

Chick mortality in the absence of predation: on the breeding strategy of red-crowned kakariki (*Cyanoramphus novaezelandiae*).

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The red-crowned kakariki (*Cyanoramphus novaezelandiae*) exhibits a discontinuous distribution in New Zealand; a reflection of habitat modification and predation by alien species across its range. Although alien and native predators are known to affect the reproductive success of red-crowned kakariki, little is known of its breeding strategy when predation does not occur. Predation can even prevent analysis when sample size is small and predation occurs at early stages of development (i.e. eggs). We present the first data on clutch size, hatching success and fledging success for this species on Tiritiri Matangi Island after 30 years of their first translocation to this locality. This study covers the 2004-2005 breeding season. In all nests monitored, predation of either chicks or parents was not recorded, providing an initial approach to better understand the reproductive strategy of this species without that pressure. The average clutch size was 6 eggs (range 1-9). Only 40% of eggs hatched and in only two clutches did all eggs hatch. Mortality tended to be higher for last hatched chicks. The main cause of mortality among nestlings was starvation and was associated with hatching position within the clutch. Nestling mortality was high (60%) when compared to other studies. About 40% of hatched chicks fledged, however the probability of an egg resulting in a fledging was low (16%). The average number of fledglings produced per breeding pair was only 1. When considered with other studies within New Zealand and overseas, our results suggest a strategy of adaptive brood reduction.