

HOW DOES CAPE HONEY FLOWER AFFECT BIRDS ?

Two North Island Kiwis (*Apteryx australis mantelli*) were found dead near Kaitaia in 1971. One was run over in late March 1971 and the second was killed by a dog on 14 May 1971. Mr Colwyn F. Smith of Takapuna sent the gizzard contents from both birds to Entomology Division, DSIR, Nelson, for examination. Watt (1971) reported on the insect species represented in the gizzard contents and also on the relative amounts of insect remains and of plant material present. The plant material was forwarded to Botany Division, DSIR, for examination and the species represented, mainly as seeds, were identified (Simpson 1971). An interesting point from the botanical point of view was that both gizzards contained seeds of the Cape honey flower, *Melianthus major*, one gizzard with seeds present in some quantity. In both samples the seeds were reasonably fresh and had retained their distinctive purplish colour.

Melianthus major is native to South Africa where it is regarded as a poisonous plant. The roots contain a dangerous poison and 100 gm of the fresh plant in the pre-flowering stage proved fatal to a sheep (Steyn 1934). Poisonings occurred among horses and ruminants when Cape honey flower was eaten during a shortage of fodder (Curson 1928). Steyn (1934) indicated that the active principle was unknown and gave the symptoms of poisoning as those of an irritant vegetable poison. The nectar is said to yield a toxic honey (Watt & Breyer-Brandwijk 1962, reporting from Dragendorff 1898 and Greshoff 1900). Connor (1951) lists the species as a poisonous plant in New Zealand. Is it possible that the seeds of *Melianthus major* affected these kiwis in some way ?

Melianthus major is well established throughout the North Island, particularly in North Auckland. In the South Island it is more localised but does occur as far south as Bluff. It generally occurs as a garden escape.

There is a large patch of this plant naturalised on the banks of the Taupata Stream, situated between Pakawau and Cape Farewell in Golden Bay, Nelson. The main road runs through the patch and recently Dr C. R. Barnicoat of Nelson recounted an experience he and fellow ornithologists had when driving through this area on October 2 1971 (pers. comm.). The *Melianthus major* plants were then in full flower and some 60-80 tuis were busily engaged in extracting nectar from the flowers and periodically resting on adjacent trees, where they appeared 'drunk with joy.' Their 'comical' antics kept the party interested for some time. This kind of behaviour is, I understand, not uncommon during the breeding season. A specimen in the Botany Division herbarium (CHR 115292. E. J. Godley, October 17 1960) from the same group of plants has a note "about 20 tuis in an $\frac{1}{4}$ -acre seeking the nectar." In the last week of September 1972 I passed through this area daily at c.7 a.m. and c.5-6 p.m. on the way to and from Farewell Spit. Only the first lower flowers on the long racemes were open, but already tuis were visiting the plants to feed

on the nectar. At the times mentioned only a few birds were to be seen. An examination of the flowers showed that there is a good supply of nectar in each flower. Atkinson (1922) stated that in New Zealand the Silver Eye (*Zosterops*) and other small birds have been seen at the flowers and suggests that birds are probably the chief pollinating agents.

Melianthus major is a very handsome plant with large, attractive, compound leaves and long flowering racemes, with prominent bracts, the whole appearing reddish when in flower. It has been suggested that the species could be used in plantings to attract native birds but some investigation may first be necessary to find out whether the large juicy seeds and the copious nectar produced in each flower may have detrimental rather than a beneficial effect on some New Zealand birds.

REFERENCES

- ATKINSON, E. H. 1922. Weeds and their identification. N.Z. Journal of Agriculture 24: 360-364.
- CONNOR, H. E. 1951. The poisonous plants of New Zealand. Bulletin. N.Z. Department of Scientific and Industrial Research 99: 1-141, figs 1-39.
- CURSON, H. H. 1928. Some little-known South African plants and their effect on stock. 13th & 14th Reports. Division of Veterinary Education and Research, Union of South Africa: 203-229.
- DRAGENDORFF, G. 1898. Die Heilpflanzen der verschiedenen Voelker und Zeiten. Pp. 1-160. Stuttgart: Ferdinand Enke.
- GRESHOFF, M. 1900. Description of poisonous and stupefying plants used in fishing, II. Mededeelingen uit 's Lands Plantentuin X. [not seen]
- SIMPSON, M. J. A. 1971. Travelling seeds. Bulletin. Wellington Botanical Society 37: 63-64.
- STEYN, D. G. 1934. The toxicology of plants in South Africa. Pp. 1-631. Cape Town: Central News Agency Ltd.
- WATT, J. C. 1971. The North Island Kiwi: a predator of pasture insects. The New Zealand Entomologist 5: 25-27.
- WATT, J. M.; BREYER-BRANDWIJK, M. G. 1962. The medicinal and poisonous plants of Southern and Eastern Africa. 2nd ed. Pp. 1-1457. Eden and London: E. & S. Livingstone Ltd.

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