, flew off to the southeast. On 19 April, a nest under construction (ONRS 168790) was located in a nearby White Pine (*Pinus strobus*). Large young were seen in this nest on 16 June 2002.

Discussion

The American Crow is a common summer resident throughout most of Ontario. It has been found breeding in a wide variety of habitats including woodland, agricultural and residential areas. Nests are usually well hidden in coniferous and deciduous trees and occasionally in bushes. But crows have also shown some versatility in nest site

selection. Within the province, Peck and James (1987) reported crows nesting rarely in dead trees, on top of dead stubs, and in a cliff face crevice. Throughout North America, there have been reports of birds nesting on the ground (Mitchell 1915), in tules over water, in hollow stubs, on telephone poles and even on the chimneys of an abandoned house and a church (Bent 1946). Many of the unusual nest sites mentioned by Bent were found on the prairies where the treeless landscape might have been responsible for some of the nest sites selected. A more extensive literature search failed to reveal additional nests sites on buildings. A search of the internet, however, turned up photographs of an American Crow nest positioned on a wooden ledge along one of the lower lock gates of the upper lock at Jones Falls, *Leeds and Grenville*, Ontario (Watson 2000).

While it is not surprising to think of American Crows and other corvids nesting in close association with people, it is rare to find them nesting on buildings. It has been reported for White-necked Raven (*C. cryptoleucos*; Baicich and Harrison 1997), and there was also a nesting attempt of a Common Raven (*Corvus corax*) x American Crow pairing on the former Etobicoke Lakeshore Psychiatric Hospital, Toronto (Jefferson 1994). Nests that have been found are usually in abandoned buildings, where less human disturbance would be expected. The nest on the ROM was certainly high enough to avoid disturbance from humans but may have failed for other reasons. Squirrels are very common in the vicinity of the Museum and they are often seen using the ledges and walls to move around the area. A nest blocking a well-used route may have been disturbed to re-open a path. Another possible explanation for the nest failure may have been the difficulty securing the nest to the building. The nest was built on an interior corner of a flat ledge, and although well protected from the south and east, it would still be open to winds from the northwest.

Nesting on buildings might provide advantages for crows. To a corvid, the ledge on a building may be akin to a crevice in a cliff, offering protection from both predators and the weather. It may also be more advantageous in areas where deciduous trees predominate, and where birds initiate nest construction before the leaves have budded in the spring.

Acknowledgements

Many thanks to Ron Pittaway for his independent corroboration of the nest and his follow-up report.

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Nikon

Photo Quiz

Sponsored by Nikon Canada

The plumage, shape, proportions and relatively short, thick bill together indicate that this is a non-breeding plumaged *Pluvialis* plover. While only two species, the American Golden-Plover (*P. dominica*) and Black-bellied Plover (*P. squatarola*) are known to have occurred in Ontario, two others are possible—European Golden-Plover (*P. apricaria*), and Pacific Golden-Plover (*P. fulva*). Both of these latter two species have occurred in recent years in northeastern North America.

These plovers frequently occur in mixed flocks, thus allowing direct comparison of their differences. A single bird, perhaps our first of the season, can present identification difficulties. However, careful examination of both plumage features and physical structure will lead us to the correct identification.

The plain plumage here, without black underparts, clearly indicates that this is a juvenile or adult basic (winter-plumaged) bird. Since all upperpart feathers are crisp with neat spotting and no wear or fraying, this is a juvenile bird, hatched but a few weeks earlier in the same year. On a sunny fall day, the upper parts look rather bright. In fact, there is a yellowish tinge to the back and feather edges. So, is it a Golden-Plover? This bird is quite bulky and bull-necked, with a full breast and belly. Golden-Plovers are relatively slim with tapered necks. So our impression is that it is not a Golden-Plover. Overall shape and proportions are very helpful in bird identification. British birders refer to this as the "jizz". This term derives from WWII plane spotters who used "general impression size and shape" to identify airplanes.

Let's examine the head. Bill proportions can be quite tricky in the absence of direct comparisons. The bill here is fairly thick at the base and not particularly slimmer throughout. The head is rather large. The entire effect is of a bigger headed, and bigger billed bird than is the case with Golden-Plovers. There is a strong off-white supercilium, but the crown is not particularly dark, being streaked with white. The dark blotch behind the eye is not very bold. In Golden-Plovers, the crown appears as a dark cap set

off by a strong eye stripe, dark auricular and loral spots. The finer bill together with these plumage features creates what might be called a "pin-headed" look. Our bird does not appear to be a Golden-Plover.

Our bird is not particularly attenuated. This lack of tapering is a function of its bulky shape and relatively short primary length. In fact, three primary tips are visible beyond the folded tertials. American Golden-Plover, among the World's greatest long-distance bird migrants, has four primary tips visible. Based on wing length and primary extension, our bird cannot be an American Golden-Plover.

Another excellent feature for distinguishing Black-bellied from Golden-Plovers is evident on the underparts. The vague blotching and barring on the breast and belly extend well beyond the legs towards the undertail. On Black-bellied, the area from the legs to undertail is clear unmarked white. The resulting contrast is quite different from Golden-Plover and can be seen from a considerable distance.

Among the Golden-Plovers, the Pacific and European both have shorter wings with only three primary tips visible beyond the tertials. In this feature, they are like the Black-bellied Plover. However, the already noted differences in shape, bulk and plumage between American Golden-Plover and Black-bellied Plover apply to these two as well. Moreover, both these species are distinctly more yellow on the breast and upper parts than our bird.

The finer points of distinction among the three Golden-Plovers have not been discussed here, but careful birders should be aware of these differences when they are in the field. An excellent analysis of the three Golden-Plovers can be found in the December 1996 *Birding*, Volume 28, pages 504–505, in an article by Edward Brinkley entitled, "Answers to the October Photo Quiz". Read this carefully and you will be ready to discover the first Ontario Pacific Golden-Plover!

The juvenile **Black-bellied Plover** in our Quiz was photographed by Barry Cherriere at Toll Gate Ponds, Hamilton Harbour, on 25 September 1999.

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Ontario Field Ornithologists

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Ontario Field Ornithologists is an organization dedicated to the study of birdlife in Ontario. It formed in 1982 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*), operates a bird sightings listserv (ONTBIRDS, coordinated by Mark Cranford), hosts field trips throughout Ontario, and holds an Annual Convention in the autumn.

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