

Bulbous & Succulent Weeds

These plants are extremely hardy due to their above ground and below ground storage structures, which are modified leaves, stems and roots.

This group of plants includes all of the *Asparagus* species. These plants are prolific, hardy (drought-resistant), shade tolerant and highly invasive. They have extensive underground rhizomes that form thick mats capable of reducing water penetration into soil; vigorous vegetative structures that are capable of smothering native vegetation and produce copious amounts of berries (red or black) that are readily consumed and spread by animals and birds. They are also spread by green waste dumping as rhizomes are capable of surviving for long periods of time out of the soil.

The main weed species are featured on their own pages but below is a list of:-

Other Problematic Bulbous & Succulent Weeds

| Common Name | Botanical Name |
|------------------------------|--|
| Aloes | <i>Aloe</i> spp. |
| Asparagus Fern | <i>Asparagus scandens</i> (WoNS) |
| Bridal Veil | <i>Asparagus declinatus</i> (WoNS) |
| Cactus/Prickly Pears | <i>Harrisia, Opuntia & Cylindropuntia</i> spp. |
| Century Plant | <i>Agave americana, Agave</i> spp. |
| Coastal Gladiolus | <i>Gladiolus gueinzii</i> |
| Freesia | <i>Freesia x hybrida/Freesia refracta</i> |
| Gladiolus | <i>Gladiolus</i> spp. |
| Mother in Law's Tongue | <i>Sansevieria</i> spp. |
| Naked Lady | <i>Amaryllis belladonna</i> |
| Philippine Lily | <i>Lilium philippinense</i> |
| Soursob/Shamrock/Wood Sorrel | <i>Oxalis</i> spp. (Noxious) |
| Various Succulents | <i>Sedums, Kalanchoe,</i> and many other Genera |

Bridal Creeper fact: First recorded in Australia in 1857 in a nursery catalogue. By the 1870's Bridal Creeper was a common garden plant; its flowers were used in floral arrangements, particularly in wedding bouquets. Within 50 years of introduction, bridal creeper had become naturalised in many areas across most of southern Australia and has earned its Status as a Weed of National Significance.

Agapanthus

Agapanthus spp.

One of the most widely planted ornamental landscape plants, *Agapanthus* have invaded natural areas including the Blue Mountains world heritage area.

Family: Alliaceae

Origin: Africa

Habit: An erect fleshy, clumping, perennial lily with long strappy leaves.

Leaves: Long (up to 700mm), strap-like, glossy bright green, fleshy.

Flowers: Small (30mm) trumpet shaped blue or white flowers that form large spherical clusters (umbels) at the end of long (1200mm) smooth tubular stalks. Very showy floral display in Summer.

Fruit: Three-sided leathery green capsules form in clusters at the end of stalks, drying brown and papery when mature. Contain numerous winged, small black seeds.

Roots: Shallow, fleshy, densely matted and quite robust.

Dispersal: Seed and tubers spread by water, wind, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Hand pull/dig, bagging all plant parts and removing from site. Foliar spray, Cut and Paint.

This is a popular garden plant that needs active management in all gardens. This may be as simple as **actively removing spent flower stalks prior to seed set**, or as comprehensive as complete removal from gardens.



Arum Lily

Zantedeschia aethiopica

Family: Araceae

Origin: South Africa

Habit: Erect, tuberous, evergreen perennial herb to 1.5m high.

Leaves: Arrowhead shaped, dark green leaves to 45cm long and 20cm wide borne at the ends of stout, smooth, succulent green stems to 75cm long and winged at the base.

Flowers: Pale Yellow spike to 9cm long surrounded by a pure white funnel shaped spathe to 25cm coming to a point. Winter-Summer.

Fruit: Berry, green or yellow maturing to orange 5-10mm long containing about 4 yellow-brown seeds.

Roots: Fleshy tuberous rhizome.

Dispersal: Rhizomes, cormlets and Seed is spread by water, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Hand pull/dig, bagging all plant parts and removing from site. Foliar spray, Cut and Paint.

Used extensively in floral arrangements all *Zantedeschia* species are highly toxic if eaten raw. They are known to have caused the deaths of cattle and children. All parts of the plant are toxic, and produce irritation and swelling of the mouth and throat, acute vomiting and diarrhoea.



