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BIRDS KILLED ON A PRIMARY ROAD IN SOUTHERN NEW SOUTH WALES

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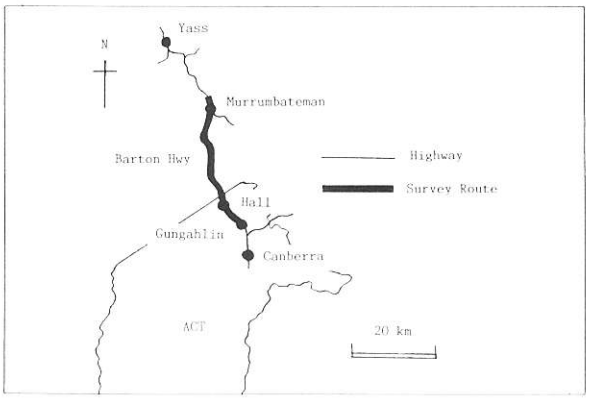
INTRODUCTION

Surprisingly little has been recorded on avian road casualties in Australia; Brown, Brown and Pesotto (1986) and Vestjens (1973) are the only major studies, with smaller contributions provided by Disney and Fullagar (1978) and Thomas (1988). While travelling between Canberra and Murrumbateman on the New South Wales southern tablelands during 1988–1990, I attempted to count the casualties encountered.

METHODS

Between 2 November 1988 and 29 October 1990, I travelled a portion of the Barton Highway between Gungahlin (on the northern outskirts of Canberra, ACT (35°17′S, 149°13′E) and a point 5 km north of Murrumbateman, New South Wales (35°58′S, 149°02′E) (a distance of 35 km; see Fig. 1), in both directions once weekly (on the same day). During the second week of February and the first and fourth weeks of May 1990, I travelled the route (in both directions) twice daily for a period of seven days. The route was not travelled on the following occasions: second week of April 1989, second week of May 1989, fourth week of December 1989, second week of April 1990, first and second weeks of August 1990 and the second week of September 1990.

The road is bitumen and runs through open grazing land (originally supporting an open woodland of *Eucalyptus blakelyi* and *E. melliodora*) for its entire length, (small remnants of *E. macrorhyncha*/*E. rossii* open forest exist between Gungahlin and the ACT/NSW border). Trees in the Murrumbateman area are severely affected by dieback.



All avian roadkills were recorded. Most could be identified from a moving vehicle; small or damaged specimens were collected for later examination. No attempt was made to record the age and sex of the individual roadkills, nor to record their location on the route, except for unusual records. My route corresponded with the southern part of the route travelled by Vestjens (1973).

RESULTS AND DISCUSSION

I found a total of 265 birds of 36 species along the survey route (Table 1). The Australian Magpie *Gymnorhina tibicen* and the Galah *Cacatua roseicapilla* were the most frequent casualties (40% and 11% of the total casualties for 1988–1990 respectively).

The largest number of roadkills was between September and November (Fig. 2), with another smaller peak during February to April. The number of roadkills was lowest between May and August.

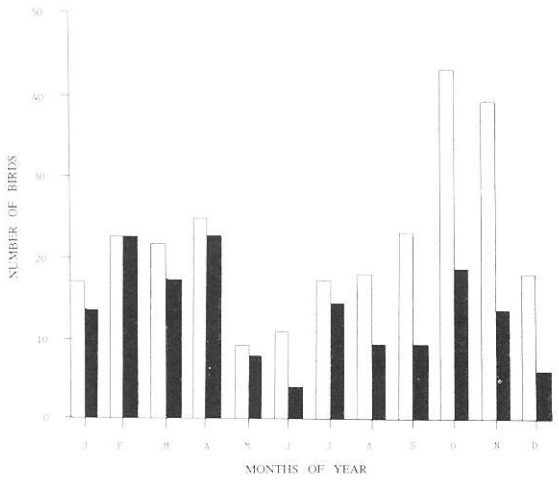
TABLE 1

Numbers and species of birds killed each month of the year. Data from period 2 November 1988 to 29 October 1990.

Species	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Australian Magpie *Gymnorhina tibicen*	4	0	5	2	1	7	3	9	14	24	26	12	107
Galah *Cacatua roseicapilla*	4	3	5	4	1	1	0	1	3	1	5	1	29
Magpie Lark *Grallina cyanoleuca*	2	4	3	1	1	0	1	0	1	2	1	2	18
Noisy Friarbird *Philemon corniculatus*	1	2	3	9	0	0	0	0	0	0	0	0	15
Eastern Rosella *Platycercus eximius*	1	1	2	0	0	1	3	0	1	2	1	0	12
House Sparrow *Passer domesticus*	0	3	0	1	2	1	0	0	1	0	1	0	9
Red-rumped Parrot *Psephotus haematonotus*	2	4	0	1	0	0	1	0	0	0	0	0	8
Laughing Kookaburra *Dalceo novaeguinae*	0	0	0	0	2	0	2	0	0	3	1	0	8
Welcome Swallow *Hirundo neoxena*	1	0	1	4	1	0	1	0	0	0	0	0	8
Crimson Rosella *Platycercus elegans*	0	0	0	0	0	0	1	1	2	2	0	1	7
White-winged Chough *Crocorax melanoramphos*	0	0	0	1	0	0	0	2	0	3	0	0	6
European Goldfinch *Cardeulis cardeulis*	0	1	0	0	0	0	0	1	0	1	1	1	5
Noisy Miner *Manorina melanocephala*	0	0	0	0	1	1	0	0	0	2	0	0	4
Willie Wagtail *Rhipidura leucophrys*	0	1	0	0	0	0	0	2	0	0	0	0	3
Dusky Woodswallow *Artamus cyanopterus*	0	2	0	0	0	0	0	0	0	0	0	1	3
Brown Goshawk *Accipiter fasciatus*	0	0	0	2	0	0	0	0	0	0	0	0	2
Golden-headed Cisticola *Cisticola exilis*	0	0	1	0	0	0	1	0	0	0	0	0	2
Total*	17	23	22	25	9	11	17	18	23	43	39	18	265

