

NOTES ON AVIAN PREDATION ON YOUNG RABBITS,
ORYCTOLAGUS CUNICULUS (L.)*

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Census work on European rabbits, *Oryctolagus cuniculus* (L.), was carried out at Gungaderra near Canberra from September 1953 to mid February 1954. Whilst this work was in progress many signs of the activity of avian predators were observed. Wedge-tailed eagles, *Aquila audax* (Latham), little eagles, *Hieraetus morphnoides* (Gould), and Australian goshawks, *Accipiter fasciatus* (Vigors and Horsfield), were frequently seen in and over the study area, and the last two species were seen with rabbit carcasses on several occasions. The remains of rabbit kittens which had been caught by birds were found scattered over the warren and on two uprooted tree stumps which were regularly used as "plucking places". These

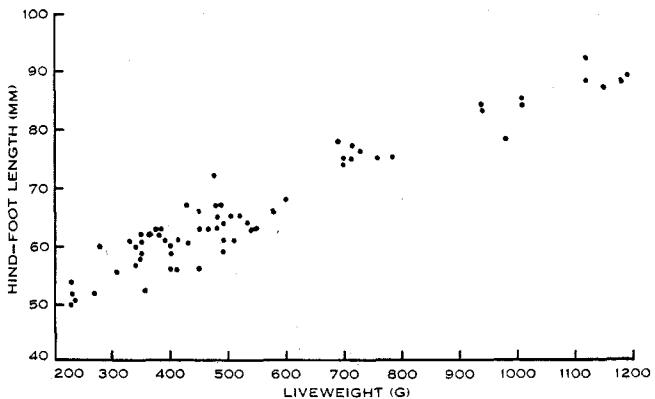


Fig. 1.—Relation between hind-foot length and liveweight of 62 rabbit kittens at Gungaderra.

remains usually consisted of the hind feet and a portion of the skin off the back. Occasionally the fore feet and the head were present, and sometimes the hind feet were missing. All carcasses had been plucked to varying degrees, and usually the gut was lying nearby. Although most of the carcasses were found scattered on the ground on or near the warrens, several were obtained at the plucking places, and a few were lying beneath a nearby group of trees (*Eucalyptus melliodora* A. Cunn. and *E. blakelyi* Maiden). No identification of the predatory bird species could be made from an examination of the prey, but it is probable that the plucking places were used by the goshawks (Calaby, personal communication). On one occasion one of this species was seen to take a small kitten on a warren and then fly to a

* Manuscript received February 22, 1957.

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nearby tree to eat it. Although foxes visited the study area, and cats were seen on a few occasions, none of the prey collected gave any indication of either fox or cat predation (see Calaby 1951).

TABLE 1
HIND-FOOT LENGTHS OF RABBIT KITTENS KILLED BY AVIAN PREDATORS AT GUNGADERRA

Period	No. of Carcasses Found	No. of Carcasses Measured	Hind-foot Lengths (mm)	
			Mean	Range
1953				
Sept. 7-13	3	—	—	—
14-20	12	3	56·7	52-65
21-27	20	20	58·0	45-68
28- 4 Oct.	9	7	54·4	50-59
Oct. 5-11	13	11	53·0	47-64
12-18	10	8	54·6	47-64
19-25	5	4	54·0	51-58
26- 1 Nov.	15	7	55·3	41-64
Nov. 2- 8	9	9	53·2	43-80
9-15	5	4	49·5	43-56
16-22	—	—	—	—
23-29	5	4	51·8	43-61
30- 6 Dec.	5	4	60·3	48-77
Dec. 7-13	17	12	54·5	49-60
14-20	3	3	56·3	48-61
21-27	7	5	57·8	44-65
1954 28- 3 Jan.	8	3	57·3	50-71
Jan. 4-10	5	5	62·2	50-70
11-17	7	7	54·0	42-61
18-24	5	5	59·6	50-74
25-31	1	1	63·0	—
Feb. 1- 7	3	3	64·3	55-70
8-14	4	4	73·5	59-87
Total	171	129	56·5	41-87

Rabbit remains were collected daily or as nearly so as possible. After examination all were removed from the area. The only significant measurement which could be obtained from most of them was the hind-foot length, and the data for these are given in Table 1.

From early September to mid February the mean hind-foot length of weekly samples is relatively constant, and the overall mean length is 56·5 mm with a standard deviation of 8·2 mm. Figure 1 shows the relation between the hind-foot lengths and the weights of 62 rabbit kittens caught alive in the same area and over the same period. A comparison of the data of Table 1 with those of Figure 1 shows

that the mean weight of rabbits taken by birds is around 350 to 450 g. The upper limit (length of hind foot 87 mm) corresponds to about 1100 g in weight, and the lower limit (41 mm) to well under 200 g. It is not possible to be more precise in view of the paucity of data on the relation between hind-foot length and weight, and in view of the spread in this relationship.

The relation between weight and age of rabbit kittens in the same area, and over the same period, has been obtained (Dunnet 1956), and it can be estimated that the age corresponding to the mean hind-foot length of the prey examined is about 30–40 days. The age of the largest prey recorded would probably be just over 100 days, and that of the smallest less than 3 weeks.

The rabbit breeding season at Gungaderra extended from June 1953 until at least January 1954. It is apparent then that the predators were consistently taking a particular and rather limited age-group of the population. It appears, too, that once the kittens reach an age of 3 months or so, they are no longer vulnerable to the three species of predators discussed. No reliable evidence is available about the proportion of vulnerable rabbits which was caught by the predators.

These observations agree with those of Calaby (1951) who studied the effect of little eagles preying on rabbits near Gunbower in northern Victoria.

References

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