



**Figure 1. The Sydney region**

For the *Ecology of Sydney Plant Species* the Sydney region is defined as the Central Coast and Central Tablelands botanical subdivisions.

# Ecology of Sydney Plant Species

## Part 4 Dicotyledon family Fabaceae

Doug Benson and Lyn McDougall

### Abstract

*Benson, Doug and McDougall, Lyn (National Herbarium of New South Wales, Royal Botanic Gardens, Sydney, Australia 2000) 1996 Ecology of Sydney Plant Species: Part 4 Dicotyledon family Fabaceae. Cunninghamia 4(4) 553–000.* Ecological data in tabular form is provided on 311 plant species of the family Fabaceae, 243 native and 68 exotics, mostly naturalised, occurring in the Sydney region, defined by the Central Coast and Central Tablelands botanical subdivisions of New South Wales (approximately bounded by Lake Macquarie, Orange, Crookwell and Nowra). Relevant Local Government Areas are Auburn, Ashfield, Bankstown, Bathurst, Baulkham Hills, Blacktown, Blayney, Blue Mountains, Botany, Burwood, Cabonne, Camden, Campbelltown, Canterbury, Cessnock, Concord, Crookwell, Drummoyne, Evans, Fairfield, Greater Lithgow, Gosford, Hawkesbury, Holroyd, Hornsby, Hunters Hill, Hurstville, Kiama, Kogarah, Ku-ring-gai, Lake Macquarie, Lane Cove, Leichhardt, Liverpool, Manly, Marrickville, Mosman, Mulwaree, North Sydney, Oberon, Orange, Parramatta, Penrith, Pittwater, Randwick, Rockdale, Ryde, Rylstone, Shellharbour, Shoalhaven, Singleton, South Sydney, Strathfield, Sutherland, Sydney City, Warringah, Waverley, Willoughby, Wingecarribee, Wollondilly, Wollongong, Woollahra and Wyong.

Data are derived from herbarium collections, literature and field observations. It is hoped that the many, often alarming gaps in the information available will stimulate much-needed research into the ecology of more of the species. Information is provided so far as available to us for each plant species in the following categories:

**Life History:** Growth form, vegetative spread, longevity, primary juvenile period (time from germination to fruiting), reproduction, flowering and fruiting times, fruit/seed type, dispersal, establishment and growth, fire response, interaction with other organisms.

**Distribution:** Status/origin (native/naturalised), Botanical subregions, distribution in Sydney area, selected locations.

**Habitat:** Habitat, altitude, annual rainfall, typical local abundance, vegetation, substrate, exposure.

**Conservation:** Conservation status.

## Introduction

The *Ecology of Sydney Plant Species* aims to provide ecological information on native and naturalised Sydney plants. Particular emphasis has been given to data that are relevant for ecologists and natural area managers, for people involved in bush regeneration, land rehabilitation and landscape design, for researchers in many fields and for a wide range of people who are interested in bushland and native plants. Species-specific information is also relevant to environmental impact assessment and to studies involving changes in drainage, water movement, wind exposure, nutrient conditions and fire regimes on plant species and plant communities. Information included covers growth form, flowering and fruiting times, longevity and maturation periods; pollination and seed dispersal data, distribution, habitat and plant community, as well as responses to fire and disturbance where available and is complementary to the descriptive texts in taxonomic handbooks such as the *Flora of New South Wales* (Harden 1990-93).

Part 4 of the *Ecology of Sydney Plant Species* concentrates on the Dicotyledon family Fabaceae and the subfamilies Caesalpinioideae, Faboideae and Mimosoideae.

## Methods

Part 4 follows the format used in Parts 1–3 (Benson & McDougall 1993, 1994, 1995). The Sydney region is defined as the Central Coast and Central Tablelands botanical subdivisions (i.e. approximately bounded by Lake Macquarie, Orange, Crookwell and Nowra) (Figure 1). This is the area broadly covered by *Flora of the Sydney Region* (Carolin & Tindale 1993), with the exception that the Hunter Valley is not included here since it lies within the North Coast and Central Western Slopes subdivisions. Relevant Local Government Areas are Auburn, Ashfield, Bankstown, Bathurst, Baulkham Hills, Blacktown, Blayney, Blue Mountains, Botany, Burwood, Cabonne, Camden, Campbelltown, Canterbury, Cessnock, Concord, Crookwell, Drummoyne, Evans, Fairfield, Greater Lithgow, Gosford, Hawkesbury, Holroyd, Hornsby, Hunters Hill, Hurstville, Kiama, Kogarah, Ku-ring-gai, Lake Macquarie, Lane Cove, Leichhardt, Liverpool, Manly, Marrickville, Mosman, Mulwaree, North Sydney, Oberon, Orange, Parramatta, Penrith, Pittwater, Randwick, Rockdale, Ryde, Rylstone, Shellharbour, Shoalhaven, Singleton, South Sydney, Strathfield, Sutherland, Sydney City, Warringah, Waverley, Willoughby, Wingecarribee, Wollondilly, Wollongong, Woollahra and Wyong.

The Sydney region, as defined here, includes approximately 3500 plant species, both native and naturalised. To deal effectively with this number, the work has been divided into parts each of approximately 350 species based on plant families beginning with ferns, Cycads and Gymnosperms, and then Dicotyledon and Monocotyledon families. Within these groups, families, genera and species are arranged alphabetically:

- Part 1: Ferns, Fern allies, Cycads and Conifers,  
Dicotyledon families Acanthaceae to Asclepiadaceae (*Cunninghamia* 3(2) 1993)
- Part 2: Dicotyledon families Asteraceae to Buddlejaceae (*Cunninghamia* 3(4) 1994)
- Part 3: Cabombaceae to Eupomatiaceae (*Cunninghamia* 4(2) 1995)
- Part 4: Fabaceae** (*Cunninghamia* 4(4) 1996)
- Part 5: Flacourtiaceae to Myrsinaceae
- Part 6: Myrtaceae
- Part 7: Nyctaginaceae to Rubiaceae
- Part 8: Rutaceae to Zygophyllaceae
- Part 9: Monocotyledon families
- Part 10: Monocotyledon families

For each species (and generally for subspecies) a data sheet is prepared incorporating life history, distribution and habitat data from specimens in the National Herbarium of New South Wales; this information is entered in a database together with data from literature sources both published and unpublished. References have been cited where appropriate but for unreferenced data responsibility has been assumed by the authors. A provisional compilation sheet with the available information is then prepared and distributed to interested persons for comments and additions/alterations. This compilation is then published in parts in the summer issue of *Cunninghamia*, with the subsequent long-term aim of producing a book at the completion of the ten parts. This will allow the incorporation of new and additional material.

Part 5, Flacourtiaceae to Myrsinaceae, is planned for publication in 1997, and any information that readers would like included should be sent to the authors by 30th June 1997.

A review of aspects of the ecology of the Sydney Fabaceae by Tony Auld accompanies this paper (pages 531–551). Ecological review papers may also be appropriate for families in future issues, particularly the major families e.g. Proteaceae and Myrtaceae, but papers would also be welcomed for smaller families. Authors interested in contributing such papers should contact the Scientific Editor.

### Information categories

For each species or subspecies, information is presented under headings relating to different life-history aspects, each with further subdivisions. Emphasis has been given to understanding the species in its wild habitat. For this reason data on cultivation and artificial propagation, available in horticultural books, is generally not included. Likewise information on weed control is not given. Generally, the categories are broadly interpreted and since the project aims to stimulate further investigation, we welcome the addition of extra data on any other aspects of the plant's ecology.

## Botanical nomenclature

**Family/Genus/Species:** Names currently recognised at the National Herbarium of N.S.W. and mostly as used in *Flora of New South Wales*.

**Common name:** Names used in *Flora of New South Wales*.

## Life history

**Growth form:** Brief description

Source: *Flora of New South Wales*

**Vegetative spread:** Indication of whether localised expansion or spread is possible from an individual by rhizome, stolon, rootsucker etc. Important in determining ability of species to colonise immediate local area. Does not include vegetative distance dispersal which is included under Establishment & Growth (diaspore).

Source: Flora descriptions, Herbarium specimens, field observations

**Longevity:** Average potential life-span under natural conditions — range in years where possible, indefinite, where death is not a result of inherent growth e.g. continued rhizomatous growth. Longevity may be shorter in cultivation.

Source: literature, authors' assessment from field observations.

**Primary juvenile period:** time taken from germination to produce first fruits or spores. Gill (1975) uses the term for the period from germination to flowering but the period to fruit maturity is more significant ecologically). Secondary juvenile period is time taken for individual to recover to produce fruit after major damage e.g. from fire, but applicable only if species regularly resprouts.

Source: literature, field observations

**Reproduction:** for Angiosperms, Reproduction is separated into:

**Flowers:** predominant flower colour, flowering period — range of months and, where possible, peak month based on frequency of herbarium collections. Pollination vectors.

**Fruit:** fruit shape and size, particularly with respect to potential dispersal agents. Maturation period. Seed size and number.

Source: Herbarium specimens, field observations, *Flora of New South Wales*, literature.

**Establishment and growth:** diaspore type (including vegetative), dispersal agent. Germination requirements: seedbank presence, dormancy, growth rates, seasonality, deciduousness etc. [notes on propagation in cultivation may be given where these imply similar behaviour under natural field conditions e.g. insights into seed germination inhibition].

Source: literature, field observations

**Fire response:** general response of mature plant to fire, in particular whether it generally resprouts or is killed (see also Gill 1981, Gill & Bradstock 1992). Seedling recruitment associated with fire is included under establishment and growth.

Source: field observations, literature

**Interaction with other organisms:** symbiosis, predators, diseases etc.

Source: mainly literature

## Distribution

**Status/origin:** native or naturalised, region of origin, source and date of introduction/naturalisation

Source: *Flora of New South Wales*, literature.

**Botanical subregions:** occurrence of species in botanical subdivisions of N.S.W., other states and countries.

Source: National Herbarium of New South Wales.

**Distribution in Sydney region:** main geographic regions occupied by species

Source: Herbarium specimen records

**Selected locations:** restricted to about 10 localities for each taxon reflecting natural geographical range of species in the Sydney area. Earliest collection dates are given for some species, particularly exotic species. Recent collection sites indicated where possible. Locality data must be interpreted carefully. The record may be based on an old specimen or observation record and the species may no longer be present at the site. However a knowledge of the original distribution may be important in showing up particular habitat requirements of the species.

Source: Herbarium specimen records

## Habitat

Specific data refers to Sydney area unless stated otherwise.

**Habitat:** brief generalised description

Source: Herbarium specimen records, field observations

**Altitude:** approximate altitudinal range (m +/- 100 m) occupied by the species,

Source: Herbarium specimen records

**Annual rainfall:** approximate annual rainfall range (mm +/- 100 mm) for sites occupied by the species.

Source: Bureau of Meteorology (1975, 1979)

**Typical local abundance:** most frequent recordings (scale: dominant/frequent/occasional/rare)

Source: Herbarium specimen records

**Vegetation:** main structural type with typical associated species where available

Source: Herbarium specimen records, field observations, literature

**Substrate:** geology, soil, moisture supply

**Soil nutrient rating scale:** very fertile (high nutrient) (e.g. basalt soils)/ fertile (moderate nutrient)/ infertile (low nutrient)/ very infertile (very low nutrient) (e.g. sands)

**Soil water-table scale:** permanently high/ mostly high/ mostly low/ permanently low

**Soil salinity scale:** hypersaline/ saline/ brackish/ fresh

Source: Herbarium specimen records, field observations, literature

**Exposure:****Exposure scale:** exposed/ indifferent/ sheltered**Shading scale:** deep shade/ mid shade/ light shade/ full sun

Source: Herbarium specimen records, field observations, literature

**Conservation**

**Conservation:** national significance listing (Briggs & Leigh 1996), with current updating for Rare or Threatened Australian Plants (ROTAP) database maintained by NSW NPWS; inclusion on schedules of the NSW Threatened Species Conservation Act 1995; regional significance and adequacy of conservation within Sydney area where available.

Source: Herbarium records, field observations, literature

**General comments on part 4**

Part 4 covers 311 plant species of the family Fabaceae, 243 native and 68 naturalised exotics. The occurrence of the native species *Acacia kettlewelliae*, *Acacia aspera*, *Castanospermum australe*, *Desmodium campylocaulon* and *Psoralea tenax*, reported to occur in the CC and CT botanical subdivisions in Harden (1990–1993), could not be confirmed from herbarium records and they have not been included here. Also excluded from this work are a number of exotic species that do not appear to be truly naturalised (*Acacia cardiophylla*, *Genista linifolia*, *Lathyrus latifolius*, *Lotus angustissimus*, *Lotus suaveolens*, *Melilotus officinalis*, *Pisum sativum*, *Senna corymbosa*, *Senna multiglandulosa*, *Tephrosia glomuliflora*, *Trifolium hybridum*, *Trifolium incarnatum*, *Trifolium tomentosum*), though there are some records for them growing in cultivation in the area.

A review of the ecology of the Sydney area Fabaceae by Tony Auld, with particular emphasis on the importance of fire, dispersal and the soil seedbank, accompanies this paper (pages 531–551).

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## Dicotyledon family Fabaceae

### *Caesalpinia decapetala* \*

FABACEAE – CAESALPINIOIDEAE

Thorny Poinciana

#### Life history

**Growth form:** Climber or shrub, with hairy branches and prickles 0.5–5 mm long. Stems to 8 m long (M. Robinson pers. comm.).

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, September–October.

**Fruit/seed:** Flat, dehiscent pod, 6–10 cm long, pubescent, dehiscent, with 4–9 seeds.

**Dispersal, establishment & growth:** Diaspore: seed, possibly water-dispersed (M. Robinson p. c.).

**Fire response:**

**Interaction with other organisms:**

#### Distribution

**Status/origin:** Native to SE Asia.

**Botanical subregions:** NC CC; Qld.

**Distribution Sydney area:** Illawarra coast.

**Select locations:** Mt Kembla, Wollongong (1943), Gwynville, Unanderra.

#### Habitat

**Habitat:** Roadsides, disturbed rainforest, creekbanks.

**Altitude:** 0–100 m

**Annual rainfall:** above 1200 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Syncarpia glomulifera*, *Eucalyptus saligna* X *botryoides* with rainforest understorey (M. Robinson pers. comm.). Disturbed sites with *Lantana camara*\* and Blackberry, disturbed rainforest.

**Substrate:** Shale, basalt soils, high nutrient.

**Exposure:**

#### Conservation

**Conservation:** Naturalised, forming stands along roadsides and disturbed rainforest (Harden 1991). Weed status unknown.

### *Caesalpinia gilliesii* \*

FABACEAE – CAESALPINIOIDEAE

Bird-of-paradise Flower

#### Life history

**Growth form:** Straggling shrub 3–5 m high.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, summer and autumn.

**Fruit/seed:** Dehiscent pod, 6–10 cm long, with 4–8 ovate seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

#### Distribution

**Status/origin:** Exotic, native to S America. Cultivated as ornamental.

**Botanical subregions:** CC NFWP; Qld.

**Distribution Sydney area:** Richmond.

**Select locations:** Richmond (1982) only record.

#### Habitat

**Habitat:** Roadside.

**Altitude:** 0–50 m

**Annual rainfall:** 800 mm

**Typical local abundance:** Rare.

**Vegetation:**

**Substrate:**

**Exposure:**

#### Conservation

**Conservation:** Only naturalised record is Richmond. Weed status unknown.



***Ceratonia siliqua* \*****FABACEAE – CAESALPINIOIDEAE**

Carob

**Life history**

**Growth form:** Spreading tree to 10 m high, leaves 4–15 cm long, pinnate without a terminal leaflet, 12–6 pairs of leaflets.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Small, reddish in racemes on older wood, summer–autumn.

**Fruit/seed:** Oblong leathery pod 10–25 cm long, seeds flat.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Exotic, native to Mediterranean region, introduced as ornamental.

**Botanical subregions:** CC SC.

**Distribution Sydney area:** Yerranderie.

**Select locations:** Yerranderie (1965) only Sydney area record.

**Habitat**

**Habitat:**

**Altitude:** 700 m

**Annual rainfall:** 800–900 mm

**Typical local abundance:** Rare.

**Vegetation:**

**Substrate:** Stony hillside.

**Exposure:**

**Conservation**

**Conservation:** Cultivated, only one record as possibly naturalised. Not reported as a weed problem.

***Gleditsia triacanthos* \*****FABACEAE – CAESALPINIOIDEAE**

Honey Locust

**Life history**

**Growth form:** Deciduous tree to 10 m high, usually with spines 2–10 cm long (spines not formed in some cultivars), leaves bipinnate.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden-pubescent, October.

**Fruit/seed:** Dark brown, leathery pod, 15–40 cm long, with 15–25 seeds 10 mm long, January–March.

**Dispersal, establishment & growth:** Diaspore: seed, dispersed by cattle, water.

Vigorous coloniser along creeks.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Exotic, native to N America. Cultivated as ornamental or shade tree.

**Botanical subregions:** NC CC NWS CWS; Qld.

**Distribution Sydney area:** Hawkesbury–Nepean River, Berry–Kangaroo Valley.

**Select locations:** Broadwater Swamp, Douglas Park, Picton, Berry–Seven Mile Beach, Kangaroo Valley.

**Habitat**

**Habitat:** Wetland margins, riverbanks.

**Altitude:** 0–200 m

**Annual rainfall:** above 800 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Riparian scrub and woodland e.g. with *Casuarina cunninghamiana*, *Acer negundo*\*, *Ligustrum sinense*\*.

**Substrate:** Sandy alluvial loam on riverbanks, well-drained to poorly drained.

**Exposure:**

**Conservation**

**Conservation:** Naturalised along Hawkesbury–Nepean River, and major weed there.

***Senna acclinis*****FABACEAE – CAESALPINIOIDEAE****Life history**

**Growth form:** Shrub to 3 m high, pinnate leaves to 15 cm long with 5–7 pairs of narrow pinnae.

**Vegetative spread:**

**Longevity:** 5–20 years (A. Bofeldt pers. comm.).

**Primary juvenile period:** 2 years (A. Bofeldt pers. comm.).

**Flowers:** Yellow, mainly September–February, self-pollinating (A. Bofeldt pers. comm.).

**Fruit/seed:** Flat pod 12–15 cm long, mature February. Pods persist on plants for many months;

**Dispersal, establishment & growth:** Diaspore: small brown, long-lived seed (A. Bofeldt pers. comm.). Very high level of germination in 4–17 days after seedcoat broken (A. Bofeldt pers. comm.).

**Fire response:** Killed, germination stimulated (A. Bofeldt pers. comm.).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NT; Qld.

**Distribution Sydney area:** Illawarra.

**Select locations:** Balgownie, (Wongawilli, Mt Keira, A. Bofeldt p. c.).

**Habitat**

**Habitat:** Foothills of Illawarra escarpment.

**Altitude:** 0–100 m      **Annual rainfall:** 1200–1600 mm

**Typical local abundance:** Rare.

**Vegetation:** Subtropical or dry rainforest, especially on margins and in regrowth.

Also open-forest/rainforest ecotone.

**Substrate:** Medium to high nutrient soil, well-drained (A. Bofeldt pers. comm.).

**Exposure:** Sheltered, full sun to mid-shade (A. Bofeldt).

**Conservation**

**Conservation:** Coded 3RC- on national rare species list (Briggs & Leigh 1996) and listed under Schedule 1, NSW Threatened Species Conservation Act 1995. Southern geographical limit for species is Wollongong. Conservation status here unknown but likely to be endangered due to small population size; less than 30 plants overall (A. Bofeldt pers. comm.). Elsewhere species occurs chiefly north of Bulahdelah where it is now very rare due to clearing (Harden 1991).

***Senna aciphylla*****FABACEAE – CAESALPINIOIDEAE****Life history**

**Growth form:** Sprawling shrub to 2 m high, pinnate leaves 3–5 cm long with 8–12 pairs of narrow pinnae.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, September–November.

**Fruit/seed:** Flat pod 6–8 cm long, mature March–April.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NT CT ST NWS CWS; Qld, Vic

**Distribution Sydney area:** Drier western parts of area.

**Select locations:** Widdin Valley, Capertee, Glen Davis, Abercrombie, Wombeyan Caves, Tallong.

**Habitat**

**Habitat:** Hillsides and dry creeks.

**Altitude:** 500–700 m      **Annual rainfall:** 600–800 mm

**Typical local abundance:** Rare–occasional.

**Vegetation:** Dry eucalypt forest e.g. with *Acacia implexa*, *Exocarpus strictus*.

**Substrate:** Gravelly clay soils on slate, limestone.

**Exposure:**

**Conservation**

**Conservation:** Uncommon, mostly old records. Conservation status unknown.



***Senna artemisioides* subsp. *zygophylla*** FABACEAE – CAESALPINIOIDEAE

Silver Cassia

**Life history****Growth form:** Shrub 1–3 m high, pinnate leaves with 1–8 pairs of very narrow hairy pinnae.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, September.**Fruit/seed:** Flat pod 4–8 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CT NWS CWS SWS NWP SWP NFWP; Qld, Vic., N.T., S.A., W.A.**Distribution Sydney area:** Capertee Valley.**Select locations:** Glen Davis (only Sydney area record).**Habitat****Habitat:** Rocky hillslopes below sandstone cliffs.**Altitude:** 600 m**Annual rainfall:** 600 mm**Typical local abundance:** Occasional.**Vegetation:****Substrate:** Shallow soil on rocky slope.**Exposure:****Conservation****Conservation:** Only one record for Sydney area. Mainly a species of inland plains and rocky slopes. Conservation status unknown.***Senna barclayana*** FABACEAE – CAESALPINIOIDEAE

Smooth Senna

**Life history****Growth form:** Herb or subshrub to 1.5 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, summer.**Fruit/seed:** Dark brown, cylindrical pod, 3–5 cm long, December–February.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC NT CT NWS CWS SWS NWP SWP NFWP; Qld, S.A., W.A.**Distribution Sydney area:** Western Sydney and Bathurst.**Select locations:** Doonside, Parramatta, Ingleburn, Menangle Park, Emu Plains, Warrimoo, Peel, Bathurst.**Habitat****Habitat:** Eucalypt forest.**Altitude:** 0–800 m**Annual rainfall:** ?–1000 mm**Typical local abundance:** Rare.**Vegetation:** Eucalypt forest.**Substrate:** Clayey soils, medium nutrients.**Exposure:****Conservation****Conservation:** Rare, last recorded at Menangle (1969). Not conserved.

***Senna clavigera***

FABACEAE – CAESALPINIOIDEAE

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**Life history****Growth form:** Herb to 1.5 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, January–March.**Fruit/seed:** Dark brown, cylindrical pod, 4–5 cm long, March.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CWS; Qld.**Distribution Sydney area:** Camden area.**Select locations:** Nepean River (1888), Cobbitty (1976).

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**Habitat****Habitat:** Dry rainforest.**Altitude:** 0–200 m**Annual rainfall:** 750 mm**Typical local abundance:** Rare.**Vegetation:** Disturbed area near dry rainforest remnant with *Arbutilon oxycarpum*, *Hibiscus heterophyllus*.**Substrate:** Clay soils from Wianamatta Shale, medium–high nutrients.**Exposure:**

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**Conservation****Conservation:** Rare, possibly extinct in Sydney area. Not conserved.***Senna didymobotrya* \***

FABACEAE – CAESALPINIOIDEAE

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**Life history****Growth form:** Spreading shrub 2–3 m high, pinnate leaves 12–35 cm long with 7–15 pairs of pinnae.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** At any time.**Fruit/seed:** Flat pod 7–10 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Exotic, native to Africa, cultivated as ornamental.**Botanical subregions:** NC CC; Qld.**Distribution Sydney area:** North from Sydney district.**Select locations:** Ettalong (1969), Meadowbank (1985), Campbelltown (1967).

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**Habitat****Habitat:** Railway line, garbage tip.**Altitude:** 0–200 m**Annual rainfall:** 700–1200 mm**Typical local abundance:** Rare.**Vegetation:****Substrate:****Exposure:**

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**Conservation****Conservation:** Occasionally naturalised.

***Senna odorata*****FABACEAE – CAESALPINIOIDEAE**

Smooth Senna

**Life history****Growth form:** Sprawling shrub to 2.5 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, September–December, peak October.**Fruit/seed:** Flat pod, 8–12 cm long, October–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank, disturbed sites?**Fire response:** Recruitment after fire at Deepwater Park, 1995 with no plants reported prior to fire.

Recruitment probably from soil-stored seed.

**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT CT NWS; Qld.**Distribution Sydney area:** Widespread.**Select locations:** Culoul Range, Buralow Creek, Gosford, Como, Bankstown, Liverpool,

Douglas Park, Thirlmere, Mt Colong, Mt Jellore, Megalong Valley.

**Habitat****Habitat:****Altitude:** 0–500 m**Annual rainfall:** 600–1000 mm**Typical local abundance:** Rare.**Vegetation:** Variable, scrubland e.g. with *Melaleuca* and woodland e.g. with *Eucalyptus tereticornis*.Margin of Coachwood/Sassafras rainforest. Moist forest e.g. with *Syncarpia glomulifera*,*Allocasuarina torulosa*, *Goodenia ovata*.**Substrate:** Loamy soils on shale, shale over sandstone, trachyte.**Exposure:****Conservation****Conservation:** Widespread but rare with a number of old records suggesting that it was once more common, particularly in Western Sydney; possibly grazed out. Reported extinct in Western Sydney (Benson & McDougall 1991), but recently recorded at Deepwater Park, Milperra, 1995.***Senna pendula* var. *glabra* \* (*Cassia coluteoides*) FABACEAE – CAESALPINIOIDEAE**

Cassia

**Life history****Growth form:** Spreading shrub to 3 m high.**Vegetative spread:** No.**Longevity:** 20 years.**Primary juvenile period:****Flowers:** Yellow, March–April.**Fruit/seed:** Cylindrical pod, 10–14 cm long.**Dispersal, establishment & growth:** Diaspore: seed, dispersed locally by gravity.**Fire response:** Resprouted from base after high intensity fire (1/94 at Lane Cove, Narrabeen), secondary juvenile period about 18 months (P. Kubiak pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to S America, cultivated as ornamental.**Botanical subregions:** NC CC CWS SWS; LHI, Qld.**Distribution Sydney area:** Coastal.**Select locations:** Tumbi Umbi, Barrenjoey, E Lindfield, Northbridge (1952), Balmoral, Centennial Pk.**Habitat****Habitat:** Bush margins and disturbed areas, roadsides, creeklines.**Altitude:** 0–100 m**Annual rainfall:** above 1200 mm**Typical local abundance:** Frequent.**Vegetation:** Woodland e.g. with *Eucalyptus botryoides*, and scrub e.g. with *Lantana camara*\*.**Substrate:** Sandy soils on sandstone, gullies and ridges, low nutrients.**Exposure:** Full sun to mid-shade.**Conservation****Conservation:** Widely naturalised in coastal areas (Harden 1991) and occurs as a scattered weed in bushland, generally spreading locally from nearby gardens, individual plants being prolific seeders.

***Senna x floribunda* \***

FABACEAE – CAESALPINIOIDEAE

Smooth Senna

**Life history****Growth form:** Shrub 1–3 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, January–February.**Fruit/seed:** Straw-coloured, cylindrical pod, 7–8 cm long, irregular shape due to imperfect seed set (Harden 1991), mature April.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Mexico, frequently naturalised in coastal districts, cultivated as ornamental (Harden 1991).**Botanical subregions:** Native of Mexico; NC CC SC CT; LHI, Qld., Vic.**Distribution Sydney area:****Select locations:** Gosford, Illawarra, Upper Colo, Ourimbah, Peats Ridge, Matcham, Ingleburn, Stanwell Park, Macquarie Pass, Kiama, Upper Kangaroo River, Springwood (1881).**Habitat****Habitat:** Riverbanks.**Altitude:** 0–500 m**Annual rainfall:** more than 900 mm**Typical local abundance:** Occasional.**Vegetation:** Rainforest margins, moist forest.**Substrate:** Alluvium, shale, basalt, medium–high nutrient soils, well-drained.**Exposure:****Conservation****Conservation:** Naturalised in moist forest; a minor weed?***Almaleea incurvata* (*Pultenaea incurvata*)**

FABACEAE – FABOIDEAE

**Life history****Growth form:** Procumbent or erect shrub to 1 m high, though generally smaller.**Vegetative spread:** No vegetative spread.**Longevity:** Probably less than 10 years.**Primary juvenile period:** Flowers at 3–4 years (flowered 3 years after fire at Leura).**Flowers:** September–November, peak September.**Fruit/seed:** Pod 3–5 mm long, mature March, July–August, November (limited data).

Seed weight 1 mg (Auld &amp; O'Connell 1991).

**Dispersal, establishment & growth:** Recruitment from soil-stored seedbank, mainly after fire. Seedlings often prolific on wet ground. Seed viability 100%, non-dormant fraction 8% (Auld & O'Connell 1991).**Fire response:** Plant killed (re-established from soil-stored seed, at Leura). Not recorded pre-fire in area unburnt for approx. 25 years. Probably survives in unburnt swamp as soil-stored seed.**Interaction with other organisms:** Gall-forming, seed predator insect *Eurytoma* sp. (Hymenoptera) (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** CT.**Distribution Sydney area:** Upper Blue Mountains (endemic).**Select locations:** Bilpin, Lawson, Wentworth Falls, Katoomba, Blackheath, Mt Wilson, Newnes Plateau.

**Habitat****Habitat:** Valley side swamps.**Altitude:** 600–1200 m      **Annual rainfall:** 1000–1400 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Sedgeland, shrub swamp and wet heath e.g. with *Gymnoschoenus sphaerocephalus*, *Sprengelia incarnata*, *Gleichenia*.**Substrate:** Peaty swamp soils and black sandy soil over sandstone. Soil very infertile and acidic. Watertable permanently high, moisture supply continuous, fresh.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Local endemic coded 2RC-t on national rare species list (Briggs & Leigh 1996).***Almaleea paludosa* (*Pultenaea paludosa*)****FABACEAE – FABOIDEAE****Life history****Growth form:** Procumbent or erect shrub to 60 cm high.**Vegetative spread:** No.**Longevity:** 5–20 years (D. Keith pers. comm.).**Primary juvenile period:** Primary juvenile period 1–5 years (D. Keith pers. comm.).**Flowers:** August–September.**Fruit/seed:** Pod 3–4 mm long, mature fruit October–November.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Recruitment mainly after fire from soil-stored seedbank (D. Keith pers. comm.).**Fire response:** Killed by fire (D. Keith pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC; Vic.**Distribution Sydney area:** Coastal, Broken Bay–Darkes Forest.**Select locations:** Mt Colah (L.McD.), Narrabeen, Dee Why Lagoon, Centennial Park, La Perouse, Royal NP, Darkes Forest.**Habitat****Habitat:** Shallow drainage lines and margins of swamps.**Altitude:** 0–400 m      **Annual rainfall:** above 1200 mm**Typical local abundance:** Occasional.**Vegetation:** Freshwater swamps dominated by sedges and/or shrubs. Swamp heath with *Banksia robur*, *Callistemon citrinus* or swamp edge with *Viminaria juncea*, *Sphaerolobium vimineum*.**Substrate:** Peaty soil over sandstone or coastal sand. Peaty mud. Soil very infertile. Watertable permanently high, moisture supply continuous, fresh.**Exposure:** Mid-shade to full sun.**Conservation****Conservation:** Probably inadequate.

***Aotus ericoides***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Variable shrub to 2 m high.**Vegetative spread:****Longevity:** More than 60 years (D. Keith pers. comm.).**Primary juvenile period:** Primary juvenile period more than 5 years (D. Keith pers. comm.).**Flowers:** Yellow, August–November, peak September.**Fruit/seed:** Pod, 6–7 mm long, mature September–January, peak October. Seed weight 3–5 mg (Auld & O'Connell 1991, Westoby et al. 1990).**Dispersal, establishment & growth:** Diaspore: hard-coated seed with ant-adapted food body for dispersal (Westoby et al. 1990). Seed viability 95%, non-dormant fraction 17% (Auld & O'Connell 1991). Recruitment mainly after fire; minimum fire temperature for maximum germination  $\leq 60$  °C (D. Keith p. c.).**Fire response:** Resprouts from ground level or below (Fox 1988). Secondary juvenile period 3 years (D. Keith pers. comm.).**Interaction with other organisms:** Unknown insect larvae responsible for 7–12% seed loss (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST; Qld, Vic., Tas.**Distribution Sydney area:** Coast south of Broken Bay, Southern Highlands.**Select locations:** Hornsby, Salvation Creek, Northbridge, Bunnerong, Waterfall, Bass Point, Bulli, Carrington Falls, Saddleback, Wingello.**Habitat****Habitat:** Scrubby sites, and creek banks (L.McD.) on sandstone.**Altitude:** 0–700 m      **Annual rainfall:** above 1000 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalypt woodland and heath e.g. with *Banksia ericifolia*, *Allocasuarina distyla*, *Banksia serrata*, *Corymbia gummifera* or coastal scrub with *Banksia integrifolia*, *Leptospermum laevigatum* (M. Robinson pers. comm.).**Substrate:** Deep sandy, infertile–very infertile soils on dunes or sandstone. Watertable mostly high, moisture supply intermittent, fresh. On Bass Point Sandstone in Illawarra (M. Robinson pers. comm.).**Exposure:** Exposed or sheltered sites; light shade to full sun.**Conservation****Conservation:** Conservation status unknown.***Aotus subglauca* var. *filiformis***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Shrub to 1 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** September.**Fruit/seed:** Pod 6–9 mm long, with 2 seeds.**Dispersal, establishment & growth:** Diaspore: seed, hard-coated.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT NWS CWS NWP; Qld.**Distribution Sydney area:** Recorded only once in area at Como, Georges River (1916).**Select locations:** Como, Georges River (1916) (southern limit of species).

	<b>Habitat</b>
<b>Habitat:</b>	
<b>Altitude:</b> 0–50 m	<b>Annual rainfall:</b> 1100 mm
<b>Typical local abundance:</b>	
<b>Vegetation:</b> Eucalypt open-forest.	
<b>Substrate:</b> Probably sandstone. Infertile soil.	
<b>Exposure:</b>	
	<b>Conservation</b>
<b>Conservation:</b> Probably now extinct in the Sydney area.	

***Bossiaea bracteosa***

FABACEAE – FABOIDEAE

	<b>Life history</b>
<b>Growth form:</b> Multi-stemmed shrub to 2.5 m high.	
<b>Vegetative spread:</b>	
<b>Longevity:</b>	
<b>Primary juvenile period:</b>	
<b>Flowers:</b> Early summer.	
<b>Fruit/seed:</b> Pod 2.5–4.5 cm long.	
<b>Dispersal, establishment &amp; growth:</b> Diaspore: seed.	
<b>Fire response:</b>	
<b>Interaction with other organisms:</b>	
	<b>Distribution</b>
<b>Status/origin:</b> Native.	
<b>Botanical subregions:</b> CT ST; Vic.	
<b>Distribution Sydney area:</b> South from Abercrombie Caves — rare.	
<b>Select locations:</b> Abercrombie Caves (only record for the area).	

	<b>Habitat</b>
<b>Habitat:</b>	
<b>Altitude:</b> 600 m	<b>Annual rainfall:</b> 800 mm
<b>Typical local abundance:</b> Rare.	
<b>Vegetation:</b>	
<b>Substrate:</b> Slate derived soils and riverbank sand between boulders. Non saline.	
<b>Exposure:</b>	
	<b>Conservation</b>
<b>Conservation:</b> Rare.	

***Bossiaea buxifolia***

FABACEAE – FABOIDEAE

	<b>Life history</b>
<b>Growth form:</b> Prostrate to procumbent shrub to 50 cm high, occasionally erect to 1.3 m high, with hairy stems.	
<b>Vegetative spread:</b>	
<b>Longevity:</b>	
<b>Primary juvenile period:</b>	
<b>Flowers:</b> Yellow with orange wings, mostly October–November.	
<b>Fruit/seed:</b> Narrow-oblong pod 20 mm long, November–December.	
<b>Dispersal, establishment &amp; growth:</b> Diaspore: seed, ant-dispersed ( <i>Iridomyrmex</i> sp., <i>chasei</i> group) transported the elaiosome-free nutlets using the spiny bristles as 'handles' (Berg 1975).	
<b>Fire response:</b>	
<b>Interaction with other organisms:</b>	
	<b>Distribution</b>
<b>Status/origin:</b> Native.	
<b>Botanical subregions:</b> ?NC CC SC NT CT ST NWS CWS; Qld, Vic.	
<b>Distribution Sydney area:</b> Mainly higher elevations and west of area.	
<b>Select locations:</b> Marsdens Arm (Putty Rd), Yerranderie, Kanimbla Valley, Lithgow, Portland, Bathurst, Jenolan Caves, Wingello, Barbers Creek.	



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**Habitat**

**Habitat:** Various.

**Altitude:** 0–1000 m      **Annual rainfall:** above 700 mm

**Typical local abundance:** Rare.

**Vegetation:** Eucalypt forest and woodland e.g. with *Eucalyptus crebra*, *E. dives*, *E. viminalis*.

**Substrate:** Sandy loam from shales, sandstone, quartzites, granite, well-drained, medium nutrients.

**Exposure:**

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**Conservation**

**Conservation:** Vulnerable in Western Sydney (Benson & McDougall 1991), conservation status elsewhere unknown.

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***Bossiaea ensata*****FABACEAE – FABOIDEAE**

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**Life history**

**Growth form:** Erect or procumbent shrub to 1.5 m high.

**Vegetative spread:** No.

**Longevity:** Indefinite.

**Primary juvenile period:**

**Flowers:** August–December, peak September.

**Fruit/seed:** Pod 2.5 cm long, mature August–December, peak October. Seed weight 20 mg (Westoby et al. 1990).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed with ant-adapted food body for dispersal (Westoby et al. 1990). Soil-stored seedbank.

**Fire response:** Resprouts at base or below (Fox 1988).

**Interaction with other organisms:** Host to seed predator beetle *Paesiorhinus* sp. (Curculionidae), and gall-forming insect *Eurytoma* sp. (Hymenoptera) also seed predator (Auld 1991). Honey bees gather pollen (Clemson 1985).

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**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT; Qld.

**Distribution Sydney area:** Coast and Blue Mountains.

**Select locations:** Gosford, Ku-ring-gai Chase NP, Kurnell, Royal NP, (Port Kembla, Bass Point, M. Robinson p. c.), Bilpin, Faulconbridge, Kings Tableland, Blackheath, Hill Top.

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**Habitat**

**Habitat:** Sandstone woodland or fixed dunes.

**Altitude:** 0–1000 m      **Annual rainfall:** 1000–1600 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Heath, scrub and scrub forest, or tall open-forest of *Corymbia gummifera* with *Eucalyptus haemastoma*. In *Leptospermum laevigatum* shrubland on sand dunes in Illawarra (M. Robinson pers. comm.).

**Substrate:** Deep dune sand or sandy soils over Hawkesbury Sandstone. Very infertile soil. Watertable permanently low, moisture supply intermittent, fresh. On Bass Point Sandstone and marine sand (M. Robinson pers. comm.).

**Exposure:** Light shade to full sun.

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**Conservation**

**Conservation:** Probably adequately conserved.

***Bossiaea foliosa***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub to 1.5 m high**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** October–November.**Fruit/seed:** Pod circular 7 mm wide.**Dispersal, establishment & growth:** Diaspore: seed, hard-coated. Soil-stored seedbank.**Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CT ST; Vic.**Distribution Sydney area:** Bathurst–Orange area.**Select locations:** Old collections from Sunny Corner (1899), Jenolan Caves (1899), Edith (1899), Mullions Range.

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**Habitat****Habitat:** Eucalypt woodland.**Altitude:** 800–1000 m      **Annual rainfall:** 1000 m**Typical local abundance:** Frequent.**Vegetation:** Eucalypt woodland.**Substrate:** Sandy soil on rocky hillside, quartzite. Infertile soil, moisture supply intermittent.**Exposure:**

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**Conservation****Conservation:** Probably restricted now to Mullions Range where it occurs in State Forest but not in Flora Reserve (Pratten 1986), there are no recent records for other sites.***Bossiaea heterophylla***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Variable shrub generally less than 1 m high.**Vegetative spread:** No.**Longevity:** Short–medium.**Primary juvenile period:** 3 years (Benson 1985).**Flowers:** Yellow, most of the year, March–July, peak April.**Fruit/seed:** Pod 2–4 cm long, mature June–November, peak October. Seed weight 16–20 mg (Auld & O'Connell 1991, Westoby et al. 1990).**Dispersal, establishment & growth:** Diaspore: seed, hard-coated, adapted for ant-dispersal (Rice and Westoby 1981). Soil-stored seedbank (Fox 1988). Seed viability 86%, non-dormant fraction 8%, seedling recruitment fire-related (Auld & O'Connell 1991).**Fire response:** Variable — killed by fire at Myall Lakes (Fox 1988), also at Brisbane Water. Resprouted at Agnes Banks (Benson 1981). Some plants resprouted after high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).**Interaction with other organisms:** Host to seed predator beetle *Paesiorhinus* sp. nov. (Curculionidae) (Auld 1991). Native bee visited flower for nectar, Honeybee *Apis mellifera* visited for nectar and possibly pollen (P. Kubiak pers. comm.).

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT NWS; Qld.**Distribution Sydney area:** Coast and Blue Mountains.**Select locations:** Gosford, Botany, Waterfall, Thirlmere, Hill Top, Cordeaux Dam, Bomaderry, Mt Coricudgy, Blackheath, Glen Davis, Bundanoon

**Habitat**

**Habitat:** Ridges, hillsides.

**Altitude:** 0–1000 m

**Annual rainfall:** 1000–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Woodland e.g. with *Corymbia gummifera*, *Eucalyptus haemastoma*, *E. piperita*.

**Substrate:** Sandstones and old dunes. Rocky to deep, sandy soils. Infertile or very infertile soils.

Watertable permanently low, moisture supply intermittent. Non saline.

**Exposure:** Sheltered.

**Conservation**

**Conservation:** Conserved in major National Parks.

***Bossiaea kiamensis***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Erect or prostrate shrub to 2 m high.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, September–October.

**Fruit/seed:** Pod 1–2 cm long.

**Dispersal, establishment & growth:** Diaspore: hardcoated seed, soil-stored seedbank.

**Fire response:** Resprouts from rootstock near ground level or below (A. Bofeldt pers. comm.).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC CT ST .

**Distribution Sydney area:** Jamberoo to Penrose.

**Select locations:** Minnamurra Falls Reserve, Barren Grounds, Carrington Falls, Fitzroy Falls, Barrengarry Mountain, Penrose.

**Habitat**

**Habitat:** Exposed rocky sites near water and more sheltered moist habitats.

**Altitude:** 300–700 m

**Annual rainfall:** 1000–1800 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Open-forest and woodland with shrubby understorey e.g. *Eucalyptus piperita*, *Eucalyptus sieberi*, *E. dendromorpha*, *Corymbia gummifera*, also open scrub and occasionally in tall open-forest (A. Bofeldt pers. comm.).

**Substrate:** Sandy loam over sandstone. Infertile soil. Watertable mostly high, moisture supply intermittent, fresh.

**Exposure:** Exposed to sheltered.

**Conservation**

**Conservation:** Conserved in Budderoo NP and Morton NP (A. Bofeldt pers. comm.).

***Bossiaea lenticularis***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Slender spreading shrub to 1 m high.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, August–December, peak September.

**Fruit/seed:** Pod 1–3 cm long, mature October–December, peak December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank.

**Fire response:** Probably resprouts at ground level or below.

**Interaction with other organisms:**

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**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC CT

**Distribution Sydney area:** Colo area and Blue Mountains.

**Select locations:** Colo Heights, South Maroota, Thirlmere, Oakdale, Mt Charles, Mt Wilson, Bell, Clarence.

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**Habitat**

**Habitat:** Eucalypt open-forest.

**Altitude:** 200–1200 m      **Annual rainfall:** 900–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Moist eucalypt forest e.g. *Eucalyptus punctata*, *Angophora costata*, or edge of shrub swamps (Upper Blue Mtns) also with *Eucalyptus radiata*, *E. dalrympleana*, *E. sieberi*.

**Substrate:** Sandy soil over sandstone. Infertile soil. Watertable mostly high, moisture supply intermittent, fresh.

**Exposure:** Sheltered.

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**Conservation**

**Conservation:** Endemic to Sydney area, conservation status unknown.

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***Bossiaea neo-anglica*****FABACEAE – FABOIDEAE**

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**Life history**

**Growth form:** Prostrate shrub less than 50 cm high.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Dark red / yellow, October–December, peak November.

**Fruit/seed:** Pod 2–2.5 cm long, mature October–December, peak November.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank.

**Fire response:**

**Interaction with other organisms:**

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**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NT CT; Qld.

**Distribution Sydney area:** Southern Highlands.

**Select locations:** (Appin, A. Bofeldt p. c.). Thirlmere, Hill Top, Fitzroy Falls, Mt Flora, Belanglo State Forest (southern limit of species).

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**Habitat**

**Habitat:** Sandstone woodland.

**Altitude:** 300–700 m      **Annual rainfall:** 800–1000 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Dry eucalypt open-forest e.g. with *Angophora costata*, *Corymbia gummifera*.

**Substrate:** Sandy to loamy soil on sandstone, sometimes near edge of shale. Infertile soil. Watertable permanently low, moisture supply intermittent, fresh.

**Exposure:** Light shade.

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**Conservation**

**Conservation:** Belanglo State Forest is southern geographical limit.

Conservation status unknown.

**Bossiaea obcordata****FABACEAE – FABOIDEAE**

Spiny Bossiaea

**Life history****Growth form:** Rigid, spinescent shrub to 2 m high.**Vegetative spread:** No.**Longevity:** Indefinite.**Primary juvenile period:****Flowers:** Yellow, August–November, peak September (coast), October (Blue Mtns).**Fruit/seed:** Pod 1–2 cm long, mature October–December, peak December. Seed weight 3 mg (Auld & O'Connell 1991).**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank. Seed viability 99%, non-dormant fraction 7% (Auld & O'Connell 1991).**Fire response:** Resprouts at ground level or below. Secondary juvenile period less than 2 years (P. Kubiak pers. comm.).**Interaction with other organisms:** Host to seed predator beetle *Paesiorhinus notatus* (Curculionidae) (Auld 1991). Honey bees gather pollen (Clemson 1985).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS; Qld, Vic., Tas.**Distribution Sydney area:** Widespread, Coast and Blue Mountains.**Select locations:** Howes Mtn, Doyalson, Gosford, Pennant Hills, Glenbrook, Bents Basin, Nepean Dam, Bomaderry, Leura, Mittagong, Fitzroy Falls, Wingello.**Habitat****Habitat:** Dry shrubby eucalypt open-forest and woodland.**Altitude:** 0–1000 m**Annual rainfall:** 900–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Open-forest and woodland e.g. with *Corymbia gummifera* with shrubby understorey.**Substrate:** Soils low-moderate fertility. Shallow, deep sandy soils, sometimes lateritic, almost always on sandstone but possibly with clay influence. Infertile or very infertile soil. Watertable permanently low, moisture supply intermittent, fresh.**Exposure:** Light shade to full sun.**Conservation****Conservation:** Probably adequately conserved.

***Bossiaea oligosperma***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub 1–2 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Bright yellow / red, November.**Fruit/seed:** Pod 12–17 mm long, mature November. Seed hard-coated, 3–3.5 mm long.**Dispersal, establishment & growth:** Diaspore: hard-coated seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC**Distribution Sydney area:** Tonalli River.**Select locations:** East of Lake Burragarang opposite Tonalli River (only record for species).**Habitat****Habitat:** On rocky slopes and ridges.**Altitude:** 500–700 m      **Annual rainfall:** 800–900 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalypt woodland, including *Grevillea aspleniifolia*.**Substrate:** Shallow soil over sandstone. Very infertile soil. Watertable permanently low, moisture supply intermittent, fresh.**Exposure:****Conservation****Conservation:** Listed under schedule II, NSW Threatened Species Conservation Act 1995 and coded 2V on national rare species list (Briggs & Leigh 1996); population probably in Blue Mountains National Park.***Bossiaea prostrata***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Small procumbent subshrub, with branches to 20 cm long. Some CC specimens approach the closely related *B. buxifolia*.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Orange-yellow, September–October.**Fruit/seed:** Oblong pod 20–30 cm long, mature October–November.**Dispersal, establishment & growth:** Mechanism for dispersal undefined (McIntyre et al. 1995).**Fire response:** Probably resprouts.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ?ST; Qld, Vic., Tas., S.A.**Distribution Sydney area:** Widespread.**Select locations:** Rylstone, Mona Vale, Marayong, Pitt Town, Duck River, Prospect, Lapstone, Thirlmere, Hampton, Mittagong, Wingello, Long Swamp (Kodela et al. 1992).**Habitat****Habitat:** Woodland, swamp edges.**Altitude:** 0–800 m      **Annual rainfall:** 800–1200 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus moluccana*, *E. crebra*, *Bursaria spinosa* or grassy areas e.g. margin of upland mire (Kodela et al. 1992).**Substrate:** Clay soils on shale, alluvium, occasionally granite.**Exposure:****Conservation****Conservation:** Probably adequately conserved.

***Bossiaea rhombifolia* subsp. *rhombifolia***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 2 m high.**Vegetative spread:****Longevity:** Medium–long.**Primary juvenile period:****Flowers:** Flowers orange-yellow marked with red, August to October, peak September.**Fruit/seed:** Pod, 10–25 mm long. Seed weight 12 mg (Auld & O'Connell 1991).**Dispersal, establishment & growth:** Diaspore: hard-coated seed, viability 100%, non-dormant fraction 7% (Auld & O'Connell 1991).**Fire response:** Resprouts from base (Benson 1981).**Interaction with other organisms:** Host to seed predator beetle *Paesiorhinus notatus* (Curculionidae), and seed predator, gall-forming insect *Eurytoma* sp. (Hymenoptera) (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT CT ST NWS CWS; Qld.**Distribution Sydney area:** Widespread.**Select locations:** Frenchs Forest (1940), Wilberforce, Springwood, Nortons Basin, Thirlmere, Campbelltown, Avon Dam, Glen Davis, Capertee, Sutton Forest.**Habitat****Habitat:** Rocky ridges, steep hillsides.**Altitude:** 0–700 m      **Annual rainfall:** above 800 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Dry eucalypt woodland and forest e.g. with *Eucalyptus sieberi*, *E. punctata*, *E. sclerophylla*, *Syncarpia glomulifera*, *Corymbia eximia* and shrubby understorey.**Substrate:** Sandy skeletal soil on sandstone, Tertiary alluvium, occasionally granite, low nutrients, well-drained.**Exposure:****Conservation****Conservation:** Probably adequately conserved.***Bossiaea scolopendria***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Shrub to 1.5 m high, branches flat, winged, 6–15 mm wide. Leaves mostly reduced to scales, develop only on juvenile growth or regrowth.**Vegetative spread:** No.**Longevity:** Medium**Primary juvenile period:****Flowers:** Orange-yellow, August–September.**Fruit/seed:** Oblong pod, 3–5 cm long, October–December. Seed weight 17 mg (Buckley 1982).**Dispersal, establishment & growth:** Diaspore: hard-coated seed, adapted for dispersal by ants (Rice & Westoby 1981).**Fire response:** Resprouts from base. Some killed, some resprouted and reached maturity in less than 2 years after high intensity fire (1/94 at Lane Cove & Narrabeen, P. Kubiak pers. comm.).**Interaction with other organisms:** Host to seed predator beetle *Paesiorhinus notatus* (Curculionidae) (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** CC SC.**Distribution Sydney area:** Mainly coastal northern Sydney.**Select locations:** Kariong, Patonga, Bobbin Head, Maroota, Cheltenham, Beacon Hill, Manly, Oatley.



**Habitat**

**Habitat:** Heath and eucalypt woodland.

**Altitude:** 0–200 m      **Annual rainfall:** above 800 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Dry eucalypt woodland e.g. with *Corymbia gummifera*, *Eucalyptus punctata*, *Angophora costata* and heath e.g. with *Angophora hispida*, *Banksia ericifolia*, *Boronia ledifolia*, *Grevillea buxifolia*.

**Substrate:** Sandy soil on Hawkesbury sandstone, low nutrients, well-drained.

**Exposure:** Full sun.

**Conservation**

**Conservation:** Probably adequately conserved e.g. in Ku-ring-gai Chase and Brisbane Water National Parks. Northern geographical limit is Somersby.

***Bossiaea stephensonii*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Multi-stemmed shrub to 1 m high, with flat stems.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Bright yellow with reddish markings, August–October, peak August.

**Fruit/seed:** Oblong pod, 15–25 mm long, with up to 6 seeds. Seed weight 4 mg (Auld & O'Connell 1991), mature October.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, viability 69–100%, non-dormant fraction 12–18% (Auld & O'Connell 1991).

**Fire response:**

**Interaction with other organisms:** Host to seed predator beetle *Paesiorhinus notatus* (Curculionidae) (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC.

**Distribution Sydney area:** Coast, Gosford, Sutherland.

**Select locations:** Norah Head, Woy Woy, Wondabyne, Menai, Engadine, Heathcote.

**Habitat**

**Habitat:** Ridges, hillsides, less commonly gullies.

**Altitude:** 0–200 m      **Annual rainfall:** above 1200 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Corymbia gummifera*, *Eucalyptus piperita*, *Angophora costata* and scrub e.g. with *Angophora hispida*, *Leptospermum trinervium*, *Acacia terminalis*. Also with *Bauera rubioides*, *Tristaniopsis laurina* in gully.

**Substrate:** Sandy soil over sandstone, low nutrients.

**Exposure:** Exposed sites, full sun.

**Conservation**

**Conservation:** Occurs in two separated areas north of Broken Bay and south of Georges River. Probably adequately conserved in both areas e.g. in Royal and Brisbane Water National Parks. Southern geographical limit is Heathcote.

