

ARTICLES

LEUCISTIC
BIRDS IN
ONTARIO*Barry Cherriere*

Introduction

Leucism describes a plumage aberration in which a bird has a normal pattern and colour of plumage that is discernable, but is pale and washed out (Sage 1962). These birds often have normal bill and soft part colours, but the plumage is faded. This effect results from the lack of melanin pigment in feathers, but other carotenoid pigments may be present (Harrison 1962, Lucas and Stettenheim 1972). A partial albino, on the other hand, would lack melanin in only part of the plumage, either symmetrically or asymmetrically (Lucas and Stettenheim 1972). Only an individual completely lacking in pigment would accurately be called an albino.

The terms leucistic and leucism are derived from the prefix *leuc-*, the Latin variant of *leuk-*, from the Greek *leukos*, meaning “white”. This prefix in both Latin and Greek is pronounced with a hard C or K sound, hence the correct pronunciation of leucistic is loo-kiss-tic, and leucism is loo-kism. (As a variant of *leuk-*, the terms may sometimes be spelled leukistic and leukism).

The term *schizochroism* (skiz-ZOK-row-ism — from the Greek *skhizein*, meaning “to split”) has also been used to

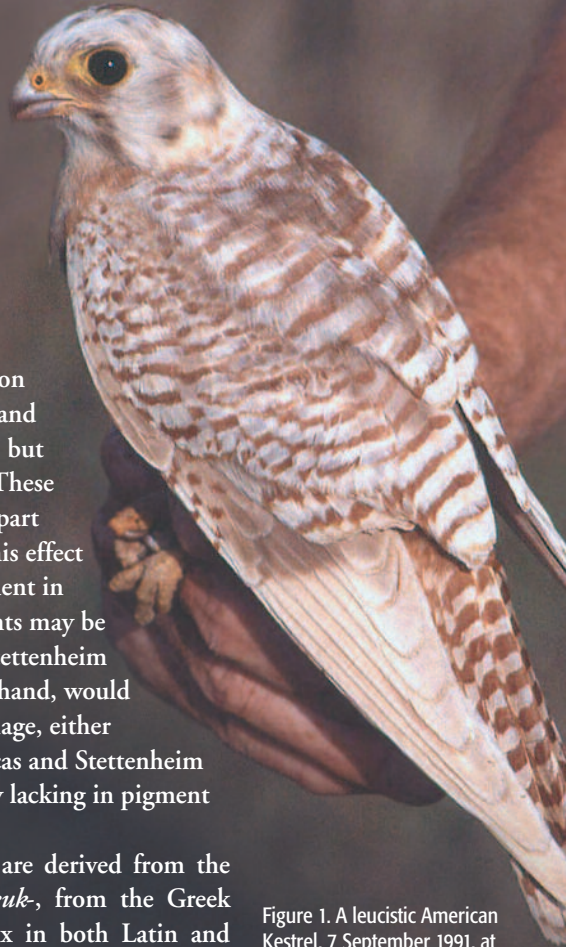


Figure 1. A leucistic American Kestrel, 7 September 1991, at Hawk Cliff, Elgin County, Ontario.

Photo: Barry Cherriere



describe birds that lack one of the pigments normally present, and may then exhibit a pale or washed out appearance (Van Tyne and Burger 1976, Terres 1980). Some authors consider this synonymous with leucism (e.g. Trost 1999), although, there may be other coloured birds not fitting leucism (e.g. blue coloured parrots — see Van Tyne and Burger 1976). Since leucism is derived from the root for white, it seems a much more appropriate name for overall pale whitish birds.

This paper recounts five instances where I have seen leucistic birds in Ontario. Photographs are provided for three of these birds, representing a range of variation in paleness.

Observations

My first encounter with a leucistic bird involved an American Kestrel (*Falco sparverius*) at the Hawk Cliff banding station south of Saint Thomas, Elgin Co., with the late Bruce Duncan. On 7 September 1991, we had observed the kestrel at a distance, and were discussing how remarkable it would be to be able to observe it in hand. Fortunately, Janet Snaith was able to lure in and capture that kestrel (Figures 1 and 2). This was an immature bird, with a nearly normal bill and eye colour. The areas normally black were white or nearly so, leaving the rufous colours much as they would be on a normal bird. At the time and location, it was no doubt a migrant bird.

