Aberrant colouration in some Ontario birds

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Lesser Yellowlegs, 19 September 2018, Upper Canada Migratory Bird Sanctuary, Ingleside, Ontario. *Photo: Brian Morin*

Evening Grosbeak, 2 April 2017, Eagle River Ontario. *Photo: John Terpstra*

Trumpeter Swan, 4 December 2018, Rideau Lakes, Ontario. *Photo: via Jon Ruddy*

Abnormal colours or aberrant "plumages" in birds garner much attention from birders, ornithologists and aviculturists alike. Possibly because we rely so heavily on the usually consistent and definitive plumages to obtain quick identifications, we are drawn to the slightest differences from those typical species characters. In past issues of Ontario Birds, we have seen striking examples of abnormal plumage attributed to conditions such as erythrism in a Rose-breasted Grosbeak *(Pheucticus ludovicianus*) (Pittaway and Iron 2006), and leucism in American Kestrel (*Falco sparverius*), Black-crowned Night-heron (*Nycticorax nycticorax*), Horned Grebe (*Podiceps auritus*) (Cherriere 2007), Common Goldeneye (*Bucephala clangula*) (Cherriere 2008), Eastern Kingbird (*Tyrannus tyrannus*) (Carter 2018) and Double-crested Cormorant (*Phalacrocorax auritus*) (Iron 2018). Both Cherriere (2007) and Iron (2018), provide well-referenced and detailed explanations on the development of these abnormalities.

Colour abnormalities often result from a genetic anomaly, the most common being mutations that interfere with production of the two melanins (eumelanin and phaeomelanin) or prevent pigments from being incorporated into feathers, but they can also arise from disease, trauma or environmental causes during feather production, such as malnutrition or lack of certain items in the diet. Variation in terminology causes much confusion and several attempts at simplification have been made. Davis (2007) and van Grouw (2006, 2013) provide excellent reviews of abnormal colouration in birds and its causes; both propose linking the aberration term to its cause. Davis (2007) proposes a unifying terminology based on the type of pigment (e.g., aeumelanin meaning a reduction in the pigment eumelanin) and its production that he suggests might reduce confusion while recognizing the cause of the anomalous plumage. van Grouw (2013) also proposes a unifying terminology based on use of the six most common heritable (genetic) colour aberrations. These are: albinism (absence of both melanins in feathers, eyes and skin), leucism (partial or total lack of both melanins in feathers and skin), brown (a qualitative reduction of eumelanin), dilution (a quantitative reduction of melanins), Ino (a strong qualitative reduction of

Common Grackle, 5 December 2018, Walsingham, Ontario. *Photo: Diane Salter*

Blue Jay, 28 February 2014, Algonquin Park, Ontario.
Photo: Kyle Blaney

both melanins) and melanism (an abnormal deposit of melanin in skin and/or feathers). Sibley (2011) provides a simple approach to abnormal colour in birds and the associated terminology, focusing only on the most common types birders will encounter. All of these references are suggested for further reading depending on your level of interest. For those of you interested in other means of exploring or contributing to the study of plumage abnormalities, check out an iNaturalist project "Amazing Aberrants" at: https://inaturalist.ca/projects/amazing-aberrants.

The articles previously published in *Ontario Birds,* in addition to the frequent posting of examples of anomalous plumages on social media, such as the Ontario Birds Facebook group, prompted us to make a call in *Ontario Birds*, and on the Ontbirds listserv, for photos and notes of birds with aberrant plumages for the purpose of illustrating the occurrence of this condition in some Ontario species (see "Wanted: Photos and notes on bids with aberrant plumage", *Ontario Birds* 36:143). The response to this call from OFO members and *Ontario Birds* readers was enthusiastic. To date, we have received responses from at least 71 individuals documenting aberrant plumages in 44 species (Table 1). These photographs and reports provide an excellent sample of the breadth of bird families in which aberrant colouration occurs, but the submissions are not a complete list of Ontario species which have shown these traits as is shown by the literature

Table 1. Species and number of unique individuals for which photographs or description of observed aberrant colouration were received in response to the *Ontario Birds* editors' request published in December 2018 (*Ontario Birds* 36:143).

