if the short breeding season and lack of success before November found in 1981/82 were unusual, weather may have been a factor. September and October were cool, wet and stormy, November was warm, and December and January were hot and dry. The areas of forest on Tiritiri are small, and four of the six valleys in which I worked are exposed to the prevailing southwesterly winds. Further study is needed to show whether the 1981/82 pattern of breeding is typical for Fantails on Tiritiri Island. Dennison *et al.* (1979) suggested that Fantails on the Chatham Islands have a shorter breeding season than do mainland New Zealand birds. A shorter breeding season and lower overall breeding success may be typical for island populations of Fantails compared with the mainland.

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SHORT NOTE

HELPER AT A GOLDFINCH NEST

At Queen Charlotte Sound on 24 December 1982, I noticed a pair of Goldfinches *(Carduelis carduelis)* nesting in a kowhai tree outside a window. I tied back some branches to give a clear view of the nest, which was 2 metres from the ground and 3 metres from the window. The nest was too close for binoculars to be effective, or needed.

Observation of the nest was usually from 06:45 to 07:30 and at irregular times during the day. One day I watched for most of the day.

I could tell the birds apart by some variation in the colour of

their bills, but I did not know their sexes. When first noticed the nest contained 4 eggs. Incubating was done by either bird. On four occasions the bird on the nest was fed a grub by its mate. On the third day of observation, I saw a third Goldfinch at the nest, and from then on it remained with the adult birds, taking a turn on the nest and feeding the chicks with the first pair of adult birds until fully fledged.

On 28 December, four chicks were being fed when I started watch in the morning. All food was regurgitated. At feeding times the adult birds stood around the edge of the nest. The first to feed the chicks would point its bill upwards, extending its neck until its whole body look elongated. Reverse peristaltic movements were easily seen in the crop and neck of the bird. The chicks were ready with gapes wide. Suddenly the adult would plunge its bill into the first gape, and then feed the second, third and fourth chick in rapid succession, with no more than 1-2 seconds between each chick. The second adult would then start to extend its bill and body upwards, and the performance would be repeated until all the birds had tried to feed the chicks. All adult birds, except the one feeding, twittered continuously during these episodes.

Feeding was done at intervals during the day. The adults were away from the nest for 10-15 minutes between each feed, and there would be either 4 or 5 feeds in each feeding interval. Every chick was fed at every visit to the nest. I could hear the birds returning to the nest for several seconds before they arrived, and the chicks would be alert and ready to be fed. All adult birds arrived, fed the chicks and departed together.

On three occasions one adult returned with a large green grub (twice) or a spider *(Dolomedes minor)* (once), which was passed between the adults as each took a turn to try and feed the chicks. Eventually the grubs and spider were swallowed by an adult bird.

On the sixth day after hatching, I watched the nest for a whole day. The chicks were fed at the following intervals: 06.50 to 08.05, 09.00 to 09.55, 13.30 to 15.00, 17.15 to 18.30. I did not see the adult birds cleaning or repairing the nest at any time, although they did clean around the eyes and bills of the chicks, usually after feeding. By day 9, the chicks were performing this task for one another. From day 5, the chicks were backing to the edge of the nest to pass faeces. By the time the chicks were fledged the nest was encrusted with faeces, as were the surrounding twigs and leaves.

The chicks were brooded occasionally for the first five days. I did not see the adults brood the chicks after that, nor did I see them on the nest at night, though I did hear them in the tree. On 11 January 1983, two chicks were out of the nest at 6.45 a.m. and the third left at 9 a.m. At 11 a.m. the nest was empty.

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