Glycine tabacina

***Glycine tabacina* is a prostrate perennial legume with slender, elongated stems, usually creeping or trailing, occasionally twining. Stems arise from a woody, often thickened root-stock. The leaves are pinnately trifoliate [12]. Common names include Glycine, Variable Glycine [10], Love Creeper, Native Soybean [11], Pea Glycine and Slender Sweetroot [12].**

Population map:

www.ala.org.au/explore/species-maps/

Natural Populations

Glycine tabacina is found in NSW, Qld, Vic and WA [8]. It is common amongst grasses in open situations in grassy forests and woodlands [5, 8, 13]. It also grows in sheltered forests and rainforest gullies [11], but is infrequent close to sea level [10]. It was previously more common prior to stock grazing pressures [5].

G. tabacina is probably the most common and widely distributed of the native legumes that are of forage value in eastern Australia, being almost cosmopolitan in its occurrence. It does particularly well on sandy soils but is also found on black basaltic clays [12].

The two species - *G. tabacina* and *G. clandestine* - are best distinguished by the length of the leaflet stalks. In *G. clandestina*, all three leaflet stalks in a leaf are about the same length, while in *G. tabacina* the middle leaflet has a distinctly longer stalk than the two lateral ones. The leaves of *G. tabacina* can be difficult to distinguish from another twining woodland pea, Slender Tick Trefoil (*Desmodium varians*). However, *D. varians* has very different pods (with distinctive constrictions around each seed) and white to pink flowers [7].

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Flowering and Seeds

The pea-shaped flowers are purple to mauve and found mainly from spring to autumn [2, 8, 9]. The pods turn almost black and the 4-8 seeds within are red-brown at maturity (from October to June) [3, 9].

Collect seeds in summer to autumn [7]. As with most native peas, the seed drops very soon after maturity. Monitor fruits closely, bag maturing fruits or place groundsheets under plants to catch seeds (although ants also harvest the seed). Alternatively, the pods can be harvested close to maturity (when they turn brown) and fully dried in a warm area [3].

The seed has a long storage life [1, 3, 4].

photo: C. Miller

Cultivation and Uses

G. tabacina seeds have hard coats like wattles and other legumes. Germination is improved with hot-water treatment. Put seeds in a jar and cover with just-boiling water. Leave to cool, then examine the seeds - some will have swelled to double their size, others will be unchanged [4, 7]. Drain and dry seed before sowing [2, 4]. The seed is suitable for direct seeding in pots (2-3 seeds per pot) [4, 5] and in the field [3, 4]. Sow the swollen seeds in ordinary potting mix [7]. Germination should occur in 3-4 weeks [2, 4, 5].

G. tabacina can be also propagated from cuttings [5]. It resprouts from the base and regenerates abundantly from seed after fire [9].

G. tabacina prefers well drained soils, full sun, or partial shade [5, 13]. It tolerates drought [5] but is sensitive to frost [13]. It is an attractive groundcover for rockeries [5]. It has a woody rootstock but the stems are slender and delicate and susceptible to grazing [2].

Being a legume, *G. tabacina* has an important relationship with *Rhizobium* bacteria, which live in root-nodules and allow the plant to fix nitrogen from the air [1, 2, 7, 9].

Deep-rooted perennial legumes like native soybeans have potential for ameliorating salinity problems, and a cultivar of one species (*Glycine latifolia*) has already been released as a commercial pasture species for the black soils of the Darling Downs in south-east Queensland [7].

No toxic features have been recorded for *G. tabacina* [12]. It is quite palatable to stock and is avidly grazed when accessible [6].

It responded to applied phosphate at Armidale, NSW, Australia, but not as strongly as naturalized legumes or *Lespedeza cuneata*. It did not respond to applied sulphur [12].

Indigenous people chewed the tap root which is liquorice flavoured [6, 13, 15].

G. tabacina is a food plant for some caterpillar species and provides nectar for butterflies [13].


photo: J. Lindner

To source seeds or plants:

www.grassywoodlands.org.au

References

[1] Carr, D. (1997). *Plants in Your Pants: a pocket guide for the identification and use of the common plants of the northwest slopes.* Greening Australia NSW, Armidale.

[2] Walker, K., Burrows, G., and McMahon, L. (2001). *Bidgee Bush, An identification guide to common native plants species of the South Western Slopes of New South Wales.* Greening Australia, South West Slopes.

[3] Ralph, M. (1993). *Seed Collection of Australian Native Plants For Revegetation, Tree Planting and Direct Seeding.* 2nd ed. Fitzroy, Victoria: Bushland Horticulture.

[4] Ralph, M. (1997). *Growing Australian Native Plants from Seed For Revegetation, Tree Planting and Direct Seeding.* Fitzroy, Victoria: Murray Ralph/Bushland Horticulture.

[5] Stelling, F. (ed.) (1998). *South West Slopes Revegetation Guide.* Murray Catchment Management Committee, Albury, NSW.

[6] Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. and Leigh, J.H. (1981). *Plants of Western New South Wales.* D. West: NSW Government Printing Office.

Internet links

[7] Grassy Ecosystems, Conservation Management Networks: **http://users.tpg.com.au/tmcleish/plants/plants_nativesoybeans.html**

[8] PlantNET National Herbarium of New South Wales: **http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Glycine~tabacina**

[9] The Royal Botanic Gardens and Domain Trust: **http://www.rbgsyd.nsw.gov.au/science/Evolutionary_Ecology_Research/Ecology_of_Cumberland_Plain_Woodland/woodland_plants/glycine_tabacina**

[10] Hawaiian Ecosystems at Risk project: **http://www.hear.org/pier/species/glycine_tabacina.htm**

[11] Survival, Tracking, and Awareness website: **http://www.survival.org.au/bf_glycine_tabacina.php**

[12] Grassland Species Profiles: **http://www.fao.org/ag/AGP/agpc/doc/gbase/data/Pf000043.HTM**

[13] Yarra Ranges Local Plant Directory: **http://www.yarraranges.vic.gov.au/Residents/Yarra_Ranges_Plant_Directory/Middle_Storey/Climbers_and_creepers/Glycine_tabacina**

[14] FloraBase Western Australian Herbarium: **http://florabase.calm.wa.gov.au/browse/profile/3941**

[15] Victorian Flora: **http://www.victorianflora.wmcn.org.au/plantDetail.php?plantno=174.00000**

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