

SHORT NOTE

Predation of banded rail (*Rallus philippensis*) nests in a saltmarsh habitat

KEVIN A. PARKER

School of Biological Sciences, University of
Auckland, Private Bag 92019, Auckland.
fernbird74@yahoo.com

DIANNE H. BRUNTON

School of Biological Sciences, University of
Auckland, Private Bag 92019, Auckland.
d.brunton@auckland.ac.nz

Eight banded rail (*Rallus philippensis*) nests were found at the Omaha saltmarsh (36°22' S, 174°46' E), a narrow strip of land bordered by the Mangatawhiri Spit and the Whangateau Harbour. They were constructed from, and concealed within, reed beds consisting primarily of *Baumea juncea*. Three nests appeared old and consisted of a flattened nest platform and many shell fragments. One nest contained a single unbroken egg and had been abandoned. Four nests showed signs of predation with either the middle or end of the egg opened in a manner not associated with hatching. Three of these latter nests were found after predation had occurred so it was not possible to distinguish between predation and a post-incubation scavenging event.

One nest, however, was predated during incubation. At initial discovery, on 16 February 2002, this tightly concealed nest contained three eggs. The nest was subsequently inspected three times but on the third visit, 0800 h on 22 February, it was found predated. There was no sign of forced entry and it appeared the predation was very recent. The remains of the eggs were still wet with albumen, and the nest contained a partially eaten embryo that was very close to hatching. A video camera was installed to film this nest. By the following day the remains of the unhatched chick had gone and the remaining egg shell had been disturbed. The

video film showed that a stoat (*Mustela erminea*) had visited the nest at 1630 h., fed on the remains, and then slept in the nest bowl for approximately 45 min. When it woke, the stoat again fed on the egg and chick remains, and slept for a further 40 min in the nest bowl before departing. The stoat did not return to the nest site during the subsequent 12 hours after which filming ceased.

The behaviour of the stoat at the nest could result in predation of adult birds as many species will return to the nest after predation has occurred (Brown *et al.* 1998; pers obs). In the absence of direct evidence it cannot be conclusively stated that the stoat was responsible for the initial predation of the banded rail nest. However stoats are well known nest predators (Moorhouse *et al.*, 2003; Cuthbert & Davis, 2002; McDonald & Murphy, 2000) and have been previously recorded eating recently-hatched banded rail chicks in the nest (Elliott 1983). Furthermore, there were almost no rats (*Rattus* spp.) in the Omaha saltmarsh and there was no sign of forced entry by larger predators such as possums (*Trichosurus vulpecula*) or harriers (*Circus approximans*). In addition, eight of 22 fernbird (*Bowdleria punctata vealeae*) nests found during this study were judged to have been preyed upon by mustelids (Parker 2002).

Banded rails are locally common in northern coastal areas, but habitat modification and predation may be causing a decline (Heather & Robertson 1996). Of the eight nests discovered during this study, at least five showed signs of predation. Our observations show that wetland species suffer predation by introduced mammals and wetlands, as well as forests and shorebird breeding areas, and might benefit from "mainland island" style ecosystem restoration and management.

ACKNOWLEDGEMENTS

Thanks to Rose Thorogood, Michael Anderson and an anonymous reviewer who provided useful feedback on early drafts of this short note.

LITERATURE CITED

- Brown, K.P.; Moller, H.; Innes, J.; Jansen, P. 1998. Identifying predators at nests of small birds in a New Zealand forest. *Ibis* 140: 274-279.
- Cuthbert, R.; Davis, L.S. 2002. The impact of predation by introduced stoats on Hutton's shearwaters, New Zealand. *Biological conservation* 108: 79-92.
- Elliott, G.P. 1983. The distribution and habitat requirements of the banded rail (*Rallus philippensis*) in Nelson and Marlborough. Unpublished MSc thesis, Victoria University of Wellington.

- Heather, B.D.; Robertson, H.A. 1996. *The field guide to the birds of New Zealand*. Viking, Auckland.
- McDonald, R.A.; Murphy, E.C. 2000. A comparison of the management of stoats and weasels in Great Britain and New Zealand. Pp. 21-40 *In*: Griffiths, H.I. (ed). *Mustelids in a modern world: Management and conservation aspects of small carnivore : human interactions*. Backhuys Publishers, Leiden.
- Moorhouse, R.; Greene, T.; Dilks, P.; Powlesland, R.; Moran, L.; Taylor, G.; Jones, A.; Knegtmans, J.; Wills, D.; Pryde, M.; Fraser, F.; August, A.; August, C. 2003. Control of introduced mammalian predators improves kaka (*Nestor meridionalis*) breeding success: reversing the decline of a threatened New Zealand parrot. *Biological conservation* 110: 33-44.
- Parker, K.A. 2002. Ecology and management of North Island fernbird (*Bowdleria punctata vealeae*). Unpublished MSc thesis, University of Auckland.

Keywords banded rail; *Rallus philippensis*; nest predation; stoat; *Mustela erminea*.