Asparagus - Bridal Creeper

Asparagus asparagoides

Bridal creeper is widespread in Western Australia, South Australia and Victoria. It is also spreading in New South Wales and Tasmania. It has the potential to spread further and increase its density in all southern states.

- Family: Asparagaceae
- Origin: South Africa
- Habit: Wiry twinning climber to 3m in length and branch extensively. Stems emerge annually in autumn from a mat, 0-10cm deep.
- Leaves: Bright green with alternate, flattened, shiny, stems (leaf-like) that are pointed ovate shape and have parallel venation, leaves 4-30mm wide and 10-70mm long which occur along the length of wiry green stems.
- Flowers: White, 6-petalled flowers, 5-8mm in diameter, appear in early Spring.
- Fruit: Pea-sized green berries turning pink then red/burgundy in late spring-early summer. Berries contain 1-9 seeds that are black when mature.
- Roots: Branching rhizomes that bear numerous fleshy tubers.
- Dispersal: Seed spread by water, animals, birds, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.
- Control: Difficult to control – crowning, ensure that the crown is removed off site. Remove and bag berries. Follow-up – hand -pull all emerging seedlings. Foliar spray.

Similar Native Species: Wombat Berry (*Eustrephus latifolius*)



Asparagus - Climbing

Protasparagus plumosus

Protasparagus setaceous

A very popular indoor plant because of its ability to withstand low light and neglect, this plant is naturalised in sheltered sites and rainforests infesting many hectares on the NSW coast.

Family: Asparagaceae

Origin: South Africa

Habit: Tough, perennial, wiry, twining climbing vine with occasional spines and fine, feathery fern like foliage.

Leaves: Fine, feathery, leaf-like cladodes arranged in horizontal sprays.

Flowers: Flowers are small, greenish-white and arranged at the tips of branches in Summer.

Fruit: Bluish-green berries to 0.5cm across that turn black when ripe in Autumn.

Roots: A tough, woody crown is forged at base of stems, with a comprehensive fleshy root mass radiating out from the crown.

Dispersal: Seed spread by water, animals, birds, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Difficult to control – crowning, ensure that the crown is removed off site. Remove and bag berries. Follow-up – hand-pull all emerging seedlings. Foliar spray.



Asparagus - Ground

Protasparagus aethiopicus
Protasparagus densiflorus

A very popular indoor/basket plant because of its ability to withstand low light and neglect, this plant is naturalised in sand dunes and rainforests infesting hundreds of hectares on the NSW coast.

Family: Asparagaceae

Origin: South Africa

Habit: Herbaceous perennial, highly invasive, sprawling ground cover with wiry, much branched stems up to 2m. A tough, woody crown is formed at base of stems. Dense mats of branches will smother low native vegetation and suppress natural regeneration.

Leaves: Up to 2.5cm, bright green, ferny, leaf-like cladodes with a distinct midrib and abrupt point.

Flowers: Small, white to pale pink, bell shaped flowers in clusters produced during Summer.

Fruit: Pale green berries that ripen to red in late winter early spring.

Roots: Comprehensive and thick mat of tuberous roots spreading from crown.

Dispersal: Seed spread by water, animals, birds, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Difficult to control – crowning, ensure that the crown is removed off site. Remove and bag berries. Follow-up – hand-pull all emerging seedlings. Foliar spray.



Photo: Steve Howard

Asparagus - Culinary

Asparagus officinalis

Family: Asparagaceae

Origin: Europe

Habit: Grown for culinary purposes. Hardy perennial with robust spears and prolific fern like vegetative structures 1.5 to 2.0m tall.

Leaves: Fine, feathery, leaf-like cladodes arranged in cylindrical sprays.

Flowers: Flowers are small, bell shaped, greenish-white and arranged at the base of branches in Summer.

Fruit: Bluish-green berries to 0.5cm across that turn red when ripe in Autumn.

Roots: A tough, woody crown is forged at base of stems, with a comprehensive fleshy root mass radiating out from the crown.

Dispersal: Seed spread by water, animals, birds, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Difficult to control – crowning, ensure that the crown is removed off site. Remove and bag berries. Follow-up – hand-pull all emerging seedlings. Foliar spray.

Unlike most other weeds of this family the culinary asparagus is native to Europe not South Africa. It does however share many of its counter parts weedy traits such as developing succulent berries and growing dense underground rhizomes and root mats.

