

Recognizable Forms

Redpolls

by
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Introduction

The American Ornithologists' Union Check-list (1983) recognizes two species of redpolls: **Common Redpoll** (*Carduelis flammea*) and **Hoary Redpoll** (*C. hornemanni*). Each species has two well-marked subspecies in Canada (Godfrey 1986). However, the taxonomy of redpolls has been much debated. Some authors suggest lumping all redpolls into a single species, while others propose splitting them into four separate species. Regardless of how many species there are, classic individuals of each of the four forms are recognizable in the field. The legendary George North of Hamilton actually saw the four forms of redpolls in one flock at Aldershot on 23 March 1958 (North 1983)! In order to recognize these forms, we require a sound knowledge of the field marks, plus a thorough understanding of redpoll plumages, effects of wear, age classes and molts. It is a fascinating identification challenge, worthy of our consideration.

Taxonomy

The Common Redpoll has two subspecies in Canada: the smaller and southern nominate race (*C. f. flammea*) and a larger northern race (*C. f. rostrata*). A third race, *C. f. holboelli*, is considered by most authorities to be of doubtful validity (AOU 1957, Godfrey 1986). Knox

(1988) treats it as representing very long-billed individuals of nominate *C. f. flammea*. The Hoary Redpoll also has two subspecies in Canada: a small southern race (*C. h. exilipes*) and the larger northern nominate race (*C. h. hornemanni*).

Troy's (1985) widely read and much quoted study concluded that the southern race of the Common Redpoll (*C. f. flammea*) and the southern race of the Hoary Redpoll (*C. h. exilipes*) should be lumped as one highly variable species. His assumption was that intermediate birds represented hybrids. This view appealed to many ornithologists, birders and banders who had found themselves perplexed by redpoll identification. However, later researchers questioned Troy's taxonomic conclusions. Seutin *et al.* (1989) noted that Troy failed "to take age dimorphism into consideration in his analysis". In fact, Knox (1988) could find no direct evidence of hybridization anywhere in the large area of overlap between Common and Hoary Redpoll populations, although he suspected that occasional hybridization does occur. Based on biochemical evidence (electrophoresis), Marten and Johnson (1986) found that the two most similar forms of Common Redpoll (*C. f. flammea*) and Hoary Redpoll (*C. h. exilipes*) "seem to have split 550,000

