

**BRACHYGLOTTIS COMPACTA:
A NEW ZEALAND ENDEMIC SHRUB**

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Brachyglottis compacta is one of a large number of endemic, New Zealand plant species. An endemic species is one that is native to and restricted to a particular localised geographical area. Endemism in New Zealand is estimated to be about 81% (4).

The plant was first recorded by Kirk in 1880 (2), and was then known as *Senecio compactus*. It is a member of the Asteraceae, the daisy family, one of the largest plant families in the world, with about 25,000 species. There are about 260 species of Asteraceae found in New Zealand (1). Many are woody or semi-woody species. This is unusual as most members of the Asteraceae, elsewhere, are herbaceous. *Brachyglottis compacta* is a shrub with a soft corky bark less than 2m high, semi-spherical in growth, with grey leaves, which are very hairy underneath. The inflorescences have yellow ray and disc florets.

THE ROLE OF CONSERVATION

Conservation of *Brachyglottis compacta* is important because the plant is confined to the limestone outcrops at Castlepoint, along the Wairarapa coastline (on the east coast of the North Island, New Zealand). An understanding of the ecology of the plant species is necessary to promote its long-term survival. Preliminary studies are under way to determine how the plant population is coping with conditions of the present day. These studies include work reviewing plant population characteristics, plant community relationships between *B. compacta* and other native plant species, as well as seedling site suitability.

One population at Castlepoint has been studied in detail. Situated by the Lighthouse, it is important because of the high human impact in the area. It consists of 111 plants, although there are several hundred plants on Castle Rock. Each individual plant within the population was tagged and measured. Measurements were taken of the diameter of the main stem at ground height. This was used as an estimator of age, because, of course, it is hard to tell how old shrubs are when it is not possible to cut them down and count the growth rings in the wood.

It is interesting to note that 60% of all plants on Castlepoint have a butt diameter of less than 5cm (Figure 1). There is a tail to the distribution showing there are only a few very large plants. Other data obtained indicate that flowering commences when the plant has a butt diameter of greater than 3cm; so only 40% of the plants flower and contribute seed towards the regeneration of the population. Further measurements taken over time will determine whether the seedlings and smaller plants will survive to reproduce themselves.

