

# Plant species first recognised as naturalised or naturalising for New South Wales in 2004 and 2005

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**Abstract:** Information is provided on the taxonomy and distribution of 62 taxa of naturalised or naturalising plants newly recorded for the state of New South Wales during the period 1 January 2004 and 31 December 2005 and 1 species treated in the 2002 revised *Flora of New South Wales* Volume 2 but overlooked in an earlier paper of this series. Of these taxa, 17 are new records for Australia (prefaced with a †). The 62 taxa are: *Acer palmatum*, †*Acer saccharinum*, *Achillea filipendulina*, *Acokanthera oblongifolia*, †*Anemone hupehensis* var. *japonica*, *Berberis aquifolium*, †*Bidens aurea*, †*Brugmansia suaveolens*, *Brugmansia* x *candida*, *Buddleja dysophylla*, †*Convolvulus farinosus*, *Cordyline australis*, *Coriandrum sativum*, *Corymbia citriodora* (Australian species naturalised outside its native range), *Crassula ericoides* subsp. *ericoides*, *Crotalaria retusa* (Australian species naturalised outside its native range), *Cyperus prolifer*, *Echinochloa polystachya*, *Ficus carica*, †*Gladiolus dalenii*, †*Gladiolus* cultivar, *Hakea laurina* (Western Australian species), *Hemerocallis fulva* var. *fulva*, *Hieracium pilosella*, *Hydrangea macrophylla*, *Hydrocleys nymphoides*, *Hymenachne amplexicaulis*, *Hypericum calycinum*, *Impatiens balfouri*, *Indigofera spicata*, *Iris laevigata*, †*Juglans ailantifolia*, *Lilium lancifolium*, *Lygodium japonicum*, *Malephora crocea*, *Mauranthemum paludosum*, *Melastoma malabathricum*, †*Nassella tenuissima*, *Pelargonium quercifolium*, †*Phoenix reclinata*, *Phormium tenax*, *Pinus contorta*, *Podranea ricasoliana*, †*Polygonatum* x *hybridum*, *Polyprenum procumbens*, †*Primula malacoides*, *Rhaphiolepis umbellata*, *Romneya coulteri*, *Romneya trichocalyx*, *Setaria incrassata*, †*Sideritis lanata*, †*Sorbus aucuparia*, *Spartium junceum*, *Stylosanthes guianensis*, *Stylosanthes humilis*, †*Symphoricarpos albus* var. *laevigatus*, *Syzygium paniculatum* (Australian species naturalising outside its native range), *Tibouchina urvilleana*, †*Tradescantia cerinthoides*, †*Utricularia sandersonii*, *Washingtonia filifera* and *Zephyranthes carinata*. The overlooked species is *Eugenia uniflora*.

Appendix 1 summarises information on the 174 species covered in this paper or the two previous papers in the series (Hosking et al. 2003, Hosking et al. 2007).

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## Introduction

This paper is part of a series covering taxa recognised as naturalised or naturalising by the National Herbarium of New South Wales (standard code for this herbarium, NSW, is used throughout this paper). Earlier papers covered the periods 2000–2001 and 2002–2003 (Hosking et al. 2003, Hosking et al. 2007). This paper draws attention to a number of new naturalisations recorded for the state of New South Wales (N.S.W.) and the Australian Capital Territory (ACT) over

the period 2004–2005 and follows the format of Hosking et al. (2007). Only taxa considered to be spreading from initial plantings or other naturalisations (e.g. from discarded garden refuse) are covered. ‘Naturalised’ in this paper refers to non-native taxa that have been reproducing (sexually or vegetatively) in the wild for at least one generation. ‘Naturalising’ covers taxa growing in the wild that have not yet reproduced, or are not spreading vegetatively.

## Methods

All taxa treated are represented by vouchers lodged at NSW or the Australian National Herbarium, Canberra (CANB). A number of taxa listed were first collected prior to 2004 but are included here as these records were overlooked for *Flora of New South Wales* accounts, or in our earlier accounts, and were subsequently noted during 2004 or 2005. Following recent collections a few old specimens stored at the end of genera and families in the NSW collection were able to be determined to species. There are also likely to be other records of recently naturalised species collected in the area during 2004 and 2005 that are housed at other Australian herbaria and we urge collectors in other states to lodge material collected from the Australian Capital Territory or New South Wales at either CANB or NSW.

The *Germplasm Resources Information Network database* (USDA) (URL <http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl>) and *The International Plant Name Index* (<http://www.ipni.org/index.html>) were extensively consulted to determine currently accepted names, authorities and native range of taxa covered in this paper. The *PlantNET* website (NSW) (<http://plantnet.rbg Syd.nsw.gov.au/>) was used to determine the current status of knowledge of introduced plants in New South Wales (PlantNET 1999+). The *NSW Collections* (NSW) and *Australian National Herbarium Specimen Information Records* (CANB) databases, together with the *Australia's Virtual Herbarium* website (<http://www.ersa.edu.au/avh/>) were extensively used to determine the known records of introduced taxa.

Taxon names used are those currently adopted by NSW and can be viewed in PlantNET (1999+). Nomenclatural details were checked in APNI (1993+). Herbarium codes follow Holmgren et al. (1990).

Information on means of dispersal of various taxa treated in this paper is given under 'Notes' for each taxon where this is known. Where the dispersal mechanism is not listed, the taxon concerned is presumed to spread by seed. However, the actual means of dispersal is not known for a number of taxa treated.

## Discussion

The definition of the term 'naturalised' as used in this paper is outlined above. Given that there is a degree of disagreement as to how this term should be applied (see Richardson et al. 2000, Pyšek et al. 2004), we have provided additional information on numbers of plants present, area covered and reproductive status of all taxa treated in this paper to allow for these differences in interpretation.

There are many ways of detecting new plant naturalisations (Hosking et al. 2001). The records of plant naturalisations in N.S.W. listed below are the result of (i) collections made by experts who have a reasonable knowledge of

local floras, including local government weeds officers, environmental consultants, bush regenerators, professional botanists and staff from Landcare and Greening Australia and (ii) specimens retained by herbaria who provide plant identifications for the general public, government agencies and other professionals.

It is hoped that publication of new records of plant species naturalised in N.S.W. will prompt further collections of introduced species. In the long term, this approach will focus attention on potential problem species, and hopefully lead to their eradication before they have the opportunity to spread and become serious weeds.

Appendix 1 summarises information on the 174 species in this paper or in the two previous papers in the series (Hosking et al. 2003, Hosking et al. 2007). Name, Family, Growth Form, First Record, Botanical Regions, Place of Origin, Introduction Source, Weed Potential in NSW, and *Cunninghamia* volume are provided.

## Plant species first recognised as naturalised in New South Wales during 2004 and 2005

The following taxa are grouped as follows: Ferns, Conifers and allies, Monocotyledons and Dicotyledons, then listed in alphabetical order by family (based on the *Angiosperm Phylogeny Website* (<http://www.mobot.org/MOBOT/Research/APweb/welcome.html>), then by genus and species, followed by vernacular name (where known). This is followed by references to published descriptions (including botanical illustrations and photographs), region of origin, distribution within N.S.W. according to botanical regions, habitat preferences (including areas where the taxon is likely to naturalise based on native range and areas where it has naturalised (if such information can be determined), the first known herbarium record, additional herbarium records for the State and miscellaneous notes (including relative abundance, invasiveness and whether naturalised in other states or overseas). Authorities for native species are those currently recognised at the National Herbarium of New South Wales (NSW).

## Ferns

### Lygodiaceae

#### *Lygodium japonicum* Sw. Japanese Climbing Fern

DESCRIPTION: Climbing fern. See Chinnock in McCarthy (1998) and Diggs et al. (2006).

REGION OF ORIGIN: Native of Asia from Japan and eastern and southern China to Pakistan, Sri Lanka and Papua New Guinea.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. Recorded from bushland.

FIRST RECORD: Below Gnarbo, Kogarah, *M. Monera s.n.*, 4 Aug 2000 (NSW).

NOTES: Spread by movement of spores and locally by rhizomes. Notes with the Kogarah collection are as follows 'In regenerating bushland area, although Lantana and Asparagus present.' There is also a collection made by H. Bower on 20 Apr 2007 on Lot 1 DP 129374 Vallances Road, Mullumbimby but there was no information with regard to whether the collection is from a cultivated or naturalised plant. This species is also naturalised in the Northern Territory and Queensland (Chinnock in McCarthy 1998, Bostock in Bostock & Holland 2007). It is considered to be naturalised and invasive in south eastern USA. (Diggs et al. 2006).

## Conifers and allies

### Pinaceae

#### *Pinus contorta* Douglas ex Loudon

Lodgepole Pine

DESCRIPTION: Pine tree to 27 m high. See Sykes in Webb et al. (1988) and Farjon & Styles (1997).

REGION OF ORIGIN: Native of North America (western Canada, western USA, Mexico (Baja Norte)).

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands, Southern Tablelands. Naturalised near original plantings and likely to spread in Tableland areas of N.S.W. In the Blue Mountains National Park site this pine was growing in an open forest of *Eucalyptus pauciflora* and *Eucalyptus dalrympleana* with *Daviesia latifolia*, *Gahnia aspera*, *Poa sieberiana*, *Deyeuxia gunniana*, *Acacia melanoxylon*, *Babingtonia* sp., *Epacris* sp., *Hypoxis* sp. and a single *Pinus radiata*.

