

## ***TEUCRIDIMUM PARVIFOLIUM* HOOK.F.; CRYPTIC, EPHEMERAL OR DISAPPEARING SPECIES?**

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*Teuclidium* (family Verbenaceae) includes a single species that is endemic to New Zealand. *Teuclidium parvifolium* is an erect, closely branched, softly wooded shrub up to c. 1.5 m tall with branchlets that are square in cross-section and small, single flowers that occur in the leaf axils (Allan 1961). Many of the small-leaved *Coprosma* species are similar but these can be distinguished by the round cross-section of the young stems (Wilson and Galloway 1993) and the presence of stipules.

Part of the problem with *Teuclidium* is that although it has a very patchy distribution it is not clear just how rare the plant is. There is also a dearth of detailed ecological information on the plant. This means that steps must be taken to increase the knowledge of the ecology and distribution of *Teuclidium* before it is too late to stop the perceived decline of the species.

Lack of information on threatened species often causes confusion over their degree of rarity especially where species are widespread but sparse. *Teuclidium* is such a species but may be one that is more common than is currently thought. Its preference for ephemeral habitats and its similarity to some other divaricating shrubs can cause it to be easily overlooked.

*Teuclidium* has a wide and scattered distribution. It occurs from the Far North to Southland, although very rarely in large numbers. Populations are scattered throughout the country, often with large distances separating them. In Canterbury the northernmost populations are a handful of sites around Kaikoura. These include one of the largest known at Blue Duck Reserve. Between Kaikoura and Banks Peninsula there is currently only one known extant population.

Banks Peninsula is home to a number of populations, including a large population in Prices Valley. To the west there are sites recorded around the Porters Pass area. These inland populations are interesting in that they would seem to be outside the normal lowland range of the species. The nearest known populations to the south are in the Pareora River area south of Timaru.

On Banks Peninsula *Teuclidium* occurs mainly on mid-slopes, toe slopes, and alluvial terraces along forest margins, streambeds, or under broken canopies. Many of the populations are surviving within forest fragments or regenerating native bush in the cooler, sheltered valleys on the south western side of the Peninsula. From the habitat descriptions on herbarium record sheets this would seem to be the pattern throughout New Zealand for this species.

So what does this pattern of populations, often in small numbers, separated from the nearest populations by large distances, sometimes in excess of 100km, tell us? *Teuclidium* is one of a suite of species in New Zealand that demonstrate this form of rarity. Examples include *Scutellaria novae-zelandiae* (Williams 1992), *Pittosporum obcordatum* (Clarkson and Clarkson 1994), *Olearia hectorii* (Rogers 1996), *Clianthus*

*puniceus*. (Shaw and Burns 1996) and *Hebe cupressoides* (Widyatmoko and Norton 1997)

Such species generally occur in small, localised populations over wide geographic ranges and are associated with disturbed habitats. They produce abundant seed, which germinates readily, and yet there often seems to be regeneration failure. There is evidence that some of these species occur together. Clarkson and Clarkson (1994) indicate that *Pittosporum obcordatum* is found at three sites with *Teucrium*. Rogers (1996) also identifies one site (Hautapu Valley, Rangitikei) where *Olearia hectorii* occurs with both *Teucrium* and *Pittosporum obcordatum*. *Olearia hectorii* also occurs in several other areas where *Teucrium* is present, including the Wainuioru Stream in the Wairarapa and the Pomahaka River in Southland (Rogers 1996). Williams (1992) identified one site where *Scutellaria novae-zelandiae* and *Teucrium* occurred together.

The major agents of decline for these species have almost always been identified as habitat disruption, browsing, and competition from introduced plants. They tend to be afforded little attention in terms of conservation as it is assumed that wide distribution will reduce the risk of extinctions but some of these species are just as at risk as point endemics (Given 1993). This demonstrates that, while it is vital to identify the threats to individual species, identifying suites of species such as this may allow conservation managers to develop programmes that make better use of resources by aiding more than one species at a time.

There are a number of aspects of the ecology of *Teucrium* that do not seem to offer constraints to the continued existence of the species. These include the seed ecology where there is usually sufficient viable seed produced to ensure the continued existence of the species. This is aided by the presence of a seed bank. The species is widespread and probably capable of persistence in many locations given the right habitat with an appropriate disturbance regime. *Teucrium* displays moderate vulnerability to browsing but at Banks Peninsula sites the effect of this is probably not excessive at the present time.

There are however, a number of factors that do appear to be constraints to the long-term survival of *Teucrium* and these must be addressed when devising management strategies for the species. The distribution of *Teucrium* presents difficulties for conservation managers as it occurs in generally low numbers over a wide range. This may make it difficult to develop conservation strategies that suit all of the extant populations. Other problems include lack of knowledge on the full life history and longevity of the species, a high level of post-germination mortality, and many of the known populations being on privately owned land.

Despite these problems there are a number of aspects of the ecology of *Teucrium* that make this species a good subject for integrated conservation management. It lends itself to both *ex situ* and *in situ* conservation. Prolific seed production and good germination rates, fast juvenile growth rates, and ease of nursery production, mean that large numbers of plants can be made available for translocations in a short period of time. This should aid the establishment of experimental populations to further study aspects of the ecology of *Teucrium*.

There are no obvious signs of serious and sudden short term decline in the numbers and range of *Teucrium*. But continued habitat loss through both fragmentation (leading to loss of remnant forest patches) and fixation (where forest patches lose the edge conditions favoured by *Teucrium*), and the effects of introduced animals and plants pose serious threats to the long term survival of *T. parvifolium*.

*Teucrium* is a special New Zealand plant and it is one of a number of species whose conservation needs can be readily overlooked. We all have a responsibility to conserve such species despite the difficulties that this may present. Perhaps one way to do this is to encourage *ex situ* conservation by members of the public as *Teucrium* is an attractive small shrub that can be readily grown in a garden with little maintenance.

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