Mass of Wild Birds of the Order Caprimulgiformes

A. BARCLAY ROSE

Measurements and mass of road-killed Tawny Frogmouths *Podargus strigoides*, White-throated Nightjar *Caprimulgus mystacalis* and Owlet-nightjar *Aegotheles cristatus* are tabulated. Road-killed Tawny Frogmouths have been collected in every month of the year.

The specimens listed in Table 1 are all from the Sydney Region of New South Wales, ranging from Gosford in the north to Otford Gap, Royal National Park in the south, and Galston to the west, unless otherwise indicated. Fat mass was not taken until I read "Variations in the Mass of Captive Tawny Frogmouths" (McCulloch 1975), but was recorded as 'fat', 'moderate fat' or 'very fat'. 'Fat' I regard as being a normal amount for a healthy bird, 'moderate fat' as being above normal in excess of 30 grams of easily removable fat and 'very fat' as having more than 40 grams of fat. A 'very fat' bird has fat not only around the abdomen and in the abdominal cavity, but also around the base of the neck and shoulder, and a layer on parts of the skin, particularly under the powder-down patch, which is well developed on each side of the rump.

Thirty-five Tawny Frogmouths have been handled since 9 September 1966. Data from seven specimens have been omitted, as their condition was too bad to give reliable data. Gut contents were taken, as maggots leave the gizzard lining with its contents intact. Another two omitted had been sick and were later picked up dead, so their mass was disregarded. These are being examined for pesticide residue. Dieldrin and small amounts of other pesticides have been found in Tawny Frogmouths (David Mowbray pers. comm.). Data from five juveniles have also been omitted as they are not relevant. The remainder are adult or fully grown first-year birds.

Differences between males and females were analysed by t-tests and showed, in general, that males and females did not differ in mass or body measurements, and no correlation could be found between mass and body length. In other words, the heaviest birds were not necessarily the biggest birds in length. However, the wide variation in fat may be responsible for this.

The following general conclusions were drawn: birds with the most fat were only found in February-April and June, while birds with no fat were found July-January.

This agrees with the obvious fact that more food is available to Tawny Frogmouths in autumn and summer than in the colder winter months. Although food is plentiful in spring and early summer, this is their breeding season, which would not encourage build-up of fat.

Empty gizzards were found only in winter, and full gizzards most often in autumn. The contents of the gizzards (Rose 1973) were insects mainly of the following orders: Orthoptera, Blattodea, Mantodea, Phasmatodea, Dermaptera, Coleoptera, Lepidoptera, Hymenoptera. The next most favoured foods were spiders, millipedes and centipedes, then only the occasional mouse, frog, earthworm, snail and slug.

From personal observations it is possible that Orthoptera are fattening food and these are important food items, particularly in autumn. In winter their food would be in short supply, so birds would be able to utilise the fat to help them survive through the winter. Australian winters are not so severe (except possibly in arid regions, Mt Kosciusko and Tasmania) where the absolute lack of food and extremes of low temperatures might necessitate hibernation.

TABLE 1

Measurements of wild birds of the order Caprimulgiformes

Sex		Mass (g)	Fat	Date Found	Length (mm)	Wingspan (mm)	Wing (mm)	Tail (mm)	Gizzard content %
TAWNY FROGMOUTH									
♂	(b)	680	very	3.3.74	523	922	294	236	50
♂	(a)	567	very (44 g)	30.3.75	478	876	271	212	100
♂		530	very	1.6.72	440	831	268	201	100
♂		475	very (40 g)	11.4.71	509	975	297	222	100
♂		454	fat	27.2.68	465	—	—	—	100
♂		450	moderate	24.2.75	487	945	280	219	100
♂		448	none	10.11.70	456	930	282	214	25
♂	(c)	405	fat	31.8.74	439	915	280	193	100
♂		369	fat	16.4.70	468	880	288	224	25
♂		352	fat	24.8.73	494	980	302	230	25
♂		340	none	24.7.68	460	—	—	—	0
♂		330	fat	5.8.73	497	944	278	218	10
♀	(a)	460	very (44 g)	30.3.75	422	847	252	183	100
♀		459	very	25.4.67	490	—	—	—	100
♀	(a)	448	moderate (25 g)	7.4.75	477	877	262	202	100
♀		414	very (45 g)	3.74	467	878	274	207	100
♀		411	fat	20.3.70	475	875	268	219	50
♀		389	moderate	25.3.70	434	859	255	204	100
♀		362	none	6.1.75	472	887	267	210	100
♀		326	fat	10.10.70	460	895	277	220	100
♀		290	none	18.9.72	435	895	270	213	10
OWLET-NIGHTJAR									
♂		51	fat	20.12.69	210	400	130	101	100
♀		52	moderate	9.6.72	227	393	131	120	100
♀		39	fat	9.9.73	220	480	132	118	10
J		25	none	20.11.67	125	—	—	—	10
WHITE-THROATED NIGHTJAR									
?	(c)	200	*	25.2.73	355	729	256	169	100
♀		155	fat	13.1.73	363	750	253	163	100

(a) Macksville to Dorrigo, N.S.W.
(b) Kosciusko National Park, N.S.W.
(c) Gloucester, N.S.W.

FAT Fat = normal, healthy
Moderate = 30 g (+)
Very = 40 g (+)

♂ male
♀ female
J juvenile

* eaten out by maggots

Fat build up was not as great as that found in hibernating mammals and showed variation between individuals to some extent. Kookaburras, too, are capable of building up fat, 87 grams of fat being removed from a 440 gram male in May; its internal organs were buried in fat.

Road-killed fauna can be a source of valuable data, especially common species, as the numbers killed are usually sufficient for worthwhile analysis.

Acknowledgements

I wish to thank Dr L. McKenzie for carrying out the t-tests; Mr H. J. de S. Disney, Mrs E. M. McCulloch, Mr A. J. Leishman and Mr M. D. Murray for their comments and assistance with the manuscript. Also my thanks to the National Parks and Wildlife Service rangers and others who brought in dead fauna.

References

Gould, J. (1865), Handbook to the Birds of Australia, Vol. 1.

McCulloch, E. M. (1975), 'Variations in the Mass of Captive Tawny Frogmouths', *Aust. Bird Bander* 13: 9-11.

Rose, A. B. (1973), 'Food of some Australian Birds', *Emu* 73: 177-183.

A. Barclay Rose,
24 Fisher Avenue,
Wahroonga, N.S.W.