

Red-breasted Goose

notes on
biology and
propagation

by George A. Allen, III
Salt Lake City, Utah

Considered by many people to be the most beautiful goose species in the world, the Red-breasted is also one of the least numerous forms of waterfowl both in the wild and in captivity. It belongs to a group of geese we call *Branta*, and this genus also includes the Canadas, Brant, Barnacle, and the Hawaiian Nene Goose. All of these have been placed together because of characteristics they share in common, yet they are

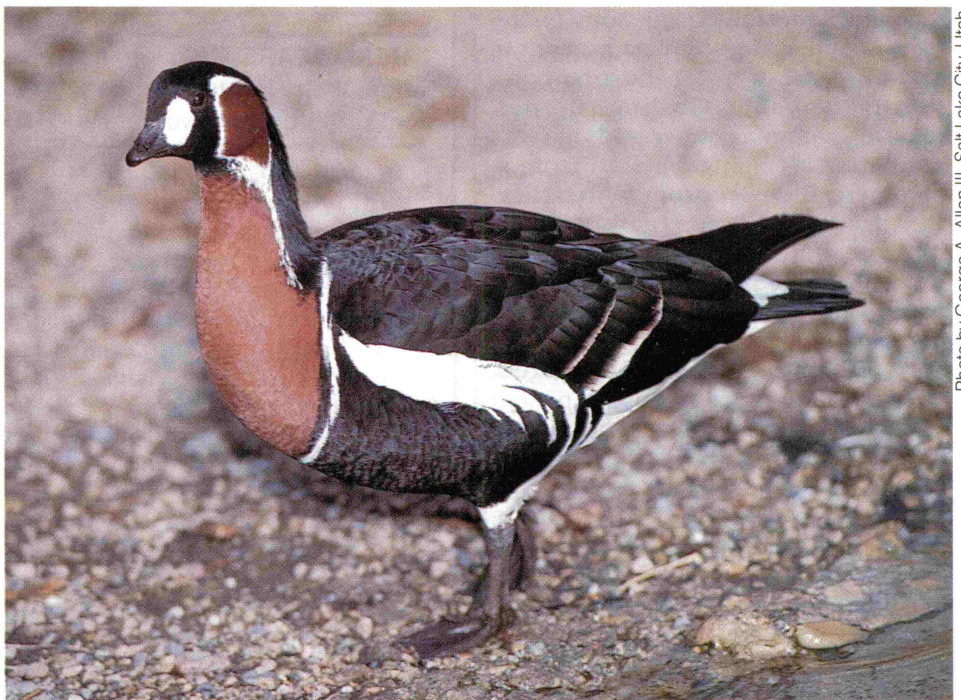


Photo by George A. Allen III, Salt Lake City, Utah

Red-breasted goose (Branta ruficollis). This beautiful Siberian Arctic native is doing very well at the Game Bird Research and Preservation Center, Salt Lake City, Utah.

quite different, too; each one specialized in its own way for coping with its environment and way of life.

While the Nene Goose possesses the most specialized adaptation for

dealing with the physical environment, that of having strong legs and tough, claw-like feet for climbing around on lava flows, the Red-breasted is, perhaps, the most unique of the group in terms of its nesting ecology and interspecific relationships. Most notable is the habit they have of placing their nests in close proximity to those of Peregrine Falcons and other birds of prey.

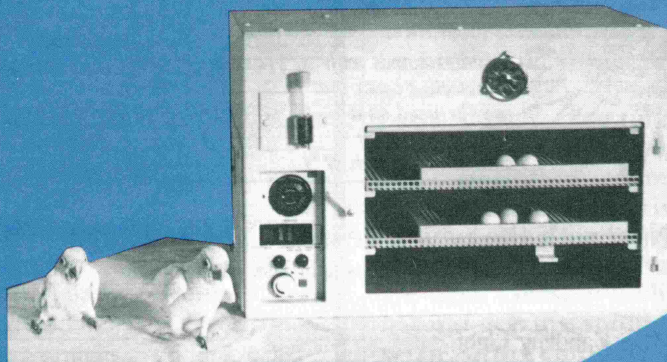
Now, this would at first seem an unwise and unproductive strategy for reproduction given the predatory reputation of the Peregrine. However, it appears these two species have evolved a mutually beneficial arrangement whereby the Falcon protects the Red-breasted by "dive bombing" and driving off intruding Arctic Foxes and other predators, with the ever vigilant and vocal Red-breasted providing an added measure of surveillance and warning for both species to the approach of menacing visitors.

