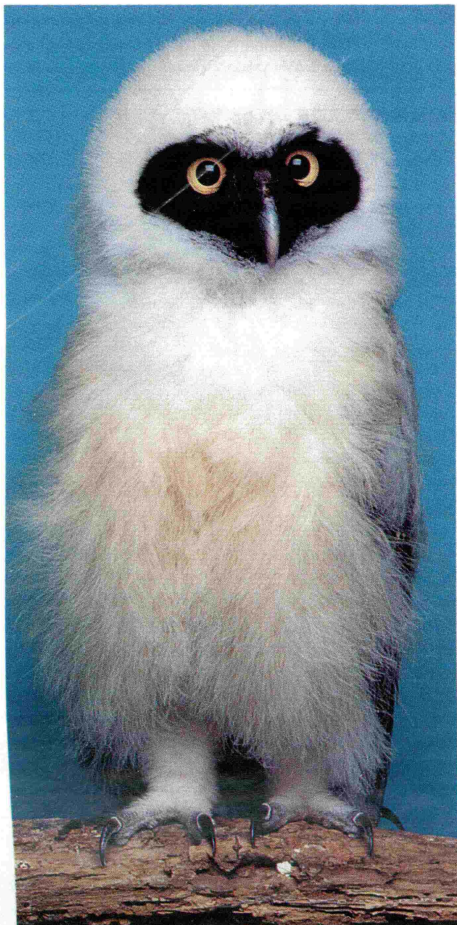


Breeding the Spectacled Owl

(*Pulsatrix perspicillata*)

by Bruce W. Bohmke, Curator of Birds and Michael Macek, Bird Zoologist, St. Louis, Missouri

Photos by Chuck Dresner

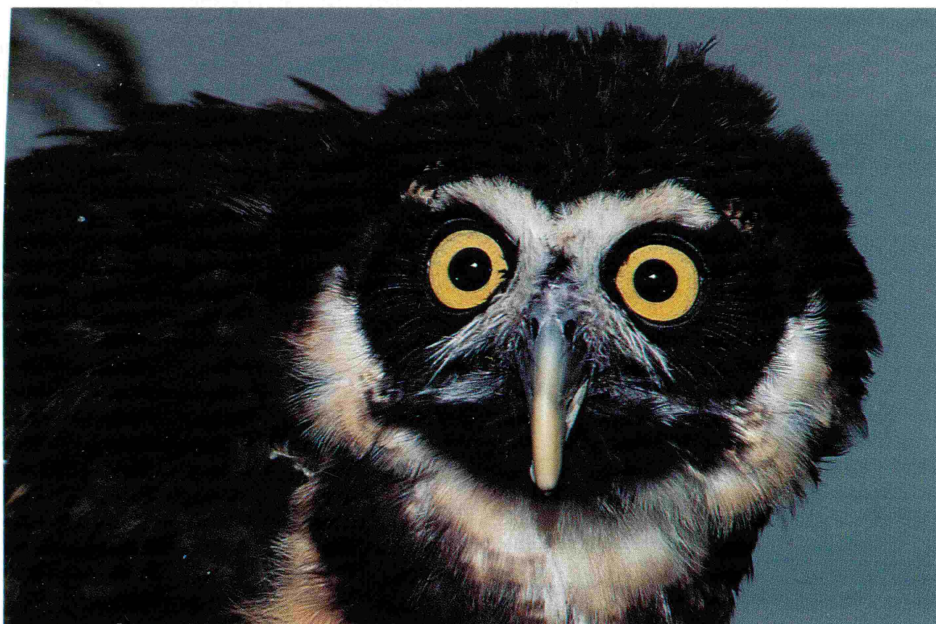


This immature Spectacled Owl is nine weeks of age. It will molt into its adult plumage during its first molt. It will lose its light head and body coloration.

The St. Louis Zoo first acquired Spectacled Owls in 1986 for a display in the Bird House. A commitment was made at the time to ultimately house two pairs of owls. Both pairs of birds produced offspring over a five year period. This paper reports on the captive management of Spectacled Owls and their reproductive efforts.

Two captive reared female owls were acquired from the Oklahoma City Zoo and a wild caught male was obtained from the Cheyenne Mountain Zoo in Boulder, Colorado. In 1989, a second male was purchased from the San Diego Zoo. This bird was handreared. None of the birds had a history of reproduction prior to arriving at St. Louis.

The first pair of owls was housed in an indoor enclosure at the Bird House. The exhibit is triangular in shape and measures 2.5 m x 2.5 m x 4 m. The two short walls are solid and the long side is of piano or harp wire. The height of the enclosure is 2.5 m. The ceiling has a skylight and incandescent lights provide a minimum daylength of 12 hours. Live plants decorate the exhibit and are planted in a soil substrate. Fresh water is provided daily in a small dish. The birds are fed dead mice once daily in the late afternoon.



The Spectacled Owl is a tropical owl from Central and South America. The St. Louis Zoo has raised young from two pairs in the past few years.

