

# Epilobium atriplicifolium

## COMMON NAME

willowherb

## SYNONYMS

*Epilobium alsinoides* subsp. *atriplicifolium* (A.Cunn.) P.H.Raven et Engelhorn

## FAMILY

Onagraceae

## AUTHORITY

*Epilobium atriplicifolium* A.Cunn.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## NVS CODE

EPIATR

## CHROMOSOME NUMBER

2n = 36

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Endemic. New Zealand: North, South, Stewart, Chatham Antipodes, Campbell and Auckland Islands.



Mt Robert, Nelson. January. Photographer: John Smith-Dodsworth



Kaikoura Peninsula. Photographer: Melissa Hutchison

## FEATURES

Variable, suberect to erect, much-branched, matted, perennial herb 20-360 mm tall, bearing numerous leafy stolons arising from the base; plants with retrorsely (rarely antrorsely) appressed or erect hairs decurrent from the petiole margins, the hairs running out on the margins of leaves, or strigulose all around. Leaves opposite, alternate in the inflorescence, lamina usually much shorter than subtending internodes, sessile or on short petioles up to 2 mm long, dull bluish-green, glabrous except for a few hairs near the base on the margins, the lateral veins not prominent, 2-3 on each side of the midrib; lamina 8-18 x 4-5 mm, narrowly elliptic to ovate, apex acute, base rounded, margins serrulate, with 1-6 teeth on each side. Inflorescence erect, the flowers scattered down the stem. Flowers erect, Ovaries 6-15 mm long, glabrous (rarely weakly to densely strigulose), on pedicels 1-17 mm long. Floral tube 0.5-1.5 mm deep, 0.7-2.2 mm diameter, glabrous or strigulose externally. Sepals 2.0-4.5 x 0.8-1.5 mm, not keeled, glabrous or strigulose. Petals 2.8-6.0 x 1.8-4.5 mm, notch 0.7-2.0 mm deep; white, sometimes flushing pink after pollination. Anthers 0.4-0.9 x 0.25-0.5 mm, cream or yellow; filaments white, those of longer stamens 1.0-2.7 mm long, those of shorter stamens 0.6-1.6 mm long, the anthers of the longer stamens dehiscent first and shedding pollen directly on to the stigma after the flower opens. Styles 1.2-3.2 mm high, white; stigma 0.8-2.6 x 0.3-1.2 mm, white, clavate, surrounded by anthers of at least the longer and usually both sets of stamens at anthesis. Capsule 17-36 mm long, on pedicels 10-90 mm long; blue-green, glabrous (rarely densely strigulose). Seeds 0.7-1.2 x 0.3-0.6 mm, pale orange-brown to orange, obovoid or narrowly obovoid, testa finely reticulate-papillate, apex rounded; coma 5-7 mm long, white, caducous.

## SIMILAR TAXA

*Epilobium atriplicifolium* differs from the allied *E. alsinoides* and *E. tenuipes* by having finely reticulate-papillate rather than finely reticulate seeds, and pedicels which elongate to 10-90 mm (usually 10-40 mm long) long in fruiting specimens (10-80 mm but usually 20-80 mm in *E. alsinoides*). From *E. elegans*, with which it grows it differs from *E. elegans* by its narrower leaves, smaller flowers, and longer-pedicellate condition. From *Epilobium cockayneanum* with which it also grows in the Central North Island and South Island it differs by its taller, less matted growth habit, narrower, less deeply toothed leaves (leaves of *E. cockayneanum* are broadly ovate, ovate-elliptic to ovate-oblong, 5-14 x 6-8 mm, and more deeply toothed).

## FLOWERING

November - March

## FRUITING

January - May

## LIFE CYCLE

Minute papillate seeds are wind dispersed (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Easily grown from fresh seed and rooted pieces. Dislikes humidity and prone to powdery mildew in humid climates. Inclined to be weedy.

## THREATS

Not Threatened. However, *E. atriplicifolium* is seemingly scarce (apparently naturally so) north of the Waikato.

## ETYMOLOGY

**epilobium:** From the Greek epi- 'upon' and lobos 'a pod', the flowers appearing to be growing on the seed pod.

**atriplicifolium:** Leaves resembling *Atriplex*, unrelated plant

## WHERE TO BUY

Not commercially available

## NOTES ON TAXONOMY

Raven & Raven (1976) adopted a very conservative treatment for New Zealand *Epilobium*. In that treatment they recognised *Epilobium atriplicifolium* and *E. tenuipes* as subspecies of *E. alsinoides*. They also included with *E. alsinoides* subsp. *atriplicifolium*, *E. cockayneanum* (treated as a species here) and within subsp. *tenuipes* they merged *E. elegans* (also accepted at species rank here). Raven & Raven (1976) argued for subspecies rank and species merger on the basis of what they saw as intergrading forms between *E. atriplicifolium*, *E. cockayneanum*, *E. elegans* and *E. tenuipes* in the South Island. They did note that intergrading was not evident in the North Island, where the “major entites...are sharply distinct” but they suggested that this had to do with the effectively autogamous breeding system of these taxa, and while they accepted that intergrading forms occurred within the most “highly disturbed vegetational formation in New Zealand” (i.e. tussock grasslands) suggesting that such intergrades were not natural, they nevertheless felt justified in their highly conservative treatment. Subsequently field botanists have largely followed the unpublished views of the late Tony Druce who continued to recognise as species *E. atriplicifolium*, *E. cockayneanum*, *E. elegans* and *E. tenuipes*. For want of a thorough, multi-marker DNA-based revision of New Zealand *Epilobium*, for now at least it seems preferable to follow Druce (1993) rather than Raven & Raven (1976) whose treatment of *Epilobium*, whilst understandable for its time, seems inconsistent ( see also comments under *E. cockayenanum*).

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange (22 October 2012). Description adapted from Raven & Raven (1976).

## REFERENCES AND FURTHER READING

- Druce, A.P. 1993: Indigenous vascular plants of New Zealand. Ninth Revision. Unpublished Checklist held at Landcare Research, Lincoln, New Zealand.
- Raven, P.H.; Raven, T.E. 1976: The genus *Epilobium* in Australasia. New Zealand DSIR Bulletin 216. Wellington, Government Printer.
- Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309
- Webb, C.J.; Simpson, M.J.A. 2011: *Seeds of New Zealand Gymnosperms and Dicotyledons*. Christchurch, Manuka Press.

## NZPCN FACT SHEET CITATION

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<https://www.nzpcn.org.nz/flora/species/epilobium-atriplicifolium/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/epilobium-atriplicifolium/>