

Recognizable Forms

Bill Colour and Identification of Female Barrow's Goldeneye

by

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Introduction

The bill colour of adult female Barrow's Goldeneye (*Bucephala islandica*) in eastern North America is described inaccurately in most North American field guides and published literature. This has led to much unnecessary confusion among birders. Although we attempted to correct this misinformation (Di Labio and Pittaway 1987), errors have still appeared in recently published field guides. The purpose of this paper is to clarify the bill colour issue and review the field identification of adult female Barrow's Goldeneye in the winter.

Plumage and Age

In winter, goldeneyes have two age classes: adult breeding (definitive alternate) plumage and first year (first basic/alternate) plumage. Goldeneyes acquire their first adult breeding plumage in their second autumn when they are over a year old. Most of our discussion refers to females in adult breeding plumage, from November to May, when their bill colour is the brightest. Female goldeneyes in summer (June to October) have all-dark bills because they lose most of the yellow-orange coloration. First year females in fall and early winter have dark bills; they are slower than adults to develop colour on their bills, often not until mid-winter to spring. The

yellow or orange on the bills of first year females is duller and less extensive than on adults. First year female Barrow's often show a mixture of dusky and yellow-orange, whereas same age/sex Common Goldeneyes (*Bucephala clangula*) usually have a dark bill with a muted yellow tip. Eye colour of first year females is noticeably duller than the brighter eyes of adult females. See Palmer (1976) and Tobish (1986) for more details of plumage, molt and age, but note our comments below.

Bill Colour

In most field guides and identification articles, the bill colour of female Barrow's Goldeneye is said to differ between birds in eastern and western North America. For example, Madge and Burn (1988) state, "Females of western North America have all yellow bill, a feature not recorded in eastern populations, which have bicoloured bills ...". Similar descriptions appear in the National Geographic field guide (Scott 1987), in the recent Stokes field guide (Stokes and Stokes 1996), and even in the thorough discussion provided by Tobish (1986). The photographs of the eastern females with yellow-tipped bills in Tobish (1986) are of captive birds in Washington, D.C. (Claudia Wilds, pers. comm.). Note: these birds

are not like any adult female Barrow's Goldeneyes we have seen in North America; they probably originated from the Icelandic population.

Despite descriptions in the literature of different bill colours in eastern and western females in North America, we found no evidence to substantiate these claims. During the past 30 years, we have observed over 75 adult female Barrow's Goldeneyes wintering on the Ottawa River and upper St. Lawrence River in eastern Ontario and southern Quebec. All had "pumpkin" orange bills with a dark nail, often with small dusky areas on the basal half at close range, but appearing mostly or all yellow-orange at a distance (Figure 1). The bill colour of our birds is similar to females in western North America. In addition, 250 to 1000 Barrow's Goldeneyes regularly winter on the north shore of the lower St. Lawrence River in the Baie-Comeau area of Quebec. Adult females there also show "pumpkin" orange bills (Michel Gosselin, pers. comm.). We are not aware of any Ontario or Quebec observations of adult female Barrow's Goldeneyes with yellow-tipped bills like the descriptions of "eastern females" in many field guides.

There are four widely separated breeding populations of Barrow's Goldeneyes: western North America, Quebec and Labrador, Iceland, and probably southwestern Greenland (has bred). The bill colour of females from the tiny Greenland population is unknown. Since Ontario and Quebec females are orange-billed like western birds, are we seeing birds from the western North American population wintering in the east? This seems unlikely because Barrow's is a short-

distance migrant and because the size of the population wintering in the east agrees closely with the small population (2000-4000 birds) that summers and presumably nests in remote areas of Quebec and Labrador (Savard 1996; Michel Gosselin, pers. comm.).

We believe that there are no differences in the bill colour of adult female Barrow's Goldeneyes in eastern and western North America; both populations have bills in winter that are mostly yellow-orange in colour. However, most females of the Icelandic population have dark, yellow-tipped bills (Bardarson 1986) or orange-yellow tipped bills (Jonsson 1992), usually with a wider band of colour than on a Common. A very tiny number of the females in Iceland have all yellow-orange bills like North American birds (Garner 1991). The small population in Iceland (800-1000 pairs) is mostly non-migratory and we know of no North American records of this form. The Icelandic population is perhaps where the confusion about bill colour arose. We have never seen a female Barrow's in Ontario or Quebec whose bill was dark with a yellow tip like the birds in Iceland. Interestingly, the National Geographic Society field guide (Scott 1987) on page 87 illustrates a first year female with a yellow-tipped bill and David Sibley (pers. comm.) reports seeing a female Barrow's with a yellow-tipped bill in California. Perhaps a few first year females in North America can have bicoloured bills.

Field Identification

The general appearance of female Barrow's and Common Goldeneyes is very similar (Figure 1). The most important field marks differentiating

