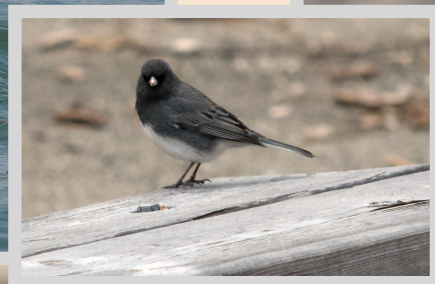




Red-breasted Merganser



Snowy Owl



Dark-eyed Junco

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## Winter Bird Notes

### *Oxyura jamaicensis* (Ruddy Duck)

**ORDER:** Anseriformes (3 Family)

**FAMILY:** Anatidae (174 Species)

What a week to see unique birds in our neck of the woods! A ruddy turnstone (*Arenaria interpres*) is continuing along the lakefront from Bradford beach south to McKinley marina. Additionally, an aberrant female tufted duck (*aythya fuligula*) is diving with other scaups, common goldeneyes, and buffleheads near Petroleum Pier. The winter bird migration always brings exciting rare birds to the Great Lakes!

I wanted to share a memorable moment from one morning this week. The sun was peeking through thick, gray, puffy clouds and this partly cloudy sky was gorgeous shades of blue. The near-shore water at Lakeshore State Park and the lagoon pond at Veterans Park both had a thin layer of ice covered by a perfect mirror of melted water. There was not a ripple or breeze to stir the mirror-like thin layer of water. You couldn't tell if you were looking at an actual tree branch or its reflection. This shallow underwater ice made the Canadian geese and mallards appear to be floating a few inches above the water surface while they stood on the ice below. The birds "standing" on the water looked surreal.

On another day this week, I was pleasantly surprised to see a female ruddy duck (*Oxyura jamaicensis*) on the lake near the Milwaukee Art Museum. In winter, I normally see these small, diving ducks swimming in tight homogenous flocks at Petroleum Pier. During the wintertime, both males and females have drab brownish-gray plumage. I also see ruddy ducks at Horicon Marsh in the spring, when they are in colorful breeding plumage. Breeding males will look like little floating rust-red bricks with a brilliant blue bill, bright white cheek, and a black crown. Female ruddy ducks are more grayish-brown and have a duller pale cheek with a contrasting brownish cap.

The genus name *Oxyura* originates from the Greek *oxus*, meaning "sharp", and *oura*, meaning "tail". There are only two "stiff-tail" duck species in North America, the ruddy duck and the much rarer masked duck seen only in southern coastal regions. Thus, one way to differentiate this

swimming duck from other species at a distance is to identify the sharp, stiff, erect tail. The tail is an important anatomical feature that acts as a stiff rudder for precision underwater steering. This is similar to the stiff tail of a woodpecker that helps counterbalance it during powerful pecking.

Did you know that diving ducks have larger feet, relative to body size, compared to dabbling ducks? This helps with propulsion during diving. So, not only does the ruddy duck have a stiff rudder for steering, but also big feet for propelling underwater. This duck has short legs positioned far back on the body which is important for diving, but makes it more difficult for them to walk on land.

Ruddy ducks in flight look very stocky because of their short stubby wings that they are furiously flapping to stay aloft. This duck has small wings for its body and must actually run on the water to help generate the lift required for take off.



Here are a few more characteristics of this duck species.

First, the nesting and foraging habits are interesting. Nesting females can be parasitized with more eggs from any duck species. This is called **brood parasitism**. Females typically make nests in tall vegetation on ponds and wetlands with large areas of open water needed for the long take off to flight. Interestingly, females will have a **larger clutch size** with increasing latitude. This has been linked to adults in northern habitats living shorter lives than those in southern habitats. Thus, amazingly, northern ruddy duck females will have larger clutch sizes to compensate. Males will abandon the nest while the female is incubating or shortly after the ducklings hatch. In fact, females may also abandon the hatchlings within just a few days. But, this is not a concern for the precocious ducklings since they can dive and forage shortly after hatching. Ruddy ducks will eat insects and aquatic vegetation. Did you know that these ducks mostly strain soft substrate sludge for insects and other invertebrates? Yum!

Second, courtship display involves the male using his bright blue bill to make bubbles! Yes, the male quickly pats the bill on his puffed-up chest and in the process he makes little air bubbles on the water surface. This display sounds like a faint drum making *fif fif fif fififif* sounds followed by a short burp. Known as non-vocal sonation, it serves as a means of communication in this species. Another courtship display is the male running on the water while making a slapping sound with his legs as he “pretends” to chase other birds away from the female.

And finally, what makes the male bill so brilliantly blue and why does the color change during the year? The blue color is made by the **structure** of the bill. The structural color is determined by size of air-filled cells, ability to absorb or reflect visible light, and presence of pigments like melanin and carotenoids. The ruddy duck bill is made up of a hard sheath, or

ramphotheca, that contains melanin which is a pigment that absorbs visible light wavelengths. Additionally, the bill also contains very small air-filled cells. In fact, they are so small that only blue wavelengths of light are scattered by the cells and reflected back as blue light to our eyes. So, the ruddy duck bill has both melanin to absorb light and small air-filled cells scattering blue wavelength color. Now, **brighter** blues can also be produced by higher levels of carotenoids which are influenced by diet, good immune health, and hormones. These brighter blue bills are more apparent during breeding seasons in healthy, mature males. Females will seek males with the brightest blue colored bill because this signals to the female that the male is healthy, which will lead to healthier offspring.



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