

## White-browed Coucal Hand-Rearing

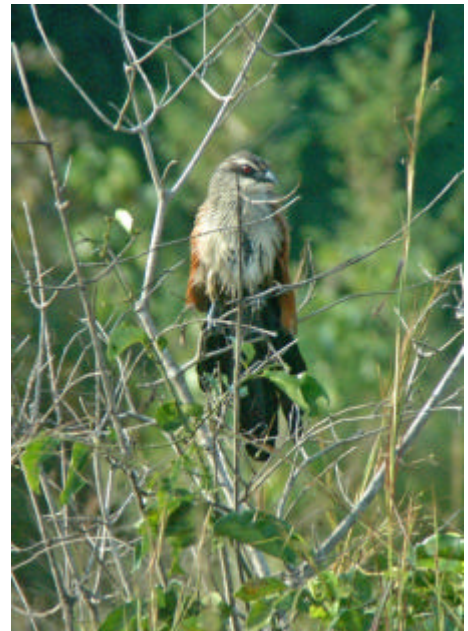
Louise Peat  
Cotswold Wildlife Park

The Cuculiformes is a fascinating order that contains two distinct families; Musophagidae (turacos) and Cuculidae (cuckoos). The subfamily Centropodinae contains twenty-eight species of coucals of which the White-browed Coucal *Centropus superciliosus* is the only representative in captivity in the European region (ISIS species holdings September 2008).

There are four recognised subspecies of the White-browed Coucal *Centropus superciliosus* which are distributed from Arabia, Ethiopia, through to Kenya, Uganda, Tanzania, Zimbabwe and South Africa.

They inhabit dense bush and moist vegetation where they feed on a diet of mostly insects; grasshoppers, crickets, locusts & beetles, also lizards, frogs, mice and small birds.

Pairs are monogamous and nest in large untidy dome structure with a side entrance, built from grass and twigs, lined with leaves, usually in reeds or bush. They lay three to five white eggs, which are incubated mainly by the male for a period of 14-15 days. The young are fed by both sexes. Chicks emit a foul smelling black cloacae liquid when disturbed. The chicks fledge at 18-20days, at this point they are barely able to fly and mostly creep about waiting for adults to feed them.



Cotswold Wildlife Park first started working with White-browed Coucal in 2004 when we received six birds from Parc Paradisio, Belgium. Three birds went to Exmoor Zoo to set up a second breeding pair, and we retained an unrelated pair and a female offspring.

The birds are kept in an aviary with two further representatives on the Cuculiforme order, Guira Cuckoo *Guira guira* and Roadrunner *Geococcyx californianus*. The three species cohabit peaceable together and rarely interact.

In 2005 we successfully hand reared one coucal and then went on to parent rear three birds. Since then a further nine birds have been successfully parent reared.