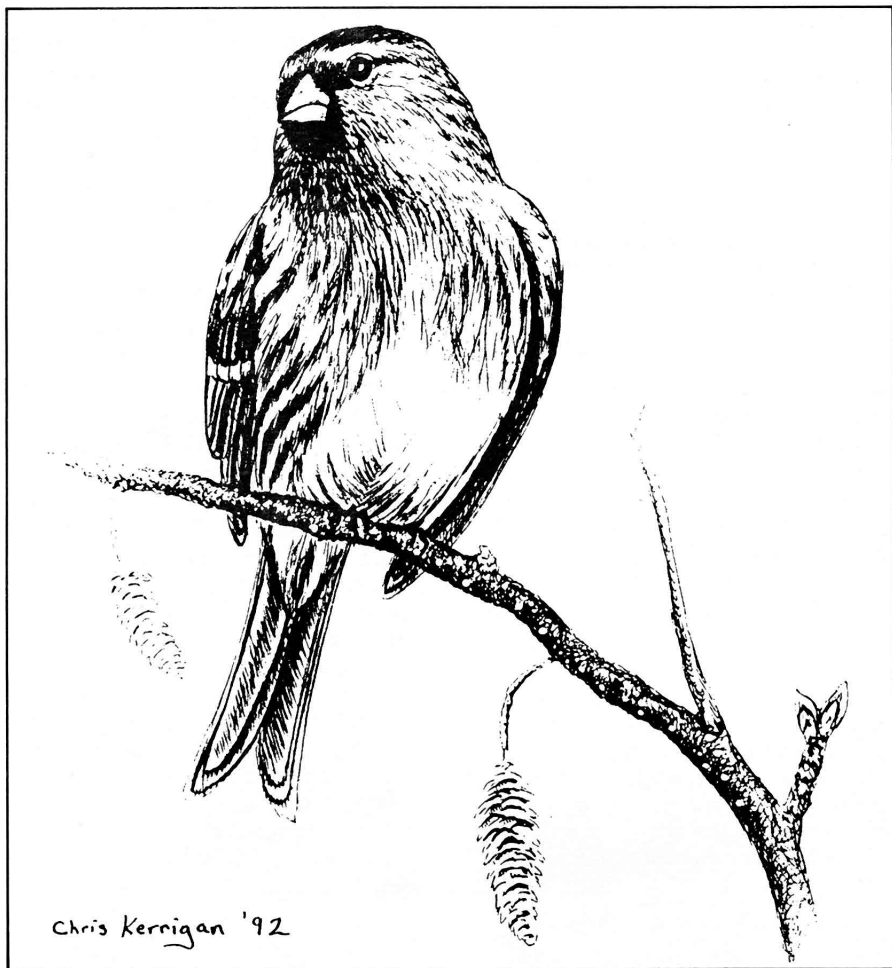


Figure 1: Adult male Common Redpoll. Drawing by Chris Kerrigan.

years ago". These two forms "are clearly near the boundary of species formation" (Knox 1988). Both Knox (1988) and Herremans (1989) considered the two forms to be a pair of sibling species. Sibling species are two or more closely related species that have very similar morphology. The *Empidonax* flycatchers are a good example of sibling species. Similarly,

the two large northern redpolls (*C. h. hornemannii* and *C. f. rostrata*) also occur together over a wide area with virtually no evidence of interbreeding. Previously, Todd (1963) and recently Herremans (1989) have proposed four species of redpolls: *C. hornemannii*, *C. exilipes*, *C. rostrata* and *C. flammea*. See Figure 2.

Plumages, Molts and Ageing

A knowledge of redpoll plumages will help in understanding the variation seen in redpoll flocks. Instead of resulting from hybridization, much of the confusion over intermediate birds can be explained by age and sex differences, and individual variation (Knox 1988). The following is only a general outline of the plumages, molts and ages in redpolls.

Adult (definitive basic) redpolls undergo a complete molt (all feathers) once a year after the breeding season. Because of buffy or greyish feather edges which gradually wear off, adults in fresh (new) fall plumage are much paler than the same birds in worn (old) breeding plumage. In males, the pink coloration is also pale when fresh, gradually becoming richer and redder by spring. Feather wear allows redpolls to don a breeding dress without the need to molt (Newton 1972). This change is well illustrated in the National Geographic Society's Field Guide (Scott 1987). Compare the illustrations of the Common Redpolls labelled winter and breeding on page 439.

Juveniles lack the red cap and black chin of the adult birds. On the breeding grounds in late summer, juveniles undergo a partial (body) molt to first year (first basic) plumage, retaining most of the juvenile wing and tail feathers. Seasonally compared, first year birds are darker and more streaked than their respective adults. Redpolls wear their first year plumage for approximately one year, after which they molt completely into adult or definitive basic plumage.

A large flock of "Southern" Common Redpolls (*C. f. flammea*) will show four plumage types: adult males, adult females, first year males, and first year females. Add another form to the above flock and now there are eight possible plumage types!

"Southern" Common Redpoll (*C. f. flammea*)

This low Arctic form breeds south to northern Ontario (James 1991). It is an erratic winter visitor to southern Ontario, sometimes in large numbers. This is the commonest form in the province, far outnumbering the other three forms and is the standard by which the other forms are compared and recognized. Study the flocks (bird feeders are ideal) and learn the different plumage variations. Adult males are richly coloured with rosy pink while first year males are somewhat darker and often washed with light pink. Adult females on the other hand usually lack any pink colouration (sometimes tinged) and first year females are the darkest and most heavily streaked of the age classes, at times almost siskin-like.

In all plumages, this form is usually noticeably streaked on the sides, rump and undertail coverts. The bill is longer and less stubby than the Hoary's. Individuals showing characteristics that are intermediate between *C. f. flammea* and *C. h. exilipes* are best left unidentified.

