

THE HAND-REARING OF AN UMBRELLABIRD

by Luis J. Ortiz Merry

Introduction

The umbrellabirds are members of the family Cotingidae which is distributed through forests of Central and South America. They belong to the genus *Cephalopterus*, which consists of three species: *C. ornatus*, *C. penduliger* and *C. glabricollis*.



Breeding male Long-wattled Umbrellabird.

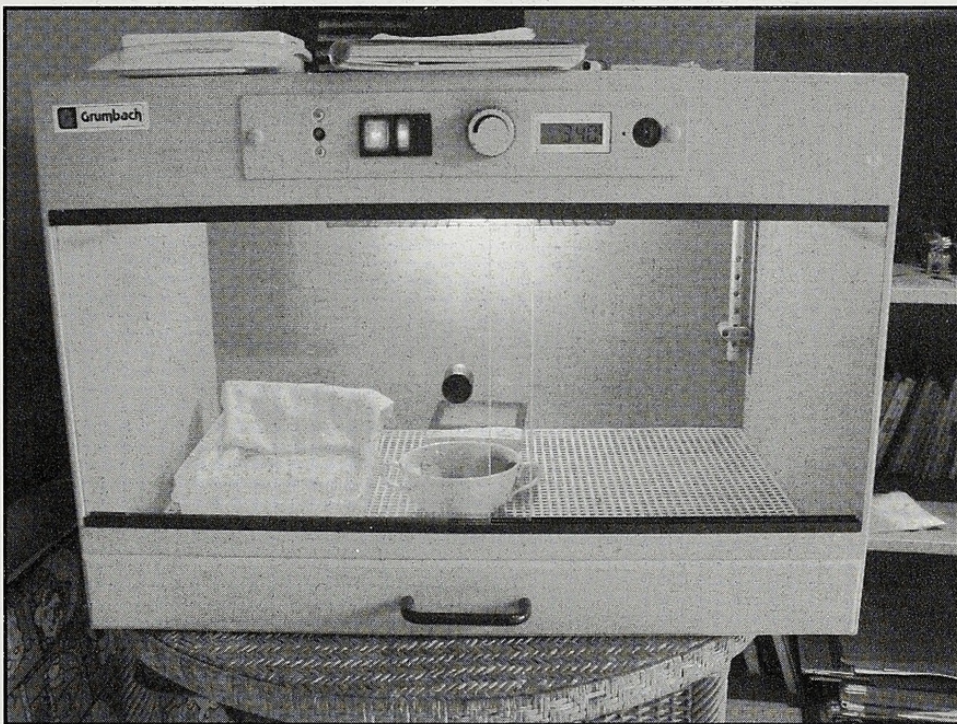
This account refers to the hand-rearing of *C. penduliger*, the Long-wattled Umbrellabird. *C. penduliger* inhabits the lower forested slopes of the western flanks of the Andes of Colombia and Ecuador, in the upper tropical and subtropical zones (mainly 800m - 1,400m (approx. 2,600ft-4,600ft)). Its diet seems to consist mostly of a variety of local fruits, insects (*Orthoptera* and *Coleoptera*) and small vertebrates such as *Anolis* lizards. Here I give a brief description of the hand-rearing protocol, describe the nesting site, incubation, feeding and problems encountered.

Incubation

The nest was located about 3.5m (approx. 12ft) above the ground between the branches of a tree in a mixed species aviary. The female built the nest with fine twigs and it was possible to see the egg through the nest. The egg was incubated by the female for the first 20 days, from the day the egg was first seen in the nest (the exact date the egg was laid could not be determined). On day 20 the egg was removed from the nest and placed in an incubator (Grumbach) set at 37.1°C (98.8°F) and 60% humidity. After five days in the incubator the egg hatched. The chick was covered in beautiful red down.

Hand-rearing protocol

The chick was kept in the incubator for the following eight hours, after which the chick was transferred to a brooder (Grumbach) set at 35°C (95°F) and 60% humidity. Feeding was started 10 hours post hatching. Exact® macaw hand-rearing mix was used to feed the chick from day one to weaning (day 57). From days one to seven only the Exact® mix was fed to the chick.



Brooder in which chick was kept.

