

Keeping and breeding the Lilac-breasted Roller

(*Coracias caudata*)

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As the movement of birds between different countries becomes increasingly restricted, one avicultural group that will become increasingly more difficult to maintain in aviculture will be softbills. Already, as the number of species imported into the United Kingdom (U.K.) has dwindled, a harsh spotlight is being cast on some species as to whether or not they can be realistically sustained as a captive population in future years. This situation has seen many formerly common species become scarce and by comparison some formerly rare species, with the aid of concentrated avicultural attention, becoming well established. One species which has managed to establish itself in U.K. aviculture during

recent years is the Lilac-breasted Roller (*Coracias caudata*).

I have long rated birds of the genus *Coracias* among my personal favorites. Birdworld Bird Park in Farnham, England, currently maintains three species from this genus. Out of these it is the Lilac-breasted Roller which was the first to breed and has proved to be the most productive species, the other two species which are the European (*C. garralus*) and the Racquet-tailed (*C. spatulata*) have not, to date, matched the level of successful breeding that has been achieved with the former.

The stout, prominent physical posture of rollers make them impressive aviary birds. Measuring up to 30 cm (11-1/2 inches) in overall length, they have a stocky, rounded body with short, broad wings and tail. The head is pronounced as with all the *Coraciformes*. This bold stature of the bird is enhanced by their preference for roosting in a high, prominent position. In the wild they can frequently be seen sitting on top of telegraph poles and are visible from some distance. In captivity a high central perch will soon be adopted as the regular perching position within an aviary. The call consists of a short series of chattering notes.

In coloration, the Lilac-breasted Roller shares the usual color scheme of other *Coracias* species. Various pastel shades of brown, beige and white combine over the head and down the back which contrast strikingly against the varying shades of light to royal blue which cover much of the wings and under body in a typical *Coracias* pattern. The Lilac-breasted Roller, as its common name suggests, stands easily distinguishable from its close relatives because of the rich lilac band across the lower neck and chest. Fledging birds have exactly the same plumage patterns as their parents as

soon as they leave the nest, although the coloration could be described as being softer and not quite as intense in its brightness. The bird in the accompanying photograph was among the first Lilac-breasted Rollers to be reared at Birdworld and is photographed here at five months of age.

The wild distribution of this bird covers Somalia and Ethiopia through east and central Africa. Although sporadically available throughout avicultural history, the Lilac-breasted Roller has never been considered to be "commonly kept" and has only recently begun to be consistently bred in reasonable numbers.

The husbandry requirements of *Coracias* rollers are easily met. Accommodation, in the form of a large planted aviary will suit them. In England and other temperate countries of the world, the additional need of a heated shelter for the winter period will be required. Although rollers are generally hardy they are particularly prone to suffering from foot problems during periods of cold weather. High aviaries are much preferred by rollers who seem to enjoy perching in a prominent position, but only if this is available well above human head height. Aviaries which allow for the nest box to be situated in a high position also seem to prove to be much more successful. The diet at Birdworld for rollers consists of equal parts of fruit and a meat mix. The fruit segment of the diet is made up from a variety of seasonally available fruits. The meat mix contains minced ox heart, soaked S.D.S. Zoo pellets and a commercial insectivorous mix. Live food is supplied daily in the form of mealworms fed on the main dish and also locusts and crickets being fed ad lib during the summer. If wild-caught birds are ever worked with then the regular feeding of a variety of live foods does, of course, become of much greater significance.

The subject of the rollers' courtship flight has been widely discussed recently as to its importance in reproductive success. I do not believe that allowing the birds an aviary high enough for them to perform their courtship flights is absolutely essential in order to breed them in captivity. But large aviaries are certainly beneficial in helping the birds remain in good physical condition and if such aviaries do allow for courtship flights



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to be performed then this sight will undoubtedly add greatly to the pleasure of anyone keeping these birds. If rollers are to be reproductively successful then they must be in good physical health and well exercised. On the occasions when I have housed these birds indoors in more confined accommodation because of harsh weather, then on their return to outside aviaries, they were sluggish in their flight and had certainly lost peak physical condition without regular flying exercise.

Accurate sexing of *Coracias* is achieved by surgical laparoscopy or by blood testing. Slight physical differences can sometimes be seen in true pairs and cock birds are generally slightly heavier; such characteristics are, though, highly interpretable and cannot be relied upon. Pairing of rollers is usually a straight forward and unproblematic procedure as long as both birds are in equally strong physical condition. Rollers do not exhibit any form of close bonding even between an established pair. Successful pairing seems then to depend more on both birds being in good condition at the start of the breeding season, rather than any form of pair bonding being present between the birds. Never introduce birds of unequal fitness as the stronger bird will ruthlessly enforce its advantage over its cohabitant. For the same reason, a close eye should be kept on established pairs if one bird regularly begins moult before its partner.

