

VOLUME 52  
PART 2

MEMOIRS  
OF THE  
QUEENSLAND MUSEUM

BRISBANE  
30 APRIL 2008

© Queensland Museum

PO Box 3300, South Brisbane 4101, Australia  
Phone 06 7 3840 7555  
Fax 06 7 3846 1226  
Email [qmlib@qm.qld.gov.au](mailto:qmlib@qm.qld.gov.au)  
Website [www.qm.qld.gov.au](http://www.qm.qld.gov.au)

National Library of Australia card number  
ISSN 0079-8835

NOTE

Papers published in this volume and in all previous volumes of the *Memoirs of the Queensland Museum* may be reproduced for scientific research, individual study or other educational purposes. Properly acknowledged quotations may be made but queries regarding the republication of any papers should be addressed to the Editor in Chief. Copies of the journal can be purchased from the Queensland Museum Shop.

A Guide to Authors is displayed at the Queensland Museum web site  
[www.qm.qld.gov.au/organisation/publications/memoirs/guidetoauthors.pdf](http://www.qm.qld.gov.au/organisation/publications/memoirs/guidetoauthors.pdf)

**A Queensland Government Project**  
Typeset at the Queensland Museum

**NOTES ON THE DIET OF THE NORTHERN MASKED OWL *TYTO NOVAEHOLLANDIAE KIMBERLI* IN NORTH QUEENSLAND.** *Memoirs of the Queensland Museum* 52(2): 148, 2008.— *Tyto novaehollandiae kimberli* is listed as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) and *Nature Conservation Act 1992* (Queensland), and as near threatened by Garnett & Crowley (2000). The subspecies *T.n. kimberli* exists at low density throughout its northern Australian range and is reported to be in decline in parts of the Wet Tropics area (Young & De Lai, 1997; Nielsen, 2001).

Little has been published on the diet of *T.n. kimberli* (Higgins, 1999), although they are known to take rats in north Queensland (Hollands, 1991; Nielsen, 1993; Young & De Lai, 1997). Due to this paucity of information Garnett & Crowley (2000) recommended that the dietary composition and conservation status of principal prey be recorded where northern Masked Owls are located.

The diet of Masked Owl subspecies in southeastern Australia and Tasmania is better known and consists mainly of ground-dwelling rodents and small marsupials (Debus, 1993; Mooney, 1993; Peake et al., 1993; Debus & Rose, 1994; Kavanagh, 1996, 2002; Higgins, 1999; McNabb et al., 2003; Todd, 2006).

**STUDY AREA AND METHODS.** Five fresh pellets were collected from the foot of a tree below a known Masked Owl roosting/nesting hollow at Geraghty Park, Julatten (16° 34' S, 145° 21' E), north Queensland, in September 2006. A Masked Owl was observed leaving the hollow at dusk on 5 and 6 September. Three pellets were collected on 5 September, and while searches on 6 and 7 September failed to locate any more pellets, two further pellets were collected on 12 September. No other owl species were observed in Geraghty Park on 5-6 September (pers. obs.) or for the remainder of the month (K. & L. Fisher, pers. comm. 2007). The hollow was located ~20m high in a large Forest Red Gum *Eucalyptus tereticornis* which, along with other nearby scattered trees, represent the last remnants of a eucalypt forest which once existed in the region. Masked Owls have used this hollow for approximately one year (K. & L. Fisher, pers. comm. 2007). The surrounding area is a mosaic of mainly cleared pastures used for cattle grazing, sugar cane and rainforest remnants.

Pellets were analysed by ABR, and the minimum numbers of individual prey items determined, by counting skeletal parts and comparison with reference material (i.e. Knox, 1976; Watts & Aslin, 1981).

**RESULTS AND DISCUSSION.** The three pellets collected on 5 September measured 40 × 31, 40 × 25 and 39 × 34mm and contained, collectively, the remains of three Canefield Rats, *Rattus sordidus*. The two pellets collected on 12 September measured 35 × 28 and 36 × 27mm and contained, collectively, the remains of two Grassland Melomys, *Melomys burtoni*. The size of the pellets is considerably smaller than those recorded for the Tasmanian Masked Owl *T. n. castanops* (see Higgins, 1999).

Both the Canefield Rat and Grassland Melomys have been favoured by the establishment of sugar cane in north Queensland and are considered pests of that industry. Both rodents are among the most numerous small mammals in the Julatten-Mount Molloy district (Burnett, 2001).

The dietary sample from this study is broadly consistent with studies elsewhere in Australia, and particularly those in NSW, where the nominate Masked Owl subspecies *T. n. novaehollandiae* is opportunistic in prey selection, taking locally abundant mammals (Debus & Rose, 1994; Kavanagh, 2002; Todd, 2006).

