

AVICULTURAL MAGAZINE

THE JOURNAL OF THE AVICULTURAL SOCIETY

Vol. 111 - No. 2 All rights reserved ISSN 0005 2256

2005

BREEDING THE ZANZIBAR RED BISHOP IN A MIXED COLLECTION

by Alan and Beverley Brock

Five years ago we maintained seven aviaries housing a collection of softbills and seedeaters. However, due to changes in work patterns and the difficulty in obtaining suitable help for holiday periods, we decided to reduce our collection and its maintenance to a more practical level. A block of six aviaries were converted into one large flight measuring 30ft x 6ft x 8ft high (approx. 9.1m x 1.8m x 2.4m high) with a shelter attached, heated and lit by electricity. The flight was planted with a number of hardy shrubs and plants but the depredations of the seedeaters have caused a great deal of damage to them.

The reduced collection was intended originally to house seedeaters only. This resolution held good until the acquisition of a pair of Red-crested Cardinals *Paroaria coronata*, which in addition to seed, take fruit, livefood and Bogenia. We then began picking up odds and ends from dealers and as we were providing the above diet for the cardinals, they were soon joined by a number of softbills.

Four years ago we also obtained some weaver birds, including two pairs of Zanzibar Red Bishops *Euplectes nigroventris*. This fairly localised eastern African species is very like the closely related and more familiar Northern *E. franciscanus* and Southern Red Bishop *E. orix*. However, it is smaller, measuring about 4in (10cm) in length and when the male is in breeding plumage, the red on the head extends fully over the crown and forehead. The other two are bigger, they measure about 4½in-5in (11.5cm-12.5cm) in length and the red on the head of the males does not extend fully over the crown and forehead, which are black.

Most weaver species conduct their courtship display in a similar fashion, the male puffing-up his head feathers and flicking his wings, while pursuing the female or challenging another male. There are many mock fights but no injuries occur. The call or song consists of a curious metallic-like whirring sound and a harsh chattering note when threatening another bird.

Although weavers are renowned for their reluctance to breed in captivity, this reluctance does not extend to constructing nests. After we supplied them with coconut fibre a host of small, spherical nests, began to appear attached to branches, trellis and the wire panels of the flight. There are also two pairs of Napoleon Weavers *E. afer* and a pair of Red-billed Queleas *Quelea quelea* in the aviary and some of these nests were undoubtedly built by them, but they did not exhibit the fanaticism of the Zanzibar Red Bishops. At one point they constructed three nests on a 6ft (almost 2m) high trellis, one about 2ft (60cm) from the ground, one in the centre and the other at the top. Some were started and then abandoned when still no more than a thin layer of fibre, while others were abandoned when they were well advanced and were too dense to see through. The two male birds spent a great deal of time in aggressive posturing and were constantly squabbling with each other and with the other weavers. We have kept a number of species of weavers over the years and have observed a great deal of this posturing but, as stated previously, never any injuries. They appear to be quarrelsome by nature but not vicious.

We did not make any detailed observations on the Zanzibar Red Bishops as we did not expect them to breed. However, on August 14th 2003, a weaver chick was found drowned in one of the concrete bird baths in the aviary. It was tiny, no bigger than a 50p coin (which measures fractionally over 1in (28mm) across) but appeared to be fully fledged. We were unaware as to which of the three species it had belonged, so decided to keep closer observation on all of them.

One of the male Zanzibar Red Bishops was seen to take up a position slightly above a strongly built nest that was woven into the mesh of one of the aviary panels. He assiduously drove away any bird that approached and the female was seen entering the nest. A discreet examination of the nest disclosed that it contained a small, pale blue egg. The nest, constructed of coconut fibre, appeared to have very little lining, other than one or two tiny feathers. However, two days later the female deserted the nest. The egg was cold and on closer examination proved to be infertile.

Further observations established that only one pair was nesting. The male of that pair constantly harried any bird which approached the nest, which was the same one, attached to the panel at the front of the aviary. Soon we found ourselves facing a curious dichotomy. The female was very susceptible to disturbance and even the slightest intrusion near the nest resulted in the eggs being deserted. So, in the end we gave up close surveillance and instead observed them through binoculars from the kitchen window, from where the female could be seen entering and leaving the nest.

