

PARENT REARED AFRICAN JACANAS *Actophilornis africana* AT DISNEY'S ANIMAL KINGDOM

by Susan Congdon

Relatively easy to house given the right habitat, the challenge with keeping African Jaçanas has been successfully breeding and rearing them. Disney's Animal Kingdom (DAK), Florida, USA, is one of the few institutions to have had success hand-rearing jaçana chicks, and is now one of even fewer to have had them successfully parent reared.

During our first breeding season, their eggs disappeared from the large free-flight mixed species aviary in which the jaçanas are housed, and a time lapse camera revealed that these eggs had been destroyed by rodents and a breeding pair of Black Crakes *Limnecorax flavirostra*. As no US institutions were at that time successfully breeding African Jaçanas, we made the decision to remove all eggs and hand-rear the chicks. However, by late 2000 we noted that the numerous jaçanas that we had raised by hand were showing signs of imprinting, likely due to the high level of interaction just after hatching, when attempting to get the chicks to eat (see Congdon and Zima, 2000). As a result, we were determined to allow the parents to rear their own chicks during the next breeding season. As we had produced 13 chicks from the only wild-caught pair that was breeding in the USA, we decided to take the risk and leave the eggs with the parents. We made one other management change for that breeding season, we removed the breeding pair of Black Crakes from the aviary and instead housed an all-female group.

The first clutch that was left for the male to incubate was laid in January 2001. The male sat much tighter than he had in the past and was much more defensive of the nest site. The first egg hatched under the male on January 27th. The chick hatched a full day before the next two; however, the male appeared more interested in the unhatched egg than in the chicks. Due to his lack of attention, the chicks were removed for the night and taken to the nursery where they were given subcutaneous and oral fluids and piperillan. The next morning the chicks were placed back on the nest and the remaining egg was removed. Later that day, the male was observed carrying the chicks under his wings and flew to the female when she called, apparently dropping the chicks as he did so, which fell into the pond below containing a species of large tilapia (fish). The chicks were not seen again.

It was not long before the male was incubating another clutch. On March 4th the first chick hatched, again a full day before the remaining chicks hatched. Like before, the male attempted to fly with the chicks tucked under his wings and they dropped into the pond. On this occasion, a large tilapia was observed to swallow one of the chicks but then spat it back out. This

time, three of the four chicks were recovered and both the male and the chicks were moved to our off-exhibit Avian Research Center (ARC), where the parent-rearing process continued. Here the chicks initially failed to gain weight and were rotated through the nursery for supplemental feeding, but with one or more of the chicks always being left with the adult. We came to the conclusion that the earlier chick mortality was due to the chicks getting a little chilled, as despite the room being heated, it has a concrete floor. Subsequently, a heater was placed on the floor to warm that part of the room. By day six the male again had all three chicks and was successfully caring for them.

When the chicks were about 60 days old and eating on their own, the male was released back into the aviary. Within a few days he was again sitting on eggs, but unfortunately this third clutch disappeared shortly after the fourth egg was laid. On June 28th a fourth clutch of eggs hatched in the aviary. Due to construction work, the male and chicks were immediately moved to the ARC. This time the chicks gained weight and did not require supplementary feeding. This was most likely due to the combination of warmer daytime temperatures and the heating unit on the floor.

Around day 70 the male was again returned to the aviary while the chicks remained in the ARC. At that point the decision was taken to remove all further eggs due to possible over-representation of this male and female's offspring in US institutions.

Copenhagen Zoo, Denmark, succeeded in producing parent reared chicks at the same time and we exchanged birds so as to be able to introduce fresh genes into the US population. The two males that we have taken great pains to acquire from Copenhagen will be paired with females that are unrelated to our breeding pair, to ensure genetic diversity. Our breeding female has since died and the former breeding male, because he is related to most of the females in the USA, will in future be used only as an exhibit bird.

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Reference

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HOW DO TWO STURNIDS, *Leucopsar rothschildi* AND *Gracupica nigricollis*, GET ALONG TOGETHER IN LIMITED SPACE?

by Walter A Sontag, Jr.

Introduction

In my study of habitat use by *Leucopsar*, Bali Starlings *Leucopsar rothschildi* were kept together in an aviary with another (though non-sympatric) south Asian sturnid, the closely related Black-collared Starling *Gracupica nigricollis* (Sontag, 2001b). The former are known to be highly aggressive towards conspecifics (e.g. Sieber, 1978; Sontag, 2001b). In order to avoid or reduce intra- and potential interspecific aggression the aviary was spacious and highly structured. Moreover, the number of inhabitants never exceeded six individuals. No severe aggression was observed between the two species.

The Black-collared Starlings generally spent more time on the ground layer than *L. rothschildi*, but the frequency of individual ground visits was distinctly higher in the latter (cf. Sontag, 2001b). This study addressed the question if and what type of correlation may exist between these two sturnids when sharing the same aviary? Theoretically, Bali Starlings might use the ground space more when Black-collared Starlings spend more time on the ground, or the opposite may be the case. Note also that in the wild mixed aggregations of starling species have often been described. For instance, Brahminy Starlings *Sturnus pagodarum* associate freely with Grey-headed Starlings *S. malabaricus* when feeding on flowering and fruiting trees and with Asian Pied Starlings *S. contra*, Common *Acridotheres tristis* and Jungle Mynahs *A. fuscus* when hunting grasshoppers etc. on the ground layer (Ali & Ripley, 1972: 161); *S. pagodarum* also roost communally with Rosy Pastors *S. roseus* and Common Mynahs (Ali & Ripley, 1972). In Thailand I have seen mixed starling associations such as *tristis/javanicus* (frequently), *tristis/javanicus/nigricollis* (regularly in wet cultivated areas also intensely used by *contra*, Bang Pra area, s. e. Thailand) and *tristis/javanicus/contra* (regularly, Chiang Mai district) (Sontag, 1997). Bali Starlings were recorded using the same roost sites as Asian Pied Starlings and Black-winged Starlings *A. melanopterus* (Ash, 1984). On the other hand, Sieber (1978) stated that the latter was a food competitor of *Leucopsar* in the Bali Barat Nature Reserve.

As the Bali Starling and Black-collared Starling are close relatives, I first discuss phylogenetic aspects. I will present information from the literature and my own observations. This may help to better understand (a) some similarities and discrepancies between the two species, including



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