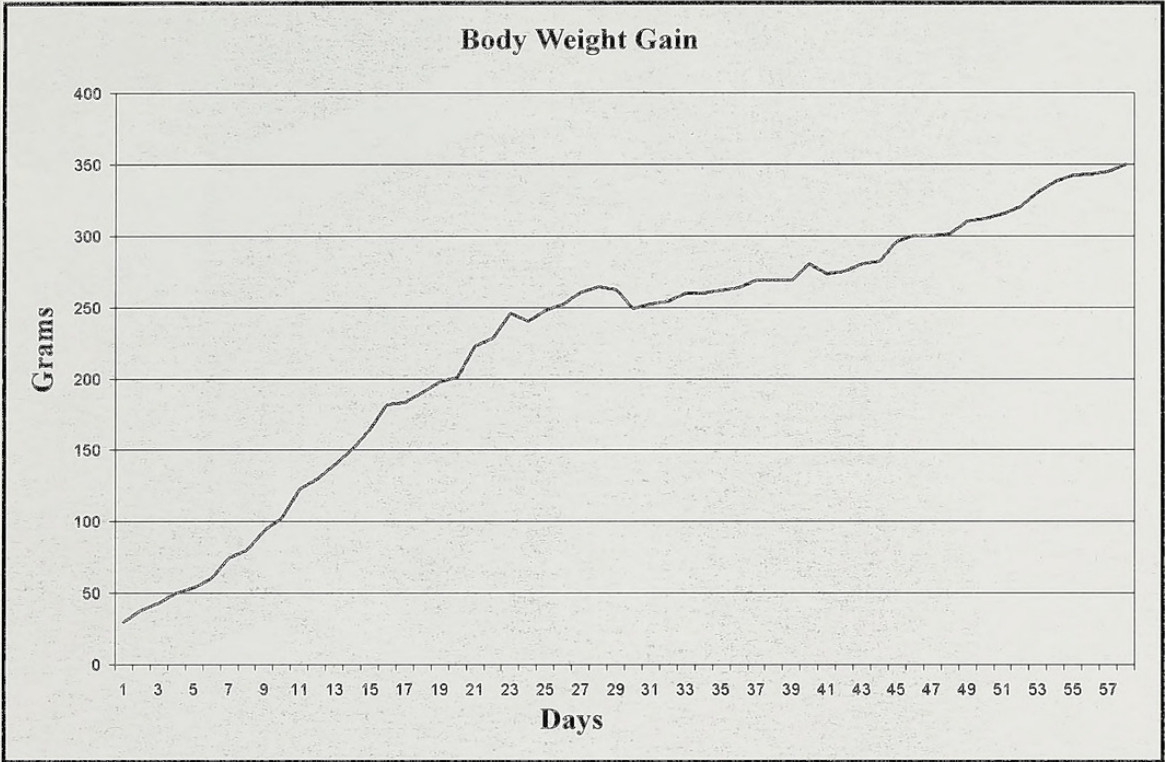
We started with 3/4cc of weaning mix per feed which was increased gradually as the chick grew bigger. For the first three days the chick was fed every 1½ hours over a 20 hour period per day. On day seven we started to introduce solid food, such as small pieces of papaya (pawpaw) and diced mice (pinkies), into the diet. About day 30 the chick would eat up to three pinkies per feed, which over the course of six feeds amounted to a total of up to 18 pinkies per day. Solid foods such as blueberries, figs, papaya and hard-boiled egg were increased gradually throughout that time.



Four days old.

Feeding schedule used for hand-rearing *C. penduliger*.

- Day 1-3 Exact® macaw hand-rearing mix every 1½ hours over 20 hour period per day.
- Day 4-7 Exact® macaw hand-rearing mix every 2 hours over 18 hour period per day.
- Day 8-30 Exact® macaw hand-rearing mix, plus diced pinkies and papaya, every 2 hours over 14 hour period per day.
- Day 31-40 Exact® macaw hand-rearing mix, plus pinkies, papaya, blueberries and figs, six times a day over 12 hour period per day.
- Day 41-50 Exact® macaw hand-rearing mix twice a day, plus free choice of fruits. Three feedings a day over 12 hour period.
- Day 51-57 Exact® macaw hand-rearing mix once in the morning, plus free choice of fruits and Zeigler's® low iron bird of paradise pellets. Two feeds a day.



Twenty-five days old.



After day 48 the bird was moved into a cage within the main aviary.



Fifty days old.

Housing

The chick was kept in the brooder until day 20, during which time the temperature was decreased gradually. Later the chick was set on an artificial nest with a radiant heating lamp which was used at night. On day 35 the chick was moved to a room with several perching places and was kept at a constant temperature of 25°C (77°F). There the bird had plenty of space to jump from perch to perch and practise for its first flight (on day 40). After day 48 the bird was moved into a cage measuring 50cm x 120cm x 60cm (approx. 1ft 6in x 4ft x 2ft) within the main aviary. This was done to encourage the young bird to feed itself without being distracted. Feeding dishes were placed in several parts of the cage and another dish was placed just outside the cage (see photo p.112) so that the young bird could see other birds feeding. As soon as it had learned to feed totally by itself it was moved to a bigger cage (4m high x 4m deep x 3m wide (approx. 13ft high x 13ft deep x 9ft 9in wide)) within the main aviary which contained several perching places and lots of vegetation.

