

Hand rearing a Red-crowned Parakeet at Auckland Zoo

Photo and Text by Kirsty Chalmers, Auckland, New Zealand

The Red-crowned Parakeet (*Cyanoramphus novaezealandiae*) is a native New Zealand species. The Maori name for New Zealand Parakeets is kakariki (meaning "green"). They are similar in size to Cockatiels, and are predominantly bright green in colour, with a crimson crown and eye stripe, as well as a crimson splash behind each wing, and blue outer edges on the outer primary flight feathers. For a parakeet of its size (25-28 cm, 70-80 g), the kakariki has extraordinarily long feet, which it uses to good effect in climbing and gripping its food. The bill is stout and heavy (particularly in the male) for crushing hard seeds.

Once widespread in New Zealand, this species is now predominantly found on offshore islands free of mammalian predators, although small numbers occur in heavy forests in parts of the North Island, and they are widespread on Stewart Island. Due to their habits of feeding on the ground (on offshore islands, they can be observed grazing on seedling grasses), and nesting in holes close to the ground, they are particularly susceptible to predation, especially by cats, stoats and ship rats.

In February 2002, I received a 10 day old chick from a private breeder, in order to hand rear her to appear at school group sessions at the Zoo, with the aim of teaching children about the plight of this and other native species.

HYGIENE AND EQUIPMENT

The TLC brooder was used for the duration of the hand-rearing process and hygiene was relatively easy to maintain, through regular use of Avisafe disinfectant and hot water. The base of this brooder can be removed to facilitate cleaning. Use of a towel for padding and a

container to hold the nestling also helped to keep the brooder clean. Equipment used for formula preparation and feeding was rinsed in hot water and soaked in a mild bleach (Sterinova) immediately after feeding. After not less than one hour, sterilised equipment was removed from the solution and thoroughly rinsed before being left to air dry.

The hand-rearing formula used was KayTee Exact bird-rearing formula. This is a general-purpose hand-rearing formula, suitable for a range of species, including most parrots. Spoon feeding was used throughout the rearing process (syringe feeding was tried at first but the chick resisted this quite actively). Feeding was done on a flat surface with a clean tea towel to provide a non-skid surface for the chick. Tissue paper and cotton buds dipped in warm water were used to gently clean spilled food from the chick, and these were discarded after use.

FEED INTERVALS AND VOLUME

The accompanying hand rearing chart gives full details of daily feed intervals, volumes and number of feeds. Initially, the formula consistency used was a sloppy mix, similar to thin yogurt. From Day 15, the formula was thickened slightly and by Day 19, formula had been thickened to the consistency of tomato puree.

No major feeding problems were encountered during the hand rearing process and the chick took readily to spoon feeding right from the start. The first feed was initially offered at 06h00-06h30 and a final feed was given between 22:30-23:00. However, she consistently fed reluctantly first thing in the morning, and took larger feeds in the afternoon and evening, so the first feed was adjusted to between 06:45-07:30. Daily formula intake

started to fall from Day 33, as the chick prepared to wean. Formula feeds were steadily reduced over the next few days as she started to eat solid foods, and were discontinued altogether from Day 45, as the chick was readily self-feeding and had lost interest in the formula.

BROODER ENVIRONMENT

The chick was initially placed in a small tub, which, when lined with toilet paper, provided plenty of support and warmth. A small square of flannel was provided as substrate to allow a gripping surface for the chick's claws and to prevent foot splaying (this was subsequently replaced with rubber non-skid matting, which provided a better gripping surface). A towel was used to line the brooder and prevent the tub from sliding around when moved. By Day 30, the chick needed more space, so the tub was removed and she was given access to the whole (lined) brooder. The brooder temperature was initially set to approximately 29 C. From Day 14, temperature was lowered approximately 0.5 C daily, down to 20.6 C by Day 38 (average daily temperatures are shown in the accompanying hand rearing chart). One problem encountered was the effect of ambient temperature on the brooder temperature. As hand rearing occurred during summer, ambient daytime temperature was generally 20-25 C, but was occasionally as high as 30 C. At times, it was necessary to partially open the brooder door, and use a fan to lower the temperature, especially after a hot car trip home in the afternoon. However, the chick was never observed to experience any discomfort as a result of temporarily raised temperatures.

WEANING

By Day 35, the chick was starting to nibble at different materials and appeared ready to try solid foods. The first foods used were apple and silverbeet, cut into small strips. The chick was seen nibbling at both foods very soon after they were offered. More of these foods were offered as neces-

sary (3-4 times daily).

