

Aythya collaris (Ring-necked Duck)

Family: Anatidae (Ducks, geese and swans)

Order: Anseriformes (Waterfowl)

Class: Aves (Birds)



Figure 1: Ring-necked duck, *Aythya collaris* (Cal Vornberger 2004)

http://animaldiversity.org/accounts/Aythya_collaris/pictures/collections/contributors/cal_vorn/ringneckduck2/

TRAITS. Ring-necked ducks are small to medium sized birds with males attaining lengths of 40-46cm and weights of 542-910g, whilst females grow to 39-43cm in length and have a weight range of 490-894g. Males also possess features make them appear to be bigger than females. The breast area, neck, head and stomach region are a greyish white coloration in males while folded wings are lined noticeably with white edges stretched outwards. Females however possess features which make them appear duller than males such as grey-brown pigmentation, head top deepest color, short crest and faded on forehead,. Both male and female tails are long and eyes yellow. When hatched, young are 28-31g in weight and are covered in downy feathers. Ducklings experience change in physique such as body mass which when compared to adults in winter is less drastic (Hohman and Weller 1994). Ring-necked ducks are capable of flying quickly, often leaping suddenly from water without having to run to gain momentum (Audubon 2017).

ECOLOGY: The ring-necked duck is a short-medium distance migrant bird, traversing between early fall and spring (Olsen and Perry 1997), often occupying wetlands, small lakes with freshwater, fens, bogs, marshes, flooded areas and ponds in winter. Breeding occurs within the vicinity of Northwest Canada, Maine, New Brunswick, Atlantic, Mississippi flyways to the southern region of Panama (Olsen and Perry 1997). The neutral, shallow depths of water (50-100cm) and moist organic rich environment consist of an abundance of aquatic vertebrates on which female ducks feed during breeding, is highly suited and beneficial to rates of nesting success (Torrence and Butler 2006).

SOCIAL ORGANIZATION: Mating pairs are formed since ring-necked ducks are usually committed to one mate for life (**REF**). Ring-necks congregate during the period of March through April where spring is the dominating season (Hohman and Eberhardt 1998). Once paired, the socialization habit of ring-necks is not apparent and is said to decrease drastically. At this time there are not many males dwelling in such breeding sites leading to little options for females. Culmination of males in small groups, usually of six or fewer are common, however there are some circumstances where males are observed being solitary. Not only do ring-necks associate with their own species but have affiliation with other birds up to 40 maximum (Hohman and Eberhardt 1998). This act of mixing and socializing occurs in winter in small, tree-lined ponds and shallow waters (Audubon 2017). Hostility is not often displayed among the ring-necked species (Hohman and Eberhardt 1998).

ACTIVITY: Ring-necked ducks are actively mobile often walking, jumping, in swift flight, buoyantly swimming and diving or foraging for food. During periods of nesting, they lie on floating objects and are seen in dense wedge flocks of no more than twenty (Crook et al 2009). Throughout the year, ring-necked ducks display molting which lies in close relation to the changes in season as a preparatory stage for spring and fall (Hohman and Crawford 1995). Propelling feet, they dive to depths ten meters deep. In sheltered, calm open waters they bask in the sun's rays, grooming feathers and stretching. Time spent on activity is determined by sex, age and location of the habitat. Ring-necked ducks rarely show hostility toward each other in winter and courtship is not quite popular at this time. Males appear territorial often defending parameters up to three meters wide around mating partner (Crook et al 2009). Ducks display rotational flight patterns to secure possible nesting spots over marshes of growing young plants, usually those on or afloat on water, aiding in protection from predators (The Cornell Lab of Ornithology 2015).

FORAGING BEHAVIOR: Feeding rate is highest amongst females with up to 19 hours devoted and 57% of time for laying and incubation (Crook et al 2009). Males spend a similar amount of time feeding (Eberhardt and Riggs 1995). Opportunistic shallow divers and foragers at times, ring-necked ducks also feed on seed plants, insets, pond weeds, water milfoil cow lily and coontail. Celery, wild rice and arrowheads are also choice of migrant spring ringed-necks. Ducklings feast on insects. Food is consumed while diving and other food supplements like snails gastropods need to be brought on surface for extraction (Alisauskas, Eberhardt and Ankney 1990).

COMMUNICATION: Vocal communication in females is exhibited as growling sounds of low intensity during courtship displays. However when alarmed or flying these growls are intensified to a high pitched sound. Notably, the courtship vocalization of males is often a kinking sound. In warning the brood, growling becomes less intensified, often mellow, and soft in short quick spurts of cut-like noises. Visual communication is inclusive of actions such as stretching, head throwing, and nod swimming in males during courtship season. In response to such displays, females often bob their heads. Successful mates join their partners side by side and swim together holding heads high before they engage in copulation (Hohman and Eberhardt 1998).

