

PROBLEMS OF A MOTHER GOLDENEYE

— AN APPRECIATION OF THE HUNTING AND GATHERING SOCIETY

by MAUREEN REVER*

This article is dedicated to the memory of Rosalee Early, for many years an active member of the Saskatoon Natural History Society and its executive. Her enthusiasm for all living things was contagious. I know that Rosalee, who named and helped look after Archie, the first goldeneye duckling we tried to raise, would have been the first to volunteer to help with Dominic, around which this article revolves.

For several years I have been studying the nesting behaviour of the Common Goldeneye at Emma Lake in central Saskatchewan. The goldeneye is a tree-nesting duck which usually uses abandoned woodpecker holes (flicker or Pileated Woodpecker) as nest sites. Because such holes seemed to be a factor limiting goldeneye population increase at Emma Lake, over the past 10 years 80 nest boxes have been built and erected on Fairy Island and on the shores of Emma Lake.¹

Every year at least 50% of goldeneye clutches are not incubated. These clutches occur in what we call "dump nests". The age or condition of the birds laying these eggs is still not clear. We do know that more than one female usually contributes to the clutch of 1 to 18 eggs. We suspect that 1st year females are more often involved than older birds.

To determine whether or not "dump nest" eggs were fertile, we moved some to an incubator in the Dept. of

Biology, University of Saskatchewan, Saskatoon, once we had determined they were not going to be incubated. It did not take long to determine that the eggs definitely were fertile. However, that was only the beginning. The end was Dominic!

It was not an easy birth. On the evening of June 29, one of the eggs put into the incubator 28 days earlier began to pip. The shell was broken through but not until the early morning hours of July 2 did the goldeneye emerge. It had been a long struggle and we had had to keep the pipping egg moist with wicks to keep the humidity high enough to prevent the emerging duckling from drying out. The conditions suitable for chickens and pheasants, our usual incubator birds, were not quite right for goldeneyes. It may be more important that these eggs undergo the temperature fluctuations characteristic of the wild resulting from the female's on-and-off-the-nest patterns. Also with ducks, the eggs are apparently moistened by the breast feathers of the female as she returns from the water. The time required for our incubator duckling to emerge from the time of first pipping was similar to what I had

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found in the wild (about 48 hours). The amount of energy required to get out of the tough shell must be considerable.

Normally, young goldeneyes remain 24 to 48 hours in the nest box before the mother calls them out. In this case, I removed the young duckling from the incubator at 5:30 a.m. on July 2 to take him to Emma Lake where I hoped to find a wild foster mother. He was barely dry and his conspicuous black and white markings with four white spots on his back reminded me of a domino. The domino resemblance prompted me to call him Dominic. Two of three earlier ducklings which had been left in the nest boxes by the mothers died after a few days. Archie, the first, died after 1 week of pneumonia which had been contracted in the nest box where he had been left on a cold, wet day. Bartholemew, the second, hatched in the heat of the day after his mother had taken out the rest of the brood. He died after 2 days of *Escheria coli* infection of the yolk sac. This impaired his limb movement so that he had difficulty swimming and standing to oil himself. The third, Caroline, was adopted by another female with a brood 2 days older than herself.

When he was removed from the incubator, Dominic was making quite audible clicking sounds at a rate of 38 or 39 per minute. Apparently, these clicking noises begin well before hatching and serve to synchronize the "breaking out" of a brood. It was interesting that they continued after hatching in this chick and it may be possible in another year to observe whether this clicking continues after hatching when the adult goldeneye is present.

Dominic sat in my hand all the way to Emma Lake. That was his undoing — or mine! In those few hours after birth he became imprinted —

especially to my voice.

We attempted to have him adopted several times by a goldeneye hen with brood during the first 2 days of his life. He responded to the female goldeneye's call by peeping loudly but did not know what to do from there. He would return to the boat or wait in the middle of the bay, cheeping until we returned for him. Dominic believed he was a person, not a duck.

Young goldeneyes can go without food or water for the first 2 days after hatching. In the wild, once the mother brings them out of the nest, they are led to the water and immediately begin to drink and feed themselves. I have watched the young dive 4 or 5 feet to the bottom almost as soon as they first entered the water. They are powerful swimmers and use the "oversize" feet to propel themselves in search of small crustaceans and other water creatures.

For his first hours alone, Dominic was placed in a covered box on a heating pad with water nearby. He was not very interested in either food or water the 1st day. The 2nd day, he knew he was a duck and swam, dove and ate happily in a marshy area near the lake. But he soon learned that "mama" wore black rubber boots with red bands, running shoes or no shoes at all. He followed me everywhere. Within 3 days he had learned to distinguish my voice from other female voices and would follow only me, if I spoke. Otherwise he followed other people's feet with little discrimination.

From his debut at Emma Lake, Dominic had many friends — biology and art students and faculty, camp administrators, cooks and groundsmen. They were all to play a role in Dominic's life and the time they volunteered to help look after him made my life much easier. Special thanks are due to the Bob Haynes family, Floyd Connor and Lou Nicholson.



