



ben lomond cushionplant

Chionohebe ciliolata

TASMANIAN THREATENED FLORA LISTING STATEMENT

Scientific name: *Chionohebe ciliolata* (Hook.f.) B.G.Briggs & Ehrend., *Contr. Herb. Austral.* 25: 2 (1976)

Family: Scrophulariaceae

Common Name: ben lomond cushionplant (Wapstra *et al.* 2005)

Name history: *Pygmea ciliolata* Hook.f.

Status: *Threatened Species Protection Act 1995: vulnerable*
Environment Protection and Biodiversity Conservation Act 1999:
Vulnerable

Distribution: Endemic status: **Within Australia, occurs only in Tasmania**
Tasmanian NRM Region: **North**

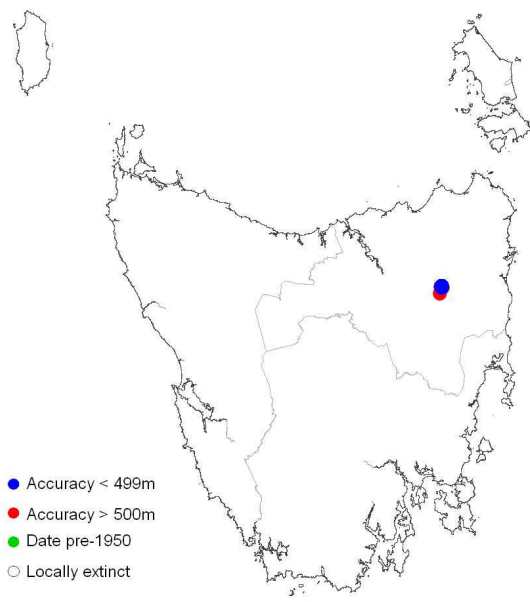


Figure 1. Distribution of *Chionohebe ciliolata* in Tasmania.



Plate 1. *Chionohebe ciliolata* showing cushion habit (Photographer: A. Kellow).

DESCRIPTION AND ECOLOGY

Chionochebe ciliolata is a cushion-forming plant in the Scrophulariaceae family. Flowering occurs from December to February. Wagstaff and Garnock-Jones (2000) note that species of *Chionochebe* (including *C. ciliolata*) are obligate out-crossers with dioecious flowers, and pollination via insects.

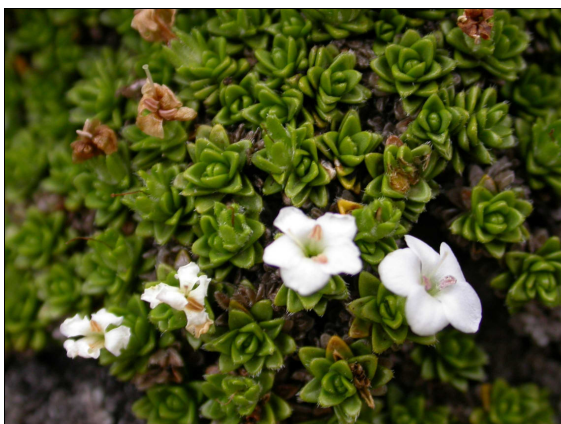


Plate 2. *Chionochebe ciliolata* flowers
(Photographer: Roy Skabo).

Identification

The following description is adapted from Allan (1982) and Davies & Davies (1989).

Chionochebe ciliolata forms dense, compact cushions up to 30 to 40 cm in diameter, with small white or pale-blue flowers set amongst its light green foliage (figures 2 and 3). Its leaves are up to 4 mm long and have a small tuft of hairs at their ends. The cushions are usually tightly compacted and rather rigid, 2–4 cm high, with branchlets 4–5 mm diameter including leaves. Leaves are stiffly imbricate, usually yellowish and glossy on back when old, 2.5–4 mm long by 1.5–2 mm wide, narrow-ovate to ovate-spathulate, subacute to acute, ciliate (hairy) more or less to base but cilia often few and appressed near tip except for a prominent apical tuft. The calyx is 3–4 mm long and divided two-thirds the way or more into 5 to 6 linear lobes.

The calyx lobes are hairy for most of their length on their outer surface as well as the margins. The corolla is white, 6–7 mm long,

salverform (slender with an abruptly expanded flat limb extending at right angles to the tube), with the tube being longer than the calyx, with obtuse lobes. Capsules are about 2 by 2 mm, glabrous or hairy at apex.

Confusing Species

Chionochebe ciliolata is the only native Tasmanian species from the Scrophulariaceae family to adopt a cushion-like habit. The species' floral and leaf features readily distinguish it from the two other cushion plants likely to be encountered on the Ben Lomond plateau, *Abrotanella forsteroides* and *Pterygopappus lawrencei* from the Asteraceae family (Curtis 1963; Davies & Davies 1989; Kirkpatrick 1997). The leaves of *Abrotanella forsteroides* are narrow and dark green, and the tip of the leaves extend into a single hair, whereas the leaves of *Pterygopappus lawrencei* are shaggy-haired. Habitat can also be a useful guide. *Chionochebe ciliolata* prefers well-drained conditions, whereas the other two species grow in areas that are poorly drained.