Yet the chosen nesting site on the aviary panel was less than 2ft (60cm) from the garden path. The constant use of the path, by ourselves, two dogs and a cat and the innumerable Foxes *Vulpes vulpes* that use the path at night

did not appear to worry her in the slightest. It seemed to be entry into the aviary and any approach to the nest that she objected to.

Brief diary of frustrating events during 2004 breeding season.

July 3rd	Returned home from holiday. Inspected nest using a torch and dental mirror and found one chick with its eyes not yet open and one egg.
July 4th	Chick dead in nest. Both it and the egg were cold. Presumably the female deserted after the nest was inspected.
July 5th	Egg missing.
July 23rd	One egg in nest.
July 24th	Two eggs.
July 25th	Female sitting.
August 8th	Female sitting. Inspected nest when she left to feed. Two eggs.
August 12th	Female no longer sitting. Eggs missing.
August 21st	Female sitting again so did not disturb or inspect nest.
August 23rd	Female sitting intermittently.
September 2nd	Female no longer sitting. No eggs.

Giving up close surveillance of the nest meant we were unable to record when eggs were laid, how many were laid, how long they took to hatch and other valuable information. All we could do was watch from a distance and wait for the appearance of a fledgling or fledglings.

During the winter months the aviary is completely covered with fine green nylon mesh. This is sold by garden centres and is used to provide windbreaks and is also used by builders to protect new brickwork from frost. During this period the birds could not be observed from outside the aviary. We found a dead chick, this time on the ground, in late February. Presumably the fairly mild winter weather coupled with the slightly higher temperature in the aviary, occasioned by the nylon mesh, encouraged them to continue nesting.

Part of the mesh was removed in late March 2005, enabling limited observations to be kept. On April 13th a small fledgling was spotted perched on a trellis, shaking its wings and begging for food. It seemed to be in poor condition. It was observed that it was not being fed, but was in fact being 'buzzed' in a most aggressive fashion by both parent birds. Therefore, it was decided to catch the fledgling before it came to any harm. It was accordingly brought indoors, measured and ringed (banded) and placed in a cage with two young Zebra Finches *Taeniopygia guttata castanotis*. It was just over 2½in (6.5cm) in length and was at that time slightly smaller than the Zebra Finches.

It was extremely hungry and within ten minutes was eating a softfood mix based on Bogenia. It settled down very quickly and takes spray millet and budgie mixture (although like most weavers it picks out the millet and leaves most of the canary seed). Seeding grasses have been offered, but so far it has shown little interest in these. Mini mealworms have been ignored to date.

The fledgling has grown a further $\frac{1}{2}$ in (13mm). At the time of writing (early May), it resembles the female and the male in eclipse plumage. It will be returned to the aviary in the summer, when it is better able to fend for itself.

Maintenance details are as follows:

The aviary is planted with elder, raspberries and blackberries. Fir branches attached to the trelliswork provide cover. Nesting materials supplied to the weavers consists of coconut fibre plus some feathers.

Other inhabitants of the mixed collection:

Three Amethyst Starlings *Cinnyricinclus leucogaster*

Four Emerald Starlings *Lamprotornis iris*

Two Red-crested Cardinals *Paroaria coronata*

Three Pekin Robins/Red-billed Leiothrix *Leiothrix lutea*

One White-cheeked Starling *Sturnus cineraceus*

One pair Southern Red Bishops/Orange Weavers *Euplectes orix*

One pair Red-billed Queleas *Quelea quelea*

One Black-headed Weaver *Ploceus cucullatus*

Two pairs Napoleon Weavers *Euplectes afer*

Eight Zebra Finches *Taeniopygia guttata castanotis*

One pair Spice Birds *Lonchura punctulata*

Two pairs Bengalese Finches *Lonchura striata* dom.

Food provided:

Plain canary seed, millets, spray millet, hemp, sunflower. Chopped apple, grapes, tomato, sultanas and raisins, half pears, half oranges (occasionally). Bogenia mixed with grated cheese, egg yolk and suet, plus Stress vitamin powder. Mealworms and fruit fly cultures, as well as garden compost for the small invertebrates contained in it.