"Greater" Common Redpoll (*C. f. rostrata*)

This large and dark form breeds on Baffin Island and Greenland (Todd

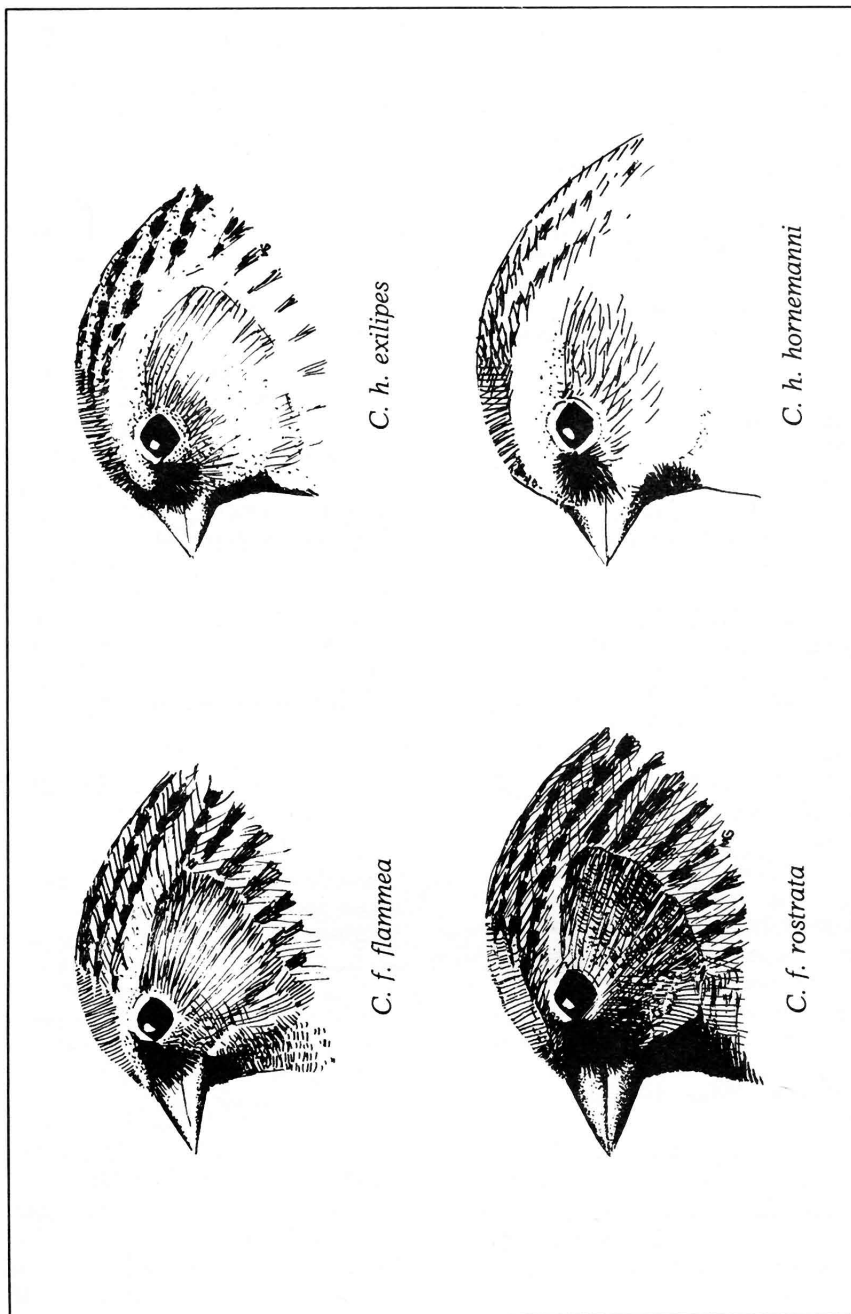


Figure 2: Common Redpolls (left) and Hoary Redpolls (right). Drawing by Michel Gosselin.

1963). In parallel with the two subspecies of the Hoary Redpoll, there is also a gap between the breeding ranges of the two subspecies of the Common Redpoll. See the range map in Godfrey (1986). It is a winter visitor "in small numbers to southern parts of the East from Ontario to Newfoundland" (Godfrey 1986). Richard Poulin (pers. comm.) has banded hundreds of redpolls near Ottawa, and reports that "Greater" are more common than Hoary Redpolls during some winters. Look for this distinctive subspecies during redpoll flight years.

The "Greater" is somewhat larger (averaging 14.0 cm) than the "Southern" race which averages 12.5 cm in length (Newton 1972). The difference between the two races of the Common Redpoll is "fairly obvious when the two birds are together in the same flock" (Peterson 1947). "Greater" field marks include "larger size with thicker bill, coloration somewhat darker and browner than in *flammea*, adult males with red of under parts less extensive and less intense" (Godfrey 1986). Observers familiar with "Greater" in the field have described them as somewhat House Finch-like because of their stout bills, heavy builds and general darker colouration with conspicuous streaking on the underparts.