This is a popular vegetable garden plant that needs active management. This may be as simple as removing vegetative stalks prior to seed set, or as comprehensive as complete removal from gardens.



Canna Lily/Indian Shot

Canna indica

Canna x generalis

Family: Cannaceae

Origin: Tropical and South America

Habit: Erect, herbaceous perennial to 2m high with No true stems. Stems are a collection of tightly furled leaf bases.

Leaves: Dark green to multi coloured and striped, large (60 x 25cm), arranged alternately on stems.

Flowers: Tubular flowers (yellows oranges, reds and pinks) formed in asymmetrical clusters. Spring-Autumn.

Fruit: Black, globular seeds (5-7mm long) borne in capsule, and spread by birds.

Roots: Extensive, fleshy rhizome formed underground.

Dispersal: Seed and rhizomes spread by water, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Hand pull/dig, bagging all plant parts and removing from site. Foliar spray, Cut and Paint.

A very widely planted species that prefers wet boggy sites. Commonly used in septic tank absorption trenches. Garden refuse dumping and deliberate planting in reserves and wetland areas is the main problem.



Elephants Ears/Taro

Colocasia esculenta

Plants such as these with fleshy tuberous rhizomes, when established in moist areas become extremely heavy and difficult to remove. Do not let them establish outside of gardens.

Family: Araceae

Origin: S.E. Asia,
Hawaii, and the
Pacific Islands

Habit: Erect, rhizomatous tuberous, evergreen perennial herb to 1.5m high.

Leaves: Heart shaped, dark green leaves to 60cm long prominently veined. Stem & leaf colour varies depending on variety of plant.

Flowers: Pale Yellow spike enclosed by a greenish yellow hood like spathe. Flowers Winter-Summer.

Fruit: Small berry, green or yellow maturing to orange 5-10mm long containing about 4 yellow-brown seeds.

Roots: Fleshy tuberous rhizome.

Dispersal: Roots, tubers and Seed is spread by water, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Hand pull/dig, bagging all plant parts and removing from site. Foliar spray, Cut and Paint.



Fishbone Fern

Nephrolepis cordifolia

Once a popular basket and rockery plant because of its ability to withstand low light and neglect, this plant is naturalised throughout a large proportion of the NSW coast.

Family: Davalliaceae

Origin: North Eastern Australia

Habit: Terrestrial fern that forms dense clumps of upright, arching fronds that resemble fish bones with erect rhizome and slender stolons.

Leaves: Compound fronds with opposite or alternate leaflets, often overlapping at base, to 1m. Leaflets to 6cm long.

Flowers: Nil.

Fruit: Spores carried in round, brown clusters (sori) that form in two rows on underside of frond.

Roots: Erect, branching rhizomes above or below ground level, with wiry stolons bearing rounded, hairy tubers.

Dispersal: Spores carried by water, wind and contaminated soil (tyres, earth works, people's shoes, green waste dumping). Problematic in any damp, shady areas, where it will completely dominate ground cover layer.

Control: Hand pull/dig, bagging all plant parts and removing from site. Foliar spray.

Similar local native species: Rasp Fern *Doodia aspera* and Sickle Fern *Pellaea falcata*.



Formosa Lily

Lilium formosanum

Also known as Taiwan Lily, this plant is rapidly becoming a naturalised weed in many states of Australia infesting roadsides, disturbed areas, wastelands and even bushland.

Family: Liliaceae

Origin: Asia (Taiwan)

Habit: Deciduous perennial herb with annual flowering stalks 1-2m long.

Leaves: Mid to dark green, elongated, linear, sessile leaves are arranged spirally or whirled along the stems.

Flowers: Large trumpet shaped highly fragrant flowers, pure white on the inside, pink or purple/brown stripes on the outside bearing prominent yellow anthers. Summer.

Fruit: Copious papery winged seeds borne in a large capsule.

Roots: Underground bulb with numerous fleshy scales (resembling garlic).

Dispersal: Seeds, bulbs and bulb scales spread by water, wind, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Difficult. Hand dig, ensuring all scales are removed. Best done before flowering. Extensive follow-up required. Remove and bag seed heads (capsules). Foliar sprays ineffective.



Ginger Lily

Hedychium gardnerianum

Large, spreading plant out-competes natives for light and moisture in moist habitats. Heavy and difficult to remove from bush.

