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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.

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