FIRST RECORD: Blue Mountains National Park, Mt Werong Road, 500 m from National Park entrance, *C.H. Barker 41*, 5 Feb 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by wind-dispersed seed, mostly following fire. At the Blue Mountains National Park site there were about 300 naturalised plants of all ages including cone-bearing trees over about 70 m x 50 m. The species is also reported to be naturalised in large numbers in at least one location in the Brindabella Ranges (G. Carr & V. Stajsic pers. comm. Mar 2004). In Kosciuszko National Park 60% of the wilding *Pinus* spp. are reported to be *P. contorta* (Williams & Wardle 2009). *Pinus contorta* previously reported from Charlotte Pass (Hill in McCarthy 1998) and listed in Harden & Murray (2000) has been reidentified as *Pinus mugo* Turra. *Pinus contorta* is also recorded as naturalised in Victoria (Walsh & Stajsic 2007). This pine is one of the five most invasive *Pinus* species according to Rejmánek & Richardson (1996). *Pinus contorta* is considered to be the most aggressive naturalised conifer at medium to high altitudes in New Zealand where it has invaded large areas (Sykes in Webb et al. 1988). In New Zealand it was widely planted in montane areas, often via aerial seeding (Sykes in Webb et al. 1988). *Pinus contorta* is also naturalised in Europe, Argentina and Chile (Gaussen et al. in Tutin et al. 1993, Simberloff et al. 2010).

## Monocotyledons

### Amaryllidaceae (Amaryllidoideae)

#### *Zephyranthes carinata* Herb. [*Zephyranthes grandiflora* Lindl. auct.]

Pink Storm Lily, Rain Lily

DESCRIPTION: Herb to 25 cm high. See Hooker (1825), Lindley (1825) and Ji & Meerow in Wu & Raven (2000, 2002).

REGION OF ORIGIN: Native from southern USA to Argentina and to the Caribbean Islands.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Recorded from an area of roadside *Pennisetum clandestinum* near Ballina and a lawn of *Ehrharta erecta* near Boat Harbour.

FIRST RECORD: 8.6 km NNE of Ballina P.O., outside fence of property 'Wylies Way', *R.G. Coveny 12778*, *Z. Donabauer & C. Dunn*, 19 Oct 1987 (NSW).

ADDITIONAL RECORD: Alongside Gan Gan Road, Boat Harbour, *J.R. Hosking 2542 & G.C. Prichard*, 16 Nov 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed. The species was recorded as occasional in a road verge near Ballina and 33 flowering plants were recorded from a mown open area near Boat Harbour. *Zephyranthes carinata* is also naturalised in Queensland (Forster in Bostock & Holland 2007) as well as South Africa and China (Reid & Archer in Arnold & de Wet 1993, Ji & Meerow in Wu & Raven 2000).

### Arecaceae

#### *Phoenix reclinata* Jacq.

Senegal Palm

DESCRIPTION: Palm to 12 m high. See Barrow (1998) and Zona in Morin (2000).

REGION OF ORIGIN: Native to tropical and subtropical Africa, Asia (southern Saudi Arabia, Yemen) and Indian Ocean islands (Comoro Islands, Madagascar).

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Recorded from a wetland at Marmong Point, a suburb of Newcastle.

FIRST RECORD: Wetland over road from Marmong Cove Marina, Marmong Point, *J.R. Hosking 2543 & G.C. Prichard*, 17 Nov 2004 (CANB, MEL, NE, NSW).

NOTES: Fruits are animal-dispersed. At Marmong Point there were many hundreds of plants of all ages growing in an area that is seasonally wet. The species is recorded as often growing in seasonally water-logged or inundated areas but can be found in drier locations (Barrow 1998). In other countries trunks and leaves of this palm are used for building purposes, leaflets for baskets, hats, brushes, building ties, woven dolls and ornaments, fruits are eaten and the sap fermented into an alcoholic beverage (Barrow 1998). This palm is not known to be naturalised elsewhere in Australia but is recorded as naturalised in the USA (Adanson et al. in Morin 2000).

#### *Washingtonia filifera* (Linden ex André) H. Wendl.

American Cotton Palm, Cotton Palm, California fan palm.

DESCRIPTION: Palm to 40 m high. See McClintock in Hickman (1993) and Zona in Morin (2000).

REGION OF ORIGIN: Native of Mexico (Baja Norte) and south western USA.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Western Slopes. Recorded from a drain where growing with naturalised exotic species such as *Fraxinus angustifolia*, *Acer negundo*, *Ligustrum sinense* and *Ligustrum lucidum*.

FIRST RECORD: Best Reserve, Ashmont Avenue (opposite Bulolo Street), Ashmont Wagga Wagga, *B. Lepschi* 5370, 10 Nov 2004 (CANB).

NOTES: Spread by seed. Two non-reproductive plants to 1.8 m high were seen in the collection area. The drain where these plants were growing was extensively cleared of all woody vegetation in 2005. The species is believed to have naturalised at other locations but there are no other collections to date. The species is recorded as naturalised in Western Australia and South Australia (FloraBase 1998+, eFlora SA 1999+), as an environmental weed in subsaline areas in Victoria (Carr et al. 1992) and as sparingly naturalised in the Northern Territory (APC 2005+). Overseas the species is recorded as naturalised outside its native range in south western USA (Zona in Morin 2000).

### Asparagaceae (Lomandroideae)

#### *Cordyline australis* (G. Forst.) Endl.

New Zealand Cabbage Tree, Cabbage Tree, Ti Kouka

DESCRIPTION: Small tree to 12 (rarely to 20) m high. See Moore & Edgar (1970), Salmon (1980) and Poole & Adams (1990).

REGION OF ORIGIN: Native of New Zealand.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Growing on clay loam in dry sclerophyll forest below a storm water drain.

FIRST RECORD: Gully in Frank Walford Park (Catalina Park or The Gully), Katoomba, *C.H. Barker* 71, 26 Nov 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed or as a result of dumping of garden waste. Five stems were present in the collection area. The species occurs sporadically in the upper Blue Mountains. *Cordyline australis* is also naturalised in Victoria and Tasmania (Walsh & Stajsic 2007, Buchanan 2009) and listed as doubtfully established in South Australia (eFlora SA 1999+). In Victoria it is naturalised in wet areas (Carr et al. 1992). A *Cordyline* sp., probably *C. australis*, is reported to have naturalised in California (Jepson Online Interchange 2006+).

### Asparagaceae (Nolinoideae)

#### *Polygonatum x hybridum* Brügger

Solomon's Seal, Garden Solomon's Seal

DESCRIPTION: Herb to at least 90 cm high. See Healy & Edgar (1980) and Stace (1997).

REGION OF ORIGIN: Derived in cultivation.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Recorded from natural bush where it was growing in dark brown loam high in organic matter and with leaf litter to 10 cm thick.

FIRST RECORD: Blue Mountains National Park, adjacent to last house on Cliff Drive, directly north of the Three Sisters, South Katoomba, *C.H. Barker* 68, 30 Oct 2004 (CANB, MEL, NE, NSW).

NOTES: Appears to be spreading vegetatively and/or by movement of tubers. Notes with the specimen indicate that it was growing in natural bushland not far from a house with the same plant in the backyard, that possibly all stems are connected underground and that the patch now occupies about 1.8 m x 1.8 m. This species has not been recorded as naturalised elsewhere in Australia. This hybrid, developed in cultivation, is also naturalised in Europe and New Zealand (DeFilippis in Tutin et al. 1980, Healy & Edgar 1980).

### Commelinaceae

#### *Tradescantia cerinthoides* Kunth [syn. *Tradescantia blossfeldiana* Mildbr.]

Spiderwort, Moss Inch Plant

DESCRIPTION: Herb to 30 cm high. See Hunt in Egli (2001) and Spencer (2005).

REGION OF ORIGIN: Native of south eastern Brazil.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. Recorded from rock crevasses and rock shelves in Blaxland.

FIRST RECORD: Rock crevasses below and alongside 58 Ross Crescent near start of track to Florabella Pass, Blaxland, *J.R. Hosking* 2446 & *C.H. Barker*, 8 Feb 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by movement of plant pieces. There were hundreds of naturalised plants occurring on rock ledges and at the base of a small cliff at Blaxland. This *Tradescantia* is listed as doubtfully established in South Australia (Barker et al. 2005) and as naturalised in New Zealand (P. Heenan pers. comm. 21 Aug 2009). *Tradescantia cerinthoides* is not as invasive as *Tradescantia fluminensis* Vell. (Burns 2004, Burns & Winn 2006).

### Cyperaceae

#### *Cyperus proliifer* Lam.

Dwarf Papyrus

DESCRIPTION: Sedge to 1.1 m high. See Haines & Lye (1983).

REGION OF ORIGIN: Native of Africa (Kenya, Tanzania, Mozambique, South Africa), Madagascar and the Mascarene Islands.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Known from moist areas, such as a shallow dam and *Melaleuca* swamps. In other countries this sedge is recorded from swamp-edges, stream-sides, and in seasonally flooded habitats (Haines & Lye 1983). This is also likely to be the case in N.S.W.

FIRST RECORD: Boambee, A. Floyd's residence, *A.G. Floyd* 1386, 28 Oct 1979 (CFSHB, NE).

ADDITIONAL RECORDS: Near corner of Cudgen Street and Booyun Street, Brunswick Heads, *P.G. Kodala* 26, 29 Oct 1990 (BRI, NE, UNSW, NSW); Cudgen Lake near Bogangar, *A.R. Bean* 14544, 23 Jan 1999 (BRI, NSW); Behind houses on Salamander Way, Sandpiper Reserve, Salamander Bay, *J.R. Hosking* 2536 & *G.C. Prichard*, 16 Nov 2004 (CANB, MEL, NSW, NE).

NOTES: Spreads by daughter plants that grow in the inflorescence; as shoots become heavier stems lean over and on reaching the ground daughter plants attach and grow. The earliest record lists over 100 plants and states 'Becomes a pest due to prolific rooting of inflorescences'. Plants were present in sizeable clumps at Cudgen Lake and in Sandpiper Reserve. Notes on a specimen collected by N. Romanowski and housed at NSW suggest that plants are sold under a number of names including *Cyperus haspan* in the nursery trade in Australia and *Cyperus isocladus* in the USA. Plants are also sold as *Cyperus papyrus* cultivar Nana in the nursery trade in Australia (G. Prichard pers. comm. Nov 2004). This species is also naturalised in Queensland and Florida (Booth in Bostock & Holland 2007, Wunderlin & Hansen 1996+).



