

Food of the Whistling Kite at Armidale, N.S.W.

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The food of the Whistling Kite *Haliastur sphenurus* is known in general terms, but no quantitative data have been published. Data incidental to a study of the Little Eagle *Hieraeetus morphnoides* (Debus in press) were gathered in the spring 1980 nesting season at Armidale, N.S.W. (30°30'S., 151°40'E.). The study area has been described by Genelly (1978). Rainfall during 1980 was low with only 60% of the normal mean annual rainfall having been recorded.

Methods

Food remains and pellets were collected from below two active Whistling Kite nests and nearby feeding perches. The nests were not climbed for inspection. The minimum number of individuals in remains was determined according to Leopold and Wolfe (1970). No attempt was made to separate "old" and "fresh" remains since most appeared to date from the 1980 nesting season. The young fledged some time during the collection period (September 1980 to January 1981).

Items were identified from reference material in the Department of Zoology and the Department of Prehistory and Archaeology, University of New England and from contemporaneously collected roadkills. Mammal hair was identified macroscopically, having first microscopically analysed 145 Little Eagle pellets. A sample (c.5) of the Whistling Kite pellets was also analysed using the fibre cross sectioning technique of Brunner and Coman (1974), and these results were consistent with macroscopic identifications.

Results

Results from both pairs of kites have been combined since the number of pellets and remains from each is about equal. A minimum of 70 individual food items consisted of the following: mammals 45 (64%), birds 20 (29%), reptiles four (6%), crustaceans one (1%). These results are detailed more fully in Table 1.

The number of pellets (total 55) containing each food type was as follows: lagomorph 45 (82%), sheep 24 (44%), cattle one (2%), bird 20 (36%), reptile four (7%), insect (mostly Coleoptera) 11 (20%). The proportions of each

type were similar for both pairs. Virtually all pellets contained lagomorph or sheep.

This species is a well known scavenger and most items were probably roadkills or other carrion. Many of the food types were frequent road casualties at this time of year, e.g., lagomorphs and young rosellas; dead lambs were also common. Fresh blood on still-ensheathed flight feathers suggested that a moulting Grey Teal*, and fledgling Dollarbird and Australian Magpie-lark were killed by the kites. It is likely that the kites also killed the rats, grebe, coot and small tortoises.

Lagomorphs and lambs together constituted 50% of items by number, and would have contributed much more in biomass because they were the largest items. Based on a scaled waste factor according to size of item (e.g. over 50% of a lamb wasted but little of a small bird wasted), and a crude estimate of weights of items, mammals contributed over 80% of food biomass. Size of lagomorphs ranged from small rabbit kittens to adult hares; only the former are likely to have been killed by the kites.

Discussion

The difference in diet between the two pairs is explained by habitat differences. Pair 1 nested in pastoral land away from water bodies except for small scattered stock dams. Pair 2 nested in pastoral land adjacent to the Armidale sewage treatment works, which supported a large waterfowl population. The Whistling Kite may be a more capable bird predator than is suggested by the literature.

The limitations of a study involving only two pairs in one nesting season are obvious. The results may not be representative of the district as a whole or of normal seasons, and they only reveal food items actually brought to nests. Bias was probably also introduced because of differing decay rates of remains. Some, notably mammal bones, would have outlasted less resistant remains such as bird feathers and bones. A few

* Scientific names of species referred to in text are given in Table 1.

TABLE 1

Food items of Whistling Kite pairs at Armidale, September 1980 to January 1981.

Prey Species	Pair No		Total	%
	1	2		
Brush-tailed Possum <i>Trichosurus vulpecula</i>	1	7	8	
<i>Rattus</i> sp.		2	2	
European Rabbit <i>Oryctolagus cuniculus</i>	9	4	13	
Brown Hare <i>Lepus capensis</i>	7		7	
Lagomorph	4	1	5	
Lamb <i>Ovis aries</i>	6	4	10	
			45	64
Rufous Night Heron <i>Nycticorax caledonicus</i>		1	1	
Grey Teal <i>Anas gibberifrons</i>		1	1	
Domestic Turkey <i>Meleagris gallopavo</i>	1		1	
Eurasian Coot <i>Fulica atra</i>		1	1	
Galah <i>Cacatua roseicapilla</i>		1	1	
Eastern Rosella <i>Platycercus eximius</i>	4	1	5	
Dollarbird <i>Eurystomus orientalis</i> (fledgling)		1	1	
Black-faced Cuckoo-shrike <i>Coracina novaehollandiae</i>	1		1	
Noisy Miner <i>Manorina melanocephala</i>	2		2	
Australian Magpie-lark <i>Grallina cyanoleuca</i> (fledgling)		1	1	
Australian Magpie <i>Gymnorhina tibicen</i>	2	1	3	
Grebe sp.		1	1	
Bird sp.		1	1	
			20	29
Long-necked Tortoise <i>Chelodina longicollis</i>		2	2	
Common Bluetongue <i>Tiliqua scincoides</i>		1	1	
Snake sp.		1	1	
			4	6
Crayfish <i>Cherax</i> sp.	1		1	1
Total	38	32	70	100

lagomorphs and possums at Nest 2 were probably older than the other remains. However the results indicate the relative importance of each food type in the kites' diet, and show the importance of carrion (especially large mammals which could not have been killed by the kites). The Whistling Kite deserves a more detailed investigation than this short study was able to achieve.

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