**Canavalia rosea**

FABACEAE – FABOIDEAE

Coastal Jack Bean

**Life history****Growth form:** Climbing or trailing herb, with stems 2–3 m long, leaves 3-foliolate.**Vegetative spread:** No (A. Bofeldt pers. comm.).**Longevity:****Primary juvenile period:****Flowers:** Mauve–white, at any time of year.**Fruit/seed:** Oblong pod, 10–15 mm long. Seeds ovoid, c. 18 mm long, c. 6 per pod.**Dispersal, establishment & growth:** Diaspore: seed, primary sand coloniser (Clarke 1989).

Hard-coated seed floats, spread by currents and tides (A. Bofeldt pers. comm.).

**Fire response:****Interaction with other organisms:** Seed poisonous (Harden 1991, Hurst 1942).

Governor Phillip and surgeon John White were 'seized with violent vomiting' after eating some boiled beans in 1788 (Benson &amp; Howell 1990).

**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC; LHI, Qld, N.T., W.A., Asia, Afr.**Distribution Sydney area:** North from Shellharbour.**Select locations:** Wamberal, Palm Beach, Avalon Beach, Long Reef, Stanwell Park, Windang Island, Bombo.**Habitat****Habitat:** Beaches, coastal headlands and cliffs.**Altitude:** 0–50 m**Annual rainfall:** above 1200 mm**Typical local abundance:** Rare. Locally common in restricted area (A. Bofeldt pers. comm.).**Vegetation:** Coastal scrub e.g. with *Leptospermum laevigatum*, *Pimelea linifolia*, *Themeda australis*, *Wikstroemia indica*, *Kennedia rubicunda*. Also littoral herbland on seacliffs e.g. with *Carpobrotus glaucescens*, *Melanthera biflora*, *Isolepis nodosus* (A. Bofeldt pers. comm.).**Substrate:** North-facing shaley hillsides, cliffs, also on coastal sand dunes. Volcanic seacliffs, always very well-drained (A. Bofeldt pers. comm.).**Exposure:** Low tolerance of shade, requires high level of light (A. Bofeldt p. c.).**Conservation****Conservation:** Rare, conservation status unknown. Southern geographical limit is Cathedral Rocks near Bombo. Not conserved in Illawarra (A. Bofeldt pers. comm.).**Chamaecytisus palmensis** \*

FABACEAE – FABOIDEAE

Tree Lucerne

**Life history****Growth form:** Shrub or small tree to 4 m high, with hairy branches and 3-foliolate leaves.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Cream to white, June–September. Self-pollinated (Webb & Shand 1985).**Fruit/seed:** Flat hairy pod 4–5 mm long, black-brown seeds 10 mm long. Only 5% of ovules from naturalised plants & 16% from cultivated population developed into seeds; fruit production 4–55% for individual trees (Webb & Shand 1985).**Dispersal, establishment & growth:** Diaspore: hard-coated seed, adapted for ant dispersal? For Ecology of species in native Canary Islands see *Vegetatio* 110: 1–17 (1994).**Fire response:****Interaction with other organisms:** Bumble Bees and honey bees rob the nectar through the calyx without damaging the ovary (Webb & Shand 1985).**Distribution****Status/origin:** Exotic, native to Canary Islands, introduced as ornamental.**Botanical subregions:** CC CT ST CWS NWP SWP; Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Terrey Hills, Cheltenham, Matraville, Rockdale (1908), Leura, Mt Wilson, Capertee, Orange, Colo Vale.

**Habitat**

**Habitat:** Roadsides, disturbed areas.

**Altitude:** 0–1000 m      **Annual rainfall:** above 1000 mm

**Typical local abundance:** Occasional.

**Vegetation:** Disturbed ground e.g. with *Ricinus communis*, and among native species.

**Substrate:** Sandy soil on sand, sandstone.

**Exposure:**

**Conservation**

**Conservation:** Often naturalised around old habitations, disturbed areas, recorded in bushland associated with disturbed sites.

***Chorizema parviflorum*****FABACEAE – FABOIDEAE**

Eastern Flame Pea

**Life history**

**Growth form:** Small shrub to 50 cm high, with stout rootstock.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow with reddish centre, August–January.

**Fruit/seed:** Oblong pod 5–7 mm long, seeds shiny, brown, 2 mm long, mature November–January.

**Dispersal, establishment & growth:** Diaspore: seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC; Qld.

**Distribution Sydney area:** Western Sydney, Pittwater, Illawarra.

**Select locations:** Kincumber, Newport to Barrenjoey (1905), Church Point, Richmond, Marayong, Yennora, Ingleburn, Narellan, Yallah, Albion Park.

**Habitat**

**Habitat:** Woodland, grassland, headlands, often close to cliff edge.

**Altitude:** 0–100 m      **Annual rainfall:** above 700 mm

**Typical local abundance:** Rare–occasional.

**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus tereticornis*, *E. fibrosa*, *E. crebra*, *E. eugenioides*, *E. longifolia*, *Melaleuca decora*, grassland with *Themeda australis*. *Chorizema parviflorum* is often tangled amongst and partly concealed by grass, making it difficult to see.

**Substrate:** Clay soils e.g. on Wianamatta Shale, alluvium. Sand, gravel, sandy podsol or heavy peaty soil (Taylor & Crisp 1992). On Berry Siltstone in Illawarra (M. Robinson pers. comm.). Medium nutrients.

**Exposure:**

**Conservation**

**Conservation:** Inadequately conserved and disappearing. Vulnerable in Western Sydney (Benson & McDougall 1991) and not conserved in Illawarra, with less than 30 plants observed at 5 sites — some populations now extinct and others threatened (M. Robinson pers. comm.).

***Crotalaria agatiflora* subsp. *agatiflora* \***

FABACEAE – FABOIDEAE

Bird Flower

**Life history****Growth form:** Shrub 1–2 m high, with 3-foliolate leaves.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Greenish yellow, mostly autumn.**Fruit/seed:** Glabrous pod 70–100 mm long, seeds 6–9 mm long, pale brown.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to tropical and C Africa, introduced as ornamental.**Botanical subregions:** CC; Qld.**Distribution Sydney area:** Pennant Hills.**Select locations:** Pennant Hills (1974) only record.**Habitat****Habitat:** Railway line.**Altitude:** 0–200 m**Annual rainfall:** 1000–1100 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:****Conservation****Conservation:** Cultivated with one record of it being naturalised.

Weed potential unknown.

***Crotalaria incana* subsp. *purpurascens* \***

FABACEAE – FABOIDEAE

Woolly Rattlepod

**Life history****Growth form:** Erect bushy shrub to 2 m high, with hairy stems and 3-foliolate leaves.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellowish with reddish brown markings.**Fruit/seed:** Hairy pod 30–45 cm long, seeds to 3 mm long, dark green, smooth.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Africa.**Botanical subregions:** NC CC.**Distribution Sydney area:****Select locations:** Dundas (1916) only record for Sydney area.**Habitat****Habitat:** Weed of cultivation or along roadsides.**Altitude:** 0–200 m**Annual rainfall:** 1000 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:****Conservation****Conservation:** Only one naturalised record for Sydney area; weed potential probably low.

***Crotalaria lanceolata* subsp. *lanceolata* \***

FABACEAE – FABOIDEAE

## Life history

**Growth form:** Erect herb to 1.5 m high.**Vegetative spread:****Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Small, yellow with purplish brown veins, March.**Fruit/seed:** Black, hairy pod 20–35 mm long, seeds 2–3 mm long, pale yellow to reddish.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:** Seed eaten by Straw-necked Ibis

(Barker &amp; Vestjens 1989,1990).

## Distribution

**Status/origin:** Exotic, native to Africa, introduced as ornamental.**Botanical subregions:** NC CC; Qld.**Distribution Sydney area:** North from Sydney district.**Select locations:** Dural (1965) only record for Sydney area.

## Habitat

**Habitat:****Altitude:** 0–200 mm**Annual rainfall:** 1000 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:**

## Conservation

**Conservation:** Cultivated, only one naturalised record for Sydney area; weed potential unknown.***Crotalaria semperflorens* \***

FABACEAE – FABOIDEAE

## Life history

**Growth form:** Erect shrub or small tree 2–5 m high, with hairy stems.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow with brown striations, June–August.**Fruit/seed:** Glabrous yellow pod 5–7 cm long, seeds 5 mm long, glossy, mature November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

## Distribution

**Status/origin:** Exotic, native to India.**Botanical subregions:** NC CC.**Distribution Sydney area:** North from Central Mangrove.**Select locations:** Central Mangrove, Narraweena, Beacon Hill (1969), Brookvale.

## Habitat

**Habitat:** Roadside, weedy areas.**Altitude:** 0–200 m**Annual rainfall:** above 1200 mm**Typical local abundance:** Frequent.**Vegetation:** With roadside weeds e.g. *Coreopsis*\*, and amongst native vegetation e.g. with *Pittosporum undulatum*, *Dodonaea triquetra*.**Substrate:****Exposure:**

## Conservation

**Conservation:** Localised colonies reported for Warringah with indications that they are spreading. May become a future bushland weed?

**Cytisus scoparius** subsp. **scoparius**\*

FABACEAE – FABOIDEAE

English Broom

**Life history**

**Growth form:** Shrub to 3 m high, with trifoliate leaves and angled stems which are green and photosynthetic when young (Smith & Waterhouse 1988).

**Vegetative spread:** No, but re-shoots from cut stumps (Herbarium note).

**Longevity:** More than 20 years (Smith & Waterhouse 1988).

**Primary juvenile period:** 3 years at least (Smith & Waterhouse 1988).

**Flowers:** Yellow, October–November.

**Fruit/seed:** Pod 2.5–6 cm long, with 2–15 hard-coated seed 2.5–4 mm long, mature January.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ejected noisily from pods in summer, adapted for ant-dispersal (Bossard 1993), seed spread in dung of horses and pigs over several kilometres (Smith & Waterhouse 1988), dispersed in mud, on machinery or animals, and in agricultural produce; seedlings establish easily on disturbed sites (Parsons & Cuthbertson 1992). Soil disturbance provides ideal seed-bed conditions. Large soil-stored seedbank 3,000/m<sup>2</sup> (Waterhouse 1988), 15,000/m<sup>2</sup>, seed viable 50 years in soil (Vickery 1995), quick-growing (Smith & Waterhouse 1988).

**Fire response:** Easily killed (V. Bear pers. comm.) and highly flammable, burning with intense heat (Parsons & Cuthbertson 1992). High seedling recruitment from soil seedbank (Smith & Waterhouse 1988).

**Interaction with other organisms:** Out-competes native plants; resprouts vigorously when grazed by macropods or horses (Smith & Waterhouse 1988). Young growth eaten by rabbits; larvae of twig mining moth *Leucoptera spartifoliella* tunnel into young stem feeding for nearly 12 months, reducing growth and seeding and /or death of plant (Vickery 1995). At least 35 invertebrate species specifically adapted to feeding on Broom have been identified in England (Waterhouse 1988).

**Distribution**

**Status/origin:** Exotic, native to Europe. Introduced as hops substitute by King in 1798 and subsequently as ornamental (Waterhouse 1988). Established on grazing property near Barrington Tops in the 1840s as a garden plant/hedge (Smith & Waterhouse 1988).

**Botanical subregions:** NT CT ST CWS; Vic., S.A.

**Distribution Sydney area:** Upper Blue Mountains and further west.

**Select locations:** Bilpin, Lawson, Leura, Blackheath, Megalong Valley, Lithgow, Meadow Flat, Sunny Corner (1899), Orange.

**Habitat**

**Habitat:** Valleys, gullies and along creeks.

**Altitude:** 700–1000 m      **Annual rainfall:** 1000–1400 mm

**Typical local abundance:** Frequent–dominant.

**Vegetation:** Heath, woodland e.g. with *Eucalyptus dalrympleana*, *E. pauciflora*, and shrub-swamp.

**Substrate:** Sandy to sandy clay soils on sandstones. Basalt and granite (in Barrington Tops area, Waterhouse 1988). Infertile to fertile soils in moderate to high rainfall areas (Parsons & Cuthbertson 1992). Sometimes on poorly-drained sites.

**Exposure:**

**Conservation**

**Conservation:** Invasive weed of disturbed bushland, roadsides and neglected areas, competing strongly with and shading out native species; although introduced to Barrington Tops in 1840's it was not reported to be spreading until 1950's and 1960's, coinciding with development of fire and logging trails there (Waterhouse 1988). Now a major weed of plateaus at Barrington Tops and also expanding in the Upper Blue Mountains.

***Daviesia acicularis***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Small wiry shrub to 1 m high, with narrow phyllodes 10–40 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Reddish-brown, August–September.**Fruit/seed:** Pod, 6–9 mm long**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS NWP; Qld.**Distribution Sydney area:** Widespread.**Select locations:** Howes Mountain, Kulnura, Hornsby, Duck River, Berkshire Park, Liverpool, Campbelltown, Bargo, Coledale, Cambewarra, Blaxland, Wingello.**Habitat****Habitat:** Dry woodland.**Altitude:** 0–700 m**Annual rainfall:** above 700 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus sclerophylla*, *Angophora bakeri*, *Corymbia gummifera*, *Eucalyptus fibrosa*.**Substrate:** Sandy clay soils on Tertiary alluvium, sandstone, low nutrient soils, well-drained.**Exposure:****Conservation****Conservation:** Conserved in Western Sydney (Benson & McDougall 1991), status elsewhere unknown.***Daviesia alata***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Prostrate or spreading shrub to 1 m diam., with woody rootstock, branchlets winged, phyllodes reduced to scales.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Dark red, orange, September–November.**Fruit/seed:** Pod 10 mm long. Seed weight 5 mg (Auld & O'Connell 1991), November.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, viability 99%, non-dormant fraction 0% (Auld & O'Connell 1991).**Fire response:** Possibly killed by high intensity fire (1/94 at Narrabeen, P. Kubiak pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST**Distribution Sydney area:** Widespread.**Select locations:** Howes Valley, Church Point, Wahroonga, Manly, Silverdale, Cambewarra, Carrington Falls, Penrose, Wingello.**Habitat****Habitat:** Dry forest.**Altitude:** 0–700 m**Annual rainfall:** above 900 mm**Typical local abundance:****Vegetation:** Eucalypt open-forest e.g. with *Angophora bakeri*, *Eucalyptus sclerophylla*, *Eucalyptus punctata*.**Substrate:** Sandy to clayey soils over sandstone, low nutrients, well-drained.**Exposure:****Conservation****Conservation:** Conservation status unknown.



***Daviesia corymbosa***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Shrub to 2 m high, with phyllodes obovate to linear.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow/red August–December, peak September–October.**Fruit/seed:** Pod 8–9 mm long, December.**Dispersal, establishment & growth:****Fire response:** Resprouts (J. Howell pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST.**Distribution Sydney area:** Widespread.**Select locations:** Putty, Bilpin, Maroota, Oatley, Kentlyn, Waterfall, Oakdale, Mittagong, Springwood, Wentworth Falls.**Habitat****Habitat:** Dry open-forest.**Altitude:** 0–1000 m**Annual rainfall:** above 800 mm**Typical local abundance:** Frequent.**Vegetation:** Dry open-forest e.g. with *Corymbia gummifera*, *C. eximia*, *Angophora bakeri*, *A. costata*, *Eucalyptus sieberi*, also creekside scrub with *Tristaniopsis laurina*, *Stenocarpus salignus*.**Substrate:** Sandy clay soils, often on shale/sandstone junction, low nutrients.**Exposure:****Conservation****Conservation:** Widespread and probably adequately conserved.***Daviesia genistifolia***

FABACEAE – FABOIDEAE

Broom Bitter Pea

**Life history****Growth form:** Low, multistemmed shrub 0.6–2 m high, with terete phyllodes 5–30 mm long.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** August–October.**Fruit/seed:** Pod 8–11 mm long, October–November.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Mechanism for dispersal undefined (McIntyre et al. 1995). Long-lived soil-stored seed, germination more than 50% in 1–2 weeks (A. Bofeldt pers. comm.).**Fire response:** Probably resprouts.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT CT ST NWS CWS SWS NWP SWP; Qld, Vic., S.A.**Distribution Sydney area:** Cumberland Plain; Bathurst–Rylstone. Illawarra coastal plain (A. Bofeldt pers. comm.).**Select locations:** Prospect, Bringelly, Narellan, Dapto, Albion Park, Ilford.**Habitat****Habitat:****Altitude:** 0–1000 m**Annual rainfall:** 600–1200 mm**Typical local abundance:** Occasional.**Vegetation:** Woodland e.g. with *Eucalyptus moluccana* –*E. tereticornis*. Open-forest to woodland in Illawarra e.g. with *Eucalyptus tereticornis*, *E. longifolia*, *E. eugenioides*, *Melaleuca decora* (M. Robinson pers. comm.).**Substrate:** Heavy clay soils, Wianamatta Shale, Berry siltstone, medium nutrients.**Exposure:****Conservation****Conservation:** Vulnerable in Western Sydney (Benson & McDougall 1991) and not conserved in Illawarra where it is threatened by loss of habitat through clearing (A. Bofeldt & M. Robinson p. c.).

***Daviesia latifolia*****FABACEAE – FABOIDEAE****Life history****Growth form:** Shrub, usually 1–3 m high, with phyllodes 2–14 cm long.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Yellow and brown, October.**Fruit/seed:** Pod 7–9 mm long, December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Mechanism for dispersal undefined (McIntyre et al. 1995).**Fire response:** Resprouts from base.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** SC NT CT ST NWS CWS SWS; Qld, Vic., Tas.**Distribution Sydney area:** Upper Blue Mountains, Southern Highlands.**Select locations:** Rylstone, Hassans Walls, Newnes Plateau, Clarence, Mt York, Paddys River, Wingello.**Habitat****Habitat:** Open-forest and woodland.**Altitude:** 600–1200 m      **Annual rainfall:** above 1000 mm**Typical local abundance:** Frequent–dominant.**Vegetation:** Open-forest e.g. with *Eucalyptus blaxlandii*, *E. sieberi*, *E. radiata* and woodland e.g. with *Eucalyptus mannifera*, *E. radiata*, *E. pauciflora*.**Substrate:** Shallow to deep sandy soil over sandstone, also clay soils, low nutrient, well-drained.**Exposure:****Conservation****Conservation:** Conservation status unknown.***Daviesia leptophylla*****FABACEAE – FABOIDEAE****Life history****Growth form:** Shrub to 2 m high, with phyllodes to 6.5 cm long, often missing on upper branchlets.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange and red, October–December, peak October.**Fruit/seed:** Pod, 7–8 mm long.**Dispersal, establishment & growth:****Fire response:** Resprouts (J. Howell pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC CT ST CWS SWS; Vic, S.A.**Distribution Sydney area:** West of area.**Select locations:** Bilpin, Lithgow, Sunny Corner, Hill End, Cudal, Mullions Range, Trunkey, Abercrombie Caves, Wingello.**Habitat****Habitat:** Rocky hillsides.**Altitude:** 700–1000 m      **Annual rainfall:** 600–1300 mm**Typical local abundance:** Occasional–frequent.**Vegetation:** Open-forest.**Substrate:** Gravelly clay, often with rocks.**Exposure:****Conservation****Conservation:** Conservation status unknown.

***Daviesia mimosoides* subsp. *mimosoides***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Multistemmed shrub 1–2 m high, sometimes tree-like to 5 m high, with narrow phyllodes 2–20 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Red and yellow, August–October.**Fruit/seed:** Pod, 6–10 mm long, December.**Dispersal, establishment & growth:****Fire response:** Regrowth and suckers from rootstocks and lateral roots, seedlings recorded more than 1 year after fire (Purdie 1977).**Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST CWS SWP; Qld, Vic.**Distribution Sydney area:** Coastal Sydney and southwest.**Select locations:** Kurnell, Cronulla, Menangle Park, Hill Top, Mittagong, Yerranderie.

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**Habitat****Habitat:** Woodland.**Altitude:** 0–600 m**Annual rainfall:** above 700 mm**Typical local abundance:** Frequent.**Vegetation:** Coastal hind dune forest e.g. with *Banksia integrifolia*, *Banksia serrata*, and woodland e.g. with *Angophora costata*, *Corymbia gummifera*, *Syncarpia glomulifera*.**Substrate:** Sandy soils on dunes and sandstone.**Exposure:**

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**Conservation****Conservation:** Conservation status unknown.***Daviesia pubigera***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Shrub to 2 m high, with phyllodes 4–20 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** September–December.**Fruit/seed:** Pod 8–10 mm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CT NWS CWS NWP**Distribution Sydney area:** Clandulla near Kandos.**Select locations:** Clandulla State Forest (only record in area).

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**Habitat****Habitat:****Altitude:** 600 m**Annual rainfall:** 600 mm**Typical local abundance:****Vegetation:** Eucalypt woodland.**Substrate:** Sandy soil on rocky sites, low nutrients.**Exposure:**

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**Conservation****Conservation:** Mainly Western Slopes; conservation status unknown.

***Daviesia squarrosa***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Slender shrub to 1 m high, with broad, acuminate phyllodes 4–12 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow and red, July–October, peak September.**Fruit/seed:** Pod, 6–9 mm long.**Dispersal, establishment & growth:****Fire response:** Resprouts after fire (at Prestons, DHB 4/91).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST.**Distribution Sydney area:** Western Sydney and Blue Mountains.**Select locations:** Howes Valley, Maroota, Killara, Agnes Banks, St Marys, Liverpool, Appin, Thirlmere, Glenbrook, Megalong Valley.**Habitat****Habitat:****Altitude:** 0–600 m      **Annual rainfall:** above 700 mm**Typical local abundance:** Rare–occasional.**Vegetation:** Woodland e.g. with *Eucalyptus fibrosa*, *Melaleuca decora*, *Eucalyptus sclerophylla*, *Corymbia gummifera*.**Substrate:** Clay loam and gravelly clay on Wianamatta Shale and Tertiary alluvium.

Also sandy soil over sandstone, low nutrient soils, well-drained.

**Exposure:****Conservation****Conservation:** Conserved in Western Sydney (Benson & McDougall 1991).

Status elsewhere unknown.

***Daviesia ulicifolia***

FABACEAE – FABOIDEAE

Gorse Bitter Pea

**Life history****Growth form:** Divaricate shrub to 2 m high, with pungent phyllodes, usually narrow, 5–20 mm long.**Vegetative spread:****Longevity:** Medium.**Primary juvenile period:****Flowers:** Yellow/red, August–December.**Fruit/seed:** Pod, 5–8 mm long, 3–5 mm wide, November–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank, germination more than 50 % in 1–2 weeks (A. Bofeldt pers. comm.).**Fire response:** Killed and re-establishes from soil-stored seed. Small seedlings flowering within 10 months of high intensity fire (1/94 at Narrabeen, P. Kubiak pers. comm.).

Growth following fire can be severely affected by grazing (Leigh &amp; Holdgate 1979).

**Interaction with other organisms:** Host to seed predator anthribid beetle (Auld 1991).

Honey bees gather pollen (Clemson 1985).

**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP SFWP; Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Wyong, Berkshire Park, Nortons Basin, Hornsby, Bondi, Chester Hill, Glenfield, Towradgi, Albion Park, Wentworth Falls, Blackheath, Kanangra, Bowral, Fitzroy Falls.

**Habitat**

**Habitat:** Coastal headlands, roadside in agricultural areas (A. Bofeldt & M. Robinson p. c.).

**Altitude:** 0–1000 m      **Annual rainfall:** above 700 mm

**Typical local abundance:** Frequent to occasional.

**Vegetation:** Woodland, open-forest e.g. with *Eucalyptus tereticornis*, *E. crebra*, *E. longifolia*, *E. eugenioides* forest, *Melaleuca* scrub e.g. with *Melaleuca nodosa*, *M. erubescens*, *M. decora*.

**Substrate:** Loamy soils from shale and sandstone, low nutrients, well-drained. Quaternary alluvium, Budjong Sandstone and Berry Siltstone in Illawarra (A. Bofeldt & M. Robinson p. c.).

**Exposure:** Requires high levels of light but will tolerate some shade (A. Bofeldt p. c.).

**Conservation**

**Conservation:** Conserved in Western Sydney (Benson & McDougall 1991), not conserved in Illawarra (A. Bofeldt & M. Robinson pers. comm.), status elsewhere unknown.

***Daviesia umbellulata*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Slender shrub to 1 m high, with pungent phyllodes 5–20 mm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** September–December.

**Fruit/seed:**

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NT NWS; Qld.

**Distribution Sydney area:** Barrenjoey Peninsula.

**Select locations:** Wybung Head, Palm Beach, Newport to Barrenjoey (1916), Pittwater, Wedderburn, Thirlmere.

**Habitat**

**Habitat:**

**Altitude:** 0–50 m      **Annual rainfall:** more than 1200 mm

**Typical local abundance:**

**Vegetation:**

**Substrate:**

**Exposure:**

**Conservation**

**Conservation:** Rare, inadequately conserved.

***Desmodium brachypodium*****FABACEAE – FABOIDEAE**

Large Tick-trefoil

**Life history**

**Growth form:** Erect or climbing perennial herb to 60 cm high.

**Vegetative spread:** No (McIntyre et al. 1995).

**Longevity:**

**Primary juvenile period:**

**Flowers:** Mauve to red, February–April.

**Fruit/seed:** Pod 20–40 mm long, densely covered with minute hooked hairs, separating into 3–8, 1-seeded segments. Shed at maturity.

**Dispersal, establishment & growth:** Diaspore: 1-seeded segments 4–5 mm long, adhesive (McIntyre et al. 1995) probably animal-dispersed.

**Fire response:**

**Interaction with other organisms:** Probably grazed by stock. Also rabbits (M. Robinson pers. comm.).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT NWS NWP SWP; Qld, Vic., S.A., N.G.

**Distribution Sydney area:** Western Sydney, Illawarra.

**Select locations:** Grose Vale, Georges River, Cobbitty, Campbelltown, (Avondale & Mt Brown, A. Bofeldt p. c.), Albion Park.

**Habitat**

**Habitat:** Hillsides.

**Altitude:** 0–200 m      **Annual rainfall:** 700–1000 mm

**Typical local abundance:** Occasional.

**Vegetation:** Grassland and grassy woodland e.g. with *Eucalyptus crebra*, *E. moluccana*, *Eucalyptus tereticornis*, *E. eugenioides*.

**Substrate:** Clay soils e.g. from Wianamatta Group, Budgong Sandstone. Soil fertile. Watertable permanently low, well-drained, moisture supply intermittent, fresh.

**Exposure:** Mid shade to full sun.

**Conservation**

**Conservation:** Conserved in Western Sydney (Benson & McDougall 1991), but not conserved in Illawarra (A. Bofeldt pers. comm.).

***Desmodium rhytidophyllum*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Twining perennial herb or trailing shrub with stems with rusty spreading hairs.

**Vegetative spread:** No.

**Longevity:**

**Primary juvenile period:**

**Flowers:** Purple to pink, December–April, peak March.

**Fruit/seed:** Pod 15–25 mm long of 2–7 segments covered with minute, hooked hairs, mature December–April, peak March.

**Dispersal, establishment & growth:** Diaspore: fruit segments. Seeds animal-dispersed sticking to skin/fur (Westoby et al. 1990). Soil-stored seedbank (Fox 1988).

**Fire response:** Killed by fire (Fox 1988). Resprouted, flowering and fruiting within 13 weeks of high intensity fire (1/94 at Narrabeen, P. Kubiak pers. comm.).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC; Qld, N.G.

**Distribution Sydney area:** Coast and Lower Blue Mountains.

**Select locations:** Berowra, Pymble, Hurstville, Glenbrook, Valley Heights, Bulli, (Albion Park, West Dapto, M. Robinson p.c.), Berry.

**Habitat**

**Habitat:** Hillsides with clay soils.

**Altitude:** 0–400 m      **Annual rainfall:** 1000–1400 mm

**Typical local abundance:** Occasional.

**Vegetation:** Eucalypt open-forest e.g. with *Eucalyptus tereticornis*, *E. longifolia*, *E. eugenioides*, *Melaleuca decora* (M. Robinson pers. comm.), rarely *Casuarina* forest (at Berowra).

**Substrate:** Clayey soils from Wianamatta Shale, volcanic breccia, Berry Siltstone, Budgong Sandstone (M. Robinson, A. Bofeldt pers. comm.). Fertile soil.

Watertable permanently low, moisture supply intermittent, fresh.

**Exposure:** Light sun to full sun.

**Conservation**

**Conservation:** Not common. Not conserved in Illawarra (M. Robinson pers. comm.), conservation status elsewhere unknown.

**Desmodium varians**

FABACEAE – FABOIDEAE

Slender Tick-trefoil

**Life history****Growth form:** Prostrate or climbing herb with thick root.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Pink to white, October–April.**Fruit/seed:** Pod, 7–20 mm long, of 2–6, 1-seeded segments, shed at maturity, October–April.**Dispersal, establishment & growth:** Diaspore: 1-seeded segments, adhesive (McIntyre et al. 1995). Probably soil-stored seedbank.**Fire response:** Resprouted, one plant flowering within 11 weeks of high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).**Interaction with other organisms:** Readily eaten by cattle.**Distribution****Status/origin:** Native.**Botanical subregions:** CC SC NT CT ST NWS CWS SWS NWP; Qld, Vic., Tas.**Distribution Sydney area:** Widespread.**Select locations:** Wisemans Ferry, Pitt Town, Pymble, Ingleburn, Camden, Yerranderie, Albion Park, Seven Mile Beach, Blackheath, Clarence, Rockley, Capertee.**Habitat****Habitat:** Levee banks.**Altitude:** 0–1000 m**Annual rainfall:** mainly 700–1000 mm**Typical local abundance:** Occasional.**Vegetation:** Eucalypt woodland with grassy understorey e.g. with *Eucalyptus crebra*, *E. moluccana*, *E. fibrosa*. Open-forest of *Eucalyptus tereticornis*, *E. quadrangulata*, *E. eugenioides*, littoral and dry rainforest in Illawarra (M. Robinson & A. Bofeldt pers. comm.).**Substrate:** Mainly shale soils from Wianamatta Shale but occasionally sandstone (Blackheath). On Budgong Sandstone, Bumbo Latite member and Quaternary alluvium in Illawarra (M. Robinson pers. comm.). Soil fertile–infertile. Watertable permanently low, moisture supply intermittent, fresh.**Exposure:** Light shade.**Conservation****Conservation:** Conserved in Western Sydney (Benson & McDougall 1991), status elsewhere unknown.**Dillwynia acicularis**

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub 1–3 m high, with short, appressed hairs on stems.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** Yellow, August–November, peak September.**Fruit/seed:** Pod 6 mm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC CT CWS.**Distribution Sydney area:** Wollemi area, Bargo River–Avon Dam.**Select locations:** Howes Valley, Tinda Creek, Mt Gundangaroo, Glen Davis, Wisemans Ferry, Lower Portland, Jenolan Caves, Bargo River, Avon Dam.



**Habitat**

**Habitat:** Sandstone slopes and ridges below cliffs.

**Altitude:** 0–800 m      **Annual rainfall:** 600–1000 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Dry forest e.g. with *Eucalyptus punctata*, *E. sparsifolia*, *Callitris endlicheri*, *Eucalyptus haemastoma*, *Corymbia eximia*.

**Substrate:** Steep sandstone slopes with sandy soils, low nutrients. Rarely on granite (in Jenolan Granite woodland of Keith & Benson 1988).

**Exposure:**

**Conservation**

**Conservation:** Main occurrence in Wollemi area stretches north to CWS but population in Bargo River–Avon Dam area is disjunct, separate population at southern geographical limit of species. Probably adequately conserved.

***Dillwynia brunioides*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Erect shrub 0.3–1 m high, with hairy stems.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, October–November.

**Fruit/seed:** Pod 5 mm long; seeds reticulate, seed weight 3 mg (Auld & O'Connell 1991), mature November–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Seed viability 96%, non-dormant fraction 6% (Auld & O'Connell 1991). Soil-stored seedbank.

**Fire response:**

**Interaction with other organisms:** Host to seed predator anthribid beetle (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** SC CT ST.

**Distribution Sydney area:** Mainly upper Blue Mountains.

**Select locations:** Mt Victoria, Blackheath, Katoomba, Leura, Wentworth Falls, Kanangra, Bundanoon.

**Habitat**

**Habitat:** Heath.

**Altitude:** 600–1000 m      **Annual rainfall:** 1100–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Heath e.g. with *Banksia ericifolia*, *Allocasuarina distyla*, *A. nana*, *Lambertia formosa*, *Eucalyptus stricta*.

**Substrate:** Sandy skeletal soils on sandstone, low nutrients.

**Exposure:**

**Conservation**

**Conservation:** Mt Victoria is northern geographical limit. Probably adequately conserved.

***Dillwynia cinerascens***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Decumbent to erect shrub 0.3–1.5 m high, with hairy stems.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow–Orange, October.**Fruit/seed:** Pod 5 mm long, seeds smooth.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CT ST SWS SWP; Vic., Tas., S.A.**Distribution Sydney area:** Bathurst area.**Select locations:** Yeltholme, Bathurst.

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**Habitat****Habitat:** Dry hillsides.**Altitude:** 700–1000 m      **Annual rainfall:** 600–800 mm**Typical local abundance:** Frequent.**Vegetation:** Dry eucalypt forest e.g. with *Eucalyptus rossii*, *E. goniocalyx*, *Stypandra glauca*, *Brachyloma daphnoides*.**Substrate:** Clay to loamy soils on shale, low nutrients.**Exposure:**

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**Conservation****Conservation:** Uncommon, Bathurst area is northern geographic limit.

Conservation status there unknown.

***Dillwynia floribunda* var. *floribunda***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub to 2.5 m high, with hairy stems. Attains flowering maturity after 3–4 years. (D Keith pers. comm.).**Vegetative spread:** No.**Longevity:** 5–20 years (D. Keith pers. comm.).**Primary juvenile period:** Primary juvenile period 2–6 years (D. Keith pers. comm.).**Flowers:** Yellow, August–October, peak September.**Fruit/seed:** Pod 4–7 mm long, mature in October. Seed weight 2 mg (Auld & O'Connell 1991).**Dispersal, establishment & growth:** Diaspore: Seed hard-coated. Ant-adapted dispersal (Rice & Westoby 1981). Seed viability 99%, non-dormant fraction 12% (Auld & O'Connell 1991). Soil-stored seedbank. Recruitment mainly after fire; minimum temperature for maximum germination  $\leq 60^{\circ}\text{C}$  (D. Keith pers. comm.).**Fire response:** Killed by fire (D. Keith pers. comm., Auld & O'Connell 1991). Some seedlings flowering less than 2 years after high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).**Interaction with other organisms:** Host to seed predator beetles *Araacerus* sp. (Anthribidae), *Bruchidius* spp. (Bruchidae) (Auld 1991). Jewel beetle *Ethon affine* visits flowers for food but does not appear to assist pollination as it is mainly a destructive feeder on petals and occasionally stamens (Hawkeswood 1987).

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC; Qld.**Distribution Sydney area:** Mainly coastal.**Select locations:** Mt White, Patonga, Wahroonga, Manly, Centennial Park, Loftus, Springwood, Robertson, Fitzroy Falls, Cambewarra.

**Habitat****Habitat:** Wet or moist ground.**Altitude:** 0–600 m      **Annual rainfall:** above 1200 mm**Typical local abundance:** Frequent.**Vegetation:** Wet heath and *Eucalyptus* open-woodland.**Substrate:** Sand with organic matter over sandstone, low nutrients, impeded drainage.**Exposure:****Conservation****Conservation:** Conservation status unknown.***Dillwynia floribunda* var. *teretifolia*****FABACEAE – FABOIDEAE****Life history****Growth form:** Erect shrub to 2.5 m high, with hairs on young stems.**Vegetative spread:** No**Longevity:****Primary juvenile period:** ? 7 years.**Flowers:** Yellow, July–October, peak September.**Fruit/seed:** Pod 4–7 mm long, August–February.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, adapted for ant-dispersal.**Fire response:****Interaction with other organisms:** Pollen gathered by honey bees (Clemson 1985).**Distribution****Status/origin:** Native.**Botanical subregions:** CC CT.**Distribution Sydney area:** Hornsby Plateau and Blue Mountains.**Select locations:** Olinda, Putty, Colo Heights, Wilberforce, Mt White, Cowan, Glenorie, Hornsby, Lindfield, Middle Harbour, Clarence, Wentworth Falls, Springwood.**Habitat****Habitat:** Rocky sandstone ridges.**Altitude:** 0–1200 m      **Annual rainfall:** 700–1200 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Eucalypt woodland e.g. with *Corymbia gummifera*, *C. eximia*, *Angophora bakeri*, and dry heath e.g. with *Eucalyptus stricta*, *E. burgessiana*, *Banksia ericifolia*, *Allocasuarina nana*, not confined to wet or moist ground.**Substrate:** Sandy soil on sandstone, conglomerate occasionally on rocky slope on basalt, low–medium nutrients, well-drained.**Exposure:** Exposed.**Conservation****Conservation:** Local endemic taxon, probably well-conserved in major National Parks e.g. Wollemi, Blue Mountains.

***Dillwynia glaberrima***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub 1 m high with linear leaves 5–20 mm long.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** Yellow, August–November, peak October.**Fruit/seed:** Pod 4–6 mm long, seeds smooth, mature November–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, soil-stored seedbank.**Fire response:** Resprouts from base and from soil-stored seed.**Interaction with other organisms:** Host to seed predator anthribid beetle (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC; Qld, Vic., Tas., S.A.**Distribution Sydney area:** Widespread but localised.**Select locations:** Mellong Swamps, Agnes Banks, Elderslie, Centennial Park, Matraville, La Perouse, Kogarah, Towra Point, Cape Solander, Windang.**Habitat****Habitat:** Deep sandy deposits.**Altitude:** 0–400 m**Annual rainfall:** above 800 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Heath and scrub e.g. with *Leptospermum laevigatum*, *Acacia sophorae*, *A. suaveolens* and shrubby woodland e.g. with *Angophora bakeri*, *Banksia serrata*. Also in open-forest of *Eucalyptus botryooides*, *E. pilularis*, *Angophora floribunda* in Illawarra (M. Robinson pers. comm.).**Substrate:** Deep sand, often dune sand, low nutrients, well-drained.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Inadequately conserved in Illawarra; status elsewhere unknown.***Dillwynia juniperina***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Spreading shrub to 2 m high with short appressed and longer spreading hairs, leaves sessile at right angles to stem.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Yellow with reddish-brown markings, October–November.**Fruit/seed:** Pod, 5–6 mm long, surrounded by persistent remains of petals.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, dispersed by ants (Berg 1975), no particular mechanism for dispersal (McIntyre et al. 1995).**Fire response:****Interaction with other organisms:** Host to seed predator anthribid beetle (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** CT CWS SWS; Vic.**Distribution Sydney area:** Abercrombie area.**Select locations:** Trunkey, Abercrombie Caves.**Habitat****Habitat:** Hillsides or ridges.**Altitude:** 800–900 m**Annual rainfall:** 800–900 mm**Typical local abundance:****Vegetation:****Substrate:** Shallow skeletal soils, often on granite (Albrecht & Crisp 1993).**Exposure:****Conservation****Conservation:** Rare in NSW (Albrecht & Crisp 1993). Conservation status unknown.

***Dillwynia parvifolia***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Spreading to erect shrub 0.3–1 m high, minute hairs on stems, leaves spirally twisted.

**Vegetative spread:** No.

**Longevity:** ? short–medium

**Primary juvenile period:**

**Flowers:** Yellow, August–November.

**Fruit/seed:** Pod 3–5 mm long, seeds reticulate.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:** Probably killed. Frequent at Silverwater in 1964 but rare in 1985, after mowing and absence of fire. Abundant at East Hills 8 years after fire.

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC.

**Distribution Sydney area:** Mainly Bankstown, Liverpool, Villawood (1993).

**Select locations:** Arncliffe (1896), Yennora, Cabramatta, Liverpool, Leumeah, Menai, Douglas Park.

**Habitat**

**Habitat:** Open, flat sites.

**Altitude:** 0–200 m

**Annual rainfall:** 700–1000 mm

**Typical local abundance:** Occasional.

**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus sclerophylla*, *E. parramattensis*, *E. globoides*, *E. paniculata*, *Melaleuca decora*, *Melaleuca nodosa*.

**Substrate:** Clay soils, Wianamatta Shale with ironstone gravel influence or shale / sandstone transition. Low-nutrient soils.

**Exposure:**

**Conservation**

**Conservation:** Listed as vulnerable in Western Sydney (Benson & McDougall 1991), and likely to become extinct in Sydney area if not conserved. Only location known now is Villawood and possibly Menai. Liverpool area is northern geographical limit.

***Dillwynia phyllicoides* species complex**

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Prostrate to erect shrub to 1.5 m high, with hairy stems and small spirally twisted hairy leaves.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow with red-brown to orange markings, June–February, peak October–November.

**Fruit/seed:** Pod 5–7 mm long, with smooth seeds.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:** Killed, recruitment from seed (Fox 1988).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC NT CT ST NWS CWS SWS; Qld, Vic.

**Distribution Sydney area:** Mainly Tablelands.

**Select locations:** Coricudgy, Kandos Weir, Ben Bullen SF, Newnes Plateau, Carcoar, Oberon, Rockley, Mt Lambie, Georges Plains, Mt Victoria, Mt Wilson, Yerranderie, Thirlmere, Mittagong.

**Habitat**

**Habitat:** Woodland.

**Altitude:** 500–1200 m      **Annual rainfall:** 700–1400 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Dry eucalypt woodland to open-forest e.g. with *Eucalyptus piperita*, *E. sclerophylla*, *E. dives*, *E. radiata*, *E. sieberi*, *E. rossii*, *E. beyeriana*, *E. tenella*, *E. punctata*, *E. macrorhyncha*.

**Substrate:** Sandy to gravelly soils on sandstone, metasediments; low nutrients, well-drained soils.

**Exposure:**

**Conservation**

**Conservation:** A widespread complex that seems to include at least 2 species. Conservation status uncertain until taxonomic position is clarified.

***Dillwynia ramosissima***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Shrub to 1.5 m high, with spinescent branches.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, inflorescences 1-flowered, terminal or in upper axils, August–October.

**Fruit/seed:** Pod 5–7 mm long, seeds smooth, October–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC CT ST; Vic.

**Distribution Sydney area:** Wollemi, Eastern Suburbs, Burragorang to Shoalhaven.

**Select locations:** Mt Coricudgy, Glen Davis, Waverley (1898), Randwick (1898), Yerranderie, Bindook, Hill Top, Moss Vale, Penrose, Barbers Creek, Bomaderry.

**Habitat**

**Habitat:** Ridges, hillsides and near creeks.

**Altitude:** 0–1000 m      **Annual rainfall:** 800–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Woodland e.g. with *Eucalyptus sclerophylla*, *E. consideniana*, and scrub e.g. with *Banksia ericifolia*, also swampy sites near creeks.

**Substrate:** Sandy gravelly soils on sandstone.

**Exposure:** Exposed sites.

**Conservation**

**Conservation:** Probably extinct in Eastern Suburbs but conserved in other areas.

***Dillwynia retorta*** species complex

## FABACEAE – FABOIDEAE

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**Life history**

**Growth form:** Prostrate to erect shrub to 3 m high, with hairy stems, leaves spirally twisted. Variable complex includes at least 2 species, requires revision (Harden 1991).

**Vegetative spread:** No.

**Longevity:** 20 years?

**Primary juvenile period:** 5 years (Benson 1985).

**Flowers:** Yellow, May to November, peak August.

**Fruit/seed:** Pod 4–7 mm long, seeds smooth. Seed weight 5–7 mg (Auld & O'Connell 1991, Westoby et al. 1990, Buckley 1982), mature September to March, peak November.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, adapted for ant-dispersal (Rice & Westoby 1981, Westoby et al. 1990). Soil-stored seedbank (Fox 1988).

Seed viability 98%, non-dormant fraction 23% (Auld & O'Connell 1991).

**Fire response:** Killed, seedlings recorded less than 1 year after fire (Purdie 1977).

**Interaction with other organisms:** Host to seed predator beetles *Araecerus* sp. (Anthribidae), *Bruchidius* spp. (Bruchidae), and gall-forming insect *Eurytoma* sp. (Hymenoptera) sometimes a seed predator (Auld 1991).

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**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC CT NWS; Qld.

**Distribution Sydney area:** Widespread coast and Blue Mountains.

**Select locations:** Wyong, Bouddi NP, Maroota, Asquith, Gordon, Garigal NP, Bondi, La Perouse, Helensburgh, Bangor, Glenbrook, Douglas Park, Tonalli Peak, Wentworth Falls, Blackheath.

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**Habitat**

**Habitat:** Ridges and hillsides.

**Altitude:** 0–1000 m

**Annual rainfall:** 900–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Heath and dry woodland e.g. with *Angophora costata*, *Eucalyptus piperita*, *Allocasuarina littoralis*, *Eucalyptus punctata*, *Banksia serrata*.

**Substrate:** Sandy loam on sandstone, gravelly, loams, laterite on shales, low nutrients, well-drained.

**Exposure:**

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**Conservation**

**Conservation:** Generally probably adequately conserved, though particular local forms may not be.



***Dillwynia sericea***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub 0.5–1 m high.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** August–November, peak September.**Fruit/seed:** Pod 3–4 mm long, seed weight 4 mg (Westoby et al. 1990), matures November.**Dispersal, establishment & growth:** Diaspore: seed, hard-coated. Ant-adapted food body for dispersal (Westoby et al. 1990, Rice & Westoby 1981). Soil-stored seedbank.**Fire response:****Interaction with other organisms:** Host to seed predator anthribid beetle (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** CC SC NT CT ST NWS CWS SWS NWP; Qld, Vic., Tas., S.A.**Distribution Sydney area:** Mainly Hornsby Plateau and Blue Mountains.**Select locations:** Mangrove Mountain, Kariong, Glenorie, Hornsby, Garigal NP, Kogarah, Putty, Wilberforce, Glenbrook, Clarence, Blackheath, Bargo.**Habitat****Habitat:** Sandstone hillsides.**Altitude:** 0–1100 m**Annual rainfall:** above 800 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Heath, woodland and dry eucalypt forest e.g. with *Eucalyptus piperita*, *Corymbia gummifera*.**Substrate:** Sandy to gravelly soil on sandstone. Soil infertile. Watertable mostly low, moisture supply intermittent, fresh.**Exposure:** Exposed, full sun to light shade.**Conservation****Conservation:** Conservation status unknown.***Dillwynia sieberi***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect or spreading shrub to 2 m high, stems with appressed hairs, leaves more or less erect with short yellowish petioles.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** 20–25 years?**Primary juvenile period:****Flowers:** Yellow to yellow-orange, April–November (Albrecht & Crisp 1993).**Fruit/seed:** Pod, 5–6 mm long, surrounded by persistent remains of petals, dark

brown-black seed 3 mm long with an aril, mature December (Albrecht &amp; Crisp 1993).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, transported by ants, *Iridomyrmex* sp. A (Berg 1975), soil-stored seedbank.**Fire response:** Killed, re-establishes from soil-stored seed.**Interaction with other organisms:****Distribution****Status/origin:****Botanical subregions:** CC SC NT CT ST NWS CWS SWS; Qld.**Distribution Sydney area:** Mainly western Sydney and southwest.**Select locations:** Flemington, Cabramatta, Marsden Park, St Marys, Bringelly, Yerranderie, Joadja, Bundanoon, Penrose, Oberon.**Habitat****Habitat:** Rocky sites in open-forest and woodland.**Altitude:** 0–1000 m**Annual rainfall:** 700–1200 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Dry Eucalyptus woodland e.g. with *Eucalyptus moluccana*, *E. fibrosa*, *Melaleuca decora* or with *Eucalyptus sieberi*.**Substrate:** Gravelly clay soils on Wianamatta Shale, low nutrient soil, or more sandy soils.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Conserved in Western Sydney (Benson & McDougall 1991), status elsewhere unknown.

***Dillwynia stipulifera***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Erect to spreading shrub 0.3–0.5 m high, with hairy stems, leaves mostly erect, linear.  
**Vegetative spread:** No.  
**Longevity:**  
**Primary juvenile period:**  
**Flowers:** Inflorescences usually 2-flowered, deep yellow with dark red ring, November.  
**Fruit/seed:** Pod not known.  
**Dispersal, establishment & growth:** Diaspore: hard-coated seed.  
**Fire response:** Resprouts from base and flowers within 3 years of fire. May be crowded out by taller growing species and fail to flower at long unburnt sites e.g. after 10 years, though will persist for at least 15 years.  
**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.  
**Botanical subregions:** CT ST.  
**Distribution Sydney area:** Newnes Plateau.  
**Select locations:** Clarence, Newnes State Forest, Farmers Creek.

**Habitat**

**Habitat:** Shrub swamps.  
**Altitude:** above 1100 m      **Annual rainfall:**  
**Typical local abundance:** Frequent–occasional.  
**Vegetation:** Shrub swamp e.g. with *Grevillea acanthifolia* subsp. *acanthifolia*, *Gymnoschoenus sphaerocephalus*, *Banksia spinulosa*, *Leptospermum lanigerum*, *Lepidosperma limicola*.  
**Substrate:** Peaty sands with impeded drainage, over sandstone, low nutrient, permanently moist.  
**Exposure:** Full sun.

**Conservation**

**Conservation:** Local endemic, coded 3RCa on national rare species list (Briggs & Leigh 1996). Not found in any conservation area; most occurrences in State Forest.

***Dillwynia tenuifolia***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Erect shrub 0.6–1 m high.  
**Vegetative spread:** No.  
**Longevity:** ? 20–30 years.  
**Primary juvenile period:**  
**Flowers:** Orange with reddish markings, September.  
**Fruit/seed:** Pod 5 mm long, seeds reticulate, December.  
**Dispersal, establishment & growth:** Diaspore: hard-coated seed.  
**Fire response:** Killed and re-establishes from soil-stored seed.  
**Interaction with other organisms:** Host to seed predator anthribid beetle (Auld 1991).

**Distribution**

**Status/origin:** Native.  
**Botanical subregions:** NC CC CT ST.  
**Distribution Sydney area:** Mainly Windsor to Penrith.  
**Select locations:** Darkeys Creek, Agnes Banks, Castlereagh, St Marys, Kemps Creek, Woodford.

**Habitat**

**Habitat:** Scrubby forest.  
**Altitude:** 0–500 m      **Annual rainfall:** 700–1000 mm  
**Typical local abundance:** Frequent–occasional.  
**Vegetation:** Woodland and open-forest e.g. with *Eucalyptus fibrosa*, *Melaleuca decora*, *Angophora bakeri*, *Eucalyptus parramattensis* with shrubby understorey.  
**Substrate:** Red sandy to clay soil, sometimes gravelly, on Tertiary alluvium. Less commonly on sandy loam over sandstone, low nutrients, well-drained.  
**Exposure:** Light shade to full sun.

**Conservation**

**Conservation:** Very localised species. Listed under schedule II, NSW Threatened Species Conservation Act 1995 and coded 2RCa on national rare species list (Briggs & Leigh 1996). Vulnerable in Western Sydney (Benson & McDougall 1991).

***Dipogon lignosus* \***

FABACEAE – FABOIDEAE

Dolichos Pea

**Life history****Growth form:** Vigorous twiner, with alternate 3-foliolate leaves.**Vegetative spread:** No.**Longevity:** Perennial.**Primary juvenile period:****Flowers:** Pink–purple, rarely white, August–October, peak October.**Fruit/seed:** Pod 25–50 mm long, with 3–6 seeds, black with white hilum, October.**Dispersal, establishment & growth:** Diaspore: seed, spread in soil fill and possibly by ants. Germinates after clearing, in absence of fire (L.McD.)**Fire response:** Probably killed (A. Bofeldt pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to S Africa. Cultivated as an ornamental.**Botanical subregions:** CC SC; Qld, Vic., S.A.**Distribution Sydney area:** Mainly coastal suburbs.**Select locations:** Asquith, Narrabeen, Cheltenham (1949), Beecroft, Forestville, Greenwich (L.McD.), Northbridge, Dolls Point, Penrith, Bulli, (Balgownie, Puckeys NR, Kiama, A. Bofeldt p. c.).**Habitat****Habitat:** Disturbed sites and bushland margins. Road and railway verges (A. Bofeldt p. c.).**Altitude:** 0–200 m**Annual rainfall:** above 800 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Edge of moist forest e.g. with *Breynia oblongifolia*, *Pteridium esculentum*.**Substrate:** Clay soils from shale also sandy soils, low–medium nutrients, well-drained.

Coal measures and Quarternary alluvium in Illawarra (A. Bofeldt, M. Robinson pers. comm.).

**Exposure:** Full sun.**Conservation****Conservation:** Weed of bushland margins in disturbed sites.***Erythrina crista-galli* \***

FABACEAE – FABOIDEAE

Cockspur Coral Tree

**Life history****Growth form:** Shrub or small tree to 6 m high, glabrous, with small prickles on trunk and branches, leaves 3-foliolate.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Scarlet, spring, summer.**Fruit/seed:** Pod 8–22 cm long, with 3–12 seeds.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to S America. Commonly cultivated.**Botanical subregions:** CC SC; LHL.**Distribution Sydney area:** Warringah area.**Select locations:** Narrabeen, Forestville (L.McD.), Collaroy.**Habitat****Habitat:** Creeklines.**Altitude:** 0–100 m**Annual rainfall:** 1200–1400 mm**Typical local abundance:** Frequent.**Vegetation:****Substrate:****Exposure:** Full sun to light shade.**Conservation****Conservation:** Naturalised along creeklines.

