

- MARCHANT, S.; HIGGINS, P.J. (co-ords). 1990. Handbook of Australian, New Zealand & Antarctic Birds. Volume 1A. Melbourne: Oxford University Press. 735 pp.
- MATHEWS, G.M. 1913. Additions and corrections to my Reference List. Austral Av. Rec. 1:187-194.
- MENZIES, Archibald. 1790-1794. Private journal kept in the *Discovery*. B.L. Add. MS 32641.
- ROBERTSON, C.; JENKINS, J. 1981. Birds seen at sea in southern New Zealand waters, February-June 1981. Aust. Seabird Grp Newsl. 16:17-27.
- SAGAR, P.M. 1986. The sexual dimorphism of Snares Cape Pigeons (*Daption capense australe*). Notornis 33:259-263.
- STEAD, E.F. 1948. Bird life on the Snares. NZ Bird Notes 3:70-80.

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SHORT NOTE

Anting by an Orange-fronted Parakeet

Anting is a behaviour in which the fluids from ants, notably formic acid, are applied to the plumage and possibly the skin (Pettingill 1970). Anting can be divided into two categories: (1) true anting, involving the use of ants, and (2) anting with substitutes, involving the use of objects other than ants (Simmonds 1966).

Cyanoramphus spp. have been observed anting with native plants (e.g. manuka *Leptospermum scoparium* and kanuka *Kunzea ericoides*) both in captivity and in the wild (Greene 1989).

In May - June 1991, as part of a polytechnic course, Animal Nursing and Technology, I investigated whether a captive male Orange-fronted Parakeet, captured in North Canterbury in 1981, would be stimulated to ant by six native plant species that are present in its natural habitat. When each plant material was presented, the bird's activities were recorded for 30 minutes (11 a.m. and 2.30 p.m. start on each date).

In this study, I defined anting as beginning when the bird ran its beak through a feather while chewing the plant material and ending when the bird ceased activity. I counted how often the bird anted (incidence) and how long anting lasted (duration) in each of the four 30-minute observation periods per plant species and averaged the results.

Table 1 gives the dates of assessment and the plant species presented.

I included fruits and cones of the plants and beech scale with the leaves because previous unpublished observations by E.G. and E.M. Heatherbell, bird breeders, suggested that the birds preferred fruits and scale to leaves as anting materials. In this study, I presented wineberry both with and without immature berries, but the bird anted only with the immature berries. It also anted with manuka immature seed capsules, not manuka foliage. I therefore believe that immature seed capsules or berries may elicit anting more effectively than foliage alone.

Anting incidence (average of 4 observation periods per plant species): The parakeet anted with material of only two plant species: manuka and immature seed capsules (0.5 times) and wineberry with immature berries (4.2 times). No other fruits or cones or the beech scale were used for anting.

It did not ant with the foliage of any of the plant species presented, even though it spent most of the observation interval chewing the leaves.

Anting duration (average of 4 observation periods per plant species): The average total time out of 30 minutes spent anting was 0.3 minutes for immature seed capsules of manuka and 4 minutes for immature berries of wineberry.

Four other activities that seemed to be associated with anting were beak wiping, plumage shaking and ruffling, head scratching and especially circling on a perch. The circling occurred during and just before anting. There was no obvious reason for these activities.

Further studies with more Orange-fronted and with Yellow-crowned Parakeets would be needed to verify the preference for manuka and wineberry fruits and to explain the activities associated with anting.

TABLE 1 —

Date	No. of 30 min observation periods	Plant species presented in the study
May 14	2	Manuka (<i>Leptospermum scoparium</i>) with immature seed capsules
17	2	Kanuka (<i>Kunzea ericoides</i>) with mature seed capsules
21	2	Celery pine (<i>Phyllocladus trichomanoides</i>) with female mature cones
24	2	Celery pine with female mature cones
28	2	Wineberry (<i>Aristotelia serrata</i>) without berries
31	2	Wineberry with immature berries
June 4	2	Black beech (<i>Nothofagus solandri</i>) with scale
7	2	Black beech with scale
11	2	Fivefinger (<i>Pseudopanax arboreus</i>) with fruits
14	2	Fivefinger with fruits
19	2	Kanuka with mature seed capsules
20	2	Wineberry with immature berries
22	2	Wineberry without berries
23	2	Manuka with immature seed capsules

LITERATURE CITED

- GREEN, T.C. 1989. Antiparasitic behaviour in New Zealand parakeets (*Cyanoramphus* species). *Notornis* 36: 322-323.
- PETTINGILL, O.S. Jr. 1970. *Ornithology in Laboratory and Field*. 4th edition, Minneapolis: Burgess Publishing Company, p.251.
- SIMMONDS, K.E.L. 1966. Anting and the problem of self-stimulation. *J. Zool. London* 149: 145-162.

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