Nest boxes used successfully at Birdworld for Lilac-breasted Rollers are of the 45° sloped design and measure 80 cm x 25 cm x 25 cm (31" x 10" x 10"). The entrance hole is positioned towards the higher end of the front facing sloping panel and measure 5cm (2") in diameter. A perch should be secured close to the entrance hole which will be used by the cock bird on his repeated trips to and from the nest box while feeding the hen once she is incubating eggs. A mixture of peat, sand and fine wood shavings is used as a medium inside of the nest box. Nesting is usually initiated with little advanced warning other than the sudden disappearance of the hen from the aviary. The clutch size is commonly two to three eggs. Incubation of the eggs and brooding of any resulting chicks is undertaken exclusively by the hen. The cock bird,

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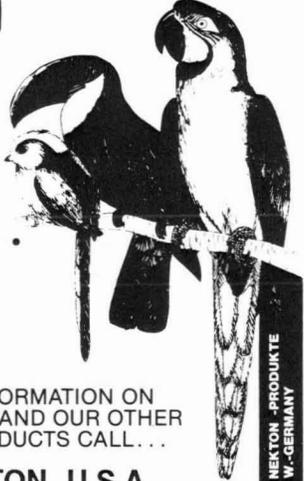
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The Lilac-breasted Rollers, *Coracias caudata*, need a tall aviary to perform their courtship flight. This is felt to be extremely important for successful nesting. They are hollow chamber nesters using a slanted nest box or a hollow tree trunk.

for his part, keeps her constantly supplied with food and the hen will not regularly be seen out in the main aviary until the chicks are nearly ready to fledge. Little additional husbandry will be required on the part of the keeper other than a suitable increase in the birds' food allowance as required. Lilac-breasted Rollers, once practiced, usually prove to be extremely good parents.

The only problem that is commonly encountered from the behavior of parent birds can occur in highly productive pairs which have begun to nest early in the season. As the chicks from these early clutches begin to fledge, the cock bird, in his impatience to breed again, will chase the female once she comes out of the nest box. In such cases, newly fledged chicks could become neglected as the hen is

kept away from them. Should this situation occur, then the chicks should be removed from the aviary and hand fed for a few days until they become independent. The adult pair can then be left to concentrate on their second clutch and will usually prove to be more patient with these chicks as they fledge later in the year when the adult bird's breeding instincts will have subdued. A third clutch is, however, not out of the question with regular proven pairs.

During 1989 when the birds first began to breed, we undertook the hand rearing of several chicks. This was done to enable us to prepare guide lines on incubation and hand rearing of *Coracias* species for future reference. Once having established successful guide lines for artificial rearing, then we have not had to

resort to this again as the adult birds have, to date, proved reliable parents. The young birds produced by this husbandry seem to be just as good as parent reared stock. Although hand reared birds became slightly imprinted towards the end of their rearing period at weaning, calling repeatedly to their rearing keeper for food, this imprinted behavior was quickly lost once the birds were introduced to an aviary and most of the 1989 hand reared birds have now gone forward to successfully parent rear chicks of their own.

The few times that artificial incubation of eggs was undertaken from day one, incubation of this species seemed to be easily undertaken. Internal pip usually takes place on day 17. A weight loss target of 15 percent is aimed for from the fresh laid weight to the time of internal pip. Incubation temperature was maintained at 37.5°C (99.5°F) without variation. The eggs were turned on rollers, but also by hand seven times daily by rotating the air sac end of the egg 180° over its axis, always in alternating directions. Percentage vein spread with the available albumen of this species is extremely rapid and few problems seem to occur from different turning procedures implemented. Hatching normally occurs about 24 hours after internal pipping.

Hand rearing of this species also proved to be easily undertaken with few problems. Having dried out in the hatcher for several hours, the chicks were transferred to a brooder at a temperature one Celsius degree cooler than the hatcher. Temperature was then reduced by about one Celsius degree daily and the chicks grew rapidly. By the time the eyes had opened and pin feathers had started to appear extensively, the chicks were transferred to an open container with a heat bulb situated over one end. For the first few days of life, the chicks were accommodated upon paper towelling in order that their waste passing could be more easily monitored. Once, however, it became clear that the chicks were developing well, then they were placed upon wood shavings for the remainder of their rearing period.

The diet used to rear them was extremely simple and to begin with consisted of diced segments of pink mouse which were dipped into a

Age	Chick #1 (grams)	Chick #2 (grams)
Hatch	6.5	6.5
1	7.5	6.5
2	7.5	8.5
3	10	10
4	13	12.5
5	14	16
6	18	18.5
7	21	22.5
8	25	25.5
9	28	29
10	32	31
11	35	35
12	39	41
13	46	45
14	49	48
15	56	51
16	65	51
17	65	52
18	71	60
19	74	63
20	79	68
21	82	66
22	82	67
23	93	67
24	90	66
25	88	66
26	93	65
27	92	66
28	86	68

Milupa baby food product prior to feeding. The baby food solution was prepared more diluted than manufacturer's instructions in order that the chicks would not become dehydrated. Occasionally, if required, the chicks were also given a drop of water after each feed during their early development. As the chicks grew, other diced items of the adults' diet began to be introduced, beginning with fruit. By the time they neared weaning the chicks' diet was extremely similar to that of the adult birds, although all items were still diced to a smaller size. Feeding periods commenced with eight feeds being given daily at two hour intervals, the number of feeds were reduced and the time periods between them lengthened as the chicks grew and gained weight. Weaning begins from the third week onwards.

The weights of two chicks reared during this period in 1989 are given above. The chicks recorded were hatched within a day of each other and were reared together. ●

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