***Erythrina X sykesii* \***

FABACEAE – FABOIDEAE

Coral Tree

**Life history**

**Growth form:** Deciduous tree to 15 m high, with prickles on trunk and branches, bark corky, leaves 3-foliolate.

**Vegetative spread:** Vigorous basal suckering when trunk is cut and groves form (J. Talbot pers. comm.). Pieces of trunk or branches readily take root.

**Longevity:** 50–100 years (A. Bofeldt pers. comm.).

**Primary juvenile period:**

**Flowers:** Scarlet, at any time of the year but mostly winter–spring.

**Fruit/seed:** Does not set fruit (Harden 1991).

**Dispersal, establishment & growth:** Does not set fruit but readily grows from cuttings or old stumps (Harden 1991)

**Fire response:** Not readily burnt (M. Robinson pers. comm.).

**Interaction with other organisms:** Noisy Friarbird and Wattlebird feed on blossom (M. Robinson pers. comm.). Casts very heavy shade discouraging growth of native plants beneath (A. Bofeldt pers. comm.).

**Distribution**

**Status/origin:** Exotic, hybrid probably originated in NZ from species introduced there (Harden 1991). Planted as windbreaks and specimen trees.

**Botanical subregions:** CC SC; LHI.

**Distribution Sydney area:** Sydney suburbs, Illawarra.

**Select locations:** Forestville, Allambie Heights (L.McD.), Middle Head (J. Talbot), Wolli Creek, (Avondale, Keiraville, Balgownie, Macquarie Rivulet, Minnamurra, M. Robinson & A. Bofeldt p. c.).

**Habitat**

**Habitat:** Around habitation, creek banks.

**Altitude:** 0–200 m      **Annual rainfall:** above 1100 mm

**Typical local abundance:** Common.

**Vegetation:** Forms pure stands and suckering thickets, chokes waterways as limbs fall (A. Bofeldt, M. Robinson pers. comm.).

**Substrate:** Grows in wide range of soils from infertile to fertile, growing most vigorously in fertile soils; e.g. on Illawarra Coal Measures, Budgong Sandstone, Quarternary alluvium, Gerringong volcanics in Illawarra (A. Bofeldt pers. comm.).

**Exposure:** Full sun to light shade.

**Conservation**

**Conservation:** Rarely fully naturalised but grows readily from cuttings and old stumps; spread by dumping of trunk and branch segments and sometimes carried into creeks by stormwater. Becoming serious weed along some gullies and watercourses in Illawarra, in Budderoo and Macquarie Pass NP (A. Bofeldt & M. Robinson pers. comm.). Very common in the Illawarra and often mistaken as Illawarra Flame tree *Brachychiton acerifolius* (A. Bofeldt pers. comm.).

**Genista monspessulana** \*

## FABACEAE – FABOIDEAE

Montpellier Broom

**Life history**

**Growth form:** Erect shrub to 3 m high, with hairy stems and trifoliate leaves; taproot branched with numerous shallow lateral roots (Parsons & Cuthbertson 1992).

**Vegetative spread:** No, but will resprout if stem is damaged (L.McD.).

**Longevity:** Less than 10 years, senescent individuals quickly replaced by seedlings (at Forestville L.McD.)

**Primary juvenile period:** 2 years (Parsons & Cuthbertson 1992).

**Flowers:** Bright yellow, August–November.

**Fruit/seed:** Flat, densely hairy brown or black pod 15–25 mm long, with 6–7 black seeds. Released in January (Adams & Simmons 1991).

**Dispersal, establishment & growth:** Diaspore: seed, locally dispersed explosively for several metres in hot weather, spread as contaminant of produce, on machinery and in mud (Parsons & Cuthbertson 1992), adapted for ant-dispersal (Adams & Simmons 1991). Polymorphic germination: 18% seed with no dormancy mechanism and 82% hard-coated providing a large pool of soil-stored seed able to germinate prolifically after fire; germination takes 10–15 days, well developed root nodules present at first leaf stage allow nitrogen fixation giving advantage to seedlings establishing on low nutrient soils that support native vegetation (Adams & Simmons 1991). Cut stems can resprout (L.McD.), extensive root system allows plant to withstand long periods of drought (Parsons & Cuthbertson 1992).

**Fire response:** Plant killed, prolific germination of soil-stored seed (Adams & Simmons 1991).

**Interaction with other organisms:** Forms dense thickets outcompeting other vegetation. Mechanical damage (roadside slashing) to hard-coated proportion of seed promotes rapid germination (Adams & Simmons 1991). Honey bees visit flowers, ? for nectar (P. Kubiak pers. comm.). Control measures involve follow-up seedling removal for 3–5 years; potential target for biological control.

**Distribution**

**Status/origin:** Exotic, native to Mediterranean and Europe, introduced as ornamental by 1857, frequently used as a hedge plant in late 1800s in Victoria (Parsons & Cuthbertson 1992).

**Botanical subregions:** NC CC NT CT ST NWS CWS SWS SWP; Vic., Tas., S.A.

**Distribution Sydney area:** Widespread.

**Select locations:** Castle Hill (1911), Pymble, Frenchs Forest, Manly Dam, Eastwood, (Mt Ousley, Wollongong, Marshall Mountain, M. Robinson p. c.), Mt Wilson, Bowenfels, Junction Reefs, Moss Vale (1910), Bundanoon,

**Habitat**

**Habitat:** Roadsides, railway embankments, disturbed sites, river channels.

**Altitude:** 0–1000 m      **Annual rainfall:** above 900 mm

**Typical local abundance:** Frequent to occasional.

**Vegetation:** Variable open-forest e.g. with *Eucalyptus cypellocarpa*, *E. blaxlandi* to soil-filled wasteland with other weeds e.g. *Dipogon lignosus*\*, *Cortaderia selloana*\*, *Pennisetum clandestinum*\*, *Eragrostis curvula*\* (L.McD.).

**Substrate:** Low to medium nutrient soils on sandstones, shales, sandy river channels. On Coal Measures, Berry Siltstone, Budgong Sandstone in Illawarra (M. Robinson pers. comm.).

**Exposure:** Full sun to light shade.

**Conservation**

**Conservation:** Cultivated and widely naturalised; this species has great invasive potential with serious control problems due to its dispersal mechanism and large soil-stored seedbank (Adams & Simmons 1991).

***Genista stenopetala* \***

FABACEAE – FABOIDEAE

Madeira Broom

**Life history****Growth form:** Erect or spreading shrub or small tree to 3.6. m high, with 3-foliolate leaves.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, September–October.**Fruit/seed:** Flat, densely hairy pod 25–30 mm long, with 5–7 seeds.**Dispersal, establishment & growth:** Diaspore: seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native of Madeira & Canary Is. Cultivated as ornamental.**Botanical subregions:** CC; Vic., S.A.**Distribution Sydney area:** Epping.**Select locations:** Epping (1955).**Habitat****Habitat:** Railway cutting.**Altitude:** 0–100 m      **Annual rainfall:** 1000 mm**Typical local abundance:** Frequent.**Vegetation:****Substrate:** Medium nutrient soils on shale.**Exposure:****Conservation****Conservation:** Cultivated as ornamental, reported naturalised at Epping (1995).***Glycine clandestina* species complex**

FABACEAE – FABOIDEAE

**Life history****Growth form:** Twiner with 3-foliolate leaves, not stoloniferous.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Mauve–purple–white, August–November, February–May, peak August.**Fruit/seed:** Straight pod, 1–5 cm long, with 4–12 seeds. Seed weight 4 g (Auld & O'Connell 1991), mature March–May, peak March.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. No particular morphology for dispersal (Westoby et al. 1990). Soil-stored seedbank (Floyd 1966). Seed viability 100%, non-dormant fraction 4% (Auld & O'Connell 1991).**Fire response:** Probably resprouts (Auld & O'Connell 1991).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP; Qld, Vic., Tas., S.A.**Distribution Sydney area:** Widespread.**Select locations:** Tuggerah, Turramurra, Kogarah, Cambewarra, Howes Valley, Pitt Town, Thirlmere, Mt Armour, Katoomba, Glen Davis, Mullions Range, Mittagong.**Habitat****Habitat:** Hillsides to edges of swamps.**Altitude:** 0–1000 m      **Annual rainfall:** 700 mm–1400 mm**Typical local abundance:** Occasional.**Vegetation:** Open-forest e.g. with *Eucalyptus fibrosa*, *E. crebra*, *E. sclerophylla*, *E. haemastoma*, *Corymbia gummifera*, *Angophora costata*, *A. floribunda*, *Eucalyptus macrorrhyncha*, *E. melliodora*, moist open-forest e.g. with *Eucalyptus viminalis*, *E. radiata*.**Substrate:** Variable — sandy soil from alluvium, clay loams from metamorphics, shale.**Exposure:** Mid-shade to full sun.**Conservation****Conservation:** Widespread species complex occurring in a range of habitats, conservation status of various local forms unknown.

***Glycine microphylla***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Scrambler with stoloniferous stems; leaves 3-foliolate.**Vegetative spread:** Yes (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Pinkish to purple, August–April, peak March..**Fruit/seed:** Pod 1.5–3 mm long, with 3–6 seeds, mature November–May, peak March.**Dispersal, establishment & growth:** No particular mechanism for dispersal (McIntyre et al. 1995).**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST; Qld, Vic., Tas., S.A., N.I.**Distribution Sydney area:** Widespread.**Select locations:** Watagans, Wisemans Ferry, Mooney Mooney Creek, Hornsby, Balgowlah, Rouse Hill, Mulgoa, Razorback, Springwood, Jenolan River, Limekilns, Unanderra, Kangaroo Valley, Berry.**Habitat****Habitat:** Hillsides and creeks.**Altitude:** 0–1000 m**Annual rainfall:** 800–1400 mm**Typical local abundance:** Frequent to occasional.**Vegetation:** Open-forest and woodland e.g. with *Eucalyptus saligna*, *E. tereticornis*, *E. pilularis*, *E. moluccana*, *E. eugenioides*, *E. crebra.*, *Angophora floribunda*, *Melaleuca linariifolia*, generally with a grassy understorey.**Substrate:** Clay soils on shales and metamorphics, alluvium, volcanic necks; medium nutrients.**Exposure:****Conservation****Conservation:** Vulnerable in Western Sydney (Benson & McDougall 1991), status elsewhere unknown.***Glycine tabacina* species complex**

FABACEAE – FABOIDEAE

**Life history****Growth form:** There are two main taxa in this complex. Twiner with non-stoloniferous stems lacking adventitious roots (A) or scrambler with stoloniferous stems and adventitious roots (B).**Vegetative spread:** Yes (McIntyre et al. 1995), presumably for taxon B.**Longevity:****Primary juvenile period:****Flowers:** October–May.**Fruit/seed:** Pod 1.5–3 cm long with 3–6 seeds, matures October–June.**Dispersal, establishment & growth:** Soil-stored seedbank. No particular mechanism for dispersal (McIntyre et al. 1995).**Fire response:** Probably resprouts from above ground level (taxon B).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP; Qld, Vic., W.A., NT, Fiji, N Cal, Vanuatu, Asia.**Distribution Sydney area:** Coast and western Sydney.**Select locations:** Doyalson, Beecroft, Kiama, Putty, Richmond, Marayong, Mount Annan, Scotts Main Range.



**Habitat****Habitat:** Grassy woodland**Altitude:** 0–500 m      **Annual rainfall:** 700–1100 mm**Typical local abundance:** Occasional.**Vegetation:** Woodland e.g. with *Eucalyptus moluccana*, *E. tereticornis*, *E. crebra* (with *Corymbia gummifera* at Doyalson), and native grassy understorey.**Substrate:** Clay soils from Wianamatta Shale. Fertile–infertile soil. Watertable permanently low, moisture supply intermittent, fresh.**Exposure:****Conservation****Conservation:** Conservation status of taxa unknown.***Gompholobium glabratum*****FABACEAE – FABOIDEAE**

Dainty Wedge Pea

**Life history****Growth form:** Spreading or ascending shrub 5–40 cm high; leaves pinnate with 5–7 leaflets.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Greenish yellow or bright yellow, July–November, peak August.**Fruit/seed:** Pod 8–10 mm long, seed weight 2–3 mg (Auld & O'Connell 1991, Westoby et al. 1990), mature August–November.**Dispersal, establishment & growth:** Diaspore: seed, adapted for ant-dispersal (Westoby et al. 1990, Rice & Westoby 1981). Seed viability 99%, non-dormant fraction 5% (Auld & O'Connell 1991).**Fire response:** Probably resprouts (Auld & O'Connell 1991).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST CWS; Vic.**Distribution Sydney area:** Coast to Blue Mountains.**Select locations:** Sackville, Londonderry, Berowra, Terrey Hills, Cheltenham, Belleview Hill, Long Bay, Kogarah, Cronulla, Macquarie Fields, Cataract Dam, Thirlmere, Woodford, Blackheath.**Habitat****Habitat:** Open woodland on hillsides and ridges.**Altitude:** 0–1000 m      **Annual rainfall:** 800–1600 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Open-woodland e.g. with *Eucalyptus sclerophylla*, *Angophora bakeri*, *Corymbia gummifera*, *Eucalyptus parramattensis*, *E. paniculata*, or open-heath.**Substrate:** Sandy soil on sandstone, Tertiary alluvium, low nutrients, well-drained.**Exposure:** Full sun–light shade.**Conservation****Conservation:** Conserved in National Parks e.g. Ku-ring-gai Chase, Marramarra, Blue Mountains.

**Gompholobium grandiflorum**

FABACEAE – FABOIDEAE

Large Wedge Pea

**Life history****Growth form:** Erect shrub to 1 m high, with smooth stems and 3-foliolate leaves.**Vegetative spread:** No.**Longevity:****Primary juvenile period:** 4–6 years (Benson 1985).**Flowers:** Yellow, August–November, peak September–October.**Fruit/seed:** Pod 15 mm long. Seed weight 3–4 mg (Auld & O'Connell 1991).**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-adapted for dispersal (Rice & Westoby 1981, Westoby et al. 1990). Seed viability 99%, non-dormant fraction 30% (Auld & O'Connell 1991).**Fire response:** Resprouts, with plants reaching maturity less than 2.5 years after high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC CT.**Distribution Sydney area:** Coast and low elevation plateaus.**Select locations:** Judge Dowling Range, Mt White, Berowra, Roseville, Kurnell, Kogarah, Royal NP, Springwood, Leura, Bargo, Bundanoon Creek.**Habitat****Habitat:** Sandstone plateaus.**Altitude:** 0–800 m **Annual rainfall:** 700–1400 mm**Typical local abundance:** Frequent to occasional.**Vegetation:** Open-forest e.g. with *Corymbia gummifera*, *Angophora costata*, *Eucalyptus sclerophylla*, also woodland and heath e.g. with *Angophora hispida*, *Banksia serrata*.**Substrate:** Sandy clay on sandstone, skeletal soil on sandstone, ironstone gravels; low nutrients.**Exposure:** Light shade to full sun.**Conservation****Conservation:** Probably well conserved in the area.**Gompholobium huegelii**

FABACEAE – FABOIDEAE

Pale Wedge Pea

**Life history****Growth form:** Erect shrub to 1 m high, with 3-foliolate leaves.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Yellow, often with greenish markings, November.**Fruit/seed:** Pod ovoid, to 15 mm long, January.**Dispersal, establishment & growth:** Diaspore: seed, no particular mechanism for dispersal (McIntyre et al. 1995).**Fire response:** Possibly resprouts.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC NT CT ST NWS CWS SWS; Vic, Tas.**Distribution Sydney area:** Mainly Central Tablelands.**Select locations:** Shane Park, Sunny Corner, Ben Bullen, Hartley, Yerranderie, Clarence, Mt Wilson, Blackheath, Oberon, Orange, Trunkey, Abercrombie Caves.**Habitat****Habitat:** Hillsides and gullies.**Altitude:** 0–1200 m **Annual rainfall:** 800–1200 mm**Typical local abundance:** Frequent.**Vegetation:** Open-woodland e.g. with *Eucalyptus dalrympleana*, *E. pauciflora*, *E. sclerophylla*, *Angophora bakeri*, *Eucalyptus fibrosa*, *E. sideroxylon*, *E. crebra* with heath/grassland understorey.**Substrate:** Sandy soil on shale over sandstone, or on Tertiary alluvium, clay soils and skeletal soils on metamorphics, low nutrients.**Exposure:****Conservation****Conservation:** Conservation status unknown.

***Gompholobium latifolium***

FABACEAE – FABOIDEAE

Golden Glory Pea

**Life history****Growth form:** Erect, glabrous shrub to 3 m high, with 3-foliolate leaves, leaflets 2–6 mm wide.**Vegetative spread:****Longevity:** Medium. Plants 3 m high when unburnt for 13 years (Field of Mars).**Primary juvenile period:****Flowers:** Yellow, spring to early summer.**Fruit/seed:** Oblong, pod 15–18 mm long, November–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-adapted dispersal (Rice & Westoby 1981). Soil-stored seedbank (Fox 1988).**Fire response:** Variable, resprouts from base (Culoul Range, Berowra), and from stems 75 mm diameter (Brisbane Water). Killed by medium intensity fire at Myall Lakes (Fox 1988) and Leura, re-establishing from seedlings.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT; Qld, Vic.**Distribution Sydney area:** Widespread.**Select locations:** Putty Road, Kurrajong Heights, Maitland Bay, Gosford, Roseville, Gynea, Waterfall Creek, Cataract, Thirlmere, Springwood, Katoomba, Glen Davis, Bundanoon Creek.**Habitat****Habitat:** Rocky hillsides and ridges.**Altitude:** 0–1000 m**Annual rainfall:** above 900 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalypt woodland and forest e.g. with *Eucalyptus sieberi*, *Corymbia gummifera*, *Angophora costata*, *Syncarpia glomulifera*.**Substrate:** Loamy sand on sandstone, clay loam on shales, low nutrient, well-drained.**Exposure:** Light shade.**Conservation****Conservation:** Probably adequately conserved generally.

**Gompholobium minus**

FABACEAE – FABOIDEAE

Dwarf Wedge Pea

**Life history**

**Growth form:** Low spreading shrub 10–30 cm high, occasionally to 1 m high, leaves 3-foliolate, leaflets 5–12 mm long.

**Vegetative spread:** No.

**Longevity:**

**Primary juvenile period:**

**Flowers:** October–December.

**Fruit/seed:** Pod 8–10 mm long. Seed weight 3 mg (Auld & O'Connell 1991).

**Dispersal, establishment & growth:** Diaspore: seed, hard-coated. Soil-stored seedbank, seedling recruitment fire-related. Seed viability 98%, non-dormant fraction 19% (Auld & O'Connell 1991).

**Fire response:** Killed and re-established from soil-stored seed at Agnes Banks (Benson 1981).

Probably resprouts (Auld & O'Connell 1991).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC CT ST; Vic

**Distribution Sydney area:** Widespread.

**Select locations:** Howes Valley, Norah Head, Beecroft, Randwick, Leumeah, Wilton, Agnes Banks, Picton Lakes, Carrington Falls, Wingello.

**Habitat**

**Habitat:** Variety of open situations.

**Altitude:** 0–800 m      **Annual rainfall:** above 600 mm

**Typical local abundance:** Occasional–rare.

**Vegetation:** Scrub and eucalypt woodland e.g. with *Eucalyptus sclerophylla*, *Angophora bakeri*.

**Substrate:** Deep sands and sandy soils over sandstone, also near shale/sandstone transition.

Soil infertile–very infertile. Watertable mostly low, moisture supply intermittent, fresh.

**Exposure:** Light shade.

**Conservation**

**Conservation:** Conserved in Western Sydney (Benson & McDougall 1991).

Adequacy elsewhere unknown.

**Gompholobium pinnatum**

FABACEAE – FABOIDEAE

Pinnate Wedge Pea

**Life history**

**Growth form:** Glabrous shrub 10–30 cm high, with pinnate leaves, 15–25 leaflets

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, August–November.

**Fruit/seed:** Pod, 6–10 mm long, October–February.

**Dispersal, establishment & growth:** Diaspore: seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC; Qld.

**Distribution Sydney area:** Coast and adjacent plateaus.

**Select locations:** Blaxlands Ridge, Long Island, Normanhurst, Lane Cove, Penrith, Bomaderry.

**Habitat**

**Habitat:**

**Altitude:** 0–200 m      **Annual rainfall:** 800–1200 mm

**Typical local abundance:**

**Vegetation:** Open forest and woodland.

**Substrate:** Sandy low nutrient soil on sandstone, Tertiary alluvium and sandstone/shale junction.

**Exposure:**

**Conservation**

**Conservation:** Poorly known species that appears to be rare, vulnerable in Western Sydney (Benson & McDougall 1991), status elsewhere unknown.

**Gompholobium species B**

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Prostrate or decumbent shrub to 20 cm high, with sparsely hairy stems and branches.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Pale yellow or yellow-green with darker markings, August–September.

**Fruit/seed:** Pod 8–12 mm long, September.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC CT ST; Vic.

**Distribution Sydney area:** Widespread, but sporadic.

**Select locations:** Howes Valley, Blaxlands Ridge, Kanimbla Valley, Marulan–Tallong.

**Habitat**

**Habitat:**

**Altitude:** 200–700 m      **Annual rainfall:** 700–900 mm

**Typical local abundance:**

**Vegetation:** Dry eucalypt forest.

**Substrate:** Rocky areas, sandy soils, low nutrients.

**Exposure:**

**Conservation**

**Conservation:** Northern geographical limit at Howes Valley and occurs sporadically in drier areas. Conservation status unknown.

**Gompholobium uncinatum**

FABACEAE – FABOIDEAE

Red Wedge Pea

**Life history**

**Growth form:** Small diffuse or decumbent shrub to 35 cm high with sparsely hairy stems, often forming mat to 1 m diameter.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Orange red to bright red, November–March, peak November.

**Fruit/seed:** Pod 7–10 mm long, mature December.

**Dispersal, establishment & growth:** Diaspore: seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NT CT CWS; Qld.

**Distribution Sydney area:** Mainly Mt Victoria to Rylstone.

**Select locations:** Currant Mountain Gap, Coricudgy, Mullions Range, Lidsdale,

Coxs River, Newnes Plateau, Clarence, Mt Victoria, St Marys, Ryde.

**Habitat**

**Habitat:**

**Altitude:** 0–1000 m      **Annual rainfall:** 800–1200 mm

**Typical local abundance:** Rare to occasional.

**Vegetation:** Open-forest and woodland e.g. with *Eucalyptus sieberi*, *E. radiata*, *E. dalrympleana*, *E. pauciflora*, *E. sclerophylla*.

**Substrate:** Sandy soils on sandstone, conglomerate, alluvium; low nutrients, well-drained.

**Exposure:**

**Conservation**

**Conservation:** Probably adequately conserved in Upper Blue Mountains but conservation status of Sydney populations unknown (St Marys, Ryde).

**Gompholobium virgatum** var. **aspalathoides** FABACEAE – FABOIDEAE

Leafy Wedge Pea

**Life history****Growth form:** Erect more or less glabrous shrub to 1 m high, with 3-foliolate, linear leaves.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, October–January.**Fruit/seed:** Pod to 10 mm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC CT ST NWS CWS NWP; Qld.**Distribution Sydney area:** Sporadic.**Select locations:** Howes Mountain, Yengo NP, Newnes Plateau, Yerranderie.**Habitat****Habitat:** Dry hillsides.**Altitude:** 400–1000 m **Annual rainfall:** 800–1000 mm**Typical local abundance:** Occasional.**Vegetation:** Woodland e.g. with *Corymbia eximia*, *Eucalyptus sparsifolia*, *Xylomelum pyriforme*, *Leucopogon muticus*.**Substrate:** Sandy soil on sandstone, low nutrients, well-drained.**Exposure:****Conservation****Conservation:** Known from only a few locations in northwestern Sydney area, conservation status unknown.**Gompholobium virgatum** var. **virgatum** FABACEAE – FABOIDEAE

Leafy Wedge Pea

**Life history****Growth form:** Erect more or less glabrous shrub to 1 m high, with 3-foliolate, oblanceolate leaves.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow.**Fruit/seed:** Pod to 10 mm long.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, adapted for ant-dispersal (Rice & Westoby 1981). Soil-stored seedbank (Fox 1988).**Fire response:** Killed by fire (Fox 1988).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC; Qld.**Distribution Sydney area:** Eastern suburbs of Sydney.**Select locations:** South Head to Botany Bay (1803).**Habitat****Habitat:****Altitude:** 0–50 m **Annual rainfall:** 1200–1400 mm**Typical local abundance:****Vegetation:** Probably coastal heath.**Substrate:** Coastal sand dunes or sandstone, low nutrients.**Exposure:****Conservation****Conservation:** Probably extinct in Sydney area, and now regarded as occurring chiefly north of Nelson Bay (Harden 1991). *Gompholobium virgatum* was reported for Bouddi Peninsula by McRae (1990) and although variety was not indicated, it may be var. *virgatum*.

***Goodia lotifolia*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Shrub to 4 m high.

**Vegetative spread:**

**Longevity:** 5–20 years (A. Bofeldt pers. comm.).

**Primary juvenile period:**

**Flowers:** Yellow, August–March.

**Fruit/seed:** Pod 23–28 mm long, mature October–March.

**Dispersal, establishment & growth:** Pioneer species in light breaks associated with disturbed sites (Harden 1991). Germination rate 75% in 2 weeks after scarification (M. Robinson pers. comm.).

**Fire response:** Probably killed (A. Bofeldt pers. comm.).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST; Qld, Vic., Tas., S.A.

**Distribution Sydney area:** Coast and southern Blue Mountains.

**Select locations:** Mt Kindarum, Patonga, Leumeah, Menangle, Stanwell Park, Kiama, Kowmung River, Cedar Creek, Lannigans Creek, Mt Colong, Hill Top, Tallong, Bundanoon, Barrengarry.

**Habitat**

**Habitat:** Hillsides, sheltered gullies and creek beds.

**Altitude:** 0–1000 m

**Annual rainfall:** 700–1400 mm

**Typical local abundance:** Occasional to frequent.

**Vegetation:** Edges of rainforest and moist eucalypt forest e.g. with *Eucalyptus saligna*, or dry open-forest e.g. with *Eucalyptus tereticornis*, *Syncarpia glomulifera* (M. Robinson pers. comm.).

**Substrate:** Skeletal soil on slate, quartzite, sandstone, basalt and gravelly alluvium.

Coal Measures, Bumbo Latite, Budgong Sandstone in Illawarra (M. Robinson pers. comm.), medium nutrients.

**Exposure:** Sheltered but full sun to light shade.

**Conservation**

**Conservation:** Vulnerable in Western Sydney (Benson & McDougall 1991), conservation status elsewhere unknown.



***Hardenbergia violacea***

FABACEAE – FABOIDEAE

False Sarsaparilla

**Life history****Growth form:** Twiner but also includes prostrate or erect forms.**Vegetative spread:** No.**Longevity:** Short, dies within 2 years in sand dune reclamation programs (Temple & Bungey, 1980) though lives longer under natural conditions.**Primary juvenile period:** 1 year.**Flowers:** Usually purple, July–October, peak September.**Fruit/seed:** Pod oblong 20–45 mm long, with 6–8 seeds each 4–5 mm long. Seed weight 22 mg (Auld & O'Connell 1991).**Dispersal, establishment & growth:** Diaspore: seeds, ant-adapted dispersal (Rice & Westoby 1981), soil-stored seedbank (Floyd 1966), seeds hard-coated. Seed viability 99%, non-dormant fraction 5% (Auld & O'Connell 1991). Coloniser of disturbed sites, and commonly used in revegetation programs.**Fire response:** Resprouts at base or below (Fox 1988, Benson 1981). Erect form resprouts from base (at Prospect). Regrowth from surviving rootstocks, seedlings recorded less than 1 year after fire (Purdie 1977). Plants resprouted from base (at Olinda) together with seedling establishment notably along charcoal beds from burnt tree trunks (DHB).**Interaction with other organisms:** Foodplant of moth caterpillar *Teia anartoides* (Coupar & Coupar 1992).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP NFWP; Qld, Vic., S.A., W.A.**Distribution Sydney area:** Widespread, twining form very common; erect forms occur in Western Sydney and Illawarra.**Select locations:** Gosford, Cheltenham, Maroubra, Kurnell, Rookwood, Richmond, St Marys, Thirlmere Lakes, Yallah, Bass Point, Katoomba, Mt Werong, Capertee, Mittagong.**Habitat****Habitat:** Woodland and forest.**Altitude:** 0–1000 m**Annual rainfall:** above 700 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Open-forest, woodland e.g. with *Eucalyptus crebra*, *E. maculata*, *E. fibrosa*, *E. eugenioides*, *E. longifolia*, *E. tereticornis*, *E. rossii*, and heath e.g. with *Melaleuca nodosa*. Also in salt-tolerant coastal scrub e.g. with *Westringia fruticosa*, *Pultenaea daphnoides* (M. Robinson pers. comm.).**Substrate:** Variable, low nutrient sands to moderate nutrient clays, loam from shale, basalt. On Berry Siltstone, Bumbo Latite Member in Illawarra (M. Robinson pers. comm.).**Exposure:** Light shade to full sun.**Conservation****Conservation:** A common species which is generally well conserved.

Often cultivated and used in restoration projects. Erect form not conserved in Illawarra (M. Robinson pers. comm.).

***Hovea lanceolata***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 2 m high with hairy stems and branches.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Blue to purple, late winter–spring.**Fruit/seed:** Densely pubescent pod 12 mm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT CT NWS CWS SWS NWP; Qld, ?Vic, ?Tas.**Distribution Sydney area:****Select locations:****Habitat****Habitat:** Rocky outcrops and ridges**Altitude:** **Annual rainfall:****Typical local abundance:****Vegetation:****Substrate:** Sandy soil**Exposure:****Conservation****Conservation:** Possibly occurs in the Sydney area but Herbarium specimens unavailable.***Hovea linearis***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Decumbent or erect shrub to 50 cm high, with hairy branches and swollen underground rootstock.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Blue–purple, occasionally white, August–September.**Fruit/seed:** Pod, 7–9 mm long, with black seeds 5 mm long, seed weight 2–3 mg (Westoby et al. 1990) mature October–November.**Dispersal, establishment & growth:** Diaspore: seed, hard-coated, adapted for ant-dispersal (Rice & Westoby 1981, Westoby et al. 1990).**Fire response:** Resprouts from base (Benson 1981, Fox 1988), flowers within 3 years of fire.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS; Qld, Vic., Tas., S.A.**Distribution Sydney area:** Widespread.**Select locations:** Howes Valley, Woy Woy, Beecroft, Waterfall, Albion Park, Kentlyn, Glenbrook, Mt Coricudgy, Wallerawang, Lewis Ponds, Blackheath, Hill Top, Wombeyan Caves, Wingello.**Habitat****Habitat:** Ridges and hillsides.**Altitude:** 0–1000 m **Annual rainfall:** 700–1400 mm**Typical local abundance:** Occasional.**Vegetation:** Heath and dry open-forest e.g. with *Eucalyptus piperita*, *E. punctata*, *Angophora bakeri*, *Corymbia gummifera*.**Substrate:** Gravelly sandy soils on sandstone, sandstone to shale transition, metasediments; low nutrient soils, well-drained.**Exposure:****Conservation****Conservation:** Conservation status unknown but probably adequately conserved.

***Hovea longifolia***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 1–3 m high with hairy stems and branches.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Blue to purple, September.**Fruit/seed:** Pod 10–15 mm long, seeds 3 mm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT.**Distribution Sydney area:** Widespread.**Select locations:** Howes Mountain, Putty, Thornleigh, Lane Cove, Manly, Otford, Springwood, Wallacia, Maldon, Bomaderry, Bundanoon, Wingello.**Habitat****Habitat:** Shaded creek banks and gullies. Old dunes (M. Robinson pers. comm.).**Altitude:** 0–700 m      **Annual rainfall:** 800–1200 mm**Typical local abundance:** Frequent.**Vegetation:** Moist open-forest e.g. with *Ceratopetalum apetalum*, *Eucalyptus piperita*, *Tristaniopsis laurina*, *Backhousia myrtifolia*, *Prostanthera prunelloides*, *Pultenaea flexilis* and coastal shrubland e.g. with *Leptospermum laevigatum* (M. Robinson pers. comm.).**Substrate:** Sandy soil on sandstone, marine sand, or alluvium, low–medium nutrients, well-drained.**Exposure:** Mid to light shade.**Conservation****Conservation:** Conservation status unknown.***Hovea pannosa*** (Cunn. ex Hook.)

FABACEAE – FABOIDEAE

**Life history****Growth form:** Shrub to 3 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Blue to purple, August–September.**Fruit/seed:** Densely hairy rusty pod 12–15 mm long, September–October.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS; Qld, Vic.**Distribution Sydney area:** Widespread**Select locations:** Mt Coricudgy, Maroota, Berowra, Georges River, Woronora River, Buxton, Cataract Dam, Valley Heights, Wentworth Falls, Bowens Creek, Yerranderie, Jenolan Caves, Mittagong, Bullio, Wombeyan Caves.**Habitat****Habitat:** Rocky slopes.**Altitude:** 0–1000 m      **Annual rainfall:** 700–1200 mm**Typical local abundance:** Rare–occasional.**Vegetation:** Open-forest and woodland e.g. with *Eucalyptus piperita*, *Angophora costata*, *Callicoma serratifolia*.**Substrate:** Sandy soil on sandstone, quartzite.**Exposure:****Conservation****Conservation:** Probably adequately conserved.

***Hovea purpurea*** (Sweet)

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub to 3 m high with hairy stems and branches.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Deep mauve-blue or white, spring.**Fruit/seed:** Rusty pod 10–17 mm long, seeds 5 mm long olive to blackish brown with orange aril.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NT CT; SA**Distribution Sydney area:** Tablelands.**Select locations:** Kandos, Jenolan Caves, Richlands (Taralga).

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**Habitat****Habitat:** Steep slopes.**Altitude:** 80–900 m**Annual rainfall:** 800–900 mm**Typical local abundance:** Occasional.**Vegetation:** Grassy slopes and woodlands e.g. with *Eucalyptus pauciflora*.**Substrate:** Deep soils with sandstone colluvium.**Exposure:**

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**Conservation****Conservation:** Rare, only 3 records in Sydney area. Conservation status unknown.***Indigofera adesmiifolia***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Shrub to 1.5 m high; leaves pinnate to 6.5 cm long.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:****Primary juvenile period:****Flowers:** Rose pink, September–November, peak October.**Fruit/seed:** Sparsely hairy pod 15–35 mm long with several spotted seeds.

Matures January–March.

**Dispersal, establishment & growth:** Diaspore: seed, hard coated ? No particular mechanism for dispersal (McIntyre et al. 1995).**Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CT NWS CWS SWS NWP; Qld, Vic.**Distribution Sydney area:** Bathurst district — Hill End to Abercrombie.**Select locations:** Hill End, Lime Kilns, Abercrombie Caves, Tuena.

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**Habitat****Habitat:** Rocky hillsides.**Altitude:** 0–1000 m**Annual rainfall:** 800–1000 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalypt woodland.**Substrate:** Rocky outcrops of limestone, quartzite, diorite. Well-drained, non-saline.**Exposure:**

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**Conservation****Conservation:** Conservation status unknown.

***Indigofera australis***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Spreading shrub to 2.5 m high; leaves pinnate 4–10 cm long, usually with 11–25 leaflets.

**Vegetative spread:** No (McIntyre et al. 1995).

**Longevity:**

**Primary juvenile period:**

**Flowers:** Mauve, August–November, peak September.

**Fruit/seed:** Pod 25–45 mm long with several spotted seeds, mature November–June, peak December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, no particular mechanism for dispersal (McIntyre et al. 1995). Soil-stored seedbank (Floyd 1966).

**Fire response:** Regrowth and suckers from rootstocks and lateral roots (Benson 1981, Fox 1988), seedlings recorded less than 1 year after fire (Purdie 1977).

**Interaction with other organisms:** Host to seed predator beetle larvae *Apion terraereginae* (Coleoptera: Apionidae) (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP NFWP SFWP; Qld, Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Widespread.

**Select locations:** Mt Coricudgy, Watagans, Terrigal, Hornsby, Lane Cove, Stanwell Park, Albion Park, Bilpin, Campbelltown, Nortons Basin, Thirlmere Lakes, Mt Wilson, Cullen Bullen, Turondale, Mt Canobolas, Wombeyan Caves, Berry.

**Habitat**

**Habitat:** Hillsides.

**Altitude:** 0–1000 m      **Annual rainfall:** 700–1400 mm

**Typical local abundance:** Occasional.

**Vegetation:** Woodland e.g. with *Eucalyptus tereticornis*, *E. moluccana*, *E. fibrosa*, *E. rossii*, *E. macrorhyncha*, *E. polyanthemos*, and open-forest e.g. with *Eucalyptus saligna*, *Angophora floribunda*, *Eucalyptus viminalis*, *E. radiata*, *Eucalyptus eugenioides*, *E. quadrangulata*.

**Substrate:** Clay soils on shale, basalt, sandstone, granite; medium nutrients, well-drained.

**Exposure:** Mid-shade to full sun.

**Conservation**

**Conservation:** Widespread and probably adequately conserved.

***Indigofera coronillifolia***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Spindly shrub to 1.5 m high.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** August.

**Fruit/seed:** Pod 20–40 mm long with several spotted seeds.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT CWS.

**Distribution Sydney area:** Trunkey Creek

**Select locations:** SW of Trunkey Creek (only record for area).

<b>Habitat:</b> Ridges above river. <b>Altitude:</b> 600 m <b>Annual rainfall:</b> 800 mm ? <b>Typical local abundance:</b> <b>Vegetation:</b> Eucalypt woodland. <b>Substrate:</b> Metamorphic rocks with much quartzite. Soil infertile. <b>Exposure:</b>	<b>Habitat</b>
<b>Conservation:</b> Rare, conservation status unknown.	<b>Conservation</b>

**Jacksonia scoparia****FABACEAE – FABOIDEAE**

Dogwood

<b>Growth form:</b> Shrub or small tree to 3–5 m high, with leaves reduced to minute scales and furrowed rough grey bark. <b>Vegetative spread:</b> Some root suckering. <b>Longevity:</b> <b>Primary juvenile period:</b> <b>Flowers:</b> Yellow, October–November. <b>Fruit/seed:</b> Pod 6–12 mm long, releasing seed at maturity, October–December. Seed green with brown spots, 3 mm long. <b>Dispersal, establishment &amp; growth:</b> Diaspore: hard-coated seed, no elaiosome apparent, soil-stored seedbank. High germination rate in 1–3 weeks after scarification of hard coated seed (A. Bofeldt pers. comm.). <b>Fire response:</b> Resprouts and root suckers, also recruits from soil-stored seedbank. <b>Interaction with other organisms:</b> Host to seed predator anthribid beetle (Auld 1991). Honey bees gather pollen and nectar (Clemson 1985).	<b>Life history</b>
<b>Status/origin:</b> Native.	<b>Distribution</b>

<b>Botanical subregions:</b> NC CC SC NT CT NWS CWS NWP SWP; Qld. <b>Distribution Sydney area:</b> Coast and adjacent plateaus and lower Blue Mountains. <b>Select locations:</b> Wollombi, Toukley, Berowra, Wisemans Ferry, Emu Plains, Glenfield, Heathcote, (Dapto, Yallah, A. Bofeldt pers. comm.), Marulan, Wingello, Wentworth Falls.	<b>Distribution</b>
<b>Habitat:</b> Dry hillsides and ridges, gravelly banks.	<b>Habitat</b>

<b>Altitude:</b> 0–1000 m <b>Annual rainfall:</b> above 800 mm <b>Typical local abundance:</b> Frequent. <b>Vegetation:</b> Woodland e.g. with <i>Eucalyptus fibrosa</i> , <i>E. crebra</i> , <i>E. moluccana</i> with grassy understorey, to shrubby woodland e.g. with <i>Eucalyptus sparsifolia</i> , <i>Syncarpia glomulifera</i> , <i>Acacia parvipinnula</i> , <i>Acacia implexa</i> . <b>Substrate:</b> On gravelly, clay soils often associated with shales or clay. Low nutrient. Watertable permanently low, well-drained, moisture supply intermittent, fresh. <b>Exposure:</b> Full sun. Intolerant of shade (A. Bofeldt pers. comm.).	<b>Habitat</b>
<b>Conservation:</b> Widespread species often sporadic and localised. Not adequately conserved in Illawarra and threatened by clearing, land subdivision, grazing (A. Bofeldt pers. comm.). Conservation status unknown generally.	<b>Conservation</b>

***Kennedia prostrata***

FABACEAE – FABOIDEAE

Running Postman, Scarlet Coral Pea

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**Life history****Growth form:** Prostrate or twining herb.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Scarlet, July–November, peak September.**Fruit/seed:** Pod 3.5 cm long with 5–8 seeds, mature August–November, peak September.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank.**Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST SWS; Vic., Tas., S.A., W.A.**Distribution Sydney area:** Coast and Mittagong area.**Select locations:** Ingleside, Manly (1903), Bexley (1913), Royal NP (1921), (Wilton, A. Bofeldt p. c.), Appin (1898), Wingello (1899), Mt Alexandra (Mittagong) — mostly old collections.

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**Habitat****Habitat:** Eucalypt woodland.**Altitude:** 0–700 m**Annual rainfall:** 1000–1400 mm**Typical local abundance:** Rare.**Vegetation:** Eucalypt woodland.**Substrate:** Sandy soil on sand dunes, gravelly clay soil on ridgetop 'laterite', shale/sandstone transition and on Hawkesbury Sandstone, low nutrient soil. Watertable permanently low, moisture supply intermittent, fresh, well-drained (A. Bofeldt pers. comm.).**Exposure:** Light shade.

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**Conservation****Conservation:** Uncommon, poorly known and not adequately conserved — few recent collections.***Kennedia retrorsa***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Climbing herb.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** Pink–purple, September–December.**Fruit/seed:** Pod 6 cm long, released at maturity, December–January.**Dispersal, establishment & growth:** Diaspore: seed, hard-coated, unspecialised dispersal vector, dispersed locally. Soil-stored seedbank.**Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CC CWS; Qld.**Distribution Sydney area:** Mt Dangar, Putty.**Select locations:** Mt Dangar, Devils Hole (Putty Rd), Dingo Creek.

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**Habitat****Habitat:** Variable, sheltered sites, generally north facing.**Altitude:** 0–300 m**Annual rainfall:****Typical local abundance:** Dominant–frequent.**Vegetation:** Dense vine thicket of *Kennedia* or in wet eucalypt forest with *Eucalyptus deanei* or along creek with *Leptospermum polygalifolium*.**Substrate:** Generally rocky areas with sandy soil but also associated with volcanic neck, fertile–infertile. Watertable mostly low, moisture supply intermittent, fresh.**Exposure:** Sheltered; light shade to full sun.

**Conservation**

**Conservation:** Listed under schedule II, NSW Threatened Species Conservation Act 1995 and coded 2VCa on national rare species list (Briggs & Leigh 1995). Rodd (1968 collection) reports: plants degenerate and dying or dead, apparently of drought, though seedlings in evidence in a few places.

***Kennedia rubicunda*****FABACEAE – FABOIDEAE**

Red Kennedy Pea

**Life history**

**Growth form:** Twining or sometimes prostrate herb, stems to 4 m long.

**Vegetative spread:** No.

**Longevity:** Short-medium. Dies within 2 years in sand-mining re-vegetation programs (Temple & Bungey 1980). Lives longer under natural conditions.

**Primary juvenile period:**

**Flowers:** Red, July–January, peak September–October.

**Fruit/seed:** Pod 5–10 long with c. 14 seeds, matures July–January, peak November. Seed weight 24 mg (Auld & O'Connell 1991).

**Dispersal, establishment & growth:** Diaspore: hard-coated seeds. Ant-adapted dispersal (Rice & Westoby 1981). Soil-stored seedbank (Fox 1988). Seed viability 99%, non-dormant fraction 4% (Auld & O'Connell 1991). Coloniser of disturbed sites, helophyte, commonly used in revegetation programs. Growth rate rapid (Floyd 1966).

**Fire response:** Killed, re-establishes from soil-stored seed (e.g. Fox 1988).

Vigorous seedling recruitment following high-intensity fire at Narrabeen 1994.

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT; Qld, Vic.

**Distribution Sydney area:** Coast and Blue Mountains.

**Select locations:** Woy Woy, Hornsby, Belrose (L.McD.), Kurnell, Shellharbour, Silverdale, Valley Heights, Katoomba Falls, Mt Tomah.

**Habitat**

**Habitat:** Variety of habitats especially in coastal districts.

**Altitude:** 0–1000 m      **Annual rainfall:** 900–1400 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Tall open-forest, open-forest, woodland, coastal scrub.

**Substrate:** Hawkesbury Sandstone and Wianamatta Shale soils. Usually moist loamy soils. Fertile–infertile. Watertable mostly low, moisture supply intermittent, fresh. Colonises low pH (2.5–6.5) acid sulphate estuarine soils in the Wyong area (Payne 1992).

**Exposure:** Sheltered–indifferent, full sun–light shade.

**Conservation**

**Conservation:** Generally well conserved.



***Lespedeza juncea* subsp. *sericea***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect or spreading subshrub 60–120 cm high, with 3-foliolate leaves.**Vegetative spread:** Coppices (M. Robinson pers. comm).**Longevity:** Perennial.**Primary juvenile period:****Flowers:** Pink-purple, February–March.**Fruit/seed:** Long-lived seed (A. Bofeldt pers. comm.).**Dispersal, establishment & growth:** Diaspore: seed, no particular dispersal morphology (McIntyre et al. 1995). Soil-stored seedbank, germination stimulated by clearing and fire (A. Bofeldt pers. comm.).**Fire response:** Resprouts and flowers in next season, germination stimulated by fire (A. Bofeldt pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT CT ST NWS; Qld, Vic., Asia.**Distribution Sydney area:** Western Sydney, Bathurst, Illawarra.**Select locations:** Richmond, Rooty Hill, Minto, Campbelltown, Camden (Yallah, A. Bofeldt p. c.), Perth (Bathurst).**Habitat****Habitat:** Roadsides, margins of open-forest and woodland (A. Bofeldt pers. comm.).**Altitude:** 0–700 m**Annual rainfall:** above 700 mm**Typical local abundance:** Rare–occasional.**Vegetation:** Open-forest e.g. with *Eucalyptus tereticornis*, *E. longifolia*, *Melaleuca decora* (M. Robinson pers. comm.).**Substrate:** Clay soils on Wianamatta Shale, Budgong Sandstone, medium nutrients.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Rare. Vulnerable in Western Sydney (Benson & McDougall 1991), only recent record is near Penrith. Only record for Bathurst area is Perth (1901) and species may be extinct there now. Threatened population in Illawarra (M. Robinson pers. comm.), not conserved.***Lotus australis***

FABACEAE – FABOIDEAE

Australian Trefoil

**Life history****Growth form:** Erect or ascending herb to 60 cm high.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Perennial.**Primary juvenile period:****Flowers:** Pink, white or purple, September–December, peak October.**Fruit/seed:** Pod 30–50 mm long, mature October–December, peak October. Seeds 15 to many.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, no particular dispersal morphology (McIntyre et al. 1995). Soil-stored seedbank.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT CT ST NWS CWS SWS SWP; Qld, Vic., Tas., N.T., S.A., W.A.**Distribution Sydney area:** Cumberland Plain and Bathurst area.**Select locations:** Richmond, Marayong, Prospect, Glenfield, Prospect, Badgerys Creek, Camden, Glanmire, Georges Plains.

**Habitat****Habitat:** Grassy woodland.**Altitude:** 0–800 m      **Annual rainfall:** 600–900 mm**Typical local abundance:** Occasional.**Vegetation:** Grassy woodland with *Eucalyptus moluccana*, *E. crebra*.**Substrate:** Clay soils from Wianamatta shale or other shaley soils. Infertile soil.

Watertable permanently low, moisture supply intermittent, fresh.

**Exposure:** Light shade to full sun.**Conservation****Conservation:** Inadequate, not conserved in the Sydney area.

Vulnerable in Western Sydney (Benson &amp; McDougall 1991).

***Lotus corniculatus* \*****FABACEAE – FABOIDEAE**

Bird-foot Trefoil

**Life history****Growth form:** Herb to 40 cm high, with 5-foliolate leaves.**Vegetative spread:****Longevity:** Annual or perennial.**Primary juvenile period:****Flowers:** Yellow, September–November.**Fruit/seed:** Pod 1.5–3 cm long, with many dark brown seeds.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Europe and Asia.**Botanical subregions:** CC NT CT ST NWS CWS; Qld, Vic., Tas.**Distribution Sydney area:** Mainly western Sydney.**Select locations:** Berkshire Park, Minto, Campbelltown (1962), Ben Bullen.**Habitat****Habitat:** Sedge swamps, along railways, in cemeteries.**Altitude:** 0–800 m      **Annual rainfall:** 700–800 mm**Typical local abundance:** Occasional.**Vegetation:** Grassland e.g. beside swamps with *Poa labillardieri*, *Eucalyptus viminalis*.**Substrate:** Clay soil from shales, peaty soils, medium nutrients.**Exposure:** Full sun.**Conservation****Conservation:** Occasionally naturalised in Sydney area.

**Lotus uliginosus** \*

FABACEAE – FABOIDEAE

Birds-foot Trefoil

**Life history**

**Growth form:** Prostrate or ascending herb 20–80 cm high, with hollow stems and 5-foliolate leaves.

**Vegetative spread:** Rhizomatous.

**Longevity:** Perennial.

**Primary juvenile period:**

**Flowers:** Yellow with reddish veins, December–April.

**Fruit/seed:** Dark brown pod 15–35 mm long, with many yellow to brownish seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Exotic, native to Europe and N Africa.

**Botanical subregions:** NC SC NT CT ST SWS; Vic., Tas., S.A.

**Distribution Sydney area:** Southern Highlands.

**Select locations:** Wamberal (1939), Moss Vale (1968). Wingecarribee Swamp, Glenquarry, Berrima.

**Habitat**

**Habitat:** Swamps, creeks.

**Altitude:** 600–800 m      **Annual rainfall:** 900–1200 mm

**Typical local abundance:** Frequent.

**Vegetation:** Swamp vegetation e.g. with *Persicaria hydropiper*, *Juncus usitatus*.

**Substrate:** Alluvial soil over clays.

**Exposure:** Probably full sun.

**Conservation**

**Conservation:** Appears mainly localised in Southern Highlands region, though possibly spreading. Effects on native wetland species unknown.

**Lupinus angustifolius** \*

FABACEAE – FABOIDEAE

Narrow-leafed Lupin, New Zealand Blue Lupin

**Life history**

**Growth form:** Erect herb to 1.5 m high, with hairy stems and 5–9-foliolate leaves.

**Vegetative spread:**

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** Blue, often tinged with purple, August–September.

**Fruit/seed:** Hairy pod 3–5 cm long, with 4–6 seeds, brown with white or brown markings.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Exotic, native to Mediterranean and S Europe, cultivated.

**Botanical subregions:** NC CC ST NWS CWS SWS SFWP; Qld, Tas., W.A.

**Distribution Sydney area:** Sporadic.

**Select locations:** Glenfield (1944), Mt Wilson (1985).

**Habitat**

**Habitat:**

**Altitude:** 0–1000 m      **Annual rainfall:** 700–1400 mm

**Typical local abundance:** Occasional.

**Vegetation:** Open eucalypt woodland.

**Substrate:** Soil from sandstone and shales, low to medium nutrients, well-drained.

**Exposure:**

**Conservation**

**Conservation:** Occasionally naturalised.

***Lupinus cosentinii* \***

FABACEAE – FABOIDEAE

Sandplain Lupin

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**Life history****Growth form:** Robust hairy herb to 1.2 m high, with 7–13-foliolate leaves.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Mostly blue, September–October.**Fruit/seed:** Hairy pod 4–6 cm long, with 3–5 roundish seeds 6–9 mm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Exotic, native to Mediterranean and SW Europe. Cultivated.**Botanical subregions:** NC CC; S.A., W.A.**Distribution Sydney area:** Coastal.**Select locations:** Woy Woy (1912), Barrenjoey Headland, Tempe (1912).

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**Habitat****Habitat:****Altitude:** 0–100 m**Annual rainfall:** 1100–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Possibly sown in regeneration area with Marram Grass.**Substrate:** Probably sand.**Exposure:** Full sun.

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**Conservation****Conservation:** Rarely naturalised.***Lupinus luteus* \***

FABACEAE – FABOIDEAE

Yellow Lupin

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**Life history****Growth form:** Erect or spreading herb to 1 m high, with silky-hairy stems; leaves 5–11-foliolate.**Vegetative spread:****Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Yellow, strongly scented, September.**Fruit/seed:** Densely silky-hairy pod 3–6 cm long, with 4–6 seeds which are red-brown with white or brown markings.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Exotic, native to Mediterranean and S Europe. Cultivated.**Botanical subregions:** CC SC CT DWS SWS; W.A.**Distribution Sydney area:** Sporadic.**Select locations:** Carlingford (1937), Mona Vale (1967).

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**Habitat****Habitat:** Grassy paddocks.**Altitude:** 0–300 m**Annual rainfall:** 1200–1400 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:**

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**Conservation****Conservation:** Rarely naturalised.

