

LITERATURE CITED

- BOURNE, W.R.P. 1989. The evolution, classification and nomenclature of the great albatrosses. *Le Gerfaut* 79: 105-116.
- BOURNE, W.R.P. 1993. The early specimens of the Wandering Albatross. *Notornis* 40: 314-316.
- BOURNE, W.R.P.; WARHAM, J. 1999. Albatross taxonomy. *Birding World* 12: 123-124.
- BRITISH MUSEUM 1904-1912. The history of the collections contained in the Natural History Departments of the British Museum. 3 vols. British Museum, London.
- LYONS, H. 1944. The Royal Society 1660-1940. Cambridge University Press, Cambridge.
- MEARNS, B.; MEARNS, R. 1988. Biogeographies for birdwatchers: the biographies of those commemorated in Western Palaearctic bird names. Academic Press, London.
- MEDWAY, D.G. 1993. The identity of the Chocolate Albatross *Diomedea spadicea* of Gmelin, 1789, and of the Wandering Albatross *Diomedea exulans* of Linnaeus, 1758. *Notornis* 40: 145-162.
- MORRIS, J. 1993. An historical review of bird taxonomy in Britain. *Arch. nat. hist.* 20: 241-255.
- NUNN, G.B.; STANLEY, S.E. 1998. Body size effects and rates of cytochrome *b* evolution in tube-nosed seabirds. *Mol. biol. Evol.* 15: 1360-1371.
- OWEN, R. 1855. Descriptive catalogue of the osteological series contained in the Museum of the Royal College of Surgeons of England. London.
- ROBERTSON, C.J.R.; NUNN, G.B. 1998. Towards a new taxonomy for albatrosses. Pp. 13-19 in Robertson, G.; Gales, R. (eds.) *Albatross biology and conservation*. Surrey, Beatty & Sons, Chipping Norton, New South Wales.
- W.R.P. BOURNE, *Department of Zoology, Aberdeen University, Tillydrone Avenue, Aberdeen AB24 2TZ, Scotland.*

**Australian Magpie preys on Banded Dotterel chicks**

Australian Magpies (*Gymnorhina tibicen*) were first introduced to New Zealand in 1864 and are now well established throughout suburban, pastoral and remnant forest habitats (Heather & Robertson 1996). Magpies are known predators of small birds in New Zealand, such as introduced passerines and native forest birds (McCaskill 1945, Porter 1993) and are capable of killing adult birds on the wing in addition to taking chicks from nests (McCaskill 1945). They have also been seen harassing larger species of native birds, such as Tui (*Prosthemadera novaeseelandiae*), Harriers (*Circus approximans*) and New Zealand Pigeons (*Hemiphaga novaeseelandiae*) (McCaskill 1945, Parrish & Lock 1995, Parrish & Lock 1997). The White-backed subspecies of Magpie (*Gymnorhina t. hypoleuca*) is frequently seen in braided river habitat in the Upper Waitaki Basin but the only documented Magpie predation of a braided river bird is that of a Magpie carrying off a Black-fronted Tern (*Sterna albobriata*) chick (Lalas 1977).

On 10 December 1998, using a time lapse video camera, MDS recorded a White-backed Magpie preying on three Banded Dotterel (*Charadrius bicinctus*) chicks in the lower Ohau River, Upper Waitaki Basin. The female Banded Dotterel and her three 1 - 2 day old chicks were roosting at the nest when the predation event occurred. At 17:25 h NZST, the female flew from the nest, and her chicks remained 'huddled down' and apparently motionless in the nest. Fourteen minutes later, a Magpie flew directly to the nest and picked up a chick as it landed. For the next 69 seconds, the Magpie stood at the nest, repeatedly pecking at all three chicks, and appearing to hit them against the ground. Over the next 11 minutes, it ate the chicks by placing a foot on them on the ground, or holding them in its foot on the ground, and pecking at them. It ate two chicks within 50 cm of the nest and one chick about 3 m from the nest. The Magpie was present in or around the nest for 17 minutes in total.