My schedule did not permit Dominic to spend as much time on the water as he needed to feed himself entirely and, even when he was swimming, he was not always in that part of the lake with the richest food supply. When left on his own, his feeding time in the water was between 15 and 20 minutes at a stretch. He would then come out on his own, preen and dry off, relax and then go back into the water after another 15 or 20 minutes.

To supplement Dominic's food, several ounces of adult mosquitoes were caught before he was put in his box for the night. He was quite happy to be placed in the covered net with the mosquitoes and made recognizable "happy" sounds as he devoured the contents.

When he was 5 days old, Dominic returned with me to Saskatoon. Trying to be a mother duck in the city is much more difficult than in the country. It soon became clear that finding food and swimming time for Dominic took most of the daylight hours. He was 6 days old when he made his first visit to Pike Lake and, although he fed well there, he consumed several hundred

insects caught on the way home — dragonflies (wings and all), grasshoppers and assorted flies, moths and other insects. Because it was so handy, the pond on the university campus near the old Victoria School became Dominic's swimming hole. The supply of dragonfly larvae (*Sympetrum* sp.) was abundant here. In addition to what he caught by himself each day in approximately 5 hours in and around the pond, Dominic consumed between 300 and 500 larvae as well as whatever other live food I could catch for him. The back lanes adjacent to our home were combed every night with an aerial net and frequent excursions were made to nearby sloughs to collect aquatic insects with a bottom net. These insects were added to the bathtub where Dominic dove happily as long as I was within sight. Most people assume ducklings will eat grain, bread or other vegetable material. Not so for goldeneyes. Dominic was almost 3 weeks old before he could be persuaded to eat oatmeal in water and it was several days later before he took a porridge of oatmeal, turkey starter, granola and raisins. His weakness was the raisins. This mixture seemed to



give him the additional carbohydrate he needed to sustain his growth and his walking and swimming activities. Mealworms from Biology Department cultures were an important source of food when the supply of dragonfly larvae was exhausted both by our collecting and by their natural emergence patterns. Anyone who considers taking on a young goldeneye had better be prepared to become part of the hunting and gathering society for most of the day.

At about 2 weeks of age, Dominic's black and white pattern began to turn to brown and white. The most noticeable anatomical changes were the increased size of wings, bill, feet and legs. At almost 4 weeks, the only real feathers were tail feathers. He liked to flap his wings and run along the water but it would be some time yet until he flew.

Dominic followed me everywhere in the house, out in the garden and



through the halls of the Biology Department. His only break from following my voice was a night he spent "happily" sitting in the living room alone, apparently enthralled by the voices on the television set to which he was exposed for the first time in his life.

Dominic had three distinct calls. The first was a recognition call which sounded like — Chee! It followed a period when he had been alone and was then called by name. The second call, his regular cheeps, developed into a louder distress call when he was left alone. Finally his contented "brrrt" when he was eating or sitting beside me on the beach.

For the 4th week of life, Dominic was back at Emma Lake. He wanted to be within sight of the water from dawn until dark but he still followed his adopted parents' legs faithfully, however reluctantly, even when they left the water.

I don't know yet if Dominic will fly in the fall. I hope he will and that he will return to Emma Lake next spring. His lack of fear of people and cars may be his greatest problem. He has brought a great deal of joy to me and to his many friends and he is teaching me much about goldeneye development. This is not an experiment that I would recommend any reader try. The time required is very great and there is no guarantee that the duck will survive either the struggles against diseases, such as pneumonia, or parasites, such as leeches and tapeworms, or lurking jackfish which take a high toll of the young. So far Dominic has been lucky and we hope his luck will continue.

¹REVER, MAUREEN, and R. S. MILLER. 1972. *Common Goldeneyes and the Emma Lake nest boxes*. Blue Jay 31:27-30.

Obituary:

One hour after this article was finished, I learned that Dominic had

been killed by a Goshawk as he was going from the cabin to the lake at Fairy Island. He was 30 days old.



HYBRID BLUEBIRD NESTING NEAR RUSSELL, MANITOBA

by JIM SPEAR*

Richard and Coleen Wileman of the Endcliffe district, 6 miles northwest of Russell, Manitoba, have been looking after a bluebird line for the past 2 years. They send their reports to the Brandon Birders' Club. They have been very fortunate to have the bluebirds come right to their yard! Nest boxes were set so they could be watched from a window. The first nesting was started about the end of May, 1975; the two Mountain Bluebirds had six eggs by June 14.

That afternoon the eggs disappeared and all that was found was a wing of the female. The nest was not disturbed in anyway. On June 19 the male returned with another mate and so the nest box was moved about 60 feet as it was quite close to a tree, which could have been involved in the disappearance of the first nesting. On June 21 the female started building a nest with feathers which she brought in for about 3 hours. During the next week she laid six eggs, all of which hatched.

The interesting part is that, by all appearances, the male and female were Mountain Bluebirds, but on closer observation the female had rusty brown feathers mixed in all over the grey breast, so she must have been a cross. We will be keeping a close watch next year, as this is the first record of such mating in this area.

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