

A Note on the Diet of the Barn Owl *Tyto alba* in the Kimberley District, Western Australia

On 3 April 1990 RWJ examined a cave at Tunnel Creek, Kimberley District, Western Australia (17°S, 125°E). This cave, in the limestone Napier Range, overlooks a narrow, vegetated alluvial flat beside a rocky stream. A single Barn Owl *Tyto alba* was disturbed from a roost on a ledge near the roof of the cave. Three pellets were collected from beneath the roost.

The three pellets were intact when collected but were subsequently crushed in transit. As a result there were no complete skulls therein. ABR counted and identified mammalian skull fragments from his reference collection of small mammal skulls from New South Wales and from the literature (Thomas 1888, Knox 1976, Watts & Aslin 1981, Strahan 1983).

Table 1 shows the results of analysis of the mammalian prey remains contained

Table 1

Prey animals in a sample of three Barn Owl pellets from Tunnel Creek, Kimberley District, Western Australia, April 1990 (number of individuals determined by skull count).

| <i>Species</i> | <i>No.</i> |
|---|------------|
| Rodentia | |
| Forrest's Mouse <i>Leggadina forresti</i> | 6 |
| Marsupialia | |
| Carpentarian Dunnart <i>Sminthopsis butleri</i> | 1 |
| Long-tailed Planigale <i>Planigale ingrami</i> | 1 |



Barn Owls *Tyto alba*

Plate 33

Painting: Steve Tredinnick

in the pellets: six rodents and two dasyurid marsupials. Studies in arid southern/central Australia (Morton et al. 1977, Morton & Martin 1979, Valente 1981) have shown that the Barn Owl is largely dependent on rodent species which undergo periodic irruptions, notably the Long-haired Rat *Rattus villosissimus* and the introduced House Mouse *Mus musculus*. In a study of Barn Owl diet in the arid tropical Tanami Desert, Northern Territory, Smith & Cole (1989) found that the Spinifex Hopping-mouse *Notomys alexis* was the dominant prey item. This too is a social animal which undergoes large fluctuations in numbers (Watts & Aslin 1981). Barn Owls breed in response to irruptions of the rodents, then disperse (with large losses from starvation) when the rodent populations decline (Blakers et al. 1984).

The Barn Owl is less frequently reported in northern Australia, and in the Kimberley it is thought to be mainly a dry-season visitor (Blakers et al. 1984). A possible reason for this is that northern small mammal populations do not undergo the periodic irruptions noted in southern and central Australian species. As a result, northern Barn Owl population density remains low.

Although both the Long-haired Rat and the House Mouse occur in the Kimberley, neither has been recorded as irrupting there (Strahan 1983). *Notomys* spp. do not occur in the Kimberley. Forrest's Mouse *Leggadina forresti* was prominent in our sample (Table 1), and was also found to be an important part of the diet of Barn Owls at Coober Pedy (Morton & Martin 1979), where this was inferred as evidence that *L. forresti* also forms plagues. However, this species of mouse has never been found in large concentrations (Watts & Aslin 1981) and it seems likely that it exists at low population densities, but may be relatively the most common small mammal available to Barn Owls when irruptive species are in low numbers.

The two species of dasyurid marsupial present in the sample were to be expected at this location (Strahan 1983). Their poor representation (one individual of each species) is in keeping with findings from elsewhere (e.g. Valente 1981) that rodents greatly outnumber dasyurids in Barn Owl diets.

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By R.W. JOHNSON¹ and A.B. ROSE²

¹Box 90, University of Queensland Gatton College, Lawes, Queensland 4343

²Associate, The Australian Museum (present address: 61 Boundary Street, Forster, N.S.W. 2428)