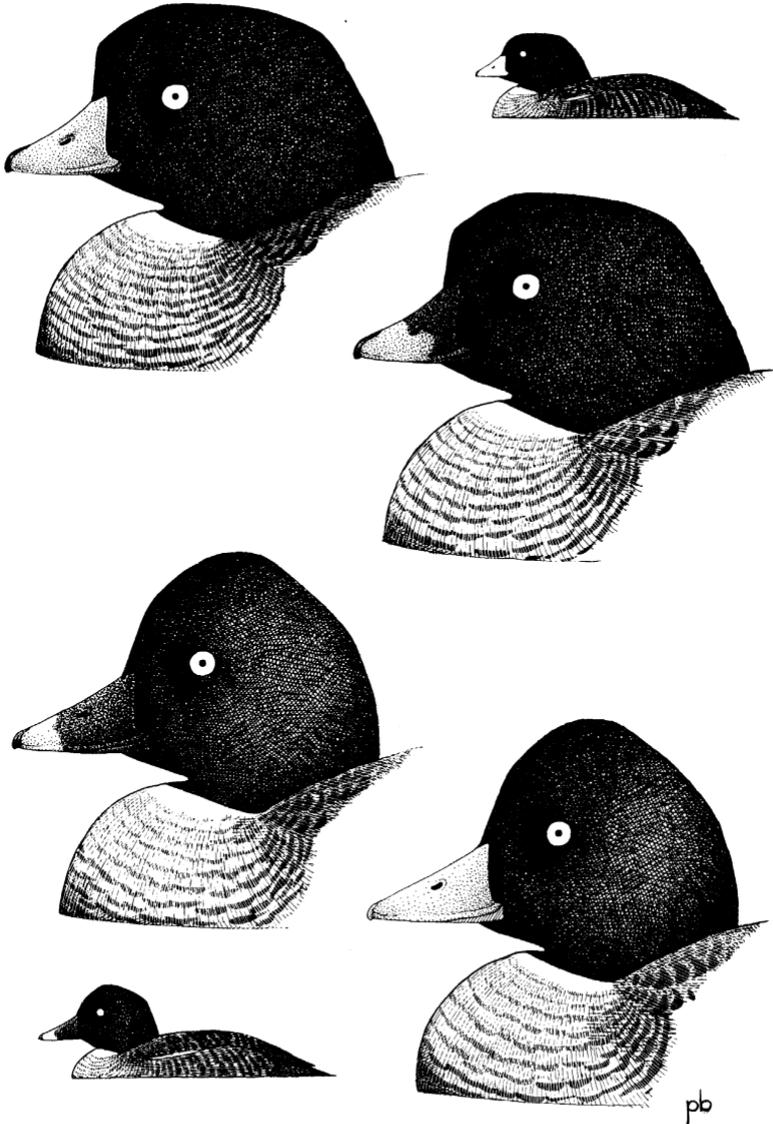


Figure 1: Female goldeneyes in definitive alternate plumage. North American Barrow's Goldeneyes (top left and right), Icelandic Barrow's Goldeneye (middle right), Common Goldeneyes (middle and bottom left), extreme variant Common Goldeneye with all-yellow bill (bottom right). The large heads are relaxed birds and small birds are sleeked down birds after diving. Drawing by *Peter Burke*.

these species are head shape and bill size, not bill colour. The head of the female Barrow's Goldeneye has an oval shape, created by a steep forehead, flat crown, and elongated hind neck feathers like a mane. The latter feature gives the appearance of a swept back crest, similar to the male Barrow's and the female Hooded Merganser (*Lophodytes cucullatus*). At times, when the head is tucked tightly against the body, the crest even further accents the oval shape of the head. The head of the female Common Goldeneye lacks the "puffiness" of the female Barrow's. It has a rounded rather than flat crown and a sloping forehead. Note, however, that head shape can vary; it is sleeked down when diving and more normal in shape when relaxed. In Figure 1, the two small illustrations are of sleeked down birds that have just surfaced after diving and the four large heads are of relaxed birds. Caution: alert female Commons with their heads held high can show a surprisingly steep or vertical forehead that could cause confusion.

The head colours also differ. Female Barrow's has a dark chocolate brown head while the female Common has a slightly lighter brown head. This is not easily seen in the field without direct comparison. In addition, the Barrow's Goldeneye has a slightly, but noticeably, shorter bill than the Common (Godfrey 1986). This gives the Barrow's a stubby-billed appearance, which accentuates the steepness of the Barrow's forehead. The Common's bill is longer and flatter compared with a Barrow's (Figure 1).

Female Common Goldeneyes usually have dark bills with a yellow band near the tip. Therefore, scanning a

flock of goldeneyes for a bird with a mostly yellow-orange bill is a quick way to discover a possible Barrow's even at a distance. Caution: we have seen female Common Goldeneyes with extensive yellow-orange and even all yellow-orange bills on many occasions. For example, on 30 November 1996, while birding the Niagara River, the first author observed an adult female Common Goldeneye with a bill that was completely orange-yellow except for a small dark area at the base. On 28 December 1996, he scanned a flock of Common Goldeneyes along the Ottawa River at Britannia (Ottawa). One female with an orange-yellow bill stood out; the bill showed slight dark areas only at the base, nostril and nail. However, note that often the nail is yellow too in these variant yellow-billed female Commons (Figure 1). We stress that it is necessary to use head shape and bill size to confirm identification.

Some further checking is needed because head shape is said to be slow to develop in young females, but we feel safe in saying that even most first year female goldeneyes can be identified to species based on their head shape and bill size. First year males (female-like) in fall and early winter, before they develop facial spots, are also easy to identify to species by their distinctive head and bill shape. These differences can be recognized with practice.

Hybrids

Several wild male hybrids between Common and Barrow's Goldeneyes have been reported from Ontario (Martin and Di Labio 1991). Their intermediate characteristics suggest that female hybrids also would be

intermediate in head shape and probably bill colour. Although the probability of encountering a hybrid is remote, any female that does not show the classic features of a Barrow's or Common Goldeneye should be left unidentified.

Conclusion

The combination of head shape and bill size are the best field marks to distinguish female Common and Barrow's Goldeneyes. Bill colour of Barrow's is helpful, but it should not be used as a diagnostic field mark. A surprising number of Common Goldeneyes have mostly or all yellow or orange bills. There is no difference in bill colour between the eastern and western populations of adult female Barrow's Goldeneyes in North America; both populations have the same yellow-orange bills. However, adult female Barrow's in Iceland have yellow or orange tipped bills that are different from North American birds. Barrow's Goldeneyes wintering in the east probably originate from the nesting population in Quebec and Labrador.

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