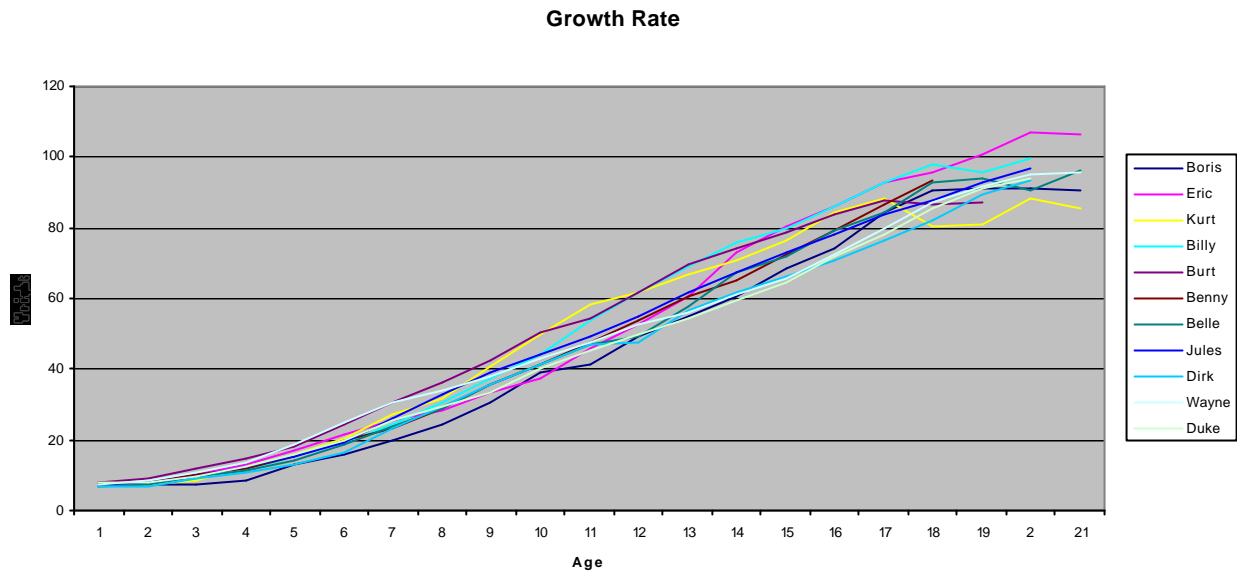
Early on in 2008 the adult pair hatched several clutches, but only one chick survived. Due to the long list of collections expressing interest in this species and the age of our adult pair we decided to intervene and maximise on this years breeding. Three clutches (a total of sixteen eggs) were taken for artificial incubation. Fourteen of the eggs hatched.



Using information based on the 2005 hand reared bird, an old e-mail communication from Walsrode based on coua rearing and an article written by Exmoor Zoo I put together a rearing protocol, which has been tweaked through the rearing process resulting in a comprehensive and easy to use protocol.

# White-browed Coucal hand raising protocol.

Age	Diet	Comments	Growth Stage	Average intake per feed.	Average growth rate %
0	Kept hydrated with distilled water carefully dribbled onto beak with syringe - generally lapped up by bird. Offer every few hours for 1st 24 hours	Chick placed in small basket with tissue substrate.	Chick's blind- covered in white hairs - generally alert & responsive to both noise stimulation and touch (jerky movements when touched, gaping & alert to noise).		
	Hatch weight 6.7 - 7.9g	Do not tend to defecate during first 24 hours			
	Brooder temp 35 degrees				
1	Mouse pinkies (milk sac removed and during early days all sharp bones removed) - waxworms (head removed) Each diet item is placed in luke warm distilled water for a few seconds directly before dropping item into mouth. One feed per day has Nutrobal dusted over it. Chick is only fed when gaping - and is never fed more than 10% of AM bodyweight per feed (generally much less). Decrease/increase amount fed by monitoring daily weight gain. 6-7 feeds between 7am - 10pm - adjust to intake of individual - initially fed every 2 to 2.5 hours	Bird monitored closely for hydration level - faeces is a good indication. Normal faeces should be enclosed in a faecal sac - any changes to this could indicate problems. Raised humidity levels in brooder will encourage defecation.		0.5g	6.49
2		Defecation should take place every other feed - If this is not occurring, handling the chick can induce defecation - stimulation of the cloaca with a warm damp cloth can also be effective.		0.8g	22.9
3				1g	24.32
4			Slits in eyes should now be apparent	1.5g	29.87
5	Feed every 3 hours		Pin feathers start to protrude on edges of wings & tail	1.8g	27.79
	Brooder temp 34 degrees				
6		Tend to defecate after every feed, from this point	Pin feathers start to protrude along spine and underside of neck	2g	27.39
7			Pin feathers along sides of torso	2-2.5g	20.54
8				2.5 - 3g	20.5
9				3g	17.31
10	Start to introduce crickets - legs, wings & heads removed. Day 10 to 12 reduce to 5 feeds			up to 3.5g	13.85
	Brooder temp 32 degrees				
11			Body should now be covered in pin feathers	4g	11.02
12					12.25
13	Brooder temp 30 degrees				10.42
14			Feathers should be emerging from pins - start to explore surroundings		8.27
15			Change in vocals - adult sounding	5g	8.73
16	Access to dish of food. 4 feeds daily		Fully feathered		8.05
	Brooder temp 26 degrees				
17			Toe grip getting stronger - should be attempting to perch	Intake amount drops off ready for flight weight.	4.92
18			Generally able to perch from this point		3.33
19			Attempts to fly		3.33
20	Keep keen to encourage self-feeding - start to wean onto adult diet.. 2-3 feeds daily with all day access to adult diet				0.84
	Room temp 20 degrees				



