

Reproduction of the
White-necked Mynah

Streptocitta albigollis
at the Audubon Park Zoo

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T Introduction

The White-necked Mynah *Streptocitta a. albigollis* is a monomorphic starling measuring approximately 18 inches (48 centimeters) in length including a long graduated tail. The overall plumage as well as soft body parts are glossy black. Contrasting this is a large unbroken collar of white feathers encircling the nape, just overlapping the scapulars extending midway down the breast and a dull yellow on the distal third of the beak.

The subspecies *Streptocitta a. torquata* differs from the nominate form by possessing an entirely black beak. The area where the two populations converge is unknown.

One of four species of starlings endemic to the Indonesian island of Sulawesi, the White-necked Mynah has a wide ecological amplitude. Feeding on fruits in small groups and mixed flocks, they have been observed in a variety of forest types

and cultivated areas from sea level to 4000 feet (1000 meters) in elevation. Typical of most Sturnids, the vocalizations of this species are complex and varied, including a three note nasal song, rasping ascending rumbles, and a piercing alarm call.

Husbandry Parameters

The Audubon Park Zoo acquired an adult pair of wild-caught White-necked mynahs in March 1998. The female laid a total of 23 infertile eggs in seven nesting attempts over a three-year period at the previous institution. Following quarantine, the birds were moved to the zoo's Tropical Bird House. The pair are housed on exhibit in a woven mesh, metal framed enclosure 10 feet (3 meters) high with a curvilinear piano wire front measuring eight feet (2.4 meters) wide. The depth varies from nine feet (2.7 meters) to five feet (1.5 meters). The entire rear wall and one side of the enclosure, excluding a metal access door, is concrete. The exhibit is planted with ornamental fig *Ficus benjamina*, *Schefflera arboricola*, and palm *Rhapis excelsa* in a soil, mulch substrate. Vines and branches provide perching. A translucent fiberglass roof and two glass walls provide natural light in the exhibit area.

The diet is composed of mixed fruit (diced apples, banana, corn, peas, grapes, pear, cooked yam, and lettuce) in a 3:1 ratio with a commercial softbill pellet. In addition, a teaspoon of mixed grain (commercial finch mix, sunflower seeds and cracked corn) and insects (mealworms, waxworms and crickets) is provided. Bone meal and a vitamin/mineral mixture are added as supplements.

Initially, the birds were fed once per day. Although they were eating and alert, when keepers serviced the enclosure the birds appeared somewhat stressed by producing alarm calls and flying to the front corners of the exhibit. In an effort to provide more security and due to the small exhibit space, a branch with Spanish moss *Tillandsia usneoides* draped over the ends was placed on the top of the enclosure.



Photo by David Bull

A pair of White-necked Mynahs at the Audubon Park Zoo.

Nesting Behavior and Chick Development

On 21 June, a nestbox of $\frac{3}{4}$ inch (2 centimeter) plywood was affixed to a vertical branch seven feet (2.1 meters) above the substrate. The box measures 10 inches (25.4 centimeters) wide 19 inches (48.26 centimeters) deep and the 4 inch (10.16 centimeters) diameter entrance is 14 inches (35.56 centimeters) from the bottom.

The pair showed immediate interest, entering and exiting the box repeatedly. A midday diet was added to the regimen to enhance pair bonding and breeding behavior and the pair began nestbuilding using small twigs and leaves provided.

On 10 July an angled automotive mirror and flashlight were used to inspect the interior of the box and a bulky, well formed nest of twigs was observed. The mynahs reacted by flying to the front of the enclosure and issuing alarm calls, but otherwise accepted the intrusion. The female spent most of the day inside the nestbox. The nest was checked the following day and one egg was observed. As the female was rarely seen outside of the nest during the day, the box was inspected five days later and four eggs were present.

On 27 July, one egg hatched, indicating a 16-day incubation period. The following day a second egg hatched and on August first the chicks were heard vocalizing. At this time an afternoon diet with additional insects was instituted to provide sufficient protein. As the adults seemed to be feeding the chicks waxworms almost exclusively, staff began injecting a few of the live worms with Cal-Mag, a liquid calcium supplement as a prophylaxis against metabolic mineral imbalance.

On August fourth the nest was checked and two apparently healthy chicks were removed and examined. The seven-day-old nestling weighed 60 grams and its five-day-old sibling weighed 41 grams. Natal down was evident on the capital, alar, and ventral feather tracks and both showed a strong begging reflex. The older chick's eyes were beginning to open.

Ten days later the chicks were

examined and photographed. Both appeared robust and visually oriented and the distinctive color pattern of the adults was evident. The birds weighed 142 grams and 138 grams at 17 and 15 days respectively.

At 25 days post-hatching the nest was checked and one chick was found dead. The surviving nestling appeared healthy and no change in the adults behavior was noted, but four days later the second chick died. Subsequent necropsy results suggested a possible protozoan infection consistent with exposure to atoxoplasma. As the adult birds showed no signs of infection, the husbandry routine remained unchanged with the exception of decreasing the number of the feedings to twice per day. A routine fecal examination was negative for shed protozoan ova.

Two weeks later the pair began renewed interest in nesting and on 15 September, three eggs were observed in the nest. A preventative treatment for atoxoplasma began on 18 September. The drug toltrazril was added to the adults' water for 14 days. While the staff continued monitoring the nestbox, manipulation of eggs or subsequent chicks was minimized due to the disappointing results of the first clutch.

The first egg of the second clutch hatched on 27 September, while the second hatched the following day. The frequency of offering food increased to five times per day and supplementing the live food with calcium resumed. Regular checks of the nest continued, and after 33 days both chicks fledged and appeared responsive and alert. The adults continued to feed the chicks and the adult female began spending prolonged periods of time in the nestbox during the first week of November. During this same time period the fledglings were observed eating cooked yams and grapes on their own and were moved to a new enclosure. The fledglings weighed 138 grams and 126 grams respectively, contrasting the adults' average weight of 185 grams.

On 15 November three eggs were observed in the nestbox. As the anticipated hatch date approached, the frequency of feeding was again increased.

On 28 November one chick and one unhatched egg were observed and no evidence of the third egg was found. Keepers again began a 14-day series of preventative atoxoplasmosis treatments on 20 December. The unhatched egg proved infertile and the lone chick from the third clutch fledged on January 1, 1999 – 33 days post hatching.

Conclusion

Although the White-necked Mynah is a relatively recent addition to American aviculture, a report using International Species Inventory System (ISIS) data documents four pairs of birds successfully nesting in four U.S. zoos. Between July 1987 and November 1998 these birds produced a total of 37 young; of these, 15 or nearly 41% failed to survive beyond 30-days. The husbandry requirements for maintaining adult White-necked Mynahs is rather straightforward, yet it appears to be a deceptively delicate species during the nestling phase of its life cycle. It is hoped the information presented here might be of use to aviculturists working to establish similar species with more urgent conservation needs.

Acknowledgments

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Products Mentioned in Text

Vitamin/Mineral Supplement: manufactured by Supreme Swine Nutrition, Inc. Box 31, Elvaston, IL 62334

Cal-Mag: manufactured by KAL, Inc. Woodland Hills, CA 91365

Bibliography

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Photo Credit

David Bull, Audubon Institute, 1999. 