The nest is a box made out of plywood which measures 50 cm x 50 cm x 75 cm. The entrance is a hole 25 cm in diameter near the top of the box. The nest is painted a dark brown and elevated so the hole is 1.2 m off the ground. Oak bark mulch is added to the box to a depth of 20 cm. The nest was put in the exhibit as soon as a pair was introduced together.

In February of 1988, a single egg was found on the floor of the exhibit and was removed for artificial incubation. The egg proved to be infertile. The next egg was laid in late February 1991 in the nest box. Egg laying was preceded by the male feeding the female and increased vocalizations between the pair. In late February, the birds began spending an average of four hours a day in the nest. The 30th of March was the first time one bird was constantly in the box. A single egg was pulled for artificial incubation on April 30 and the egg hatched on May 3. The estimated incubation period was 35 days. The chick was raised without difficulty by bird department keepers.

On June 6, 1991, an egg was seen in the nest box and a second egg was noticed in subsequent nest checks. A decision was made to leave these eggs in the nest to determine the adults' ability to rear their own offspring. The first chick was heard vocalizing on July 11 which was 36 days after the first egg was seen. A few weeks later a second chick was seen in the nest. During this period, the owls were disturbed as little as possible during cleaning and feeding. Food was offered twice daily in sufficient quantity to always have extra food in the exhibit.

The next clutch was laid in March of 1992. The two egg clutch was left with the adults for incubation but neither egg hatched. When removed from the nest, both eggs were addled and fertility could not be determined. In December of the same year, courtship feeding was noticed and an egg was laid on the 14th of January. This egg was removed for artificial incubation promptly. The egg was incubated at 98°F dry bulb and 85°F wet bulb in a



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Marsh Farms Roll-X incubator. The chick hatched after a 34 day incubation and was handreared with little difficulty. A second clutch consisting of two eggs was laid in late February 1993 but both eggs proved to be infertile when pulled from the nest.

To summarize the reproductive efforts of the first pair, six clutches totaling nine eggs were laid over a five year period. Three eggs were infertile, two eggs were addled, and four eggs hatched. Two chicks were handreared and two chicks were parent reared. One of the handreared chicks hatched from an egg which was incubated artificially from day one while the other was from an egg which was primarily incubated by the parents.

The second pair of adult birds was housed in an outdoor enclosure measuring 3 m x 5 m x 2 m. The enclosure included an attached barn measuring 2 m x 1.5 m x 2 m to which the birds had year-round access. The barn had a concrete floor covered with shavings, a 250 watt heat lamp and suitable perches. The outdoor aviary was planted with low evergreen shrubs and contained a nest identical to the one described for the preceding pair.

This pair was introduced to each other in the fall of 1990 when the male was a little over a year old. They were moved to the described enclosure in June of 1991. The first egg was laid in late April of 1992. This egg was pulled in early June and was addled. A clutch of two eggs was pulled for artificial incubation in early September. Both these eggs were fertile but neither hatched due to incubator malfunction. Another clutch of two eggs was pulled for artificial incubation in late October. Both eggs were fertile and both hatched. One chick died at two days and the other was handreared. Another two egg clutch was pulled in early December with one infertile and the second dead in the shell. No eggs were laid in early 1993 and the pair of birds was sent out of the collection in May.

The second pair of birds laid seven eggs in four clutches in a one year period. One egg was infertile, one was addled, and five were fertile. Of the five fertile eggs, three failed to hatch and only one of the two hatches survived to fledge. This chick was very pale in color. The brown areas of the face and wings were a light brown instead of the dark brown seen on all

other chicks. This bird was sent out of the collection prior to molting into adult plumage.

Housing of Spectacled Owls seems to follow guidelines established for other species of raptors. Spectacled Owls at the St. Louis Zoo were housed in both indoor and outdoor exhibits. The pair housed outside remained in their enclosure throughout the winter. Although temperatures reach -12°C, the owls exhibited little discomfort. On cold days and especially at night, one owl would seek shelter in the barn while the other would stay in the nest box.

As with many raptors, the normal social grouping is a pair. Both pairs showed no aggression on introduction and neither pair exhibited compatibility problems. When one pair had two chicks in the nest, there were times when both adults would be in the nest for considerable periods. The female performed the majority of incubation and when there were chicks the female spent most of the day in the nest box. During this period, the male was seen to bring food to the nest and, as the chicks grew, to the female outside the nest. Parent reared chicks have been left with the adults for six months without any signs of aggression.

Eggs removed for artificial incubation hatched in 34 days. The average of three hatched chicks was 37.5 grams. Chicks were fed five times a day with diced pinkie mice which were supplemented with vitamins and calcium. As the chicks grew, the diet was slowly changed to small mice with hair and eventually to adult mice. The brooder was initially set at 36°C and slowly reduced to room temperature over a three week period. The chicks began to self feed at four to five weeks and their growth stabilized at seven to eight weeks.

Spectacled Owls make excellent zoo exhibit animals due to their striking coloration. The captive population of these birds has historically been small. In the last several years, the number of zoos breeding Spectacled Owls has increased substantially. The number of wild caught birds in the population is small which makes the risk of inbreeding substantial. Close attention must be given to the management of the captive population to avoid genetic problems in the future. ●

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