

THREAT TO NATIVE PLANTS THROUGH COLLECTING

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The question has arisen whether native plants are threatened by collecting for the herbarium or garden. This must be a late 19th century – early 20th century phenomenon when the collection and possession of specimens was akin to that of postage stamps. The desire to include an example of a rare species of a genus in one's herbarium or garden overrode one's better judgement as to the wellbeing of the species in the wild. Specimens of rare plants would have been good currency. Generous collectors would oblige their friends by sending them specimens of their local specialties. While this attitude leads to the successful preservation of perishable inanimate objects like books, stamps, and matchboxes, it has no place in botany today.

Over my 50 years experience of collecting specimens for the Allan Herbarium at Lincoln I was not astute enough to recognise a rare species in the wild, otherwise I may have fallen into the same trap. In fact I was not conscious of rarity and its implications until the early 1970s when David Given took up the mantle of naturalist and teacher William Martin (1886-1975) who during the 1930s advocated the protection of rare or endangered species. At that time a Native Plant Protection Society promoted the Native Plant Protection Act (1934). See David Given's writing in 1975 and 1976. The stresses of the World War years, followed by a period of rising prices for pastoral products during which the government promoted maximum use of 'waste land', worked against awareness of the plight of native plants. Today's enlightened teaching, and colourful photography and posters is changing that.

Specimens of nationally rare plants should not be collected at all, except by those who are furthering our understanding of them by the use of modern botanical methods and then the recommendations of David Norton and his colleagues (1994) should be adhered to.

These authors give examples of species which may have been depleted by over collecting by botanists: *Trilepidea adamsii* (an extinct leafy parasitic mistletoe), *Lepidium* species (coastal herbs and subshrubs), *Carmichaelia prona*, *Stellaria elatinoides*, and the orchids *Corybas carsei* and *Thelymitra matthewsii*. The claim is based on the numbers of known herbarium specimens from sites where the plants are no longer extant or are very rare. Other factors responsible for the decline of these species are acknowledged. Now-a-days depletion by collecting would most likely result from the zeal of gardeners and horticulturists, which would reduce the range of plants affected. Judgement is required about taking only a small cutting for propagation or preferably seed. A photograph is an excellent record of a rare plant in its habitat.

When collecting for the herbarium the question always arises 'is this species common enough in this vicinity to be sampled?' A plant may be in a healthy state in its natural range throughout the country but rare where you are owing to the degradation of the habitat. If it is valuable to sample a portion in these circumstances, it is important to state in the collection data that only a few or even one plant was seen. I give some examples from my own experience that involve species now treated on the national

list of threatened plants compiled by Peter de Lange and his colleagues in 1999, and by Nicholas Head and David Given in the Society's Journal (2001). *Acaena "N. W. Ruahine"* was familiar from Tony Druce's collection from Makirikiri Tarns dated January 1973. In February 1981 I went with Tony and Geoff Rogers to see the plant and collect a specimen, later to be the type of *Acaena rorida*, and a portion to grow for careful comparison with *A. microphylla* of the Volcanic Plateau. The Makirikiri Tarns area is a beautiful and fragile habitat that fortunately is not easily accessible.

In 1963 and 1970 I was finding *Iphigenia novae-zelandiae* in grassland at Lake Coleridge and Lake Pukaki. Between 1966 and 1976 I made 3 collections of *Convolvulus verecundus* subsp. *verecundus* in the Mackenzie Country grassland. Four collections were made of *Luzula celata* on the Tasman River bed and Clyde and Harper River beds between 1969 and 1971. In 1964 a single plant of *Triglochin palustre*, unknown to me, appeared in moist roadside grass on Mt Cook Station, east side of Tasman Valley. The distribution and abundance of these species was unknown then and their frequency did not indicate rarity. Only in the case of the *Triglochin* could I have caused depletion of the population as I took a single plant bearing flowers and seed. The habitat suggested it to be adventive.

The structure of the grassland in which these plants were found has changed over the last 40 years. Increased nutrients and/or animal stocking have resulted in a denser sward or increased competition for native herbs from weeds or trampling. I anticipate this will increase with the free-holding of potentially arable back country leasehold as mountain lands are withdrawn from grazing. Hopefully this will be outweighed by the protection given to montane and alpine plants. I would have no cause to collect these plants again. Species on the declining and naturally uncommon lists I am always excited to see in the wild, with the camera and notebook to bear witness.

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