

## Breeding the Rose-crowned Fruit Dove at the Territory Wildlife Park

by Nick Atchison, Territory Wildlife Park, Northern Territory

The rose-crowned fruit-dove *Ptilinopus regina* is small arboreal species inhabiting rainforests, monsoon forests, and associated habitats containing suitable vegetation. Frith [1982], notes that in the Top End they are also found in mangroves.

### DESCRIPTION

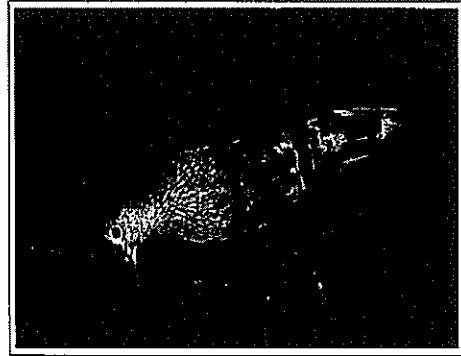
The top of the head is bright pinkish-red, edged with a thin yellow line. The rest of the head is grey and green/grey, with the back and rump green. The wings are bright green with yellow edging to the feathers, and the breast is grey and green streaked, the grey feathers pointing downwards rather like inverted arrow heads. The belly and vent are orange, yellow and pink, the colours mottling together. There are two subspecies in Australia, *P.r. regina* of the east coast, and *P.r. ewingi* of the northwest. Birds of the northwestern subspecies tend to be lighter than eastern birds, the grey areas appearing more pastel, and the belly and crown being lighter shades. Sexes are similar however males are generally brighter, particularly on the belly where the yellow, orange and pink are both brighter and more extensive.

### DISTRIBUTION

The rose-crowned fruit-dove is found from the Kimberley region in Western Australia where it inhabits isolated patches of monsoon forest, across the Top End to Groote Eylandt. There is a 500 kilometre break in the distribution to an isolated population on western Cape York. The distribution recommences in rainforests on the east coast, from the top of Cape York south to Port Stephens in New South Wales. The Western Cape York population may be an intermediate between the two Australian subspecies. There are three other subspecies in Indonesia [Frith, 1982].

### SOME GENERAL COMMENTS

The bright colouring of the rose-crowned fruit-dove does not ensure its visibility in the wild. In fact they blend so well as to be almost indiscernible from the foliage of their habitat. This is particularly so in the tall rainforests of the east coast. However, in the lower monsoon forests of the northwest the birds can sometimes be seen feeding on fruiting shrubs within a metre or so of the ground. Their loud cooing call is usually the first and often the only sign of their presence. This distinctive call consists of a series of twenty or so "coos", starting slowly and picking up speed to become very rapid towards the end. They also have shorter cooing calls in their repertoire such as the low contact call.



Rose-crowned fruit-dove

Rose-crowned fruit-doves are almost entirely arboreal and grip strongly with their feet. This grip enables them to clamber about among the branches to reach the fruit and berries, even hanging upside-down parrot-fashion to feed. The diet in the wild consists entirely of fruits and berries, varying with availability and season. Among the many fruits eaten are those of the laurels [Lauraceae], the bollywoods *Lisea lefeana* and *Neolitsea dealbata*, figs *Ficus* sp. and white beech *Gmelina dalrympleana* [Frith 1982].

North-western populations of rose-crowned fruit-doves are locally nomadic, the birds being present year round. Eastern populations may be partial migrants, moving south to breed in the summer months. The extent of these movements is unknown [Frith 1982].

### IN AVICULTURE

This species is available but not common in aviculture. A price tag of over \$1000 will put them out of the reach of many aviculturists. They are certainly much more specialised and demanding than seed eating-pigeons, but once established they are hardy and relatively free breeding.

### HOUSING

Rose-crowned fruit-doves have been successfully housed in various sizes of aviary. These range from small flights measuring 3m by 1.5m by 2.5m high to large display aviaries 10m by 8m by 4m high. They should be offered shelter from wind and rain, but will often choose not to utilise this. At Taronga Zoo in Sydney they are kept in outside aviaries all-year-round without heat, as they are here at the Territory Wildlife Park in Darwin.

An important consideration when housing this species is providing cover in the form of natural vegetation. These birds spend much of their time among leafy vegetation in the wild, and so naturally will feel more secure when provided with the same in captivity. Their ability to blend into a leafy backdrop is astounding, which can make a morning head count very time consuming! Additionally, most nesting attempts occur on the branches of growing plants. At the Territory Wildlife Park the aviaries are planted with *Carpentaria* palms *Carpentaria acuminata*, figs *Ficus* sp., and other leafy plants.

Rose-crowned fruit-doves are compatible with a wide range of species and have been housed with the little lorikeet *Glossopsitta pusilla*, noisy pitta *Pitta versicolor*, rainbow pitta *Pitta iris*, green-winged pigeon *Chalcophaps indica* [emerald dove], white-browed robin *Poecilodryas superciliosa* and rufous-banded honeyeater *Conopophila albogularis*. In the larger aviary described above, up to six rose-crowned fruit-doves cohabit with little aggression, but only one pair have shown nesting behaviour. When overcrowded they become aggressive to particular individuals, either by attacking them directly or keeping them from the food bowl. In smaller aviaries groups of more than two were housed together for a short time only before fighting began.

