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SHORT NOTE

Cat and stoat visit a Kiwi (*Apteryx* spp.) nest

The decline of Kiwi (*Apteryx* spp.) on mainland New Zealand is an issue of national concern and the major focus of the kiwi recovery plan (Butler & McLennan, 1991). Recent studies show inadequate recruitment is the main cause of the decline, with predation by introduced mammals, especially stoats (*Mustela erminea*) being the main cause of poor juvenile survival (McLennan & Potter, 1993; McLennan *et al.*, 1996). Few Kiwi survive their first 100 days of life, and less than 5% reach adulthood.

An episode in Tongariro Forest Park, central North Island, in December 1993, made me fully aware of the intense predation pressure young Kiwi face in mainland forests. An incubating male Northern Brown Kiwi (*Apteryx mantelli*) that I had been monitoring for 3 months suddenly increased the time he spent off the nest at night - a change in routine that usually signals the arrival of a chick. The following evening (12 December 1993) I positioned myself about 15 m from the nest burrow and watched it with a night scope, in the hope of glimpsing the chick. At 17:30 a feral cat (*Felis catus*) approached the nest burrow and sniffed around the entrance for a few minutes before moving off. Some 45 minutes later, a stoat arrived. It entered the nest, stayed very briefly, then ran away. At 20:50 two adult Kiwi emerged from the nest and ran off. I left the area at 21:10.

The male deserted the nest that night, so the next day (13 December 1993) I examined the contents of the nest chamber. Inside were large fragments of blood-stained egg shell, kiwi feathers, and the usual accumulation of leaves brought in by the male to line the chamber. The sign was not consistent with that of a successful hatching (very small shell fragments, membranes separated from shell, dried strips of membrane in the nest chamber) and instead suggested that an advanced embryo

had been eaten either while hatching or just beforehand. The egg may have been destroyed the previous night, after I had left the area.

Female Northern Brown Kiwi sometimes join their mates in nests after chicks hatch (McLennan, 1988). I suspect that the first egg of the clutch had hatched some weeks beforehand, and that the chick had died or (more likely) had been killed when it was out foraging. Both predators approached the nest directly, suggesting that they already knew of its whereabouts. They simply appeared to be assessing whether and/or when it was likely to yield more prey.

It is already well known that young Kiwi seldom survive for long once they leave their nests. This observation suggests that some chicks never get past the queue of predators outside the front door.

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