The species of weaver take two millets, canary seed, mealworms, fruit flies and other insects they are able to catch in the aviary. They also take the Bogenia mix and have been seen pecking in the fruit bowl. We were unable to ascertain whether they were eating the fruit or taking insects attracted by it.

It is possible that the aggressiveness shown by the parents towards this fledgling may also have been a factor in the deaths of the previous chicks. Therefore, we will be observing them as closely as is practical, while bearing in mind their extreme reactions to disturbance.

Alan and Beverley Brock live in Surrey, England. According to Dave Coles' Breeding Records this species, listed there as the Black-bellied Weaver, was first bred in the UK by J. Henley in 1982.

THE BREEDING OF THE PIGEON GUILLEMOT *Cepphus columba* AT LIVING COASTS

by Tony Durkin

This North American cousin of our native Black Guillemot *C. grylle*, which it closely resembles, is a small (12in-14in (approx. 30cm-36cm) long) rather beautiful seabird, that occurs extensively throughout the Bering Sea and north Pacific Ocean, breeding as far south as California.

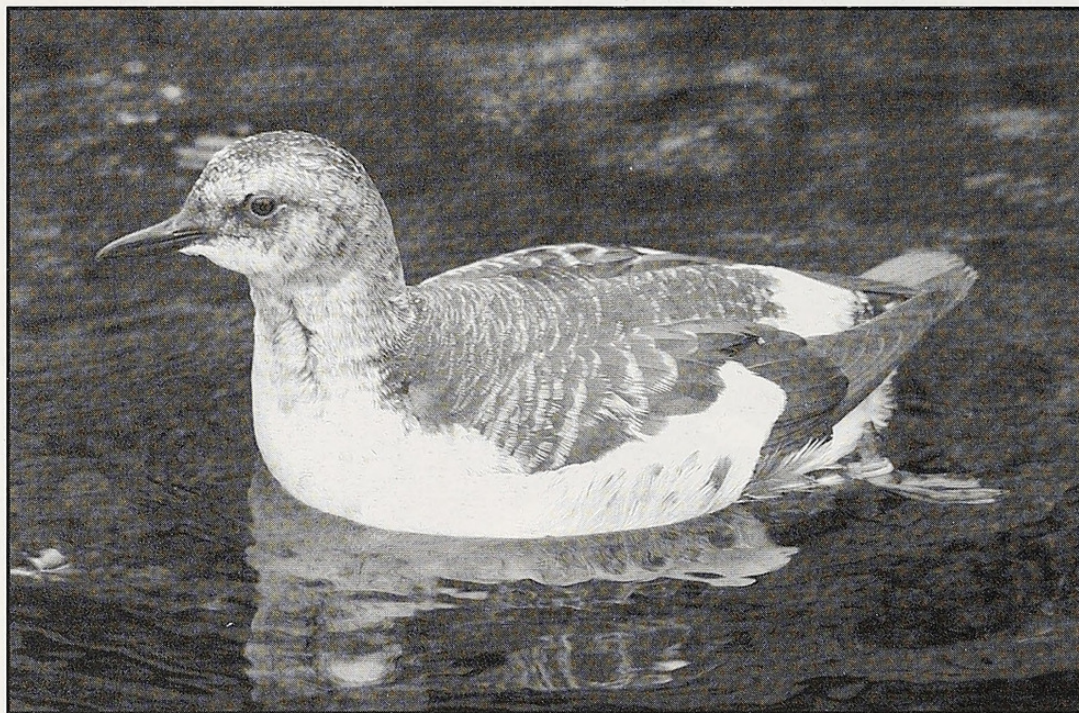


Pigeon Guillemot in breeding plumage.

The breeding plumage is predominantly black, with the lesser wing-coverts, middle wing-coverts and tips of the greater coverts white, forming a distinctive oval wing patch; however unlike the Black Guillemot the greater coverts are partially black and this forms a diagnostic black wedge at the lower edge (see photo above). The bird's mouthparts, legs and feet are bright vermillion. In non-breeding plumage the Pigeon Guillemot has a white head with dark flecking, the back is mottled and the underparts are white. The juvenile resembles the non-breeding adult, but is more brownish.

