

ATTEMPTED BREEDING OF THE GOLDEN EAGLE
(Aquila chrysaetos canadensis)
IN CAPTIVITY

by
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Since birds of prey are at the end of a long food chain, the concentration of pesticides is multiplied in their bodies. These poisons lead to infertile eggs, soft-shelled eggs because of a calcium imbalance, dying embryos or hatchlings, sterility, altered behavior patterns, and even adult mortality. Human population pressures involving habitat take-over and hunting have certainly taken their toll in birds of prey, but the effects of pesticides have been even more devastating. Some species are already endangered.

Some of the ways that the extinction of these birds can at least be slowed down are to stop using pesticides, to set aside adequate natural wildlife preserves, and to attempt to breed these animals in captivity. The following account documents one such attempt.

We received our pair of Golden Eagles on June 23, 1962. Records made in the zoo at that time were very poor, so it is unknown at what age they came in or under what conditions. The cage is a 732 cm (24 ft) square cage with 4 cm (1.5 in) x 8 cm (3 in) mesh wire. The back wall is brick with two inner dens. There are two similar cages on either side for other species of birds of prey.

In this cage there is a central concrete tree with five real tree limbs. The floor is concrete with a running water bath in the left rear corner. In April of 1970, corrugated fiberglass sheets were laid on the top of the cage at the back and extending about six feet out for protection from inclement weather.

In the spring of 1968 the shells of two eggs were found in the cage. No nesting site was available and no courtship or breeding behavior was observed or recorded.

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In the fall of 1968 a three foot platform made of wood and chicken wire was nailed to the upper branch of the tree. During the spring of 1969 a total of four eggs was laid on the platform. Little nesting material was used and neither of the birds showed any interest in the eggs. The first egg was laid on March 24. It was found near the edge of the platform and could have been knocked off and broken. The egg was taken and put in an incubator. On March 28, shells of the second egg were found in the nest. On April 21, the third egg was found in the nest. Since the parents paid no attention to the egg it was taken and placed in an incubator. On April 25, the shells of the fourth egg were found at the bottom of the cage.

The first egg was dull white, with very light purplish blotches and streaks mainly at the larger end. The third egg was completely white. The eggs proved to be apparently infertile. No development was seen on opening them. No courtship or breeding behavior was observed.

During the late summer of 1969 a large nest was built for the eagles in the far left corner of the cage at a height of about 12 feet. A tree trunk of about 15 feet by 10 inches at the largest end was suspended diagonally in the corner of the cage. Tree limbs with an average diameter of 2.5 inches were placed from this main supporting structure to the corner of the cage. Smaller branches were interwoven with the larger ones and finally straw was placed on top. The area of the nest can be measured as approximately 15 feet on the diagonal, 12 feet on the side, and 5 feet on the back wall of the cage. Neither of the birds would go near the nest for about two weeks, but they finally accepted it and eventually used it for what it was.

The diet of our Golden Eagles is mainly chunks of horse-meat and whole chickens. Before and during the breeding season they were given freshly killed wild rabbits on an average of once or twice a week. As a curious interjection, they would have nothing to do with domestic rabbits.

On March 20 attempted copulation was first observed. With much calling to each other, the male jumped on the female's back. She seemed quite agitated and quickly shrugged him off. The pair continued to call to each other during the following days and several attempts were again made by the male. This was always done on the highest perch of the tree. On March 27 and 28, apparently successful copulation was observed. The male would nudge the female to the middle of

the branch and jump on her back. With flapping outstretched wings he stayed there for a few seconds each time. The female obligingly moved her tail to the side.

On the morning of March 30 the female was seen lying on the nest with her tail slightly raised as if incubating. Both birds continually rearranged pieces of straw on the nest but no eggs were seen.

That same afternoon the first egg was found. The female started to incubate it immediately. Since we wanted to get a second clutch of eggs and thereby possibly double the number of young hatched, the egg was removed and placed in an incubator. On April 3 the shells of the second egg were found on the floor of the cage.

During the time between the first and second clutch, a solid wooden egg was prepared. It was the same size and general color as a real Golden Eagle egg. It was decided to replace the third egg with the wooden egg and allow the female to hatch the fourth egg. On April 26 the third egg was found and placed in an incubator. The wooden egg was placed in the nest and the female proceeded to sit on it.

On May 1 the fourth egg was laid and left for the female to hatch along with the wooden egg. However on May 5 the fourth egg was found to be broken so the wooden egg was removed.

Two eggs remained in the incubator but as in the previous year they proved to be apparently infertile. The color on all four eggs was dull white with blotches and streaks of reddish-brown.

During the short time that the eggs were in the nest, only the female was observed sitting. The male, however, was quite attentive, feeding her and rearranging the nest around her constantly.

Brown and Amadon (1968) quote Broley (1952) as reporting cases of Bald Eagles regularly laying infertile eggs for a number of years. Hopefully this is the case with our Golden Eagles. We are looking forward to better results in the future.

Literature Cited

- Broley, M. J. (1952). *Eagle Man*. New York. Pelligrini and Cudahy.
- Brown, L. and D. Amadon (1968). *Eagles, Hawks, and Falcons of the World*. New York: McGraw-Hill.
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