Canada Goose	*Branta canadensis*	10
Trumpeter Swan	*Cygnus buccinator*	1
Wood Duck	*Aix sponsa*	1
Gadwall	*Mareca strepera*	1
Mallard	*Anas platyrhynchos*	16
American Black Duck	*Anas rubripes*	1
Blue-winged Teal	*Spatula discors*	1
Greater Scaup	*Aythya marila*	1
Long-tailed Duck	*Clangula hyemalis*	1
Ruby-throated Hummingbird	*Archilochus colubris*	2
Dunlin	*Calidris alpina*	1
Spotted Sandpiper	*Actitis macularius*	1
Lesser Yellowlegs	*Tringa flavipes*	1
Herring Gull	*Larus argentatus*	2
Double-crested Cormorant	*Phalacrocorax auritus*	1
Mourning Dove	*Zenaida macroura*	1
Broad-winged Hawk	*Buteo platypterus*	1
Red-tailed Hawk	*Buteo jamaicensis*	4
Great Gray Owl	*Strix nebulosa*	1
Eastern Kingbird	*Tyrannus tyrannus*	2
Blue Jay	*Cyanocitta cristata*	2
American Crow	*Corvus brachyrhynchos*	2
Common Raven	*Corvus corax*	1
Purple Martin	*Progne subis*	1
Tree Swallow	*Tachycineta bicolor*	1
Black-capped Chickadee	*Poecile atricapillus*	5

Tree Swallow, 5 June 2018, St. George, Ontario.
Photo: Renée Hallman

American Robin	*Turdus migratorius*	13
Bohemian Waxwing	*Bombycilla garrulus*	1
House Sparrow	*Passer domesticus*	1
Evening Grosbeak	*Coccothraustes vespertinus*	2
House Finch	*Haemorhous mexicanus*	1
Pine Grosbeak	*Pinicola enucleator*	1
Common Redpoll	*Acanthis flammea*	3
Pine Siskin	*Spinus pinus*	1
American Goldfinch	*Spinus tristis*	1
Song Sparrow	*Melospiza melodia*	1
Swamp Sparrow	*Melospiza georgiana*	1
Dark-eyed Junco	*Junco hyemalis*	5
Bobolink	*Dolichonyx oryzivorus*	1
Red-winged Blackbird	*Agelaius phoeniceus*	1
Common Grackle	*Quiscalus quiscula*	6
Northern Cardinal	*Cardinalis cardinalis*	1
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	1
Dickcissel	*Spiza americana*	1

Common Redpoll, 24 to 31 January 2012, Marathon, Ontario. *Photo: Michael Butler and Martha Allen*

and other sources such as the Royal Ontario Museum collection and various Ontario birding Facebook groups. The submissions we received also are not necessarily representative of the frequency of such unusual plumages within these species or across families of birds, but more likely a reflection of birder's chance encounters and the relative abundance of those species. Most species (29/44, 66%) were represented by a single report. The Mallard (*Anas platyrhynchos*) had the most reports (16), followed by American Robin (*Turdus migratorius*) (13) and Canada Goose (*Branta canadensis*) (10).

The majority of submissions were examples of birds with unusual amounts of white feathering. The amount of white ranged from birds with a single white wing feather, tail feather or body contour feather to birds that were completely white or very pale, looking washed out. Although as birders and ornithologists we tend to focus on plumage aberrations, the soft parts (bill, eye, leg) of many birds also are affected by pigment reduction in the various conditions that have been described (as noted above, van Grouw 2013). There was a range of these abnormalities in the submissions as well from normal soft parts to un-pigmented bills

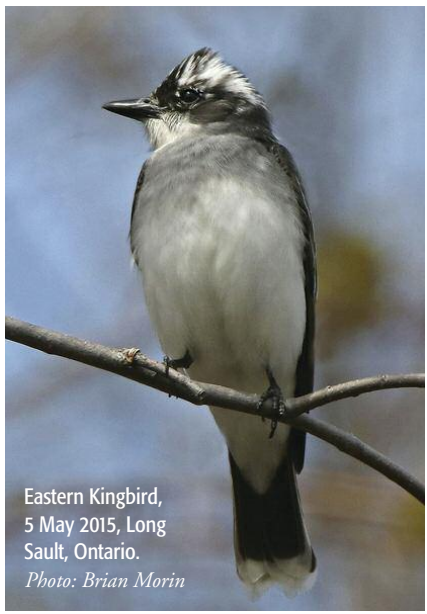
House Sparrow, 8 September 2015, Guelph, Ontario.
Photo: Ted Down

Black-capped Chickadee, 21 January 2011, Ottawa, Ontario.
Photo: Tom Devecseri

and legs in all combinations with the abnormal plumages. Some of the soft part abnormalities are particularly striking, e.g., the Dunlin (*Calidris alpina*). Only one individual, a Common Grackle (*Quiscalus quiscula*) had a pale (pink) eye indicating a true albino. We did receive a few examples of melanism (as defined above, van Grouw 2013) and a few birds of rare but previously known morphs.