*The following species were recorded only once during the study in the month indicated and have been included in the totals. January: Blackbird *Turdus merula*, Common Starling *Sturnus vulgaris*; February: Grey Fantail *Rhipidura fuliginosa*, Rufous Songlark *Cincloramphus mathewsi*; March: White-faced Heron *Ardea novaehollandiae*, Southern Boobook *Ninox novaeseelandiae;* July: Australian Kestrel *Falco cenchroides*, Barn Owl *Tyto alba*, Tawny Frogmouth *Podargus strigoides*, Superb Fairy Wren *Malurus cyaneus*; August: Yellow-rumped Thornbill *Acanthiza chrysorrhoa*, Silvereye *Zosterops lateralis;* September: Brown Falcon *Falco berigora;* October: Feral Pigeon *Columba livia*, Flame Robin *Petroica phonecia*, Buff-rumped Thornbill *Acanthiza reguloides;* November: Sacred Ibis *Threskiornis molucca*, Maned Duck *Chenonetta jubata*, Crested Pigeon *Ocyphaps lophotes*.

The high numbers of Australian Magpies were killed during September–November (Table 1) and were responsible for the peak during this period (Fig. 2). Most of the magpies were juveniles (although individual carcasses were not examined, juvenile Australian Magpies were readily recognizable by their dull mottled-grey plumage) that were killed presumably while accompanying adults foraging on the road verge. Australian Magpies, particularly juveniles, constituted a large proportion of the casualties in other comparable studies: Brown *et al.* (1986), Disney and Fullagar (1978), Thomas (1988), Vestjens (1973).



The slightly higher number of casualties during February to April (at least during April), was partly due to the comparatively large numbers of Noisy Friarbirds *Philemon corniculatus* killed (36% of the total roadkills for April). All but one were found along approximately one kilometre of road on the southern outskirts of Murrumbateman, an area with a number of small vineyards. It is possible that the birds had become intoxicated through feeding on the over-ripe fruit and were therefore less able to avoid oncoming vehicles, or perhaps they were hit while flying low over the road to approach the vines, which are about 1.5 m high.

Little grain is grown in the study area, and consequently there were no spillages to attract large numbers of granivores (Brown *et al.* 1986); granivorous species (e.g. pigeons and parrots) killed along the study route were presumably searching for grit along the road edge or perhaps feeding on weeds and grasses on the road verge.

Carrion was fairly plentiful along the study route, mainly in the form of rabbits *Oryctolagus cuniculus*. Australian Ravens *Corvus coronoides* were often seen feeding on carrion, but none were ever recorded as caualties. Ravens appeared able to judge the speed of approaching vehicles and flew or walked away in good time. The few raptors recorded were probably killed while foraging for insects struck by traffic on the road surface, as none can be regarded a major carrion feeder.

Magpie Larks *Grallina cyanoleuca* and Laughing Kookaburras *Dalceo novaeguinae* were often seen foraging along the road. The former forages directly on the road verge, the latter scans the road from adjacent fences or powerlines.

All Welcome Swallow *Hirundo neoxena* casualties were found where the road bridged creeks where the birds hawked for insects and occasionally landed on the road surface to warm themselves as has been reported by McCulloch (1971).

Examination of the species list reveals that most (72% of species and 86% of the total number of roadkills) are birds characteristic of open woodland and cleared farmland, such as that found along the route. The few species which preferred better forested habitat were all found where remnants of more-or-less uncleared woodland and forest abutted the road. Vestjens (1973) list is also dominated by species of open habitats (81% of species and 93% of the total number of roadkills), most of his route running through similar country to that in this study. Brown *et al.* (1986) dealing with secondary roads in well-vegetated country in Western Australia, recorded a higher proportion (56% of species and 58% of the total number of roadkills) preferring forested habitats.

In conclusion, the most vulnerable species were the Australian Magpie and the Galah. Both species use the road verge as a foraging site. Neither of these species, nor the other 34 recorded, are regarded as rare or threatened and as has been found in other Australian studies (see above), no species appears to be seriously endangered by traffic.

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