

GROUND (BASKET)

ASPARAGUS

Asparagus aethiopicus L.

Note that this name has previously been misapplied as Asparagus densiflorus (Kunth) Jessop (Batchelor and Scott 2006).

Other species names:

Protasparagus densiflorous

Asparagus aethiopicus

Asparagus sprengeri

Other common names:

Basket asparagus

Asparagus fern

Sprengi's fern

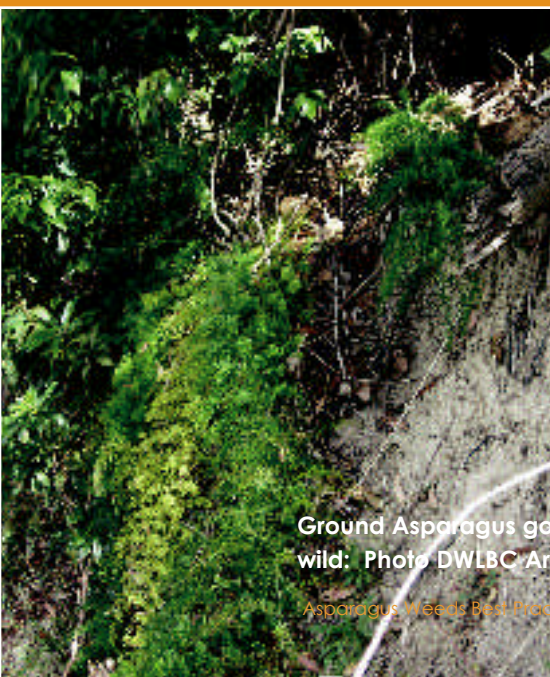
Bushy asparagus

Emerald asparagus



Ground (Basket) Asparagus:
Flora of NSW

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Ground Asparagus gone
wild: Photo DWLBC Archive



Potted ground asparagus: Photo DWLBC Archive

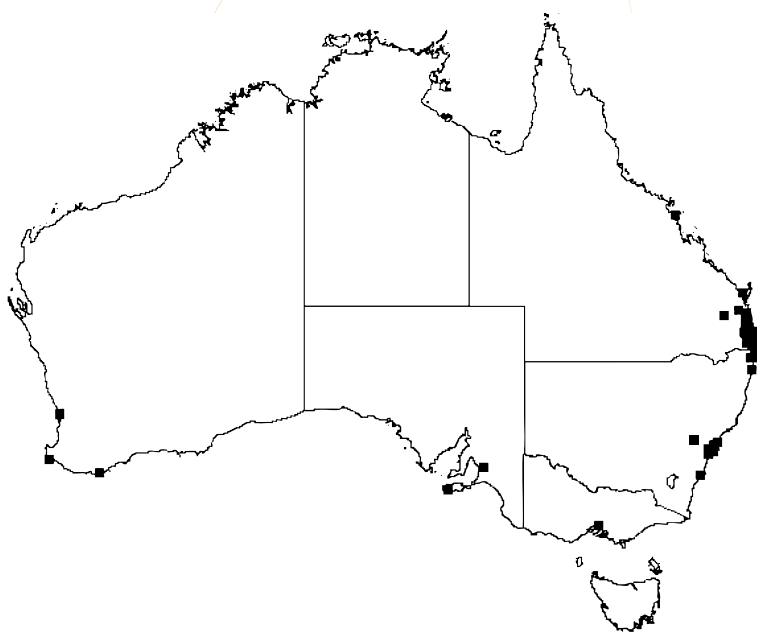
Some confusion exists amongst the weed management community as to which of the two species, *Asparagus aethiopicus* and *A. densiflorus*, are present within Australia. Possibly both occur, but more study is required to get a definitive answer as to which species occurs and at what location within the country. At the time of writing this manual, it was agreed that both species should be treated as the same plant and managed accordingly.

Ground asparagus is a multi-stemmed, bushy, prostrate, perennial shrub, which forms a thick mat of tuberous roots. It grows particularly well in shaded areas and in low fertility, shallow, sandy soils. The weed is prevalent in coastal, urban and bushland sites, particularly around housing developments where disturbances by machinery provide ongoing invasion opportunities.

