FOODS OF HARRIERS IN A HIGH COUNTRY HABITAT

By M. J. W. DOUGLAS
Forest Research Institute, Rangiora

SUMMARY

Harrier pellet castings and prey remains were collected over an 18-month period from a regularly used preening site adjacent to a nest. Other prey remains were gathered from that nest and two others. It was concluded that a large part of the food eaten consisted of carrion.

INTRODUCTION

The location of a nest of a pair of Harriers *Circus approximans* within the Harper-Avoca catchment of North Canterbury, afforded an opportunity to obtain information on the feeding habits of these birds. This paper reports on the foods identified in pellet castings and prey remains collected during the period January 1965 to June 1966.

The nest was sited in a red tussock *(Chionochloa rubra)* marsh area at the confluence of the Harper and Avoca rivers, altitude 2,200 ft. The vegetation in the surrounding area is predominantly hard tussock *(Festuso novae-zelandiae)* and introduced grasses, with patches of matagouri *(Discaria toumatou)*, sweet briar *(Rosa rubiginosa)* and *Dracophyllum* scrub, and remnant pockets of mountain beech *(Nothofagus solandri* var. *cliffortioides)*.

A terrace, 300 yards long, running due north-south, lies on the eastern edge of the marsh. This was regularly used as a feeding, preening and resting site and was presumed to be used only by the pair of Harriers using the nest under regular observation. One of these birds, taken to be the male and easily recognisable by its light coloured plumage, was the most frequent occupant of the terrace. Its mate, a darker bird, was observed on several occasions to fly between the nest and the terrace. Their offspring of the year frequently used the terrace following initial flight during the months of February and March of both seasons.

Castings were collected from the terrace each month, except August when the site was not inspected. The nest, and two other occupied nests, were each visited twice, when the food remains were gathered. All three nests were situated within an approximate two miles radius.

RESULTS AND DISCUSSION

A list of food items, identified from the 99 castings obtained, is presented in Table 1. The relative frequency of occurrence of food items determined from monthly inspection of castings is shown in Table 1.

Table 1 shows that mammalian material was found more commonly than any other food. Similarly, food remains collected at the nests and from the terrace were predominantly of mammalian origin. Most of the adult hare material in the castings was probably scavenged by the Harriers from carcases killed during a study on these animals that was being conducted in the same general locality.

The extent of predation on adult hares is not well documented: the author and a companion observed only one (unsuccessful) attack during the present study. It was not possible to determine whether

TABLE 1 — Per cent occurrences of food items in castings collected per month.

Months	J	F	M	A	M	J	J	A	S	O	N	D	All months
Castings collected	19	10	9	25	6	1	3	0	11	6	3	6	99
Food items present (%)													
Hare (1)	63	90	67	88	83	100	33		91	100	100	33	78
Hare (2)	10		33						9			50	9
Hedgehog	32	10	22	12	17				9			17	15
Rabbit							33						1
Deer	5												1
Chamois			11						18				3
Sheep					17		33						2
Small birds	21		11	4					9				7
Duck				4									1
Gosling											33		1
Young magpie													1
Carabid beetle	5	40	11	4									7
Weta	5												1
Cicada			11										1
Grasshopper					17								1
Dragonfly	5												1
Caterpillar	5												1
Other insect			11										1

Hare (1) - adult; (2) - leveret.

the hare was defending itself or nestling leverets. Fleming (1941) has also reported an unsuccessful attack on a full-grown running hare.

There is no doubt that Harriers prey on leverets; their remains occurred in nine of the castings, and fresh skulls, bones and skins were collected from the terrace during each month, from September to March. Leveret remains were also found (Table 2) at each of the nests visited.

TABLE 2 — Food items found at nests during breeding season.

Nest 1 — Hedgehog and leveret remains.

Nest 2 — Young magpie; hedgehog and leveret remains.

Nest 3 — Yellowhammer; hedgehog and leveret remains.

[A. Apse

Plate XII — New Zealand Harrier **(Circus approximans gouldi).**

Spines and hair of hedgehogs *(Erinaceus europaeus)* were found in 15 castings, and skins complete with spines were found at the nests (Table 2) and once on the terrace. Although Harriers have been observed feeding from hedgehogs killed on roads it was surprising to find these animals included in the diet of the study birds as the nearest back country road is some six miles away.

Rabbits are scarce in the area, and only one casting contained fur of this animal. The remainder of the mammalian foods were carrion of red deer *(Cervus elaphus)*, chamois *(Rupicapra rupicapra)* and sheep, which were identified by hair and wool.

Remains of birds were found in ten castings. Seven contained small unidentified birds, probably Pipits *Anthus novaeseelandiae,* and one each contained remains of: a Paradise Duck *Tadorna variegata:* a juvenile Canada Goose *Branta canadensis:* a young Magpie *Gymnorhina sp.* A partly devoured Yellow-hammer *Emberiza citrinella* was found at one of the nests, and the carcase of a young Magpie on the terrace.

The most common insect material in 13 castings was of Carabid beetles; the remains of wetas *(Hemideina thoracica)*, cicadas (*Melampsalta* sp.), grasshoppers and large dragonflies *(Uroptala carovei)* were also recorded.

It is evident that a large part of the food of these Harriers was carrion.

REFERENCE

FLEMING, C. A., 1941: Summarized classified notes. Annu, Rep. N.Z. Orn. Soc. 1940-41, p. 48.

★

SHORT NOTE

HARRIER CHASES AND CAPTURES BLACKBIRD

Oliver (1955, New Zealand Birds, p. 430) states that the Harrier *Circus approximans* has been recorded taking birds on the wing, and Witherby *et al.* (1939, The Handbook of British Birds, vol. 3, p. 66) report similarly of the Hen Harrier *C. cyaneus.* In my experience of several species of harriers, they almost always rely on surprise to catch birds and until recently I had never seen one chase and catch an apparently healthy bird.

At about 14.00 hours on 31/12/69, near Cape Palliser, southern Wairarapa, I noticed a Harrier flying fast down wind towards the sea at a height of about 20 feet above the coastal dune; and through binoculars I saw that it was chasing a Blackbird *Turdus merula* flying low over the ground some 30 yards ahead of it. The shore was here quite exposed and entirely without cover for the Blackbird, which found itself " cornered " between the Harrier and the deep blue sea. With a stiff off-shore breeze the Blackbird funked the sea and landed on the sand at the top of the beach, about 20 yards from the water. The Harrier came in low and slightly overshot the Blackbird, wheeled smartly and dropped onto it. After standing still with the Blackbird in its talons for two or three minutes, the Harrier took off and flew inland with its kill, without leaving any feathers from which to age or sex the Blackbird.

This incident shows how efficiently a Harrier can " corner " a bird that has strayed from cover, and how vulnerable such a bird may be. As this was the only Blackbird I saw in three days on this exposed shore, perhaps it paid the price for trespassing into unsuitable habitat.

— J. A. GIBB

Ecology Division,
D.S.I.R.,
Lower Hutt