Red-breasted Merganser

Dark-eyed Junco

Snowy Owl

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Winter Bird Notes

***Aythya Americana* (Redhead Duck)**

ORDER: Anseriformes (3 Family)
FAMILY: Anatidae (174 Species)

Today would have been a great day for an outdoor master class with a Lake Michigan ice specialist - *if one exists*! The chilling, strong, northerly winds caused deep rolling waves. This led to unique sounds along the shore as the ice cover was breaking apart.

- There was the gentle *tinkling* sound made by smaller ice pieces that were captured in southwesterly nooks. I often call this *ice wind-chime* sounds.
- There was the occasional deep *WHOOMP* sound made as a wave rolled under a tall ice shelf attached to a large boulder.
- And there was the loud lapping on thick, static ice cover.

The wind was *so very* cold today. My face was painfully tingling and was probably as red as the stripes on the American flag. If we had the expected snow fall last night, the wind would have made knife-edged, tall snow drifts. However, with no ground snow cover, today's full Snow Moon did not shine its brilliant light on any snow. Just a side note, Native Americans also referred to the February full moon as the Full Hunger Moon since thick snow cover made it difficult to hunt and eat. Even though the cold was difficult to withstand, the bird activity was terrific! Hundreds of ducks were flying just above the water in a northerly direction, likely due to the significant snow fall to the south causing them to move north to open water. Additionally, hundreds of gulls were swirling near the white lighthouse at the inner harbor opening. AND, I was able to see courtship displays from two ducks.

- Bufflehead (*Bucephala alveola)* male - head movement quickly up and down
- Greater scaup (*Aythya marila*) male - repeatedly flicking or scooping bill up high

Additionally, I witnessed a female Hooded Merganser (*Lophodytes cucullatus*) attempting to swallow a piece of algae as big as her head. She would drop and reposition the piece in her mouth. It was

amazing to watch her attempting to maneuver the vegetation for successful ingestion! Or, was she sieving the frozen algae for food?

A couple of Redhead ducks (*Aythya americana*) were near the large stone steps at Lakeshore State Park and were commingling with Greater Scaups (*Aythya marila*), Common Goldeneyes (*Bucephala clangula*) and dabbling Mallards (*Anas platyrhynchos*). Redheads are bulky, diving ducks with a thin neck and round belly. The bill, sharply angled from the blocky head, is pale gray with a black tip. In flight, the wings are broad and blunt and the underwings are medium gray. There is sexual dimorphism after the first winter. Mature males can be easily identified by the copper-red head, yellow iris, and black neck and breast contrasting with the white abdomen.

I'm sure everyone has a favorite vacation spot they prefer. Well, the Redhead ducks do as well. They prefer very alkaline water in the winter, so they migrate to a unique location. Luckily, Redheads are adapted to purge salt from the extremely salty water with the salt gland located above the eyes. The Laguna Madre is one of the saltiest bodies of water in the world and is located in southern Texas. This protected lagoon is the winter home for around 75% of the world's population of Redhead ducks! You can expect to see over one million Redheads on this narrow 130 mile long lagoon. Spring migration to breeding freshwater ponds and lake habitats begins in January.

The nesting habits of Redhead ducks are unique and interesting. Females have been identified as the ***most persistent parasitic duck***. The female can either lay and brood all of her own eggs, brood some of her own eggs, or completely lay all her eggs in another duck's nest of the same or different species. ***Obligate brood parasitism*** is when **all** eggs are deposited in other nests and occurs in about 1% of birds worldwide. One study comparing the two most common duck species that regularly parasitize nests, Redhead and Ruddy duck, found that *both species* deposited eggs in 36% of 809 duck nests over a two year period in Utah.

	Eggs Deposited in Nests of Other Ducks	Number of Interspecies Nests	Hatch Success
Redhead	**812**	**264**	**43%**
Ruddy Duck	**146**	**62**	**7%**

Joyner. 1983. *Auk* 100:717:725

Redheads deposited **812 eggs** into 264 nests of other species, while the ruddy duck deposited **146 eggs** into 62 nests. The hatching success of eggs dropped into interspecies nests was 43% for the Redhead and only 7% for the Ruddy duck. This is an amazing amount of eggs given to other female ducks to raise until the ducklings leave the nest. Adaptation for survival of the fittest is extraordinary!

What makes the red color on the Redhead duck? Remember, color is visible when there is light. If there was *no* light, everything would be black. Different colors are seen because of interaction of light with feathers. Light can produce color in four basic ways.

Reflection	All light bounces off the feather.	The color seen is white. However, the feather can have structural properties to allow for a different color to be seen, like a blue jay.
Transmission	When light passes through the feather, it bends on the other side.	Iridescent colors, like those of the hummingbird, can be seen when either the observer or the bird shifts position in the light.
Emission	Light is absorbed by a pigment molecule and the light is changed to a certain wavelength.	**Red** pigment in the feather will emit a pure **red** color, like a northern cardinal.
Absorption	All wavelengths of light are absorbed.	The color seen is black like a blackbird.

In addition to light interaction, feather structure and pigments can influence color. Keratin is a fibrous protein that is the primary component of feather structure. The major pigments in feathers are melanin and carotenoids and have been found to absorb and transform light. Carotenoid pigments re-emit light in shades of bright reds, oranges, and yellows. These pigments are produced only by plants, algae, and fungi. Therefore, a diet high in carotenoids, can modify the plumage color to a brighter red, orange or yellow. On the contrary, when carotenoids are not prevalent in the diet, such as when food is scarce, the plumage can be a duller color. So, the red colored head of the Redhead is visible because of light interaction, feather structure, and pigments like carotenoids found in the diet.

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