## Iridaceae

***Gladiolus dalenii* Van Geel.** [syn. *Gladiolus natalensis* Reinw. ex Hook. nom. illeg.]  
Natal Lily, Dragon's Head Lily

DESCRIPTION: Herb to 1.5 (rarely to 2) m high. See Goldblatt & Manning (1998) and Goldblatt in Morin (2002).

REGION OF ORIGIN: Native of Africa (Senegal to Sudan, Eritrea and South Africa) and Asia (Saudi Arabia, Yemen).

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast, Central Tablelands and Central Coast. Widely naturalised on sandy soils in the Blue Mountains and at Port Stephens.

FIRST RECORD: Road reserve at end of Armstrong Road above Jamison Creek, Wentworth Falls, *C.H. Barker 32*, 11 Jan 2004 (CANB, MEL, MO, NE, NSW).

ADDITIONAL RECORDS: Southern side of Great Western Highway, western edge of Bullaburra, *C.H. Barker 36*, 21 Jan 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed and discarded bulbs. This species has been planted as an ornamental in many locations in N.S.W. Naturalised plants are scattered from the Cumberland Plain to the upper Blue Mountains, and in the Port Stephens area. It is probably much more widely naturalised. *Gladiolus dalenii* is recorded as doubtfully naturalised in South Australia (Barker et al. 2005) and naturalised in New Zealand and the USA (Healy & Edgar 1980, Goldblatt in Morin 2002).

***Gladiolus cultivar*** (with *Gladiolus dalenii* strain dominating)

DESCRIPTION: Herb to 1.5 (rarely to 2) m high.

REGION OF ORIGIN: Cultivar of garden origin.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Naturalised on sandy soils in the Blue Mountains.

FIRST RECORD: End of small dirt road, North Street, North Katoomba, *C.H. Barker 37*, 22 Jan 2004 (CANB, MO, NSW).

ADDITIONAL RECORD: Between cemetery and North Road, North Katoomba, *C.H. Barker 38*, 22 Jan 2004 (NSW).

NOTES: Spread by seed and discarded bulbs. Plants are found scattered in the upper Blue Mountains. This *Gladiolus* cultivar is not known to be naturalised in other states or overseas.

***Iris laevigata* Fisch.**

Rabbitear Iris

DESCRIPTION: Herb to 60 cm high. See Mathew (1981) and Zhao et al in Wu & Raven (2000, 2002).

REGION OF ORIGIN: Native of China (Heilongjiang, Jilin, Liaoning, Yunnan), Japan, Korea and the Russian Federation (Amur, eastern Siberia, Khabarovsk, Magadan, Primorye).

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Invading the edge of a swamp.

FIRST RECORD: Behind houses on Salamander Way, Sandpiper Reserve, Salamander Bay, *J.R. Hosking 2537 & G.C. Prichard*, 16 Nov 2004 (CANB, MEL, NE, NSW).

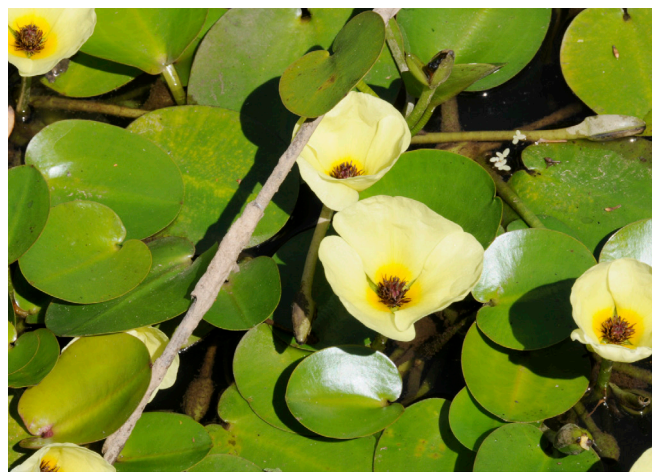
NOTES: Spread by seed. Hundreds of plants occurred in the collection area where they appeared to be spreading from cultivated plants. In its native range the species occurs in swamps and on lake margins (Mathew



**Fig. 1.** *Zephyranthes carinata* growing on sandy soil in a mown area at Boat Harbour.



**Fig. 2.** *Cyperus proliifer* growing in a *Melaleuca* swamp at Salamander Bay.



**Fig. 3.** *Hydrocleys nymphoides* has attractive yellow petals and can form dense mats on slow flowing water.

1981). *Iris laevigata* is also naturalised in Western Australia (Keighery 2005) and the USA (USDA, NRCS 1995+), and has been collected in the wild in New Zealand (Healy & Edgar 1980).

## Liliaceae

***Lilium lancifolium* Thunb. [*Lilium tigrinum* Ker Gawl.]**  
Tiger Lily

DESCRIPTION: Lily to 2 m high. See Liang & Minoru in Wu & Raven (2000, 2002) and Skinner in Morin (2002).

REGION OF ORIGIN: Native of China (Anhui, Gansu, Guangxi, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Xizang, Zhejiang), Korea and Japan.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Recorded growing in sandy soil in an open *Eucalyptus* spp. forest.

FIRST RECORD: Eastern side of Katoomba Cemetery, North Katoomba, *J.R. Hosking 2441 & C.H. Barker*, 7 Feb 2004 (CANB, NSW).

NOTES: Spread by movement of axillary bulbils and bulb scales. In the collection area there was a small clump of 11 naturalised plants to 1.5 m high. In China this lily is widely cultivated for its edible bulbs (Liang & Minoru in Wu & Raven 2000). In Victoria the species is listed by Carr et al. (1992) as being rare or localised in small populations in damp sclerophyll forest, but there are no herbarium specimens to back up this statement at present. *Lilium lancifolium* is naturalised near habitation in eastern and north eastern USA (Skinner in Morin 2002) and on roadsides and wastelands in New Zealand (Healy & Edgar 1980).

## Limnocharitaceae

***Hydrocleys nymphoides* (Humb. & Bonpl. ex Willd.) Buchenau**  
Water Poppy

DESCRIPTION: Water plant with floating leaves. See Conn in Walsh and Entwisle (1994).

REGION OF ORIGIN: Native of the Americas from Guatemala to Argentina, and to Caribbean Islands.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast, Central Coast and South Western Slopes. Recorded from a slow flowing stream where growing with other water plants such as *Colocasia esculenta*, a water *Iris* and *Vallisneria australis*.

FIRST RECORD: Castle Hill, collector not given, Nov 1957 (NSW).

ADDITIONAL RECORD: Mungabareena Reserve, *T.Harrison TH02/01*, 5 Mar 2002 (NSW); Mungabareena Reserve, about 280 m from the Murray River, East Albury, *J.R. Hosking 3293 & L.K. Pearce*, 20 Dec 2009 (CANB, MEL, NE, NSW).

NOTES: Reproduces by plantlets during autumn and also spreads via plant pieces. The Castle Hill collection contained notes that the species was 'rapidly blocking up our two dams'. In Mungabareena Reserve this species covered an area of about 2 m<sup>2</sup> in 2002 (T. Michael (nee Harrison) pers. comm. Jan 2010). At this time the species was dug out. In 2010 the species was covering around 20 m by 10 m in the same Reserve but about one km downstream of the original collection site. Once again it is proposed that the species be removed, in this case by draining and dredging the infested area and burying material from the site. The species has also been recorded from a dam at Murwillumbah (G. Sainty pers. comm. Dec 1993) so the species has probably

naturalised at other locations in N.S.W. *Hydrocleys nymphoides* is an attractive horticultural plant that thrives in nutrient-rich stationary or slow flowing water to 1 m deep. It has also naturalised in a number of locations in Queensland and Victoria. In Victoria it is recorded mainly from farm dams and slow-moving rivers (Conn in Walsh and Entwisle 1994) and on roadsides and wastelands in New Zealand (Healy & Edgar 1980).

## Poaceae

***Echinochloa polystachya* (Kunth) Hitch.**  
Aleman grass

DESCRIPTION: Perennial aquatic grass to 3 m high. See Michael in Morin (2003b) and Jacobs et al. (2008).

REGION OF ORIGIN: Native from Southern USA to Argentina and Uruguay, and to the Caribbean Islands.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Recorded from pastures, creeks and low swampy areas.

FIRST RECORD: 10 km south east of Casino, *R. Ensbeys s.n.*, 14 Apr 2004 (NSW).

NOTES: Spread by seed (including deliberate planting as a ponded pasture species) and movement of stolon sections and mats of this species. This species has been introduced to many areas of northern Australia as a ponded pasture grass. The herbarium record of this species for N.S.W. is as an occasional plant occurring over about 1 ha. Boorman (2009) lists the species as occurring in Branch Creek downstream of the Bruxner Highway and at Yorklea, both areas on the north coast of N.S.W. In both areas the species was considered to be invasive and capable of producing massive amounts of biomass. Attempts are being made to eradicate this species at these locations (Boorman 2009). In the aquatic phase plants grow above the fluctuating water level and in the terrestrial phase it forms new shoots from nodes on decaying stems (Griffin et al. 2008). During flooding it sequesters large amounts of nutrients, acting as a nitrogen sink and may cause nitrate and nitrite poisoning in cattle following a drought (Griffin et al. 2008). The species is naturalised in Queensland and the Northern Territory (Simon et al. in Bostock & Holland 2007, Cowie & Kerrigan 2007). This grass replaces native aquatic species. It is also considered to be a weed in the USA, Hawaii, Argentina, Mexico, India and Zaire (Griffin et al. 2008) and naturalised in Chile (Arroyo et al. in Mooney & Hobbs 2000).

***Hymenachne amplexicaulis* (Rudge) Nees**  
Olive Hymenachne, Hymenachne

DESCRIPTION: Perennial aquatic grass to 3.5 m high. See Barkworth in Morin (2003b), Jacobs et al. (2008) and Anon. (2003).

REGION OF ORIGIN: Native from Mexico to Uruguay, and to the Caribbean Islands.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Recorded from pastures, creeks and low swampy areas.

FIRST RECORD: 10 km south east of Casino, *R. Ensbeys s.n.*, 14 Apr 2004 (NSW).