DISTRIBUTION AND HABITAT

Chionochebe ciliolata is known from New Zealand and Tasmania. In Tasmania, the only known locality for this species is at Hamilton Crags on Ben Lomond (Figure 1). The total area of occupancy is 3 to 4 hectares, with an extent of occurrence of 0.17 km² and a linear range of 760 m.

Chionochebe ciliolata occurs within low open alpine shrubland on the Ben Lomond plateau at altitudes 1470–1530 m above sea level. The species grows on skeletal soils derived from Jurassic dolerite, or in rock crevices and between boulders where no obvious soil exists (Davies & Davies 1989; Kirkpatrick 1997).

Associated species include the grasses *Poa costiniana* and *Deyeuxia monticola*, and the herbs *Chionogentias* sp., *Ewartia catipes* and *Oreomyrrhis* sp. (Davies & Davies 1989). Plants observed growing within *Chionochebe ciliolata* cushions include *Gaultheria depressa* and the fern ally *Lycopodium fastigiatum* (R.Schahinger pers. obs. 2005).

Table 1. Population summary for *Chionohebe ciliolata* in Tasmania.

Population	Tenure	NRM Region*	1:25000 mapsheet	Year last (first) seen	Area occupied	Mature plants	Specific Threats
Hamilton Crags (Ben Lomond)	Ben Lomond National Park	North	Giblin	2005 (1973)	3 to 4 ha	1500 to 2000	Ski field expansion; climate change; stochastic risk

*NRM region = Natural Resource Management region.

POPULATION ESTIMATE

Within Tasmania, the total population size is estimated to be 1500 to 2000 mature individuals.

The presence of *Chionohebe ciliolata* in Tasmania was first noted in the early 1970s on the Ben Lomond plateau (Ratkowsky & Ratkowsky 1974). The Ben Lomond plateau and other alpine areas in northeastern Tasmania have been subject to intensive botanical surveys in the period since (Davies & Davies 1989; Davies & Davies 1990), with more recent targeted surveys for *Chionohebe ciliolata* in 2005 (unpublished data held by the Threatened Species Section, DPIW, Hobart). Given the level of past survey efforts, the likelihood of *Chionohebe ciliolata* populations being discovered outside its currently known extent of occurrence is considered to be low.

RESERVATION STATUS

The known *Chionohebe ciliolata* population in Tasmania occurs within Ben Lomond National Park.

CONSERVATION ASSESSMENT

Chionohebe ciliolata was listed as rare on the original schedules of the Tasmanian *Threatened Species Protection Act 1995* and uplisted to vulnerable in 2008 as part of the Act's five-year review.

The species was listed as Vulnerable on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* in November 2008, satisfying criterion 2: 'Its geographic distribution is precarious for the survival of the species and is limited'.

THREATS AND LIMITING FACTORS

Threats include inappropriate development of the Ben Lomond plateau, climate change and stochastic events.

Development proposals: *Chionohebe ciliolata* occurs wholly within Ben Lomond National Park. The Park is recognised as being an invaluable reserve for the conservation of alpine flora communities, but it is also the main focus of downhill skiing in Tasmania (Parks & Wildlife Service 1998). The species grows on a rocky ridge 200 to 300 m east of a designated skifield development area zone (Parks & Wildlife Service 1998). Expansions to the skifield area and other inappropriate development of the Ben Lomond plateau pose a potential threat to the species.

Climate change: The trend towards a warmer climate may adversely affect this species with the eventual contraction of the species alpine habitat within dispersal range of the species.

Stochastic events: The limited extent of *Chionohebe ciliolata* makes the species particularly susceptible to losses from stochastic events such as landslip, drought, pathogens and inadvertent damage.

MANAGEMENT STRATEGY

The main objective for recovery of *Chionohebe ciliolata* is to ensure that there is no decline in the only known population.

What has been done?

Areas known to support *Chionohebe ciliolata* have been included in the 'natural zone' managed by the Tasmanian Parks & Wildlife Service. It is PWS policy to limit facilities in the 'natural zone' above 1240 m above sea level to signs

and marked walking tracks or cross-country skiing routes (Parks & Wildlife Service 1998).

Survey work targeting *Chionohebe ciliolata* was conducted by DPIW's Threatened Species Section in December 2005.

What is needed?

Recovery actions necessary to decrease the extinction risk to *Chionohebe ciliolata* include:

- Measures to prevent damage from recreational activities on the Ben Lomond plateau, including walking and ski tracks.
- Formal monitoring to determine population trends, the species' life history attributes, and the impact of climate change.
- Extension surveys to be undertaken during the taxon's peak flowering period, from December to February, targeting well-drained rocky areas in Tasmania's northeastern alpine zone.
- Collect seed for long-term conservation storage as part of the Millennium Seedbank (SeedSafe) Conservation Project.

BIBLIOGRAPHY

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View:

<http://www.dpiw.tas.gov.au/threatenedspecieslists>

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Permit: It is an offence to collect, disturb, damage or destroy this species unless under permit.