In cultivation, basket asparagus seedlings produce water storage tubers at 2 weeks after germination, with flowering about 20 months after germination (Vivian-Smith unpublished data).

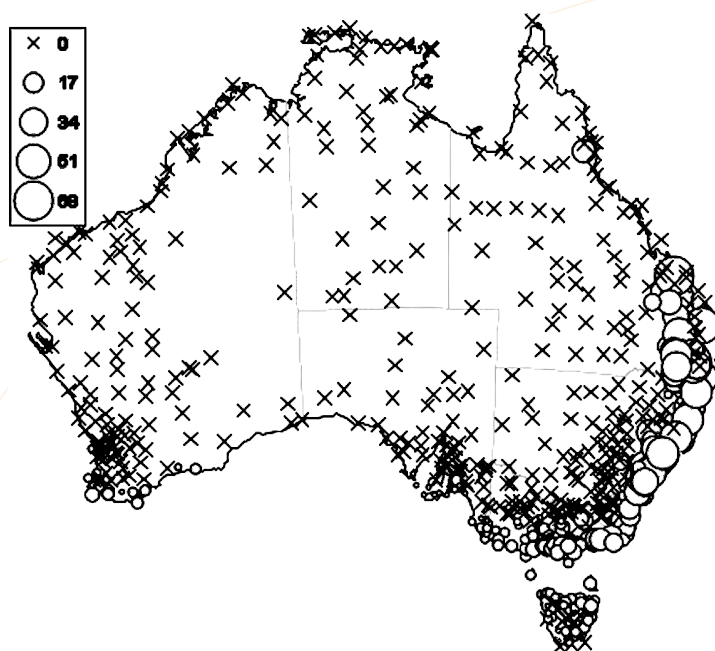
Current and predicted distribution

Ground asparagus has naturalised in south-east Queensland and along the coast of New South Wales, where it has invaded coastal environments, littoral rainforests, rainforests, frontal dunes, sclerophyll forests and coastal heath. It is considered to be a serious threat to coastal bushland around Sydney. Heavy infestations exist on the western edge of Burleigh Heads National Park, Queensland (Csurses and Edwards 1998). It is also recorded in South Australia and Western Australia



Map 1: Current distribution of ground asparagus (Scott & Batchelor, 2006)

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Map 2: Potential distribution of ground Asparagus (Scott & Batchelor, 2006)

Introduction into Australia

Ground asparagus is native to South Africa where it occurs in a range of coastal habitats, including rocky areas and woodlands (Curses & Edwards, 1998). The plant was initially distributed through the sale of nursery stock.

Dispersal methods

It is spread by the growth of rhizomes originating from dumped garden waste and through seed dispersal by birds (Armstrong and Buchanan, 2000). Ground asparagus is still sold as an ornamental garden plant in some parts of Australia (Weeds Australia, 2005).

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Legal status of the weed

At present Ground asparagus is only declared as a noxious weed in New South Wales and Queensland where it is posing the most severe threat.

Description and life cycle

Ground asparagus is a perennial shrub or scrambler, commonly grown in gardens and parks as an ornamental plant. Mature plants have prickly scales along stems, cream flowers and green to red fruit. In established colonies, the mass of above ground organs, together with numerous seedlings completely suppress the growth of other native species (Ellison, 1995).

The life cycle of ground asparagus is as follows:

- young seedlings establish and continue to produce tubers during wet periods (February to April).
- non-flowering shoots emerge during autumn (April to May).
- vegetative regeneration occurs in winter (June to August).
- flowering shoots occur 20 months after germination, during late winter-early spring (August to September).
- plants begin to form fruits and set seed from late September to October.
- plants may dieback during the hot summer months from December through to mid February, however the tubers will ensure survival.

Flowers	Appearance and characteristics
 Flower of the ground asparagus: Photo DWLBC	• cream-pinkish 3-4mm long
Berries and Seeds	Appearance and characteristics
 Red and green berries: Photo DWLBC	• globular berries, 5-8mm in diameter and ripen to bright red.

