Non-breeding Diet of the Letter-winged Kite in north-eastern South Australia

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Letter-winged Kites *Elanus scriptus* were found to be feeding predominantly on House Mice *Mus musculus* in north-eastern South Australia. In its normal central Australian range, the Letter-winged Kite's diet has previously been recorded as consisting of native mammals, particularly the Long-haired Rat *Rattus villosissimus*. Potential ramifications of a major shift in dietary emphasis are discussed.

In a remarkable study Jackson (1919) recorded most of what we know today about the Letter-winged Kite's biology. He recorded the kite's habit of hunting at night and its close feeding and breeding association with plagues of the Long-haired Rat. He also discovered that the kites bred continuously in colonies while the Long-haired Rats remained in plague numbers, and established by field observations and dissection of birds in immature plumage, that they were capable of breeding when less than one year old.

Following more recent Long-haired Rat plagues there have been three documented irruptions of the Letter-winged Kite. These occurred in 1951-53, 1966-69 and 1976-77 (Hall 1969, Rabig 1970, Parker 1971, Hollands 1979, Klapste 1979). About 100 kites were located at Werribee in south-eastern Victoria after the latest of these irruptions. Meredith (1977) examined 89 pellets collected from under the communal roosts of these kites and found them all to contain House Mice. Hollands (1979) also recorded House Mice in the diet of the kites at Werribee.

The only study of the diet of non-breeding kites in their usual central Australian range found them to be feeding mainly on Stripe-faced Dunnarts *Sminthopsis froggati* and Forrest's Mouse *Leggadina forresti*, once Long-haired Rat numbers had declined sharply (Parker 1971).

Data Collection

On 24 October, 1980 we collected 22 pellets from under a Coolibah *Eucalyptus microtheca* near Montecollina bore on the Strzelecki Track in north-eastern South Australia (29°20'S., 140°E.). Twelve Letter-winged Kites were roosting communally in the tree. The kites sallied forth from this tree at dusk to hunt and returned to it the following morning shortly after daybreak.

The pellets collected closely resembled those of the Black-shouldered Kite *Elanus notatus*, having a thin shiny mucous coat over compacted balls of hair and bones. The pellets were analysed using the microscopic techniques of Brunner and Coman (1974). Of the 26 prey items in the pellets, 23 (88%) were House Mice, two (8%) were Fat-tailed Dunnarts *Sminthopsis crassicaudata* and one (4%) was a Rabbit *Oryctolagus cuniculus*.

Discussion

Small rodents predominate in the diet of elanid kites throughout their extensive range (Siegfried 1965, Brown & Amadon 1968, Stendell & Myers 1973, Pedler 1976, Meserve 1977). The results of this study proved to be no exception.

The Rabbit in the Letter-winged Kite's diet was probably a juvenile. A Black-shouldered Kite has also been observed to capture an immature Rabbit (Cupper 1976).

It has been suggested that the Letter-winged Kite, a nocturnal hunter, is the more ancestral of the two members of the genus *Elanus* in Australia (Parkes 1958). As such it exhibits a higher degree of hunting specialisation with respect to Australia's small native mammals which are nearly all nocturnal (Ride (1970). The Black-shouldered Kite, on the other hand, is both diurnal and crepuscular in its hunting

habits (Pedler 1976, *pers. obs.*) and thus seems more suited to hunting introduced rodents such as House Mice which are active both at night and during the day. House Mice predominate in the diet of the Black-shouldered Kite (Meredith 1977, Baker-Gabb unpublished data).

Localised plagues of House Mice in the Strzelecki Track region have been a major factor in the recent breeding successes in colonies of Letter-winged Kites (J. & L. Cupper *pers. comm*). If House Mice are becoming predominant in the annual diet of the Letter-winged Kite in many inland regions it will be interesting to see what influence this has on phenomena such as its frequency of breeding success, its nocturnal hunting behaviour and its potential for increased competition with the Black-shouldered Kite.

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«RECOVERY ROUND-UP»

This section is prepared with the co-operation of the Secretary, Australian Bird-banding Scheme, CSIRO Division of Wildlife Research. The recoveries are only a selection of the thousands received each year; they are not a complete list and should not be analysed in full or in part without the prior consent of the banders concerned. Longevity and distance records refer to the ABBS unless otherwise stated. The distance is the shortest distance in kilometres along the direct line joining the place of banding and recovery; the compass direction refers to the same direct line. (There is no implication regarding the distance flown or the route followed by the bird).

Recovery or longevity items may be submitted directly to me where-upon their merits for inclusion will be considered.

— Hon. Editor.

The following abbreviations appear in this issue:
PSG — Penguin Study Group
VWSG — Victorian Wader Study Group
NPWS — National Parks and Wildlife Service

Little Penguin *Eudyptula minor*

(a) 190-04336. Nestling banded by PSG on Gabo Island, Vic. on 25 Jan. 81. Recovered near Fairhaven Beach, Vic. on 28 May 81. 580 km W.

(b) 190-09822. Nestling banded by PSG on Gabo Island, Vic. on 19 Jan. 79. Recaptured ("covered in oil later released") at Towradgi Beach, NSW on 23 June 81. 380 km NNE.

(c) 190-11155. Nestling banded by S. G. Lane on Big Island, Five Islands, NSW on 17 Nov. 79. Recovered ("dead in fishing net") at Great Oyster Bay, Tas. on 1 July 81. 910 km SSW.

(d) 190-13595. Nestling banded by N. P. Brothers on Albatross Island, Tas. on 11 Jan. 81. Found dead at South Beach, Port Fairy, Vic. on 16 June 81. 300 km NW.

Shy Albatross *Diomedea cauta*

(a) 131-46267. Nestling banded by N. P. Brothers on Albatross Island, Tas. on 30 Dec. 80. Found dead near Eucla, WA in late July, 81. 1 730 km WNW.