The adult female Banded Dotterel briefly returned to the nest at 20:15 h, and visited it intermittently over the next two days. A Magpie also returned briefly (< 60 seconds) three times between 04:35 h and 05:30 h the next morning and once, three days later, after which the camera was removed. The only remains or predator sign found during a search of the nest and surrounding area the day after the predation were a few pieces of down within 1 m of the nest.

Banded Dotterels evolved in the presence of avian predators and, even before magpies arrived in New Zealand, some individuals would have encountered magpies while wintering in Australia. Thus, we would expect Banded Dotterels to recognise Magpies as a threat. On 15 December 1998, RJK observed Banded Dotterel behaviour that supports this contention. While attempting to trap a female Banded Dotterel on her nest, RJK heard Banded Dotterel alarm calls 50-100 m away. The female immediately leapt off the nest and stood next to the trap, alert but motionless, and a Magpie flew overhead from the direction of the alarm calls. The female returned to the nest only after the Magpie had disappeared from view behind willow trees, 200 m away. Of almost 100 Banded Dotterels RJK trapped on the nest, this was the only bird seen to exhibit such dramatic behaviour, suggesting that the Banded Dotterel was reacting to the presence of the Magpie rather than RJK or the trap.

Whether Magpies are a major predator of chicks of Banded Dotterels, or other birds of braided rivers, is unclear. The videoed event reported here is one of only two avian predations of 56 predations videoed at 137 Banded Dotterel, Black-fronted Tern and Black Stilt (*Himantopus novaeseelandiae*) nests between 1994 and 1998 (Sanders and Maloney 1999). Forty-six of these 56 predations were upon eggs, suggesting that Magpies (and other avian predators) are not major predators of eggs of braided river birds in the Upper Waitaki Basin. However, because chicks usually leave the nest within a few days of hatching, videos reveal little about the fate of most chicks. The role of Magpies, and other species, as predators of chicks of ground-nesting river birds requires further research.

ACKNOWLEDGEMENTS

This work is part of a larger research programme funded by Project River Recovery (Department of Conservation), Miss E. L. Hellaby Indigenous Grasslands Research Trust, Massey University and The Royal Forest & Bird Protection Society. We thank Kerry Brown and two anonymous reviewers for commenting on an earlier draft of this note and Rory McGirr and Nikki Wells for running the video camera in the field.

LITERATURE CITED

- HEATHER, B.D.; ROBERTSON, H.A. 1996. Field Guide to the Birds of New Zealand. Viking, Auckland.
- LALAS, C. 1977. Food and feeding behaviour of the Black-fronted Tern, *Chlidonias hybrida albostrigatus*. Unpublished MSc Thesis, University of Otago, Dunedin, New Zealand.
- MCCASKILL, L.W. 1945. Preliminary report on the present position of the Australian Magpies (*Gymnorhina hypoleuca* and *G. tibicen*) in New Zealand. NZ Bird Notes 1: 86-104.
- PARRISH, G.R.; LOCK, J.W. 1995. Classified Summarised Notes North Island, 1 July 1993 to 30 June 1994. Notornis 42: 145-173.
- PARRISH, G.R.; LOCK, J.W. 1997. Classified Summarised Notes, North Island 1 July 1995 to 30 June 1996. Notornis 44: 79-109.
- PORTER, D. 1993. Magpie kills and eats a Skylark. Notornis 40: 246.
- SANDERS, M. D.; MALONEY, R. F. 1999. Video monitoring of nesting Banded Dotterels, Black Stilts, and Black-fronted Terns in braided rivers of the Upper Waitaki Basin. Project River Recovery Report 99/07, Department of Conservation, Twizel.

KEYWORDS: Australian Magpie, *Gymnorhina tibicen*, Banded Dotterel, *Charadrius bicinctus*, predation, video

RACHEL KEEDWELL, *Ecology Section, Institute of Natural Resources, Massey University, Private Bag 11-222, Palmerston North, New Zealand.*

MARK D. SANDERS, *Department of Conservation, Private Bag, Twizel, New Zealand.*

Received 8 April 1999; accepted 6 September 1999