Family: Zingiberaceae

Origin: Himalayas

Habit: Robust perennial herb 2-3m high with creeping underground stems (rhizomes) up to 1 metre long.

Leaves: About 40cm long and 15cm wide. Alternately arranged and lance-shaped with long-pointed tips.

Flowers: Yellow with red filaments and very fragrant, in spike-like clusters, summer to autumn.

Fruit: Produces large amounts of seed.

Roots: Large fleshy rhizomes forming dense layers up to 1 metre thick.

Dispersal: Garden dumping of stems.

Control: Remove underground stems from contact with the soil.



Montbretia

Crocosmia x crocosmiiflora

This pretty bulb invades bushland, roadsides streams banks and even gardens. They tolerate full sun, moist areas, frost, shady and windy conditions. Takes over and displaces indigenous grasses and ground covers.

Family: Iridaceae

Origin: South Africa

Habit: Erect deciduous perennial herb to 0.9m.

Leaves: Basal linear strap like flat leaves around 30-80cm long and 1-2cm wide die down in autumn after producing its seeds, and reappear in Spring.

Flowers: Orange yellow tubular flowers are formed solitary in spike inflorescences on short wispy unbranched stems during Summer.

Fruit: Produces large amounts of seed.

Roots: Globular corms live and produce plants for two years or more, and new corms are formed annually, Long rhizomes are also produced, each of which grows into a new plant.

Dispersal: Roots, rhizomes, corms and seed spread by humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Difficult. Hand dig, ensuring all corms are removed. Extensive follow-up required. Foliar spray with penetrant when flowering.



Mother of Millions

Bryophyllum spp.

Often confused with the Australian native Christmas Bells, this mat forming plant will grow under the poorest of conditions in areas such as a crack in a rock, gravel on the side of a road or on cliff faces, sand dunes and pastures.

Family: Crassulaceae

Origin: Madagascar, South Africa

Habit: Erect, smooth fleshy succulent stems to 2m, with green- pink grey stems.

Leaves: Leaves vary depending on the species, but all are succulent either cylindrical or boat shaped and have many small teeth on the leaf tip or margins that produce new plantlets (vegetative reproduction).

Flowers: Produced in a cluster at the tip of long stems. Flowers are drooping, bell-shaped, orange-red to scarlet, 4-lobed to 2-3cm long. Flowers mainly Winter-Spring.

Fruit: Dry capsule, producing hundreds of tiny black seeds. Prolific seeder.

Roots: Weak fibrous roots form from all vegetative parts.

Dispersal: Main method of reproduction is vegetative where by stem fragments re-root. Human activities such as mowing/slashing and green waste dumping are the common method of vegetative spread. Seeds are spread by water and contaminated soil.

Control: Difficult. Hand pull/dig, bagging all plant parts and removing from site. Foliar spray.



Parrot Alstroemeria/Peruvian Lily

Alstroemeria pulchella

Spreading in shady sites near the coast, forming dense clumps. Expensive and difficult to remove and takes up native habitat.

- Family: Alstroemeria
Origin: Central and South America
Habit: Erect perennial with numerous unbranched stems with spoon-shaped leaves to 1m high. Tuberos underground roots.
Leaves: Twisting from base
Flowers: Loose clusters 4-5cm across, red and green with black spots, at tops of stems. Fruit a capsule.
Fruit: Is a capsule.
Roots: Slender rhizomes becoming crowns and tubers.
Dispersal: Underground tubers spread underground. Fruit possibly eaten and spread by birds and or insects.
Control: Remove the entire plant including the roots. Cut individual stems near ground and paint with full strength herbicide. Follow up required.



Photos: Rob Gleeson

Spanish Bayonet

Yucca aloifolia
Yucca spp.

Commonly cultivated, this garden escapee is found on roadsides and sand dunes. Very difficult to control due to spiny nature of plant creating impenetrable thickets.

Family: Agavaceae

Origin: North & Central America and the West Indies

Habit: Evergreen, herbacious, slow growing perennial shrub or small tree, forming large spiny rosettes of leaves. Often freely branched.

Leaves: Depending on species. Green-bluish grey fleshy, linear to narrow-lanceolate, 0.3-1m long, 2-5cm wide, apex acute with terminal spine 10-20mm long, margins finely toothed, surfaces glabrous.