***Lupinus pilosus* \***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect herb to 1 m high, with 5-foliolate leaves.**Vegetative spread:****Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Blue, July.**Fruit/seed:** Hairy pod 4–8 cm long, with 2–4 rough, red-brown seeds, July.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to E Mediterranean.**Botanical subregions:** CC; W.A.**Distribution Sydney area:** Gosford.**Select locations:** Only one Herbarium specimen: Mangrove Mountain (1930).**Habitat****Habitat:** Uncultivated land.**Altitude:** 0–300 m**Annual rainfall:** 1200 mm**Typical local abundance:****Vegetation:****Substrate:** Probably on clay soil.**Exposure:****Conservation****Conservation:** Rare, only one NSW record as naturalised, near Gosford (1930).***Macroptilium atropurpureum* \***

FABACEAE – FABOIDEAE

Siratro

**Life history****Growth form:** Decumbent hairy twiner, with stems 2–3 m long and 3-foliolate leaves.**Vegetative spread:****Longevity:** Perennial.**Primary juvenile period:****Flowers:** Dark reddish black to purple, January.**Fruit/seed:** Hairy pod 5–10 cm long, with 12 kidney-shaped seeds 3 mm long, January.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to C and N America.**Botanical subregions:** NC CC NWS; Qld, N.T.**Distribution Sydney area:** Parramatta.**Select locations:** Parramatta (1983).**Habitat****Habitat:** Roadsides, pasture.**Altitude:** 0–100 m**Annual rainfall:** 900 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:****Conservation****Conservation:** Occasionally naturalised north from Sydney though only one record for Sydney area.

***Medicago arabica* \***

FABACEAE – FABOIDEAE

Spotted Burr Medic

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**Life history****Growth form:** More or less prostrate and hairy, with branches 60 cm long and 3-foliolate leaves.**Vegetative spread:** No.**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Yellow, inflorescence 2–5-flowered, September–October.**Fruit/seed:** Barrel-shaped, coiled spiny pod 5–7 mm long, with 5–8 seeds, October–November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Exotic, native to Europe, Mediterranean and N Africa.**Botanical subregions:** NC CC SC NT ST NWS CWS NWP; Vic., Tas., S.A., W.A.**Distribution Sydney area:** Mainly coastal areas.**Select locations:** Wondabyne, Cheltenham, Centennial Park (1900), Flemington, Richmond, Badgerys Creek, Casula, Sutherland, Campbelltown, Kangaroo Valley.

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**Habitat****Habitat:** Moist shady sites.**Altitude:** 0–300 m**Annual rainfall:** 700–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Grassy areas.**Substrate:** Mainly on clay soils from Wianamatta Shale. Recorded on saline sites in western NSW (Semple 1993).**Exposure:**

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**Conservation****Conservation:** Probably introduced as pasture plant and now widely naturalised.***Medicago intertexta* \***

FABACEAE – FABOIDEAE

Calvary Medic

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**Life history****Growth form:** Procumbent or ascending with branches 30–50 cm long and 3-foliolate leaves.**Vegetative spread:****Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Yellow to orange, inflorescence 3–7-flowered, September–October.**Fruit/seed:** Coiled spiny pod 11–16 mm long, with 5–11 seeds, November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Exotic, native to Mediterranean.**Botanical subregions:** CC CWS; Vic., S.A.**Distribution Sydney area:** Parramatta.**Select locations:** Parramatta (1903).

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**Habitat****Habitat:****Altitude:** 0–100 m**Annual rainfall:** 900 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:**

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**Conservation****Conservation:** Only one old record for Sydney area.

***Medicago laciniata* \***

FABACEAE – FABOIDEAE

Cut-leaved Medic

**Life history**

**Growth form:** Procumbent or ascending, with branches to 35 cm long and 3-foliolate leaves. Deep-rooting e.g. plant 8 cm high with roots to 36 cm deep (F.W. Hely, Herb. notes).

**Vegetative spread:** No.

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** Yellow, inflorescence 1–3-flowered, August–September.

**Fruit/seed:** Coiled spiny pod 5–7 mm long, with 7–14 seeds. Seed 24–39% of weight of clean mature pods (F.W. Hely, Herb. notes).

**Dispersal, establishment & growth:** Diaspore: pod, animal-dispersed. Seed short-lived to 8 yrs, dormancy ranges 22–86% broken by fluctuating temperatures (F.W. Hely, Herb. notes).

**Fire response:**

**Interaction with other organisms:** Burrs cause nuisance in sheep wool (F.W. Hely, Herb. notes).

**Distribution**

**Status/origin:** Exotic, native to Mediterranean, Asia, N Africa.

**Botanical subregions:** CC NT ST NWS CWS NWP SWP NFWP SFWP; Vic., S.A., W.A.

**Distribution Sydney area:** Western Sydney.

**Select locations:** Flemington, Glenfield, Camden (1934).

**Habitat**

**Habitat:** Saleyards.

**Altitude:** 0–200 m

**Annual rainfall:** 700–1000 mm

**Typical local abundance:** Frequent.

**Vegetation:**

**Substrate:** Clay soils from Wianamatta Shale.

**Exposure:** Full sun. Drought-hardy (F.W. Hely, Herb. notes).

**Conservation**

**Conservation:** Occasionally naturalised in western Sydney, around saleyards and livestock areas.

***Medicago lupulina* \***

FABACEAE – FABOIDEAE

Black Medic

**Life history**

**Growth form:** Herb to 60 cm high, more or less hairy, with 3-foliolate leaves.

**Vegetative spread:** No (McIntyre et al. 1995).

**Longevity:** Annual or perennial.

**Primary juvenile period:**

**Flowers:** Yellow, inflorescence 10–50-flowered, April.

**Fruit/seed:** Kidney-shaped pod 2–3.5 mm long, with one end coiled; 1 seed.

**Dispersal, establishment & growth:** No particular morphology for dispersal (McIntyre et al. 1995).

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Exotic, native to Europe, Asia and N Africa.

**Botanical subregions:** NC CC SC NT CT ST SWS CWS; LHI, Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Mainly Tablelands.

**Select locations:** Campbelltown, Bathurst, Orange (1906), Bowral.

**Habitat**

**Habitat:** Creekbanks, gullies.

**Altitude:** 0–1000 m

**Annual rainfall:** 600–1000 mm

**Typical local abundance:** Frequent.

**Vegetation:** Shrub thickets e.g. with *Bursaria spinosa*.

**Substrate:** Clay soil on shale.

**Exposure:**

**Conservation**

**Conservation:** Weed of cultivated ground and disturbed areas, mainly at higher elevations.

***Medicago minima* \***

FABACEAE – FABOIDEAE

Woolly Burr Medic

**Life history**

**Growth form:** Prostrate to ascending hairy herb, with branches to 90 cm long, and 3-foliolate leaves.

**Vegetative spread:**

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** Yellow, inflorescence 1- or 2-flowered.

**Fruit/seed:** Coiled, spiny pod 2.5–5 mm long, with 3–7 seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:** Burrs cause nuisance in sheep wool (F.W. Hely, Herb. note).

**Distribution**

**Status/origin:** Native to Europe, W Asia.

**Botanical subregions:** CC SC NT ST NWS CWS SWS NWP SWP NFWP SFWP; Qld, Vic., N.T., S.A., W.A.

**Distribution Sydney area:** Sporadic.

**Select locations:** Flemington Saleyards, Grose Vale (1910), Kurrajong Heights.

**Habitat**

**Habitat:**

**Altitude:** 0–500 m                      **Annual rainfall:** 1000–1300 mm

**Typical local abundance:**

**Vegetation:**

**Substrate:** Clay soils from Wianamatta Shale. Recorded on saline sites in western NSW (Semple 1993).

**Exposure:**

**Conservation**

**Conservation:** Occasionally naturalised in Sydney area but more common as a weed in pastures and on waste ground in southern Australia and Tasmania.

***Medicago orbicularis* \***

FABACEAE – FABOIDEAE

Button Medic

**Life history**

**Growth form:** Procumbent herb, with branches 20–50 cm long and 3-foliolate leaves.

**Vegetative spread:**

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** Yellow, inflorescence 1–5-flowered.

**Fruit/seed:** Coiled pod 3.5–7 mm long, with 10–26 seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Exotic, native to Mediterranean, Middle East.

**Botanical subregions:** CC CT NWS CWS NWP; Vic., S.A., W.A.

**Distribution Sydney area:** North of Bathurst.

**Select locations:** Hargraves (1906).

**Habitat**

**Habitat:**

**Altitude:** 700–800 m                      **Annual rainfall:** 800 mm

**Typical local abundance:**

**Vegetation:**

**Substrate:**

**Exposure:**

**Conservation**

**Conservation:** Rarely naturalised in Sydney area. Only one record, north of Bathurst.



***Medicago polymorpha* \***

FABACEAE – FABOIDEAE

Burr Medic

**Life history****Growth form:** Decumbent or ascending herb, with branches to 40 cm long and 3-foliolate leaves.**Vegetative spread:** No.**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Yellow, inflorescence 1–10-flowered.**Fruit/seed:** Coiled spiny pod 2–10 mm long, with 3–11 seeds. Capacity to produce relatively large amounts of seed (Taylor & Ewing 1992).**Dispersal, establishment & growth:** Dispersed in mud on cars (Wace 1977). High proportion of hard seeds survive beyond next growing season (Taylor & Ewing 1992).**Fire response:****Interaction with other organisms:** Foodplant of moth caterpillar *Xanthorhoe vicissata* (Coupar & Coupar 1992). Foodplant of Black Swan *Cygnus atratus*, Grey Teal *Anas gibberifrons*, Stubble Quail *Coturnix pectoralis* and Freckled Duck *Stictonetta nervosa* (Barker & Vestjens 1989,1990). Good source of nectar and pollen for bees (Clemson 1985).**Distribution****Status/origin:** Exotic, native to Mediterranean.**Botanical subregions:** NC CC SC CT ST NWS CWS SWS NWP SWP NFWP SFWP; LHI, Qld, Vic., Tas., N.T., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Beecroft, Concord West, Centennial Park (1900), Richmond, Badgerys Creek, Camden, Wollongong, Shellharbour, Kangaroo Valley, Bathurst.**Habitat****Habitat:** Pastures, lawns, waste places.**Altitude:** 0–700 m**Annual rainfall:** 600–1400 mm**Typical local abundance:****Vegetation:****Substrate:** Sandy soil near beaches to clay soils on shales. Recorded on saline sites in western NSW (Semple 1993).**Exposure:** Full sun.**Conservation****Conservation:** Common and widespread weed of gardens and cultivated ground.***Medicago sativa* \***

FABACEAE – FABOIDEAE

Lucerne, Alfalfa

**Life history****Growth form:** Erect to ascending herb, with branches 30–100 cm long; leaves 3-foliolate.**Vegetative spread:****Longevity:** Perennial.**Primary juvenile period:****Flowers:** Purple, inflorescences 20–30-flowered, November–March. Pollinated by bees (Clemson 1985).**Fruit/seed:** Cylindrical coiled pod 1.5–6.5 mm long. Seed weight 2.3 mg (Buckley 1982).**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:** Foodplant of moth caterpillar *Heliothis punctigera* and butterfly caterpillar *Zizina labradus* (Coupar & Coupar 1992). Foodplant of Grey Teal *Anas gibberifrons*, Stubble Quail *Coturnix pectoralis* (Barker & Vestjens 1989, 1990).

Seed sprouts consumed by humans.

**Distribution****Status/origin:** Exotic, native to Mediterranean, Asia. Widely cultivated for hay and pasture.**Botanical subregions:** NC CC SC CT ST NWS CWS; Qld, Vic., Tas., S.A.**Distribution Sydney area:** Widespread.**Select locations:** Waitara (1914), Centennial Park (1900), Casula, Macquarie Fields, Menangle, Mt Boyce, Bathurst (1901).

	<b>Habitat</b>
<b>Habitat:</b> Roadsides and cultivated areas.	
<b>Altitude:</b> 0–1000 m	<b>Annual rainfall:</b> 600–1200 mm
<b>Typical local abundance:</b> Frequent.	
<b>Vegetation:</b>	
<b>Substrate:</b> Sandy soils to clay soils on shale. Recorded on saline sites in western NSW (Semple 1993).	
<b>Exposure:</b>	
	<b>Conservation</b>
<b>Conservation:</b> Occasionally naturalised in Sydney area.	

***Medicago truncatula* \***

FABACEAE – FABOIDEAE

Barrel Medic

	<b>Life history</b>
<b>Growth form:</b> Sparsely hairy herb, with branches to 50 cm long; leaves 3-foliolate.	
<b>Vegetative spread:</b>	
<b>Longevity:</b> Less than 1 year.	
<b>Primary juvenile period:</b> Less than 1 year.	
<b>Flowers:</b> Yellow, inflorescences 1–4-flowered.	
<b>Fruit/seed:</b> Coiled pod 5–10 mm long, with 3–12 seeds, mature October–December.	
<b>Dispersal, establishment &amp; growth:</b>	
<b>Fire response:</b>	
<b>Interaction with other organisms:</b>	
	<b>Distribution</b>
<b>Status/origin:</b> Exotic, native to Mediterranean.	
<b>Botanical subregions:</b> CC CT ST NWS CWS SWS NWP SWP NFWP SFWP; Vic., S.A., N.T.	
<b>Distribution Sydney area:</b> Sporadic.	
<b>Select locations:</b> Wondabyne (1924), Menangle Park, Razorback, Bathurst.	
	<b>Habitat</b>
<b>Habitat:</b> Roadsides.	
<b>Altitude:</b> 0–800 m	<b>Annual rainfall:</b> 700–1200 mm
<b>Typical local abundance:</b>	
<b>Vegetation:</b>	
<b>Substrate:</b>	
<b>Exposure:</b>	
	<b>Conservation</b>
<b>Conservation:</b> Occasionally naturalised.	

**Melilotus albus** \*

FABACEAE – FABOIDEAE

Bokhara

**Life history****Growth form:** Erect herb to 150 cm high, with 3-foliolate leaves.**Vegetative spread:****Longevity:** Less than 2 years.**Primary juvenile period:****Flowers:** White, inflorescence 40–100-flowered.**Fruit/seed:** Greyish brown, wrinkled pod, usually with 1 seed.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Europe and Asia.**Botanical subregions:** CC NT CT ST NWS SWS SWP; Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Toongabbie.**Select locations:** Toongabbie (1993).**Habitat****Habitat:** Creekbank.**Altitude:** 0–200 m**Annual rainfall:** 900 mm**Typical local abundance:** Rare.**Vegetation:** With weeds of disturbed ground e.g. *Verbena bonariensis*, *Foeniculum vulgare*.**Substrate:** Sandy clay soils, alluvium, medium nutrients.**Exposure:****Conservation****Conservation:** Rarely naturalised, only one Sydney record.**Melilotus indicus** \*

FABACEAE – FABOIDEAE

Hexham Scent

**Life history****Growth form:** Erect herb to 60 cm high, with 3-foliolate leaves.**Vegetative spread:****Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Yellow, inflorescence 10–60-flowered, August–December.**Fruit/seed:** Green to brownish wrinkled pod 2–3 mm long, usually with 1 seed.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:** Foodplant of Black Swan *Cygnus atratus* (Barker & Vestjens 1989,1990).**Distribution****Status/origin:** Exotic, native to Mediterranean.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP NFWP SFWP; Qld, Vic., Tas., N.T., S.A., W.A.**Distribution Sydney area:** Mainly Sydney suburbs.**Select locations:** Wondabyne, Cowan, Cabarita, Tempe, Cooks River (1911), Randwick (1884), Penshurst, Campbelltown, Gerringong, Orange.**Habitat****Habitat:** Disturbed sites, embankments.**Altitude:** 0–1000 m**Annual rainfall:** 700–1400 mm**Typical local abundance:** Occasional.**Vegetation:** With grasses and small herbs.**Substrate:** Sandy soils, sometimes saline sites.**Exposure:****Conservation****Conservation:** Widespread but relatively uncommon weed in Sydney area.

***Mirbelia baueri*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Erect or prostrate shrub, 0.3–0.5 m high with pubescent stems and opposite leaves, sometimes forming mats.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Orange, yellow and purple, October.

**Fruit/seed:** Pod, 6 mm long, with 4–6 ovules, November–December.

**Dispersal, establishment & growth:** Diaspore: seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** SC CT.

**Distribution Sydney area:** Blue Mountains to Neriga.

**Select locations:** Leura, Kings Tableland, Moss Vale, Fitzroy Falls, Penrose, Wingello.

**Habitat**

**Habitat:** Exposed heath on sandstone.

**Altitude:** 500–1000 m      **Annual rainfall:** above 900 mm

**Typical local abundance:** Rare.

**Vegetation:** Heath.

**Substrate:** Sandstone, low nutrients.

**Exposure:**

**Conservation**

**Conservation:** Rare in area, Leura is northern geographical limit.

Conservation status unknown.

***Mirbelia oxylobioides*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Decumbent or erect shrub to 1.5 m high, with pubescent stems and opposite leaves.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Orange-yellow and red, November.

**Fruit/seed:** Pod 8–10 mm long with 10 or more ovules, December–January.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NT CT ST NWS; Vic.

**Distribution Sydney area:** Sporadic.

**Select locations:** Mt Canobolas, Wingello (1913).

**Habitat**

**Habitat:** Higher altitudes, rock outcrops.

**Altitude:** 600–1300 m      **Annual rainfall:** 1000–1200 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest and sub alpine vegetation.

**Substrate:**

**Exposure:**

**Conservation**

**Conservation:** Rare in Sydney area confined to isolated disjunct populations; northern geographical limit Mt Canobolas. Most recent record for Wingello is 1913. Conservation status unknown.

***Mirbelia platyloboides***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Prostrate shrub, stems 40 cm long, silky-pubescent, leaves alternate or opposite.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** Orange to yellow with a red centre, August–October, peak September.**Fruit/seed:** Pod, 15–20 mm long, with 10–15 ovules. Seed weight 7 mg (Auld & O'Connell 1991). Mature November–January, peak December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed Seed viability 92%, non-dormant fraction 14% (Auld & O'Connell 1991).**Fire response:** Stems killed, resprouts from base.**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** SC CT ST CWS.**Distribution Sydney area:** Upper Blue Mountains & Southern Highlands**Select locations:** Mt Coricudgy, Portland, Lithgow, Newnes Junction, Mt Victoria, Katoomba, Hill Top, Mittagong, Fitzroy Falls, Wingello, Bungonia.**Habitat****Habitat:** Exposed ridges.**Altitude:** 600–1200 m **Annual rainfall:** above 900 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Open-forest and woodland e.g. with *Eucalyptus rossii*, *E. sieberi*, *E. gregsoniana*.**Substrate:** Sandy soil over sandstone, sometimes gravelly sites, low nutrients, well-drained.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Northern geographical limit, Mt Coricudgy. Conserved in Blue Mountains and Wollemi area but conservation status in Southern Highlands uncertain.***Mirbelia pungens***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect or prostrate shrub to 0.5 m high, pubescent.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange-red with blue or purple markings, September–December.**Fruit/seed:** Pod, beaked, hairy, 3 mm long, with 2 ovules.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT CT ST NWS CWS NWP SWP; Qld, Vic.**Distribution Sydney area:** Widespread**Select locations:** Rose Bay (1897), Lower Portland, Maroota, Newnes Junction, Cocks River, Wingello, Barbers Creek.**Habitat****Habitat:** Stony areas, ridgetops.**Altitude:** 0–1200 m **Annual rainfall:** above 800 mm**Typical local abundance:****Vegetation:** Open-forest e.g. with *Corymbia gummifera*, *C. eximia*, *Angophora bakeri*, or heath e.g. with *Kunzea ambigua*.**Substrate:** Skeletal sandy soil on sandstone, well-drained.**Exposure:****Conservation****Conservation:** Rare; extinct in Eastern Suburbs, status elsewhere unknown.

***Mirbelia rubiifolia***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Diffuse shrub to 50 cm high, with leaves in whorls of 3.**Vegetative spread:****Longevity:** Medium. 5–20 years (D. Keith pers. comm.).**Primary juvenile period:** Primary juvenile period 1–3 years (D. Keith pers. comm.).**Flowers:** Pink to purple, rarely white, August–November, peak October.**Fruit/seed:** Pod, 5 mm long, with 2 ovules. Seed weight 3 mg (Westoby et al. 1990) October–March.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-adapted food body for dispersal (Westoby et al. 1990, Rice & Westoby 1981).**Fire response:** Stems killed. Resprouts and root suckers after fire.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST; Qld.**Distribution Sydney area:** Widespread.**Select locations:** Kulnura, Maroota, Londonderry, Pennant Hills, Warriewood, La Perouse, East Hills, Audley, Cordeaux Dam, Bomaderry, Tahmoor, Springwood, Wentworth Falls, Blackheath, Mt Coricudgy.**Habitat****Habitat:** Sandstone ridges.**Altitude:** 0–1000 m**Annual rainfall:** above 800 mm**Typical local abundance:** Frequent.**Vegetation:** Sandy soil over sandstone, low nutrients, well-drained, heath scrub with *Leptospermum* and sclerophyll forest e.g. with *Corymbia gummifera*, *C. eximia*, *Angophora bakeri*, *Eucalyptus haemastoma*, also Castlereagh woodlands.**Substrate:** Sandy soil over sandstone, low nutrients, well drained.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Probably well conserved.

***Mirbelia speciosa* subsp. *speciosa***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 1 m high, with leaves in irregular whorls of 3.**Vegetative spread:** No.**Longevity:** 5–20 years (D. Keith pers. comm.).**Primary juvenile period:****Flowers:** July–September, peak August.**Fruit/seed:** Pod, 8–15 mm long, usually with 12 ovules.**Dispersal, establishment & growth:** Diaspore: seed, probably hard-coated, soil-stored seedbank. Recruitment mainly after fire (D. Keith pers. comm.).**Fire response:** Plant killed by fire (D. Keith pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC NT; Qld.**Distribution Sydney area:** Coast and Lower Blue Mountains, north from Cordeaux Dam.**Select locations:** Putty, Maroota, Calga, Marramorra NP, Springwood (1887), Royal NP, O'Hares Creek, Cordeaux Dam.**Habitat****Habitat:** Sandstone plateau.**Altitude:** 0–500 m**Annual rainfall:** 1000–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalypt open-forest with shrubby understorey.**Substrate:** Hawkesbury Sandstone on plateau and hillslopes. Infertile and very infertile soil. Watertable permanently low, moisture supply intermittent, fresh.**Exposure:****Conservation****Conservation:** Uncommon, generally occurring as isolated local populations. Cordeaux Dam southern geographical limit.***Ornithopus compressus* \***

FABACEAE – FABOIDEAE

Yellow Seradella

**Life history****Growth form:** Ascending to decumbent herb to 50 cm high; leaves pinnate with 15–37 leaflets, one terminal.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow.**Fruit/seed:** Curved pod 2–5 cm long, with ovoid seeds 2 mm long, mature October–November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to S Europe.**Botanical subregions:** CC; Vic., W.A.**Distribution Sydney area:** Sydney suburbs.**Select locations:** Centennial Park (1899), Ermington (1983).**Habitat****Habitat:** Disturbed sites.**Altitude:** 0–100 m**Annual rainfall:** 900–1200 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:****Conservation****Conservation:** Not common, rarely naturalised in Sydney area.

***Oxylobium arborescens***

FABACEAE – FABOIDEAE

Tall Shaggy Pea

**Life history****Growth form:** Tall, erect shrub to 2 m high, occasionally to 5 m.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, October–December.**Fruit/seed:** Ovoid pod 6–10 mm long, November–December.**Dispersal, establishment & growth:** Diaspore: seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC NT CT ST; Qld, Vic., Tas.**Distribution Sydney area:** Widespread mainly on the ranges.**Select locations:** Glenbrook, Mittagong, Moss Vale, Fitzroy Falls, Bundanoon, Penrose, Wingello, Jamberoo Mountain.**Habitat****Habitat:** Woodland.**Altitude:** 200–700 m      **Annual rainfall:** above 900 mm**Typical local abundance:** Rare.**Vegetation:** Woodland e.g. with *Eucalyptus sieberi*, *E. sclerophylla*, *E. piperita*, *E. consideniiana*.**Substrate:** Sandy soil on sandstone, low nutrients.**Exposure:** Mid shade.**Conservation****Conservation:** Not common, most records 1899–1938. Most recent records are from Water Board Catchment near Mittagong. Conservation status unknown.***Oxylobium cordifolium***

FABACEAE – FABOIDEAE

Heart-leaved Shaggy Pea

**Life history****Growth form:** Small, diffuse or prostrate shrub to 30 cm high, with cordate leaves; young branches hairy.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange-red, October–November, March–April.**Fruit/seed:** Ovoid pod 8–10 mm long, November–December, March.**Dispersal, establishment & growth:** Diaspore: seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC ST.**Distribution Sydney area:** Coastal headland from Port Jackson to Bundeena.**Select locations:** Nielsen Park, Maroubra Bay, Botany, Little Bay, La Perouse, Cape Solander, Bundeena.**Habitat****Habitat:** Coastal headlands.**Altitude:** 0–50 m      **Annual rainfall:** 1200–1400 mm**Typical local abundance:** Occasional.**Vegetation:** Seacliff scrub, wet heath e.g. with *Melaleuca nodosa*, *Eriostemon buxifolius*, and scrub e.g. with *Kunzea ambigua*, *Banksia ericifolia*.**Substrate:** Peaty sandy loam on sandstone, moist and poorly drained.**Exposure:** Exposed to sea spray.**Conservation****Conservation:** Rare and restricted in the Sydney area. Conservation status unknown.



**Oxylobium ellipticum**

FABACEAE – FABOIDEAE

Common Shaggy Pea

**Life history****Growth form:** Erect to procumbent shrub to 2 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow or orange-yellow, November.**Fruit/seed:** Ovoid pod 8 mm long.**Dispersal, establishment & growth:** Diaspore: seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** SC NT CT ST SWS; Qld, Vic, Tas**Distribution Sydney area:** Upper Blue Mountains, Kanangra area.**Select locations:** Blackheath, Lithgow, Boyd River, Kanangra Walls, Mt Werong.**Habitat****Habitat:****Altitude:** 1000–1200 m**Annual rainfall:** 900–1200 mm**Typical local abundance:****Vegetation:** Woodland e.g. with *Eucalyptus pauciflora*, *E. dalrympleana*.**Substrate:** Skeletal soils on sandstones and metamorphics, low nutrients.**Exposure:****Conservation****Conservation:****Oxylobium pulteneae**

FABACEAE – FABOIDEAE

Wiry Shaggy Pea

**Life history****Growth form:** Low, spreading to prostrate shrub usually 15–60 cm high, with stout rootstock; stems hairy.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange-red, October–December.**Fruit/seed:** Hairy pod 10 mm long.**Dispersal, establishment & growth:****Fire response:** Probably resprouts.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC CWS.**Distribution Sydney area:** Hunter Valley, north from Wisemans Ferry.**Select locations:** Howes Valley, Putty Road, Wisemans Ferry.**Habitat****Habitat:** Sandstone ridges.**Altitude:** 0–500 m**Annual rainfall:** 800–1000 mm**Typical local abundance:** Frequent to occasional.**Vegetation:** Dry eucalypt forest and swamp forest e.g. with *Corymbia eximia*, *Eucalyptus punctata*, *E. crebra*.**Substrate:** Sandy soil on sandstone, low nutrients, well-drained.**Exposure:****Conservation****Conservation:** Wisemans Ferry is southern geographical limit, probably adequately conserved.

***Phyllota grandiflora*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Erect shrub to 1 m high, with hairy young growth.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, with reddish markings, September–December, peak October.

**Fruit/seed:** Pod .

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, possibly adapted for ant-dispersal (Rice & Westoby 1981)

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC.

**Distribution Sydney area:** Coast, Broken Bay to Woronora Plateau.

**Select locations:** Hornsby, Turramurra, Terrey Hills, Narrabeen, Manly, Royal NP, Wedderburn, Cataract Dam, Avon Dam.

**Habitat**

**Habitat:** Rocky gullies, creek banks.

**Altitude:** 0–400 m

**Annual rainfall:** above 900 mm

**Typical local abundance:** Occasional–frequent.

**Vegetation:** Open woodland e.g. with *Eucalyptus racemosa*, scrub.

**Substrate:** Sandy clay loam over sandstone and on shale/sandstone junction, low to medium nutrient soil, well-drained.

**Exposure:** Mid to light shade.

**Conservation**

**Conservation:** Local Sydney endemic species, that does not appear to be very well conserved.

***Phyllota humifusa***

FABACEAE – FABOIDEAE

Dwarf Phyllota

**Life history****Growth form:** Prostrate shrub; young growth hairy, linear leaves mostly 3–10 mm long.Hybridisation with *P. phyllicoides* occurs at Bundanoon.**Vegetative spread:** Spreads by rooting at nodes.**Longevity:** Indefinite.**Primary juvenile period:****Flowers:** Orange yellow to reddish brown, October–November.**Fruit/seed:** Hairy pod 5 mm long.**Dispersal, establishment & growth:** Diaspore: hard-coated seed.**Fire response:** Resprouts (J. Benson pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT.**Distribution Sydney area:** Southern Highlands.**Select locations:** Berrima, Joadja Creek, Long Swamp, Stingray Swamp Flora Reserve, Penrose.**Habitat****Habitat:** Swamp margins, open-forest and disturbed sites.**Altitude:** 600–700 m**Annual rainfall:** 900–1100 mm**Typical local abundance:** Frequent.**Vegetation:** Woodland on swamp and creek margins e.g. with *Eucalyptus mannifera*, *E. radiata*.**Substrate:** Yellow, sandy loam to sandy clay loam over sandstone, poor drainage, low nutrient.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Local endemic species. Listed under schedule II, NSW Threatened

Species Conservation Act 1995 and coded 2VCa on national rare species list (Briggs &amp;

Leigh 1996), vulnerable with only some populations adequately reserved in Stingray Swamp

Flora Reserve. Other populations threatened by sand mining (Kodela et al. 1992, Benson 1986).

***Phyllota phyllicoides***

FABACEAE – FABOIDEAE

Heath Phyllota

**Life history****Growth form:** Erect shrub to 1 m high, with hairy young growth, flowers crowded in leafy spikes.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow–orange, August–December, peak August–September.**Fruit/seed:** Hairy pod, 5 mm long. Seed weight 3– mg (Auld & O'Connell 1991, Westoby et al. 1990), December.**Dispersal, establishment & growth:** Diaspore: seed, ant-adapted dispersal (Rice & Westoby 1981). Soil-stored seedbank (Fox 1988). Seed viability 99%, non-dormant fraction 3% (Auld & O'Connell 1991).**Fire response:** Killed by fire (Fox 1988).**Interaction with other organisms:** Bees gather pollen (Clemson 1985).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT CWS; Qld.**Distribution Sydney area:** Widespread on sandstone plateaus.**Select locations:** Kulnura, Maroota, Wondabyne, Terrey Hills, Wahroonga, Manly, North Ryde, Waterfall, Fitzroy Falls, Bomaderry, Glenbrook, Wentworth Falls.**Habitat****Habitat:** Woodland and heath.**Altitude:** 0–1000 m**Annual rainfall:** above 800 mm**Typical local abundance:** Frequent.**Vegetation:** Woodland, open-forest and heath e.g. with *Angophora hispida*, *Leptospermum trinervium*.**Substrate:** Shallow sandy soil over sandstone, low nutrient soils, well-drained.**Exposure:****Conservation****Conservation:** Probably adequate.

***Phyllota squarrosa*****FABACEAE – FABOIDEAE**

Dense Phyllota

**Life history****Growth form:** Low spreading shrub to 75 cm high; young growth hairy, linear leaves 6–14 mm long.**Vegetative spread:** possible potential for vegetative spread by root suckers in response to repeated burning.**Longevity:** Indefinite.**Primary juvenile period:****Flowers:** Yellow orange to red with yellow wings, August–April, peak December–January.**Fruit/seed:** Hairy pod, 5 mm long.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, adapted for ant-dispersal (Rice & Westoby 1981)**Fire response:** Stems killed and re-establishes from basal sprouts and root suckers.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC CT ST.**Distribution Sydney area:** Mainly higher Blue Mountains.**Select locations:** Rylstone, Kanangra, Clarence, Blackheath, Mt Wilson, Leura, Wentworth Falls, Springwood.**Habitat****Habitat:** Ridges.**Altitude:** 500–1200 m      **Annual rainfall:** 1000–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Heath and woodland e.g. with *Eucalyptus sclerophylla*, *E. sieberi*, *E. gregsoniana*.**Substrate:** Sandy soil on sandstone, low nutrients.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Probably adequately conserved in Blue Mountains.

**Platylobium formosum**

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Shrub to 2.5 m high, erect, straggling or prostrate. Polymorphic species, key to subspecies useful in some districts of NSW but in coastal districts cannot be satisfactorily placed in either (Harden 1991). Ecological research on subspecies may help definition.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Orange, yellow and red, keel often purplish, peak September–October.

**Fruit/seed:** Pod, 20–40 mm long, oblong. Seed weight 6–10 mg (Auld & O'Connell 1991, Westoby et al. 1990). Mature summer–autumn (L. Parkinson pers. comm.).

**Dispersal, establishment & growth:** Diaspore: seed, ant-adapted food body for dispersal (Westoby et al. 1990), myrmecochore (Rice & Westoby 1981). Soil-stored seedbank (Fox 1988). Seed viability 90–94%, non-dormant fraction 0–3% (Auld & O'Connell 1991).

**Fire response:** Resprouted from base at Mona Vale after high intensity fire January 1994 (L.McD.). Resprouted (at Colo Heights). Killed by fire (Fox 1988).

**Interaction with other organisms:** Gall-forming, sometimes seed predator insect *Eurytoma* sp. (Hymenoptera) (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC CT ST SWS; Qld, Vic., Tas.

**Distribution Sydney area:** Coast and Upper Blue Mountains.

**Select locations:** Terrigal, Palm Beach, Middle Harbour, Como, Hornsby, Wahroonga, Epping, Abbotsford, Kogarah, Katoomba -Wentworth Falls.

**Habitat**

**Habitat:** Open-forest.

**Altitude:** 0–1000 m      **Annual rainfall:** above 800 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Eucalyptus piperita*, *Angophora costata* and shrubby understorey on sandstone, or with *Eucalyptus pilularis*, *E. saligna* on shale.

**Substrate:** Sandy soils on sandstone, clay soils on Wianamatta Shale, low–medium nutrient, well-drained. Subsp. *parviflora* appears to occur on soils with a shale influence particularly in the Lane Cove Catchment, while subsp. *formosum* is on sandier soils on the coast.

**Exposure:** Light shade.

**Conservation**

**Conservation:** Status unknown.

**Podolobium aciculiferum** (*Oxylobium aciculiferum*)

FABACEAE – FABOIDEAE

Needle Shaggy Pea

**Life history**

**Growth form:** Erect or prostrate shrub to 3 m high with spiny stipules 5–7 mm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow-orange, January–June.

**Fruit/seed:**

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:** Bees gather pollen and nectar (Clemson 1985).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT; Qld.

**Distribution Sydney area:** Mainly Wyong area.

**Select locations:** Morisset, Jilliby Jilliby, Yarramalong, Wyong, Tuggerah, Wisemans Ferry.

**Habitat****Habitat:****Altitude:** 0–200 m      **Annual rainfall:** 800–1200 mm**Typical local abundance:****Vegetation:** Moist eucalypt forest and rainforest margins.**Substrate:** Clay soil on Narrabeen Shale.**Exposure:****Conservation****Conservation:** Rare, only one record reported since 1925 (at Wisemans Ferry 1978).

All other records are from 1899–1925. Conservation status unknown.

***Podolobium ilicifolium* (*Oxylobium ilicifolium*)****FABACEAE – FABOIDEAE**

Prickly Shaggy Pea

**Life history****Growth form:** Erect shrub to 3 m high.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Medium-long**Primary juvenile period:****Flowers:** Yellow with orange markings, September–October.**Fruit/seed:** Oblong pod 10 mm long, mature November–January.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, no particular dispersal morphology (McIntyre et al. 1995). Soil-stored seedbank (Fox 1988).**Fire response:** Stems killed, regenerate from basal sprouts. Killed by fire (Fox 1988).**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991). Bees gather pollen and nectar (Clemson 1985).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST CWS; Qld, Vic.**Distribution Sydney area:** Widespread.**Select locations:** Mt Coricudgy, Howes Valley, Colo Heights, Watagan SF, Gosford, Hornsby, Avalon, Flemington, Bankstown, Leumeah, Douglas Park, Thirlmere, Bulli, Kurrajong, Bell, Mt Victoria, Carrington Falls.**Habitat****Habitat:** Rocky hillsides, gullies.**Altitude:** 0–1000 m      **Annual rainfall:** 900–1400 mm**Typical local abundance:** Frequent to dominant.**Vegetation:** Woodland and open-forest e.g. with *Eucalyptus sieberi*, *E. sclerophylla*.**Substrate:** Sandstone often with clay influence, low nutrients, well-drained.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Well conserved widespread species.

***Podolobium scandens* var. *scandens***

FABACEAE – FABOIDEAE

Netted Shaggy Pea (*Oxolobium scandens*)**Life history****Growth form:** Prostrate to trailing hairy shrub.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Pale orange often with reddish brown markings, September–December, peak September.**Fruit/seed:** Pod 10–15 mm long.**Dispersal, establishment & growth:** Diaspore: hard-coated, long-lived seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC; Qld.**Distribution Sydney area:** Western Sydney.**Select locations:** Jilliby Jilliby, Pennant Hills, Castle Hill, Pitt Town, St Marys, Prospect, Liverpool, Appin, Bargo, Glenbrook, (Yallah, Albion Park, A. Bofeldt p. c.).**Habitat****Habitat:** Sclerophyll forest on gravelly clay soils**Altitude:** 0–400 m **Annual rainfall:** 700–1000 mm**Typical local abundance:** Occasional–rare.**Vegetation:** Open-forest and woodland e.g. with *Eucalyptus crebra*, *E. eugenioides*, *Melaleuca decora*, *E. tereticornis*, *E. longifolia* with grassy groundcover.**Substrate:** Gravelly clay to sandy soils on Wianamatta Shale, Berry Siltstone and on shale/sandstone transition, well-drained, low to moderate fertility.**Exposure:** Sheltered, full sun to mid-shade (A. Bofeldt pers. comm.).**Conservation****Conservation:** Uncommon, conservation status unknown. Rare, vulnerable and not conserved in Illawarra (A. Bofeldt pers. comm.).***Psoralea pinnata* \***

FABACEAE – FABOIDEAE

African Scurf-pea

**Life history****Growth form:** Erect shrub 1.5–4 m high, leaves, pinnate, sprinkled with black dots.**Vegetative spread:** No.**Longevity:** 10–15 years (A. Bofeldt pers. comm.).**Primary juvenile period:****Flowers:** Blue, with pleasant fruity fragrance, August–November.**Fruit/seed:** Blackish pod 4 mm long.**Dispersal, establishment & growth:** Diaspore: hard-coated, long-lived seed (A. Bofeldt pers. comm.). Dispersed along roadsides by vehicles (M. Robinson pers. comm.).**Fire response:** Seedlings mature < 2.5 years after high intensity fire (1/94 at Lane Cove, P. Kubiak p. c.).**Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to S Africa. Cultivated as an ornamental.**Botanical subregions:** CC SC NWS; Vic., W.A.**Distribution Sydney area:** Coast.**Select locations:** Forestville (L.McD.), Willoughby (1926), Bondi (1905), Kensington (1900), La Perouse, Engadine (1940), Coledale Beach (1982), (Nth Wollongong, Mt Keira, Mt Kembla, A. Bofeldt p. c.).**Habitat****Habitat:** Coast and beaches, disturbed sites in scrub, creeks, railway embankments.**Altitude:** 0–50 m **Annual rainfall:** above 1200 mm**Typical local abundance:** Common.**Vegetation:** Thick scrub and shrubland.**Substrate:** Sandy soil behind beaches and on sandstone. Clay and alluvial clay loams, on Quaternary alluvium, Bumbo Laterite Member in Illawarra (M. Robinson p. c.), low nutrients, well-drained.**Exposure:** Full sun.**Conservation****Conservation:** Reported in swamps between Coogee and Botany in 1900 and 'semi wild' at Bondi in 1905. Now reported to be spreading vigorously in Illawarra (P. Adam p. c.) and is a weed that should be targetted now (M. Robinson p. c.).

***Pultenaea altissima***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub; leaves 3–10 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, October.**Fruit/seed:** Swollen pod 5–7 mm long, seed with aril, mature December–January.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NT CT ST; Vic.**Distribution Sydney area:** Mainly Southern Highlands.**Select locations:** Boyd Plateau, Robertson, Paddys River, Tallong.**Habitat****Habitat:** Swamp areas or near watercourses.**Altitude:** 600–1000 m      **Annual rainfall:** 1000–1800 mm**Typical local abundance:** Occasional.**Vegetation:** Heath and open-forest e.g. with *Eucalyptus fastigata*, *E. viminalis*.**Substrate:** Sandy soils, also on basalt.**Exposure:****Conservation****Conservation:** Rare, few collections in Sydney area, particularly from Boyd area.

Conservation status unknown.

***Pultenaea aristata***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Small erect shrub to 1 m high; leaves 8–22 mm long.**Vegetative spread:** No.**Longevity:** 5–20 years (D. Keith pers. comm.).**Primary juvenile period:****Flowers:** Light orange, September–December, peak September.**Fruit/seed:** Swollen pod 6 mm long, seed with an aril, mature December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. High germination rate in 5–14 days after seedcoat broken (A. Bofeldt pers. comm.). Recruitment mainly after fire (D. Keith pers. comm.).**Fire response:** Killed by fire (D. Keith pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC.**Distribution Sydney area:** Waterfall to Mt Keira.**Select locations:** Waterfall, Helensburgh, Darkes Forest, Bulli, Mt Keira.**Habitat****Habitat:** Moist sites on sandstone.**Altitude:** 0–500 m      **Annual rainfall:** 1400–1600 mm**Typical local abundance:** Occasional–frequent.**Vegetation:** Wet heath and shrubby woodland e.g. with *Corymbia gummifera*, *Eucalyptus sieberi*, *E. racemosa*, *Leptospermum trinervium*.**Substrate:** Sandy loam on sandstone, poorly-drained, low nutrient soils.**Exposure:** Exposed to moderately sheltered, full sun to partial shade (A. Bofeldt p. c.).**Conservation****Conservation:** Local endemic, listed under schedule II, NSW Threatened Species

Conservation Act 1995 and coded 2V on national rare species list (Briggs &amp; Leigh 1996).

Conserved in Illawarra in Metropolitan Water Board Catchment (A. Bofeldt pers. comm.).

General adequacy of conservation unknown.



***Pultenaea blakelyi***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 3 m high, with hairy stems; leaves 10–20 cm long.**Vegetative spread:** No.**Longevity:** 20–30 years (A. Bofeldt pers. comm.).**Primary juvenile period:****Flowers:** Yellow, September–November, peak October.**Fruit/seed:** Flattened pod 7–10 mm long, seed with aril, mature November–January.**Dispersal, establishment & growth:** Diaspore: hard-coated long-lived seed; high germination rate in 5–10 days after seed coat broken (A. Bofeldt pers. comm.).**Fire response:** Killed (A. Bofeldt pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST.**Distribution Sydney area:** Mainly coastal and Southern Highlands.**Select locations:** Toukley, Tuggerah, Wedderburn, Waterfall, Stanwell Park, Bulli Pass, Macquarie Pass, Robertson, Bomaderry Creek, Tallowa Dam.**Habitat****Habitat:** Moist gullies.**Altitude:** 0–600 m**Annual rainfall:** 1200–1800 mm**Typical local abundance:** Frequent.**Vegetation:** Wet and dry sclerophyll forest, rainforest margins e.g. with *Ceratopetalum apetalum* (M. Robinson pers. comm.).**Substrate:** Clay to sandy loam over sandstone, Hawkesbury, Budgong Sandstone and alluvium, low to medium nutrients, well-drained.**Exposure:** Sheltered to exposed, full sun.**Conservation****Conservation:** Few collections for populations north of Broken Bay, and evidently rare there. More common south from Royal NP. Well conserved in Illawarra where it is widespread and common (A. Bofeldt pers. comm.).***Pultenaea canescens***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub; leaves 8–12 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange and red, August–December.**Fruit/seed:** Swollen pod 6 mm long, seed with aril, mature December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT.**Distribution Sydney area:** Upper Blue Mountains.**Select locations:** Katoomba, Blackheath, Bell, Clarence, Mt Wilson, Bilpin.**Habitat****Habitat:** Hillsides, swamp edges.**Altitude:** 500–1200 m**Annual rainfall:** 1000–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Wet heath e.g. with *Eucalyptus stricta*, *Hakea teretifolia*, *Hakea dactyloides*.**Substrate:** Shallow peaty soil over sandstone, low nutrients, poorly-drained.**Exposure:****Conservation****Conservation:** Local endemic species, probably adequately conserved.

***Pultenaea capitellata***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Prostrate shrub; leaves 3–12 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange-yellow, September–March.**Fruit/seed:** Flattened pod 6 mm long, seed with aril.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** SC CT ST; Vic.**Distribution Sydney area:** Boyd Plateau.**Select locations:** Boyd Plateau, Dingo Swamp, Mt Werong, Mt Colong.

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**Habitat****Habitat:** Montane sedge-swamps.**Altitude:** 1000–1200 m      **Annual rainfall:** 1100 mm**Typical local abundance:** Frequent.**Vegetation:** Moist heath and sedgeland e.g. with *Restio australis*, *Empodisma minus*.**Substrate:** Sandy soils on alluvium, quartzite, low nutrients, poorly-drained.**Exposure:** Probably full sun to light shade.

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**Conservation****Conservation:** Boyd Plateau is northern geographical limit. Conservation status unknown though not reported for several Boyd Plateau swamps by Kodela et al. (1996).***Pultenaea cunninghamii***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub to 1.5 m high; leaves broad 8–22 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange-yellow.**Fruit/seed:** Swollen pod 6–7 mm long, seed with aril.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS; Qld, Vic.**Distribution Sydney area:** Sporadic localised widespread populations.**Select locations:** Mt Yengo, Mt Canobolas, Forest Reefs, Wanganderry Lookout.

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**Habitat****Habitat:** Hillsides.**Altitude:** 600–1000 m      **Annual rainfall:** 600–1000 mm**Typical local abundance:** Frequent.**Vegetation:** Subalpine vegetation, and drier woodland e.g. with *Eucalyptus macrorhyncha*, *E. crebra*, *E. punctata*, *Corymbia eximia*, *Eucalyptus fibrosa*.**Substrate:** Shallow gravelly soils on Permian sediments, sandstone.**Exposure:**

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**Conservation****Conservation:** Occurs in several widely separated localities, conservation status unknown.

***Pultenaea daphnoides***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Erect shrub, with hairy stems. 1–3 m high, rarely to 4 m in Illawarra (A. Bofeldt pers. comm.).

**Vegetative spread:** No.

**Longevity:** 5–15 years (A. Bofeldt pers. comm.).

**Primary juvenile period:**

**Flowers:** Yellow, August–November, peak September.

**Fruit/seed:** Flattened pod 5–7 mm long, seed with aril. Seed weight 4 mg (Auld & O'Connell 1991).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, adapted for ant-dispersal (Rice & Westoby 1981). Seed viability 97%, non-dormant fraction 32% (Auld & O'Connell 1991).

**Fire response:** Probably fire-sensitive (Auld & O'Connell 1991).

**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) and sp. Tychinae (Auld 1991). Larvae of butterfly *Neolucia mathewi* reported feeding on the flowers (Common & Waterhouse 1982).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST; Qld, Vic., Tas., S.A.

**Distribution Sydney area:** Coast and Blue Mountains.

**Select locations:** Maroota, Maitland Bay, Barrenjoey, Wahroonga, Mosman, La Perouse, Anise Falls, Wedderburn, Buxton, Albion Park, Bomaderry, Kurrajong Heights, Hazelbrook, Mt Victoria, Bundanoon Creek.

**Habitat**

**Habitat:** Sandstone gullies. Slopes, escarpment plateaus in Illawarra (A. Bofeldt p. c.).

**Altitude:** 0–1000 m      **Annual rainfall:** 900–1400 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Moist to dry open-forest e.g. with *Eucalyptus piperita*, *E. sieberi*, *Angophora costata*, *Syncarpia glomulifera*, *Corymbia gummifera*, and heath e.g. with *Westringia fruticosa*.

**Substrate:** Sandy soils on sandstone, conglomerate. Low nutrients, well-drained.

Very shallow soil in Bumbo Latite (M. Robinson pers. comm.).

**Exposure:** Light shade to full sun and tolerates salt spray (M. Robinson & A. Bofeldt p. c.).

**Conservation**

**Conservation:** Widespread species, probably adequately conserved.

***Pultenaea dentata***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Erect to often spreading shrub, with hairy stems.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Orange/reddish brown, August–September.

**Fruit/seed:** Flattened pod 5 mm long, seed with an aril.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST; Qld, Vic., Tas., S.A.

**Distribution Sydney area:** Coast, Coogee to Bundeena.

**Select locations:** Coogee, La Perouse, Kurnell, Cronulla, Bundeena.

**Habitat**

**Habitat:** Coastal headlands and lagoon margins.

**Altitude:** 0–50 m      **Annual rainfall:** 1200–1600 mm

**Typical local abundance:** Rare.

**Vegetation:** Coastal wet heath e.g. with *Baeckea imbricata*, *Westringia rosmarinifolia*, *Pultenaea paludosa*, *Leptocarpus tenax*, *Schoenus apogon*, and lagoon margins.

**Substrate:** Damp peaty soil over sandstone; low nutrient soil, impeded drainage.

**Exposure:** Full sun.

**Conservation**

**Conservation:** Very rare and localised. Sydney population inadequately conserved but possibly in Botany Bay NP.

***Pultenaea divaricata*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Erect shrub, with leaves 5–12 mm long.

**Vegetative spread:**

**Longevity:** More than 60 years (D. Keith pers. comm.).

**Primary juvenile period:**

**Flowers:** Yellow-orange, October–November.

**Fruit/seed:** Flattened hairy pod 5 mm long, seed with aril, November–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Recruitment mainly after fire (D. Keith pers. comm.).

**Fire response:** Resprouts, secondary juvenile period 3 years (D. Keith pers. comm.).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC CT ST.

**Distribution Sydney area:** Blue Mountains to Budawangs.

**Select locations:** Clarence, Blackheath, Katoomba, Wentworth Falls, Cordeaux Dam, Budderoo Creek, Carrington Falls, Penrose.

**Habitat**

**Habitat:** Swamps, moist cliff-faces.

**Altitude:** 400–1200 m      **Annual rainfall:** 1000–1400 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Shrubswamp e.g. with *Grevillea acanthifolia* subsp. *acanthifolia*, *Hakea teretifolia*, *Gymnoschoenus sphaerocephalus*, *Baeckea linifolia*, *Lepidosperma*.

**Substrate:** Moist sandy soils on sandstone; low nutrients, impeded drainage.

**Exposure:** Full sun to mid shade.

**Conservation**

**Conservation:** Probably well conserved in Blue Mountains though less so in southern localities such as Penrose. Swamp habitat vulnerable to drainage channels and nutrient inflow.

***Pultenaea echinula***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub, with leaves 10–15 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Bright orange, September–October.**Fruit/seed:** Swollen pod 5–6 mm long, seed with aril, October–November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CT.**Distribution Sydney area:** Upper Blue Mountains and Wollemi.**Select locations:** McMahons Lookout, Kings Tableland, Mt Victoria, Gospers Mountain, Rylstone.

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**Habitat****Habitat:** Rocky hillsides and ridges.**Altitude:** 700–1000 m      **Annual rainfall:** 900–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Dry eucalypt open-forest e.g. with *Eucalyptus sclerophylla*, *E. piperita*, *Angophora costata*, *Corymbia gunnifera*.**Substrate:** Skeletal soils to yellow earth on sandstone; low nutrients, well-drained.**Exposure:**

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**Conservation****Conservation:** A Sydney area endemic species that occurs as very localised populations. Probably generally well conserved but vulnerable to local disturbance.***Pultenaea elliptica***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub 0.5–1 m high, with hairy stems.**Vegetative spread:** No.**Longevity:** Medium. More than 60 years (D. Keith pers. comm.).**Primary juvenile period:****Flowers:** Yellow, recorded at any time but peaks September–March.**Fruit/seed:** Swollen pod, 5 mm long. Seed weight 2 mg (Westoby et al. 1990).  
Seed with aril.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-adapted food body for dispersal (Westoby et al. 1990, Rice & Westoby 1981).**Fire response:** Variable — killed, re-establishes from soil-stored seed, also reported to resprout, secondary juvenile period 2 years (D. Keith pers. comm.).**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991). Shoots apparently nipped off by rabbit but not eaten (P. Kubiak p. c.).

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST.**Distribution Sydney area:** Widespread, coast and mountains.**Select locations:** Morisset, Calga, Woy Woy, Beecroft, Avalon, Sutherland, Cataract Dam, Linden, Wentworth Falls, The Oaks, Thirlmere, Kangaloon, Carrington Falls, Barren Grounds, Nowra.

**Habitat**

**Habitat:** Plateaus and ridges.

**Altitude:** 0–1000 m      **Annual rainfall:** above 1100 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest and woodland e.g. with *Angophora costata*, *Corymbia gummifera*, *Eucalyptus racemosa*, *E. capitellata*, *E. piperita* and heath and scrub e.g. with *Angophora hispida*, *Leptospermum trinervium*.

**Substrate:** Shallow sandy soil over sandstone. Low nutrients, well-drained.

**Exposure:** Full sun to light shade.

**Conservation**

**Conservation:** A widespread species (range Lake Macquarie to Bermagui) that is probably well conserved in the Sydney area. Northern geographical limit is Morisset.

***Pultenaea ferruginea* var. *deanei*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Erect shrub to 2 m high, with hairy stems, leaves 8–15 mm long, stipules 4–6 mm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, August–December, peak September–October.

**Fruit/seed:** Swollen pod, 6 mm long. Seed with aril, ? June–July.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-adapted dispersal (Rice & Westoby 1981)

**Fire response:**

**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC.

**Distribution Sydney area:** Mangrove Mountain to Terrey Hills.

**Select locations:** Mangrove Mountain, Mt White, Ourimbah, Bouddi, Canoe Ground, Berowra, Hornsby, Barrenjoey, McCarrs Creek, Terrey Hills.