On Day 38, mixed soaked seed was offered, along with a spray of millet. The chick immediately started cracking open the millet seed, after which she readily ate the soaked seed. She was now offered a mix of soaked seed, chopped apple and silverbeet twice daily, and fed herself with no hesitation. Other foods were gradually introduced for variety and nutrient balance, including lettuce, corn, peas, carrot, kiwifruit, pear, orange, grapes, potato, kumara, cooked beans, rice, lettuce, spinach, etc. Small branches of fruiting *Coprosma* species were regularly offered, and she eagerly ate the berries, leaves and gnawed on the bark.

By Day 45, she was completely self-feeding. It appears that this species will almost "wean itself" if offered suitable solids at the appropriate time!

WEANING CAGE

On Day 38, the chick was moved into a small weaning cage, with two low perches. The cage was cleaned daily with Avisafe and hot water, and the floor was lined with absorbent paper and rubber matting. She was initially returned to the brooder (switched off) overnight, but use of the brooder was discontinued from Day 41.

On Day 57, she was moved to a large portable aviary. Initially, the weaning cage was placed inside the aviary, with the doors open to allow her out to investigate. Her food was placed in the familiar cage, but plenty of *Coprosma* browse was placed in the aviary to encourage her to venture out, which she did almost immediately.

CHICK DEVELOPMENT

This section summarises plumage and

behavioural development.

Day 10 – good down covering, pin feathers showing on the wings. Chick vocal and active, and quite feisty when handled. Immediately exhibited very strong feeding response, when introduced to spoon feeding.

Day 11 – starting to open eyes fully.

Day 13 – complete grey down covering, tail pin feathers visible.

Day 14 – able to hold feet straight under body, but still unstable on legs.

Days 16/17 – wing and tail pin feathers starting to open. Able to grip with claws and to stand up on the non-skid matting in tub, but still unsteady on feet when out of tub. Began to preen for first time and to sleep with head on wing, rather than flopped forward on chest. Increasingly active and curious about surroundings over this period.

Day 20 – tail about 2.5 cm long. Standing well and using legs to stretch. Tried climbing for the first time.

Day 22 – feathers coming through on chest, back, wing coverts, and abdomen. Wing feathers opening

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and wing shape visible. Red tinge visible on forehead. Very mobile, able to grip strongly onto a finger and climb up clothing, using bill to grip and wings for balance. Started to climb out of tub when placed back in brooder after feeds.

Day 24 – tail about 3 cm long.

Day 25 – chick covered with a mix of green feathers and grey down over most parts of body, although flanks remained fluffy.

Day 26 – wings and back almost completely feathered, abdomen 50% feathered. Able to perch steadily on finger. Starting to flap wings to prepare for flight.

Day 27 – head feathers opening.

Day 28 – about 66% of body feathered. Tail about 4 cm long. Patches of fluffy down still on flanks and parts of the abdomen.

Day 30 – red feathers next to left ear opening. Walking, climbing, wing flapping. Vocalisations had deepened slightly.



Kiki as an adult.

Day 31 – red feathers next to right ear visible. Abdomen fully feathered. Crop still bare.

Day 33 – tail about 5 cm long. Attempted first flight, travelling about 60 cm. Continued to practise through vigorous wing flapping.

Day 34 – red eye stripes developing.

Day 36 – flew about two metres across the room at feed time. Flying attempts now a regular occurrence whenever young bird taken out of the cage to feed.

Day 37 – red crown feathers open.

Day 39 – call starting to resemble “chattering” of adult kakariki. Flying well over short distances.

Day 40 – almost all head feathers open. Tail 6 - 7 cm long.

Day 42 – right wing trimmed.

Day 43 – Attempting to bath in small water dish, and eagerly bathed when offered saucer filled with water. Bathed and preened regularly, and continued to explore surroundings avidly.

Day 45 – plumage almost fully developed and in excellent, glossy condition.

Day 50 – tail about 10 cm. long. (Based on weight and bill size, young bird sexed as female).

Day 52 – Observed for the first time using claws to hold food while eating.

No major behavioural problems were encountered during the rearing process, although the chick did not feed well when cared for by another staff member (Day 25/26). Imprinting was not regarded as a problem, since the aim was to achieve a tame bird that would be comfortable with people. Thus, every opportunity was taken to socialize her and to accustom her to handling. She has remained tame and easy to handle, although she tends to be flighty around strangers. ❖