Flowers: Creamy white, multi flowered panicle 1-3m long.

Fruit: Oblong purplish capsule, 6-8cm long, indehiscent (doesn't open on its own accord at maturity); seeds black.

Roots: Large, dense and fleshy.

Dispersal: Seed and vegetative reproduction where stem segments and leaf rosettes take root. Spread by humans, contaminated soil (earth-moving equipment, car tyres etc) and garden refuse dumping.

Control: Hand or mechanical removal, cut and paint, drilling, foliar spray. All plant parts should be removed from site.



Wild Watsonia

Watsonia meriana var. *bulbillifera*

Once widely, but now rarely, planted as an ornamental. Major environmental weed of disturbed bushland and roadsides, particularly near water. Serious weed in W.A., S.A., Vic and N.S.W.

Family: Iridaceae

Origin: South Africa

Habit: Erect perennial herb to 2m.

Leaves: Basal linear/Sword-shaped leaves up to 0.6m long with distinct midrib are arranged in a fan-like formation. Above ground parts dieback to underground corm each autumn.

Flowers: Curved trumpet shaped salmon pink to Orange red flowers formed solitary in spike inflorescences on tall reddish unbranched stems. Spring-Summer.

Fruit: No seed set, but small bulbils are produced in clusters of up to 16 along the stem below the flowers.

Roots: Globular corm. 1-3 new corms produced each growing season.

Dispersal: Roots, bulbils and corms spread by water, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping.

Control: Difficult. Hand pull/dig, ensuring all corms are removed. Extensive follow-up required. Remove and bag all bulbils. Foliar sprays available.



Grass Weeds

The Grass Weeds are commonly overlooked, however, exotic grass species are invading roadsides, reserves and bushland in Sydney and aggressively displace native ground covers. Although many of these species are desirable pasture grasses and turf grasses in home lawns, parks and playing fields, they are also problematic bushland and garden weeds because they are capable of setting copious volumes of viable seed within a short time of germination. While many of these species only invade disturbed areas with adequate light levels, some of these species are also shade tolerant, and thus can invade intact bushland areas.

The main weed species are featured on their own pages but below is a list of:-

Other Problematic Grass Weeds

| Common Name | Botanical Name |
|--------------------------|---|
| African Feather Grass | <i>Pennisetum macrourum</i> (Noxious) |
| African Love Grass | <i>Eragrostis curvula</i> |
| Bamboo | <i>Phyllostachys</i> spp. |
| Broadleaf Paspalum | <i>Paspalum wettsteinii</i> |
| Buffalo Grass | <i>Stenotaphrum secundatum</i> |
| Chilean Needle Grass | <i>Nassella neesiana</i> (Noxious) |
| Columbus Grass | <i>Sorghum x alnum</i> (Noxious) |
| Common Couch | <i>Cynodon dactylon</i> |
| Coolatai Grass | <i>Hyparrhenia hirta</i> , <i>H. rufa</i> |
| Fine Bristled Burr Grass | <i>Cenchrus brownii</i> (Noxious) |
| Giant Pigeon Grass | <i>Setaria verticillata</i> |
| Giant Parramatta Grass | <i>Sporobolus fertilis</i> (Noxious) |
| Giant Paspalum | <i>Paspalum urvillei</i> |
| Giant Rats Tail Grass | <i>Sporobolus pyramidalis</i> (Noxious) |
| Giant Reed | <i>Arundo donax</i> |
| Grader Grass | <i>Themeda quadrivalvis</i> |
| Johnson Grass | <i>Sorghum halepense</i> (Noxious) |
| Kikuyu | <i>Pennisetum clandestinum</i> |
| Large Quaking Grass | <i>Briza maxima</i> |
| Mexican Feather Grass | <i>Nassella tenuissima</i> (Noxious) |
| Mossman River Grass | <i>Cenchrus echinatus</i> (Noxious) |
| Olive Hymenachne | <i>Hymenachne amplexicaulis</i> |
| Parramatta Grass | <i>Sporobolus africanus</i> |
| Red Natal Grass | <i>Melinis repens</i> |
| Rhodes Grass | <i>Chloris gayana</i> |
| Slender Pigeon Grass | <i>Setaria geniculata</i> |
| Spiny Burr Grass | <i>Cenchrus longispinus/C. incertus</i> (Noxious) |