In the region where Red-breasted Geese nest, which is limited to a very small area in the Central Siberian Arctic, there is reported to be a sizable Arctic Fox population. There are very few locations the Red-breasteds can choose for nesting that are inaccessible to foxes and this is, no doubt, the reason why this most unusual anti-predator adaptation has come into being. There are, of course, many other species known to seek protection by nesting near another species.

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Examples of this are ducks making their nests in Tern colonies, and Sandwich Terns nesting in Black-headed Gull colonies. However, the Red-breasted/Peregrine association is more unusual in that one of them, and especially its young, may be considered a more likely prey of the other!

Very little is known of the nesting biology and population status of Red-breasteds on their breeding grounds. Russian biologists A. Krechmar and V. Leonovich, who were apparently the first to observe the antipredatory behavior just described, are among the few to have visited their breeding grounds for the purpose of gathering information on their biology. They found Red-breasteds nesting close by at 19 of 22 Peregrine nests that were located, and these were anywhere from five to 300 feet from the nesting Peregrines. A few of the geese were also found nesting near the nests of Herring and Glaucous Gulls and that of the Rough-legged Buzzard.

Located conspicuously on the open tundra, the nests are placed on sites that are relatively high and dry and which are near water. The size of the clutch is normally five to six eggs, but a range of from three to nine has been reported. Incubation takes 24 to 25 days and is performed by the female only, with the gander keeping watch nearby.

On the Taymyr, Gydan, and Yamal Peninsulas in Central Arctic Siberia where the species nests, the summer season is very short, and the birds must be hatched and fully fledged within a few short weeks. Most Red-breasteds are hatched by late July and are grown and flying by the end of August or first part of September.

A dramatic decline in the Red-breasted population has occurred over the past several decades. Although reliable information on their status is not available, several estimates have placed the wild population at from 25,000 to 30,000. This number may be considered alarming when compared to the population size existing in the early 1950s of from 40,000 to 60,000.

So little is known of the species' basic biology and ecological requirements that it is impossible to say with any certainty why its numbers have fallen so precipitously. Part of the cause may be attributable to hunting and egg collecting by native people within its very restricted breeding range. Apparently, the species was extensively hunted on its wintering

grounds on the Caspian Sea and western side of the Black Sea during the Second World War, and this, no doubt, reduced its numbers significantly. Drainage of their marsh habitats used in winter along the Caspian Sea, as well as agricultural changes affecting the goose's grass and grain food supply have also been factors. Many waterfowl biologists now believe the reduction in Peregrine Falcon numbers caused by the inordinate use of the pesticide DDT in the 1950s may have contributed to the Red-breasteds' decline.

As previously discussed, Red-breasteds are thought to be heavily reliant on Peregrines for protection against fox predation during the nesting period. The theory holds that as fewer and fewer Peregrines were present on their nesting grounds, the Red-breasteds began to suffer greater predation by foxes, and their numbers, too, began to fall.

It is too early to tell whether the current worldwide resurgence in the Peregrine population is spreading to the region where Red-breasteds nest and if this will translate into a concurrent increase in Red-breasted productivity.

Because of the drastic population decline this goose has experienced during the past half century, some ornithologists have warned that it may be a candidate for extinction. Others are less pessimistic and point to more recent wintering ground counts that appear to show some stabilization in their numbers. Whatever the current population trend may be, it is clear the species must be regarded as threatened, not just on the basis of its low numbers but also because of the fact that its nesting grounds cover only a very small geographical area and may, in the future, be subjected to the perils of oil and gas exploration as the Soviets experience an increasing demand for energy.