The decline of the northern Masked Owl has been linked to the use of the now-banned rodenticide *Klerat* to control rats in sugar cane (Young & De Lai, 1997; Nielsen, 2001), although a general decline of mammals in northern Australia has also been suggested as a possible cause (Garnett & Crowley, 2000; Woinarski, 2004). Further quantitative studies on the diet of the northern Masked Owl would assist in identifying potentially threatening processes.

#### Acknowledgements

Thanks to Stephen Debus, Paul Peake and an anonymous referee for comments on a draft and Keith and Lindsay Fisher for background on the Masked Owls at Geraghty Park.

#### Literature Cited

- BURNETT, S. 2001. The Mammals of the Mount Molloy Stock Route Reserves and Spear Creek. Earthworks Report # 99c23 prepared for the Mitchell River Watershed Management Group. Available: [www.mitchell-river.com.au/publications/mammals.pdf](http://www.mitchell-river.com.au/publications/mammals.pdf)
- DEBUS, S.J.S. 1993. The mainland Masked Owl *Tyto novaehollandiae*: a review. *Australian Bird Watcher* 15: 168-191.
- DEBUS, S.J.S. & ROSE, A.B. 1994. The Masked Owl *Tyto novaehollandiae* in New South Wales. *Australian Birds* 28 (Suppl.): S40-S64.
- GARNETT, S.T. & CROWLEY, G.M. 2000. The Action Plan for Australian Birds 2000. (Environment Australia: Canberra).
- HIGGINS, P.J. (ed.) 1999. Handbook of Australian, New Zealand and Antarctic Birds. Vol. 4. Parrots to Dollarbird. (Oxford University Press: Melbourne).
- HOLLANDS, D. 1991. *Birds of the Night: Owls, Frogmouths and Nightjars of Australia*. (Reed: Sydney).
- KAVANAGH, R.P. 1996. The breeding biology and diet of the Masked Owl *Tyto novaehollandiae* near Eden, New South Wales. *Emu* 96: 158-165.
2002. Comparative diets of the Powerful Owl (*Ninox strenua*), Sooty Owl (*Tyto tenebricosa*) and Masked Owl (*Tyto novaehollandiae*) in southeastern Australia. Pp 175-191. In Newton, I. Kavanagh, R. Olsen, J. & Taylor, I. (eds) *Ecology & Conservation of Owls*. (CSIRO Publishing: Collingwood).
- KNOX, E. 1976. Upper molar alveolar patterns of some Muridae in Queensland and Papua New Guinea. *Memoirs of the Queensland Museum* 17: 457-459.
- MCNABB, E., MCNABB, J. & BARKER, K. 2003. Post-nesting home range, habitat use and diet of a female Masked Owl *Tyto novaehollandiae* in western Victoria. *Corella* 27: 109-117.
- MOONEY, N. 1993. Diet of the Masked Owl in Tasmania: past and present. pp 160-174. In Olsen, P. (ed.) *Australian Raptor Studies*. (RAOU: Melbourne).
- NEILSON, L. 1993. In the spotlight: nocturnal birding at Julatten, Qld. *Bird Observer*, 737: 9.
2001. Ornithological Audit of Public Reserves and Stock Routes in the Upper Mitchell River Catchment. Report prepared for the Mitchell River Watershed Management Group. Available: [www.mitchelle-river.com.au/publications/birds.pdf](http://www.mitchelle-river.com.au/publications/birds.pdf)
- PEAKE, P., CONOLE, L.E., DEBUS, S.J.S., MCINTYRE, A. & BRAMWELL, M. 1993. The Masked Owl *Tyto novaehollandiae* in Victoria. *Australian Bird Watcher* 15: 124-136.
- TODD, M. 2006. Prey partitioning and behaviour of breeding Masked Owls *Tyto novaehollandiae* on the Central Coast of New South Wales. *Australian Field Ornithology* 23: 186-191.
- WATTS, C.H.S. & ASLIN, H.J. 1981. *The Rodents of Australia*. (Angus & Robertson: Sydney).
- WOINARSKI, J.C.Z. 2004. National Multi-species Recovery plan for the Partridge Pigeon [eastern subspecies] *Geophaps smithii smithii*, Crested Shrike-tit [northern (sub)species] *Falunculus (frontatus) whitei*, Masked Owl [north Australian mainland subspecies] *Tyto novaehollandiae kimberli*; and Masked Owl [Tiwi Islands subspecies] *Tyto novaehollandiae melvillensis*, 2004-2009. (Department of Infrastructure, Planning & Environment: Darwin).
- YOUNG, J. & DE LAI, L. 1997. Population declines of predatory birds coincident with the introduction of Klerat rodenticide in north Queensland. *Australian Bird Watcher* 17: 160-167.

James A. Fitzsimons, School of Life & Environmental Sciences, Deakin University, 221 Burwood Hwy, Burwood VIC 3125, Email: [james.fitzsimons@deakin.edu.au](mailto:james.fitzsimons@deakin.edu.au); A.B. Rose, Australian Museum, 6 College St, Sydney NSW 2010; 20 June 2007