**Habitat**

**Habitat:** Headlands.

**Altitude:** 0–200 m      **Annual rainfall:** above 1100 mm

**Typical local abundance:** Occasional.

**Vegetation:** Heath with *Allocasuarina distyla*, *Westringia fruticosa*, *Banksia ericifolia* and dry eucalypt woodland e.g. with *Corymbia gummifera*, *Eucalyptus punctata*, *Angophora costata*.

**Substrate:** Usually on sandstone but rarely on acid volcanic substrates.

**Exposure:**

**Conservation**

**Conservation:** Local endemic reported for Marramarra NP, Lion Is, Barrenjoey (L.McD.), Bouddi (McRae 1990) and probably adequately conserved. The distributions of the two varieties of *P. ferruginea* are distinct and do not overlap.

***Pultenaea ferruginea* var. *ferruginea***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 2 m high, with hairy stems, leaves 3–8 mm long, stipules 2–4 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, September–February, peak October.**Fruit/seed:** Swollen pod, 6 mm long. Seed with an aril.**Dispersal, establishment & growth:** Diaspore: seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC CT CWS**Distribution Sydney area:** Howes Valley to Springwood.**Select locations:** Howes Valley, Putty, Colo Heights, East Kurrajong, Wisemans Ferry, Wilberforce, Glenbrook, Springwood.**Habitat****Habitat:** Ridges and hillsides.**Altitude:** 0–500 m**Annual rainfall:** 700–1000 mm**Typical local abundance:****Vegetation:** Dry open-forest e.g. with *Corymbia eximia*, *Allocasuarina torulosa*.**Substrate:** Sandy loams on sandstone.**Exposure:****Conservation****Conservation:** Probably adequately conserved over its Sydney range.***Pultenaea flexilis***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 4 m high, with sparsely hairy stems.**Vegetative spread:** No.**Longevity:****Primary juvenile period:** 5 years (L. McD.)**Flowers:** Yellow, September–October. Bee-pollinated (Clemson 1985).**Fruit/seed:** Swollen pod, 6–9 mm long. Seed with aril, seed weight 5–6 mg (Auld & O'Connell 1991), November–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Ant-adapted food body for dispersal (Westoby et al. 1990). Seed viability 99%, non-dormant fraction 20% (Auld & O'Connell 1991).**Fire response:** Killed by very high intensity fire (Killarney Heights 12/90) followed by prolific seedling recruitment.**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) and sp. of Tychinae (Auld 1991). Bees gather good supplies of pollen and some nectar (Clemson 1985).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT NWS CWS; Qld.**Distribution Sydney area:** Widespread.**Select locations:** Upper Colo, Maroota, Palm Beach, Lindfield, Centennial Park, Campbelltown, Helensburgh, Thirlmere, Kurrajong, Bilpin, Mt Wilson.**Habitat****Habitat:** Hillsides, moist gullies, ridges.**Altitude:** 0–1000 m**Annual rainfall:** above 800 mm**Typical local abundance:** Frequent.**Vegetation:** Moist open-forest e.g. with *Eucalyptus piperita*, *Angophora costata*, *Syncarpia glomulifera* or dry open-forest e.g. with *Corymbia gummifera*, *Eucalyptus punctata*.**Substrate:** Deep sandy loam to clay loam over sandstone, well-drained soil, low-medium nutrients.**Exposure:** Mid-shade.**Conservation****Conservation:** Probably adequately conserved.

***Pultenaea glabra***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub, with leaves 10–20 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange, September–November.**Fruit/seed:** Swollen pod 5 mm long, seed with aril. Seed weight 4 mg (Auld & O'Connell 1991), mature October–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Seed viability 98%, non-dormant fraction 16% (Auld & O'Connell 1991).**Fire response:****Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** CC CT.**Distribution Sydney area:** Higher Blue Mountains.**Select locations:** Lawson, Wentworth Falls, Leura, Glen Davis.**Habitat****Habitat:** Hillslopes, gullies, creekbanks.**Altitude:** 400–1000 m      **Annual rainfall:** 700–1400 mm**Typical local abundance:** Rare to occasional.**Vegetation:** Dry open-forest e.g. with *Angophora costata*, *Eucalyptus piperita*, *Acacia linifolia*, *Leptospermum polygalifolium*, and tall damp heath e.g. with *Hakea teretifolia*.**Substrate:** Sandy loam on sandstone, low nutrients.**Exposure:** Sheltered.**Conservation****Conservation:** Local Sydney endemic. Listed under schedule II, NSW Threatened Species Conservation Act 1995 and coded 3VCa on national rare species list (Briggs & Leigh 1996).***Pultenaea hispidula***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 2 m high, with spreading, hairy stems.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** September–November.**Fruit/seed:** Swollen pod 4–5 mm long, seed with aril.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC CT; Vic.**Distribution Sydney area:** Coast and Southern Highlands.**Select locations:** Kenthurst, Asquith, Frenchs Forest, Manly Dam, Loftus, Colo Vale, Belmore Falls, Penrose, Wingello SF.**Habitat****Habitat:** Ridges.**Altitude:** 0–700 m      **Annual rainfall:** 1000–1600 mm**Typical local abundance:** Frequent.**Vegetation:** Open-forest and woodland e.g. with *Angophora costata*, *Eucalyptus piperita*, *E. umbra*, *E. globoidea*, *E. pilularis*, occasionally heath.**Substrate:** Clay soils on shale lenses, shale/sandstone transitions, low nutrients, well-drained.**Exposure:** Light shade to full sun.**Conservation****Conservation:** Uncommon in immediate Sydney area. Shale/sandstone habitat now restricted due to development of ridgetop areas. Status in Southern Highlands, where most records are more than 50 years old, unknown.



***Pultenaea lapidosa***

## FABACEAE – FABOIDEAE

## Life history

**Growth form:** Low-growing, erect to spreading shrub 0.3–0.6 m high, rarely to 1 m high (Corrick 1994). Closely resembles *P. subspicata*.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:**

**Fruit/seed:** Ovate, swollen pod, 6–7 mm long, seed 3 mm long with a lobed aril (Corrick 1994).

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

## Distribution

**Status/origin:** Native.

**Botanical subregions:** CT CWS; Vic.

**Distribution Sydney area:** Bathurst–Orange.

**Select locations:** Hill End, Ilford, Barton Nature Reserve, Orange, Mt Canobolas, Napoleon Reef, Lithgow.

## Habitat

**Habitat:** Stony slopes.

**Altitude:** 800–1000 m      **Annual rainfall:** 800–1000 mm

**Typical local abundance:** Rare.

**Vegetation:** Dry eucalypt woodland with sparse, low, shrub understorey.

**Substrate:**

**Exposure:**

## Conservation

**Conservation:** Rare species, probably inadequately conserved. One record from a conserved area, Barton Nature Reserve (Corrick 1994). Also inadequately conserved at only other known population in Victoria.

***Pultenaea laxiflora***

## FABACEAE – FABOIDEAE

## Life history

**Growth form:** Prostrate to procumbent shrub, with hairy stems.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** November.

**Fruit/seed:** Flattened pod 5–7 mm long. Seed with aril.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

## Distribution

**Status/origin:** Native.

**Botanical subregions:** CT ST CWS SWS; Vic., S.A.

**Distribution Sydney area:** Bathurst area.

**Select locations:** Napoleon Reef (1970).

## Habitat

**Habitat:**

**Altitude:** 800 m      **Annual rainfall:** 700 mm

**Typical local abundance:**

**Vegetation:** Eucalypt woodland.

**Substrate:** Probably conglomerate, sandstones and shales.

**Exposure:**

## Conservation

**Conservation:** Napoleon Reef near Walang is northern geographic limit and only record for Sydney area. Conservation status unknown.

***Pultenaea linophylla***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect to prostrate shrub to 1 m high.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** Yellow with reddish markings, August–October.**Fruit/seed:** Flattened pod 6 mm long, seed weight 5 mg (Auld & O'Connell 1991). Seed with an aril.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-adapted food body for dispersal (Westoby et al. 1990). Seed viability 100%, non-dormant fraction 9–29% (Auld & O'Connell 1991).**Fire response:** Killed, recruitment from seed (Auld & O'Connell 1991).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST; Vic.**Distribution Sydney area:** Coastal plateaus, Blue Mountains and Southern Highlands.**Select locations:** Wyong, Cowan, Terrey Hills, North Head, Ashfield, Como, Menai, Yallah, Blackheath, Bowen Mountain, Hazelbrook, Yerrinbool, Fitzroy Falls, Wingello.**Habitat****Habitat:** Ridges and plateaus.**Altitude:** 0–1000 m**Annual rainfall:** 1000–1400 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Dry, shrubby woodland e.g. with *Corymbia gummifera*, *Eucalyptus haenastoma*, or shrubby heath, or grassy woodland e.g. with *Eucalyptus tereticornis*, *E. amplifolia*, *E. longifolia* (at Yallah).**Substrate:** Sandy loam on sandstone, clay loam on shale, low–medium nutrients, well-drained.**Exposure:****Conservation****Conservation:** Probably adequately conserved.***Pultenaea microphylla***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Diffuse much branched shrub, prostrate or mat-forming in higher elevation populations.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** ?**Primary juvenile period:****Flowers:** Orange, September–October.**Fruit/seed:** Flattened pod 3–5 mm long, seed with an aril, December–February.**Dispersal, establishment & growth:** No particular morphology for dispersal (McIntyre et al. 1995).**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC NT CT ST NWS CWS NWP; Qld.**Distribution Sydney area:** Western Sydney, Central Tablelands.**Select locations:** Windsor, St Marys, Whalan, Prospect, Olinda, Ilford, Hargraves, Ben Bullen, Sunny Corner, Bell.**Habitat****Habitat:** Eucalypt woodland.**Altitude:** 0–1000 m**Annual rainfall:** 700–1100 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus moluccana*–*E. tereticornis* (western Sydney); *E. dives*–*E. mannifera* (higher elevations).**Substrate:** Clay soils from Wianamatta Shale possibly influenced by nearby volcanic intrusion (Prospect), breccia (Erskine Park), shales and sandstones, moderate fertility.**Exposure:****Conservation****Conservation:** Vulnerable in Western Sydney (Benson & McDougall 1991), conservation status elsewhere unknown.

***Pultenaea paleacea***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Prostrate to spreading shrub, with hairy stems; leaves 10–20 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange, August–September.**Fruit/seed:** Pod not known. Seed with aril, mature January.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT.**Distribution Sydney area:** Gosford–Wyang, Sydney inner western suburbs.**Select locations:** Doyalson, Charmhaven, Empire Bay, Ryde, Duck River (1914), Greenacre, Kogarah (1893).

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**Habitat****Habitat:****Altitude:** 0–200 m**Annual rainfall:** 1000–1200 mm**Typical local abundance:** Frequent.**Vegetation:** Dry eucalypt forest e.g. with *Corymbia gummifera*, *Eucalyptus capitellata*, *Allocasuarina littoralis*, *Dillwynia retorta*, *Acacia terminalis*, *Acacia suaveolens*.**Substrate:** Sandy to clayey soils from sandstones, conglomerate, shales; low nutrients, well-drained to poorly-drained.**Exposure:**

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**Conservation****Conservation:** Conservation status for population north of Broken Bay not known. Populations in Sydney suburban area inadequately conserved and vulnerable.***Pultenaea parrisiae* subsp. *elusa***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Small decumbent subshrub with few, slender, trailing, weakly branched stems to 50 cm long, arising from slender rootstock (Briggs & Crisp 1994).**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Head of 4–7 flowers 5–7 mm long, yellow with reddish brown to orange, September–October.**Fruit/seed:** Flattened pod 5 mm long, seed 1.5 mm long, shiny pale brown or black, with white papillate aril (Briggs & Crisp 1994).**Dispersal, establishment & growth:** Diaspore: seed.**Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CT.**Distribution Sydney area:** Only known from Penrose–Wingello area (Briggs & Crisp 1994).**Select locations:** Penrose (1938), Wingello (1938) (Briggs & Crisp 1994).

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**Habitat****Habitat:** Swamp.**Altitude:** 600 m**Annual rainfall:** 1000 mm**Typical local abundance:** Rare.**Vegetation:** Probably shrub swamps.**Substrate:** Probably sandy peaty sediments, low nutrients.**Exposure:**

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**Conservation****Conservation:** Listed under schedule 1, NSW Threatened Species Conservation Act 1995, considered endangered, and coded 2E on national rare species list (Briggs & Leigh 1996). Only known from Penrose & Wingello in 1930s, searches have failed to re-locate species, swamp habitat has been affected by farming activities (Briggs & Crisp 1984).

***Pultenaea parviflora*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Small erect shrub generally less than 1 m high.

**Vegetative spread:** No.

**Longevity:** Medium.

**Primary juvenile period:** 3–4 years.

**Flowers:** August–November, peak September.

**Fruit/seed:** Swollen pod, 5 mm long mature December. Seed with an aril.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Seedling recruitment probably mainly after fire from soil-stored seedbank (possibly also related to other disturbance?).

**Fire response:** Killed by fire, and recruits from soil-stored seed, flowering after 3–4 years (Castlereagh Nature Reserve).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC.

**Distribution Sydney area:** Mainly Penrith and Windsor.

**Select locations:** South Windsor, Marsden Park, Castlereagh NR, Shane Park, St Marys, Penrith, Kemps Creek, Badgerys Creek.

**Habitat**

**Habitat:** Shrubby woodland.

**Altitude:** 0–100 m

**Annual rainfall:** 700–800 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Woodland with *Eucalyptus fibrosa*, *Melaleuca decora*, *Melaleuca nodosa* (Castlereagh Woodland, Benson 1992).

**Substrate:** Tertiary alluvium, sandy to clay soils, infertile. Watertable mostly low, moisture supply intermittent, fresh.

**Exposure:** Full sun–light shade.

**Conservation**

**Conservation:** Local endemic. Listed under schedule 1, NSW Threatened Species Conservation Act 1995 and coded 2E on national rare species list (Briggs & Leigh 1996). Threatened by continued rural and suburban development. Vulnerable in Western Sydney (Benson & McDougall 1991).

***Pultenaea pedunculata***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Prostrate shrub to 20 cm high, forming mats.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** August–December.**Fruit/seed:** Swollen pod 5–7 mm long, seed with aril, mature October–November.**Dispersal, establishment & growth:** Possibly preferring open areas.**Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CC; Vic., Tas., S.A.**Distribution Sydney area:** Fairfield to Liverpool.**Select locations:** Villawood, Yennora, Cabramatta, Canley Vale, Liverpool, Casula.

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**Habitat****Habitat:** Dry woodland.**Altitude:** 0–100 m**Annual rainfall:** 800–900 mm**Typical local abundance:****Vegetation:** Woodland e.g. with *Eucalyptus moluccana*, *E. longifolia* with open grassy understorey.**Substrate:** Clay soils on Wianamatta Shale, low nutrients.**Exposure:**

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**Conservation****Conservation:** In NSW known only from the Fairfield–Liverpool area (northern geographical limit) but now probably extinct there as a result of suburban and industrial development (Benson & McDougall 1991). Last recorded at Miowera Rd Villawood in 1988.***Pultenaea polifolia***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect to prostrate shrub to 1 m high.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** Orange/yellow, July–November, peak October.**Fruit/seed:** Flattened pod 5–10 mm long, seed weight 2 mg (Auld & O'Connell 1991).

Seed with an aril, mature October.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Seed viability 90–100%, non-dormant fraction 10–19–59% (Auld & O'Connell 1991).**Fire response:** Probably killed (Auld & O'Connell 1991).**Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CC SC NT CT ST SWS; Vic.**Distribution Sydney area:** Broken Bay to Royal NP, Upper Blue Mountains.**Select locations:** Berowra, Narrabeen, Frenchs Forest, Willoughby, Lady Carrington Drive, Blackheath, Lithgow, Kanangra, Boyd Plateau, Mt Werong, Mt Canobolas.

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**Habitat****Habitat:****Altitude:** 0–1200 m**Annual rainfall:** 900–1400 mm**Typical local abundance:** Frequent to occasional.**Vegetation:** Open-forest e.g. with *Corymbia gummifera*, *Eucalyptus globoidea* with shrubby understorey e.g. with *Lambertia formosa*, *Pimelea linifolia*, *Acacia myrtifolia*, also in wet heath.**Substrate:** On laterite, sandstone and sandy soil in swamps, low nutrient.**Exposure:** Light shade to full sun.

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**Conservation****Conservation:** Occurs in various habitats and in disjunct areas, and possibly restricted by rainfall and moisture availability. Probably adequately conserved.

***Pultenaea procumbens***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Procumbent or rarely erect shrub to 1 m high.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** October–December.**Fruit/seed:** Swollen pod 5 mm long. Seed with aril.**Dispersal, establishment & growth:****Fire response:** Regrowth from rootstocks, seedlings recorded less than 1 year after fire (Purdie 1977).**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT ST CWS SWS; Vic.**Distribution Sydney area:** Bathurst–Orange, Wingello.**Select locations:** Clandulla SF, Capertee, Hill End, Wattle Flat, Orange, Abercrombie Caves, Paddys River.**Habitat****Habitat:** Woodland.**Altitude:** 700–900 m      **Annual rainfall:** 700–1000 mm**Typical local abundance:** Rare–occasional.**Vegetation:** Dry eucalypt woodland e.g. with *Eucalyptus rossii*, and heath.**Substrate:** Gravelly clay soils, low nutrients, well-drained.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Uncommon, conservation status unknown.***Pultenaea retusa***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub to 1 m high.**Vegetative spread:****Longevity:** 5–10 years, plants 1–3 years old reported dying during drought (A. Bofeldt pers. comm.).**Primary juvenile period:****Flowers:** Orange–yellow with reddish brown markings, August–October, peak September.**Fruit/seed:** Flattened pod 5–7 mm long, seed with an aril, September–January.

Seed long-lived (A. Bofeldt pers. comm.).

**Dispersal, establishment & growth:** Diaspore: hard-coated, long-lived seed.

Very high germination rate in 5–15 days (A. Bofeldt pers. comm.).

**Fire response:** Killed (A. Bofeldt pers. comm.).**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT; Qld, Vic.**Distribution Sydney area:** Coast and Southern Highlands.**Select locations:** Doyalson, Woy Woy, Berowra, Beecroft, La Perouse, Abbotsford, Homebush, Kurnell, (Yallah, Albion Park, A. Bofeldt pers. comm.), Bomaderry, Agnes Banks, Bilpin, Silverdale, Yanderra, Mittagong, Barbers Creek.**Habitat****Habitat:** Swampy to well-drained sites**Altitude:** 0–700 m      **Annual rainfall:** 700–1400 mm**Typical local abundance:** Rare.**Vegetation:** Dry eucalypt open-forest e.g. with *Angophora bakeri*, *Eucalyptus tereticornis*, *E. longifolia*, *E. eugenioides*, *Melaleuca decora*, *M. styphelioides* and shrubs e.g. *Lambertia formosa*, *Grevillea speciosa*, *Pultenaea villosa*, *Melaleuca thymifolia*.**Substrate:** Sandy clay loams on shale, sandstone, Tertiary alluvium, Berry Siltstone, low nutrients.**Exposure:** Exposed to moderately sheltered, full sun to light shade.**Conservation****Conservation:** Vulnerable in Western Sydney (Benson & McDougall 1991) and on Illawarra coastal plain (A. Bofeldt pers. comm.), status elsewhere unknown.

***Pultenaea rosmarinifolia***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub to 1 m high, with appressed hairs on stems.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow August–October.**Fruit/seed:** Flattened pod 8 mm long, seed with an aril, mature October–November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991).

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**Distribution****Status/origin:** Native.**Botanical subregions:** CC SC.**Distribution Sydney area:** Kulnura to Sutherland.**Select locations:** Kulnura, Kariong, Woy Woy, Barrenjoey Headland, Frenchs Forest, Wisemans Ferry, Maroota, Sutherland.

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**Habitat****Habitat:** Coastal plateaus, ridges.**Altitude:** 0–200 m**Annual rainfall:** 1000–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Woodland e.g. with *Angophora bakeri*, *Angophora costata*, *Eucalyptus punctata*, *E. piperita*, *E. racemosa*, *Corymbia eximia*, *C. gummifera*, with shrubby understorey and heath e.g. with *Banksia oblongifolia*, *Angophora hispida*, *Acacia suaveolens*.**Substrate:** Sandy soil on sandstone, low nutrients, well-drained.**Exposure:**

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**Conservation****Conservation:** Kulnura is northern geographical limit. Probably adequately conserved.***Pultenaea scabra***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub with hairy stems.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Yellow, August–November, peak September.**Fruit/seed:** Flattened pod 5–7 mm long. Seed with aril, mature November.**Dispersal, establishment & growth:****Fire response:** Killed, recruitment from seed (French & Westoby 1996).**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991).

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST CWS; ?Qld, Vic., S.A.**Distribution Sydney area:** South from Rylstone, widespread.**Select locations:** Howes Mountain, Kurrajong Heights, Wahroonga, Frenchs Forest, Homebush, Springwood, Burragarang, Mt Jellore, Leura, Mt Wilson, Capertee, Rylstone.

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**Habitat****Habitat:** Ridges, rocky hillsides, gullies.**Altitude:** 0–1200 m**Annual rainfall:** 700–1200 mm**Typical local abundance:** Occasional–frequent.**Vegetation:** Heath to dry sclerophyll forest e.g. with *Corymbia eximia*, *C. gummifera*, *Angophora euryphylla*, *Eucalyptus eugenoides*, *E. punctata*.**Substrate:** Sandy soils on sandstone, quartzite, alluvium, shale/sandstone transition, low nutrients, well-drained.**Exposure:** Full sun to light shade.

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**Conservation****Conservation:** Probably well conserved except possibly in Sydney suburbs.

***Pultenaea* species H****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Erect to spreading shrub 1–2 m high, stems hairy, obscured by stipules. Closely resembles *P. elliptica*.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, September–October.

**Fruit/seed:** Seed with aril.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC.

**Distribution Sydney area:** Sporadic.

**Select locations:** Judge Dowling Range, Glenbrook, Royal NP, Shoalhaven River.

**Habitat**

**Habitat:** Dry ridges.

**Altitude:** 0–400 m

**Annual rainfall:** 900–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Dry sclerophyll woodland to forest e.g. with *Angophora bakeri*, *Eucalyptus racemosa*, *E. piperita*, *E. punctata*, *Corymbia eximia*, *C. gummifera*, with shrubby understorey.

**Substrate:** Sandy clay soil on sandstone, low fertility, well-drained.

**Exposure:**

**Conservation**

**Conservation:** Endemic to Sydney area, uncommon, conservation status unknown.

***Pultenaea stipularis*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Erect shrub, with conspicuous stipules, to 10 mm long; leaves 1.5–2.5 cm long.

**Vegetative spread:** No.

**Longevity:**

**Primary juvenile period:**

**Flowers:** Yellow, August–November, peak September. Bee-pollinated (Clemson 1985).

**Fruit/seed:** Swollen pod 6–7 mm long, seed with aril. Seed weight 9–11 mg (Auld & O'Connell 1991, Westoby et al. 1990), mature September–December, March–June.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed with food body ant-adapted for dispersal (Westoby et al. 1990). Seed viability 99%, non-dormant fraction 1% (Auld & O'Connell 1991).

**Fire response:** Probably killed (Auld & O'Connell 1991).

**Interaction with other organisms:** Host to seed predator beetles *Bruchidius* spp. (Bruchidae) (Auld 1991), and Cerambycid beetle *Ceresium australe* (Hawkeswood 1993).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC.

**Distribution Sydney area:** Broken Bay to Wollongong.

**Select locations:** Berowra, Cheltenham, Frenchs Forest, Holsworthy, Loftus, Cordeaux Dam, Upper Burragorang.

**Habitat**

**Habitat:** Rocky hillsides and slopes.

**Altitude:** 0–400 m

**Annual rainfall:** 900–1600 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Eucalypt open-forest e.g. with *Eucalyptus piperita*, *Angophora costata*, *Corymbia gummifera*, *Eucalyptus haemastoma*, *E. oblonga*, and heath e.g. with *Banksia spinulosa*.

**Substrate:** Sandy soils on Hawkesbury Sandstone, low nutrients, well-drained.

**Exposure:**

**Conservation**

**Conservation:** Essentially a Sydney species with outlier at Tomerong.

Probably adequately conserved. Conserved in Ku-ring-gai Chase and Royal NP.



***Pultenaea subspicata***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Mainly prostrate trailing shrub, sometimes erect, with sparsely hairy stems.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange, October–November.**Fruit/seed:** Swollen pod 5 mm long, seed with aril, mature November–January.**Dispersal, establishment & growth:** Diaspore: hard-coated seed.**Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NT CT ST SWS; Vic.**Distribution Sydney area:****Select locations:** Rylstone, Mt Lambie, Clarence, Hartley Valley, Edith, Abercrombie Caves, Paddys River.

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**Habitat****Habitat:** Woodland and disturbed sites such as roadside embankments.**Altitude:** 600–1000 m      **Annual rainfall:** 800–1100 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Eucalypt woodland.**Substrate:** Sandy to gravelly clay soils, low nutrients, well-drained.**Exposure:** Full sun.

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**Conservation****Conservation:*****Pultenaea subternata***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub, with hairy stems; leaves 5–8 mm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Orange-brown, October.**Fruit/seed:** Swollen pod 6 mm long, seed with aril, mature November–December.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CT CWS; Qld.**Distribution Sydney area:** Bathurst–Orange area.**Select locations:** Mt Canobolas, Mullions Range, Sofala, Hargreaves, Hill End, Blayney, Trunkey.

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**Habitat****Habitat:** Rocky hillsides.**Altitude:** 800–1000 m      **Annual rainfall:** 800–1000 mm**Typical local abundance:** Occasional–frequent.**Vegetation:** Open-forest e.g. with *Acacia dealbata*, *Acacia penninervis*, *Melichrus urceolatus*.**Substrate:** Sandy, often skeletal soils on metasediments.**Exposure:**

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**Conservation****Conservation:** Conservation status unknown.

***Pultenaea villifera***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub, with hairy stems; leaves 1–2 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** September–November and April–May.**Fruit/seed:** Swollen pod 5 mm long, seed with aril.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC ST.**Distribution Sydney area:** Localised, sporadic, Springwood to Jervis Bay.**Select locations:** Springwood, Valley Heights, Robertson, Minnamurra Falls, Point Perpendicular.**Habitat****Habitat:****Altitude:** 0–600 m      **Annual rainfall:** 1000–1800 mm**Typical local abundance:** Occasional.**Vegetation:** Dry sclerophyll forest**Substrate:** Sandy soil on sandstone.**Exposure:****Conservation****Conservation:** Rare, coded 3RC- on national rare species list (Briggs & Leigh 1996).

Localised occurrences, last record for Blue Mountains is 1934. Conservation status unknown.

***Pultenaea villosa***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Prostrate to erect shrub, with hairs on stems. A prostrate maritime form of *P. villosa* occurs on grassy headlands and may be a distinct species.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** Yellow, August–November, peak September.**Fruit/seed:** Swollen pod 4–6 mm long, seed with an aril, mature October–December.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:** Host to seed predator anthribid beetle (Auld 1991). Major source of pollen and nectar for bees (Clemson 1985).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT; Qld, Vic**Distribution Sydney area:** Widespread.**Select locations:** Morisset, Terrigal, Hornsby, Epping, Hurstville, Homebush, Birrong, Glenfield, Nepean Dam, Dapto, Albion Park, Cambewarra, Agnes Banks, Glenbrook, Yanderra, Valley Heights.**Habitat****Habitat:** Woodland.**Altitude:** 0–500 m      **Annual rainfall:** 700–1200 mm**Typical local abundance:** Frequent.**Vegetation:** Woodland e.g. with *Eucalyptus paniculata*, *E. punctata*, *E. resinifera*, *Angophora costata* or with *Angophora bakeri*, *Eucalyptus sclerophylla*, or scrub with *Melaleuca decora*, *M. nodosa*.**Substrate:** Clay loams on Wianamatta Shale or Tertiary alluvium or shale residual over sandstone.**Exposure:** Light shade to full sun.**Conservation****Conservation:** Conserved in Western Sydney (Benson & McDougall 1991) but possibly inadequately elsewhere.

***Pultenaea viscosa***

FABACEAE – FABOIDEAE

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**Life history****Growth form:** Erect shrub, with hairy stems; leaves 1–2 cm long.**Vegetative spread:** No.**Longevity:** ? medium**Primary juvenile period:****Flowers:** Yellow, August–November**Fruit/seed:** Swollen pod 5–6 mm long, seed with aril, mature November–January.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank.**Fire response:** Killed, seedlings appeared after fire where previously not known (Lane Cove) (Van Klaphe pers. comm.)**Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CC SC CT; Vic.**Distribution Sydney area:** Mainly northern Sydney suburban area and Southern Highlands.**Select locations:** Somersby, Cheltenham, Marsfield, Baulkam Hills, Frenchs Forest, Lane Cove Valley, Hill Top, Robertson, Belmore Falls, Leura.

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**Habitat****Habitat:** Lower hillslopes and creeks.**Altitude:** 0–1000 m**Annual rainfall:** 1000–1800 mm**Typical local abundance:** Occasional–frequent.**Vegetation:** Open-forest e.g. with *Angophora costata*, *Syncarpia glomulifera*, *Callicoma serratifolia*, *Ceratopetalum apetalum*.**Substrate:** Clay soils and sandy clay alluvium.**Exposure:**

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**Conservation****Conservation:** Localised but not common, previously widespread in northern Sydney suburbs but few recent collections. Conservation status unknown.***Robinia pseudoacacia* \***

FABACEAE – FABOIDEAE

Black Locust

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**Life history****Growth form:** Tree to 10 m high; leaves pinnate with 5–10 pairs of leaflets and a terminal leaflet.**Vegetative spread:** Spreads by root suckers.**Longevity:****Primary juvenile period:****Flowers:** White, pink or purple.**Fruit/seed:** Pod 3–8 cm long, with a few black seeds.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Exotic, native to N America, often cultivated as an ornamental.**Botanical subregions:** NC CC SC CT NWS SWP; Qld, S.A.**Distribution Sydney area:** Sydney suburbs.**Select locations:** Miranda (1964), Whalan (1984).

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**Habitat****Habitat:****Altitude:** 0–200 m**Annual rainfall:** 700–1200 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:**

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**Conservation****Conservation:** Rarely naturalised in Sydney area.

***Sphaerolobium minus*****FABACEAE – FABOIDEAE****Life history**

**Growth form:** Shrub to 50 cm high; calyx with small dark spots.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Pure yellow with faint red markings, mainly October–November.

**Fruit/seed:** Small, globular pod, mature mainly October–November (limited data).

**Dispersal, establishment & growth:** Recruitment mainly after fire, temperature more than 60 °C for maximum germination; non-dormant fraction of total seed crop 36% (D. Keith p. c.). Seed viability 98%, non-dormant fraction 36% (Auld & O'Connell 1991).

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:**

**Botanical subregions:** NC CC SC NT CT ST; Qld, Vic., Tas., S.A.

**Distribution Sydney area:** Widespread, coast and Blue Mountains.

**Select locations:** Kulnura, Berowra, Macquarie Fields, Waterfall, Mt Ousley, Loddon Falls, Hill Top, Carrington Falls, Leura, Clarence, Bundanoon.

**Habitat**

**Habitat:** Periodically wet sites on sandstone.

**Altitude:** 0–1200 m

**Annual rainfall:** 800–1600 mm

**Typical local abundance:** Occasional.

**Vegetation:** Open-scrub e.g. with *Angophora hispida*, *Eucalyptus haemastoma*, and margins of shrubswamp e.g. with *Gymnoschoenus sphaerocephalus*, *Grevillea acanthifolia*.

**Substrate:** Sandy soil on sandstone, sometimes on shale, impeded drainage.

**Exposure:**

**Conservation**

**Conservation:** Widespread, but only recently recognised as distinct from *Sphaerolobium vimineum* despite growing together (Crisp 1993).

***Sphaerolobium vimineum***

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Shrub usually less than 1 m high; juvenile leaves 1–3-foliolate, mature leaves reduced to slender petioles 3–25 cm long; calyx uniformly lead-grey (Crisp 1993).

**Vegetative spread:**

**Longevity:** 5–20 years (D. Keith pers. comm.).

**Primary juvenile period:** Primary juvenile period 1–5 years (D. Keith pers. comm.).

**Flowers:** Yellow to orange often with red blotches.

**Fruit/seed:** Black pod 4–5 mm long, with one seed 2–3 mm long. Seed weight 1 mg (Auld & O'Connell 1991).

**Dispersal, establishment & growth:** Recruitment mainly after fire, temperature more than 60 °C for maximum germination; non-dormant fraction of total seed crop 36% (D. Keith pers. comm.). Seed viability 98%, non-dormant fraction 36% (Auld & O'Connell 1991).

**Fire response:** Killed by fire (D. Keith pers. comm.).

**Interaction with other organisms:** Gall-forming insects *Eurytoma* spp. (Hymenoptera) are major seed predators (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST; Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Coast and Blue Mountains.

**Select locations:** La Perouse, Kurnell, Londonderry, Mt Banks, Kangaloon.

**Habitat**

**Habitat:** Periodically wet sites on sandstone.

**Altitude:** 0–800 m      **Annual rainfall:** 700–1600 mm

**Typical local abundance:** Occasional–frequent.

**Vegetation:** Wet coastal heath e.g. with *Baeckea imbricata*, *Westringia rosmaniifolia*, *Sprengelia incarnata*, to woodland e.g. with *Eucalyptus sclerophylla*, *Angophora bakeri*, *Melaleuca decora*.

**Substrate:** Sandy peaty soil over sandstone, low nutrient, impeded drainage.

**Exposure:** Full sun.

**Conservation**

**Conservation:** Widespread but less common than *Sphaerolobium minus* which has only recently been recognised as distinct from it (Crisp 1993). Conservation status not known.

***Swainsona galegifolia***

FABACEAE – FABOIDEAE

Smooth Darling Pea

**Life history**

**Growth form:** Herb or subshrub to 1 m high, with several main stems; leaves 5–10 cm long, with 21–29 leaflets.

**Vegetative spread:** Rhizomatous (Thomson 1993).

**Longevity:** Perennial.

**Primary juvenile period:**

**Flowers:** White, pink, purple, yellow, orange or dark red. Colour forms possibly related to soil (B. Makinson pers. comm.). October–January.

**Fruit/seed:** Elliptic pod, 20–40 mm long, October–March.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP; Qld, Vic.

**Distribution Sydney area:** Tablelands.

**Select locations:** Turondale, Tarana, Hampton, Jenolan Caves, Kanangra Boyd NP, Mittagong (1919).

**Habitat****Habitat:** Open-forest.**Altitude:** 600–1000 m      **Annual rainfall:** above 800 mm**Typical local abundance:** Occasional.**Vegetation:** Montane open-forest e.g. with *Eucalyptus fastigata*, and grassy or *Pteridium esculentum* understorey.**Substrate:** Sandy loams on metamorphic rocks.**Exposure:****Conservation****Conservation:** Conservation status uncertain.***Swainsona monticola*****FABACEAE – FABOIDEAE****Life history****Growth form:** Low-growing, with many stems from very stout rootstock (Thomson 1993); leaves 5–10 cm long, with 11–25 leaflets.**Vegetative spread:****Longevity:** Perennial.**Primary juvenile period:****Flowers:** Purple, September–November.**Fruit/seed:** Pod, 8–15 mm long, with style 3 mm long, October–November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC NT CT ST NWS CWS.**Distribution Sydney area:** Camden, Bathurst.**Select locations:** Cow Pastures (1802), Georges River (1910), Camden (1965), Georges Plains (Bathurst).**Habitat****Habitat:** Often on rocky slopes (Thomson 1993).**Altitude:** 0–800 m      **Annual rainfall:** above 700 mm**Typical local abundance:** Rare.**Vegetation:** Grassland or open woodland (Thomson 1993).**Substrate:** Clay loam on Wianamatta Shale, medium nutrients, well-drained.**Exposure:****Conservation****Conservation:** Extinct in Western Sydney (Benson & McDougall 1991), probably endangered in the Bathurst area and probably also rare elsewhere in the State. Last known individuals destroyed in a Camden Cemetery clean up.

**Swainsona reticulata**

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Prostrate, with many slender stems from a taproot or much-branched stout rootstock, stem bases often below soil-surface; leaves 1–7 cm long, with 5–15 leaflets.

**Vegetative spread:** No (McIntyre et al. 1995).

**Longevity:**

**Primary juvenile period:**

**Flowers:** Purple.

**Fruit/seed:** Pod, 13–22 mm long, with style 4–5 mm long (Thomson 1993).

**Dispersal, establishment & growth:** No particular morphology for dispersal (McIntyre et al. 1995).

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC NT CT ST NWS CWS SWS NWP SWP SFWP; Qld, Vic., S.A.

**Distribution Sydney area:** Megalong Valley.

**Select locations:** Megalong Valley (1973).

**Habitat**

**Habitat:** Alluvial flats (Thomson 1993).

**Altitude:** 450 m

**Annual rainfall:**

**Typical local abundance:** Rare.

**Vegetation:** Grassland or open-forest e.g. with Eucalyptus sclerophylla.

**Substrate:** Alluvial, usually light red soil (Thomson 1993).

**Exposure:**

**Conservation**

**Conservation:** Rare in area. More common Goulburn River Valley and CWS e.g. Sandy Hollow–Ulan. Only record for Sydney area is Megalong Valley (1973).

**Swainsona sericea**

FABACEAE – FABOIDEAE

**Life history**

**Growth form:** Prostrate or low-growing to 10 cm high, with many slender stems for a stout rootstock, stem bases often below the soil-surface (Thomson 1993).

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Purple, October–December.

**Fruit/seed:** Pod, 10–17 mm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT ST NWS CWS SWS NWP SWP NFWP; Vic., S.A.

**Distribution Sydney area:** Tablelands.

**Select locations:** Bathurst (1913), Orange (1926), Wingello (1913).

**Habitat**

**Habitat:**

**Altitude:** 700–1000 m

**Annual rainfall:** 600–1100 mm

**Typical local abundance:**

**Vegetation:** Grassland, open eucalypt woodland (Thomson 1993).

**Substrate:**

**Exposure:**

**Conservation**

**Conservation:** Rare in Sydney area, not collected since 1926 and possibly extinct. Status elsewhere unknown.

***Templetonia stenophylla***

FABACEAE – FABOIDEAE

Leafy Templetonia

**Life history****Growth form:** Small shrub, with one to several straggling stems about 50 cm long; leaves 1–7 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Reddish brown and yellow, September.**Fruit/seed:** Swollen, oblong pod 15–20 mm long, with 6–8 seeds.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NT CT NWS CWS SWS NWP; Qld, Vic., S.A.**Distribution Sydney area:** Glen Davis.**Select locations:** Glen Davis.**Habitat****Habitat:****Altitude:** 600 m      **Annual rainfall:** 600 mm**Typical local abundance:** Rare.**Vegetation:** Open-forest e.g. with *Eucalyptus albens*, *Dodonaea*.**Substrate:****Exposure:****Conservation****Conservation:** Very localised with only one record for the Sydney area. Mainly on Tablelands and Western Slopes. Conservation status unknown.***Tephrosia grandiflora* \***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub, mostly 1–2 m high, with hairy branches; leaves 4–10 cm long with 11–15 leaflets.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Purple to dark pink, October–January.**Fruit/seed:** Linear, compressed pod 6–8 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to S Africa. Cultivated as ornamental.**Botanical subregions:** NC CC.**Distribution Sydney area:** Sporadic.**Select locations:** Terrey Hills (1951), Avalon, Gladesville, Liverpool, Kiama.**Habitat****Habitat:** Roadside, rubbish tip, cemetery.**Altitude:** 0–200 m      **Annual rainfall:** 900–1400 mm**Typical local abundance:** Occasional.**Vegetation:****Substrate:** Sandy soils.**Exposure:****Conservation****Conservation:** Occasionally naturalised in disturbed sites, sometimes in bushland.



***Tephrosia inandensis* \***

FABACEAE – FABOIDEAE

**Life history****Growth form:** Erect shrub 1–1.5 m high; leaves 6–15 cm long with 7–19 leaflets.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Purple.**Fruit/seed:** Pod, 4–6 cm long, 5 mm wide.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to S Africa.**Botanical subregions:** CC.**Distribution Sydney area:** Gosford.**Select locations:** Point Clare (Harden 1991).**Habitat****Habitat:** Disturbed site.**Altitude:** 0–50 m**Annual rainfall:** 1200 mm**Typical local abundance:****Vegetation:****Substrate:****Exposure:****Conservation****Conservation:** Only recorded from a disturbed site at Point Clare near Gosford.

Weed potential unknown.

***Trifolium alexandrinum* \***

FABACEAE – FABOIDEAE

Berseem Clover

**Life history****Growth form:** Erect herb to 60 cm high, with 3-foliolate leaves.**Vegetative spread:****Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Cream, October–January.**Fruit/seed:** 1-seeded pod.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Egypt and Syria.**Botanical subregions:** NC CC NWS CWS; W.A.**Distribution Sydney area:** Sporadic.**Select locations:** Ryde, Badgerys Creek, Campbelltown, Hill Top, Tallong.**Habitat****Habitat:** Pasture.**Altitude:** 0–600 m**Annual rainfall:** 800–1000 mm**Typical local abundance:****Vegetation:** Pasture.**Substrate:****Exposure:** Full sun.**Conservation****Conservation:** Uncommon, occurring occasionally in pastures.

***Trifolium angustifolium* \***

FABACEAE – FABOIDEAE

Narrow-leaved Clover

**Life history****Growth form:** Erect or ascending hairy herb, with branches to 60 cm long; leaves 3-foliolate.**Vegetative spread:****Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Pink to purple, October.**Fruit/seed:** 1-seeded pod, mature December–January.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Europe, Mediterranean, W Asia, N Africa.**Botanical subregions:** NC CC CT ST NWS CWS SWS NWP SWP; Vic., Tas., S.A., W.A.**Distribution Sydney area:** Sporadic.**Select locations:** Wondabyne (1922), Cabarita, Casula, Leura, Milthorpe, Robertson.**Habitat****Habitat:** Roadsides, pastures.**Altitude:** 0–800 m**Annual rainfall:** 800–1600 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Grassland e.g. with *Cynodon dactylon*\*, *Anthoxanthum oderatum*\*, *Paspalum dilatatum*\*, *Plantago lanceolata*\*.**Substrate:** Mainly on clay soil, medium nutrient. Recorded on saline sites in western NSW (Semple 1993).**Exposure:****Conservation****Conservation:** Uncommon.***Trifolium arvense* \***

FABACEAE – FABOIDEAE

Haresfoot Clover

**Life history****Growth form:** Erect or ascending hairy herb, with branches to 40 cm long; leaves 3-foliolate.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** White or pink, October–June, peak November.**Fruit/seed:** Pod 1–1.5 mm long, 1-seeded.**Dispersal, establishment & growth:** No particular morphology for dispersal (McIntyre et al. 1995), dispersed in mud on cars (Wace 1977). Soil-stored seedbank (Fox 1988).**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Europe, Mediterranean, N Africa.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS SWP; Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Hornsby, Randwick, Rookwood (1884), Casula, Lower Portand, Penrith, Hill Top, Blackheath, Oberon, Glanmire, Junction Reefs.**Habitat****Habitat:** Wasteland, pasture, roadside.**Altitude:** 0–1100 m**Annual rainfall:** 700–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Grassland.**Substrate:** Clay to gravelly soils, medium nutrients, well-drained. Recorded on saline sites in western NSW (Semple 1993).**Exposure:** Full sun.**Conservation****Conservation:** Widely naturalised.

***Trifolium campestre* \***

FABACEAE – FABOIDEAE

Hop Clover

**Life history****Growth form:** Prostrate or ascending herb, with branches to 50 cm long; leaves 3-foliolate.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Yellow, September–November.**Fruit/seed:** Oblong pod 1–2 mm long, with 1 seed.**Dispersal, establishment & growth:** No particular morphology for dispersal (McIntyre et al. 1995), dispersed in mud on cars (Wace 1977).**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Europe, Mediterranean, W Asia.**Botanical subregions:** NC CC SC CT ST NWS CWS SWS SWP; Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Pennant Hills, Sans Souci, Wilberforce, Badgerys Creek, Narellan, Wedderburn, Kiama, Kangaroo Valley, Junction Reefs (1906).**Habitat****Habitat:** Roadsides, pastures.**Altitude:** 0–800 m**Annual rainfall:** 700–1400 mm**Typical local abundance:** Frequent.**Vegetation:** In grassland, and with roadside species e.g. *Bidens pilosa*\*, *Sonchus oleraceus*\*.**Substrate:** Sandy soils, clay-rich loams.**Exposure:****Conservation****Conservation:** Widely naturalised.***Trifolium cernuum* \***

FABACEAE – FABOIDEAE

Drooping-flowered Clover

**Life history****Growth form:** Prostrate herb, with branches to 40 cm long; leaves 3-foliolate.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Pink, June–October.**Fruit/seed:** Oblong pod 3–4 mm long, with 1–4 seeds.**Dispersal, establishment & growth:** No particular morphology for dispersal (McIntyre et al. 1995).**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Europe, N Africa.**Botanical subregions:** CC SC CT ST NWS CWS SWS SWP; Vic., Tas., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Warnervale, Gosford, Flemington, Hill Top (1914), Newbridge, Orange.**Habitat****Habitat:** Saleyards, pastures.**Altitude:** 0–900 m**Annual rainfall:** 800–1200 mm**Typical local abundance:** Frequent.**Vegetation:****Substrate:** Sandy soils, gravelly alluvium. Recorded on saline sites in western NSW (Semple 1993).**Exposure:****Conservation****Conservation:** Widely naturalised.

***Trifolium dubium* \***

FABACEAE – FABOIDEAE

Yellow Suckling Clover

**Life history****Growth form:** Prostrate or ascending herb, with branches to 40 cm long; leaves 3-foliolate.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Yellow, September–October.**Fruit/seed:** Globose pod 2 mm long, with 1 seed.**Dispersal, establishment & growth:** No particular dispersal morphology (McIntyre et al. 1995), dispersed in mud on cars (Wace 1977).**Fire response:****Interaction with other organisms:** Foodplant of Stubble Quail *Coturnix pectoralis* (Barker & Vestjens 1989, 1990).**Distribution****Status/origin:** Exotic, native to Europe.**Botanical subregions:** NC CC SC CT ST NWS CWS SWP; Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Pennant Hills, La Perouse, Homebush (1894), Richmond, Glenfield, Hill Top, Nowra, Robertson.**Habitat****Habitat:** Pasture, wasteland, lawns.**Altitude:** 0–600 m**Annual rainfall:** 700–1600 mm**Typical local abundance:** Frequent.**Vegetation:** Grassland.**Substrate:** Sandy soils. Recorded on saline sites in western NSW (Semple 1993).**Exposure:** Full sun.**Conservation****Conservation:** A common lawn weed, widely naturalised.***Trifolium fragiferum* \***

FABACEAE – FABOIDEAE

Strawberry Clover

**Life history****Growth form:** Prostrate herb, with stems to 40 cm long; leaves 3-foliolate.**Vegetative spread:** Reported to root along stems.**Longevity:** Perennial.**Primary juvenile period:****Flowers:** White or pink, February–May.**Fruit/seed:** Globose pod 2 mm long, with 1–2 seeds.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:** Foodplant of Stubble Quail *Coturnix pectoralis* (Barker & Vestjens 1989, 1990).**Distribution****Status/origin:** Exotic, native to Europe, Mediterranean, Asia.**Botanical subregions:** NC CC CT ST CWS SWP; Vic., Tas., S.A., W.A.**Distribution Sydney area:** Sporadic.**Select locations:** Menangle Park, Rylstone, Bathurst, Orange (1935).**Habitat****Habitat:****Altitude:** 0–900 m**Annual rainfall:** 700–1000 mm**Typical local abundance:****Vegetation:****Substrate:** Sandy soil. Recorded on saline sites in western NSW (Semple 1993).**Exposure:****Conservation****Conservation:** Uncommon but widely naturalised.

***Trifolium glomeratum* \***

FABACEAE – FABOIDEAE

Clustered Clover

**Life history****Growth form:** Prostrate or ascending herb, with branches to 35 cm long; leaves 3-foliolate.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Pink, November.**Fruit/seed:** Pod 2–3 mm long, with 1–2 seeds.**Dispersal, establishment & growth:** No particular dispersal morphology (McIntyre et al. 1995), dispersed in mud on cars (Wace 1977).**Fire response:****Interaction with other organisms:** Foodplant of Grey Teal *Anas gibberifrons*, seed eaten by Silver Gull *Larus novaehollandiae* (Barker & Vestjens 1989, 1990).**Distribution****Status/origin:** Exotic, native to Europe, Middle East, N Africa**Botanical subregions:** CC SC NT CT ST NWS CWS SWS NWP SWP; Vic., Tas., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Campbelltown, Wentworth Falls, Bathurst (1901), Mandurama, Bowral, Fitzroy Falls.**Habitat****Habitat:** Pastures, gardens.**Altitude:** 0–1000 m      **Annual rainfall:** 700–1400 mm**Typical local abundance:** Occasional.**Vegetation:** Grassland and shrubland e.g. with *Olea europaea* subsp. *africana*.**Substrate:** Clay soils. Recorded on saline sites in western NSW (Semple 1993).**Exposure:****Conservation****Conservation:** Widely naturalised and a common garden weed.***Trifolium pratense* \***

FABACEAE – FABOIDEAE

Red Clover

**Life history****Growth form:** Erect or decumbent herb, with branches to 50 cm long; leaves 3-foliolate.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Perennial.**Primary juvenile period:****Flowers:** Pink to purple, October–December. Pollinated by bees (Clemson 1985).**Fruit/seed:** Ovoid pod 2–4 mm long, with 1 seed. Seed weight 1.9 mg (Buckley 1982).**Dispersal, establishment & growth:** No particular dispersal morphology (McIntyre et al. 1995).**Fire response:****Interaction with other organisms:** Palatable to rabbits (Leigh et al. 1987).

Source of pollen for bees (Clemson 1985).

**Distribution****Status/origin:** Exotic, native to Europe, Mediterranean, W Asia, widely cultivated.**Botanical subregions:** NC CC SC NT CT ST NWS CWS; Vic., Tas., S.A., W.A.**Distribution Sydney area:** Coast.**Select locations:** Hornsby, Pennant Hills, Sydney Domain (1902), Berry.**Habitat****Habitat:****Altitude:** 0–200 m      **Annual rainfall:** 1200–1400 mm**Typical local abundance:****Vegetation:****Substrate:** Sandy soil. Requires good moisture but will not tolerate waterlogging (Clemson 1985).**Exposure:****Conservation****Conservation:** Frequently naturalised.

***Trifolium repens* \***

FABACEAE – FABOIDEAE

White Clover

**Life history****Growth form:** Prostrate herb, with branches to 30 cm long; leaves 3-foliolate.

Stout tap-root (Ciba-Geigy 1968–).

**Vegetative spread:** Yes (McIntyre et al. 1995), spread by creeping stems rooting at nodes (Clemson 1985).**Longevity:****Primary juvenile period:****Flowers:** White or pink, August–November. Pollinated by bees (Clemson 1985).**Fruit/seed:** Linear pod 4–6 mm long, with 3–4 seeds. Seed weight 0.6 mg (Buckley 1982).**Dispersal, establishment & growth:** No particular morphology for dispersal (McIntyre et al. 1995), dispersed in mud on cars (Wace 1977), by wind, animals and humans, usually germinates in autumn (Ciba-Geigy 1968–).**Fire response:****Interaction with other organisms:** Moderate or vigorous competitor for space, bees visit flowers creating nuisance on sports fields etc., cultivated for forage as plants remain green in winter (Ciba-Geigy 1986–). Palatable to rabbits (Leigh et al. 1987). Foodplant of Black Swan *Cygnus atratus*, Grey Teal *Anas gibberifrons*, Stubble Quail *Coturnix pectoralis*, seed eaten by Silver Gull *Larus novaehollandiae* (Barker & Vestjens 1989, 1990). The most important Clover for honey production (Clemson 1985).**Distribution****Status/origin:** Exotic, native to Europe, Middle East, N Africa, widely cultivated.**Botanical subregions:** NC CC SC NT CT ST NWS SWS; LHI, Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Widespread.**Select locations:** Cheltenham, Sydney Domain (1902), Centennial Park, Concord, Richmond, Bathurst.**Habitat****Habitat:** Lawns**Altitude:** 0–700 m**Annual rainfall:** 600–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Grassland.**Substrate:** Sandy soils. Recorded on saline sites in western NSW (Semple 1993).**Exposure:****Conservation****Conservation:** Widely naturalised and a common lawn weed.***Trifolium resupinatum* \***

FABACEAE – FABOIDEAE

Shaftal Clover

**Life history****Growth form:** Prostrate to erect herb, with branches to 60 cm long; leaves 3-foliolate.**Vegetative spread:****Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Pink to purple, October–January.**Fruit/seed:** Pod 2 mm long, with 1 seed.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Europe, Mediterranean, SW Asia.**Botanical subregions:** NC CC SC CWS SWS SWP; Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Sporadic.**Select locations:** Royal Botanic Gardens (1904), Flemington, Casula.**Habitat****Habitat:** Pasture.**Altitude:** 0–200 m**Annual rainfall:** 800–1200 mm**Typical local abundance:** Rare.**Vegetation:** Grassland.**Substrate:****Exposure:****Conservation****Conservation:** Not common.

