Psoralea pinnata **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

Common name dally pine (English, New Zealand), African scurfpea (English), blue Psoralea (English, Australia), bloukeur (English, South Africa), Albany broom (English, Western Australia), blue butterfly bush (English, Australia), blue broom (English, Western Australia), blue pea (English), umhlonishwa (English, South Africa), taylorina (English, Australia), fonteinbos (English, South Africa), penwortel (English, South Africa), Fountain Bush (English, South Africa)

Synonym *Psoralea arborea*

Similar species

Summary *Psoralea pinnata* is a slender, medium-sized shrub that occurs in riparian habitats along creeks and rivers, in waste land and disturbed natural vegetation. Any disturbance for e.g. a fire incident can trigger a mass germination of soil stored seed. It is fast growing and forms dense thickets that could shade out and impede the growth of lower stratal species; it is a nitrogen fixer and can alter soil nutrient status.

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Species Description
Psoralea pinnata is a slender medium-sized fast growing shrub that can reach upto 5m in height. Its fine deep green linear leaves are deeply divided (about 4cm long). The linear leaf blades occur in crowded alterante spirals (0.8mm to 2mm wide) and tapering from the base. This plant blooms with white, lilac or blue pea shaped sweet smelling flowers in large clusters toward the end of the branches. Flowering is followed by the production of small pods, each of these contain a single dark brown seed [Description from EOL 2010]. The seeds are hard-coated (3.4 × 2.1mm); any disturbance for e.g. a fire incident can trigger a mass germination of soil stored seed (Groves *et al* 2005).
P. pinnata bears nodules that are associated with nitrogen-fixing bacteria. The species was examined for mychorrhizael associates by Hawley and Dames (2004): hyphae, vesicles and spores were found to be present in roots.

Uses
Psoralea pinnata is taken as emetics by healers in Africa (Hutchings *et al*. 1996). It has been screened for anticancer compounds by Fouche and colleagues (2008).

Habitat Description
Psoralea pinnata is found near waterfalls and in rocky places in its native South Africa (JSTOR Plant Science 2010). In its introduced range in Australia it occurs in riparian areas, occupying edges of rivers creeks and swamps; it is found growing amongst low trees, low (sclerophyll) shrubland; in rocky or stony soil, gravelly soil, sand, loam, clay, wet soil; road verges and walktrails, old quarries and rubbish tips; growing on wasteland, in gravel pits, in disturbed natural vegetation, and on bare areas. (Hussey *et al*. 1997; Muyt 2001; Department of Primary Industries 2008a; FloraBase 2010). It is reported to be highly invasive in heathland in Australia (Muyt 2001).
In the far north of New Zealand *P. pinnata* is found on volcanic soils and is most common close to roads and tracks (Enright 1989).
P. pinnata is tolerant of partial shade and invades forest. It is tolerant to frost (to temperatures of -4ºC), fire (fire stimulates germination and mature plants can reprout), dry conditions (not drought), waterlogging (occurs in swamps) and salt laden winds (Blood 2001, Muyt 2001, in Department of Primary Industries 2008b).

Reproduction
Psoralea pinnata reproduces by seed and can produce thousands of propagules (seeds) annually (Muyt 2001). Seeds remain persistant in soil for at least 8 years (Muyt 2001). In terms of reproductive period the plant can live for 15 years and is able to start flowering in its second year which would give it a potential reproductive period of more than 10 years (Blood 2001, Eliovson 1960, Muyt 2001, in Department of Primary Industries 2008b).

General Impacts
Psoralea pinnata is fast growing and can grow up to 1.5m in a year. It forms dense thickets that could shade out and impede the growth of lower stratal species(Muyt 2001). *P. pinnata* is capable of vegetative regeneration and resprouts from its base (FloraBase 2010). Its hard coated seeds persist in soil for upto 8 years; any disturbance for e.g a fire incident can cause mass germination of these seeds. Mature plants are generally killed in a fire (FloraBase 2010).
P. pinnata is a nitrogen-fixing plant which can alter soil fertility and affect indigenous species persistence (Muyt 2001).
In Western Australia *P. pinnata* is one of several weeds that invades the habitat of the endangered mountain villarsia (*Villarsia calthifolia*) and is listed as a threatening competitor to this rare species (Gilfillan & Barrett 2004). *P. pinnata* is also one of several weeds (gorse (*Ulex europaeus*; *Acacia longifolia* var *sophorae*; bitou bush (*Chrysanthemoides monilifera*) that threatens the heath and swamp habitat of the emu wrens in south-west Victoria (Maguire & Mulder, 2004). Additionally these weeds need to be managed and cause the use of chemicals and other mechanical tools in this habitat.

Management Info
Management notes in FloraBase (2010) suggest hand-pulling or digging out young plants and seedlings. For mature shrubs they suggest cutting and painting with 50% glyphosate. Since *P. pinnata* is capable of resprouting, a 1% glyphosate spray of resprouting material is suggested.
P. pinnata seeds are known to persist in the soil for upto 8 years, therefore treated sites need to be managed for at least 8 years.

Pathway
Human aided dispersal of *Psoralea pinnata* seeds may occur through movement of machinery and contaminated soil (FloraBase 2010). Dispersal over more than 1 km through contaminated machinery has been observed (Mitchard pers comm. 2007, in Department*Psoralea pinnata* is occasionally sold as an ornamental plant.

Principal source: FloraBase, 2010. *Psoralea pinnata* L. Department of Environment and Conservation, Western Australia Herbarium
Department of Primary Industries, 2008b. Impact Assessment - Blue Psoralea (*Psoralea pinnata*) in Victoria. Victorian Resources Online. Government of Victoria

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[7] AUSTRALIA
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[1] UNITED STATES
[4] NEW ZEALAND
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