ADDITIONAL RECORD: Roadside, T.R. [Timber Reserve?] Benns Road, off Marks Lane, about 8.8 km SSW of Casino, *J. Stenzel s.n.*, mid Sep 2009 (CANB, NE, NSW).

NOTES: Spread by seed (including deliberate planting as a ponded pasture species), stem fragments or as a contaminant in stockfeed. This species has been introduced to many areas as a pasture grass. The first record of this species for N.S.W. is as an occasional species occurring



over about 1 ha. It is thought to have been deliberately planted at the site. It has been reported from a few other locations (Boorman 2009) but there is only one other collection at Australian herbaria for N.S.W. This was for plants covering about 3 m<sup>2</sup> in a drain leading from a dam. According to J. Stenzel (pers. comm. Sep 2009) the species is not very aggressive in the Casino area and does not handle frost or grazing in drier areas. In northern Australia this grass thrives in water to 2 m deep in areas with wet and dry cycles, and tolerates deeper water than para grass, *Urochloa mutica*. In more tropical conditions *Hymenachne amplexicaulis* provides high quality feed all year round, even as waterbodies dry during extended periods of no rain. It displaces native species from deeper water and threatens native wetland habitat. In its native range it is considered to be a valuable forage (Diaz et al. 2009). *Hymenachne amplexicaulis* is naturalised in Queensland and the Northern Territory (Simon et al. in Bostock & Holland 2007, Cowie & Kerrigan 2007) and is also naturalised and invasive in Florida (Diaz et al. 2009). As a result of its impact on the environment it has been declared a Weed of National Significance in Australia (Anon. 2003).

***Nassella tenuissima* (Trin.) Barkworth**  
Mexican Feather Grass

DESCRIPTION: Perennial grass forming dense tussocks to 0.8 m high. See Everett et al. in Wilson (2009).

REGION OF ORIGIN: Native range disjunct, considered native to southern USA (Texas) and Mexico, and also Argentina and Chile.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Southern Tablelands, North Western Slopes. Grassy open areas around a rebuilt ranger's hut at Bendora Dam (ACT) and in the surrounding forest. In Tamworth it has been recorded as spreading in garden beds and a lawn.

FIRST RECORD: Garden beds and lawn at Peter Pan Pre-school Kindergarten, 24 Larool Street, Tamworth, J.R. Hosking 2513 & A.J. Lawler, 29 Sep 2004 (BRI, CANB, MEL, NE, NSW).

ADDITIONAL RECORD: Namadgi National Park: next to Bendora House at Bendora Dam, S. Taylor s.n., Feb 2008 (AD, BRI, MEL, MO, NSW).

NOTES: Spread by seed. The collection from Tamworth was from 60 plants growing in garden beds and six plants in the lawn. Only three plants appear to have been planted. Plants at Tamworth have subsequently been removed and this site and two other locations where the species is known to have been planted in Tamworth are checked regularly with any *N. tenuissima* plants found removed. This species is likely to have been introduced to the Bendora site via contaminated machinery used by contractors rebuilding the Ranger's House following the 2003 Canberra bushfires (S. Taylor pers. comm. 18 May 2010). Five mature seeding tussocks were destroyed in this area in 2008 and seedlings have been removed from the area since that time (S. Taylor pers. comm. 18 May 2010). This grass has been sold in nurseries as elegant spear grass, a name that is normally reserved for the Australian native, *Austrostipa elegantissima*. The species has also been recorded as cultivated (but now hopefully removed) in Victoria, Tasmania and Queensland. *Nassella tenuissima* is a weed in its native range and is considered to be of low palatability. It has escaped from cultivation in New Zealand and has become a weed that is continuing to spread. The species is also naturalised in South Africa and Europe (Henderson 2001, Verloove 2005). For more information on this species and its likely impact in Australia see Jacobs et al. (1998) and McLaren et al. (1999).

***Setaria incrassata* (Hochst.) Hack.**

Purple Pigeon Grass

DESCRIPTION: Grass to 2 m high. See Sharp & Simon (2002) and Jacobs et al. (2008).

REGION OF ORIGIN: Native of Africa (Nigeria to Ethiopia and South Africa).

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Western Slopes. Known from pasture and a track on basalt soils.

FIRST RECORD: Inverell area, Harris Seeds client, 14 Feb 1995 (NSW).

ADDITIONAL RECORD: Track on southern boundary of Red Bobs Reserve, about 40 km south west of Gunnedah, J.R. Hosking 2572, 9 Jan 2005 (CANB, MEL, NE, NSW).

NOTES: Spreads by seed. Notes supplied with the Inverell collection indicate that plants were occurring naturally in pasture. At Red Bobs Reserve there were >100 clumps (Hosking 2572). These plants probably arose from pasture planted elsewhere nearby. In this area *Setaria incrassata* was growing with Bambatsi panic, *Panicum coloratum* var. *makarikariense*. These two species are often planted on heavier textured soils (McDonald 1986). *Setaria incrassata* 'variety' Inverell was selected by the New South Wales Conservation Service and released in 1981 (McDonald 1986). This species is also naturalised in Queensland, the Northern Territory and Western Australia (Sharp & Simon 2002).

**Xanthorrhoeaceae (Hemerocallidoideae)**

***Hemerocallis fulva* (L.) L. var. *fulva***

Day-lily, Kwanso

DESCRIPTION: Herb to 1.5 m high with perianth segments doubled. See Makino (1964), Ohwi (1965), Xinqi & Noguchi in Wu & Raven (2000) and Straley & Utech in Morin (2002).

REGION OF ORIGIN: Widely cultivated in Asia, probably native to China and Japan.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands and Central Coast. Occurs in areas alongside streams or swampy locations in the Blue Mountains.

FIRST RECORD: Wentworth Falls, Central Park, Falls Road opposite Parkes Street, C.H. Barker 35, 19 Jan 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by rhizomes and movement of rhizomes with soil. Many cultivars of *H. fulva* have been bred including the one with double flowers collected from Wentworth Falls. This is now considered to be part of var. *fulva* but is often referred to as *H. fulva* (L.) L. var. *kwanso* Regel (Xinqi & Noguchi in Wu & Raven 2000, World Checklist of Monocotyledons 2006+). Plants are found scattered from the lower to the upper Blue Mountains. Plants were over about 12 m x 12 m in the Wentworth Falls area. There are also NSW specimens collected by E.J. McBarron on 11 Dec 1965 recording plants that have persisted at an old homestead site at Leumeah near Campbelltown. Variety *kwanso* is a triploid not known from the wild in China but probably originating there (Xinqi & Noguchi in Wu & Raven 2000). *Hemerocallis fulva* is naturalised in Queensland (Batianoff 0308319 – BRI) and in New Zealand, Europe, Canada and the USA (Healy & Edgar 1980, Webb in Tutin et al. 1980, Straley & Utech in Morin 2002).

***Phormium tenax* J.R.Forst. & G.Forst.**

New Zealand Flax

DESCRIPTION: Tall herb with flower spikes to 3.5 m high and with leaves to 3 m long. See Moore & Edgar (1970), Poole & Adams (1990) and Wagner et al. (1999).

REGION OF ORIGIN: Native of New Zealand, Chatham Island and Norfolk Island.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands and Central Coast. Recorded from a partly cleared ridgetop and roadsides in woodland and open forest.

FIRST RECORD: Upper side of Cliff Drive, Katoomba, *C.H. Barker* 40, 1 Feb 2004 (CANB, MEL, NE, NSW).

ADDITIONAL RECORD: About 100 m below South Lawson tip, *J.R. Hosking* 2434, 6 Feb 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed and rhizomes. At the Katoomba site there were five naturalised clumps of plants in the collection area and more plants further up the roadside, while at the South Lawson location there was one plant with fruiting spikes. This species is also known from the wild in Sun Valley in the lower Blue Mountains. It is naturalised in Tasmania (Morris in Curtis & Morris 1994), listed as invasive in seasonal freshwater wetlands in Victoria (Carr et al. 1992) and is listed as questionably established in South Australia (Barker et al. 2005). *Phormium tenax* is also naturalised in Hawaii (Wagner et al. 1999).

**Dicotyledons****Aceraceae*****Acer palmatum* Thunb.**

Japanese Maple

DESCRIPTION: Tree to 16 m high. See Mitchell (1988), Spencer (2002a), le Hardý de Beaulieu (2003) and Xu et al. in Wu et al. (2008).

REGION OF ORIGIN: Native of South Korea and Japan.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Blue Mountains in weedy *Eucalyptus* sp. woodland.

FIRST RECORD: Opposite 11 Myall Avenue, Leura, *C.H. Barker* 43, 31 Mar 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed. Seedlings of this species are common in the Blue Mountains but this is the only plant known to have reached the reproductive stage. Apparently most seedlings die at a young age. This could be because the species is susceptible to spring frost, which kills the young shoots (le Hardý de Beaulieu 2003). This tree is a popular ornamental of temperate climate gardens in Australia. The species is possibly also naturalised in Victoria (Walsh & Stajsic 2007) and has been recorded as weedy in a garden in South Australia (Robyn Barker pers. comm. 4 Sep 2009). *Acer palmatum* has naturalised in Canada, the USA and New Zealand (USDA, NRCS 1995+, Heenan et al. 1999).

***Acer saccharinum* L.**

Silver Maple

DESCRIPTION: Tree to 35 m high. See Mitchell (1988), Spencer (2002a) and le Hardý de Beaulieu (2003).

REGION OF ORIGIN: Native from eastern Canada to Guatemala.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Native open forest with some naturalised exotics.

FIRST RECORD: Below northern strategic black line fire trail, Blackheath, *J.R. Hosking* 2447 & *C.H. Barker*, 9 Feb 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed. In the collection area there were four naturalised trees (three in one group and one larger tree further down the gully) to 8 m high. There are no other records of naturalised plants in Australia. *Acer saccharinum* is also naturalised outside its native range in the USA (Hrusa et al. 2002).