***Trifolium striatum* \***

FABACEAE – FABOIDEAE

Rough Clover

**Life history**

**Growth form:** Spreading or ascending hairy herb, with branches to 50 cm long; leaves 3-foliolate.

**Vegetative spread:**

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** Pink, November.

**Fruit/seed:** Pod, with one seed.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Exotic, native to Europe, Mediterranean, Asia.

**Botanical subregions:** CC SC NT CT ST NWS CWS SWS SWP; Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Tablelands.

**Select locations:** Mullion Creek, Bowral (1949).

**Habitat**

**Habitat:** Roadsides, pastures.

**Altitude:** 600–1000 m      **Annual rainfall:** 900–1000 mm

**Typical local abundance:** Frequent.

**Vegetation:** Grassland.

**Substrate:** Recorded on saline sites in western NSW (Semple 1993). Clay soils, alluvium.

**Exposure:**

**Conservation**

**Conservation:** Occasionally naturalised.

***Trifolium subterraneum* \***

FABACEAE – FABOIDEAE

Subterranean Clover

**Life history**

**Growth form:** Prostrate herb, with branches to 30 cm long and trifoliolate leaves.

**Vegetative spread:** No (McIntyre et al. 1995).

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** White with pink stripes, September–November.

**Fruit/seed:** 1-seeded pod 3 mm long, fruiting heads bend downwards, fall at maturity penetrating the soil. Seed weight 7.5 mg (Buckley 1982).

**Dispersal, establishment & growth:** Diaspore: fruit, lowermost shoots force seedpods into soil ready for propagation (Irrigation record 1917) but seed has no particular dispersal morphology (McIntyre et al. 1995), dispersed in mud on cars (Wace 1977).

**Fire response:**

**Interaction with other organisms:** Major component of improved pastures in southern Australia. Foodplant of Black Swan *Cygnus atratus*, Grey Teal *Anas gibberifrons*, Stubble Quail *Coturnix pectoralis* and Freckled Duck *Stictonetta nervosa*, seed eaten by Silver Gull *Larus novaehollandiae* (Barker & Vestjens 1989, 1990).

**Distribution**

**Status/origin:** Exotic. Native to Europe and Mediterranean, widely cultivated as a pasture species.

**Botanical subregions:** NC SC NT CT ST NWS SWS; Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Widespread.

**Select locations:** West Pennant Hills, Mt Coolangatta, Mittagong, Blackheath, Hartley, Abercrombie Caves, Orange.

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**Habitat**

**Habitat:** Disturbed sites, roadsides, creekbanks.

**Altitude:** 0–1000 m      **Annual rainfall:** above 800 mm

**Typical local abundance:**

**Vegetation:**

**Substrate:** Pasture soils, medium nutrients. Recorded on saline sites in western NSW (Semple 1993).

**Exposure:**

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**Conservation**

**Conservation:** A major component of improved pastures it has been sown widely with superphosphate since 1920's on as much as 80% of the sown pastures in southern Australia (Moore 1970). Not invasive of native vegetation.

***Trifolium suffocatum* \*****FABACEAE – FABOIDEAE**

Suffocated Clover

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**Life history**

**Growth form:** Prostrate herb, with branches to 10 cm long; leaves 3-foliolate.

**Vegetative spread:**

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** White, November–December.

**Fruit/seed:** Oblong pod 2–3 mm long, with 2 seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

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**Distribution**

**Status/origin:** Exotic, native to Europe, Mediterranean, N Africa.

**Botanical subregions:** CC CWS SWS; Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Sporadic.

**Select locations:** Sydney Domain (1902), Flemington.

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**Habitat**

**Habitat:** Saleyards.

**Altitude:** 0–200 m      **Annual rainfall:** 1000–1200 mm

**Typical local abundance:** Rare.

**Vegetation:**

**Substrate:**

**Exposure:**

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**Conservation**

**Conservation:** Rare.



***Ulex europaeus* \*****FABACEAE – FABOIDEAE**

Gorse, Furze

**Life history**

**Growth form:** Erect or ascending, spiny shrub to 2 m high, with hairy stems; phyllodes 8–30 mm long, spiny and grooved lengthwise. Roots mostly shallow with some deep roots but no well developed taproot (Parsons & Cuthbertson 1992).

**Vegetative spread:** Stems sometimes procumbent with adventitious roots (Parsons & Cuthbertson 1992).

**Longevity:**

**Primary juvenile period:** 18 months (Parsons & Cuthbertson 1992).

**Flowers:** Yellow, pea-like, fragrant, January–August.

**Fruit/seed:** Oblong pod 1–2 cm long, with brownish seeds 2.5–3 mm long with aril.

**Dispersal, establishment & growth:** Diaspore: seed, dispersed explosively up to 5 m, also spread by birds and ants, and dispersed in soil/gravel (Parsons & Cuthbertson 1992). Seed germinates equally well in light or dark; accumulation of seeds in soil is presumed to be due to 'hard' seeds with long innate dormancy (Popay 1987), germinates best 15°C to 19°C mostly autumn to mid-summer (Parsons & Cuthbertson 1992).

**Fire response:** Massive germination of seed after mature bushes have been burnt, but 30–60% of the initial seed is left dormant in the soil (Popay 1987).

**Interaction with other organisms:** Seed important source of chemicals used in medical tests, good pollen-producer favoured by bee-keepers; young plants without spines grazed by sheep and rabbits; weed control with moths, goats, or glyphosate (Parsons & Cuthbertson 1992). Supposedly cured jaundice and scarlet fever (Low 1990).

**Distribution**

**Status/origin:** Exotic, native of W Europe. Cultivated for hedges and as an ornamental.

**Botanical subregions:** NC CC CT CWS SWS; Qld, Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Widespread.

**Select locations:** Lisarow, Eastlakes, Mascot, Stanmore (1887), Liverpool, Stanwell Park, Port Kembla, Kangaroo Valley, Orange.

**Habitat**

**Habitat:** Roadsides and forest margins (Parsons & Cuthbertson 1992).

**Altitude:** 0–900 m      **Annual rainfall:** 800–1600 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Heathland and open areas.

**Substrate:** Sandy soils but grows well on highly fertile soils (Parsons & Cuthbertson 1992).

**Exposure:** Young plants frost-sensitive (Parsons & Cuthbertson 1992).

**Conservation**

**Conservation:** Widely naturalised, vigorous and competitive (Parsons & Cuthbertson 1992). Control by elimination of seed from soil impractical, eradication of seedlings more hopeful (Popay 1987).

***Vicia hirsuta* \*****FABACEAE – FABOIDEAE**

Hairy Vetch

**Life history**

**Growth form:** Ascending or climbing herb, with stems to 80 cm long; leaves 3–8 cm long, with 8–20 leaflets.

**Vegetative spread:**

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** Mauve, spring.

**Fruit/seed:** Pod 6–15 mm long, with 2–4 round seeds 2 mm diam., mature October–November.

**Dispersal, establishment & growth:** Diaspore: seed, dispersed by wind, man, and by expulsion as pods dehisce, germinating in autumn or early spring (Ciba-Geigy 1968–).

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Exotic, native to Mediterranean, Europe, W Asia.

**Botanical subregions:** NC CC CT ST SWS; Qld, Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Widespread.

**Select locations:** Wondabyne, Wahroonga, Balgowlah, Centennial Park (1896), Hill Top, Nepean Dam, Unanderra, Penrose, Orange.

**Habitat**

**Habitat:**

**Altitude:** 0–900 m                      **Annual rainfall:** 1000–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Grassland, swamp.

**Substrate:** Sandy soils.

**Exposure:**

**Conservation**

**Conservation:** Occasionally naturalised.

***Vicia sativa* subsp. *angustifolia* \*****FABACEAE – FABOIDEAE**

Narrow-leaved Vetch

**Life history**

**Growth form:** Trailing or climbing herb, with stems to 1 m long; leaves 2–10 cm long, with 4–18 leaflets.

**Vegetative spread:** No (McIntyre et al. 1995).

**Longevity:** Less than 1 year.

**Primary juvenile period:** Less than 1 year.

**Flowers:** Pink to red-purple, July–October.

**Fruit/seed:** Pod 2.5–5 cm long; 6–12 seeds, brown turning blackish, not hairy, 2.5–4 mm wide. Mature July–November.

**Dispersal, establishment & growth:** Diaspore: seed, no particular dispersal morphology (McIntyre et al. 1995), dispersed by wind and humans, usually germinates in autumn (Ciba-Geigy 1968–).

**Fire response:**

**Interaction with other organisms:** Moderate or vigorous competitor for space;

**Distribution**

**Status/origin:** Exotic, native to Europe; cultivated as forage crop and for green-manuring (Ciba-Geigy 1986–).

**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS SWP NFWP; LHI, Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Widespread at low elevations.

**Select locations:** Patonga, Pennant Hills, Narrabeen, Balmoral, Sydney Domain (1902), Heathcote, Cabarita, Duck Creek, Glenbrook, Kangaroo Valley.

**Habitat**

**Habitat:** Roadsides, creek banks.

**Altitude:** 0–200 m                      **Annual rainfall:** 900–1400 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Grassland, eucalypt open-forest.

**Substrate:** Sandy soil to gravelly clay.

**Exposure:**

**Conservation**

**Conservation:** Widely naturalised.

***Vicia sativa* subsp. *sativa* \***

FABACEAE – FABOIDEAE

Common Vetch

**Life history****Growth form:** Trailing or climbing herb, with stems to 1 m long; leaves 2–10 cm long, 4–18 leaflets.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Pink to red-purple,**Fruit/seed:** Pod 3–7 mm long, with 6–12 seeds, brown or yellow brown, hairy, 3.5–6.5 mm wide.**Dispersal, establishment & growth:** No particular morphology for dispersal (McIntyre et al. 1995).**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to W Asia. Reported by Robert Brown to be introduced to Sydney by 1804 (Maiden 1909).**Botanical subregions:** CC ST NWS CWS SWS SWP NFWP; S.A., W.A.**Distribution Sydney area:** Sporadic.**Select locations:** Sydney Domain (1902), Royal NP, Wingecarribee River.**Habitat****Habitat:** Roadsides.**Altitude:** 0–600 m**Annual rainfall:** 1200–1400 mm**Typical local abundance:****Vegetation:** Pasture.**Substrate:****Exposure:****Conservation****Conservation:** Rarely naturalised in Sydney area.***Vicia tetrasperma* \***

FABACEAE – FABOIDEAE

Slender Vetch

**Life history****Growth form:** Procumbent to erect or climbing herb, with stems to 80 cm long; leaves 1–4.5 cm long, with 6–12 leaflets.**Vegetative spread:** No.**Longevity:** Less than 1 year.**Primary juvenile period:** Less than 1 year.**Flowers:** Pale blue, July–August.**Fruit/seed:** Oblong pod 8–15 mm long, with 3–4 roundish seeds 2 mm wide.**Dispersal, establishment & growth:** Diaspore: seed, dispersed by wind, man and expulsion as pods dehisce, germinates in autumn or early spring (Ciba-Geigy 1968–).**Fire response:** Probably killed.**Interaction with other organisms:** Moderate or vigorous competitor for space (Ciba-Geigy 1986–).**Distribution****Status/origin:** Exotic, native of S Mediterranean.**Botanical subregions:** NC CC SWP; Qld, Vic., Tas., S.A., W.A.**Distribution Sydney area:** Sydney suburbs.**Select locations:** Hornsby, Cheltenham, Centennial Park (1900), Ermington, Cabarita, Doonside, Minto, Royal NP.**Habitat****Habitat:** Roadsides, wasteland.**Altitude:** 0–300 m**Annual rainfall:** 700–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Grassland.**Substrate:** Clay soils on shale, well-drained.**Exposure:** Full sun.**Conservation****Conservation:** Common as a weed of cultivation.

***Vicia villosa* \***

FABACEAE – FABOIDEAE

Russian Vetch

**Life history**

**Growth form:** Trailing or climbing herb; leaves 5–11 cm long with 8–24 leaflets.  
Several subspecies in NSW.

**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Violet blue or sometimes with white or yellow, September–March.**Fruit/seed:** Pod 2–4 cm long, with 2–8 round seeds.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Exotic, native to Europe.**Botanical subregions:** NC CC ST SWS NWP.**Distribution Sydney area:** Sporadic.**Select locations:** Penshurst (1908), Richmond.**Habitat****Habitat:** Waste ground, gardens.**Altitude:** 0–200 m      **Annual rainfall:** 700–1400 mm**Typical local abundance:** Occasional.**Vegetation:****Substrate:****Exposure:****Conservation****Conservation:** Garden weed.***Vigna vexillata* var. *angustifolia***

FABACEAE – FABOIDEAE

Wild Cow Pea

**Life history**

**Growth form:** Trailing or climbing herb, with fleshy tuberous roots, stems to 2 m long;  
leaves 3-foliolate.

**Vegetative spread:****Longevity:** Perennial.**Primary juvenile period:****Flowers:** Yellow, pink or purple, Spring–Summer.**Fruit/seed:** Pod 4–14 cm long, with 10–18 seeds.**Dispersal, establishment & growth:** Diaspore: hard-coated seed.**Fire response:** Quickly resprouts from rhizomes and/or tuberous roots (Lawn 1994).**Interaction with other organisms:** Root nodules fix nitrogen; Aboriginal people ate fleshy roots fresh or roasted, and seeds (Lawn 1994). Investigated for agricultural use (James & Lawn 1991).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC; Qld, N.T., Trop.**Distribution Sydney area:** North from Blue Mountains (Harden 1991).**Select locations:****Habitat****Habitat:** Moist sites.**Altitude:**      **Annual rainfall:****Typical local abundance:****Vegetation:****Substrate:****Exposure:****Conservation****Conservation:** A widely distributed and morphologically highly variable pan-tropical species reaching its limit at Sydney. Rare, conservation status unknown.

**Viminaria juncea**

FABACEAE – FABOIDEAE

Native Broom

**Life history****Growth form:** Erect shrub 1-5 m high with long wiry branchlets.**Vegetative spread:****Longevity:** Probably 5–20 years (D. Keith pers. comm.).**Primary juvenile period:** Primary juvenile period 2 to more than 5 years.**Flowers:** Yellow, September–December, peak October.**Fruit/seed:** Seed weight 6 mg (Auld & O'Connell 1991), mature December–March.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Seed viability 99%, non-dormant fraction 2% (Auld & O'Connell 1991). Recruitment mainly after fire, temperature more than 60 °C for maximum germination (D. Keith pers. comm.).**Fire response:** Killed by fire (D. Keith pers. comm., Auld & O'Connell 1991).

Grows vigorously and may fruit within 2 yrs (at Royal NP).

**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC; Qld, Vic., S.A., W.A.**Distribution Sydney area:** Mainly coastal, widespread**Select locations:** Mt Colah, Pennant Hills, Manly, La Perouse, Kogarah, Waterfall, Bass Point, Bomaderry, Glenbrook, Wilton, Bargo, Hill Top.**Habitat****Habitat:** Swampy situations.**Altitude:** 0–700 m**Annual rainfall:** 900–1400 mm**Typical local abundance:** Occasional to frequent.**Vegetation:** Swampy places and occasionally open-heath or woodland e.g. with *Eucalyptus punctata*, *Corymbia gummifera*, *Angophora costata*, *Eucalyptus robusta*.**Substrate:** Sandy soil over sandstone, sand dunes, low nutrient soils, poorly-drained.**Exposure:** Full sun–light shade.**Conservation****Conservation:** Probably adequately conserved.**Zornia dyctiocarpa** var. **dyctiocarpa**

FABACEAE – FABOIDEAE

Zornia

**Life history****Growth form:** Prostrate or decumbent herb to 30 cm high, leaves 2-foliolate.**Vegetative spread:** No (McIntyre et al. 1995).**Longevity:** Perennial.**Primary juvenile period:****Flowers:** Yellow to orange with dark red blotches, December–April.**Fruit/seed:** Indehiscent legume 15–25 mm long, breaking into 4–9,

1-seeded segments December–April.

**Dispersal, establishment & growth:** Diaspore: 1-seeded segments with no particular morphology for dispersal (McIntyre et al. 1995).**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS NWP; Qld, N.T.**Distribution Sydney area:** Widespread, Cumberland Plain.**Select locations:** Wisemans Ferry, Richmond, Vineyard, Pendle Hill, Ashfield (1887), Penrith, Minto, The Oaks, Menangle Park, Kangaroo Valley, Albion Park, Lithgow (1893), Capertee, Jenolan Caves.

**Habitat**

**Habitat:** Undisturbed grassy sites.

**Altitude:** 0–1000 m      **Annual rainfall:** 700–1000 mm

**Typical local abundance:** Rare.

**Vegetation:** Grassland e.g. with *Themeda australis*, or grassy woodland e.g. with *Eucalyptus tereticornis*, *E. fibrosa*, *E. eugenioides*.

**Substrate:** Clay soils on Wianamatta Shale, granite, medium nutrients, well-drained.

**Exposure:**

**Conservation**

**Conservation:** Evidently once common in Western Sydney but becoming rare as habitat disappears; now vulnerable there (Benson & McDougall 1991). Also rare in other areas where similar landuse pressures occur, conservation status unknown.

***Acacia acinacea*****FABACEAE – MIMOSOIDEAE**

Gold-dust Wattle

**Life history**

**Growth form:** Spreading shrub 0.3–2 m high, phyllodes 0.5–2 cm long with 2 marginal glands.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in heads of 8–16 flowers, August–October.

**Fruit/seed:** Twisted or coiled pod, rough, 3–7 cm long.

**Dispersal, establishment & growth:** Diaspore: seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT ST CWS SWS SWP; Vic., S.A.

**Distribution Sydney area:** Abercrombie Caves.

**Select locations:** Abercrombie Caves (only record).

**Habitat**

**Habitat:**

**Altitude:** 800 m      **Annual rainfall:** 800 mm

**Typical local abundance:**

**Vegetation:** Eucalypt open-woodland.

**Substrate:** Porphyry.

**Exposure:**

**Conservation**

**Conservation:** Conservation status unknown.

**Acacia amblygona**

FABACEAE – MIMOSOIDEAE

Fan Wattle

**Life history**

**Growth form:** Erect to spreading shrub to 1.5 m high, phyllodes sharp-pointed, pulvinus hairy.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow flowers in single heads in phyllode axils, golden yellow, July–October.

**Fruit/seed:** Pod, strongly curved or twisted or coiled, 3–16 cm long, October–November.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NWS CWS NWP SWP; Qld.

**Distribution Sydney area:** Northern Wollemi area.

**Select locations:** Putty Road, Howes Mountain.

**Habitat**

**Habitat:**

**Altitude:** 0–300 m      **Annual rainfall:** less than 900 mm

**Typical local abundance:** Frequent.

**Vegetation:** Edge of open-forest with *Eucalyptus moluccana*–*E. crebra*.

**Substrate:** Sandy soil or ironstone gravels on diatreme.

**Exposure:**

**Conservation**

**Conservation:** Rare in area. Conservation status not known.

**Acacia amoena**

FABACEAE – MIMOSOIDEAE

**Life history**

**Growth form:** Erect or spreading shrub 1–3 m high, sometimes hairy, with phyllodes 6 cm long, 5–12 mm wide.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow or pale yellow–whitish, 5–15 flower heads per axis, July–October.

**Fruit/seed:** Pod 5–11 cm long, October–December.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC NT CT ST CWS; Qld, Vic.

**Distribution Sydney area:** Widespread.

**Select locations:** Brooklyn, Towlers Bay, Glenbrook, Yerranderie, Mt Solitary, Hill End, Bowral, Marulan, Wombeyan Caves.

**Habitat**

**Habitat:** Often in rocky sites.

**Altitude:** 0–800 m      **Annual rainfall:** above 600 mm

**Typical local abundance:** Occasional.

**Vegetation:** Dry eucalypt open-forest and woodland e.g. with *Eucalyptus mannifera*, *Brachychiton populneus*, *Ficus rubiginosa*, *Bursaria spinosa*, *Pandorea pandorana*.

**Substrate:** Gravelly clay loams associated with limestone, dolerite, medium–high nutrient soils.

**Exposure:**

**Conservation**

**Conservation:** Conservation status unknown. Are the populations in Ku-ring-gai Chase persisting from previously drier climate periods?

***Acacia asparagoides*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading shrub 0.3–1 m high, with sharp-pointed phyllodes to 1.5 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Single, golden yellow flower heads in axils of phyllodes, July–October, peak September.

**Fruit/seed:** Curved or twisted pod, November–December.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT.

**Distribution Sydney area:** Upper Blue Mountains

**Select locations:** Lawson, Blackheath, Bell, Mt Wilson, Newnes Junction, Hassans Walls, Lidsdale, Ben Bullen SF, Gardiners Gap, Mt Blaxland.

**Habitat**

**Habitat:** Rocky hillsides

**Altitude:** 900–1200 m      **Annual rainfall:** 600–1400 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Dry eucalypt open-forest e.g. with *Eucalyptus dalrympleana*, *E. pauciflora*, *E. stellulata*, *E. rossii*, *E. sieberi*, *E. sclerophylla*, and heath.

**Substrate:** Sandy or loamy soils on alluvium, sandstone, low nutrients.

**Exposure:**

**Conservation**

**Conservation:** Endemic to Sydney area, probably adequately conserved.



***Acacia baileyana***

## FABACEAE – MIMOSOIDEAE

Cootamundra Wattle

**Life history****Growth form:** Erect tree or shrub 3–6 m high, with bipinnate leaves.**Vegetative spread:** No.**Longevity:** 20–30 years.**Primary juvenile period:** About 3 years.**Flowers:** Golden yellow, in 8–30 heads, August–September at low altitudes, October–January at high altitudes (Carolin & Tindale).**Fruit/seed:** Brown to black pod 4–10 cm long, brown to black.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-dispersed (Carr et al. 1992). Quick growing**Fire response:** Killed by high intensity fire (Lane Cove 1/94), Flowers within 2.5 years of high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).**Interaction with other organisms:** Seed eaten by Gang-gang Cockatoo *Callocephalon fimbriatus*, Sulphur-crested Cockatoo *Cacatua galerita*, Crimson Rosella *Platyercus elegans* (Lepschi 1993). Host plant of Cerambycid beetle *Xystrocera virescens* (Hawkeswood 1993). Psyllids (white flies) found on flowers, carry pollen from tree to tree (Bernhardt 1982). Substantial source of pollen for bees in winter (Clemson 1985).**Distribution****Status/origin:** Native to Australia, endemic to West Wyalong district, exotic in Sydney area.**Botanical subregions:** \*CC \*NT \*CT \*ST CWS SWS \*NWP \*SWP; \*Qld, \*Vic, \*SA**Distribution Sydney area:** Widespread.**Select locations:** Chatswood (1946), Cheltenham (1946), Elderslie (1968), Blaxland, Woodford (1960), Lawson (1961), Blackheath (1957).**Habitat****Habitat:** Disturbed sites, roadsides, railways.**Altitude:** 0–1000 m**Annual rainfall:** above 750 mm**Typical local abundance:** Frequent.**Vegetation:** Moist to dry eucalypt open-forest.**Substrate:** Sandy to clayey soils on shale, sandstone.**Exposure:****Conservation****Conservation:** Widely cultivated and naturalised, particularly in the Blue Mountains.***Acacia baueri* subsp. *aspera***

## FABACEAE – MIMOSOIDEAE

**Life history****Growth form:** Decumbent to spreading shrub to 1 m high; phyllodes 0.7–1.6 cm long, rough, irregularly whorled.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in single heads in axils of phyllodes, December–March.**Fruit/seed:** Pod 1–2 cm long, 3–4 mm wide, mature October–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC CT.**Distribution Sydney area:** Woronora Plateau, Blue Mountains.**Select locations:** Royal NP, Wilton, Kings Tableland, Wentworth Falls.

**Habitat**

**Habitat:** Exposed sandstone ridges.

**Altitude:** 0–1000 m      **Annual rainfall:** 900–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Low heath e.g. with *Banksia ericifolia*, *Allocasuarina nana*, *Acacia suaveolens*.

**Substrate:** Sandy soil over sandstone, low nutrients, well-drained.

**Exposure:** Exposed, full sun.

**Conservation**

**Conservation:** Local endemic taxon, listed under schedule II, NSW Threatened Species Conservation Act 1995 and coded 2RC- on national rare species list (Briggs & Leigh 1996). Uncommon on Woronora Plateau, mainly confined to Kings Tableland in Blue Mountains.

***Acacia baueri* subsp. *baueri*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Spreading shrub to 1 m high; phyllodes 0.7–1.6 cm long, regularly whorled.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in single heads in axils of phyllodes, February–March.

**Fruit/seed:** Pod 1–2 cm long, 3–7 mm wide, mature October.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC; Qld.

**Distribution Sydney area:** Eastern Suburbs, Robertson.

**Select locations:** Belleview Hill, Centennial Park, La Perouse, Botany Bay, Kangaloon.

**Habitat**

**Habitat:** Coast and adjacent plateaus.

**Altitude:** 0–600 m      **Annual rainfall:** above 1200 mm

**Typical local abundance:** Rare.

**Vegetation:** Wet heath e.g. with *Mirbelia rubiifolia*, *Blandfordia nobilis*.

**Substrate:** Sandy soil, low nutrients, poorly drained.

**Exposure:**

**Conservation**

**Conservation:** Vulnerable species, inadequately conserved. Appears to have occurred mainly in Eastern Suburbs but is now probably extinct there. Localised occurrence in Robertson area (southern geographical limit).

**Acacia binervata****FABACEAE – MIMOSOIDEAE**

Two-veined Hickory

**Life history**

**Growth form:** Erect or spreading tree, 5–13 m high, with densely hairy branchlets; phyllodes 7–12 cm long.

**Vegetative spread:** No.

**Longevity:** Medium.

**Primary juvenile period:**

**Flowers:** Pale yellow, in 3–10 heads on an extended inflorescence, September–November, peak October.

**Fruit/seed:** Pod 7–14 cm long, seeds shed at maturity, November–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank with seedling recruitment after disturbance.

Rapid growth rate (Floyd 1966).

**Fire response:** Killed (RNP 1990).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT; Qld.

**Distribution Sydney area:** Mainly Illawarra, Southern Highlands.

**Select locations:** Cooranbong, Waverley (1902), Waterfall, Appin, Bulli, Macquarie Pass, Kiama, Bomaderry, Bowral, Fitzroy Falls.

**Habitat**

**Habitat:** Often on disturbed sites e.g. roadsides.

**Altitude:** 0–900 m

**Annual rainfall:** above 900 mm

**Typical local abundance:** Frequent.

**Vegetation:** Moist eucalypt forest and rainforest. Mid stratum.

**Substrate:** Shale, basalt and sandy soils, low–medium–high nutrient soils.

Watertable mostly low, moisture supply intermittent, fresh.

**Exposure:**

**Conservation**

**Conservation:** Conservation status unknown.

**Acacia binervia****FABACEAE – MIMOSOIDEAE**

Coast Myall

**Life history**

**Growth form:** Erect or spreading tree 5–16 m high, with glaucous phyllodes and hard, rough bark.

**Vegetative spread:** No.

**Longevity:** 50–100 years or much less depending on rapidity of growth.

**Primary juvenile period:**

**Flowers:** Yellow, in cylindrical flower-heads, August–October, peak September.

**Fruit/seed:** Straight, flat pod, 6–8 cm long, 3–5 mm wide, mature December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, gravity-dispersed, possibly also water-dispersed. Soil-stored seedbank, recruitment after fire.

May also germinate following flooding. Coloniser with quick growth rate.

**Fire response:** Plants killed and re-establish immediately from soil-stored seed.

Flowers within 2 years of high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).

Populations appear to be maintained by fire or disturbance on 10 to 50 year cycle.

**Interaction with other organisms:** Prussic acid in leaves poisonous to stock, substantial source of pollen for honey bees (Clemson 1985).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST CWS.

**Distribution Sydney area:** Nepean-Hawkesbury River, lower Blue Mountains, Hornsby Plateau, Nepean Ramp.

**Select locations:** Putty Rd, Ebenezer, Mangrove Creek, Whale Beach, Beecroft, Casula, Glenbrook, Nortons Basin, Kowmung, Bargo, Mt Jellore.

**Habitat**

**Habitat:** Riverbanks, steep rocky slopes near streams.

**Altitude:** 0–900 m      **Annual rainfall:** above 800 mm

**Typical local abundance:** Occasional–dominant.

**Vegetation:** Various communities. Dry eucalypt forest e.g. with *Eucalyptus punctata*, *E. crebra*, *Corymbia eximia*, *E. sideroxylon*, woodland e.g. with *Eucalyptus crebra*, *Callitris endlicheri* (Fisher et al. 1995), riverbank forest e.g. with *Eucalyptus elata*, *Acacia floribunda*. May form interesting monospecific scrubs on dry exposed rock slopes e.g. on Mt Jellore (recorded there in 1912, 1916, 1935, 1979).

**Substrate:** Often deep sandy soils, or stony soils, on alluvium, shale, sandstone and trachyte, low nutrients. Watertable mostly low, intermittent, fresh, well-drained.

**Exposure:** Exposed hot aspects, full sun.

**Conservation**

**Conservation:** Vulnerable in Western Sydney (Benson & McDougall 1991), conservation status elsewhere unknown.

***Acacia blakei* subsp. *diphylla* (A. diphylla)****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading tree or shrub 3–10 m high, with deeply fissured, dark grey bark, phyllodes 5–13 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Pale yellow–whitish, 1–3 cylindrical heads in axils of phyllodes, September–November.

**Fruit/seed:** Pod 2.5–6 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC NT CT.

**Distribution Sydney area:** Coxs River

**Select locations:** Coxs River near Kanangra Creek.

**Habitat**

**Habitat:**

**Altitude:** 300 m      **Annual rainfall:** 900 mm

**Typical local abundance:**

**Vegetation:** Probably dry eucalypt forest e.g. with *Eucalyptus tereticornis*, *E. melliodora*.

**Substrate:** Probably conglomerates, sandstones, shales, low nutrient soils.

**Exposure:**

**Conservation**

**Conservation:** Rare, southern limit at Coxs River is only record (1967) in Sydney area. Conservation status unknown.

**Acacia brownii**

## FABACEAE – MIMOSOIDEAE

## Life history

**Growth form:** Erect or spreading shrub 0.3–1 m high, with rigid, narrow, sharp-pointed phyllodes 1–2 cm long.

**Vegetative spread:** No.

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, single flower-heads in axils of phyllodes, August–November, peak September.

**Fruit/seed:** Pod, 2–4 cm long, November–December.

**Dispersal, establishment & growth:** Diaspore:

**Fire response:** Stems killed, resprouts from base (Benson 1981).

**Interaction with other organisms:**

## Distribution

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST NWS CWS; Qld, Vic.

**Distribution Sydney area:** Widespread.

**Select locations:** Howes Mountain, Putty, Maroota, Richmond, Llandillo, Hornsby, Epping, Ryde, Oatley, Chester Hill, Kurnell, Douglas Park, Bargo, Bomaderry, Springwood, Blackheath, Belanglo, Bundanoon.

## Habitat

**Habitat:** Open woodland.

**Altitude:** 0–1000 m

**Annual rainfall:** above 700 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Open-woodland e.g. with *Angophora bakeri*, *E. fibrosa*, *Melaleuca decora*; woodland *Eucalyptus rossii*, *E. sparsifolia*; heath and scrub e.g. with *Banksia spinulosa*.

**Substrate:** Sandy clay soil on Tertiary alluvium, sandstone; low nutrient soils, well-drained.

**Exposure:** Full sun to light shade.

## Conservation

**Conservation:** Widespread and probably well conserved, conserved in Western Sydney (Benson & McDougall 1991).

**Acacia buxifolia** subsp. **buxifolia**

## FABACEAE – MIMOSOIDEAE

Box-leaved Wattle

## Life history

**Growth form:** Erect or spreading shrub, 1–3 m high, with phyllodes c. 2 cm long, 3–8 cm wide.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, 4–8 flower-heads per inflorescence in axils, August–October.

**Fruit/seed:** Pod, 5–9 cm long, November–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:** Regrowth and suckers from rootstocks and lateral roots, seedlings recorded less than 1 year after fire (Purdie 1977).

**Interaction with other organisms:**

## Distribution

**Status/origin:** Native.

**Botanical subregions:** NC CC NT CT ST NWS CWS SWS NWP SWP; Qld, Vic.

**Distribution Sydney area:** Mainly Tablelands.

**Select locations:** Mt Coricudgy, Wheeny Creek, Wilberforce, Maroota, Llandillo, Lapstone, Mt Victoria, Clarence, Hill End, Mullion Creek, Glanmire, Oberon, Bigga, Paddys River.

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**Habitat****Habitat:****Altitude:** 0–1200 m      **Annual rainfall:** above 600 mm**Typical local abundance:** Frequent.**Vegetation:** Woodland e.g. with *Angophora bakeri*, *Eucalyptus fibrosa*, *Angophora costata*, *E. meliodora*, *E. rossii*, *E. polyanthemosa*, *E. macrorhyncha*.**Substrate:** Sandy to hard clay soils on sandstone, slates, shale, low nutrients, well-drained.**Exposure:** Full sun to light shade.

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**Conservation****Conservation:** A widespread species that is probably adequately conserved except perhaps in Western Sydney (Benson & McDougall 1991).

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***Acacia bynoeana*****FABACEAE – MIMOSOIDEAE**

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**Life history****Growth form:** Low prostrate shrub to 50 cm across, one of the few truly prostrate Acacias on the East Coast.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in single heads in axils of phyllodes, September–March.**Fruit/seed:** Pod 1–3 cm long, sometimes woody, matures November–January, peak November. Seeds shed at maturity.**Dispersal, establishment & growth:** Diaspore: seed, hard-coated. Apparently little local dispersal of seed. Plants may appear periodically, perhaps in response to local disturbance, but often not be evident. Presumably survives as longterm soil-stored seedbank.**Fire response:** Woody rootstock, resprouts ?**Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CC CT.**Distribution Sydney area:** Widespread but uncommon.**Select locations:** Morisset, Killara, Middle Harbour, Cooks River, Wilberforce, Maroota, Agnes Banks, Faulconbridge, Wentworth Falls, Kulnura, Morisset, Loftus, Appin, Hill Top.

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**Habitat****Habitat:** Open, sometimes slightly disturbed sites.**Altitude:** 0–1000 m      **Annual rainfall:** above 600 mm**Typical local abundance:** Occasional–common.**Vegetation:** Eucalypt open-forest, woodland and shrubland e.g. with *Corymbia gummifera*, *Angophora bakeri*, *Eucalyptus haemastoma*.**Substrate:** Sand and sandy clay, often with ironstone gravels, very infertile, well-drained. Watertable mostly low, fresh.**Exposure:** Light to full sun.

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**Conservation****Conservation:** Local Sydney endemic. Listed under schedule II, NSW Threatened Species Conservation Act 1995 and coded 3VC- on national rare species list (Briggs & Leigh 1996). Uncommon, adequacy of reservation unknown. Vulnerable in Western Sydney (Benson & McDougall 1991). 50% Herbarium collections made pre- 1920.

**Acacia caesiella**

## FABACEAE – MIMOSOIDEAE

Blue Bush

**Life history**

**Growth form:** Erect or spreading shrub, 1–3 m high, with phyllodes 5–10 cm long, 3–7 mm wide.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in 4–10 heads on an extended inflorescence, July–October.

**Fruit/seed:** Brown pod, 5–9 cm long, with black seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT ?NT NWS CWS SWS.

**Distribution Sydney area:** Capertee.

**Select locations:** Kandos Weir, Capertee.

**Habitat**

**Habitat:**

**Altitude:** 500–700 m      **Annual rainfall:** 600–700 mm

**Typical local abundance:** Frequent–rare.

**Vegetation:** Open-woodland e.g. with *Eucalyptus mannifera*, *E. pauciflora* with tall shrubby understorey.

**Substrate:** Yellowish sandy to gravelly sand loam over sandstone.

**Exposure:**

**Conservation**

**Conservation:** Known from only several sites in Sydney area, conservation status unknown.

**Acacia chalkerii**

## FABACEAE – MIMOSOIDEAE

**Life history**

**Growth form:** Erect or spreading shrub, 1–4 m high, with phyllodes 3–6 cm long, 4–8 mm wide.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in 5–9 flower-heads per inflorescence in axils of phyllodes, November–January.

**Fruit/seed:** Brown pod, 5–9 cm long, 5–7 mm wide, seeds black, November–December.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT.

**Distribution Sydney area:** Wombeyan Caves.

**Select locations:** Wombeyan Caves.

**Habitat**

**Habitat:** Rocky ridges above caves.

**Altitude:** 800 m      **Annual rainfall:** 800 mm

**Typical local abundance:** Dominant.

**Vegetation:** Dominant species in shrubland with *Eucalyptus mannifera*, *E. dalrympleana*, *E. bridgesiana*, *Acacia falciformis*, *Grevillea arenaria*.

**Substrate:** Skeletal soil over limestone.

**Exposure:**

**Conservation**

**Conservation:** Local endemic species restricted to Wombeyan Caves, conservation status unknown.

***Acacia cheelii*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect, slender, small tree to 10 m high, with phyllodes, mostly single-stemmed, bark brownish to red brown, thin, flaky, stringy or ribbonny.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Bright golden yellow spikes 3–5 cm long, September–October.

**Fruit/seed:** Pod, 5–11 cm long, with 5–10 seeds 4–7 mm long, November–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:**

**Botanical subregions:** NT CT NWS CWS NWP.

**Distribution Sydney area:** Capertee Valley.

**Select locations:** Crown Creek, Capertee Valley.

**Habitat**

**Habitat:** Rocky or stony hillsides and hilltops (Tindale et al. 1992).

**Altitude:** 600 m

**Annual rainfall:** 600 mm

**Typical local abundance:** Frequent.

**Vegetation:** Eucalypt woodland with *Acacia ixiophylla*, *A. buxifolia*, *Allocasuarina verticillata*, *Callitris*.

**Substrate:** Skeletal or sandy soils (Tindale et al. 1992).

**Exposure:**

**Conservation**

**Conservation:** Restricted to Capertee Valley in Sydney area, probably not well conserved, conservation status elsewhere unknown.

***Acacia clunies-rossiae*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading shrub to 2 m high or tree to 10 m high, with phyllodes 4–5 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in 8–26 flower-heads on an axillary inflorescence, September.

**Fruit/seed:** Pod 4–6 cm long, November.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC CT.

**Distribution Sydney area:** Kanangra-Boyd NP, Coxs, Knowmung Rivers, Yerranderie.

**Select locations:** Church Creek, Billys Creek, Armour Range, Lower Kowmung River, Mt Cookem.

**Habitat**

**Habitat:** Steep slopes.

**Altitude:** 0–600 m

**Annual rainfall:** 900–1000 mm

**Typical local abundance:** Frequent.

**Vegetation:** Dry eucalypt woodland e.g. with *Eucalyptus crebra* and open-forest e.g. *Eucalyptus deanei*, *E. tereticornis*, *E. crebra*, *Syncarpia glomulifera*.

**Substrate:** Steep metamorphic hill slopes, gravelly clay loam on slate, quartzite, slate.

**Exposure:**

**Conservation**

**Conservation:** Local endemic species. Listed under schedule II, NSW Threatened Species Conservation Act 1995 coded 2RC-t on national rare species list (Briggs & Leigh 1996); adequately protected in Blue Mountains N.P.



**Acacia cognata****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading tree 3–8 m high, with resinous branchlets; phyllodes narrow, 4–10 cm long. Closely related to *A. subporosa* (Tame 1992).

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in 10–25-flowered heads, July–October.

**Fruit/seed:** Brown pod 3–10 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC ST; Vic.

**Distribution Sydney area:** South Coast to Nowra district (Tame 1992).

**Select locations:** Nowra (Tame 1992).

**Habitat**

**Habitat:**

**Altitude:**

**Annual rainfall:**

**Typical local abundance:**

**Vegetation:** Eucalyptus forests and woodlands in sheltered hilly areas (Tame 1992).

**Substrate:** Sandstone and granite-derived soil (Harden 1991).

**Exposure:**

**Conservation**

**Conservation:** Conservation status unknown.

**Acacia cultriformis****FABACEAE – MIMOSOIDEAE**

Knife-leaved Wattle

**Life history**

**Growth form:** Erect or spreading shrub 2–4 m high, with phyllodes 10–14 mm wide, 1–3 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow heads, 25–35-flowered, on axillary inflorescence, August–November.

**Fruit/seed:** Pod, 5–7 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native to other regions of NSW and Queensland but naturalised exotic in the Sydney area.

**Botanical subregions:** \*CC NC NWS CWS SWS NWP; Qld.

**Distribution Sydney area:** Gosford.

**Select locations:** Old Sydney Town, Gosford.

**Habitat**

**Habitat:** Stormwater drain.

**Altitude:** 0–100 m

**Annual rainfall:** 1200 mm

**Typical local abundance:** Frequent.

**Vegetation:** Growing with other native species.

**Substrate:** Excavated sandstone material.

**Exposure:**

**Conservation**

**Conservation:** Native to Western Slopes of NSW. One record of species naturalised in Sydney region probably as an escape from landscape planting. Potential for invasion of bushland unknown.

***Acacia dawsonii*****FABACEAE – MIMOSOIDEAE**

Poverty Wattle

**Life history****Growth form:** Erect or spreading shrub 1.5–4 m high, with phyllodes 4–10 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow heads, 4–8-flowered, September–October.**Fruit/seed:** Pod 3–6 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NT CT ST NWS CWS; Qld, Vic.**Distribution Sydney area:** Kandos–Bathurst.**Select locations:** Kandos Weir, Capertee, Ben Bullen, Glen Davis, Peel, Glanmire.**Habitat****Habitat:** Dry hillsides.**Altitude:** 700–800 m**Annual rainfall:** 650–800 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Open-woodland e.g. *Eucalyptus macrorrhyncha*, *E. goniocalyx*, *Acacia buxifolia*, *Daviesia latifolia*.**Substrate:** Sandy loam to gravelly clay on shale and slatey hillsides, low nutrients.**Exposure:****Conservation****Conservation:** Conservation status unknown.

**Acacia dealbata**

## FABACEAE – MIMOSOIDEAE

Silver Wattle

**Life history**

**Growth form:** Erect tree 6–15 m high; leaves bipinnate with 10–26 pairs of pinnae and jugary glands.

**Vegetative spread:** Root suckering (at Penrose), dense suckering stands (Barrington Tops area: Waterhouse 1988).

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow in 25–35-flowered heads on an extended inflorescence, August–November.

**Fruit/seed:** Light purplish-brown pod with black seeds, November–March.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Seed may lie dormant for up to 100 years and after burning produce thousands of seedlings/acre (in Tasmania: Floyd 1966).

**Fire response:**

**Interaction with other organisms:** Foodplant of moth caterpillars *Nataxa flavescens*, *Phallaria ophiusaria*, *Pholodes sinistraria*, *Thalaina clara*, *Thalaina selenaea*, *Acyphas* sp., *Praxis* sp., *Dasyptodia selenophora* and *Chlorocoma dichloraria* (Coupar & Coupar 1992). Flower buds, seed eaten by Crimson Rosella *Platyercus elegans* (Lepschi 1993). Host plant of Cerambycid beetles *Ambeodontus pilosus*, *Bethelium signiferum*, *Notoceresium elongatum*, *Pachydissus sericus*, *Phacodes marmoratus*, *P. obscurus*, *P. personatus*, *Tessaromma undatum*, *Bethelium cleroides*, *B. signiferum*, *Ectinope spinicollis*, *Lygesis cylindricollis*, *Neostenus saundersi*, *Piesarthrius marginellus*, *Xystrocera virescens* (Hawkeswood 1993). Source of pollen for bees (Clemson 1985).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC NT CT ST NWS CWS SWS SWP; Vic., Tas., \*S.A.

**Distribution Sydney area:** Mainly Tablelands.

**Select locations:** Mt Vincent, Ben Bullen, Hill End, Glanmire, Mt Canobolas, Carcoar, Hartley, Leura, Kanimbla Valley, Wombeyan Caves, Bowral, Wingello.

**Habitat**

**Habitat:** Hillslopes and creekbanks, often in cleared country.

**Altitude:** 300–1200 m      **Annual rainfall:** above 700–1200 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Open-forest e.g. with *Eucalyptus rossii*, *E. mannifera*, *E. dives*, *E. macrorhycha*, *E. bridgesiana*, *E. rubida*, *E. pauciflora*; riparian forest with *Syncarpia* and *Callicoma serratifolia*.

**Substrate:** Soils variable, sandy to clayey, often gravelly on alluvium, sandstones, basalt, granite, low–medium–high nutrients.

**Exposure:** Light shade to full sun.

**Conservation**

**Conservation:** Conservation status unknown.

**Acacia deanei** subsp. **paucijuga**

## FABACEAE – MIMOSOIDEAE

Green Wattle

**Life history**

**Growth form:** Erect shrub or tree, mostly 2–7 m high; leaves bipinnate with 15–25 pairs of pinnae.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow or sometimes whitish, in 20–30-flowered heads, 10–30 on an extended inflorescence.

**Fruit/seed:** Pod 9–15 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** SC NT CT ST NWS CWS SWS NWP SWP NFWP; Vic.

**Distribution Sydney area:** Bathurst area.

**Select locations:** Hill End, Hargraves, Limekilns.

<b>Habitat:</b> <b>Altitude:</b> 800–1000 m <b>Annual rainfall:</b> 600–700 mm <b>Typical local abundance:</b> Rare. <b>Vegetation:</b> <b>Substrate:</b> <b>Exposure:</b>	<b>Habitat</b>
<b>Conservation:</b> Conservation status unknown.	<b>Conservation</b>

***Acacia decora*****FABACEAE – MIMOSOIDEAE**

Western Golden Wattle

<b>Growth form:</b> Erect or spreading shrub, usually 1–4 m high, with phyllodes 1.5–5 cm long. <b>Vegetative spread:</b> <b>Longevity:</b> <b>Primary juvenile period:</b> <b>Flowers:</b> Golden yellow, 5–15 heads, 15–30-flowered, on an extended axillary inflorescence, usually September–October. <b>Fruit/seed:</b> Pod 5–10 cm long, November–March. <b>Dispersal, establishment &amp; growth:</b> <b>Fire response:</b> <b>Interaction with other organisms:</b>	<b>Life history</b>
<b>Status/origin:</b> Native. <b>Botanical subregions:</b> NC CC NT CT ST NWS CWS SWS NWP SWP SFWP; Qld, Vic. <b>Distribution Sydney area:</b> Sofala–Abercrombie. <b>Select locations:</b> Warkworth, Hargraves, Sofala, Wyagdon, Peel, Orange, Abercrombie Caves.	<b>Distribution</b>
<b>Habitat:</b> Rocky hillsides and ridges. <b>Altitude:</b> 700–800 m <b>Annual rainfall:</b> 600–700 mm <b>Typical local abundance:</b> Frequent–occasional. <b>Vegetation:</b> Grassy open-forest e.g. with <i>Eucalyptus melliodora</i> , <i>E. goniocalyx</i> , <i>E. albens</i> , <i>E. moluccana</i> ; groundcover <i>Stipa</i> , <i>Aristida</i> , <i>Danthonia</i> . <b>Substrate:</b> On slate, shale/sandstone, limestone, medium nutrients. <b>Exposure:</b>	<b>Habitat</b>
<b>Conservation:</b> Conservation status unknown.	<b>Conservation</b>

**Acacia decurrens****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect tree, 5–15 m high. Bark deeply fissured, dark grey to almost black.

**Vegetative spread:** No record of root-suckering.

**Longevity:** About 25–50 years. 15–30 years (J. Howell pers. comm.).

**Primary juvenile period:**

**Flowers:** Yellow, August (CC) September (CT). (Late July to early Sept, Price 1963.)

**Fruit/seed:** Matures November–December (CC), January (CT).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, bird and/or ant-dispersed (Carr et al. 1992). Soil-stored seedbank. Recruitment mainly after fire. Quick growth rate. Coloniser.

**Fire response:**

**Interaction with other organisms:** Immature seeds eaten by white cockatoos. Bark was used for tanning hides, useful for shelter and ornamental; source of pollen for bees (Clemson 1985).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC ?NT CT ST \*NWS \*CWS \*NWP; \*Qld, \*Vic., \*Tas., \*S.A.

**Distribution Sydney area:** Mainly Sydney, western Sydney, Blue Mountains and south.

**Select locations:** Gosford, Cheltenham, Castle Hill, Auburn, St Marys, Campbelltown, Thirlmere, Wentworth Falls, Hartley, Hill Top, Sutton Forest, Nepean Dam.

**Habitat**

**Habitat:** Woodland, also on cleared sites, roadsides.

**Altitude:** 0–1000 m      **Annual rainfall:** 700–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Eucalypt open-forest e.g. with *Eucalyptus punctata*, *E. crebra*.

**Substrate:** Loamy soils particularly from Wianamatta Shale and sandstone. Medium nutrients, well-drained.

**Exposure:** Light shade to full sun.

**Conservation**

**Conservation:** Widely planted as ornamental. Conservation status unknown.

**Acacia dorothea****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading shrub usually to 2 m high, phyllodes 4–7 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, 3–8 heads, 12–20-flowered, on an extended axillary inflorescence, August–October.

**Fruit/seed:** Pod 3–6 cm long, January.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT.

**Distribution Sydney area:** Mainly Upper Blue Mountains.

**Select locations:** Marrangaroo, Lithgow, Clarence, Newnes SF, Mt Wilson, Mt Victoria, Leura, Kanangra Tops, Robertson.

**Habitat**

**Habitat:** Plateaus and ridges.

**Altitude:** 700–1200 m      **Annual rainfall:** 900–1600 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Eucalyptus sieberi*, *E. sclerophylla*, *E. radiata* with shrubby understorey with *Acacia terminalis*, *Lambertia formosa*, *Banksia spinulosa*, *Leptospermum polygalifolium*, *Daviesia latifolia*.

**Substrate:** Sandy to clayey soil on sandstone, granite, low nutrients.

**Exposure:**

**Conservation**

**Conservation:** Endemic to Sydney area, mainly Upper Blue Mountains. Conserved in Blue Mountains though conservation status at Robertson unknown.

**Acacia echinula****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Spreading to erect spinose shrub 0.3–2 m high.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** July–October, peak August.

**Fruit/seed:** Pod 2–4 cm long, matures November–January.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, soil-stored seedbank.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC CT CWS.

**Distribution Sydney area:** Coast and Blue Mountains.

**Select locations:** Mt Yengo, Colo Heights, Wilberforce, Fullers Bridge, Hurstville, Royal National Park, Menai, Silverdale, Mt Wilson, Blackheath, Lawson, Hill Top.

**Habitat**

**Habitat:** Sandstone hillsides.

**Altitude:** 0–1000 m      **Annual rainfall:** above 1000 mm

**Typical local abundance:** Occasional–rare.

**Vegetation:** Shrubby open-forest and woodland e.g. with *Eucalyptus haemastoma*, *Eucalyptus gummiifera*.

**Substrate:** Red gravelly loam to gravelly clay on sandstone. Soil infertile.

Water table mostly low, moisture supply intermittent, fresh.

**Exposure:** Light shade.

**Conservation**

**Conservation:** Southern geographical limit, Hilltop. Probably adequately conserved in the Sydney region.

**Acacia elata****FABACEAE – MIMOSOIDEAE**

Mountain Cedar Wattle

**Life history**

**Growth form:** Erect tree 8–18 m high with deeply fissured, dark brown–black bark.

**Vegetative spread:** No.

**Longevity:** ? 50 years.

**Primary juvenile period:**

**Flowers:** Pale yellow, 30–50-flowered heads, December–March.

**Fruit/seed:** Pod 10–15 cm long, matures November.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, bird and/or ant-dispersed (Carr et al. 1992). Soil-stored seedbank. In Blue Mountains produces growth rings which may be annual (Glasby 1981). Quick growth rate.

**Fire response:** Killed, seedlings establish after fire (Glasby 1981).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native. Widely cultivated.

**Botanical subregions:** NC CC NT CT; \*Qld, \*Vic.

**Distribution Sydney area:** Mainly Blue Mountains and Hornsby Plateau.

**Select locations:** Ourimbah Creek, Gosford, Berowra, Pennant Hills (1987), Terrey Hills (1972), Bilpin, Springwood, Bulli, Orangeville, Maldon, Megalong Valley, Mt Wilson, Mt Kinderun.

**Habitat**

**Habitat:** In deep shady gullies and along water courses. Along creeks, gullies.

**Altitude:** 0–1000      **Annual rainfall:** above 1000 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Tall open-forest or rainforest, especially the margins. Moist eucalypt forest, rainforest gullies e.g. with *Eucalyptus deanei*.

**Substrate:** Sandstone and alluvial soils, medium–high nutrient soils.

**Exposure:** Sheltered–indifferent (L.McD.)

**Conservation**

**Conservation:** Probably adequately conserved, though habitat may be vulnerable to weed invasion. It is unclear whether it occurred naturally along the North Shore but it is widely cultivated and has escaped from cultivation e.g. along Mona Vale Road.

***Acacia elongata* var. *dilatata***

FABACEAE – MIMOSOIDEAE

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**Life history****Growth form:** Erect or spreading shrub 1–2 m high, phyllodes obtuse.**Vegetative spread:** No.**Longevity:****Primary juvenile period:****Flowers:** July–October.**Fruit/seed:** Pod 4–9 mm long, matures November–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank.

Seedling recruitment mainly after fire.

**Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC.**Distribution Sydney area:** Coastal, similar to distribution of *Acacia elongata* var. *elongata*.**Select locations:** Berkshire Park, Pymble, Dee Why, Manly, Loftus, Heathcote.