Problems encountered

During the hand-rearing of the chick a few problems were encountered. About day 20 as the chick breathed a clicking sound could be heard when close to it. A few days later it appeared to be having trouble breathing and aspiration pneumonia was suspected. Prophylactic antibiotic and antimicrobial therapy through nebulization was initiated on day 25. This was performed three times a day for 20 minutes for five days with enrofloxacin and aminofilin. Latroconazol was administered orally for seven days. Humidity was raised above 60% and the temperature was kept at approximately 30°C (86°F). Respiratory wheezing disappeared gradually after one week. After this feeding the chick became a hard task, as the chick tended to regurgitate the food after each meal. This was solved by holding the chick's beak closed and in an upright position for a few minutes after it had eaten. These were the only problems encountered during the rearing. Otherwise the chick was alert and playful most of the time and had an enormous appetite and a fast growth rate.

Acknowledgements

Special thanks to Jan van Osch, bird breeder and collector, of the Netherlands, without whose help the above breeding and rearing would not have been possible.

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Two days old.



Eight days old.



Fifteen days old.



Thirty-five days old.

The breeding and rearing described above took place at Centro de Aclimatación Zoológica La Dehesa, Santiago, Chile, where efforts are being made to breed many endangered birds and mammals. It is one of a number of conservation projects initiated by Michel Durand Q. The author of the above account, Luis J. Ortiz Merry, a graduate student of veterinary medicine, was in charge of the incubation, rearing and veterinary treatments.

NOTES FROM CHESTER ZOO - 2003

by Roger Wilkinson

The successful breeding of the Red Bird of Paradise *Paradisaea rubra* in the summer of 2003 was reported in the *Avicultural Magazine* Vol. 110, No.1, pp.20-27 (2004). Other highlights of 2003 included the fledging of our second Great Hornbill *Buceros bicornis*, our second Victoria Crowned Pigeon *Goura victoria* and our first breeding of the White-naped Crane *Grus vipio*. Under the curatorship of Mike Jordan and the care of the bird and parrot teams the collection continues to develop in line with the zoo's overall conservation philosophy and direction to combine good welfare with exciting and educational exhibits.

New arrivals included a pair of Montserrat Orioles *Icterus oberi* received from the Durrell Wildlife Conservation Trust, Jersey Zoo. This is particularly important in that this species is now Critically Endangered and with continuing volcanic eruptions on Montserrat its future in the wild remains uncertain. We also received two female Philippine Cockatoos *Cacatua haematuropygia* to increase to four pairs our holding of this Critically Endangered cockatoo. Plans are well advanced for a new off-show breeding station to hold these and other threatened parrots.

Parrots bred in 2003, all of which were parent-reared, included Red-tailed Amazons *Amazona brasiliensis*, Blue-throated Conures *Pyrrhura cruentata*, Blue-winged Macaws *Propyrrhura maracana*, Derbyan Parakeets *Psittacula derbiana*, Yellow-backed Chattering Lories *Lorius garrulus flavopalliatu*s and a Blue-eyed Cockatoo *C. ophthalmica*. Stella's Lorikeets *Charmosyna papou* also fledged chicks but unfortunately these did not reach independence. We hold two pairs of Hyacinth Macaws *Anodorhynchus hyacinthinus* and the pair which laid for the first time in 2002 took this an important stage further by hatching a chick in 2003. Whilst this chick failed to survive it advanced our hopes of breeding these magnificent macaws.

Our Great Grey Owls *Strix nebulosa* reared a brood of six chicks which in the late summer and through into the winter offered an impressive display of a group of eight of these huge owls. This was especially the case in the early evenings when their activity made these owls especially engaging. Two Spectacled Owls *Pulsatrix perspicillata*, three White-faced Scops Owls *Otus leucotis* and a Tawny Frogmouth *Podargus strigoides* were also reared. Two Schalow's Turacos *Tauraco schalowi* and two Violet Turacos *Musophaga violacea* were reared and the Blue-winged Kookaburras *Dacelo leachii* fledged three fine youngsters. Three White-collared Kingfishers *Halcyon chloris* (two males and a female) were imported to join the three unpaired females in our Islands in Danger exhibit.

Following their success in rearing a chick earlier in the year, in October the Red Birds of Paradise nested again and hatched another chick that was parent reared to 16 days old. In December a new young male hand-reared at and imported from Bronx Zoo, New York, joined the young male reared at Chester, and both are now housed together in an adjoining aviary to the breeding pair of Red Birds of Paradise. In the same aviary as the pair of Victoria Crowned Pigeons again reared a chick in 2003, the White-naped Pheasant Pigeons *Otidiphaps nobilis aruensis* laid eggs for the first time.