**Aizoaceae*****Malephora crocea* (Jacq.) Schwantes**

Angular Pigface, Crocea Iceplant

DESCRIPTION: Subshrub to 25 cm high. See Ferren et al. (1981), Beck in Morin (2003a) and Cunningham et al. (1981, as *Carpobrotus* sp.).

REGION OF ORIGIN: Native of South Africa (Cape Province).

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Western Plains. At Lightning Ridge plants were growing with native herbs and grasses in a disturbed area near habitation. Plants in this area were spreading into less disturbed areas.

FIRST RECORD: Pilliga Wee Waa, *M.B. Welch s.n.*, Sep 1926 (NSW).

ADDITIONAL RECORD: Saltbush Corner, below Bevan's Black Opal & Cactus Nursery, Lightning Ridge, *J.R. Hosking* 2494, 11 Jul 2004 (AD, CANB, MEL, NE, NSW).

NOTES: Spread by seed. At Lightning Ridge there were over 1000 clumps of plants over an area of about 100 m x 20 m with a few plants scattered outside this area. According to Cunningham et al. (1981), where the species is listed as *Carpobrotus* sp., the species is recorded from scattered localities throughout western N.S.W. and is often a major component of the pasture over wide areas. Given these comments it is surprising that there are so few specimens of this species in herbarium collections. This species is also recorded as naturalised in South Australia (eFlora SA 1999+) and in California where it is often grown as a ground cover for landscaping (Ferren et al. 1981, Bleck in Morin 2003a).

**Apiaceae*****Coriandrum sativum* L.**

Coriander

DESCRIPTION: Herb to 1 m high with a strong odour. See Makino (1964), Stace (1997) and Spencer (2002b).

REGION OF ORIGIN: Possibly native from the Mediterranean region to south-western Asia but native range now obscure.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Western Slopes, North Western Slopes, North Western Plains. Notes with specimens record the species growing in lucerne, faba bean and chickpea or on an irrigation bank after summer crops were removed.

FIRST RECORD: 20 km south of Narromine, *B.G. Bully s.n.*, 22 Jun 2000 (NSW).

ADDITIONAL RECORDS: 30 km SW of Narromine, *Asley s.n.*, 26 Jun 2000 (NSW); 'Glenoak', Bellata, *G. Constance s.n.*, 28 Sep 2001 (NSW); 'Glenkerry', property owned by J.H. & R.S. Tourle, Willow



Tree Road, Quirindi, A. Robertson s.n., 31 Oct 2008 (CANB, MEL, NE, NSW).

NOTES: Spread by seed. Coriander is a widely used spice and crops of this species have been grown in many states in the past. In N.S.W. the species appears to be mainly found in crops of other species so it may be occurring as a seed contaminant rather than a naturalised species. Coriander is also recorded as naturalised in Queensland, South Australia and Western Australia (Bean in Bostock & Holland 2007, Barker et al. 2005, FloraBase 1998+) and as possibly naturalised in Victoria (Walsh & Stajsic 2007). It is also naturalised in many countries outside Australia (Holm et al. 1979, Webb in Webb et al. 1988, Constance in Hickman 1993, Menglan & Watson in Wu & Raven et al. 2005).

### Apocynaceae (Rauvolfioideae)

#### *Acokanthera oblongifolia* (Hochst.) Codd

Bushman's Poison, Hottentot's-poison, Poison Arrowplant, Wintersweet

DESCRIPTION: Shrub or small tree to 6 m high. See Codd in Dyer et al. (1963) and Spencer (2002b).

REGION OF ORIGIN: Native of South Africa (eastern Cape Province, Natal) and southern Mozambique.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Known from sub tropical rainforest undergoing regeneration at Coocumbac Island and mostly native vegetation on the edge of dunes at Nelson Bay.

FIRST RECORD: Coocumbac Island Nature Reserve, Manning River at Taree, M. Dodkin s.n., May 2003 (BRI).

ADDITIONAL RECORD: Bushland behind beach at the junction of Harwood Avenue and Beach Road, Nelson Bay, J.R. Hosking 2540 & G.C. Prichard, 16 Nov 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed. On Coocumbac Island there was only a single shrub 50 cm high, while at Nelson Bay plants were growing in two thickets. Probably one plant in each thicket had been planted. It is likely that original plants here were grown as ornamentals as flowers are attractive and sweetly scented. This species is found in coastal bush and woodland not far from the coast in South Africa where the species is often cultivated (Codd in Dyer et al. 1963). Sap of this species is highly toxic (Codd in Dyer et al. 1963). This species is recorded as doubtfully naturalised in Queensland (Forster in Bostock & Holland 2007).

### Asteraceae

#### *Achillea filipendulina* Lam.

Fern-leaf yarrow

DESCRIPTION: Herb to 1.5 m high. See Spencer (2002b) and Thompson (2007).

REGION OF ORIGIN: Native of Asia (Afghanistan, Armenia, Azerbaijan, Ciscaucasia, Iran, Iraq, Kyrgyzstan, Tajikistan and Turkey).

NEW SOUTH WALES DISTRIBUTION / HABITATS: Southern Tablelands. No habitat information available.

FIRST RECORD: Island Bend dam viewpoint, Snowy Mountains, M.E. Phillips s.n., 8 Feb 1966 (CANB, NSW)

NOTES: Spread by seed. Although collected many years ago the identity of this species was only determined as part of the preparation of Asteraceae for the *Flora of Australia* series. The species has also been collected near Adelaide in South Australia (Thompson 2007). Thompson (2007) did not consider the species to be naturalised. The



Fig. 4. *Malephora crocea* is a succulent that has naturalised in inland areas of N.S.W.

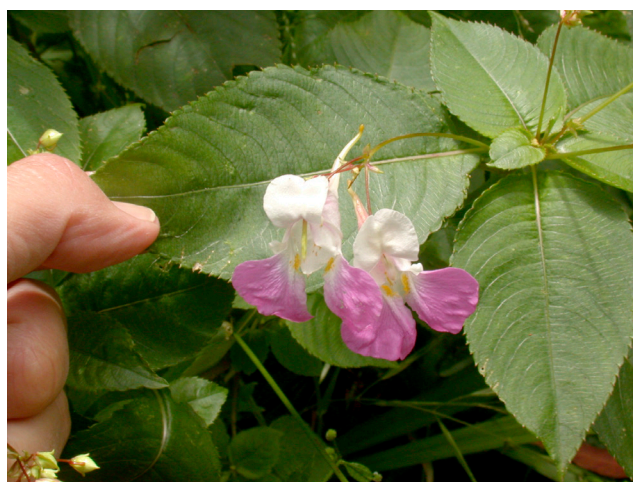


Fig. 5. *Impatiens balfourii* is often grown for its attractive flowers and naturalises in cooler areas of Australia.



Fig. 6. *Indigofera spicata* is often found growing in lawns in Queensland and is now present in N.S.W.

species has been recorded once, from a small patch established as a garden outcast in Christchurch, New Zealand (Webb in Webb et al. 1988).

### ***Bidens aurea* (Aiton) Sherff**

Arizona beggarticks

DESCRIPTION: Herb to 1 (rarely to 2.5) m high. See Strother & Weedon in Morin (2006b).

REGION OF ORIGIN: Native of southern Arizona, Mexico and Guatemala.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. The May 2004 collections are the only ones with habitat information and in this case the species was recorded from a road verge where growing with exotic species below planted Australian natives.

FIRST RECORD: Epping, *K. Aird s.n.*, 1956 (NSW).

ADDITIONAL RECORD: Castle Howard Road, Cheltenham, *P.W. Michael s.n.*, 24 Apr 1988 (NSW); Eastern side of Old Northern Rd, between Galston Rd and Mid-Dural Rd, Dural, *P.W. Michael s.n.*, 24 Apr 1988 (NSW); Castle Howard Road, Cheltenham, near footbridge over M2, *W.A. Cherry 538 & 539*, 29 May 2004 (NSW).

NOTES: Spread by seed and locally by rhizomes. The 1956 collection recorded the species as a weed '8 x 6 feet' – although it is not clear what this means. There was no information with the 1988 collections and the 2004 collections mention two patches of plants. The species has not been recorded as naturalised in other states. It has been recorded as naturalised in Portugal, Spain, France, Italy and Chile (Tutin in Tutin et al. 1976, Arroyo et al. in Mooney & Hobbs 2000).

### ***Hieracium pilosella* L.**

Mouse-ear Hawkweed, Hieracium

DESCRIPTION: Herb with flowering stems to 40 cm high. See Garnock-Jones in Webb et al. (1988) and Espie (2001).

REGION OF ORIGIN: Native of Europe and Asia.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Southern Tablelands. Growing amongst snow gums and in grasslands in the Kosciuszko region.

FIRST RECORD: Namadgi National Park, Nursery Swamp, SGAP [Society for Growing Australian Plants] *s.n.*, 1992.

NOTES: Spread mainly by wind-dispersed seed and locally by stolons. There is no accurate location information with the plant collection, and the species has not been relocated in the Nursery Swamp area despite intensive searches by B.J. Lepschi, J.R. Hosking and others. This species has significantly decreased carrying capacity in large areas of the MacKenzie country on the South Island of New Zealand. *Hieracium pilosella* was found in Tasmania in January 2001 and this infestation is believed to have been eradicated (Rudman & Goninon 2002). In South Australia the species was growing in Mt Lofty Botanic Gardens in 1994 and was subsequently removed (Robyn Barker pers. comm. 4 Sep 2009). This species is also naturalised in the USA and Canada (Rickett 1966).

### ***Mauranthemum paludosum* (Poir.) Vogt & Oberpr.**

DESCRIPTION: Herb to 30 cm high. See Strother in Morin (2006a) and Thompson (2007).

REGION OF ORIGIN: Native of northern Africa (Algeria, Libya, Morocco, Tunisia) and south western Europe (Spain).

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast and South Coast. From low woodland on a sandstone ridge for the Galston collection below.

FIRST RECORD: Nr Crosslands Rd, 6 km NW of Galston, *I. McDonald s.n.*, 13 Nov 1988 (NSW).