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**Habitat****Habitat:****Altitude:** 0–200 m**Annual rainfall:** above 800 mm**Typical local abundance:****Vegetation:** Heath and eucalypt woodland.**Substrate:** Mainly sandy soil, infertile.**Exposure:**

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**Conservation****Conservation:** Ecological distinctions between the subsp. *dilatata* and subsp.*elongata* are not clear, and need further investigation. Conservation status unknown.***Acacia elongata* var. *elongata***

FABACEAE – MIMOSOIDEAE

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**Life history****Growth form:** Erect or spreading tree or shrub 1–4 m high, phyllodes acute.**Vegetative spread:** No.**Longevity:** Possibly short–medium.**Primary juvenile period:****Flowers:** July–October.**Fruit/seed:** Pod 4–9 mm long. Seed weight 7 mg (Auld & O'Connell 1991).**Dispersal, establishment & growth:** Diaspore: hard coated seed. Soil-stored seed bank. Seed viability 98%, non-dormant seed fraction 9% (Auld & O'Connell 1991). Seedling recruitment mainly after fire.**Fire response:** Resprouts from base (Castlereagh, Agnes Banks: Benson 1981). Rapid growth after fire.**Interaction with other organisms:** Host to seed predator beetles *Melanterius* spp. (Curculionidae) (Auld 1991).

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**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS; Vic.**Distribution Sydney area:** Widespread, coast and Cumberland Plain**Select locations:** Olney, Tuggerah, Dee Why, Castlereagh, St Marys, Glenbrook, Engadine, Cataract River, Kanangra Walls, Bundanoon, Penrose.

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**Habitat****Habitat:** Plateaus, ridges and hillsides.**Altitude:** 0–1000 m**Annual rainfall:** above 700 mm**Typical local abundance:** Frequent.**Vegetation:** Heath and eucalypt woodland e.g. with *Eucalyptus sclerophylla*, *Angophora bakeri*, also riparian.**Substrate:** Sand and sandy clay from Tertiary alluvium and Hawkesbury Sandstone, also reported on granite. Poorly-drained sites, low nutrients. Subject to waterlogging (Clemson 1985).**Exposure:** Light shade to full sun.

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**Conservation****Conservation:** Conservation status unknown.

***Acacia falcata*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading tree or shrub 3–5 m high, with phyllodes 12–19 cm long.

**Vegetative spread:** No.

**Longevity:** 5–20 years.

**Primary juvenile period:** 2 years (P. Kubiak pers. comm.).

**Flowers:** Pale yellow to whitish, in 12–20-flowered heads, 10–20 on an extended axillary inflorescence, May–June.

**Fruit/seed:** Pod, 5–10 cm long, releasing seed at maturity, November–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, wind-dispersed locally. Soil-stored seedbank (Fox 1988). Higher germination rate before seedcoat hardens (J. Howell pers. comm.). Seedling recruitment not necessarily fire-related. Coloniser of disturbed sites in absence of fire.

**Fire response:** Plants killed by fire (Fox 1988). Peak flowering less than 2.5 years after high intensity fire (1/94 at Lane Cove).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CWS; Qld.

**Distribution Sydney area:** Widespread.

**Select locations:** Mt Yengo, Colo Heights, Gosford, Pennant Hills, Richmond, Glenbrook, Greendale, Ryde, Liverpool, Picton, Albion Park.

**Habitat**

**Habitat:** Dry forest, also disturbed sites.

**Altitude:** 0–500 m      **Annual rainfall:** above 700 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Eucalyptus paniculata*, *E. longifolia*, *E. tereticornis*.

**Substrate:** Clay soil e.g. from Wianamatta Shale, Tertiary Alluvium. Low to medium nutrient soil. Watertable permanently low, moisture supply intermittent, fresh.

**Exposure:** Light shade to full sun.

**Conservation**

**Conservation:** Widespread and probably adequately conserved.



**Acacia falciformis****FABACEAE – MIMOSOIDEAE**

Broad-leaved Hickory

**Life history****Growth form:** Erect or spreading tree 2–10 m high, phyllodes 9–14 cm long.**Vegetative spread:** Root suckers observed at Penrose.**Longevity:****Primary juvenile period:****Flowers:** Pale yellow to whitish, in 15–25-flowered heads, 10–18 on an extended axillary inflorescence, October–December peak November.**Fruit/seed:** Pod 5–13 cm long, seeds shed at maturity, December–February.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, soil-stored seedbank reported to grow to 12 m high in 4 years in cultivation.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS SWP; Qld, Vic.**Distribution Sydney area:** Mainly Tablelands.**Select locations:** Menangle, Bents Basin, Oakdale, Mt Wilson, Megalong Valley, Lithgow, Capertee, Jenolan Caves, Hill Top, Bowral.**Habitat****Habitat:** Rocky hillsides and base of cliffs.**Altitude:** 0–1100 m      **Annual rainfall:** above 700 mm**Typical local abundance:** Frequent.**Vegetation:** Moist eucalypt forest e.g. with *Eucalyptus deanei*, *Syncarpia glomulifera*, and dry eucalypt forest and woodland e.g. with *Eucalyptus agglomerata*, *E. macrorhyncha*, *E. punctata*, *E. sieberi*.**Substrate:** Sandy or loamy soils from limestone, basalt, less commonly sandstone.

Low nutrient soil. Water table mostly low, moisture supply intermittent, fresh.

**Exposure:** Light shade to full sun.**Conservation****Conservation:** Probably adequately conserved.**Acacia farnesiana****FABACEAE – MIMOSOIDEAE**

Mimosa Bush

**Life history****Growth form:** Spreading shrub, 1.5–3 m high; leaves bipinnate with 3–7 pairs of pinnae.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 40–80-flowered heads, 1–3 in axils of leaves.**Fruit/seed:** Pod 4–6 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native? Probably native only of trop. America & introduced into Australia prior to European settlement (Harden 1991).**Botanical subregions:** NC CC NT NWS CWS SWS NWP SWP NFWP; Qld, N.T., S.A., W.A., pantrop.**Distribution Sydney area:** Wondabyne.**Select locations:** Wondabyne (1978).**Habitat****Habitat:** Beside railway.**Altitude:** 0–100 m      **Annual rainfall:** 1300 mm**Typical local abundance:** Rare.**Vegetation:****Substrate:****Exposure:****Conservation****Conservation:** Probably not naturalised in Sydney area. Only record is of a single plant growing wild. Other Sydney records are from cultivated specimens.

***Acacia filicifolia*****FABACEAE – MIMOSOIDEAE**

Fern-leaved Wattle

**Life history****Growth form:** Erect tree 3–6 m high.**Vegetative spread:** Root suckers.**Longevity:****Primary juvenile period:****Flowers:** Yellow, August (CC), September (CT).**Fruit/seed:** Pod ± straight, ± flat, 5–9 cm long, seeds shed at maturity, December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, soil-stored seedbank.

Quick growth rate. Coloniser.

**Fire response:** Probably resprouts from root suckers.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT NWS CWS; Qld.**Distribution Sydney area:** Mainly Hornsby plateau and western Blue Mountains.**Select locations:** Mt Coricudgy, Bucketty, Mangrove Creek, Colo River, Glossodia, Warragamba, Clarence, Wolgan Valley, Kedumba Valley, Kangaroo Valley.**Habitat****Habitat:** Creeks, gullies, and roadsides.**Altitude:** 0–1100 m**Annual rainfall:** above 900 mm**Typical local abundance:** Occasional–frequent.**Vegetation:** Eucalypt open-forest e.g. with *Eucalyptus deanei*, *E. eugenioides*, *E. viminalis*; and grassy or shrubby understorey.**Substrate:** Sandy alluvial soils, also on basalt and clay soils. Water table mostly low, moisture supply intermittent, fresh.**Exposure:** Light shade–full sun.**Conservation****Conservation:** Probably adequately conserved.***Acacia fimbriata*****FABACEAE – MIMOSOIDEAE**

Fringed Wattle

**Life history****Growth form:** Erect or spreading shrub or tree to 6 m high, phyllodes 2–5 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, 8–25 heads, 10–20-flowered, on extended axillary inflorescence, July–October, peak September.**Fruit/seed:** Pod 5–8 cm long, with black seeds November–January.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:** Source of pollen for honey bees (Clemson 1985).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC NT CT ST NWS; Qld.**Distribution Sydney area:** Mainly southwest Sydney**Select locations:** Oxford Falls, Cheltenham, Hurstville, St Marys, Mulgoa, Bents Basin, Silverdale, Woodford, Warragamba Dam, Yerranderie, Wombeyan, Tallong.**Habitat****Habitat:** Ridges and hillsides.**Altitude:** 0–800 m**Annual rainfall:** 700–1200 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Wooded e.g. with *Eucalyptus crebra*, *E. fibrosa*, *E. punctata*, *E. moluccana*, *E. eximia*.**Substrate:** Clay soils on shale, also on sandstone but possibly with clay influence, medium nutrient soils, dry.**Exposure:****Conservation****Conservation:** Conserved in Western Sydney (Benson & McDougall 1991), conservation status elsewhere unknown.

**Acacia flocktoniae**

FABACEAE – MIMOSOIDEAE

**Life history****Growth form:** Erect or spreading shrub, 2–3 m high, with phyllodes 6–10 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow in 20–30-flowered heads on an extended inflorescence, usually January–September.**Fruit/seed:** Pod 6–11 cm long, January.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT.**Distribution Sydney area:** Blue Mountains, Little Hartley to Yerranderie.**Select locations:** Little Hartley, Megalong Valley, Mount Victoria, Kiaramba Ridge, Byrnes Gap, Scotts Main Range, Yerranderie.**Habitat****Habitat:****Altitude:** 500–1000 m      **Annual rainfall:** 800–1200 mm**Typical local abundance:** Rare–occasional.**Vegetation:** Dry eucalypt forest e.g. with *Acacia stricta*, *Podolobium ilicifolium*.**Substrate:** Sandstone soils, low nutrients.**Exposure:****Conservation****Conservation:** Local endemic species. Listed under schedule II, NSW Threatened Species Conservation Act 1995 and coded 2VC- on national rare species list (Briggs & Leigh 1996). Conservation status unknown.**Acacia floribunda**

FABACEAE – MIMOSOIDEAE

White Sally

**Life history****Growth form:** Large bushy shrub or small tree, 3–8 m high, with phyllodes 5–15 cm long.**Vegetative spread:** No.**Longevity:** About 25–60 years.**Primary juvenile period:** About 3–4 years.**Flowers:** Yellow, in cylindrical heads, 2 in axils of phyllodes, July–September, peak August.**Fruit/seed:** Pod, straight to strongly curved, 6–12 cm long, 2–5 mm wide, seeds shed at maturity (November–December). Seed weight 8 mg (Westoby et al. 1990).

Seed crop may be limited by galls.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-adapted food body (Westoby et al. 1990), bird and/or ant-dispersed (Carr et al. 1992). Soil-stored seedbank. Grows to 5 m in 4 years. Quick growth rate. Coloniser.**Fire response:** Old plants may be killed but young plants may resprout from base.

Some plants killed, some resprouted from base after high intensity fire (1/94 at Lane Cove &amp; Narrabeen), resprouted plants flowering in less than 2.5 years after the fire (P. Kubiak p. c.).

**Interaction with other organisms:** Host plant of Cerambycid beetles *Pachydissus sericus*, *Piesarthrius marginellus* (Hawkeswood 1993). In cultivation often has large galls

1–3 cm long on stems.

**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST; Qld, Vic.**Distribution Sydney area:** Widespread.**Select locations:** Wheeny Creek, Hornsby, Castlecrag, Hurstville, Georges River, Waterfall, Cobbitty, Thirlmere, Avon Dam, Megalong Valley, Kowmung River, Bundanoon River.

**Habitat**

**Habitat:** Along creeks, rivers.

**Altitude:** 0–800 m      **Annual rainfall:** above 700 mm

**Typical local abundance:** Occasional–frequent.

**Vegetation:** Open-forest e.g. with *Eucalyptus pilularis*, *E. saligna* and riparian forest and scrub e.g. with *Eucalyptus elata*, *Acacia parramattensis*.

**Substrate:** Sandy alluvial soil, clay, and volcanic soils, medium to high nutrients. Watertable mostly high, moisture supply intermittent, fresh.

**Exposure:** Light shade–full sun.

**Conservation**

**Conservation:** Probably adequately conserved.

***Acacia fulva*****FABACEAE – MIMOSOIDEAE**

Velvet Wattle

**Life history**

**Growth form:** Erect tree 3–10 m high, with deeply fissured bark, leaves bipinnate with 4–10 pairs of pinnae.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, 15–25 heads, 20–40-flowered, on extended axillary inflorescence, January–March.

**Fruit/seed:** Pod 4–12 cm long, mature April–November.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC CWS.

**Distribution Sydney area:** Howes Valley area.

**Select locations:** Mt Yengo, Mt Wareng.

**Habitat**

**Habitat:** Ridges and slopes.

**Altitude:** 300–700 m      **Annual rainfall:** 700–800 mm

**Typical local abundance:** Frequent.

**Vegetation:** Woodland with *Eucalyptus tereticornis*, *E. crebra*, *E. moluccana* and shrubs *Senecio*, *Jacksonia scoparia*, *Exocarpus*, *Clerodendrum*, *Clematis*.

**Substrate:** Stony basalt soils and sandstone with basalt influence, high nutrients.

**Exposure:** Full sun–light shade.

**Conservation**

**Conservation:** Coded 2RC- (Briggs & Leigh 1996), localised disjunct occurrences and southern geographic limit at Mt Yengo, Mt Wareng.

**Acacia genistifolia****FABACEAE – MIMOSOIDEAE**

Early Wattle

**Life history**

**Growth form:** Erect or spreading shrub 1–3 m high, with angled or flattened, spiny branchlets and phyllodes 1.5–4 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Pale yellow–white heads, c. 20-flowered, 1–2 in axils of phyllodes, usually July–October.

**Fruit/seed:** Pod 5–11 cm long, September–December.

**Dispersal, establishment & growth:**

**Fire response:** Killed, seedlings recorded less than 1 year after fire (Purdie 1977).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC CT ST CWS SWS SWP; Vic

**Distribution Sydney area:** Tablelands.

**Select locations:** Hargreaves, Hill End, Wattle Flat, Lewis Ponds, Peel, Winburndale, Glanmire, Cadia, Rydal, Trunkey, Wombeyan Caves, Barbers Creek (1900).

**Habitat**

**Habitat:** Rocky hillsides.

**Altitude:** 800–1000 m

**Annual rainfall:** 800–1000 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Eucalyptus melliodora*, *E. blakelyi*, *E. macrorrhyncha*, *E. goniocalyx*.

**Substrate:** Skeletal and gravelly clays on metamorphics, quartzite.

**Exposure:**

**Conservation**

**Conservation:** Conservation status unknown.

**Acacia gladiiformis****FABACEAE – MIMOSOIDEAE**

Sword-leaved Wattle

**Life history**

**Growth form:** Erect or spreading shrub 1–3 m high, with phyllodes 7.5–15 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in 30–40-flowered heads, 6–12 on an extended axillary inflorescence, August–November.

**Fruit/seed:** Pod 6–15 cm long, April.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC CT NWS CWS NWP.

**Distribution Sydney area:** Bathurst area.

**Select locations:** Campbelltown (1894), Bathurst, Wattle Flat, Crudine Creek.

**Habitat**

**Habitat:**

**Altitude:** 100–800 m

**Annual rainfall:** 600–700 mm

**Typical local abundance:** Frequent.

**Vegetation:** Dry woodland e.g. with *Eucalyptus dawsonii*, *Acacia buxifolia*.

**Substrate:**

**Exposure:**

**Conservation**

**Conservation:** Rare in Campbelltown area, status in Bathurst area not known. Mainly occurs on Western Slopes.

***Acacia gordonii*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading shrub 0.5–1.5 m high, with narrow phyllodes 0.5–1.5 m long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow in single 20–35-flowered heads, August–September.

**Fruit/seed:** Pod 2.5–5.5 cm long, October–February.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, soil-stored seedbank.

**Fire response:** Resprouts and germinates prolifically after high-intensity fire (S. Douglas p. c.).

**Interaction with other organisms:** Possibly crowded out by more aggressive species (S. Douglas p. c.)

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC.

**Distribution Sydney area:** Lower Blue Mountains, Glenorie–Maroota.

**Select locations:** Glenorie, Maroota, Bilpin, Faulconbridge, Linden.

**Habitat**

**Habitat:** Rock platforms on ridgetops and rocky spurs.

**Altitude:** 0–400 m      **Annual rainfall:** 900–1000 mm

**Typical local abundance:** Frequent.

**Vegetation:** Heath or open woodland e.g. with *Corymbia eximia*, *Eucalyptus squamosa*, *Corymbia gummifera*, *Eucalyptus piperita*.

**Substrate:** Rock platforms on Hawkesbury Sandstone but with some residual clay and laterite influence (e.g. Faulconbridge Soil Landscape)(S. Douglas p. c.), low nutrients, well-drained.

**Exposure:** Full sun to light shade.

**Conservation**

**Conservation:** Local endemic species, coded 2K on national rare species list (Briggs & Leigh 1996). Only conserved population is within Blue Mountains NP.

***Acacia gunnii*****FABACEAE – MIMOSOIDEAE**

Ploughshare Wattle

**Life history**

**Growth form:** Spreading to erect shrub 1–2 m high, with densely hairy branchlets; phyllodes 0.4–1 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow to whitish, in 20–30-flowered heads, solitary in axils of phyllodes, August–October.

**Fruit/seed:** Pod 2–4 cm long, mature December–February.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS; Qld, Vic., Tas., S.A.

**Distribution Sydney area:**

**Select locations:** Mt Coricudgy, Hill End, Winburndale, Mullions Range, Mt Canobolas, Mt Werong, Clarence, Mt Wilson, Wombeyan Caves, Berrima, Abercrombie Caves, Cataract River.

**Habitat**

**Habitat:** Hillsides.

**Altitude:** 200–1000 m      **Annual rainfall:** 800–1400 mm

**Typical local abundance:** Rare to occasional.

**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus rossii*, *E. dives*, *E. sieberi*, *E. radiata*, and heath with *Eucalyptus stricta*.

**Substrate:** Skeletal gravelly clay soils on shales, slates, quartzite, low nutrients, well-drained.

**Exposure:**

**Conservation**

**Conservation:** Conservation status unknown.

***Acacia hakeoides***

FABACEAE – MIMOSOIDEAE

Hakea Wattle

**Life history****Growth form:** Erect or spreading shrub, mostly 1–6 m high, with phyllodes 4–14 cm long**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 20–30-flowered heads, 6–12 on an extended inflorescence, usually August–September.**Fruit/seed:** Pod 7–12 cm long, September–February.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT ST NWS CWS SWS NWP SWP NFWP; Qld, Vic., S.A., W.A.**Distribution Sydney area:** Glen Davis to Orange.**Select locations:** Glen Davis to Capertee, Bathurst, Stuart Town.**Habitat****Habitat:** Roadside remnants.**Altitude:** 600–700 m**Annual rainfall:** 600–900 mm**Typical local abundance:****Vegetation:** Woodland e.g. with *Acacia decora*.**Substrate:** Sand.**Exposure:****Conservation****Conservation:** Eastern edge of range, mainly Western Slopes and Plains.

Conservation status unknown.

***Acacia hamiltoniana***

FABACEAE – MIMOSOIDEAE

**Life history****Growth form:** Erect or spreading shrub 0.5–2.5 m high, with phyllodes 3–5 cm long, tending to grow in thickets.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, 20-flowered heads, 2–7 on an extended inflorescence, usually August–September.**Fruit/seed:** Squarish brown pods with small black seeds, October–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed.**Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC ST CT ST CWS.**Distribution Sydney area:** Upper Blue Mountains.**Select locations:** Rylstone, Olinda, Capertee, Newnes SF, Mt Wilson, Megalong Valley, Blackheath, Leura.**Habitat****Habitat:** Escarpment edge, steep rocky slopes, cliff tops and around rocky pagodas.**Altitude:** 600–1000 m**Annual rainfall:** 600–1300 mm**Typical local abundance:** Frequent.**Vegetation:** Heath e.g. with *Eucalyptus ligustrina*, *Hakea dactyloides*, *Leptospermum arachnoides* and woodland e.g. with *Eucalyptus piperita*, *E. sieberi*.**Substrate:** Skeletal sand over sandstone on steep slopes, low nutrients, well-drained.**Exposure:****Conservation****Conservation:** Occurs mainly from Rylstone (northern geographical limit) to the Budawang Range, probably adequately conserved.

***Acacia hispidula*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading shrub 0.5–2 m high, with prominent, rough hairs on margins of phyllodes.

**Vegetative spread:** No.

**Longevity:** Less than 10 years.

**Primary juvenile period:** 3–5 years (Benson 1985).

**Flowers:** Golden yellow to white heads, January–June.

**Fruit/seed:** Pod 2–4 cm long. All year, peak October.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, soil-stored seedbank.

**Fire response:** Killed, flowering within 2 years of high intensity fire (at Lane Cove 1/94, P. Kubiak pers. comm.).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT NWS; Qld.

**Distribution Sydney area:** Coast and lower Blue Mountains.

**Select locations:** Colo Heights, Grose Vale, Springwood, Maroota, Hornsby, Forestville (L.McD.), Five Dock, Undercliffe, Minto, Kentlyn, O'Hares Creek, Avon Dam.

**Habitat**

**Habitat:** Dry sandstone ridges.

**Altitude:** 0–500 m

**Annual rainfall:** above 800 mm

**Typical local abundance:** Rare.

**Vegetation:** Eucalypt forest and woodland e.g. with *Eucalyptus haemastoma*, *Corymbia eximia*, *Angophora costata*.

**Substrate:** Sandy soil on sandstone ridges, very infertile. Water table permanently low, moisture supply intermittent, fresh.

**Exposure:** Sheltered, light shade.

**Conservation**

**Conservation:** A relatively widespread but uncommon species. Suburban area records mostly old, most recent Sydney record, Wisemans Ferry 1975. Conservation status unknown.



**Acacia implexa****FABACEAE – MIMOSOIDEAE**

Hickory Wattle

**Life history****Growth form:** Erect or spreading tree 5–12 m high, with phyllodes 7–18 cm long.**Vegetative spread:** Spreads vegetatively by root suckers.**Longevity:** up to ? 50 years.**Primary juvenile period:****Flowers:** Pale yellow–white heads, 30–50-flowered, 4–8 on extended axillary inflorescence, December–April.**Fruit/seed:** Pod, 10–20 cm long.**Dispersal, establishment & growth:** Diaspore: hard-coated seed.**Fire response:** Stems killed, plants resprout from base or root suckers.**Interaction with other organisms:** Wood used for turning, furniture and fuel, source of pollen for bees (Clemson 1985).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP; Qld, Vic.**Distribution Sydney area:** Widespread.**Select locations:** Putty, Grose Wold, Mooney Mooney Creek, Pennant Hills, Manly Beach, Kogarah, Mt Annan, Albion Park, Robertson, Capertee, Hill End, Wentworth Falls, Abercrombie Caves, Tallong.**Habitat****Habitat:** Hillsides.**Altitude:** 0–1000 m**Annual rainfall:** 700–1600 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Open-forest e.g. with *Eucalyptus botryoides*, *Angophora costata*, *Corymbia maculata*, *Eucalyptus paniculata*, and dry woodland e.g. with *Eucalyptus tereticornis*, *E. crebra*, *E. sparsifolia*, *E. punctata*, *E. polyanthemos*, *E. cannonii*.**Substrate:** Variable, yellow dune sands, clay loams from Narrabeen Group and Wianamatta Shale, and on quartzite, conglomerate, granite, basalt, low–high nutrient soils.**Exposure:** Mid shade to full sun.**Conservation****Conservation:** Widespread and probably well conserved.**Acacia irrorata** subsp. **irrorata****FABACEAE – MIMOSOIDEAE**

Green Wattle

**Life history****Growth form:** Erect tree 4–12 m high, bark dark grey or black.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow–whitish, 10–16 heads, 15–30-flowered on an extended axillary inflorescence, usually November–January.**Fruit/seed:** Pod 5–10 cm long, August–December. Seed weight 12 mg (Westoby et al. 1990).**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Ant-adapted food body (Westoby et al. 1990). Rapid growth rate (Floyd 1966).**Fire response:****Interaction with other organisms:** Host plant of Cerambycid beetles *Bethelium signiferum*, *Wahn zonulitis* (Hawkeswood 1993).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT NWS; Qld.**Distribution Sydney area:** Coast.**Select locations:** Watagan Ck, Wyong, Patonga, Gibberagong Ck (Hornsby),

Miranda, Heathcote, Bomaderry Ck, Nowra.

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**Habitat**

**Habitat:** Hillsides and watercourses.

**Altitude:** 0–100 m      **Annual rainfall:** above 1200 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Dry eucalypt forest, moist forest e.g. with *Syncarpia glomulifera*, *Callicoma serratifolia*, and scrub e.g. with *Melaleuca nodosa*, *M. armillaris*, *Callistemon salignus*, *Gahnia clarkei*.

**Substrate:** Gravelly sandy loam on sandstone or shaley sandstone, medium nutrients.

**Exposure:**

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**Conservation**

**Conservation:** Conservation status unknown.

## ***Acacia ixiophylla***

## FABACEAE – MIMOSOIDEAE

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**Life history**

**Growth form:** Erect or spreading shrub 1–5 m high, phyllodes 2–4.5 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow to whitish, in 20–35-flowered heads, 2 or 3 on an extended inflorescence, August–September.

**Fruit/seed:** Curved, twisted or coiled pod 3–7 cm long, with brown, resinous, hairy seeds, November.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:**

**Interaction with other organisms:**

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**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC NT CT NWS CWS NWP SWP; Qld, W.A.

**Distribution Sydney area:** Capertee Valley, Upper Cudgegong.

**Select locations:** Glen Davis, Glen Alice, Capertee, Kandos Weir, The Crown.

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**Habitat**

**Habitat:** Rocky ridges and steep rocky slopes.

**Altitude:** 600–700 m      **Annual rainfall:** 600–700 mm

**Typical local abundance:** Frequent.

**Vegetation:** Dry eucalypt forest and woodland e.g. with *Acacia verniciflua*, *Acacia buxifolia*.

**Substrate:** Sandy and gravelly loam on sandstone and quartzite.

**Exposure:**

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**Conservation**

**Conservation:** Eastern geographical limit, main occurrence is on Western Slopes.

**Acacia jonesii**

FABACEAE – MIMOSOIDEAE

**Life history**

**Growth form:** Spreading shrub 1–2.5 m high, with smooth, dark grey bark and bipinnate leaves, branchlets hairy.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, 6–15 heads, 8–15-flowered on an extended axillary inflorescence, September–October.

**Fruit/seed:** Pod 4–7 cm long, very dark brown–black, matures September–October.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:** Possibly resprouts.

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC CT ST.

**Distribution Sydney area:** Southwest of area.

**Select locations:** Scotts Main Range, Bundanoon Creek, Barrengarry, Budgong, Penrose, Tallong, Barbers Creek.

**Habitat**

**Habitat:** Ridgetops and slopes.

**Altitude:** 0–600 m      **Annual rainfall:** 800–1400 mm

**Typical local abundance:** Occasional–frequent.

**Vegetation:** Open-forest e.g. with *Eucalyptus globoidea*, *E. punctata*, *E. piperita*, *Syncarpia glomulifera* with dense shrub understorey e.g. with *Ceratopetalum gummiferum*, *Hakea dactyloides*, *Grevillea arenaria*, *Acacia terminalis*.

**Substrate:** Sandy to sandy clay soils on sandstone, low nutrients.

**Exposure:**

**Conservation**

**Conservation:** Coded 3RCa on national rare species list (Briggs & Leigh 1996), conservation status unknown.

**Acacia juncifolia**

FABACEAE – MIMOSOIDEAE

Rush-leaved Wattle

**Life history**

**Growth form:** Erect or spreading shrub 1–2.5 m high, with phyllodes 7–20 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in heads to 20-flowered, 1 or 2 in axils of phyllodes, March, September.

**Fruit/seed:** Flatish pod to 10 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NWS CWS NWP; Qld.

**Distribution Sydney area:** Sporadic, north from Springwood.

**Select locations:** Howes Mountain, Wisemans Ferry, Warrimoo, Glen Davis.

**Habitat**

**Habitat:** Ridgetops and rock platforms.

**Altitude:** 0–600 m      **Annual rainfall:** 600–800 mm

**Typical local abundance:** Occasional.

**Vegetation:** Open-forest e.g. with *Eucalyptus punctata*, *Corymbia eximia*, *Acacia linifolia*, *Acacia terminalis*.

**Substrate:** Skeletal soil on sandstone, possibly with shale influence.

**Exposure:**

**Conservation**

**Conservation:** A species of the Western Slopes found occasionally in the Sydney area. Conservation status unknown.

***Acacia kyanensis*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading shrub 1–2.5 m high, with phyllodes 2–4 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in 6–14-flowered heads, 3–8 on an extended inflorescence, August–October.

**Fruit/seed:** Pod 2–6 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT ST; Vic.

**Distribution Sydney area:** Newnes Plateau.

**Select locations:** Clarence, Newnes Plateau, Lithgow.

**Habitat**

**Habitat:** Ridges and hillsides.

**Altitude:** 1000–1200 m

**Annual rainfall:** 900–1100 mm

**Typical local abundance:** Occasional.

**Vegetation:** Heath and woodland.

**Substrate:** Sandy soils on sandstone.

**Exposure:**

**Conservation**

**Conservation:** Newnes Plateau population is a disjunct population at the northern geographical limit for this species which occurs elsewhere south from the Snowy Mountains area. Conservation status unknown.

***Acacia lanigera*****FABACEAE – MIMOSOIDEAE**

Hairy Wattle

**Life history**

**Growth form:** Erect or spreading shrub 0.5–3 m high, with spinose, densely hairy branchlets and phyllodes 3–7 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow heads, 15–30-flowered, 1–3 in axils of phyllodes, usually July–September.

**Fruit/seed:** Pod 6–10 cm long, February–March.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** SC NT CT ST NWS CWS SWS; Vic.

**Distribution Sydney area:** Oberon, Rylstone to Orange.

**Select locations:** Rylstone, Mullions Range, Orange, Hill End, Bathurst, Yeltholme, Oberon.

**Habitat**

**Habitat:**

**Altitude:** 700–1100 m

**Annual rainfall:** 600–1000 mm

**Typical local abundance:** Frequent.

**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus macrorhyncha*, *Acacia buxifolia*, *A. uncinata*, or with *E. melliodora*, *E. blakeleyi*.

**Substrate:** Skeletal soil on metamorphics.

**Exposure:**

**Conservation**

**Conservation:** Conservation status unknown.

**Acacia leiocalyx****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading tree or shrub to 6 m high, with phyllodes mostly 8–15 cm long.

**Vegetative spread:** Possibly root suckering (R. Coveny pers. comm.)

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow cylindrical heads, 1–2 in axils of phyllodes, September.

**Fruit/seed:** Pods 7–15 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:** Host plant of Cerambycid beetles *Bethelium signiferum*, *Pachydissus sericus* (Hawkeswood 1993).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NT CT NNWS CWS NWP; Qld

**Distribution Sydney area:** Coast, western Sydney.

**Select locations:** Frazer Park, Whale Beach, Marayong, Shane Park, Long Neck Lagoon.

**Habitat**

**Habitat:** Headlands, woodland.

**Altitude:** 0–100 m      **Annual rainfall:** 800–1300 mm

**Typical local abundance:** Rare.

**Vegetation:** Coastal heaths e.g. with *Acacia longifolia*, *Leptospermum laevigatum*, woodland e.g. with *Eucalyptus sclerophylla*, *Eucalyptus fibrosa* (western Sydney).

**Substrate:** Clay soil on Narrabeen shale headlands or on Tertiary alluvium, low nutrients.

**Exposure:** Full sun.

**Conservation**

**Conservation:** Sporadic disjunct populations in range of habitats. Vulnerable in Western Sydney (Benson & McDougall 1991).

**Acacia leprosa****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading tree or shrub 1.5–6 m high, with smooth greyish bark and resinous branchlets; phyllodes 4–12 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden to pale yellow, in 20–40-flowered heads, September.

**Fruit/seed:** Pod 4–8 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT SWS; Vic.

**Distribution Sydney area:** Sporadic, Tablelands.

**Select locations:** Rylstone, Katoomba, Porters Retreat, Mt Werong, Bindook.

**Habitat**

**Habitat:** Creekbanks, moist forest.

**Altitude:** 800–1000 m      **Annual rainfall:** 800–1000 mm

**Typical local abundance:** Occasional.

**Vegetation:** Moist, tall open-forest e.g. with *Eucalyptus fastigata*, *E. obliqua*, understorey e.g. with *Acacia obliquinervia*, *Leucopogon lanceolatus*.

**Substrate:** Clay soils on basalt, shale, slate, high nutrients.

**Exposure:**

**Conservation**

**Conservation:** Rylstone is northern geographical limit. Conservation status unknown.

***Acacia leucoxylada* subsp. *leucoxylada***

FABACEAE – MIMOSOIDEAE

**Life history****Growth form:** Erect tree mostly 4–10 m high; leaves bipinnate with 6–18 pairs of pinnae.**Vegetative spread:** Reported to sucker.**Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 22–26-flowered heads, 20–25 on an extended inflorescence, August.**Fruit/seed:** Pod 4–12 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC CT NT ST NWS CWS SWS NWP; Qld.**Distribution Sydney area:** Sporadic.**Select locations:** Howes Mountain, Junction Reefs.**Habitat****Habitat:** Highly disturbed rock slope.**Altitude:** 500–800 m      **Annual rainfall:** 800–1000 mm**Typical local abundance:** Frequent.**Vegetation:** Woodland with *Eucalyptus melliodora*.**Substrate:** Rock rubble and exposed subsoil.**Exposure:****Conservation****Conservation:** Few collections, appears to be rare in Sydney area.***Acacia lineata***

FABACEAE – MIMOSOIDEAE

Streaked Wattle

**Life history****Growth form:** Erect or spreading shrub 0.6–2 m high, with phyllodes 0.7–2 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in heads, 1–2 in axils of phyllodes, August–October.**Fruit/seed:** Hairy pod 2–6 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT NWS CWS SWS NWP SWP SFWP; Qld, Vic., S.A.**Distribution Sydney area:** Orange.**Select locations:** Orange (1975) only record for Sydney area.**Habitat****Habitat:****Altitude:** 800 m      **Annual rainfall:** 1000 mm**Typical local abundance:** Occasional.**Vegetation:** Open eucalypt forest.**Substrate:** Shallow soil on slates, low nutrients.**Exposure:****Conservation****Conservation:** A Western Slopes and Plains species with Orange as eastern geographical limit. Conserved status there unknown.

**Acacia linifolia****FABACEAE – MIMOSOIDEAE**

Flax-leaved Wattle

**Life history****Growth form:** Slender shrub 2–4 m high.**Vegetative spread:** No.**Longevity:** About 10–15 years.**Primary juvenile period:** 2 years (P. Kubiak pers. comm.).**Flowers:** Pale to golden yellow heads, January–August, peak February–March, (particular plant observed flowering intermittently all year at Frenchs Forest (L. McD.).**Fruit/seed:** Pod, matures October–December. Seed weight 23 mg (Auld & O'Connell 1991).**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Seed viability 97%, non-dormant fraction 9% (Auld & O'Connell 1991). Soil-stored seedbank.**Fire response:** Plants killed, seedling recruitment from soil-stored seedbank. Flowering and fruiting within 2 years after high intensity fire (at Lane Cove 1/94, P. Kubiak pers. comm.).**Interaction with other organisms:** Host plant of Cerambycid beetle *Xystrocera virescens* (Hawkeswood 1993), and seed predator beetles *Melanterius* spp. (Curculionidae) (Auld 1991). Honeybees *Apis mellifera* gather pollen (P. Kubiak pers. comm.).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT**Distribution Sydney area:** Widespread on Hawkesbury Sandstone.**Select locations:** Putty, Peats Ridge, Gosford, Hornsby, Lane Cove, Dulwich Hill, Sutherland, Avon Dam, Maroota, Bilpin, Springwood, Hill Top.**Habitat****Habitat:** Ridges, slopes.**Altitude:** 0–700 m**Annual rainfall:** above 1000 mm**Typical local abundance:** Frequent to occasional.**Vegetation:** Heath, eucalypt woodland and open-forest e.g. with *Corymbia gummifera*, *Eucalyptus piperita*, *Angophora costata*,**Substrate:** Sandy soil from Hawkesbury Sandstone, laterite, infertile–very infertile. Watertable permanently low, fresh.**Exposure:** Sheltered–indifferent, light shade.**Conservation****Conservation:** Widespread, common species, well conserved in National Parks.**Acacia longifolia****FABACEAE – MIMOSOIDEAE**

Sydney Golden Wattle

**Life history****Growth form:** Erect or spreading shrub or tree 1–8 m high, with phyllodes 6–20 cm long.**Vegetative spread:** No.**Longevity:** 25–60 years (D. Keith pers. comm.).**Primary juvenile period:** 2–3 years.**Flowers:** Yellow, in cylindrical heads, 1–2 in axils of phyllodes, July–October, peak August.**Fruit/seed:** Pod 5–12 cm long, seed weight 14 mg (Auld & O'Connell 1991), mature October–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, bird and/or ant-dispersed (Carr et al. 1992, Rice & Westoby 1981), seed viability 97%, non-dormant fraction 9% (Auld & O'Connell 1991), soil-stored seedbank. Recruitment mainly after fire, temperature more than 60 ° for maximum germination.**Fire response:** Killed by fire. Seedlings flowering within 2 years of high intensity fire (at Lane Cove, 1/94, P. Kubiak pers. comm.).**Interaction with other organisms:** Host to seed predator beetles *Melanterius* spp. (Curculionidae) (Auld 1991). Adults of Botany Bay Diamond Weevil *Chrysolophus spectabilis* feed on the young leaves in summer. Female of beetle *Rhinotia haemoptera* lays eggs on underside of branches, pupae hollow out large sections and pupate in a chamber towards the upper end of the branch, adults seen during summer feeding on the leaves (Hawkeswood 1987). Host plant of Cerambycid beetles *Ectinope spinicollis*, *Pachydissus sericus*, *Piesarthrius marginellus*, *Piesarthrius* sp. (Hawkeswood 1993). Source of pollen for bees (Clemson 1985). Honeybees *Apis mellifera* gather pollen (P. Kubiak pers. comm.).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST; Vic.

**Distribution Sydney area:** Widespread coast and mountains.

**Select locations:** Gosford, Cheltenham, Frenchs Forest, Bondi, Cronulla, Austinmer, Liverpool, Thirlmere, Mountain Lagoon, Blackheath, Kanangra, Lithgow, Moss Vale, Budderoo, Wombeyan Caves.

**Habitat**

**Habitat:** Ridges, hillsides and creeks.

**Altitude:** 0–1100 m      **Annual rainfall:** 800–1600 mm

**Typical local abundance:** Frequent.

**Vegetation:** Moist open-forest e.g. with *Eucalyptus radiata* to open-forest e.g. with *Eucalyptus sieberi*, *E. piperita*, *E. gummifera*, *Angophora costata*. Also sea-cliff scrub.

**Substrate:** Low nutrient sandy loam from sandstone, also on more fertile basalt soils. Watertable mostly low, moisture supply intermittent, fresh. Colonises low pH (2.5–6.5) acid sulphate estuarine soils in the Wyong area (Payne 1992).

**Exposure:** Light shade–full sun.

**Conservation**

**Conservation:** Widespread and probably adequately conserved.

***Acacia longissima*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading shrub 2–5 m high, with narrow phyllodes 6–30 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Pale yellow to white in cylindrical heads, October–March.

**Fruit/seed:** Seed weight 12 mg (Auld & O'Connell 1991).

**Dispersal, establishment & growth:** Seed viability 99%, non-dormant fraction 5% (Auld & O'Connell 1991).

**Fire response:** Killed by high intensity fire (at Lane Cove 1/94, P. Kubiak pers. comm.). Seedlings after high intensity fire (Killarney Hts 12/1990).

**Interaction with other organisms:** Host to seed predator beetles *Melanterius* spp. (Curculionidae) (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC ST; Qld.

**Distribution Sydney area:** North Shore and Inner Western Suburbs of Sydney.

**Select locations:** Newport, Mt Colah, Hornsby, Pennant Hills, Frenchs Forest, Gladesville, Strathfield, Hurstville, Belmore, Chullora.

**Habitat**

**Habitat:** Gullies.

**Altitude:** 0–200 m      **Annual rainfall:** 1000–1400 mm

**Typical local abundance:**

**Vegetation:** Moist open-forest e.g. with *Eucalyptus saligna*, *Angophora floribunda* and dry open-forest e.g. with *Eucalyptus piperita*, *Melaleuca decora*.

**Substrate:** Clay soils from shales and diatremes, sandstone gullies, low–medium nutrients.

**Exposure:** Sheltered sites.

**Conservation**

**Conservation:** Originally occurring widely in areas now suburbs.

Conservation status unknown.



**Acacia lunata**

## FABACEAE – MIMOSOIDEAE

Lunate-leaved Acacia

**Life history****Growth form:** Shrub 1–3 m high, with phyllodes 2–3 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Bright golden yellow in globular heads, 3–5-flowered.**Fruit/seed:** Pod 6 cm long; dull, black seeds 4 mm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:****Botanical subregions:** NC CC CT.**Distribution Sydney area:** Kulnura to Glen Davis.**Select locations:** Kulnura, Putty, Tinda Creek, Maroota, Annangrove, Richmond, Landillo, Kurrajong, Glen Davis, Gaspers Mountain.**Habitat****Habitat:** Often on slopes near creeks.**Altitude:** 400–800 m**Annual rainfall:** 800–1000 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalyptus open-forest e.g. with *Eucalyptus agglomerata*, *Angophora costata*, *Corymbia eximia*, *Eucalyptus punctata*, and along Colo River e.g. with *Eucalyptus elata*, *Acacia filicifolia*.**Substrate:** Sandy soils on sandstone and alluvium, low nutrients.**Exposure:****Conservation****Conservation:** Conservation status unknown.**Acacia maidenii**

## FABACEAE – MIMOSOIDEAE

Maiden's Wattle

**Life history****Growth form:** Erect or spreading tree 5–16 m high, with phyllodes, bark dark grey and deeply fissured; lenticels prominent on branchlets.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Cylindrical flowerheads, golden yellow or pale yellow to almost white, 1–2 in axils of phyllodes, January–June.**Fruit/seed:** Woody, rough and twisted pod 5–15 mm long, 2–6 mm wide; mature October–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, soil-stored seedbank (Fox 1988).**Fire response:** Killed by fire (Fox 1988).**Interaction with other organisms:** Host plant of Cerambycid beetle *Piesarthrius marginellus* (Hawkeswood 1993).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT CWS; Qld, Vic.**Distribution Sydney area:** Mainly coastal, Gosford to Illawarra.**Select locations:** Ourimbah, Mooney Mooney, Kurrajong, Prospect (1908), Kurnell, Stanwell Park, Mt Brown, Minnamurra, Jaspers Brush, Yerranderie, Murdering Gully.**Habitat****Habitat:** Moist forest on fertile soil.**Altitude:** 0–800 m**Annual rainfall:** 800–1600 mm**Typical local abundance:** Frequent.**Vegetation:** Margin of rainforest and in moist open-forest e.g. with *Eucalyptus botryoides*, *Banksia integrifolia*.**Substrate:** Clay soil on shale, basalt, volcanic necks, medium to high nutrients, well-drained.**Exposure:****Conservation****Conservation:** Conservation status unknown.

***Acacia matthewii*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Tall shrub or small tree 6–15 m high, bark reddish brown to grey, layered, peeling off in long thin flakes; distinct juvenile and adult foliage, juvenile phyllodes coated with resin, young plants particularly densely hairy (Tindale et al. 1992).

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Bright yellow, strongly scented August–November (Tindale et al. 1992).

**Fruit/seed:** Pods 2–10 cm long, with 2–11 black seeds 3–5 mm long arranged longitudinally, November–January (Tindale et al. 1992).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:** Resprouts with bronze/brownish green new flushes of foliage (Tindale et al. 1992).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT.

**Distribution Sydney area:** Wollemi area to Wisemans Ferry.

**Select locations:** Kandos Weir, Running Stream Creek, Capertee, Mt Canobla, Newnes Plateau, Mt Yengo, Howes Valley, Ten Mile Hollow, Dharug NP.

**Habitat**

**Habitat:** Sandstone ridges or steep rocky hillsides, particularly northern faces at the head of creeks (Tindale et al. 1992).

**Altitude:** 0–1000 m

**Annual rainfall:** 600–1000 mm

**Typical local abundance:** Frequent–dominant.

**Vegetation:** Margins of wet eucalypt forest e.g. with *Angophora costata*, *Syncarpia glomulifera*, *Allocasuarina torulosa* or drier open-forest e.g. with *Eucalyptus punctata*, *E. crebra*, *Callitris endlicheri*.

**Substrate:** Sandy soil on sandstone, sometimes Narrabeen Shale lenses (Tindale et al. 1992).

**Exposure:**

**Conservation**

**Conservation:** Endemic to Sydney region, coded 3RC- on national rare species list (Briggs & Leigh 1996).

**Acacia mearnsii****FABACEAE – MIMOSOIDEAE**

Black Wattle

**Life history**

**Growth form:** Erect tree 7–10 m high; leaves bipinnate with 8–25 pairs of pinnae, jugary glands present and 1 interjugary gland between pairs of pinnae.

**Vegetative spread:**

**Longevity:** Short-lived (Clemson 1985).

**Primary juvenile period:**

**Flowers:** Golden to pale yellow on an extended axillary inflorescence, October–December.

**Fruit/seed:** Pod 5–15 cm long, mature October–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Dispersed in mud on cars (Wace 1977).

**Fire response:** Regrowth and suckers from rootstocks and lateral roots, no seedlings recorded less than 1 year after fire (Purdie 1977).

**Interaction with other organisms:** Foodplant of moth caterpillars *Chenuala heliaspis* (pupation occurs amongst the foliage), *Chlorocoma dichloraria*, *Pholodes sinistraria*, *Thalaina clara*, *Thalaina selenaea*, *Acyphas* sp. and *Nataxa flavescens* (Coupar & Coupar 1992). Host plant of Cerambycid beetles *Pachydissus sericus*, *Piesarthrius marginellus* (Hawkeswood 1993). Seed eaten by Gang-gang Cockatoo *Callocephalon fimbriatus*, leaves eaten by Crimson Rosella *Platycercus elegans* (Lepschi 1993). Useful in windbreaks and farm forests, source of pollen for bees (Clemson 1985).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC CT ST; Vic, Tas, SA

**Distribution Sydney area:**

**Select locations:** Albion Park, Kiama, Kangaroo Valley, Menangle, Hill Top, Mittagong, Bundanoon, Wombeyan Caves, Wentworth Falls.

**Habitat**

**Habitat:** Hillsides, riverbanks.

**Altitude:** 0–1000 m

**Annual rainfall:** 900–1400 mm

**Typical local abundance:** Occasional.

**Vegetation:** Eucalypt open-forest and on riverflats e.g. with *Angophora floribunda*.

**Substrate:** Sandy to clay loam on shale, basalt, alluvium.

**Exposure:**

**Conservation**

**Conservation:** Occurs mainly in the southwest and Southern Highlands from Menangle to Bundanoon but has naturalised in other parts of Sydney e.g. at Eastwood, Balmoral, Helensburgh and probably Peats Ridge as an escape from landscape plantings such as along highways.

**Acacia meiantha****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Straggling or mostly erect shrub usually to 1.5 m high, single or multistemmed, with narrow phyllodes 2–5 cm long, sometimes also with bipinnate foliage.

Allied to *A. linifolia* and *A. boormanii*.

**Vegetative spread:** Forms clumps due to suckering habit (Tindale et al. 1992).

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, 4–6-flowered heads in racemes, July–October.

**Fruit/seed:** Pod 3–9 cm long, with 4–9 dull black seeds 4.5 mm long, mainly mature November–December.

**Dispersal, establishment & growth:**

**Fire response:** Resprouts from rootstocks.

**Interaction with other organisms:**

**Distribution**

**Status/origin:**

**Botanical subregions:** CT.

**Distribution Sydney area:** Clarence, Mullions Range.

**Select locations:** Clarence, Mullions Range SF.

**Habitat****Habitat:****Altitude:** 900–1100 m      **Annual rainfall:** 900–1000 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalypt open-forest or woodland e.g. with *Eucalyptus rossii*, *E. mannifera*, *E. dives*, *E. macrorhyncha* or *E. sieberi*, often with *Acacia buxifolia*, *A. dealbata*, *A. gunnii*.**Substrate:** Gravelly clay or brown loamy or sandy soil over sandstone, low nutrients, well-drained.**Exposure:** Light shade to full sun.**Conservation****Conservation:** Local endemic species, coded 2RCi on national rare species list (Briggs & Leigh 1996). Conservation is inadequate, it will be more adequately protected if Mullions Range Forest Preserve is gazetted as a Flora Reserve; the population at Clarence is in a disturbed site and is unprotected (Tindale et al. 1992).**Acacia melanoxydon****FABACEAE – MIMOSOIDEAE**

Blackwood

**Life history****Growth form:** Erect or spreading tree 6–30 m high, with phyllodes 6–14 cm long, 7–30 mm wide.**Vegetative spread:** Root-suckers.**Longevity:** Medium-long, up to 50 years (Bradstock 1981).**Primary juvenile period:****Flowers:** Pale yellow to white, in heads, 2–8 on an extended inflorescence, usually July–December, peak September–October.**Fruit/seed:** Brown pod 4–12 cm long, strongly curved or twisted, weight 16 mg, with 1 black seed (extra data on seed & pulp characteristics in French 1991). Mature January–June.**Dispersal, establishment & growth:** Diaspore: hard-coated seed, may survive for up to 500 years (Bradstock 1981).**Fire response:** Probably resprouts.**Interaction with other organisms:** Foodplant of moth caterpillar *Natata flavescens* (Coupár & Coupár 1992). Host plant of Cerambycid beetles *Bethelium signiferum*, *Pachydissus sericus*, *Piesarthrius marginellus* (Hawkeswood 1993). Seed eaten by Crimson Rosella *Platycercus elegans* (Lepschi 1993).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT NWS CWS; Qld, Vic., Tas., S.A.**Distribution Sydney area:** Higher parts of Blue Mountains and Great Divide.**Select locations:** Rylstone, Mt Canobolas, Portland, Hampton, Jenolan Caves, Blackheath, Mt Wilson, Hill Top, Robertson, Bundanoon, Wingello.**Habitat****Habitat:** High rainfall areas and along creeks.**Altitude:** 400–1200 m      **Annual rainfall:** 800–1400 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Moist open-forest e.g. with *Eucalyptus viminalis*, *E. cypellocarpa*, *E. radiata*, and cooler rainforest, also swamp margin.**Substrate:** Medium to high fertility soils from basalt, sandy loam from sandstone alluvium and metasediments.**Exposure:** Mid-shade, sheltered sites.**Conservation****Conservation:** Conservation status unknown. Frequent remnant or regrowth tree in basalt areas.

***Acacia mollifolia***

FABACEAE – MIMOSOIDEAE

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**Life history****Growth form:** Spreading or erect shrub 2–3 m high; leaves bipinnate with 5–10 pairs of pinnae.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 20–40-flowered heads, 9–20 on an extended axillary inflorescence, May.**Fruit/seed:** Densely hairy pod 6–12 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** CT CWS SWP.**Distribution Sydney area:** Bathurst area.**Select locations:** Mt Rockley (1963), (only record for area).

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**Habitat****Habitat:** Ridges.**Altitude:** 900 m**Annual rainfall:** 800 mm**Typical local abundance:****Vegetation:** Dry eucalypt open-forest.**Substrate:** Sandstone.**Exposure:**

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**Conservation****Conservation:** Rare, only one record for Sydney area, Eastern geographical limit, main occurrence is in Central Western Slopes.***Acacia montana***

FABACEAE – MIMOSOIDEAE

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**Life history****Growth form:** Erect or spreading shrub 1–3.5 m high, with phyllodes 1–4 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 20–30-flowered heads, 2 in axils of phyllodes, August–November.**Fruit/seed:** Pod 1–5 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

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**Distribution****Status/origin:** Native.**Botanical subregions:** NT CT NWS CWS SWS NWP SWP; Qld, Vic., S.A.**Distribution Sydney area:** Capertee Valley.**Select locations:** Glen Davis, Airlie Turret, Glen Alice.

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**Habitat****Habitat:** Hillslopes, creeks.**Altitude:** 600–700 m**Annual rainfall:** 600–700 mm**Typical local abundance:** Occasional.**Vegetation:****Substrate:** Stony soils on sandstone.**Exposure:**

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**Conservation****Conservation:** Localised population, conservation status unknown.

**Acacia myrtifolia****FABACEAE – MIMOSOIDEAE**

Red-stemmed Wattle

**Life history**

**Growth form:** Prostrate to erect shrub 0.3–3 m high, branches often reddish, phyllodes 2–6 cm long with prominent mid-vein. Prostrate form appears to be genetically different (Auld & Morrison 1992).

**Vegetative spread:** No.

**Longevity:** 5–20 years (D. Keith pers. comm.).

**Primary juvenile period:** 3–5 years (D. Keith pers. comm.).

**Flowers:** Pale yellow to almost white, heads 2–8-flowered, June–October.

Partially self-compatible (Kenrick et al. 1985).

**Fruit/seed:** Pod 4–11 cm long. Seed weight 9 mg (Auld & O'Connell 1991).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, adapted for ant-dispersal (Rice & Westoby 1981). Seed viability 99%, non-dormant fraction 4% (Auld & O'Connell 1991).

Fire temperature more than 60 ° for maximum germination, (D. Keith pers. comm.).

**Fire response:** Killed by fire, recruitment mainly after fire (D. Keith p.c.). Most seedlings flowering within 2.5 years of high intensity fire (1/94 at Lane Cove, P. Kubiak p. c.).