"Southern" Hoary Redpoll (*C. h. exilipes*)

This form breeds in the low Arctic, and much of its range overlaps that of the "Southern" Common Redpoll. It breeds regularly south to Churchill, Manitoba (Jehl and Smith 1970), and Middleton (*in*

Cadman *et al.* 1987) reported that it "may breed in low numbers on the tundra of Hudson Bay" in Ontario. During redpoll flight years, it is usually possible to find a few "classic" adult males. They stand out by their very white "frosted" appearance, pure white rumps, paler and less extensive pink suffusion on the breast, lightly streaked flanks, and very lightly streaked to immaculate undertail coverts. "Southern" Hoaries are similar in size to "Southern" Commons, but usually have shorter, more obtuse (stubby) bills imparting a distinctive "pushed in face" appearance. Many first year and some adult female "Southern" Hoaries can be quite streaked on the rump and sides (Knox 1988). These "intermediate birds" are probably best treated as unidentified. The reader is referred to the excellent article by Lansdown *et al.* (1991) on the identification of this form.

"Hornemann's" Hoary Redpoll (*C. h. hornemanni*)

The "Hornemann's" or "Greenland" Hoary Redpoll is the largest and palest of the redpolls (Godfrey 1986). There is apparently a gap between the breeding range of the two subspecies of the Hoary Redpoll (Todd 1963). This race breeds in the Canadian high Arctic and Greenland and "is a great rarity south of the tundra at any season" (Aubry *et al.* 1987). The American Ornithologists' Union Check-list (1957) lists a record from Galt (Cambridge), Ontario. The specimen is now in the Royal Ontario Museum (North 1983). (See North's account of this specimen and his observation of

the four forms of redpolls in the Postscript to this article.)

"Hornemann's" Hoary Redpoll is a larger bird (averaging 14.0 cm) than the "Southern" Hoary which averages 12.5 cm in length (Newton 1972). Todd (1963) states that there is "no overlap in measurements" between the two subspecies. Compared to the "Southern" Hoary Redpoll, "Hornemann's" is known by its larger size, overall whiter appearance, less prominent streaking on the sides and flanks, and immaculate undertail coverts; males have less pink which is of a different hue, some showing a mere trace of pink suffusion on the breast (Todd 1963). Females and first year birds are probably recognizable, if directly compared to the other forms (especially the two smaller ones), by their pale colouration and larger size. Richard Poulin (pers. comm.) has observed this form in the high Arctic. He describes it as being "really distinctive; a big, very white redpoll suggesting a Snow Bunting"!

Summary

Common and Hoary Redpolls appear to be valid species. The "intermediate birds" reported between *C. f. flammea* and *C. h. exilipes* are apparently the result of age, sex and individual variation and not interbreeding. Some authorities recognize four species of redpolls. Not all redpolls will be identifiable to species or subspecies, but "classic" individuals of each form are very recognizable.

Postscript

George North's (1983) description of his experience with redpolls is

worth quoting here, as an example of his interest in recognizable forms:

"The McIlwraith Loan Collection of birds used to be housed in the Hamilton Museum on the second floor of the old Public Library and Art Gallery which stood on the east side of Centenary Methodist Church. Back in the 1920's I used to visit the museum often to admire the birds and study them carefully. Among the most striking was the big white Greenland Redpoll, that seemed to be as big as a Snow Bunting. It was collected about 1863 by a friend of Mr. McIlwraith's from a small flock in the town of Galt.

For many years I searched the big or small flocks of redpolls that visited us almost every winter, but without success in finding this big and hoary bird. Then on March 23, 1958, on one of our weekly birding trips together, Dr. R.G.C. MacLaren and I visited a spot that had produced good birds in previous springs. This was an extensively open field off the Plains Road at Aldershot that was part of the property of Mrs. Townsend's at Oaklands. On walking over the field we came on a flock of redpolls feeding on weed seeds. To our delight there was a big white redpoll, twice as big as the Common Redpolls, the Greenland Redpoll that I had been searching for for thirty years. But this was not the only rare bird there. On looking over the flock we found one specimen of the commoner small white-rumped Hoary Redpoll and one individual of the Greater Redpoll. This latter is classified as a subspecies of the Common Redpoll, but it is a much larger bird, more the size of a Purple Finch and has a much heavier bill, more like a grosbeak's. I have

seldom seen the Greater Redpoll since the winter of 1929-30 when I found them on the north shore of the Dundas Marsh."

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