ADDITIONAL RECORDS: Princes Hwy N of Milton, *K. Mills s.n.*, 3 Jul 1998 (NSW).

NOTES: Spread by seed. The original collection was from a single plant growing on a roadside. It also occurs in south-western Western Australia, South Australia and Victoria where it is often found on roadsides (Thompson 2007). This species is recorded as naturalised in California and New Zealand (Strother in Morin 2006a, Heenan et al. 2009).

## **Balsaminaceae**

### ***Impatiens balfourii* Hook. f.**

Poor Man's Orchid, Balfour's Touch-me-not.

DESCRIPTION: Herb to 1 m high. See Hooker (1903) and Spencer (2002b).

REGION OF ORIGIN: Native of Himalayan India and Pakistan.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Found in weedy dry sclerophyll forest.

FIRST RECORD: Bush remnant under powerline adjacent to 48 Belmore Road, North Katoomba, *C.H. Barker 52*, 18 Apr 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed and stems that root where in contact with the ground. Seeds of *I. balfourii* require cold stratification to break their dormancy and are capable of germinating after periods of drying (Tabak & von Wettberg 2008). This species appears to be increasing in the Dandenong Ranges, Victoria, and the Blue Mountains. It is also naturalised in the USA, France, Switzerland, Hungary and Italy (Hrusa et al. 2002, Moore in Tutin et al. 1968, Tabak & von Wettberg 2008).

## **Berberidaceae**

***Berberis aquifolium* Pursh** [syn. *Mahonia aquifolium* (Pursh) Nutt., *Berberis pinnata* Lag. misapplied, *Mahonia leschenaultii* (Wight. & Arn.) Takeda ex Dunn misapplied] Oregon Grape

DESCRIPTION: Clonal shrub to 1.2 (rarely to 4.5) m high. See Whittemore in Morin (1997).

REGION OF ORIGIN: Native from British Columbia to northern California in North America.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands, Southern Tablelands and South Western Slopes. Mostly grows near existing plantings.

FIRST RECORD: Lankeys Creek (north of Jingellic), *E.J. McBarron 1103*, 6 Oct 1947 (NSW).

ADDITIONAL RECORDS: Mt Wilson, *E.J. Constable s.n.*, 30 Nov 1948 (NSW); 'Royalla', Robertson, *P.G. Kodala s.n.*, 13 Aug 1987 (NSW); Stromlo Forest, near Scrivener Dam, *I.R. Telford 10841*, 28 Nov 1989 (CBG, NSW); Black Mountain, lower NE slope near Botanic Gardens boundary, *I.R. Telford 10974*, 31 Oct 1990 (AD, CBG, NSW); Near reservoir, c. 700 m ESE of Cotter Dam Wall, Cotter Reserve, *B.J. Lepschi 916*, 3 Jan 1993 (AD, CANB, NSW); Near confluence of Cotter & Paddys Rivers, c. 12 km ESE of summit of Mt Coree, *B.J.*



*Lepschi* 3896, 14 Oct 1998 (CANB, NSW); Cooma area, *A. Grimm s.n.*, Nov 1998 (NSW); c. 200 m S of western side of Tyrolean Village and 1 km NE of Jindabyne, *J. Miles s.n.*, 24 Jul 2003 (NSW); Mount Ainslie Nature Reserve, 30 m north west of old landfill site, north of Tyson Street, Ainslie, Canberra, *C.H. Barker* 75, 17 Oct 2004 (CANB, MEL, NE, NSW); Mount Ainslie Nature Reserve, 30 m north west of old landfill site, north of Tyson Street, Ainslie, Canberra, *C.H. Barker* 76, 17 Jan 2005 (CANB, MEL, NE, NSW); Near visitor centre for Yarrangobilly Caves, Kosciusko National Park, *J.R. Hosking* 2665, *B. Verbeek & A.M. Beer*, 7 Dec 2005 (CANB, MEL, NE, NSW).

NOTES: Spread by bird-dispersed seed, and locally by rhizomes and rooting of layered stems. In Harden (1990) *Mahonia leschenaultii* was listed as naturalised in gullies in the Blue Mountains. Specimens under this name at CANB were sent to Alan Whittemore (NA), a recognised specialist in *Berberis* and he considered them to be *B. aquifolium* along with Australian specimens identified as this species at a later date. The *McBarron* specimen above indicated that the plant occurred in natural vegetation on a roadside. Other specimens listed the species from rainforest, a Nature Reserve near landfill, pasture and disturbed eucalypt forest and woodland. Plants are grown as ornamentals and have occasionally naturalised in the Southern Tablelands and South Western Slopes of N.S.W., and in Victoria and South Australia. *Berberis aquifolium* is invasive in central Europe and naturalised in New Zealand and outside its native range in North America (Auge & Brandl 1997, Sykes in Webb et al. 1988, Whittemore in Morin 1997).

### Bignoniaceae

#### *Podranea ricasoliana* (Tanfani) Sprague

Pink Trumpet Vine

DESCRIPTION: Woody climber. See Liogier (1995) and Spencer (2002b).

REGION OF ORIGIN: Native of the eastern Cape Province and Kwazulu-Natal, South Africa.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. Species recorded in the collection area were a mixture of native and exotic species.

FIRST RECORD: Mill Road, Kurrajong, dumping area off turning circle near entrance to Merroo Christian Centre driveway, *C.H. Barker* 73, 8 Dec 2004 (CANB, MEL, NE, NSW).

NOTES: Possibly only spreading vegetatively, at Kurrajong, to date. Similar to *Pandorea* spp. in appearance and habit. This genus was once part of *Pandorea* and *Podranea* is an anagram of *Pandorea* (Spencer 2002b). The species is widely planted as an ornamental. In the collection area it was growing in two patches each 15 m x 15 m and to 5 m up supporting vegetation. This species has also been recorded as naturalised in the Mt Glorious region of south eastern Queensland with the earliest collection made on 31 December 2000 (*S.P. Phillips* 612, 897, 1134). *Podranea ricasoliana* is also naturalised in Florida, Puerto Rico and New Zealand (Wunderlin & Hansen 1996+, Liogier 1995, Sykes in Webb et al. 1988).

### Caprifoliaceae

#### *Symphoricarpos albus* (L.) Blake var. *laevigatus* (Fernald)

S.F. Blake [syn. *Symphoricarpos rivularis* Suksd.]

Snowberry Bush

DESCRIPTION: Shrub to 3 m high. See Correa (1999) and Spencer (2002b) for the species (variety not listed) and Jones (1940) for a description without illustration.

REGION OF ORIGIN: Native from south eastern Alaska to California.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Southern Tablelands. Only known from *Eucalyptus* woodland near Yarrangobilly Caves.

FIRST RECORD: Near visitor centre for Yarrangobilly Caves, Kosciusko National Park, *J.R. Hosking* 2664, *B. Verbeek & A.M. Beer*, 7 Dec 2005 (CANB, MEL, NE, NSW).

NOTES: Spread by seed and suckering. Forms dense thickets. This species has also been recorded as spreading vegetatively in a garden, and persisting in an abandoned garden, in Tasmania (Matthew Baker pers. comm. 3 Sep 2009) and as a garden escape in Adelaide in 2005 (Robyn Barker pers. comm. 4 Sep 2009). *Symphoricarpos albus* is also naturalised in New Zealand, Britain, Argentina and in eastern North America (Sykes in Webb et al. 1988, Stace 1997, Correa 1999, Jones 1940).

### Convolvulaceae

#### *Convolvulus farinosus* L.

Wild Bindweed

DESCRIPTION: Prostrate or climbing herb. See Meeuse & Welman (2000) and Bromilow (1995).

REGION OF ORIGIN: Native of Africa (Eritrea and Ethiopia to South Africa), Madagascar and Mascarene Islands.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. Naturalised in disturbed urban bushland.

FIRST RECORD: Maandowie Creek area, between fire trail and creekline, below Azalea Place, Loftus, *G. Broadhead s.n.*, Feb 2003 (NSW).

ADDITIONAL RECORDS: End of Azalea Place, Maandowie Bushland Reserve, Loftus, *G. & L. Broadhead s.n.*, 7 Mar 2003 (BM, NSW); Loftus, causeway 1–3 m from Maandowie Creek, Maandowie Bushland Reserve, *L. Broadhead s.n.*, 18 Dec 2006 (BRI, NSW).

NOTES: Spreads by seed. Notes supplied with the original collection indicate that there were hundreds of plants in the area and that plants could also be found outside the Reserve. *Convolvulus farinosus* is also naturalised in Portugal (Stace in Tutin et al. 1972). This species is occasionally weedy in its native range and is considered difficult to control in cultivated lands, gardens and waste places in South Africa (Meeuse & Welman 2000, Bromilow 1995).

### Crassulaceae

#### *Crassula ericoides* subsp. *ericoides* Haw.

DESCRIPTION: Perennial succulent shrub to 30 cm high. See Toelken et al. in Walsh & Entwisle (1996) and van Jaarsveld in Eggle (2003).

REGION OF ORIGIN: Native of coastal areas in South Africa.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. The species is recorded as being from *Eucalyptus* spp. woodland.

FIRST RECORD: 10 m from front of 80 Talbot Road, Hazelbrook, *G. Yeo s.n.*, before Mar 1998 (NSW).

NOTES: Spread by seed. Notes with the specimen mention that there were about a dozen plants in the collection area. This species is also naturalised near Anakie in Victoria (Toelken et al. in Walsh & Entwisle 1996) and was found in a single clonal patch in a roadside cutting in South Australia (Robyn Barker pers. comm. 4 Sep 2009).



**Fabaceae (Faboideae)*****Crotalaria retusa* L.**

Wedge-leaved Rattlepod

DESCRIPTION: Shrub 1.5 (rarely to 4) m high. See Dunlop et al. (1995).

REGION OF ORIGIN: Native of tropical and subtropical Africa and Asia as well as northern Australia.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast where the species was recorded from the margin between swampy pastureland and a mixture of native and exotic trees.

FIRST RECORD: Tuckean Island road, W of Wardell, *A.R. Bean 17568*, 2 Apr 2001 (BRI, NSW).