## General Rearing Notes

All the chicks were kept in separate baskets to enable better individual monitoring, as they grew, if too close to each other aggressive mouthing would occur during feeding times. From day 15 chicks were placed together in a hospital cage. At this stage minimal aggression was observed (generally pre-feeding excitement only), the chicks generally spend time in close proximity to each other. Always take care to place birds together of similar ages as younger birds tend to get trampled on.

Weighing the chicks was initially done several times a day but each time the chick is handled it becomes stressed and stops feeding, therefore weighing was performed once a day only in the morning ten minutes before the first feed.

As the chicks grow a second afternoon handling for a general physical check is also advisable. The birds develop rapidly and differences can be seen from feed to feed, with pinfeathers growing rapidly through the day. Always check leg development and toes, from day three they should be pushing up on their legs to get to food, if they are not doing this it could indicate a problem.

Whenever stressed chicks have a delightful olfactory defence mechanism, they produce smelly runny brown liquid faeces; on producing this chicks are very subdued for a few minutes. The first time you experience this it can be quite concerning, I was certainly fooled into thinking I had a very ill bird on my hands. One particular nervous chick was a habitual offender, the slightest change to routine would upset him, and even hearing a different voice in the room whilst being fed would result in an odorous event!

If the chick is sluggish and unresponsive check for bloating, this occurred quite early on with one chick which had the lowest hatch weight, this specimen was very

uncomfortable, extremely bloated and quickly became unresponsive. Worried about a potential infection the bird was placed on a four day course of 2.5% oral Baytril (one small drop on the food) this was followed by a 5 day course of pro-biotic. The chick responded to treatment slowly and eventually began feeding without assistance. Strangely this specimen lacked the black markings on the tongue and in hindsight I wonder if this individual would have survived if parent reared. The bird is now a healthy looking character and thriving alongside his siblings.

Baby Belle – no black makings on tongue: Sibling Benny - normal tongue markings.



Always aim to keep the chicks keen and eager to feed, appetite varies through the various developmental stages, with appetite at its strongest when feathers begin to emerge from the pinfeathers. As a general rule once the birds get to between 90 and 100 grams in weight appetite takes a dive (18-20 days of age), chicks become much more interested in surroundings and are ready to fledge.

In total three clutches of eggs were taken, the first consisted of six chicks, two of which were not producing normal faecal sacs. They died in quick succession and without warning; one had produced a large quantity of faeces overnight. Both had been active and alert up until the point of death.

A third chick from the first clutch was euthanased, it hatched with an overshot lower mandible, as it grew the left side of the body did not develop at the same rate as the right. The left leg bone between the foot and ankle had not grown at all since hatch, and the left eye began to bulge in the eye socket. I have never come across this before and would be interested to hear from anyone who may have an explanation for this condition. At this point I can only theorise that this individual had some kind of mechanical defect.

Over the course of the year a total of 11 chicks were successfully reared, each one being a different character with varied needs. From mid July to the end of October my life has revolved around these needy characters and now that the breeding season has finished I find myself feeling a little lost!

## References

Avicultural Magazine, Vol 113, No.4 2007, Hand-rearing a White-browed Coucal at Exmoor Zoo, Derek Gibson.

Del Hoya, J., Elliott, A. & Sargatal, J. eds. (1997). Handbook of the Birds of the World. Vol4. Sandgrouse to Cuckoos. Lynx Edicions, Barcelona.