

SHORT NOTE

Predation of a small pied stilt (*Himantopus himantopus*) colony by a swamp harrier (*Circus approximans*)

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Predation on nests is a key demographic variable that can play a major influence on the size of bird populations. Nevertheless, observed acts of predation are rare, as they generally occur quickly and are missed by researchers unless a large number of nests are monitored extensively. Here I report on an example of nest predation by a swamp harrier (*Circus approximans*) on a small colony of pied stilts (*Himantopus himantopus*).

My observations were made at the Tawharanui Open Sanctuary east of Warkworth (36° 22' S, 174° 48' E). This is an area of extensive recovering native vegetation, in which mammalian predators are controlled and excluded by a barrier fence. Thus, the only predators of ground-nesting birds present are those of predatory birds such as owls and harriers. Pied stilts nest at only 3 sites within the Sanctuary and the total number of birds was estimated to be around 7 pairs on 12 Oct 2010.

On 2 Oct 2010, I visited a small pied stilt colony in the Sanctuary (Fig. 1a). The colony consisted of 3 nests, but by the time of my visit, 2 nests had already lost eggs and/or chicks. Suspecting that

a pukeko (*Porphyrio porphyrio*) was preying upon the stilt nests, I positioned myself with a video camera at the colony at 06:45 h on the following morning. Almost immediately after my arrival, I observed 4 pied stilts attacking a swamp harrier. The harrier then descended, flushed the last remaining incubating stilt from its nest and flew off with one of the stilt chicks. One of the adult pied stilts then returned to brood the remaining 1 chick and 2 eggs still in the nest. Fifteen minutes later a harrier arrived, presumably the same individual seen earlier, and took a 2nd chick. During this raid on the nest, the harrier was subject to repeated aerial attacks from the stilt. Half an hour later, a harrier again arrived and landed at the nest site. As in previous visits by the harrier, the pied stilt resumed its attacks. The harrier sat in the nest and ate the last 2 eggs but ducked on each attack by the stilt. The harrier took 13 minutes to eat the eggs, during which time the stilt dive-bombed 106 times. Sometimes, additional stilts assist in mobbing predators at the colony, but on this last visit by the harrier, only the stilt attending the nest was present and attacked. After the harrier left at 07:30 h, only a few eggshell fragments were left scattered at the nest site (Fig. 1b).

Although I could not directly determine the reason for the loss of the other 2 nests in the colony, it is possible that the same harrier had depredated these nests the previous day, and had returned the next morning for the 3rd and last remaining nest. Harriers have been previously reported as preying on pied stilts (Stokes 1949) and have been documented eating both chicks and eggs of a variety of birds (Marchant & Higgins 1993). If the harrier I observed had depredated the 2 stilt nests on the previous day, then the entire colony was lost within 24 hours. Predation on the 3rd nest also probably involved repeated visits by just a single harrier, but as it was not banded this cannot be confirmed. Complete predation of the nest contents, including 2 chicks and 2 eggs required 3 separate visits by the harrier, and took just over an hour.

Nest defence behaviour by the stilt, despite prolonged and repeated dive-bombing was ineffective against the harrier, at least when only a single bird mobbed the predator. Perhaps mobbing is more successful at larger colonies, when there is a possibility of several individuals joining a mob. Indeed, communal defence against predators has been cited as one reason for the evolution of coloniality in other species of birds (Rolland *et al.* 1998). It would be interesting to determine whether nest defence by mobbing is more effective at larger colonies of stilts and what number of birds is required in order to prevent a successful raid by a harrier on a stilt colony.

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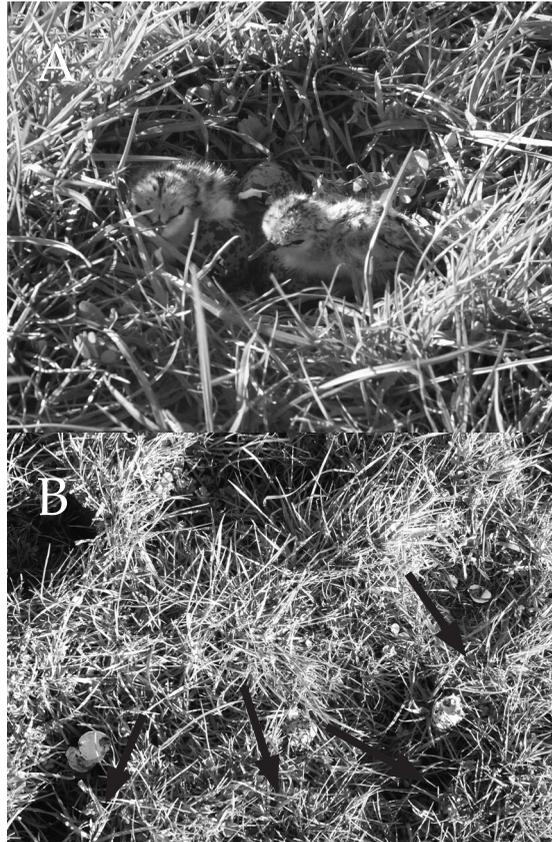


Fig. 1. A. Pied stilt nest with 2 nestlings and 2 eggs just prior to predation by swamp harrier. B. Nest area after predation, showing eggshell fragments (arrows) scattered around nest site.

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