

An Inside Look at Nesting Hornbills at the San Antonio Zoo

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Hornbills are a popular exhibit bird in many zoos due to their distinctive beaks and unusual nesting habits. The practice of sealing the nesting female in a tree cavity is common to all the arboreal species and has frequently been described in literature (Hutchins, 1976; Jennings & Rundel, 1976; Porritt & Riley, 1976).

The San Antonio Zoo has maintained Jackson's hornbills (*Tockus*

deckeni jacksoni) since 1978 when two imported females were acquired. Two captive raised, 6-month-old males were obtained in 1983, and the first offspring were raised from both pairs in 1985. Since that time a total of 7.11 hornbills have been produced.

The details of their nesting and some abnormalities in the females' behavior were described in a 1986 article in *The Honeycreeper* (Langlois, 1986).

The nestbox for one pair was designed for easy access by mounting a plywood box (8" x 8" X 10") at the base of an 18" tree section with a natural cavity. The hole was approximately 2.5" wide by 5" long and was reduced to a half-inch slit after mudding.

For the 1985 through 1987 seasons we adopted a hands-off policy to avoid disturbing the nesting female, but in 1988 we felt confident enough to make regular nest inspections. After the female was sealed inside the box we were able to open the box to check for eggs. A clutch of four eggs was laid with an interval of five days between eggs. The first egg hatched 30 days after egg one was laid, the second, five days later. The other two eggs failed to hatch. By the time the eggs hatched, the female had completed her molt and was growing new feathers.

The nest was checked every two to three days and the chicks removed for photographing and weighing. The female responded by moving to one side of the box or frequently climbing up inside the log. The latter behavior was very similar to observations of female hornbills in the wild. Natural nest cavities often have a space above the entrance hole presumably to serve as an escape area for the nesting female when threatened (Kemp, 1979).

At 18 days of age, chick number one was found dead. No significant cause of death was determined,



Nest log with entrance sealed.

Photo by Rob Gramzay, Bird Keeper, San Antonio Zoo, Texas



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Chick 1 at day 1. Note new feather growth on female.



Chick 1 at day 8 (33.6 grams).

although certainly the human intervention was possibly a contributing factor. It is also possible that we have experienced chick mortality in the past without our knowledge. The second chick surpassed its sibling in weight by day five, and it may simply have out competed the other for food. The surviving chick fledged at 48 days of age and was removed from the exhibit when the parents re-nested in mid-August.

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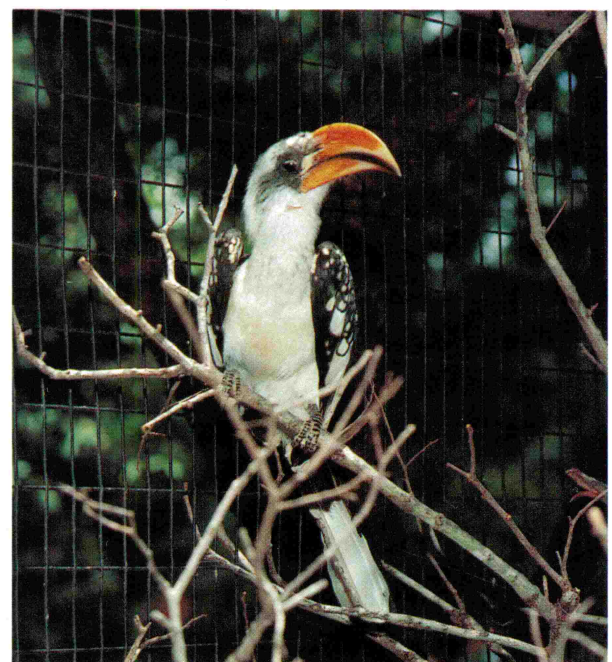
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Chick 2 at day 23 (138.4 grams).



Adult male Jackson's hornbill.