The plight of the Red-breasted is particularly troubling when one considers the ambivalence the Soviets have shown towards conservation and the protection of natural resources. This is not to say the Soviets are not interested in protecting their wildlife species or in cooperating with specific wildlife research programs, which they, on occasion, have done. What is disturbing is the unmeasured priority given to industrial expansion and resource development, often at the expense of

human or natural resource protection and safety (e.g., Chernobyl disaster). Also, compared to the United States and other industrialized nations, the Soviets expend a much smaller amount of money and human resources on wildlife research and conservation, and all of this adds up to a less than reassuring outlook for species in trouble like the Red-breasted Goose, whose future may hinge on a good understanding of the species' basic biology and ecological requirements.

It is important that our own and other governments with an interest in global wildlife conservation consult regularly with Soviet authorities to review the status of species that may be in peril and formulate plans for their recovery.

It is most encouraging from a wildlife conservation standpoint to see the new Soviet policies of Glasnost and Perestroika come into effect and, hopefully, this new openness will translate into more emphasis on research, conservation, and protection of natural resources and, thus, a better outlook for Red-breasted Geese!

Fortunately for the Red-breasted, aviculture is in a position to play an important role in ensuring its preservation regardless of what may happen to the wild population. A sizable number of the geese have been brought into captivity over the past century, these mostly having been wild-caught on their wintering areas around the Black and Caspian Seas and Southeastern Europe and Turkey. These have proven to be very adaptable to captivity, and numerous aviculturists have been able to breed them. European collectors have had the most success so far and, in fact, they were evidently first bred about 1926 at Woburn, England, as reported at the time in the *Avicultural Magazine* by the Duchess of Bedford.

Unfortunately, many of the Red-breasteds in captivity are non-productive, especially many of the ones found in American collections. This may be attributed to a certain amount of inbreeding and poor management that has occurred on both sides of the Atlantic, and to the more specialized nesting requirements many aviculturists have reported them to have.

Being somewhat more reserved and shyer in behavior than some of the other *branta*, I have found Red-breasteds require a greater degree of

privacy during the breeding season in order to realize their full reproductive potential.

At the Game Bird Research and Preservation Center in Salt Lake City, we keep several pairs of them in an area covering about 1-1/2 acres which they share with several Crowned Cranes, Caribbean Flamingos, and an assortment of other birds that are compatible and which do not compete for space or nesting sites. Competition of the latter sort is definitely to be avoided if one is to have Red-breasted nest successfully, as any competition at all is likely to dissuade them from nesting. In my opinion, during the nesting season, Red-breasteds are best separated from other geese with similar nest site preferences such as Nene, Ross, Cacklers, Snows, and even the Brants. In our experience, Red-breasteds have tended to be more tentative and less confident in establishing a nest site, and more likely to be displaced from a preferred site in the face of interspecific intimidation or encroachment.

At the Game Bird Center, the Red-breasteds have used a variety of nest sites which have included open grass, within and beside clumps of iris, and also inside a plywood nest structure that was three-sided with an open front and top. Our Red-breasteds also like to nest alongside or among logs and, because this is so strongly favored as a nesting place, I usually prepare several sites of this type prior to each nesting season.

If the clutch is taken from the female after laying is completed, it is often the case that the female will recycle and produce a second and even a third clutch. If one is going to do this, it is usually best to let them lay two or three eggs before removing them and always replace the eggs with artificial ones that look like their own so they'll finish the clutch. The eggs you remove can either be placed in an incubator or under a trusted bantam or goose for the 24- to 25-day incubation period.

I have written extensively on our method for raising young geese (a subject too extensive to cover here), and I refer the reader to the Game Bird Breeders Gazette Magazine, September 1985 issue, for a detailed description of how it can be done with optimum success.

I can think of few waterfowl that are better suited for a mixed collection, large or small, than the Red-breasted Goose. It is tame natured,

relatively non-aggressive towards other birds, and has a personality and behavioral repertoire that is absolutely delightful. It is a species whose current and future status is very much in doubt, and it will increasingly fall to the aviculturist to ensure its survival through the wise management of our captive stock.

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