Waldrapp Ibis *Geronticus eremita*, Eurasian Spoonbills *Platalea leucorodia* and Little Egrets *Egretta garzetta* nested in the Europe on the Edge aviary. As a breeding aviary it presents some interesting challenges in terms of managing competition for food between different occupants. Successful rearing of the spoonbills was achieved through the keepers giving supplementary food to the chick in the nest whilst the egrets successfully reared chicks without keeper assistance. The recently paired European Black Vultures *Aegypius monachus* also nested but were unsuccessful in hatching the egg.

We again tried artificial insemination with our White-naped and Wattled Cranes *Bugeraus carunculatus*. Our male White-naped Crane is genetically important and we are encouraged that although he is now at least 55 years of age he continues to produce motile semen. In 2003 artificial insemination resulted in the female White-naped Crane laying two fertile eggs. Unfortunately she is inexperienced as a breeder and did not sit on the eggs. One was incubated by our pair of Red-crowned Cranes *G. japonensis*. The pair, which has been so successful within the managed European Endangered Species Programme (EEP) breeding programme that we have been requested to limit the pair's breeding, are excellent and experienced parents and successfully reared the chick. The second egg was artificially incubated and the chick fostered by a bantam hen and that too was successfully reared.

Waterfowl reared included Black-necked Swans *Cygnus melanocoryphus*, Black-billed Whistling Ducks *Dendrocygna arborea*, Baer's Pochards *Aythya baeri*, Ferruginous Ducks *A. nyroca*, Red-crested Pochards *Netta rufina*, Garganey *Anas querquedula*, Hooded Mergansers *Mergus cucullatus* and White-headed Ducks *Oxyura leucocephala*. Caribbean Flamingos *Phoenicopterus ruber* and Chilean Flamingos *P. chilensis* were again successful, seven Caribbean Flamingos and five Chilean Flamingos being reared. Five Humboldt Penguins *Spheniscus humboldti* were also parent reared.

Many birds were bred in the free flight area of the Tropical Realm. These included Roulroul Partridges *Rollulus roulroul*, Speckled Pigeons *Columba guinea*, Crested Bronzewing Pigeons *Ocyphaps lophotes*, Red-tailed Laughingthrush *Garrulax milnei*, Pekin Robins or Red-billed Leiorthrix *Leiorthrix lutea*, Pope Cardinals *Paroaria dominicana*, Red-eared Bulbul

Pycnonotus jocosus, Asian Glossy Starlings *Aplonis panayensis*, African Pied Starlings *Spreo bicolor*, Emerald Starlings *Coccycolius iris* and Java Sparrows *Padda oryzivora*. The Java Sparrows were especially prolific with at least 26 youngsters bred in 2003. Birds which bred in aviaries in the Tropical Realm included Jambu Fruit Doves *Ptilinopus jambu* and White-rumped Shamans *Copsychus malabaricus*.



Roger Wilkinson

Emerald Starling.

The pair of Great Hornbills in the Asian Elephant House as in previous years nested early in the year. Mating was observed in mid-January and two eggs were laid in early February. A nest video camera was used to record nesting behaviour. One egg hatched March 23rd whilst the other failed to hatch. The chick was last seen to be fed by the female on March 27th after which there were no further signs of it and the female broke out of the nest on April 7th. Later in the year the female re-entered the nest and began mudding-up again in late September. Two eggs were again laid, the first on October 6th and the second the following day. A single chick hatched on or before November 8th and to our delight fledged on January 11th 2004, making a fitting finale to our 2003 breeding season.

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HAND-REARING THE MAURITIUS FODY *Foudia rubra*

by Andrew Owen

Introduction

The Mauritius Fody *Foudia rubra* is one of only six endemic passerine species remaining on the island of Mauritius. Fodies are a divergent group of the family Ploceidae, the weaver birds. The seven species of fody occur on the western Indian Ocean islands of Madagascar, Aldabra, Comores, Rodrigues, Mauritius and the Seychelles. Some species are generalist feeders, eating a variety of food items such as seeds, fruits, insects and nectar. However, the Mauritius Fody has a more specialised diet and feeds mainly on insects and has evolved a brush-tipped tongue for sipping nectar.



Andrew Owen

Male Mauritius Fody hanging upside down in Bottlebrush *Callistemon citrinus*, Black River Gorges National Park.

Classified as Critically Endangered (BirdLife International, 2001), the declining population of the Mauritius Fody is estimated to be between 100-120 pairs (Safford, 1994, 1997; Nichols et al. 2000). Loss of suitable native habitat throughout Mauritius and predation from introduced exotic mammals,



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