

Prey Items of the Sooty Owl and the Barn Owl at Bega, New South Wales

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Since 1979 the New South Wales National Parks and Wildlife Service has been studying the effects of intensive logging on forest wildlife near Bega (36°41'S., 149°50'E.) on the far south coast of the State. During this study regurgitated pellets were collected from roosts of a Sooty Owl *Tyto tenebricosa* and of a Barn Owl *T. alba*. The prey items represented in these pellets were identified and counted and the results are presented here.

On 31 January 1980 a Barn Owl was flushed from a thicket of shrubs and vines in Coast Banksia *Banksia integrifolia* scrub on coastal sand dunes about 13 km east of Bega. Nearby are the estuary of the Bega River and areas of farmland and *Eucalyptus* forest. Beneath the roost were about 15 pellets. Heavy rain had fallen during the previous month and it was difficult to distinguish individual pellets.

On 11 July 1981 a Sooty Owl was flushed from a low tree with dense foliage at the edge of a strip of low Lillypilly *Acmena smithii* rainforest in a gully in the south-eastern corner of Murrah State Forest, about 23 km north of the Barn Owl site. On the ridges surrounding the rainforest was Woollybutt *Eucalyptus longifolia* — Yellow Stringybark *E. muelleriana* forest that had been intensively logged ten years before. Beneath the roost were four distinct pellets plus material from about six others.

Results and Discussion

The prey items identified from these two pellet collections are shown in Table 1. The pellets consisted entirely of mammalian hair and bones except for some beetle remains in the Barn Owl pellets. The number and identity of mammalian prey items were determined from cranial

material for all species except the Common Ringtail Possum. The pellets containing remains of this species lacked cranial material and identification was made through comparisons of forelimb bones and examination of hair samples (Brunner and Coman 1974).

TABLE 1

Prey items of the Sooty Owl and the Barn Owl at Bega, N.S.W.

| Prey species | Minimum number in | |
|---|------------------------------|-----------------------------|
| | c.10 Sooty Owl pellets | c.15 Barn Owl pellets |
| Marsupialia: Petauridae | | |
| <i>Petaurus breviceps</i> (Sugar Glider) | 3 | |
| <i>Pseudocheirus peregrinus</i> (Common Ringtail Possum) | 2a + 1j | |
| Marsupialia: Dasyuridae | | |
| <i>Antechinus stuartii</i> (Brown Antechinus) | 1 | 1 |
| <i>A. swainsonii</i> (Dusky Antechinus) | 1 | 1 |
| <i>Sminthopsis leucopus</i> (White-footed Dunnart) | 1 | 2 |
| Rodentia: Muridae | | |
| <i>Mus musculus</i> (House Mouse — introduced) | | 28 |
| <i>Rattus fuscipes</i> (Bush Rat) | 1j | 1a + 2j |
| <i>R. lutreolus</i> (Swamp Rat) | | 1a + 1j |
| Insecta: Coleoptera | | |
| Beetle species | | occasional |

a — adult, j — juvenile

The mammalian prey items of the Barn Owl were 90 percent rodents and ten percent marsupials and were all ground-dwelling species. In contrast, the Sooty Owl prey items were 90 percent marsupials and ten percent rodents and the most frequent species, the Sugar Glider and the Common Ringtail Possum, were arboreal. There was also a difference in prey size. The adult Common Ringtail Possums taken by the Sooty Owl may have weighed as much as one kilogram, while all the Barn Owl prey items would have weighed less than 200 g and the most frequent species, the House Mouse, less than 25 g (Hyett and Shaw 1980).

Other studies have reported similar results. Analyses of Barn Owl pellets from various Australian localities have all found that at least 68 percent of the vertebrate prey items were ground-dwelling rodents. The principal prey in most localities was the House Mouse (Lea and Gray 1935; Fleay 1968; Eckert 1971; Morton 1975; Morton *et al.* 1977; Morton and Martin 1979; Valente 1981). There are few dietary records for the Sooty Owl but, like this study, they indicate that arboreal mammals are taken more frequently than ground-dwelling ones and that the Sugar Glider and the Common Ringtail Possum are the principal prey (Howe 1935; Fleay 1968; Hyem 1979; Schodde and Mason 1980).

The differences in the prey of the Sooty Owl and the Barn Owl are consistent with the differences in size and habitat between the two species. Sooty Owls weigh 500-1 000 g and are birds of dense *Eucalyptus* forest and rainforest; Barn Owls are lighter (227-475 g) and are birds of open habitats that tend to avoid forested areas (Schodde and Mason 1980).

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