

KAKAS IN CAPTIVITY

By M. R. SKIPWORTH

For some twelve years the Dunedin City Corporation has maintained large aviaries at the Botanic Gardens for the display of both exotic and native birds. The greater portion of these aviaries is set aside for native species, a very large flight, some one hundred and fifty feet by one hundred and twenty feet and ten feet high, providing ample space for exercise. No attempt has been made to enclose native birds which can be seen in the city area or the surrounding bush of the Town Belt and neighbouring hills. Tuis, native pigeons and bell-birds are frequently seen in these areas and there is no need to keep them in captivity. There are thousands of New Zealanders, however, who have never seen or heard a native parakeet, a weka or a kaka, although most of them have read about them and are delighted to have the opportunity of actually seeing them, despite the fact that they are in captivity. Towards this object we have been greatly assisted and encouraged by the Wild Life Branch of the Department of Internal Affairs, without whose help the project would have been impossible.

It is essential that the birds should be kept under the best possible conditions and one of the indications of satisfactory conditions is that the birds should breed and rear healthy young. No breeding difficulties were experienced with the two species of parakeets or the wekas, but for some years no results were obtained from the three kakas which the Department of Internal Affairs had forwarded to us some eight years ago. These birds had been trapped on Stewart Island and forwarded to Dunedin immediately for release in the aviary. They settled into their new quarters very happily and ample supplies of sunflower seed, canary seed and oats were provided. Some brown bread was fed and ample supplies of greens, vegetables and apples were made available. The floor of the aviary was kept as a lawn — not too closely cut — and both kakas and parakeets spend much of their time fossicking in the grass and pulling up the roots to eat.

For a number of seasons the Kakas were observed mating and busying themselves around the nesting sites but no eggs resulted. Nectar, made up from honey and water, was fed and greedily taken by the Kakas, and it was hoped that the stimulant of an additional favoured food supply might produce results, but we were still to be disappointed. While the writer was visiting Britain recently, the opportunity was taken to discuss the problem with Mr. Yealland, the Curator of Birds, at the London Zoological Society's Gardens. He recommended that we try the nectar feed provided for humming birds as a day time feed, made up as follows:—

To one pint of warm water mix:—

4 level tablespoons of invert sugar

2 level tablespoons Complan

$\frac{1}{2}$ teaspoon of Hepavite

This mixture was made available to the birds in August 1963 and within three weeks, by 5th September, three eggs had been laid in a hollow log of native cedar (*Libocedrus Bidwillii*). It is not

suggested that the feeding of the new nectar mix was responsible for stimulating the hen bird to lay, as it is quite possible that eggs would have been produced without it. Several nesting sites had been provided to enable a selection to be made from the various cedar logs each about nine feet in length, and stood up on end. The upper core of each log had been hollowed out and then capped over with a metal cover, while an entrance hole of suitable size was bored through to the hollow core. The nest site selected was large enough to allow the two birds to remain inside at the one time, but as far as could be seen, the hen bird appeared to do all the incubation, the male feeding her regularly on the nest during the day. Each afternoon she left the nest for a short flight and to visit her keeper for a special tit-bit of food, during which time the male bird stood guard at the entrance to the nest.

On 30th September, there were two chicks in the nest, the third egg failing to hatch and proving infertile. Both parents were active in feeding the young, which grew rapidly through the nestling stage, with their covering of soft white down, to reach the fully feathered stage. The two young birds then appeared to remain in the nest for a particularly long time before finally emerging on 4th December. In comparison, three young Australian Galah parrots, in an adjoining aviary, left their nest a month before the kakas although they had been hatched from eggs which were laid at the same time as the kaka eggs. The young galahs were capable of flying immediately, whereas the kakas spent much of their time on the ground and it was some six weeks before they were capable of flying to the standard reached by the galahs as soon as they had left the nest. The parent birds were not satisfied with the young kakas being on the ground for they immediately commenced to harry them, intent on them evidently getting off the ground. They dragged them along the ground by the leg, the wing or the tail, and they were joined in this by the third adult bird (of unknown sex). This very rough treatment alarmed the aviary keeper so much that he frequently rescued the young birds and placed them up in the branches of trees, where they were less likely to be roughly treated by the three adult birds. One of the young birds became paralysed in the lower portion of the spine, but whether this was due to the harrying of the adults or not is uncertain. Perhaps the young bird had shown too much interest in the dish of shredded ox-heart placed out each evening for the kiwis, housed in the same aviary, and had received a kick from those powerful legs. The young bird was never able to fly and some months later was found drowned in the shallow drinking pool. The other young bird has grown into an active and healthy adult.

For the 1964 breeding season no artificial nectar was fed until the end of September, twenty-five days after the date the hen bird had laid in 1963. Several nectar feeds were given from the end of September and by 15th October four eggs had been laid, the pair choosing a new nesting site, instead of their former log, which it had been expected they would occupy again this season. The new nest was also in a hollowed out native cedar log, but this year's nest site did not have sufficient room to house the two adult birds at the one time. On 8th November there were four chicks in the nest and once again they made very rapid growth, although the cock bird was not

noticed to feed them in the early stages as was noted in the previous season. In the later nestling stage, however, he joined in general feeding, but the four young birds were not as plump as the two of the previous season. The first young bird left the nest on 8th January 1965, followed by the others at intervals of a few days, until the last bird left on 21st January. By the present date (29th January), the young birds are beginning to fly, and so far have not been subject to so much rough attention from the adult birds, which their predecessors received last season.

The successful breeding of any birds kept in captivity is always a great encouragement and it is hoped that this season's four young birds will grow to healthy maturity. Of the native birds kept in the aviary, the kaka are the most interesting, particularly that a pair is now breeding, and one forgets the nuisances they sometimes create, such as cutting large holes in the netting or destroying the native parakeets' nest at breeding time.



SHORT NOTES

PREY OF A FAMILY OF NEW ZEALAND FALCONS

There is little information available on the food of the New Zealand Falcon (*Falco novaeseelandiae*) (Pl. XXIII), Oliver (1955) states that birds of many species form most of its food but that rats, mice and lizards are also taken. Guthrie-Smith (1927) considered that New Zealand Pipits were the main food although Goldfinches, Yellowhammers, Starlings and Quail were also taken.

I watched a pair of Falcons feeding two fledged young at Ngatapa, Gisborne, from 30 December, 1962, to 4 January, 1963. They were observed for 12½ hours, mainly in the early morning and late afternoon. The young had left the nest, which was not found, and spent their time perched in scattered trees on a hillside. It is not known when they became independent of their parents. The surrounding country was steep farmland with some manuka scrub and stands of remnant bush.

The young birds flew well, but did not attempt to catch prey and were observed being fed twelve times at irregular intervals, averaging approximately once an hour. Guthrie-Smith (1927) recorded that nestlings three-quarters grown were fed, on average, once every ninety minutes. On six occasions one of the young birds flew high over the valley to meet the returning parent and flew in the same direction approximately three feet below the adult until the food was dropped. The young bird turned slightly on to its side and caught the food in its talons. On other occasions it did not leave its perch until the parent was quite near. It then flew towards the adult and when only a few feet apart both banked vertically and the adult tossed the food to the young. Once the parent returned with food, perched near the young and then flew off, leaving the food. When feeding occurred in flight the young always caught the food successfully and then settled