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BREEDING THE BUFF-NECKED IBIS *Theristicus caudatus* AT BLACKBROOK ZOOLOGICAL PARK

by Nicola Sumbland

Here at Blackbrook Zoological Park in Staffordshire we currently house 11 of the 27 species of ibis belonging to the family Threskiornithidae. Among the species housed here is the Buff-necked Ibis *Theristicus caudatus*, which is a particular favourite of mine. There are only about 20 remaining in captivity and we believe we are the only zoo in the world currently housing this species and are the first to have bred it. (See Editor's Note at the end of the article.)

The Buff-necked Ibis is widely distributed in South America, where it forages in wet grasslands, marshlands, flooded agricultural fields, swamps and along the banks of lakes and streams, feeding on small aquatic animals such as fish, frogs and shrimps.

Identification

The Buff-necked Ibis is often wrongly identified and frequently mistaken for the similar looking Black-faced Ibis *T. melanopus*. However, when you have both species alongside each other in captivity, as we have here at Blackbrook Zoological Park, the two species can easily be distinguished from each other.

The Buff-necked species can be identified by the following:

It has an area of white on the wings (see photo p.2).
The crown is a buffish-tan or rufous-buff colour, so too is the lower chest (the Black-faced Ibis has a grey band across the lower chest).
It does not have a lobe beneath the chin, just a tight piece of black skin.
The eyes are bright red with a black pupil.
It can be sexed quite easily, as the male is taller and has a longer beak than the female.

Our adult pair of Buff-necked Ibis was one of the first ever bred in captivity. The two birds were hatched in May 2007 and were hand-reared

Blackbrook's breeding pair of Buff-necked Ibis.

JoJo showing the coloration of the underparts.

by members of Ibisring (website:www.ibisring.org). They would have been only four to five months of age when Blackbrook bought them from a dealer in October 2007.

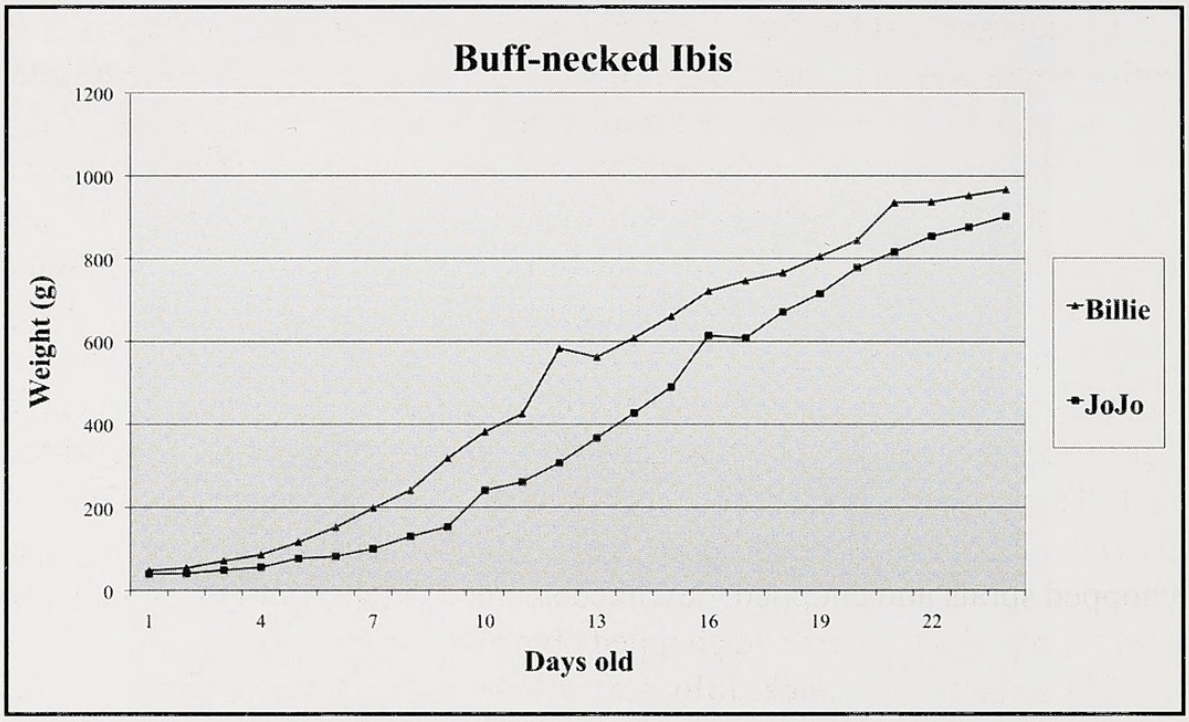
Since being at Blackbrook the birds have been made comfortable in a large enclosure which gives the pair plenty of outdoor space and has a large

The author with a young ibis.

pond for wading in. The birds also have access to a shed, which is always left open, so that they can come and go as they please. There are two nesting platforms built outside around the posts supporting the netting covering the roof. These are approximately 10ft (3m) above the ground, one above the pond and the other just above dry land. The ibis share the enclosure with a pair of Purple Gallinules or Swamphens *Porphyrio porphyrio*, which being a ground nesting species, does not compete with the ibis for either of the nesting platforms.