Pigeon Guillemots nest colonially in rock cavities, rabbit burrows and just occasionally on bridges and piers. They are mature at three to four years of age, at which time a clutch of one to three eggs is laid, that is incubated for an average of 28-32 days. The semi-precocial chicks, which initially are covered in black down, are fledged at 35 days. Both parents share the incubation of the eggs and rearing of the chicks.

In 2003, at Paignton Zoo's Living Coasts at Torquay, Devon, a group of 13 Pigeon Guillemots, five Tufted Puffins *Fratercula cirrhata* and six Red-legged Kittiwakes *Rissa brevirostris*, were introduced into the newly constructed auk enclosure. This has a tall cliff rising above a seawater pool 4m deep x 3m wide x 20m long (approx. 13ft deep x 9ft 9in wide x 65ft long). A wave machine and dump bucket (1 tonne (1 cubic metre) of water

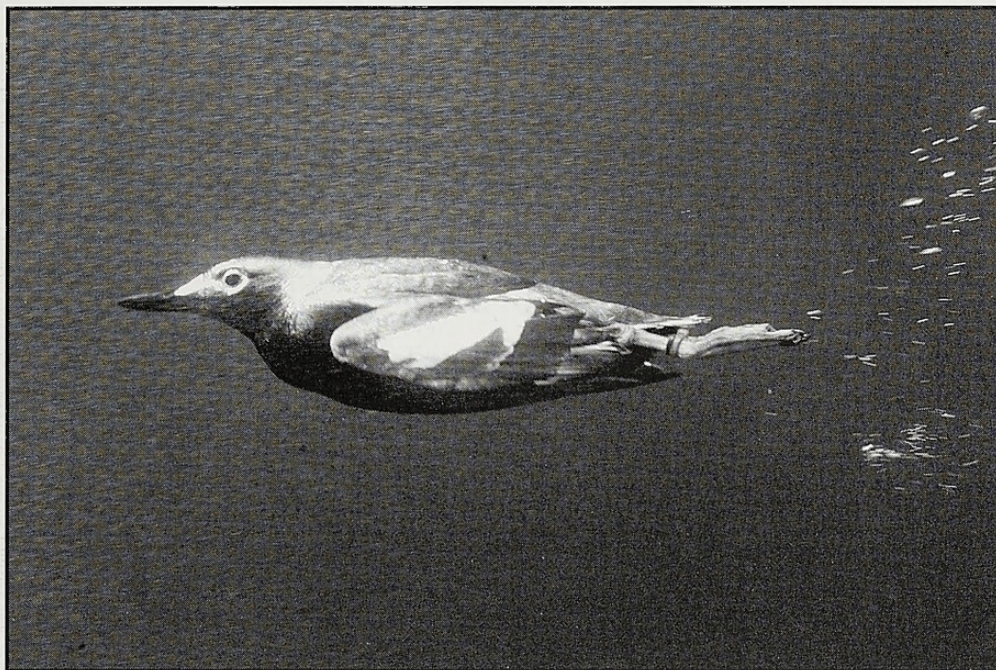


Pigeon Guillemot in non-breeding plumage.

every two to three hours) are added features. The seawater first passes through a filter which removes large particles, while leaving plankton, eggs and tiny fry to pass through and develop in the pool and provide dietary supplements and behavioural enrichment. The aviary is approximately 10m wide x 25m long x 6m high (32ft wide x 82ft long x 20ft high). Each of the 20 nesting holes cut into the rockwork connects to a 40cm (1ft 3³/₄in) length of 14cm (5¹/₂in) diameter plastic piping attached to a box 35cm x 35cm x 35cm (1ft 1³/₄in x 1ft 1³/₄in x 1ft 1³/₄in). Constructed of marine plywood and filled to a depth of 8cm (almost 3¹/₄in) with aquatic gravel, each box has a small inspection hatch. The guillemots' diet consists of chopped sprats, herrings, white bait and sand eels (when in season). Fish sprinkled with vitamins are thrown to the birds during the first feed of the day. Some fish are dropped into the water to provide 'hunting' enrichment.