NOTES: Spread by seed. The species was listed as rare at the collection site. Plants are showy and likely to be planted for ornamental purposes. It is a weed of grain sorghum crops in the Northern Territory (Everist 1981). Plants also cause Kimberley Horse Disease, a disease initially causing weight loss and then lethargy and death of horses (Everist 1981). Seeds are toxic to fowls and pigs (Everist 1981). The problem with horses grazing plants has been overcome by fencing off river frontages where large amounts of *C. retusa* grow (Everist 1981). For more information on problems caused by *C. retusa* see Everist (1981). *Crotalaria retusa* is also naturalised on Pacific Islands, in mainland USA, Caribbean Islands and South America (Windler & Skinner in Wagner et al. 1999, Smith 1985, Fosberg et al. 1979, McMullen 1999, Isely 1998, Liogier 1988, Neill et al. in Jørgensen & León-Yáñez 1999, Zarucchi in Brako & Zarucchi 1993).

***Indigofera spicata* Forssk.**

Creeping Indigo

DESCRIPTION: Prostrate herb. See Du Puy et al. (1993) and Wilson & Rowe (2008).

REGION OF ORIGIN: Native from Ethiopia and the Central African Republic to South Africa, and to Yemen, Madagascar and Mauritius.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. No habitat information available.

FIRST RECORD: Pacific Highway road reserve, Mid Sapphire Beach, *A. Benwell s.n.*, Feb 2005 (NSW).

NOTES: Spread by movement of seed. This species is common in lawns and gardens in south eastern Queensland. Wilson & Rowe (2008) suggest that some of the plants found in Australia may be descended from plants grown in field trials as a potential fodder species. Plants are also naturalised in the Northern Territory (Wilson & Rowe 2008). There is some debate as to its toxicity as there has been confusion regarding the identification of plants that are toxic (Hutton & Guerassimoff 1966, Du Puy et al. 1993, Wilson & Rowe 2008). *Indigofera spicata* is also naturalised in Japan and on Pacific Islands (Ohashi in Iwatsuki et al. 2001, Fosberg et al. 1979, Geesink et al. in Wagner et al. 1999).

***Spartium junceum* L.**

Spanish Broom

DESCRIPTION: Shrub to 3 m high. See Weber in Jessop & Toelken (1986) and Spencer (2002a).

REGION OF ORIGIN: Native of northern Africa (Morocco to Tunisia), Asia (Turkey to Azerbaijan, Georgia and Israel) and southern Europe.

NEW SOUTH WALES DISTRIBUTION / HABITATS: South Coast, North Western Slopes. Known as a weed in a garden and growing on a steep weed-infested river bank below gardens at Inverell.

FIRST RECORD: Candelo township, *A. Smith s.n.*, 13 Dec 2002 (NSW).

ADDITIONAL RECORD: South-east facing bank of Macintyre River, Inverell, *J.R. Hosking 2525*, *C.D. McLeod*, *L.R. Tanner & B.R. McGufficke*, 11 Nov 2004 (CANB, MEL, NSW, NE).

NOTES: Spreads by seed that is explosively released from pods. More than 100 plants were recorded growing in a garden at Candelo and over 100 plants of all ages on the riverbank at Inverell. According to G. Carr (pers. comm. Nov 2004) this species is also naturalised at Braidwood. There was a specimen collected from Braidwood in January 1930 by W.B. Henville but there is no indication of whether the specimen (now missing) was naturalised or cultivated. Like many legumes *S. junceum* is hard-seeded and seeds may germinate over a number of years (Nilsen in Bossard et al. 2000). In Australia and overseas *S. junceum* is grown as an ornamental. *Spartium junceum* is also naturalised in Victoria, Tasmania and South Australia (Carr et al. 1992, Rozefelds et al. 1999, Weber in Jessop & Toelken 1986) and overseas in New Zealand, Hawaii, mainland USA, Ecuador, Peru, Chile, South Africa and outside its native range in Europe (Webb in Webb et al. 1988, Geesink et al. in Wagner et al. 1999, Nilsen in Bossard et al. 2000, Neill et al. in Jørgensen & León-Yáñez 1999, Zarucchi in Brako & Zarucchi 1993, Arroyo et al. in Mooney & Hobbs 2000, Henderson 2001, Heywood in Tutin et al. 1968).

***Stylosanthes guianensis* (Aubl.) Sw.**

Stylo

DESCRIPTION: Annual herb to 1.5 m high. See 't Mannelje (1977) and Hacker (1990).

REGION OF ORIGIN: Native of tropical America, from southern Mexico to north eastern Argentina and Paraguay.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast, North Western Slopes. Recorded from a roadside and in pasture. In two of the locations it was recorded as growing on sandy soil, the other collection did not give soil type.

FIRST RECORD: 50 km north of Grafton on Casino road, *B. Clarke s.n.*, 4 Feb 2002 (NSW).

ADDITIONAL RECORDS: N of Brunswick Heads, *A. Benwell s.n.*, Jul 2004 (NSW); 'Pine View', 341 Yallaroi Road, Coolatai, *S. Hunt s.n.*, 30 Mar 2010 (CANB, MEL, NE, NSW).

NOTES: Spread by seed. Introduced as a pasture species in northern Australia and now widely naturalised. This Stylo is tolerant of drought and infertile soils low in phosphorus (Hacker 1990). The collection from the Coolatai area is from plants that were introduced to the area as a seed contaminant, or as incorrectly labelled seed, and the species is spread over a large area. Two varieties are recorded in Australia, var. *guianensis* with pods indistinctly veined and var. *intermedia* with pods prominently veined (Hacker 1990). The Clarke collection does not have pods, while the Benwell collection is var. *guianensis* and the Hunt collection is var. *intermedia*. *Stylosanthes guianensis* is also naturalised in Nauru and New Caledonia (Fosberg et al. 1979, MacKee 1985).

***Stylosanthes humilis* Kunth**

Townsville Stylo

DESCRIPTION: Annual herb to 0.5 m high. See Hacker (1990).

REGION OF ORIGIN: Native of subtropical and tropical America, from Arizona to central Brazil.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Recorded growing in sandy soil on a roadside.

FIRST RECORD: Sunshine Beach Boulevard, Byron Bay, *K. Moore s.n.*, 1 Apr 2002 (NSW).

NOTES: Spread by seed. Introduced as a pasture species in northern Australia and now widely naturalised. In Australia, this *Stylo* appears to be most useful where fertiliser is also added (Gillard & Winter in Stace & Edye 1984). *Stylosanthes humilis* is also naturalised in Christmas Island, Nauru and New Caledonia (Du Puy in George 1993, Fosberg et al. 1979, MacKee 1985).

## Geraniaceae

### *Pelargonium quercifolium* (L. f.) L'Hér.

Oak-leaved Geranium

DESCRIPTION: Shrub to 1.75 m high. See van der Walt (1985) and Francis et al. in Spencer (2002b).

REGION OF ORIGIN: Native of South Africa (southern Cape Province).

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Growing in sandy soil in *Angophora costata* and *Banksia* sp. woodland with *Pteridium esculentum* dominant in the understorey.

FIRST RECORD: Alongside Boulder Bay Road, edge of Tomaree National Park, Fingal Bay, *J.R. Hosking 2541* & *G.C. Prichard*, 16 Nov 2004 (CANB, MEL, NSW, NE).

NOTES: Spread by seed. In this case the species may have spread as a result of dumping of garden waste from across the road. In the collection area it is uncommon with 2 clumps recorded, one 5 m x 3 m and the other 3 m x 2 m. The species is also naturalised on sandy soil in Victoria (*J.R. Hosking 1304* & *G.W. Carr* (CANB, MEL, NSW) and *J.R. Hosking 1405* (CANB, MEL, NE, NSW)). *Pelargonium quercifolium* is also naturalised in the USA (McClintock in Hickman 1993).

## Hydrangeaceae

### *Hydrangea macrophylla* (Thunb.) Ser.

Hydrangea

DESCRIPTION: Shrub to 2 m high. See Spencer (2002a).

REGION OF ORIGIN: Native of Asia (Bhutan, China, India, Japan, Myanmar and Vietnam)

NEW SOUTH WALES DISTRIBUTION / HABITATS: Northern Tablelands, Central Tablelands. Collected from the edge of cool temperate rainforest alongside a road near Werrikimbe National Park and a riparian area where growing with native and naturalised species in the Blue Mountains.

FIRST RECORD: Roadside of Cockerawombeeba Rd, between Beech Plateau and Brushy Mt adjacent to Werrikimbe National Park. *S.P. Phillips 281*, 12 Sep 1999 (BRI, MEL, NSW).

ADDITIONAL RECORDS: Adjacent to plunge pool at base of Leura Falls (not Bridal Veil Falls), *C.H. Barker 44* & *D. Cameron*, 17 Mar 2004 (CANB, MEL, NE, NSW); Bushmans Range, 150 m E of junction Coramba-Dorrigo and Bushmans Range Rds, *J.J. Bruhl 2128*, *I.R. Telford*, *M.J. Waterway* & *M.L. Lechowicz*, 23 Mar 2004 (NE, NSW).

NOTES: Plants appear to spread via rooting of layering stems and from garden waste dumped in wet areas. This species is unlikely to be much of a problem as the species has been in cultivation for years and has not caused significant problems. There are many cultivars of



**Fig. 7.** *Pelargonium quercifolium* has oak-like leaves and has naturalised on sandy soils near the coast.



**Fig. 8.** *Sideritis lanata* is a weed that has been known to occur in the Inverell area for many years, but has only recently been identified.