This article presents the first installment of photos we will present in *Ontario Birds*, highlighting these interesting examples of abnormal plumages in Ontario bird species. In future installments, we will explore the range of abnormalities within species for which we had multiple submissions, e.g., American Robin, Canada Goose, Mallard, and Black-capped Chickadee (*Poecile atricapllus*). If you have photos or notes of Ontario species with aberrant or unusual colouration that you'd be willing to share, please send them with a short narrative describing the details (date, location, behaviours, etc.) of the record to the editors of *Ontario Birds* (editors@ofo.ca); please include a statement of permission to publish so they may be used in a future issue. Finally, we note that hybridization is another source of aberrant plumage that attracts much attention; however, it is a separate topic that is not explored in this series.

American Robin, 2 April 2012, Newcastle, Ontario. *Photo: Jim Richards*



Eastern Kingbird, 5 May 2015, Long Sault, Ontario. *Photo: Brian Morin*

Pine Grosbeak, 17 to 22 February 2019, Dinorwic Lake near Dryden, Ontario.
Photo: Ellen Riggins

Dark-eyed Junco, 20 December 2015, Kingston, Ontario.
Photo: Gaye Beckwith

Dunlin, 15 July 2014, Cobourg, Ontario.
Photo: Tom Jackman

Facing page: Herring Gull, white chick, 28 May 2019, Nottawasaga Island,Ontario.
Photo: Chip Weseloh

Mallard, 25 November 2018, LaSalle Marina, Burlington, Ontario. *Photo: Rosemary Harris*

Below: American Black Duck, 13 August 2016, Glace Bay, Nova Scotia. *Photo: Ed McAskill*

Wood Duck, 26 August 2017, Cherry Hill Gate, Burlington, Ontario. *Photo: Katelyn Luff*

Acknowledgements

We thank the following photographers and others who submitted images of abnormally coloured birds for this article. An (*) denotes submission of multiple unique observations. Martha Allen, Gaye Beckwith*, Robert Bell*, Kim Bennett, Kyle Blaney*, Kathryn Boothby, Richard Brault, David Brewer, Chris Burris, Michael Butler*, Mike Cadman*, Geoff Carpentier*, Tom Devecseri*, Carter Dorscht, Ted Down*, Warren Dunlop*, Bill Edmunds, Pat Fisher, David Goodyear*, Regan Goodyear*, Janet Griffin-Scott*, Dianne Groteau, Renée Hallman, Rosemary Harris, Marlene Hart, Clive Hodder, Wendy Hogan, Tom Jackman, Roy John, Tim Keys, Sarah Lamond, Rick Lauzon, David LeGros, Chris Leys, Sandra Leys, Katelyn Luff, Roger Lupton*, Gerry Markhoff, Dave Martin, Anne Mauro*, Ken MacDonald, Susan MacDonald, Ed McAskill, Barry Kent McKay*, Brian Morin*, Miranda O'Hara, Martin Parker*, Geoff Pekor, Steve Pitt, Jason Pizzey, Bill Read, Jim Richards, Ellen Riggins*, Jim Robertson*, Gerald Romanchuck, Jack Romanow*, Steven Rowe, Jon Ruddy*, Diane Salter*, Pat Schiller, Tammie Schmidt, Doug Sheepway, Kai Sheffield*, Arnie Simpson, Don Sutherland, John Terpstra, David Turner, Ron Vandebeek*, Marg Werden, Chip Weseloh, Dave Worthington, and Bryan Wyatt. We thank Jean Iron, Ron Pittaway and Don Sutherland for reviewing photographs and/or providing comments on the text and Michael Dawber for alerting us to the iNaturalist project.

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