In early 2004 several pairs were seen displaying. Copulation was observed to take place on land two days before the first egg was laid on June 19th. Further observations were undertaken to ensure that the egg was being incubated and, on July 17th, a small chick was seen peeping from the front entrance. Fish was then placed at the mouth of the pipe to assist the parents,

all of which was taken and by day 23, adults were seen carrying whole sprats into the burrow. On August 6th the chick was receiving fish at the entrance. On August 17th, the young bird which then weighed 438g (compared to the adults which weighed about 480g), was ringed with a split band and a coloured band. At 35 days the chick fledged and was watched



Pigeon Guillemot swimming.

diving and swimming with both parents calling loudly. It was first observed feeding two days later.

The Pigeon Guillemot is seldom bred in captivity, indeed few specimens are held in European collections, and this is almost certainly the first breeding in the UK.

Bibliography

Gaston, A. J. and Jones, I. L. 1997. *The Auks. Bird Families of the World*. Oxford University Press, Oxford, UK.

As described above, the Pigeon Guillemot *Cepphus columba*, has been bred at Living Coasts. This is almost certainly the first breeding of this species in Great Britain or Ireland. Anyone who knows of a previous breeding is asked to inform the Hon. Secretary.

In the Avicultural Magazine Vol. 110, No. 1, pp. 36-37 (2004), Paul Boulden described this new exhibit on the quayside overlooking Torbay, on the south coast of England, and there was a photo of the enormous aviary of a striking, modern design.

PRELIMINARY FINDINGS ON REPRODUCTION OF CAPTIVE MARABOU STORKS *Leptoptilos crumeniferus*

by C. W. Kuhar, L. M. Hernandez and K. Amos-Mongiello

Abstract

Despite being one of the most commonly held species of stork in zoos, the Marabou Stork *Leptoptilos crumeniferus* is only rarely bred in captivity. After several years during which there was little reproductive behaviour and no successful hatchings, husbandry changes at Disney's Animal Kingdom, Florida, USA, corresponded with the successful hatching of five chicks between 2001-2002. Examination of daily reports revealed that reproduction followed the addition of a large pool and the increase in flock size to 10 birds. While reproductive success remained low overall, the husbandry data suggest that parent-reared chicks grew more rapidly and achieved higher adult weights than hand-reared chicks. Although the specific causative factor associated with the production of chicks cannot be determined, these findings along with results from other institutions, suggest that increasing flock size and providing an enhanced nesting environment, may result in increased reproductive success.

Introduction

The Marabou Stork is one of the most commonly held storks in zoos worldwide (Terkel, 1994). According to the 2002 studbook (Hejna, 2002), the North American population consisted of 116 birds (57.55.4) in 41 institutions. Despite it occurring in large flocks in the wild, only 20% of institutions house it in groups of three or more. Thus, the captive population is spread across a large number of zoos in relatively small social groupings. In addition to which the reproductive success of these birds in captivity is quite low (Coulter et al. 1989). The first captive hatching of a Marabou Stork in North America occurred at Busch Gardens in 1978. Since then, only eight other North American institutions have successfully bred Marabou Stork, resulting in 44 hatchings in 25 years (Hejna, 2002).

Despite relatively few successes breeding Marabou Storks, little research has been undertaken to address the causes of reproductive failure. Although a single study reported on successful reproduction in a zoo environment (Terkel, 1994), most of the articles that shape the *Marabou Stork Husbandry Guidelines* (van Benthem, 2002), come from field studies. Here we report on changes made to the exhibit structure and flock dynamics that may have contributed to breeding success in a Marabou Stork group. We document events leading to successful reproduction of Marabou Stork in an effort to enhance breeding of this commonly held species. In addition, information



Brock, Alan and Brock, Beverley. 2005. "Breeding The Zanzibar Red Bishop In A Mixed Collection." *The Avicultural magazine* 111(2), 49–56.

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