### DIET

As they are frugivorous they require a fruit diet in captivity. Apple, pear, paw paw, banana, rock melon, grapes and most other non-citrus fruits are suitable. Fruit should be diced into pieces no larger than 1cm cubed and sprinkled with a vitamin and calcium supplement. Soaked currants or sultanas can be added to the diced fruit mix. Frith [1982] noted that they readily took an insectivore mixture as well as the fruit. This mixture consisted of hard-boiled egg, sponge cake and turkey starter crumbs. At the Territory Wildlife Park they have access to *Wormbaroo Lorikeet and Honeyeater Food* that they drink from a bowl. Trials using an imported fruit-eating bird pellet have shown that they eat the pellets along with the diced fruit. These pellets [designed to give nutritional balance to a fruit-based diet] will be incorporated into their regular diet soon. Hall [1994] adds sweet potatoes and yams to the fruit diet, and a coating of powder consisting of two parts ground racing pigeon pellets and one part ground dry dog food, plus vitamin and calcium supplements. As shown in the above diets, it is generally considered that an addition to the fruit is necessary for a balanced diet for these birds. Natural foods should be incorporated into the diet if available. In the southern states cotoneaster berries can be fed when in season. Bills and feathers of these doves can become caked in built-up fruit if the mix fed is too sticky. This build up can lead to health problems such as candida *Candida albicans* [L. Vogelstein pers. comm.]. Care is necessary to ensure very ripe fruit is fed in moderation, so the mix doesn't become sticky.

Being an arboreal feeder, food should be presented in bowls one to two metres up off the aviary floor. However, they will come down to the ground to eat. If more than one pair are being kept in an aviary, two or more feeding locations may be needed.

### BREEDING

The nest is fairly typical of pigeons, consisting of a platform of twigs. It is fairly thin and flimsy, though sometimes they will build a nest up to 3cm thick. The birds often choose a seemingly inappropriate position to build and many nests end up collapsing during the incubation or rearing stages. Nesting platforms of light gauge wire can be placed among the tree branches for their use, or underneath nests being built, to give them support. Arguably the risk of birds abandoning nest building is outweighed by the chances of losing eggs or chicks later in the nesting period. The breeding pair at the Territory Wildlife Park re-use the same nest for each consecutive clutch. The most recent attempt differs by them giving the nest a thick lining of green leaves. The points of the leaves are directed towards the rim, so appearing like the petals of a flower.

The female spends an increasing amount of time on the nest from two to three days before laying. A single egg is laid and incubation commences immediately, taking 16 to 18 days. Both sexes incubate. They are fairly tight sitters and will stay on the nest until approached. When the egg is hatching, they will usually stay on the nest until almost touched, raising a wing in defence.

Chicks hatch with pink skin and a pink/grey bill. They have sparse creamish-white down, thickest on the wings, rump, crop and above the eyes. The eyes are closed initially, starting to open on the third day and being fully open on the fourth. Pin feathers emerge on the wings on the second day and the primary feathers begin opening on the eighth or ninth day. Feathers begin opening elsewhere on the tenth to twelfth day, those on the head being the last to open. The table below compares the weight gains of four parent-raised chicks.

The chick grips strongly onto the sticks of the nest from day one. It is fed by the parents on the day of hatching. The food is a yellowish fluid [presumably "pigeon milk"], visible through the crop wall. Some solids were noticed in the crop of one chick at six days old. When fledged, one chick still had blood feathers in the four outermost primaries and six innermost secondaries of each wing. Fledging occurs at about twelve days old, the chick appearing much too small to be off the nest. It spends most of its time sitting quietly and inconspicuously among the foliage, often with a parent nestled against it.

The parents were tolerant of nest inspections, however would do a wing flicking distraction display from a nearby branch once they left the nest. They were usually back on the nest within five minutes of the keeper leaving the aviary.

### CONCLUSION

The Rose-crowned fruit-dove is a bird that has specialised dietary requirements and will not survive in captivity unless these are catered for. The food they require can be expensive and time consuming to prepare, facts that should be considered before starting with this species. If these points don't present any problems, then the rose-crowned fruit-dove is an ideal aviary bird - colourful, compatible in a mixed collection and not destructive to vegetation.

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### PERSONAL COMMUNICATION

L. Vogelneust, veterinarian, Taronga Zoo, Sydney.

### PRODUCT MENTIONED IN THE TEXT

Wombaroo Lorikeet and Honeyeater Food, Mount Barker Road, Glen Osmond, South Australia.

### Weights of four chicks hatched at Territory Wildlife Park

DAY	Hatch Dates		
	29.12.93	13.5.94	
1	8.4g	4.5g	4.5g
2	9.3g	9.5g	5.5g
3	11g	11.5g	8.3g
4	15.5g	17g	13g
5	21g	20g	13g
6	24g	25g	16g
7	27g	28.5g	18g
8	Disappeared	30g	20g
9		33g	22g
10		36g	22g
11		36g	30g
12		37.5g f	30g
13			28g f
18		52g	

In the table, "f" indicates the day of fledging for each chick. The first chick disappeared on day eight, presumably taken by a snake. Weight differences on day one may be due to the rapid growth of chicks - a chick hatched during the night may not be weighed until the following afternoon, when it had already gained weight.

### ACKNOWLEDGEMENTS

I thank the bird staff at Territory Wildlife Park for weighing the chicks and recording their development and Jasmine Jan, birdkeeper, Territory Wildlife Park, for comments on the text.

### FOOTNOTE

The author, who was on the birdkeeping staff of the Territory Wildlife Park at the time of writing this article, has since taken up a curatorial position at Werribee Zoo, Victoria.

Ed.

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