

ACKNOWLEDGEMENTS

We would like to thank the New Zealand Forest Service for funding our kiwi study, for the use of their equipment and facilities, and for permission to use the 1978 survey results of Harold Corbett, Brian Reid and Peter Thode.

We are grateful to Anne Grace, Barrie Heather and John Innes for improving earlier drafts of this paper and to Mrs Marjorie Davidson for typing these various drafts.

LITERATURE CITED

- BULLER, W. L. 1888. *A history of the birds of New Zealand* (2nd ed.) Vol. 2. London: The author.
- BULLER, W. L. 1905. Supplement to the birds of New Zealand. Vol. 1. London.
- CLARK, J. D. 1952. Random notes on the kiwi. *Notornis* 4 (8): 211.
- COLBOURNE, R. M.; KLEINPASTE, R. H. 1983. A banding study of North Island Brown Kiwis in an exotic forest. *Notornis* 30 (2): 109-124.
- CORBETT, H.; THODE, P.; REID, B. 1979. A survey of kiwis within an exotic forest. Unpubl. Report NZFS.
- MARLER, P. R. 1964. Aggression in Thomson, A. L. (ed.). *A new dictionary of birds*. London: Nelson.
- REID, B.; ROWE, B. 1978. Management of kiwis in captivity. *Otorohanga Zool. Soc. Prog. Rep.* 27 pp.
- ROBSON, F. D. 1947. Kiwis in captivity. Bull. Hawkes Bay Art Gall. Mus. Napier.
- THORPE, W. H. 1964. Singing in Thomson, A. L. (ed.). *A new dictionary of birds*. London: Nelson.

ROGAN COLBOURNE, *Wildlife Service, Department of Internal Affairs, Private Bag, Wellington*; RUUD KLEINPASTE, *Ministry of Agriculture & Fisheries, Mount Albert Research Centre, Auckland*



SHORT NOTE

SWALLOWS AT SEA AND ESTABLISHED ON THE
KERMADEC ISLANDS

Welcome Swallows have been reported at sea to the north-east (Jenkins 1978), the north-west (Lovegrove 1978), and the west (Syms 1978) of mainland New Zealand. In a recent trip from Auckland to Raoul Island, we saw Welcome Swallows out to sea and on the Kermadecs.

On 16 March 1984 at 0812 h one Welcome Swallow briefly circled our yacht and then disappeared. Our position was 179°15'E 32°20'S, which is about 470 km NNE of Great Barrier Island and 200 km SSW of L'Esperance Rock. Later the same day at 1430 a pair of Welcome Swallows flew close to the yacht and stayed with us for minutes. We were then 160 km SW of L'Esperance Rock. All were flying strongly. Our route took us between Curtis and Cheeseman Islands in broad daylight, but no more swallows were seen till we were ashore on Raoul Island.

On Raoul, swallows were seen daily feeding over the paddocks near the Meteorological Station. The greatest number seen foraging

together was 8. One was feeding over the crater lakes on one of three visits there, but none was seen on other parts of the island.

On the return journey on the freighter *Vili*, the only Welcome Swallow seen at sea was encountered soon after sighting Great Barrier Island (about 50 km from land). This swallow landed on the ship and allowed us to approach to within a few metres.

The number of swallows on Raoul Island suggests that they are now firmly established in the Kermadecs. This is a further extension of their increasing range (Claridge 1983). It is possible that the birds seen SE of L'Esperance Rock were from the rock although the distance was great and if swallows were feeding at sea around all the islands, we should have encountered them around Curtis or Raoul Islands. Furthermore, the first sighting early in the morning suggests at least that swallows had been at sea all night.

Swallows must disperse over sea, and events of the previous day suggest that the movements of the swallows to sea may have been involuntary. For the day before the sightings, we encountered large numbers of insects at sea, the four predominant species being common blue butterflies (*Zizina otis*), a dark winged moth, a dragonfly and an unknown hymenopteran. None of these were seen the same day as the swallows, however. The weather before these sightings had been relatively calm and stable, and we had sailed in NW winds of 5-20 knots. Subsequent weather was affected by cyclone Cyril. The origin of the swallows at sea remains in doubt but further expeditions to this area may be able to confirm the presence of swallows in the southern Kermadec Islands and whether they do forage out to sea.

Financial assistance for this expedition was provided by the Auckland University Research Committee and the amateur radio members of the group arranged yacht transport one way.

REFERENCES

- CLARIDGE, J. C. R. 1983. Welcome Swallows at the Auckland Islands. *Notornis* 30: 282.
JENKINS, J. 1978. Swallows at sea to the north of New Zealand. *Notornis* 25: 202.
LOVEGROVE, T. 1978. Swallows at sea. *Notornis* 25: 255.
SYMS, M. 1978. Welcome Swallow in mid Tasman Sea. *Notornis* 25: 212.

JOHN L. CRAIG, *Zoology Department, University of Auckland, Private Bag, Auckland*

Welcome Swallows are seen regularly on Norfolk Island in winter months (O. Evans, pers. comm.), presumably from New Zealand. Few are recorded in summer, and breeding has not been confirmed — (Schodde et al. 1983, *A review of Norfolk Island birds: past and present*, Aust. NPWS) — Ed.