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Cladodes (Leaves)	Appearance and characteristics
 Fine cladodes of ground asparagus : Photo DWLBC	flattened, needle-like cladodes 2-5 per axil, 15-25mm long.
Root system	Apperance and characteristics
 Fibrous root system showing tubers: Photo DWLBC	fleshy, whitish-brown tubers and rhizomes forming thick underground fibrous clumps and mats.
 Tuber and root mass: Photo DWLBC	

Controlling infestations

Physical removal

Eurobodalla Shire Council in New South Wales suggests that when digging out plants, only the root system in the smallest plants should be removed, as the amount of soil disturbance involved with larger infestations would be unacceptable. Rhizomes and tubers should be disposed of carefully and not left in contact with the ground. If the plants are fruiting at the time of treatment, the fruits should also be disposed of carefully, preferably by burning or deep burial.

Herbicide treatment

A number of control methods have been used at sites in New Zealand, Sydney and Lord Howe Island which include:

- foliar application of metsulfuron methyl herbicide at 1g/450mL of water per square metre. No regrowth was reported one year after treatment
- cutting and painting stems using a mixture of full strength metsulfuron methyl and glyphosate herbicides. Results have recorded no regrowth for 15 months after treatment
- scraping a 200mm section of each frond near the crown of the plant and applying full strength glyphosate along the scrape (Armstrong et al. 2006).

Herbicide screening trials conducted in Queensland (Armstrong and Buchanan, 2000; Buchanan et al., 2006) found that foliar spray application at 6g metsulfuron methyl (i.e. 10g Brush-Off®) plus 100mL BS1000® surfactant per 100 L water gave the most successful control in a range of seasons.

Please remember to follow the instructions on the label of any herbicide that is being used. Permits are required from the Australian Pesticides & Veterinary Medicines Authority (APVMA) should there be any deviation from the manufacturers recommended dosages and application methods. The APVMA can be contacted at (02) 6271 6384 or <http://www.apvma.gov.au/permits/permits.shtml>

References and further reading

Armstrong, T.R. and Buchanan, A. (2000). Basket Asparagus, *Asparagus aethiopicus* var. *sprengeri* (Syn. *Asparagus densiflorus*) and its control. Sixth Queensland Weed Symposium Proceedings, Caloundra.

Batchelor, K.L. and Scott, J.K. ,2006. Review of the current taxonomic status and authorship for *Asparagus* weeds in Australia. *Plant Protection Quarterly Vol 21 No 3*. Online <http://www.weeds.org.au/WoNS/bridalcreeper/>. Accessed 14/08/06

Breaden, R.C., Armstrong, T.R. and Hinchliffe, D. (2006). The chemical control of the environmental weed basket asparagus (*Asparagus aethiopicus* L. c.v. *Sprengeri*) in Queensland. *Plant Protection Quarterly Vol 21 No 3*. Online <http://www.weeds.org.au/WoNS/bridalcreeper/>. Accessed 14/08/06

Csurses, S. and Edwards, R. (1998). Potential environmental weeds in Australia. Queensland Department of Natural Resources, Brisbane.

Eurobodalla Shire Council, South Coast Weeds of New South Wales. Climbing asparagus or *Asparagus* fern web page. Viewed 6 September 2005. www.esc.nsw.gov.au/weeds/sheets/vines/V%20Climbing%20asparagus.htm

Scott, J.K and Batchelor K.L. 2006, Climate –based prediction of potential distribution of introduced *Asparagus* species in Australia, *Plant Protection Quarterly*, Vol 21, No 2. Online <http://www.weeds.org.au/WoNS/bridalcreeper/>. Accessed 14/08/06

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Weeds Australia, Weed Identification, Sprenger's Asparagus, viewed 6 September, 2005, www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&ibra=all&card=H03

Appendix

Growth Calendar - Ground Asparagus												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Flowering												
Fruiting												
Dieback												
Regrowth												
Germination												
General Growth Pattern												
Growth pattern in suitable conditions												
Adapted from Weed CRC Bridal Creeper Weed Management Guide												

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