SEXUAL BEHAVIOUR: Erect extension of the neck, tilting of heads and bills in an elevated posture whilst swimming with each other, are quite common courtship rituals amongst ring-necked ducks. Quite often, most of these ducks also submerge their heads beneath the water's surface without raising for oxygen consumption. When swimming quickly, they make nodding gestures with their heads, allowing total extension of their crest. Grooming of wings is also observed. Extra pair copulation: only if females are unwilling to mate, not much food available and if there is a limited amount of birds gathered at the time. In breeding season, ring-necked ducks pair-up during migration that occurs in spring season until nearing the end of July or June after which mating begins in May and August (Hohman and Eberhardt 1998). Egg production total between six and fourteen eggs per season with an overall average of eight and ten olive-gray/greenish eggs in each clutch. After laying, females attend to the nest throughout the night and a further twenty-five to twenty-nine days for incubation (Audubon 2017). Parental care is solely maternal, with females directly attending to young until they have developed wing feathers for flight; No devotion from the father except indirect contribution of nourishment for female mates that are in the stage of laying. Some of this nourishment adds also to the development of eggs through the female's body. After hatching, it is quite common for females to clear nest by pulverizing shells and burying them or even ingesting the empty shells. Young ring-necked ducks do not take a long time to establish maturity, however they often refrain from breeding since resting places are often limited (Hohman and Eberhardt 1998; Hohman 1986).

JUVENILE BEHAVIOUR: Other than the fact that ducklings are covered in downy feathers, most of their behaviours such as being able to feed themselves are learned from their parents soon after hatching as they follow them around. Hatchlings crack and emerge from eggs without any assistance from the mother. Ducklings commence diving, 48 hours after hatching. Young ring-necked show no dependence for food from their parents, however are independent feeders relying on whatever food sources are on the surface of water bodies during the first week of their life. They interact most with their mothers as parental care is generally maternal. Once juveniles have developed wing feathers for flight, they are no longer cared for by their mother and thus spend more time feeding than resting (Hohman and Eberhardt 1998; Hohman 1986).

ANTIPREDATOR BEHAVIOUR: When a flying ring-necked duck is attacked, it plunges or dives downward in escape of its predator. Ducks also use decoy behaviour where they pretend that they are wounded at times when they are disturbed. Brood attacks are rampant, with predators like huge pike and bass fish snatching chicks from beneath the water surface. In defense, mother ducks violently flap wings and kick feet rapidly in attack mode to buy time for

her offspring to scamper away to safety. At the nest, eggs are plastered in female feces which reduce the attracting aroma of eggs (Hohman and Eberhardt 1998).

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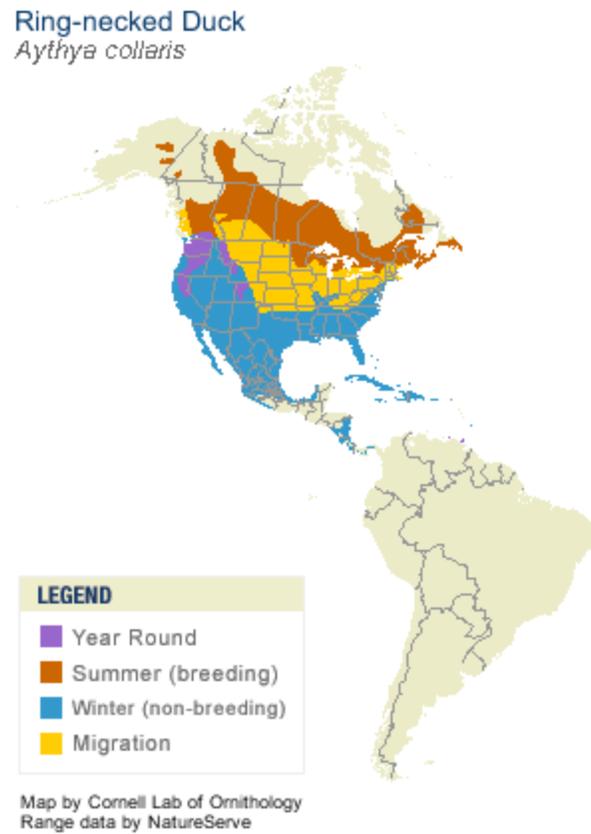


Figure 2: Ring-necked duck geographic distribution
(The Cornell Lab of Ornithology and Nature Serve 2015)
https://www.allaboutbirds.org/guide/Ring-necked_Duck/lifehistory



Fig. 3. Ring-necked duck diving for feed (Mike Atkinson photography 2017)

<http://mikeatkinson.net/Tutorial-8-Birds-and-Water.htm>



Figure 4: Ring-necked duck post-copulation swimming.

<https://www.pinterest.com/pin/179369997630963620/?lp=true>

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