

1988-89: On 12 Nov, we found the Home Pair's nest with three eggs. In spite of severe gales throughout most of November, the birds continued to sit. The eggs were due to hatch between 5 and 9 Dec, and on 11 Dec hatching seemed about to take place, the parents being reluctant to leave the nest. The hatching did not take place and the birds continued to sit. On 24 Dec, we removed the smallest egg and on investigation Peter McKenzie thought that the embryo had died at about the end of the second week. We did not interfere further with the nest, and the pair continued to sit until 1 Feb, 9½ weeks past the hatching date. On that day we took the eggs.

PEG FLEMING, 42 Wadestown Rd, Wellington



Wasps kill nestling birds

Several respondents to DSIR Ecology Division's national survey of wasps in New Zealand (Clapperton *et al.*, in press) noted wasps feeding on dead adult or nestling birds. The birds were found dead either in the nest or on the ground, and so it was not known whether the wasps had killed the birds or were scavenging. However, Mr Ron Winstanley told me of seeing "two or three dozen" wasps attack and kill newly hatched Hedgesparrows (*Prunella modularis*) at Tennyson Inlet, Marlborough Sounds. At that time (November or December in the early or mid 1970s) almost certainly only German wasps (*Vespula germanica*) were there (Perrott 1975, Donovan 1984, Clapperton *et al.*, in press).

Mr Winstanley watched the attack through a window a few metres from, and about level with, the nest, which was in a *Cotoneaster* shrub. Alarm calling by the adults drew his attention. At first one adult was sitting, while the other repeatedly flew near the nest, which was surrounded by flying wasps. Eventually the sitting adult also took wing, and they both swooped back and forth, alarm calling, but not again settling near or on the nest. At least one of the three or four chicks was seen moving, but all were dead and being eaten by the wasps by the time Mr Winstanley approached the nest closely. The nestlings were wet from the egg. Mr Winstanley suggested that the smell of the egg albumen might have attracted the wasps to the nest and triggered the attack.

Social wasps have twice been seen to kill newly hatched chicks overseas (Wild 1927, Grant 1959) and once even to fell an adult hummingbird on the wing (Grant 1959). It is possible that wasps kill nestlings much more often than the few records suggest because they attack the prey rapidly and extensively scavenge the flesh. After a short time the only sign remaining in the nest would be the chick's skeleton. Cameras triggered by treadles, broken light beams or tracking devices are sometimes used to show whether rats, possums, cats, or mustelids prey on eggs or nestlings (Moors 1978); such means would not detect wasp attacks.

There was some unaccounted-for predation on nestlings of the South Island Robin (*Petroica australis australis*) in Flack & Lloyd's (1978) study at Kaikoura and the Marlborough Sounds (B. Lloyd, pers. comm.). They found one abandoned nest where wasps were feeding on dead nestlings 8-10 days old (B. Lloyd, pers. comm.). This nest may have been abandoned during bad weather. Bones were in some nests, but all had been sheared or gnawed. Wasps were not present in high numbers in any of Flack & Lloyd's study areas during their work (B. Lloyd, pers. comm.). Perhaps wasp predation is more common in the honeydew beech forests, where wasps are much more abundant (Moller *et al.* 1988, Sandlant & Moller, in press).

Until detailed observations from a variety of habitats are available, we cannot assess whether direct predation by wasps on nestlings, as well as competition for food between wasps and birds (reviewed by Moller & Tilley, in press), may be a factor in the decline of many of our native species.

I would be interested to hear from readers of any instances of wasps preying on birds. Records of intact skeletons of nestlings with some or all of the flesh removed would also be of interest.

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