Figure 2. The leucistic American Kestrel, 7 September 1991, at Hawk Cliff, Elgin County, compared to a normally coloured kestrel. *Photo: Barry Cherriere*

My next encounter involved a Red-necked Grebe (*Podiceps grisegena*) at the Burlington ship canal, Hamilton, on 14 January 2001. Due to circumstances of distance and lighting, I was unable to photograph this bird. However, Kevin McLaughlin provided the following field notes from his sighting on 13 January: overall white; bill normal colour; dusky brownish above and behind the eye; thin dark stripe down nape; dusky lower hind neck; light gray scapulars; coverts slightly darker gray. At this time of year, the bird was in winter plumage, and except for an apparently normally coloured bill, was decidedly much paler than expected. This also was no doubt a migrant at this location.

The next sightings involved two different Black-crowned Night-Herons (*Nycticorax nycticorax*). The first was on 25 May 2003 at the colonial nesting islands at the northeast shore on Hamilton Harbour. This bird was unapproachable for photographs. The bird was very pale overall, much like the second night-heron seen (below). While seen in the breeding season, the origins of the bird are unknown.

The second night-heron was discovered on 15 October 2006. It was a juvenile seen at Van Wagners Ponds across the road from Hutch's Restaurant, Hamilton, along the rail trail (Figures 3 and 4). On this bird, even the bill seemed somewhat paler than normal, and all



Figure 3. A leucistic Black-crowned Night-Heron, 15 October 2006, at Van Wagners Ponds, Hamilton, Ontario.
Photo: Barry Cherriere



Figure 4. Another view of the Black-crowned Night-Heron at Van Wagners Ponds, 15 October 2006. Photo: Barry Cherie

the normally brownish areas were only pale buff all over. This bird was so pale overall that, as it flew around, it struck me as having the likeness of both an egret and a Snowy Owl (*Bubo scandiaca*). While it may have been raised locally, it was more likely a wandering bird, otherwise it might have been seen earlier in local colonies.

Finally, on 7 April 2007, a leucistic Horned Grebe (*Podiceps auritus*) was seen at the Oakville bluffs lookout, Halton R.M., at the end of East Street. I discovered this bird while searching for a Western Grebe (*Aechmophorus occidentalis*) that had recently been reported

with a large number of Red-necked Grebes offshore at this locality. The leucistic grebe came close to shore alone and was photographed from above (Figure 5). About 45 minutes later it returned, accompanied by a normally alternate plumaged Horned Grebe, providing an excellent comparison (Figure 6). The leucistic bird had a nearly normally coloured bill, somewhat faded at the tip and base. The normal chestnut or black areas were much faded, and the orange of the horns was completely gone.

Discussion

Abnormally pale-coloured birds have been described for a wide variety of species, including: ducks and geese, partridges and quail, grebes, herons, vultures, diurnal raptors, seabirds (Dovekie *Alle alle* and murre), doves, woodpeckers, crows and magpies, larks, thrushes, starlings, warblers, blackbirds, and weaver finches. However, it has not always been clear that they would correctly be called leucistic.

As a relatively rare phenomenon, leucism is not well studied or understood. Some have suggested that it might be induced directly by diet deficiency or toxicity (see Harrison 1964). Since diet can influence the coloration of plumage (see Derbyshire and Flinn 2007) this may seem an attractive theory at first. A deficient diet could result in a paler bird, particularly where diet is necessary for normal colouration



Figure 6.
The leucistic Horned Grebe,
7 April 2007 at Oakville bluffs,
compared to a normally
coloured bird.

Photo: Barry Cherriere



Figure 5. A leucistic Horned
Grebe, 7 April 2007, at the
Oakville bluffs lookout,
Halton R.M., Ontario.

Photo: Barry Cherriere

(e.g. flamingos or House Finches *Cardinalis mexicanus*). But this alone seems an unlikely explanation for leucism. Leucistic birds can occur in many species with a wide variety of diets, and over a wide geographic range, not just where pollution or a diet deficiency might be expected to occur. Albinism is generally considered a genetic effect, and genetics undoubtedly contributes to leucism. Where inadequate or toxic diet influences genetics indirectly, perhaps it plays a role.

The birds figured here show the wide range of variation from nearly white to well marked, although not of normal colouration. Since the paleness of leucistic birds can vary, it suggests that the genes for normal feather colour are not expressed fully in leucistic birds. It would seem to be a case of incomplete dominance. However, it should be noted that the orange of the Horned Grebe horns was also missing. This might be expected to be provided by a carotenoid pigment, supplied by the diet. So there may be an interaction between diet and genetics. Much is yet to be learned, and hopefully these examples will add to the information about leucism.

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