Early in April 2011 we found an ibis egg on the ground below one of the nesting platforms, which we took to be an indication that the ibis had reached breeding age. The egg was placed back in the nest, but was found on the ground again the following day. We inspected the nest and decided that due to the pair's inexperience, the nest was inadequate and that the pair needed our help to build a better nest. Although we knew the egg would not hatch, we decided to leave it with the pair in the hope that it would encourage nesting behaviour. After sitting on the nest for just over a week, the ibis came off the nest that morning and showed no sign of returning. Late that afternoon we took the decision to remove the egg. On closer inspection of the nest, however, we discovered a further two eggs, making a clutch of three. No longer confident that the the pair would hatch the eggs and rear the chicks, we decided to remove the eggs and artificially incubate them and, if they hatched, hand-rear the chicks.

Fig. 1. The growth rates of the two hand-reared chicks.



We carefully cleaned the eggs and upon candling them discovered that the two later eggs appeared to be fertile. These were placed on a rack in an automated incubator which rotated the eggs every hour. The incubator was set at a constant temperature of 37.5°C (99.5°F) and the humidity was not allowed to drop below 50%. The eggs were inspected twice a day for any signs of development. As we were not sure when the eggs had been laid, we were unsure when they were likely to pip.

The first chick hatched after approximately 23 days of first being incubated by the parents and then in the incubator. The chick, which we named Billie, weighed 48g 24 hours after hatching. It was then taken out of the hatcher and placed in a small tub lined with paper towelling to cushion it and placed in a brooder set at 37.5°C (99.5°F) and 65% humidity. On day one the chick was given small amounts of food every two hours from 8.30am-11.30pm (23.30hrs). The chick was fed using a syringe fitted with a small silicone tube to ensure that the food did not enter the trachea.

By day two the chick was eating 3ml-5ml of formula every two hours, and sometimes demanded more. Twigs were provided to act as a nest for the chick to sit on and ensure that its legs and feet developed properly. Day by day the routine gradually evolved as the chick demanded more food. By day five it was eating 17ml-30ml of formula, but at longer intervals. The chick weighed a healthy 116g.

The second chick hatched exactly seven days after the first chick hatched. The second chick, which we named JoJo, weighed 40g, 24 hours after hatching. It was placed in the brooder with the first chick and, except for

some slight changes, we followed the the same hand-rearing routine.

By the time that the first chick, Billie, had reached 12 days old, she was eating small pieces of stint (small freshwater fish), as well as the formula. She was placed in a separate brooder and over a period of 12 days the temperature was gradually reduced to 25°C (41°F). Once this was achieved she was moved to a container full of twigs and with a heat lamp above. By day 16 she was eating a mixture of the formula, whole stint and pinkie mice. It was the last day that she received the formula. She weighed 721g. On day 21 she was able to pick up food on her own from a bowl. From then on I fed her only small amounts of food, leaving her slightly hungry to encourage her to feed herself. After a few days she no longer needed to be hand-fed and, therefore, on day 24 she was moved to an indoor aviary, which had perches and heat. Other foods were slowly introduced, including rat pups, chopped sprats and chopped, deyolked skinned chicks, until eventually she was eating whole sprats and chopped chicks.

When the second chick, JoJo, was able to pick up her own food, she was reintroduced to Billie. When the two young ibises reached approximately 1,150g the heat bulb was removed and a few days later they were introduced into their new outdoor pen, which has an indoor shed and plenty of perching.

Acknowledgements

I would like to say a massive thank you to Mark Rubery for giving me the opportunity to work with such wonderful birds and for trusting me to hand-rear the two chicks. I also wish to thank Nicole Rowley for helping me with the night feeds.

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The First Breeding Records For Birds Reared To Independence Under Controlled Conditions In The United Kingdom compiled by Dave Coles (1986), states that the Buff-necked Ibis was first bred in the UK at Birdland in 1982. However, no breeding account was published. I have also found records of one bred in 1991 (collection unnamed) and two bred in 1992 (collection or collections unnamed). It is suggested that these birds were Black-faced Ibis which had been wrongly identified. It is probably too late now to resolve this matter one way or the other. - Ed.

DIETARY CONSIDERATIONS WHEN BREEDING MONTEZUMA QUAIL *Cyrtonyx montezumae*

by Jack Eitniear and Terry Becherer

Most North American quail (Odontophoridae) are easily bred in captivity, some even at commercial facilities. Two exceptions, however, are the Mountain Quail *Oreortyx pictus* and the Montezuma Quail *Cyrtonyx montezumae*. This article describes our experiences with the Montezuma Quail.

J. C. Eitniear

Adult male Montezuma Quail.

Our project began with the desire to produce enough quail to begin a soft release programme in the Texas Hill Country, from which the species was extirpated decades ago. After consulting with several aviculturists who housed Montezuma Quail, we discovered that the species was not doing well in captivity. Most of those who had a desire to breed this species, consulted *Upland Game Birds: their breeding and care* by Hayes (1996) for their general husbandry guidelines. According to Hayes and individuals we consulted, first year pairs do not breed well. Furthermore, overall fertility