

DIET OF A BARKING OWL *Ninox connivens* IN THE CHANNEL COUNTRY OF SOUTH-WESTERN QUEENSLAND

S. J. S. DEBUS¹ and A. B. ROSE²

¹Division of Zoology, University of New England, Armidale, New South Wales 2351

²Associate, The Australian Museum, 6 College Street, Sydney, New South Wales 2010 (Present address: 61 Boundary Street, Forster, New South Wales 2428)

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The few published studies on the diet of the Barking Owl *Ninox connivens*, all for temperate south-eastern Australia, have been summarized by Higgins (1999) and Debus (2001). On the basis of those studies, the owl has been characterized as a generalist predator of mammals, birds and invertebrates, but one that takes a higher proportion of diurnal birds than do other Australian owls. This note describes the diet of a non-breeding Barking Owl that was roosting on Cooper Creek in arid south-western Queensland. Although Barking Owls were heard calling at the locality, only one bird was observed at the roost.

Ten intact pellets, and fragments representing about 20 further pellets, were collected by A. Georges and E. Guarino from beneath the owl's roost at Yappi Waterhole, Tanbar Station (25°51'S, 141°55'E) 90 kilometres south-west of Windorah, on 30 April 2001. The habitat at this site, in the Channel Country Bioregion, was River Red Gum *Eucalyptus camaldulensis* and Coolibah *E. microtheca* woodland on the drainage line and more open woodland in the surrounding area. The owl (sighted by Georges) was roosting 1.5 metres above ground in a Red Gum, 10 metres from the bank of the waterhole but 35 metres from the edge of the water. The waterhole was full after a prolonged moist period and flooding in the previous year, conditions conducive to build-up of Long-haired Rat *Rattus villosissimus* numbers (Strahan 1995), although there was no rat plague at the time of pellet collection (A. Georges, pers. comm.).

Mammalian skulls and jaws in the owl's pellets were identified by Rose (ABR), by comparison with a reference collection and by reference to Thomas (1888) and Watts and Aslin (1981). The minimum number of prey individuals was determined by skull count.

The ten whole pellets measured 27–46 × 21–30 millimetres (mean 35.4 × 26.4 mm). The dietary sample consisted almost entirely of mammals and one insect (Table 1). Eight pellets each contained one Long-haired Rat skull (one also contained cricket remains), one contained two Forrest's Mouse skulls and one contained two House Mouse skulls (scientific names in Table 1). A further 20 rat skulls, a planigale jaw and a dunnart skull were in the fragmented pellets; the latter two dasyurids were small species, one probably being the Long-tailed Planigale *Planigale ingrami*. Most of the 28 rats were adult (up to 280 g; Strahan 1995), but three were subadult, as was one Forrest's Mouse.

Given the likely persistence, in an arid climate, of pellets containing vertebrate remains, it is uncertain whether the deposit represented only the non-breeding diet of the owl (or pair of owls) in the preceding month(s), or had accumulated over a longer period. However, the pellets were moderately fresh and had not been attacked by tineid moth or dermestid beetle larvae, the adults of which are quick to find fur or feathers, particularly in warm conditions (ABR, pers. obs.).

The prey remains in the owl's pellets were virtually 100 per cent mammal, by number and biomass. This result contrasts with previous studies, most of which found various proportions of birds and insects as well as mammals in the Barking Owl's diet (Higgins 1999; Debus 2001). Those studies that found insects to be numerically dominant in the owl's breeding or non-breeding diet found that vertebrates still contributed almost 100 per cent of prey biomass (Debus 2001). However, comparisons may be biased by the relative persistence of pellets containing vertebrate remains versus wholly insects; the latter are likely to disintegrate quickly and be removed by ants (N. Schedvin, pers. comm.).

Some previous studies of the Barking Owl found that the introduced Rabbit *Oryctolagus cuniculus*, or native arboreal mammals, contribute a high proportion of prey numbers and biomass, but none has found a predominance of native terrestrial rodents. The sample from Cooper Creek, consisting almost entirely of native rodents, further illustrates the Barking Owl's wide dietary tolerance and

TABLE 1

Diet of a Barking Owl roosting on Yappi Waterhole, Cooper Creek, south-western Queensland, April 2001: minimum number of prey individuals in approximately 30 pellets, from skull and/or jaw count. *Introduced species. Mean prey weight and prey habit (T = terrestrial) from Strahan (1995).

Species	Weight (g)	Habit	n
Dasyurid marsupials:			
Dunnart <i>Sminthopsis</i> sp.	20	T	1
Planigale <i>Planigale</i> sp.	5	T	1
Rodents:			
Forrest's Mouse <i>Leggadina forresti</i>	20	T	2
*House Mouse <i>Mus domesticus</i>	17	T	2
Long-haired Rat <i>Rattus villosissimus</i>	134	T	28
Invertebrates:			
Cricket (Orthoptera: Gryllidae)	1		1
Total			35

supports the view that the owl is an opportunistic generalist. It also suggests that, like the Barn Owl *Tyto alba* and Grass Owl *T. capensis* (Debus *et al.* 1999; Higgins 1999), in the north-eastern arid zone the Barking Owl preys heavily on Long-haired Rats when the latter are abundant. (Note that, for Grass Owl, Higgins 1999 listed 'Long-tailed Rat' in error for Long-haired Rat.) The Barking Owl is the most diurnal of Australian owls and sometimes makes opportunistic kills in daylight, although like other *Ninox* most avian prey is probably taken at roost after dusk (e.g. Higgins 1999). Thus, the predominance of birds in the Barking Owl's diet in some areas might simply reflect the local relative abundance of prey classes.

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