**Interaction with other organisms:** Host to seed predator beetle *Diethusa* sp. (Curculionidae) (Auld 1991). Insects take nectar, rich in amino acids, from phyllode glands (Bernhardt 1982). Small black weevil (probably Apioninae) seen feeding from the marginal gland of phyllode (P. Kubiak pers. comm.).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST; Qld, Vic., Tas., S.A., W.A.

**Distribution Sydney area:** Coast and Blue Mountains.

**Select locations:** Putty, Judge Dowlings Range, Peats Ridge, Berowra, Cheltenham, Narrabeen, Gladesville, Centennial Park, Cooks River, Silverwater, Kentlyn, Helensburgh, Bass Point, Thirlmere, Springwood, Bell, Budderoo.

**Habitat**

**Habitat:** Sandstone ridges, hillsides.

**Altitude:** 0–1000 m      **Annual rainfall:** above 900 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Dry open-forest and woodland e.g. with *Angophora costata*, *Eucalyptus piperita*, *E. sieberi*, *Angophora bakeri*, *Corymbia gummifera*, scrub with *Leptospermum laevigatum*.

**Substrate:** Sandy soil on sandstone, or sandstone shale transition, well-drained, low nutrients.

**Exposure:** Light shade to full sun.

**Conservation**

**Conservation:** Widespread and common species generally well-conserved, except for headland form (Auld & Morrison 1992).

***Acacia obliquinervia*****FABACEAE – MIMOSOIDEAE**

Mountain Hickory

**Life history****Growth form:** Erect or spreading shrub or tree 3–15 m high, with phyllodes 6–17 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 20–30-flowered heads, 4–16 on an extended inflorescence, September–October.**Fruit/seed:** Pod 4–15 cm long**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT ST CWS; Vic.**Distribution Sydney area:** Mt Werong.**Select locations:** Mt Werong.**Habitat****Habitat:****Altitude:** 1000 m**Annual rainfall:** 1000 mm**Typical local abundance:** Frequent.**Vegetation:** Moist tall open-forest e.g. with *Eucalyptus viminalis*, *E. radiata*, *E. fastigata*, *E. obliqua*, *Acacia melanoxylon*.**Substrate:** Soils from granite and slate.**Exposure:****Conservation****Conservation:** In the Sydney area appears to be confined to Mt Werong.

Conservation status unknown.

***Acacia obtusata*****FABACEAE – MIMOSOIDEAE****Life history****Growth form:** Erect or spreading shrub 0.5–2.5 m high, with phyllodes 3–5 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow in heads, 2–7 on an extended inflorescence, July–October.**Fruit/seed:** Flat pod 4–8 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT ST.**Distribution Sydney area:** Western Blue Mountains.**Select locations:** Rylstone, Blackheath, Kanimbla Valley, Hill Top, Penrose, Wingello.**Habitat****Habitat:** Hillsides on sandstone.**Altitude:** 500–1000 m**Annual rainfall:** 700–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Dry eucalypt forest e.g. with *Eucalyptus sieberi*, *E. sclerophylla* and shrubs *Banksia spinulosa*, *B. serrata*, *Hakea dactyloides*, *Leptospermum trinervium*.**Substrate:** Sandy to gravelly clay soils on sandstone, low nutrients.**Exposure:****Conservation****Conservation:** Rylstone is northern geographical limit. Conservation status unknown.

**Acacia obtusifolia****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading tree or shrub 1.5–8 m high, with phyllodes 8–20 cm long.

**Vegetative spread:** Vigorous root suckering reported at Penrose.

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow or pale yellow, 2 cylindrical heads in axils of phyllodes, December–January.

**Fruit/seed:** Pod 6–10 cm long, mature September–October.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:** Resprouts from base and root suckers (at Lithgow, Darkes Forest, Leura, Penrose). Seedlings may establish on disturbed sites (Lithgow).

**Interaction with other organisms:** Host to seed predator beetles *Melanterius* spp. (Curculionidae), and gall-forming seed predator insect *Eurytoma* sp. (Hymenoptera) (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST CWS; Qld, Vic.

**Distribution Sydney area:** Widespread, Coast and Blue Mountains.

**Select locations:** Putty, Spectacle Island, Wahroonga, Glenfield, Heathcote, Bulli, Barrenjoey, Bilpin, Bents Basin, Bargo, Nullo Mountain, Newnes Plateau, Blackheath, Jenolan Caves, Hill Top, Carrington Falls, Wingello.

**Habitat**

**Habitat:** Ridges, slopes and along creeks.

**Altitude:** 0–1200 m

**Annual rainfall:** 800–1400 mm

**Typical local abundance:** Frequent.

**Vegetation:** Woodland e.g. with *Eucalyptus piperita*, *E. sieberi*, *E. stricta*, *Angophora costata*.

**Substrate:** Sandy loam on sandstone, well-drained, low nutrients.

**Exposure:** Light shade.

**Conservation**

**Conservation:** Widespread species, probably adequately conserved.

**Acacia oxycedrus****FABACEAE – MIMOSOIDEAE**

Spike Wattle

**Life history**

**Growth form:** Rigid, erect, spreading shrub 1–3 m high.

**Vegetative spread:** No.

**Longevity:** Probably up to 25 years

**Primary juvenile period:**

**Flowers:** Yellow cylindrical heads, 1–3, in axils of phyllodes, July–October.

**Fruit/seed:** Rough pods 4–10 cm long. Seed weight 45 mg (Buckley 1982).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, ant-dispersed (Rice & Westoby 1981).

**Fire response:** Some killed but most resprouted from base after high intensity fire (at Lane Cove & Narrabeen 1/94, P. Kubiak pers. comm.). Re-establish from soil-stored seed which is stimulated by fire.

**Interaction with other organisms:** Host to seed predator beetles *Melanterius* spp. (Curculionidae) (Auld 1991).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC; Vic., S.A.

**Distribution Sydney area:** Mainly Hornsby Plateau, lower Blue Mountains, very rare on Woronora Plateau.

**Select locations:** Somersby, Woy Woy, Brooklyn, Glenorie, Berowra, Pennant Hills, Faulconbridge, Mountain Lagoon, Springwood, Avon/Cordeaux.

**Habitat**

**Habitat:** Sandstone plateaus.

**Altitude:** 0–600 m

**Annual rainfall:** above 900 mm

**Typical local abundance:** Frequent.

**Vegetation:** Woodland and heath e.g. with *Corymbia gummifera*, *C. eximia*, *Acacia suaveolens*, *A. terminalis*, *A. ulicifolia*, *Leptospermum trinervium*, *Banksia serrata*, *Boronia ledifolia*, *Pultenaea elliptica*.

**Substrate:** Sandy soil, on Hawkesbury Sandstone, low nutrients, well-drained.

**Exposure:** Full sun to light shade.

**Conservation**

**Conservation:** Probably adequate.



**Acacia paradoxa****FABACEAE – MIMOSOIDEAE**

Kangaroo Thorn

**Life history****Growth form:** Erect or spreading shrub 2.5–4 m high with spinescent stipules.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, 1 or rarely 2 heads, 20–45-flowered in axils of phyllodes, July–December, peak September.**Fruit/seed:** Pod 2–7 cm long, mature November–December and March–April.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS SWS NWP SWP; Qld, Vic., \*Tas., S.A., W.A.**Distribution Sydney area:** Widespread, sporadic.**Select locations:** Colo Heights, Hurstville (1908), Burwood (1888), Campbelltown, Tonalli River, Mt Coricudgy, Hargreaves, Mt Victoria, Abercrombie Caves.**Habitat****Habitat:** Open-forest.**Altitude:** 0–1200 m**Annual rainfall:** 700–1300 mm**Typical local abundance:** Occasional.**Vegetation:** Open-forest e.g. with *Eucalyptus fibrosa*, *E. crebra*, *E. eugenoides* or woodland e.g. with *Eucalyptus fastigata*, *E. dalrympleana*.**Substrate:** Clay soil on shale and basalt or sandstone with basalt influence, occasionally sandy soil on sandstone, low–high nutrients, soils well-drained.**Exposure:** Light shade.**Conservation****Conservation:** Conservation status unknown.**Acacia parramattensis****FABACEAE – MIMOSOIDEAE****Life history****Growth form:** Quick growing shrub or tree 4–12 m high, with bipinnate foliage.**Vegetative spread:** Capable of root-suckering to form groves.**Longevity:** Stems live up to 25 years but root-suckering may extend life span of individual.**Primary juvenile period:** Around 5 years.**Flowers:** Yellow, November–February (rarely until April), peak December–January.**Fruit/seed:** Straight pod, ± flat, 6–11 cm long, 4–8 mm wide. Seeds brown to black, shed at maturity, November–January.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank, recruitment after fire or other disturbance. Coloniser of disturbed sites, quick-growing e.g. to 6–8 m in 5 years.**Fire response:** Most above ground stems killed but some stems (10–15 cm dbh) may produce epicormic shoots (Putty Road). Most resprouting is from basal sprouts and root suckers. Killed by high intensity fire with regeneration from seed (at Lane Cove 1/94, P. Kubiak pers. comm., & Muogamarra NR, L.McD.).**Interaction with other organisms:** Seed eaten by Common Bronzewing *Phaps chalcoptera* (Lepschi 1993).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST CWS SWS.**Distribution Sydney area:** Widespread, particularly western Sydney.**Select locations:** Mt Yengo, Maroota, Richmond, Hornsby, Denistone, Bellevue Hill, Macquarie Fields, Orangeville, Appin, Mt Victoria, Megalong Valley, Bundanoon, Wombeyan Caves.

**Habitat**

**Habitat:** Lower slopes, valleys and along rivers and creeks, shale-capped ridgelines.

**Altitude:** 0–900 m      **Annual rainfall:** above 700 mm

**Typical local abundance:** Frequent.

**Vegetation:** Eucalypt woodland and forest e.g. with *Eucalyptus tereticornis*, *Angophora floribunda*, *Syncarpia glomulifera*, *Eucalyptus saligna*, *E. dalrympleana*, or drier forest with *Acacia floribunda*, *Acacia binervia*, sometimes with related *Acacia decurrens*.

**Substrate:** Mainly on alluvium, diatremes, shale, shale/sandstone transition soils, generally with some clay content, occasionally on Hawkesbury Sandstone, medium to low nutrients, well-drained, moisture supply intermittent, fresh.

**Exposure:** Light shade–full sun.

**Conservation**

**Conservation:** Conserved in Western Sydney (Benson & McDougall 1991), probably adequately conserved elsewhere.

***Acacia parvipinnula*****FABACEAE – MIMOSOIDEAE**

Silver-stemmed Wattle

**Life history**

**Growth form:** Erect tree 4–10 m high, with smooth silvery or bluish grey bark, with bipinnate foliage.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Mostly October–November.

**Fruit/seed:** Pod, matures November–December.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Soil-stored seedbank, coloniser of disturbed sites.

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC CT ST CWS.

**Distribution Sydney area:** Mainly Blue Mountains and north-west.

**Select locations:** Howes Valley, Wollombi, Colo Heights, Richmond, Grose River, Glen Alice, Blaxland, Wallacia, Menai, Bargo, Nepean Dam.

**Habitat**

**Habitat:** Creeks and lower slopes, less commonly on ridges.

**Altitude:** 0–600 m      **Annual rainfall:** 800–1200 mm

**Typical local abundance:** Frequent.

**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus crebra*, *Eucalyptus punctata*, *Eucalyptus moluccana*.

**Substrate:** Sandy, alluvial soils but also basalt and shale soils, infertile–fertile.

Water table mostly low, fresh.

**Exposure:** Sheltered–indifferent; full sun.

**Conservation**

**Conservation:** Vulnerable in Western Sydney (Benson & McDougall 1991), but probably adequately conserved in northwest.

**Acacia penninervis**

FABACEAE – MIMOSOIDEAE

Mountain Hickory

**Life history**

**Growth form:** Erect or spreading tree 2–8 m high, with phyllodes 4–15 cm long; a very variable species.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Pale yellow to whitish, in heads, 10–30 on an extended axillary inflorescence, September–March.

**Fruit/seed:** Pod 5–20 cm long, mature January–April.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST NWS CWS NWP; Qld, Vic.

**Distribution Sydney area:** Mainly Bathurst–Orange.

**Select locations:** Mellong Creek, Mooney Mooney, The Woolwash, Warragamba Dam, Mt Coricudgy, Hill End, Sunny Corner, Mt Conobolas, Cadia, Wombeyan Caves.

**Habitat**

**Habitat:**

**Altitude:** 0–1200 m      **Annual rainfall:** 600–1000 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Eucalypt forest e.g. with *Eucalyptus melliodora*, *E. goniocalyx*, and woodland e.g. with *Eucalyptus crebra*, *E. rossii*.

**Substrate:** Deep sandy soils on sandstone, quartzite, metamorphics, granite, low nutrients.

**Exposure:**

**Conservation**

**Conservation:** Rare in coastal areas. Conservation status unknown.

**Acacia podalyriifolia**

FABACEAE – MIMOSOIDEAE

Queensland Silver Wattle

**Life history**

**Growth form:** Tree or shrub 3–5 m high, with phyllodes 1–3 cm long.

**Vegetative spread:** No.

**Longevity:**

**Primary juvenile period:** 3 years.

**Flowers:** Golden yellow, in heads, 10–20 on an extended axillary inflorescence, sweet scented, May–September.

**Fruit/seed:** Pod 5–12 cm long.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, bird and/or ant-dispersed (Carr et al. 1992).

**Fire response:** Probably killed, re-establishing from soil-stored seed. Seedlings flowering within 2.5 years of high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).

**Interaction with other organisms:** Source of pollen for bees (Clemson 1985).

**Distribution**

**Status/origin:** Australian native, but exotic in CC, widely cultivated as ornamental.

**Botanical subregions:** \*CC NC; Qld.

**Distribution Sydney area:**

**Select locations:** Morisset, Cheltenham, Kurmond, Blaxland, Berry, Bomaderry.

**Habitat**

**Habitat:** Roadsides, tracks, edges of bushland.

**Altitude:** 0–300 m      **Annual rainfall:** above 1000 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Allocasuarina littoralis*, *Dodonaea triquetra*, *Themeda australis*.

**Substrate:**

**Exposure:**

**Conservation**

**Conservation:** Localised garden escape invading margin of bushland.

***Acacia prominens*****FABACEAE – MIMOSOIDEAE**

Gosford Wattle

**Life history**

**Growth form:** Erect or spreading tree 4–18 m high, with smooth grey bark, phyllodes 3–5 cm long, with prominent mid-vein and one gland along margin.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Pale yellow–white or golden yellow, heads 8–15 flowered, July–September, peak August.

**Fruit/seed:** Pod 5–8 cm long, 1–2 cm wide, September–October.

**Dispersal, establishment & growth:** Diaspore: seed, bird and/or ant-dispersed (Carr et al. 1992).

**Fire response:**

**Interaction with other organisms:** Source of pollen for bees (Clemson 1985).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC CT CWS.

**Distribution Sydney area:** Wollemi, Gosford, Hurstville–Bankstown.

**Select locations:** Kandos Weir, Wollombi, Darkey Ck, Ourimbah, Lisarow, Mooney Mooney Ck, Gosford, Hurstville 1901), Belmore 1906), Bankstown 1912).

**Habitat**

**Habitat:** Gullies.

**Altitude:** 0–700 m      **Annual rainfall:** above 800 mm

**Typical local abundance:** Frequent.

**Vegetation:** Gully rainforest e.g. with *Ceratopetalum*, *Doryphora sassafras*, moist tall open-forest e.g. with *Eucalyptus deanei*, *Acacia elata*, *A. schinoides* and open-forest.

**Substrate:** Clay loam on shale, diatrema, to sandy soil on sandstone, low nutrient soil, well-drained.

**Exposure:** Mid-shade.

**Conservation**

**Conservation:** Probably adequately conserved in Wollemi and Gosford but separate Hurstville/Bankstown population now extinct.

***Acacia ptychoclada*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading shrub 1.5–2.5 m high, with phyllodes 4–8 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow or pale yellow, in heads, 1 or 2 in axils of phyllodes, August–April, peak January.

**Fruit/seed:** Pod 4–6 cm long, mature November–April, peak December.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC CT.

**Distribution Sydney area:** Blue Mountains

**Select locations:** Woodford, Mt Cookem, Lawson, Wentworth Falls, Blackheath, Mt Victoria.

**Habitat**

**Habitat:** Creek banks, steep wet slopes.

**Altitude:** 500–1000 m      **Annual rainfall:** 1100–1400 mm

**Typical local abundance:** Frequent–occasional.

**Vegetation:** Open-forest e.g. with *Corymbia gummifera*, *Syncarpia glomulifera*, but mostly in swampy heath e.g. with *Sprengelia incarnata*, *Hakea teretifolia*, *Leptospermum polygalifolium*, *Gleichenia diacarpa*.

**Substrate:** Sandy soil over sandstone, gravelly clay loam over conglomerate, impeded drainage, low nutrients.

**Exposure:** Full sun to light shade.

**Conservation**

**Conservation:** Local Sydney endemic species, conserved in Blue Mountains NP but vulnerable to changes in water quality and quantity.

**Acacia pubescens****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Spreading, hairy shrub 1–4 m high, with bipinnate leaves.

**Vegetative spread:** Can form dense patches by suckering.

**Longevity:** 50 years.

**Primary juvenile period:**

**Flowers:** Golden yellow, heads 12–20 flowered, August–October, peak September.

**Fruit/seed:** Pod 3–7 cm long, almost black, seeds longitudinal, mature October–December, peak November.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, significant numbers of seed may only be set in good seasons. Populations generally consist of localised, small groups of plants.

**Fire response:** Resprouts from root suckers.

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC CT.

**Distribution Sydney area:** Mainly Canterbury to Liverpool.

**Select locations:** Canterbury, Bankstown Chester Hill, Rookwood, Duck River, Liverpool, Bossley Park, Kemps Creek, Pitt Town, Mountain Lagoon, Menai, Woodford.

**Habitat**

**Habitat:** Hillsides and flat areas.

**Altitude:** 0–500 m      **Annual rainfall:** 700–1200 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Eucalyptus fibrosa* - *E. moluccana*, *Bursaria spinosa*, *Melaleuca decora*.

**Substrate:** Gravelly clay soils on Wianamatta Shale, Tertiary alluvium, rarely on sandstone, low nutrients, well-drained.

**Exposure:** Full sun.

**Conservation**

**Conservation:** Listed under schedule II, NSW Threatened Species Conservation Act 1995 and coded 3VCa on national rare species list (Briggs & Leigh, 1996), but still threatened by land clearing for urban development and farming. Not adequately conserved in main range from Canterbury to Liverpool on Cumberland Plain. Some populations in small council parks need protection e.g. Carysfield Park, Bass Hill; Louisa Park, Bankstown; Lansdowne Park, Lansdowne; Rookwood Cemetery. Vulnerable in Western Sydney (Benson & McDougall 1991). Status at outlier populations at Pitt Town, Mountain Lagoon, Woodford not known.

**Acacia pycnantha****FABACEAE – MIMOSOIDEAE**

Golden Wattle

**Life history**

**Growth form:** Erect or spreading tree or shrub 3–8 m high, with phyllodes 6–20 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in heads, 7–16 on an extended axillary inflorescence, July–November. Self-incompatible (Kenrick et al. 1985).

**Fruit/seed:** Pod 5–14 cm long.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:** Insects take nectar from phyllode glands; nectar is rich in amino acids (Bernhardt 1982). Foodplant of moth caterpillars *Chlorocoma dichloraria*, *Thalaina selenaea*, *Acyphas* sp., *Praxis* sp., *Dasypodia selenophora* and *Phallaria ophiusaria* (Coupar & Coupar 1992). Host plant of Cerambycid beetle *Pachydissus sericus* (Hawkeswood 1993). Planted in Java, bark used for tanning, planted as ornamental, flowers used for perfume (Lemmens & Wulijarni-Soetjpto 1991).

**Distribution**

**Status/origin:** Australian native, but exotic in CC, cultivated as ornamental.

**Botanical subregions:** \*CC SC ST NWS CWS SWS SWP NFWP SFWP; Vic., S.A., \*W.A.

**Distribution Sydney area:** Sydney suburbs.

**Select locations:** Beecroft, Roseville, Potts Hill, Campbelltown (1897), Scouters Mountain.

**Habitat****Habitat:** Ridges.**Altitude:** 0–200 m**Annual rainfall:** above 800 mm**Typical local abundance:** Frequent.**Vegetation:** Woodlands e.g. with *Eucalyptus piperita*, *Banksia serrata*, *Allocasuarina distyla*.**Substrate:** Soils on sandstone and shale, low to medium nutrients.**Exposure:****Conservation****Conservation:** Native to Western Slopes and Plains, often cultivated in Sydney area and occasionally naturalised as in Heathcote NP. Extent of spread potential unknown.***Acacia quadrilateralis*****FABACEAE – MIMOSOIDEAE****Life history****Growth form:** Erect or spreading shrub 0.5–3 m high, with phyllodes 2.5–4 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 12–30-flowered heads, single in axils of phyllodes, August–September.**Fruit/seed:** Pod 4–9 cm long, brown to nearly black.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC; Qld.**Distribution Sydney area:** Coast, sporadic.**Select locations:** Doyalson, Bombi Moor, South Head, Rose Bay, Centennial Park, Malabar, Matraville, La Perouse.**Habitat****Habitat:** Dry scrub on Pleistocene sand deposits.**Altitude:** 0–100 m**Annual rainfall:** above 1200 mm**Typical local abundance:** Rare.**Vegetation:** Scrub e.g. with *Acacia longifolia*, *A. suaveolens*, *Eriostemon australasius*, *Dillwynia retorta*, *Ceratopetalum gummiferum*, Eastern Suburbs *Banksia* scrub (Benson & Howell 1990).**Substrate:** Deep dune leached sands, low nutrients, well-drained.**Exposure:** Full sun.**Conservation****Conservation:** Formerly widespread in Eastern Suburbs, southern geographical limit, but probably now extinct there.

**Acacia rubida****FABACEAE – MIMOSOIDEAE**

Red-leaved Wattle

**Life history****Growth form:** Erect or spreading shrub or tree 2–10 m high, with phyllodes 5–20 cm long.**Vegetative spread:** Vigorous root suckering observed at Penrose.**Longevity:** 25–60 years (D. Keith pers. comm.).**Primary juvenile period:****Flowers:** Whitish to golden yellow, in heads, 8–15 on an extended axillary inflorescence, July–November, peak August–September.**Fruit/seed:** Pod 5–12 cm long, mature November–January.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Recruitment mainly after fire (D. Keith pers. comm.).**Fire response:** Resprouts from root suckers.**Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC SC NT CT ST NWS CWS SWS; Qld, Vic.**Distribution Sydney area:** Blue Mountains, Southern Highlands.**Select locations:** Kulnura, Colo Heights, Thornleigh, Grose Vale, Glenbrook, Woodford, Wentworth Falls, Blackheath, Buxton, Hill Top, Robertson, Wingello.**Habitat****Habitat:** Ridgetops, riverbanks.**Altitude:** 0–1000 m      **Annual rainfall:** 800–1600 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Open-forest e.g. with *Corymbia gummifera*, *Eucalyptus haemastoma*, *Leptospermum polygalifolium*, or riparian scrub with *Tristaniopsis laurina*, *Austromyrtus tenuifolia*.**Substrate:** Sandy to clay soils on sandstone and alluvium, low nutrients.**Exposure:****Conservation****Conservation:** Conservation status unknown.**Acacia saliciformis****FABACEAE – MIMOSOIDEAE****Life history****Growth form:** Erect or spreading shrub 3–6 m high, with phyllodes 6–10 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow to whitish, in 35–45-flowered heads, 9–15 on an extended axillary inflorescence, April–September with peaks in April and August.**Fruit/seed:** Pod 7–14 cm long, mature September–December.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CC.**Distribution Sydney area:** Howes Valley–Wollemi area.**Select locations:** Howes Valley, Putty, Colo Heights, Mountain Lagoon, Glen Davis, Mt Darcy.**Habitat****Habitat:** Ridges, plateaus.**Altitude:** 200–600 m      **Annual rainfall:** 600–800 mm**Typical local abundance:** Frequent.**Vegetation:** Open-forest e.g. with *Angophora costata*, *Syncarpia glomulifera*, *Eucalyptus piperita*, *Corymbia gummifera*.**Substrate:** Sandy soil on sandstone, occasionally clay loam over shale lens. Low nutrient, well-drained.**Exposure:****Conservation****Conservation:** A species restricted to north-west of Sydney area but probably adequately conserved there.

***Acacia saligna*****FABACEAE – MIMOSOIDEAE**

Golden Wreath Wattle

**Life history****Growth form:** Erect or spreading tree or shrub 3–8 m high, with phyllodes 8–30 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Pale yellow to golden, heads, 5–12 on an extended inflorescence, June–September.**Fruit/seed:** Pod 5–14 cm long.**Dispersal, establishment & growth:** Diaspore: seed, ?bird and/or ant-dispersed (Carr et al. 1992), dispersed in soil fill. Vigorous coloniser of roadsides. Hard seed coat not well developed in Sydney area limiting longevity of seed in soil.**Fire response:** Stem killed, resprouts from base. Resprouts and seedlings seen after high intensity fire (at Lane Cove 1/94, P. Kubiak pers. comm.).**Interaction with other organisms:****Distribution****Status/origin:** Native to Western Australia, widely cultivated.**Botanical subregions:** \*NC \*CC \*SC \*SWP \*SFWP \*NFWP; \*Qld, \*Vic., \*S.A., W.A.**Distribution Sydney area:** Northern Sydney suburbs.**Select locations:** Whale Beach, Cromer, Frenchs Forest, Willoughby (1957), Mt Colah.**Habitat****Habitat:** Roadsides, tracks.**Altitude:** 0–100 m**Annual rainfall:** 1200–1400 mm**Typical local abundance:** Frequent.**Vegetation:** Woodland and edges of heath e.g. with *Grevillea buxifolia*, *Leptospermum squarrosum*.**Substrate:** Sandy soil over sandstone, low nutrients, well-drained.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Vigorous coloniser of roadsides and disturbed sites and able to invade bushland areas.



**Acacia schinoides****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect tree or shrub 2–5 m high; leaves bipinnate with 2–4 pairs of pinnae.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Pale yellow, in heads, 12–40 on an extended axillary inflorescence, August–February.

**Fruit/seed:** Pod 7–12 cm long, mature June–January.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed.

**Fire response:** Killed by high intensity fire, seedlings observed (1/94 at Lane Cove, Narrabeen: P. Kubiak pers. comm.).

**Interaction with other organisms:** Nectar gathered from leaf gland by Honeybee *Apis mellifera* (P. Kubiak pers. comm.)

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC.

**Distribution Sydney area:** North Shore, Gosford–Wyong to Yengo NP.

**Select locations:** Mt Kindarun, Putty, Howes Valley, Ourimbah, Avoca, Colo Gorge, Gosford, Wahroonga, Epping.

**Habitat**

**Habitat:** Gullies.

**Altitude:** 0–600 m      **Annual rainfall:** 700–1200 mm

**Typical local abundance:** Frequent.

**Vegetation:** Moist tall eucalypt forest e.g. with *Eucalyptus pilularis*, *E. saligna*, *E. agglomerata*, or along creeks e.g. with *Toona ciliata*, *Acmena smithii*, *Ficus coronata*.

**Substrate:** Sandy soil on sandstone or alluvium, low–medium nutrients.

**Exposure:**

**Conservation**

**Conservation:** Probably adequately conserved except perhaps for North Shore populations at the southern geographical limit. Habitat along creeks and in gullies may be vulnerable to weed invasion.

**Acacia sophorae****FABACEAE – MIMOSOIDEAE**

Coastal Wattle

**Life history**

**Growth form:** Prostrate or decumbent shrub 0.5–3 m high, with phyllodes 5–10 cm long.

**Vegetative spread:** No.

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in cylindrical heads, 1–2 in axils of phyllodes, July–September.

**Fruit/seed:** Rough pod 6–10 cm long, mature October–November.

**Dispersal, establishment & growth:** Diaspore: hard-coated seed. Bird and ant-dispersed (Carr et al. 1992). Soil-stored seedbank (Fox 1988).

**Fire response:** Killed by fire (Fox 1988).

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC; Qld, Vic., Tas., S.A.

**Distribution Sydney area:** Coast.

**Select locations:** Umina, Coogee, Botany, Canterbury, Brighton-le-sands, Kurnell, Cronulla, Corrimal, Wollongong, Bass Point.

**Habitat**

**Habitat:** Coastal headland and adjacent alluvial flats and sand dunes.

**Altitude:** 0–50 m      **Annual rainfall:** above 1100 mm

**Typical local abundance:** Frequent.

**Vegetation:** Heath and hind dune scrub e.g. with *Banksia integrifolia*, and woodland.

**Substrate:** Sandy soil on coastal sand dunes, low nutrients.

**Exposure:**

**Conservation**

**Conservation:** Widespread and used in dune rehabilitation programs, probably adequately conserved.

**Acacia spectabilis****FABACEAE – MIMOSOIDEAE**

Mudgee Wattle

**Life history****Growth form:** Erect or spreading shrub 2–4 m high; leaves bipinnate with 2–6 pairs of pinnae.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 12–20-flowered heads, 10–45 on an extended inflorescence, July–September.**Fruit/seed:** Pod 5–11 cm long, mature November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:** Source of pollen for bees (Clemson 1985).**Distribution****Status/origin:** Native to Central Tablelands, but introduced to Central Coast region through cultivation.**Botanical subregions:** \*CC CT NWS CWS NWP; Qld.**Distribution Sydney area:** Bathurst–Mudgee area.**Select locations:** Glen Alice, Milthorpe.**Habitat****Habitat:****Altitude:** 600–800 m      **Annual rainfall:** 600–700 mm**Typical local abundance:****Vegetation:** Eucalypt woodland e.g. with *Acacia ixiophylla*.**Substrate:** Shallow soil on quartzite, low nutrient.**Exposure:****Conservation****Conservation:** Conservation status not known.**Acacia stricta****FABACEAE – MIMOSOIDEAE****Life history****Growth form:** Erect or spreading shrub or tree 1–6 m high, with phyllodes 5–14 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Pale yellow to whitish, in heads, 2–4 in axils of phyllodes, August–September.**Fruit/seed:** Pod 4–10 cm long, mature November–December.**Dispersal, establishment & growth:** Diaspore: hard-coated seed. A gregarious species generally found as localised populations, sometimes as coloniser on exposed earth.**Fire response:** Probably killed.**Interaction with other organisms:** Host plant of Cerambycid beetle*Piesarthrius marginellus* (Hawkeswood 1993).**Distribution****Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST SWS; Qld, Vic., Tas., S.A.**Distribution Sydney area:** Coast and Blue Mountains.**Select locations:** Avoca, Dural, Beecroft, Ryde, Hurstville, Sefton, Bulli, Bilpin, Mt Irvine, Mt Victoria, Colo Vale, Bundanoon, Wingello.**Habitat****Habitat:** Open-forest margins; disturbed sites, e.g. roadsides, railways.**Altitude:** 0–1000 m      **Annual rainfall:** above 1000 mm**Typical local abundance:** Frequent to occasional.**Vegetation:** Eucalypt open-forest e.g. with *Syncarpia glomulifera*, *Eucalyptus globoidea*, *Eucalyptus paniculata*, Turpentine Ironbark forest (Benson and Howell 1990).**Substrate:** Clay soil on Wianamatta Shale often near shale/sandstone boundary occasionally on sandstone, medium nutrients, well-drained.**Exposure:** Full sun to light shade.**Conservation****Conservation:** Uncommon in Sydney region (Keith 1994) and likely to be inadequately conserved as its habitat is poorly conserved. Vulnerable in Western Sydney (Benson & McDougall 1991).

**Acacia suaveolens****FABACEAE – MIMOSOIDEAE**

Sweet Wattle

**Life history**

**Growth form:** Slender shrub to 2.5 m high with angular branches. Several forms recognised as subspecies (Morrison & Rupp 1995). A Sydney form with a prostrate, spreading habit, and much broader phyllodes is restricted to coastal headlands and likely to be genetically distinct from upright forms (Morrison, Auld & Gallagher 1983, Auld & Morrison 1992).

**Vegetative spread:** No.

**Longevity:** Short-lived 5-10 years, maximum 15-25 years (Morrison, Auld & Gallagher 1983, Auld 1987).

**Primary juvenile period:** May attain flowering maturity in 1-5 years (Clemens & Franklin 1980) but generally 2-3 years (Auld 1987).

**Flowers:** Pale yellow to whitish heads, April-September. Flowers first in warmer areas (Morrison, Auld & Gallagher 1983).

**Fruit/seed:** Pod 2-5 cm long, mature August-December. Seed weight 32-48 mg (Auld & O'Connell 1991, Westoby et al. 1990). Large initial seed crop in first 4 flowering seasons, then declines (Auld & Myerscough 1986).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, dispersed by ants *Pheidole* sp. A (Rice & Westoby 1981, Auld 1987). Seed viability 99%, non-dormant fraction 6% (Auld & O'Connell 1991). Soil-stored seedbank maximum after 6 years, declining to 60 years (Auld 1987). Recruitment mainly after fire, optimal germination 60-80°C (Auld 1986). Post-fire emergence of seedlings is concentrated over a small range of soil depths directly related to intensity and duration of heating (Auld & Myerscough 1986).

**Fire response:** Plants killed and re-establish from soil-stored seed, up to 15 months after fire (Auld 1995). Seed recruitment following low intensity burns is low to non-existent as seed dormancy is not broken (Auld 1987). Prolific flowering of seedlings within 2.5 years of high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).

**Interaction with other organisms:** Predisersal seed loss to *Melanterius corosus* (Coleoptera: Curculionidae) and external insect seed grazers (Auld & Myers 1986), host to *Megastigmus* sp. (Coeloptera) (Auld 1991). Pollen gathered by Honeybee *Apis mellifera*, native bee, and possibly hoverfly (Syrphidae) (P. Kubiak pers. comm.)

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC CT ST; Qld, Vic., Tas., S.A.

**Distribution Sydney area:** Widespread, coast and Blue Mountains.

**Select locations:** Killcare, Avalon, Kenthurst, Rose Bay, Oatley, East Hills, Waterfall, Berry, Mt Coricudgy, Colo Heights, Bilpin, Springwood, Wentworth Falls, Mt Wilson, Hill Top, Robertson, Tallong.

**Habitat**

**Habitat:** Hillsides, rocky ridges.

**Altitude:** 0-1000 m      **Annual rainfall:** 700-1800 mm

**Typical local abundance:** Frequent.

**Vegetation:** Heath e.g. with *Angophora hispida*, and woodland e.g. with *Angophora costata*, *Corymbia gummifera*, *C. eximia*, *Eucalyptus sieberi*, *Banksia serrata*, *Allocasuarina distyla*, *Banksia integrifolia*, *Lambertia formosa*.

**Substrate:** Sandy soils on Hawkesbury Sandstone and sand dunes, low nutrient, well-drained.

**Exposure:** Full sun to light shade.

**Conservation**

**Conservation:** Generally well-conserved in Sydney area but needing protection in Queensland, S.A. and Tasmania (Morrison, Auld & Gallagher 1983). Habitat of prostrate form is very restricted in Sydney area and is inadequately conserved (Auld pers. comm.).

***Acacia subtilinervis*****FABACEAE – MIMOSOIDEAE****Life history**

**Growth form:** Erect or spreading tree or shrub 1–4 m high, with phyllodes 5–15 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in ovoid or cylindrical heads, 1 or 2 in axils of phyllodes, August.

**Fruit/seed:** Leathery pod 6–10 cm long, mature October.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CC SC ST; Vic.

**Distribution Sydney area:** Wolgan River, Bundanoon to Nowra.

**Select locations:** Wolgan River, Bundanoon, Cambewarra, Bomaderry.

**Habitat**

**Habitat:** Rocky outcrops.

**Altitude:** 0–1000 m

**Annual rainfall:**

**Typical local abundance:** Occasional.

**Vegetation:** Heath and woodland e.g. with *Eucalyptus agglomerata*, *Corymbia gummifera*.

**Substrate:** Sandy loam over sandstone.

**Exposure:**

**Conservation**

**Conservation:** Wolgan River is northern geographical limit, conservation status unknown.

***Acacia subulata*****FABACEAE – MIMOSOIDEAE**

Awl-leaved Wattle

**Life history**

**Growth form:** Erect or spreading shrub 1.5–3 m high, with phyllodes 6–11 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow heads, 3–7 on an extended axillary inflorescence.

**Fruit/seed:** Pod 7–12 cm long, sometimes rough, mature October.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** CT NWS CWS NWP.

**Distribution Sydney area:** Capertee Valley, Upper Cudgegong.

**Select locations:** Rylstone, Capertee.

**Habitat**

**Habitat:** Rocky creeks.

**Altitude:** 600 m

**Annual rainfall:** 600 mm

**Typical local abundance:** Occasional.

**Vegetation:** Eucalypt woodland.

**Substrate:** Shaley skeletal soils.

**Exposure:**

**Conservation**

**Conservation:** Mainly occurring on the Western Slopes. Capertee is eastern geographical limit. Conservation status unknown.

**Acacia terminalis****FABACEAE – MIMOSOIDEAE**

Sunshine Wattle

**Life history**

**Growth form:** Erect or spreading shrub 1–5 m high or a small tree rarely to 6 m high; leaves bipinnate with 8–20 pairs of pinnules.

**Vegetative spread:**

**Longevity:** 5–20 years (D. Keith pers. comm.).

**Primary juvenile period:** 4 years (D. Keith pers. comm.).

**Flowers:** Pale yellow to white heads. At flowering time scarlet nectaries on petioles secrete nectar, rich in 3 sugars and 18 amino acids; flowers in autumn when insects less frequent and so are unreliable pollinators; self-incompatible (Kenrick et al. 1982).

**Fruit/seed:** Pod 3–11 cm long, mature in November. Seed weight 36 mg (Auld & O'Connell 1991).

**Dispersal, establishment & growth:** Diaspore: hard-coated seed, dispersed by ants (Rice & Westoby, 1981). Soil-stored seed (Fox 1988). Seed viability 95%, non-dormant fraction 8% (Auld & O'Connell 1991). Recruitment mainly after fire; fire temperature > 60 ° for maximum germination (D. Keith pers. comm.).

**Fire response:** Killed by high intensity fire (1/94 at Lane Cove), seed pods forming within 2.5 years (P. Kubiak pers. comm.). Stems killed and sprouts from base (Lithgow). Plants killed and re-establish from seed (Miyall Lakes).

**Interaction with other organisms:** Host to seed predator beetles *Melanterius* spp. (Curculionidae) (Auld 1991). Natural pollinators are birds, picking up pollen on their head feathers as they are attracted to nectaries on the petioles (Kenrick, et al. 1982), bees share pollination with small birds e.g. Thornbills, Silveryeyes and Spinebills (Kenrick et al. 1985). Honeybees *Apis mellifera*, seen feeding on nectar from extra-floral nectaries, and visiting flowers for pollen; visited by ants and beetles, froth of Spittle Bug Cercopoidea seen on stem (P. Kubiak pers. comm.).

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC NT CT ST CWS; Vic., Tas.

**Distribution Sydney area:** Widespread.

**Select locations:** Morisset, Mona Vale, Cheltenham, Vaucluse, Chifley, Appin, Bilpin, Linden, Blackheath, Mt Coricudgy, Newnes Plateau, Portland, Mt Werong, Hill Top, Robertson, Bundanoon, Wingello.

**Habitat**

**Habitat:** Usually on hillsides, often in sheltered situations.

**Altitude:** 0–1200 m      **Annual rainfall:** 900–1600 mm

**Typical local abundance:** Frequent.

**Vegetation:** Eucalypt open-forest, woodland or scrub e.g. with *Eucalyptus sieberi*, *Eucalyptus piperita*, *E. rossii*, *E. macrorhyncha*, *Angophora costata*, *Eucalyptus botryioides*, *E. globoidea*, *Corymbia gummitifera*, *Syncarpia glomulifera*.

**Substrate:** Sandy soil on sandstone, low nutrients, well-drained.

**Exposure:** Full sun to light shade.

**Conservation**

**Conservation:** There are a number of subspecies proposed for this species (Tindale pers. comm.), 1) subsp. *terminalis* confined essentially to Eastern suburbs (Chifley, Cooper Park) and now very rare, (also recorded at North Head), 2) a Ku-ring-gai form, 3) a Springwood form, 4) an upper Blue Mountains form, 5) a south coast and tablelands form, 6) a Howes Valley form with decurrent stem ridges and 7) a Kulnura-Seal Rocks form. These forms are poorly known ecologically and comments above (e.g. fire response) may not apply to all forms. More studies are needed.

***Acacia tindaleae*****FABACEAE – MIMOSOIDEAE**

Golden-top Wattle

**Life history****Growth form:** Erect or spreading shrub 1–2 m high, with phyllodes 0.6–1.3 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Bright yellow, single heads in axils of phyllodes, August.**Fruit/seed:** Pod 3–7 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** NC CT NWS CWS NWP SWP; Qld.**Distribution Sydney area:** Cedar Creek (south of Katoomba).**Select locations:** Cedar Creek (Hayes Crossing) only record in area.**Habitat****Habitat:** Lower slopes.**Altitude:** 200–400 m**Annual rainfall:** 900–1000 mm**Typical local abundance:****Vegetation:** Woodland with grassy understorey.**Substrate:** Lambie Group Metamorphics.**Exposure:****Conservation****Conservation:** Chiefly in the Western Slopes e.g. in Pilliga scrub, only one record for Sydney area.***Acacia trinervata*****FABACEAE – MIMOSOIDEAE****Life history****Growth form:** Erect or spreading shrub 1.5–3 m high, with phyllodes 1.5–5 cm long.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, single heads in axils of phyllodes, December–August.**Fruit/seed:** Pod 6–9 cm long, mature November.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CC.**Distribution Sydney area:** Colo to Springwood.**Select locations:** Alidade Hill, Colo Heights, Wilberforce, Kurrajong, Mountain Lagoon, Hawkesbury Lookout, Wallacia, Springwood.**Habitat****Habitat:** Sandstone ridges.**Altitude:** 0–500 m**Annual rainfall:** 900–1000 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Open-forest e.g. with *Angophora costata*, *Corymbia gummifera*, *Corymbia eximia*, *Eucalyptus punctata*, *E. piperita*, *E. fibrosa*.**Substrate:** Sandy soil to gravelly clays over sandstone and shale, low nutrients, well-drained.**Exposure:****Conservation****Conservation:** A locally endemic species, conservation status unknown.

**Acacia ulicifolia**

## FABACEAE – MIMOSOIDEAE

Prickly Moses

## Life history

**Growth form:** Erect shrub to 2 m high, bark smooth grey.**Vegetative spread:** No.**Longevity:** 25 years.**Primary juvenile period:** 2 years (Bradley 1972).**Flowers:** Pale yellow to whitish, 15–35-flowered heads, single in axils of phyllodes, April to November. Self-compatible (Kenrick 1985).**Fruit/seed:** Seed weight 11–18 mg (Auld & O'Connell 1991).**Dispersal, establishment & growth:** Hard-coated seeds, adapted for ant-dispersal (Rice & Westoby 1981, Westoby et al. 1990). Soil-stored seedbank (Fox 1988). Seed viability 100%, non-dormant fraction 4% (Auld & O'Connell 1991).**Fire response:** Variable. Killed by fire (Fox 1988). Resprouts (Nullo Mtn) and root suckers in some populations (Lithgow). Most seedlings flowering within 2.5 years of high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).**Interaction with other organisms:** Host to seed predator beetles *Melanterius* spp. (Curculionidae) (Auld 1991). Flowers visited by Hoverfly, possibly for pollen (P. Kubiak pers. comm.).

## Distribution

**Status/origin:** Native.**Botanical subregions:** NC CC SC NT CT ST NWS CWS; Qld, Vic, Tas.**Distribution Sydney area:** Widespread**Select locations:** Colo Heights, Mt White, Dural, Berowra, Beecroft, Ingleside, Avalon, Rose Bay, Kurnell, Helensburgh, Bomaderry, Thirlmere, Springwood, Mt Wilson, Nullo Mountain, Oberon, Hill Top, Bundanoon.

## Habitat

**Habitat:** Sandstone ridges and sand dunes.**Altitude:** 0–1000 m**Annual rainfall:** 800–1600 mm**Typical local abundance:** Frequent–occasional.**Vegetation:** Heath and eucalypt woodland and open-forest e.g. with *Corymbia gummifera*, *C. eximia*, *Eucalyptus sieberi*, *E. piperita*, *E. rossii*, *Angophora costata* with dry shrubby understorey. Open forest to woodland e.g. with *Eucalyptus tereticornis*, *E. longifolia*, *E. eugenioides*, *Melaleuca decora* (M. Robinson pers. comm.).**Substrate:** Sandy soil on sandstone and sand dunes, well-drained, low nutrient.**Exposure:** Full sun to light shade.

## Conservation

**Conservation:** A common, widespread, well conserved species.**Acacia uncinata**

## FABACEAE – MIMOSOIDEAE

Gold-dust Wattle

## Life history

**Growth form:** Erect or spreading shrub 1–3 m high, with short, broad phyllodes.

Variable species with subspecies sometimes recognised, and needing further investigation.

**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow to pale yellow, single heads in axils of phyllodes, August–December.**Fruit/seed:** Pod 3–8 cm long.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:**

## Distribution

**Status/origin:** Native.**Botanical subregions:** NC CC SC CT ST NWS CWS NWP; Qld.**Distribution Sydney area:** Colo–Macdonald area, western Blue Mountains.**Select locations:** Buckety, Wollombi, Putty, Mt Monundilla, Hartley, Megalong Valley.

**Habitat****Habitat:** Ridges.**Altitude:** 200–600 m      **Annual rainfall:** 800–1200 mm**Typical local abundance:** Occasional.**Vegetation:** Open-forest e.g. with *Eucalyptus viminalis*, *E. melliodora*, *Themeda australis*, and heath.**Substrate:** Sandy, skeletal soil on sandstone, granite.**Exposure:****Conservation****Conservation:** Conservation status unknown.***Acacia verniciflua*****FABACEAE – MIMOSOIDEAE**

Varnish Wattle

**Life history****Growth form:** Erect or spreading tree or shrub 1–5 m high, with phyllodes 3–14 cm long; branchlets usually resinous.**Vegetative spread:****Longevity:****Primary juvenile period:****Flowers:** Golden yellow, in 35–60-flowered heads, 2 or 3 in axils of phyllodes, August–October.**Fruit/seed:** Pod 4–10 cm long, mature January.**Dispersal, establishment & growth:****Fire response:****Interaction with other organisms:****Distribution****Status/origin:** Native.**Botanical subregions:** CT ST NWS CWS SWS SWP; Qld, Vic, Tas, SA**Distribution Sydney area:** Rylstone to Bigga.**Select locations:** Nullo Mountain, Genowlan Mountain, Nayook Creek, Cedar Creek, Tarana, Winburndale NR, Bathurst, Bigga.**Habitat****Habitat:** Rocky streams, skeletal ridges.**Altitude:** 700–1000 m      **Annual rainfall:** 600–1200 mm**Typical local abundance:** Frequent.**Vegetation:** Eucalypt woodland e.g. with *Eucalyptus sclerophylla*, *E. dalrympleana*, *E. mannifera* with *Acacia buxifolia*, *Hakea dactyloides*.**Substrate:** Sandy soils on sandstone, granite, creekbank alluvium, low nutrients.**Exposure:****Conservation****Conservation:** Conservation status unknown.



**Acacia vestita**

## FABACEAE – MIMOSOIDEAE

Weeping Boree

## Life history

**Growth form:** Spreading shrub 1–4 m high, with densely hairy branchlets phyllodes 1–2 cm long.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Golden yellow, in 10–30-flowered heads, 10–19 on an extended axillary inflorescence, September–October.

**Fruit/seed:** Pod 3–9 cm long, December–March.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

## Distribution

**Status/origin:** Native.

**Botanical subregions:** SC CT ST CWS.

**Distribution Sydney area:** Bathurst area.

**Select locations:** Hill End, Sofala, Ophir, Turondale, Canobolas, Peelwood–Tuena.

## Habitat

**Habitat:** Rocky slopes, creeks.

**Altitude:** 800–1000 m

**Annual rainfall:** 800–1000 mm

**Typical local abundance:** Frequent.

**Vegetation:** Open-forest e.g. with *Eucalyptus blakelyi*, *E. mannifera*, *E. macrorhyncha*.

**Substrate:** Shallow stony soil on shales.

**Exposure:**

## Conservation

**Conservation:** Conservation status unknown.

**Leucaena leucocephala** \*

## FABACEAE – MIMOSOIDEAE

## Life history

**Growth form:** Tree 2–8 m high, young branches finely hairy; leaves bipinnate with 2–6 pairs of pinnae.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Green to creamy white, in globose heads, 15–20 mm diameter. Flowers in response to water, self-compatible (Pedroche 1987).

**Fruit/seed:** Pod 8–18 cm long, with 10–25 seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:** Cultivated for edible seeds in Mexico (Pedroche 1987).

## Distribution

**Status/origin:** Exotic, native to Mexico and Central America (Pedroche 1987), sometimes cultivated.

**Botanical subregions:** NC CC CWS; Qld, N.T.

**Distribution Sydney area:** Windsor.

**Select locations:** Windsor (1974), Narrabeen.

## Habitat

**Habitat:** Floodplain, roadsides.

**Altitude:** 0–50 m

**Annual rainfall:** 700–800 mm

**Typical local abundance:** Rare.

**Vegetation:** Kikuyu *Pennisetum clandestinum* grassland.

**Substrate:** Alluviol soil.

**Exposure:**

## Conservation

**Conservation:** Rare, only one naturalised record (1974) at Windsor and not recorded occurring as a floodplain exotic by Benson and Howell (1993). With roadside weeds at Narrabeen (L.McD.).

***Neptunia gracilis***

FABACEAE – MIMOSOIDEAE

Sensitive Plant

**Life history**

**Growth form:** Herb or small shrub, more or less prostrate with stems to 2 m long; leaves bipinnate, frequently sensitive to touch.

**Vegetative spread:**

**Longevity:** Perennial.

**Primary juvenile period:**

**Flowers:** Green or rarely yellow in globose heads, February.

**Fruit/seed:** Oblong pod 1.5–2 cm long, with 3–8 seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC NWS CWS NWP; Qld, N.T.

**Distribution Sydney area:** North from Tuggerah Lakes.

**Select locations:** Tuggerah Lakes (1910) only record for Sydney area.

**Habitat**

**Habitat:**

**Altitude:** 0–200 m

**Annual rainfall:** 1200 mm

**Typical local abundance:**

**Vegetation:** Woodland.

**Substrate:**

**Exposure:**

**Conservation**

**Conservation:** Chiefly on the slopes and tropical areas, with southern record limit at Tuggerah lakes. Possibly extinct there now.

***Pararchidendron pruinosum* var. *pruinosum***

FABACEAE – MIMOSOIDEAE

Snow Wood

**Life history**

**Growth form:** Tree or shrub to 15 m high; leaves bipinnate, alternate with 1–4 pairs of pinnae.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Greenish white turning yellow with age, in heads, October–January.

**Fruit/seed:** Yellow to orange pod, red inside, 8–12 cm long, with shiny black seeds, mature July.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native.

**Botanical subregions:** NC CC SC CWS; Qld.

**Distribution Sydney area:** Coastal, north from Nowra.

**Select locations:** Hardys Bay, Barrenjoey, Otford, Albion Park, Bass Point, Seven Mile Beach.

**Habitat**

**Habitat:** Coastal rainforest.

**Altitude:** 0–50 m

**Annual rainfall:** 1200–1400 mm

**Typical local abundance:** Rare.

**Vegetation:** Subtropical and littoral rainforest e.g. with *Acmena smithii*, *Guioa semiglauca*, *Syzygium australe*, *Eupomatia laurina*, *Elaeodendron australe*.

**Substrate:** Dune sand, sandy alluvium in gullies, and dark loam on volcanics. Medium to high nutrient soils.

**Exposure:** Sheltered.

**Conservation**

**Conservation:** Conservation status unknown.

***Paraserianthes lophantha* subsp. *lophantha*** FABACEAE – MIMOSOIDEAE

Crested Wattle

**Life history**

**Growth form:** Shrub to medium-sized tree to 8 m high; leaves bipinnate, finely hairy, with 8–13 pairs of pinnae.

**Vegetative spread:**

**Longevity:**

**Primary juvenile period:**

**Flowers:** Greenish yellow, August. Flowering within 2 years of high intensity fire (1/94 at Lane Cove, P. Kubiak pers. comm.).

**Fruit/seed:** Yellow to red oblong pod 8–12 cm long, with 6–12 black seeds.

**Dispersal, establishment & growth:**

**Fire response:**

**Interaction with other organisms:**

**Distribution**

**Status/origin:** Native endemic to Western Australia, introduced as ornamental but now naturalised in NSW.

**Botanical subregions:** \*NC \*CC \*CT \*SC \*ST \*SWS \*NWP; \*Vic., \*Tas., \*S.A., W.A.

**Distribution Sydney area:** Mainly along coast.

**Select locations:** Tuggerah, Woy Woy (1906), Palm Beach, Frenchs Forest, Fairfield, Woronora Dam, Kiama, Hazelbrook.

**Habitat**

**Habitat:** Coastal sites.

**Altitude:** 0–800 m

**Annual rainfall:** 900–1400 mm

**Typical local abundance:** Occasional.

**Vegetation:**

**Substrate:** Sandy soil over sandstone, rocky sites.

**Exposure:** Full sun–light shade.

**Conservation**

**Conservation:** Western Australian species occasionally naturalised in Sydney area, sometimes inadvertently during rehabilitation plantings where it has been mistakenly thought to be a local native species.

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