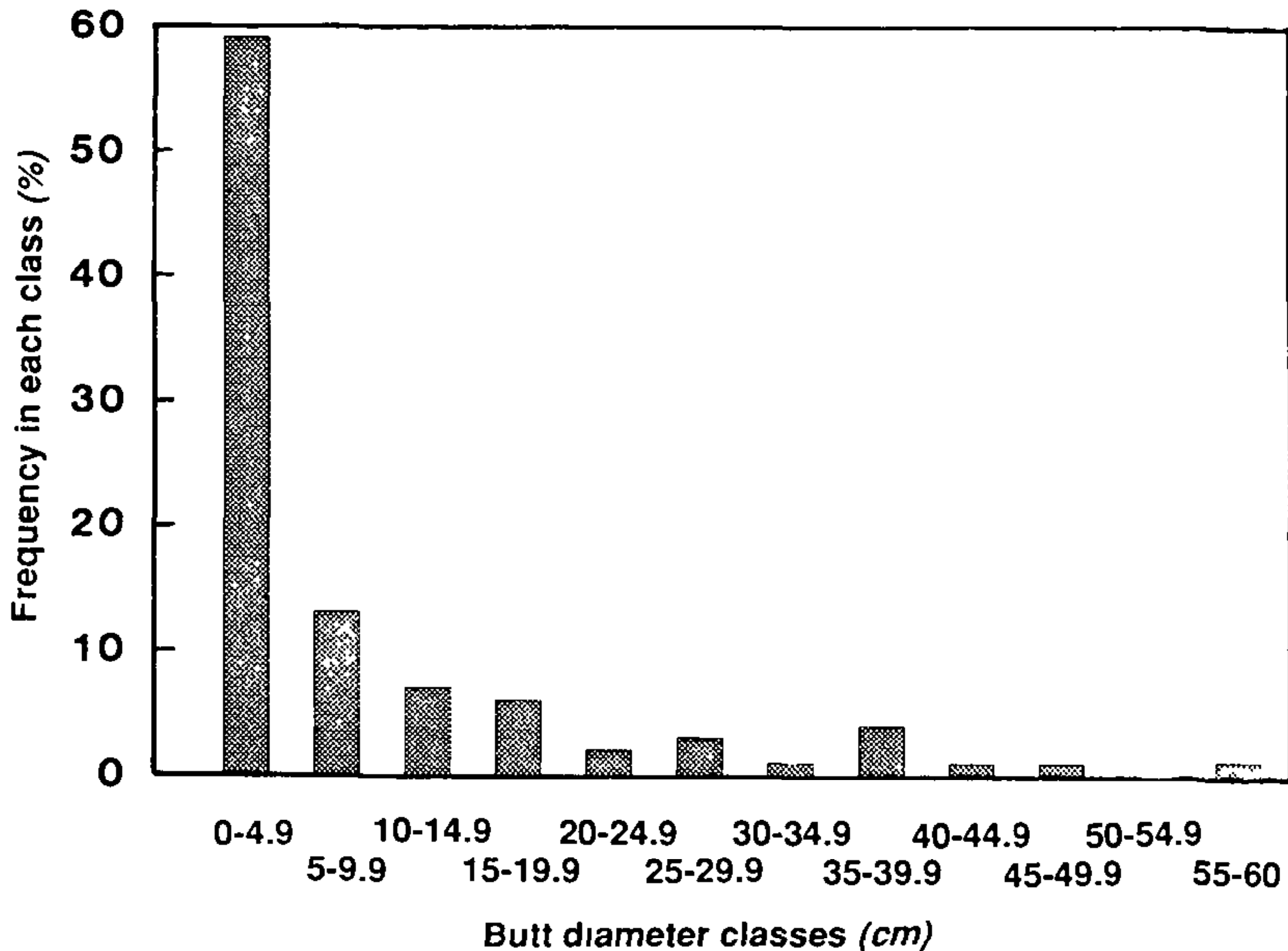


Figure 1. Frequency distribution of butt diameters for *Brachyglottis compacta* at Castlepoint Lighthouse in January, 1990 N = 111.

The survival of these plants has been enhanced by the implementation in 1978 of reserve status in the area. Castlepoint is now the responsibility of the Department of Conservation, which ensures that further browsing, mainly by sheep, does not occur. It is this browsing which, in the past, is probably responsible for the paucity of older, flowering individuals, especially on Castle Rock.

THE ROLE OF HORTICULTURE

Unknowingly, horticulturists have already played a role in conserving part of the gene pool of this particular rare species.

Brachyglottis compacta is one of a number of closely related species of tree daisies placed in the genera *Senecio*, *Brachyglottis*, and *Olearia*. *Brachyglottis greyi* for example, is a species found only at Cape Palliser. But to confuse matters, the parentage of a related garden plant has recently been questioned. Jeffrey (5) says:

“The origin of the garden plant, previously known as *Senecio greyi*, is obscure. The oldest herbarium specimens known date from 1910-1913 and are from plants in the Dunedin Botanic Garden, Otago, New Zealand. Drury in 1974 (3) discusses the evidence for the parentage of the hybrids and concludes that it involves, on the one hand, plants of the *S. laxifolius*—*S. greyi* complex, on the other, a third New Zealand species, *S. compactus*”.

What we have called *Senecio greyi* is not *Senecio greyi* (from Cape Palliser) but, instead, a hybrid containing some of the genes of *B. compacta*, thus preserving them. The garden plant formerly called *Senecio greyi* is now designated as *Senecio* ‘Sunshine’, which should currently be called *Brachyglottis* ‘Sunshine’.

Copper and Keith Hay (Forevergreen Nursery, Tauranga) have grown *Brachyglottis* species for a number of years. They propagate them from cuttings. If seed is used it must be sown almost immediately as viability decreases rapidly after harvesting. The plants are grown under 30% shade cloth. *Brachyglottis* plants are hand-watered as it is best to avoid the use of overhead watering and capillary watering. Fongarid is used as a protectant spray against *Phytophthora*. All *Brachyglottis* species are susceptible to *Phytophthora*, especially in warm, humid weather.

Brachyglottis compacta plants are even more difficult to grow than plants in the rest of the genus. Muriel Fisher (Birkenhead, Auckland) has grown a specimen for the last 20 years or so. She was given the plant by the late Norman Potts from Opotiki. This plant was grown from cutting material collected from the wild. It now grows in a clay soil and is provided with a cool root run. The plant canopy grows in full sun. When planting *Brachyglottis* species she recommends the use of a mixture of 70% crushed scoria and 30% bark chip. This should be incorporated with the soil around the plant. It is also essential not to overwater the plants. Because of the difficulty in growing this plant it may well be best to grow *Brachyglottis* ‘Sunshine’ or new hybrids.

The potential for hybridisation work with *Brachyglottis* species is vast. Hybridisation between different *Brachyglottis* species is prevalent with both natural hybridisation occurring and spontaneous garden hybrids found where conditions permit. This was how *Brachyglottis* ‘Sunshine’ originated. It would be beneficial

to combine all the best characteristics of the different species into a series of garden hybrids. It would also be a useful way to overcome some of the problems associated with the propagation and growing of *Brachyglottis compacta*.

The most crucial factor, though, is the continued preservation of the parent species in its natural habitat, both for its own intrinsic interest and conservation value, and as a potential source of genes for horticultural plant breeding.

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