**Fig. 9.** *Tibouchina urvilleana* naturalises in swampy sandy areas in N.S.W.



*Hydrangea* (Spencer 2002a). Notes with the first record state that the species occurred in several patches, each about 2 m x 2 m, with the comment that there are no houses in the vicinity. At the Leura Falls collection location above there was only a single shrub 1.9 m high and 1.5 m wide. This shrub appears to be a cultivar in the Laccaps group (Spencer 2002a). Notes with the Bushmans Range collection list one plant and one 2 m x 7 m clump in the area. Plants here appear to be a cultivar of the Mopheads group. In the Dandenong Ranges, Victoria, there is a watercourse that runs from closed forest to the edge of previous pasture land that has many clumps of *H. macrophylla* in both habitats (*J.R. Hosking 2425* and *J.R. Hosking 3177*). The species is also possibly naturalised in Tasmania (Matthew Baker pers. comm. 3 Sep 2009). *Hydrangea macrophylla* is naturalised in New Zealand, particularly in wetter areas (Given & Webb in Webb et al. 1988, Heenan et al. 2009) and in Peru (Liesner in Brako & Zarucchi 1993).

## Hypericaceae

### *Hypericum calycinum* L.

Aaron's Beard, Rose-of-Sharon

DESCRIPTION: Creeping rhizomatous evergreen shrub to 40 cm high. See Walsh in Walsh & Entwisle (1996).

REGION OF ORIGIN: Native of northern Turkey and south eastern Bulgaria.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. The species was recorded as growing in an area dominated by non-native species.

FIRST RECORD: Road reserve at end of Armstrong Road above Jamison Creek, Wentworth Falls, *C.H. Barker 33*, 13 Jan 2004 (BM, CANB, MEL, NE, NSW).

NOTES: Spreads locally by rhizomes. This species is also naturalised in South Australia, Victoria and Tasmania (Barker et al. 2005, Walsh in Walsh & Entwisle 1996) as well as New Zealand and the USA (Sykes in Webb et al. 1988, Hrusa et al. 2002).

## Juglandaceae

### *Juglans ailantifolia* Carrière

Japanese Walnut

DESCRIPTION: Tree to 20 (rarely to 30) m high. See Krüssmann (1986), Ohwi (1965) and Sykes in Webb et al. (1988).

REGION OF ORIGIN: Native of Japan and Russia (Sakhalin).

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Growing in weedy roadside vegetation and in neighbouring pasture.

FIRST RECORD: Alongside Mt Irvine Road, Mt Irvine, *J.R. Hosking 2450* & *C.H. Barker*, 9 Feb 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed. In the collection area there were >50 trunks over 12 m x 5 m. A previous list of naturalised plants growing in the Mt Tomah area recorded the species under the name *Juglans sieboldiana* Maxim. (Ingram 1987). There is a Mt Tomah specimen (*A.M. Craig s.n.*) from cultivated plants, collected on 22 Oct 1960, at NSW. Another NSW specimen (*R. Howard-Smith s.n.*) from Mt Irvine, collected from a cultivated tree, notes that the tree was believed to have been planted in about 1910 and that 'Nuts are very prolific and germinate readily, seedlings grow rapidly with little variation in rate, used with success for grafting stock'. This species is not known to have naturalised in other Australian states. It is naturalised in New Zealand and the USA (Sykes in Webb et al. 1988, USDA, NRCS 1995+).

## Lamiaceae

### *Sideritis lanata* L.

Hairy Ironwort

DESCRIPTION: Herb to 35 cm high. See Huber-Morath in Davis (1982).

REGION OF ORIGIN: Native of Greece, Bulgaria, Yugoslavia, Turkey and east Aegean Islands.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Western Slopes. Found on roadsides and in cultivation.

FIRST RECORD: Inverell, *J. Weatherby s.n.*, 21 Oct 1969 (NSW).

ADDITIONAL RECORDS: 30 km NE of Inverell, *C. McLeod s.n.*, 28 Sep 2004 (NSW); 'Inverness', Swan Vale, Inverell Shire, *J.R. Hosking 2523*, *C.D. McLeod*, *L.R. Tanner* & *B.R. McGufficke*, 11 Nov 2004 (AD, BRI, BRIT, CANB, K, MEL, NSW, NE).

NOTES: Plants seed prolifically. Plants appear to have been moved with cultivation so it is not certain whether there is movement as stem or root sections or if seed movement is involved. The infested area was being grazed but this species appears to have been avoided by stock. *Sideritis lanata* is known from three properties in the Inverell district; the maximum distance between infestations being 16.5 km. In total the infestations, although consisting of many thousands of plants, only cover a few hectares. Attempts at chemical control in recent times have proved to be only partly successful. In its native range it is found in cultivated fields, waste places, *Pinus* wood, *Quercus* scrub and limestone rocks (Huber-Morath in Davis 1982). The species is listed as naturalised in Texas (Correll & Johnston 1970).

## Lentibulariaceae

### *Utricularia sandersonii* Oliver

DESCRIPTION: Herb to 7 cm high. See Conn et al. (2004).

REGION OF ORIGIN: Native of South Africa (Kwazulu-Natal).

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Only known from the splash zone of a waterfall where growing with *Zoopsis setulosa* and *Riccardia crassa*.

FIRST RECORD: Blue Mountains City Council Reserve, S of Blackheath, *A.T. Fairley s.n.*, Nov 2001 (NSW).

NOTES: Spread by fragmentation and stolon extension. Only one population of several thousand plants is known from an area of 0.3 m x 0.2 m (Conn et al. 2004). This species is widely cultivated by carnivorous plant growers (Conn et al. 2004). This species is also starting to naturalise in New Zealand (Heenan et al. 2004). For more information on this species and the possibility of the species being native see Conn et al. (2004).

## Melastomataceae

### *Melastoma malabathricum* L.

Banks Melastoma

DESCRIPTION: Shrub or small tree to 5 m high. See Holm et al. (1997) and Meyer (2001) for a broad concept of *M. malabathricum* or Whiffin in George (1990) for a narrower concept of *M. malabathricum*.

REGION OF ORIGIN: Native of western Indian Ocean islands across southern Asia to Micronesia, Malesia and Polynesia (if a broad concept of the species is adopted – it is unclear where a less broadly defined species would occur).



NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. Recorded growing on sand in native bush with privet and lantana.

FIRST RECORD: Warraroon Res(erve), Lane Cove, *Van Klaphake* 155, 1 May 1987.

NOTES: Spread by seed. Meyer (2001) sunk the Australian native *Melastoma* species *Melastoma affine* D.Don and *Melastoma denticulatum* Labill. into a broadly circumscribed *M. malabathricum*. This has not been accepted in Australia where the only native species is considered to be *M. affine* (Whiffin in George 1990, APC 2005+). The species naturalised in the Lane Cove area of Sydney has a longer calyx than the taxa considered native to Australia, and the Sydney region is outside the native range of *Melastoma* in Australia. Notes associated with the specimen are 'Occasional weed in a number of bushland reserves in Lane Cove area.' The species is considered to be a weed of pastures and crops in much of its native range (Holm et al. 1997).

### ***Tibouchina urvilleana* (DC.) Cogn.**

Glorybush

DESCRIPTION: Shrub to 2.2 m high. See Almeda in Wagner et al. (1999) and Spencer (2002a).

REGION OF ORIGIN: Native of southern Brazil.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast, North Coast. Recorded from a weedy gully at Lugarno, swampy areas near Nelson Bay and an old *Eucalyptus pilularis* plantation with a rainforest understory in Nightcap National Park.

FIRST RECORD: Evatt Park, Lugarno, Sydney, *M.J. Mulvaney s.n.*, 23 May 1987 (CANB).

ADDITIONAL RECORDS: Behind Fairlands Road, Tanilba Bay, *J.R. Hosking 2534* & *G.C. Prichard*, 15 Nov 2004 (CANB, MEL, NE, NSW); Junction of Minyon Drive and Peates Mountain Road, Nightcap National Park, *P.H. Weston 3141* & *R.M. Kooyman*, 8 Mar 2008 (NSW).

NOTES: Spread by seed. The Lugarno collection was from a single plant with the comment that there may have once been more plants as the area had been weeded by bush regenerators. Notes with the Tanilba Bay collection indicate that it was locally common (about 25 plants >1 m high and 100s of smaller plants) shrub to 2.2 m high at Tanilba Bay and that it was also naturalised in Mamba Wetlands, alongside Port Stephens Drive, Salamander Bay (where there were about 15 plants >1 m high and many more smaller plants). The Nightcap National Park collection lists the species as being common and with numerous seedlings beneath. *Tibouchina urvilleana* is also naturalised in Queensland (Bean in Bostock & Holland 2007) with the first specimen of a naturalised plant collected in 1970 (*Swarbrick 5689* - BRI). It is also naturalised in New Zealand and Hawaii (Sykes in Webb et al. 1988, Almeda in Wagner et al. 1999).

## **Moraceae**

### ***Ficus carica* L.**

Common Fig

DESCRIPTION: Tree to 10 m high. See Spencer (1997), Wunderlin in Morin (1997), Randall in Bossard et al. (2000) and Wu et al. in Wu & Raven (2003).

REGION OF ORIGIN: Native of southern Europe (southern France to Greece), Mediterranean Islands, Asia (Turkey to Sinai, Azerbaijan and northern Pakistan), northern Africa (Morocco to Tunisia), although the exact native range is now obscure.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast, Western Slopes. Scattered trees known mostly from alongside watercourses on the Western Slopes.

FIRST RECORD: Oxley Park, Tamworth, *J.R. Hosking 896*, 9 Dec 1993 (CBG, MEL, NE, NSW).

ADDITIONAL RECORDS: c. 4.5 km from Cowra towards Boorowa, near Morongla Creek crossing, *D.L. Jones 17873* & *K.J. FitzGerald*, 21 Mar 2001 (CANB); 1.5 km N of Wee Jasper on road to Carey's Caves Reserve, *B.J. Lepschi 4641* & *A.J. Whalen*, 14 Nov 2001 (CANB, MEL, NSW); Hungerford Creek Valley, north of Glen Gallic Fire Trail (Wollemi National Park), south south east of village of Baerami, *C.H. Barker 69*, 15 Oct 2004 (CANB, MEL, NE, NSW).

NOTES: Spread by seed, locally by root suckers and vegetatively via limbs that break off and take root. The Hosking 896 and Lepschi 4641 & Whalen collections were from single fruiting trees while the Barker 69 specimen was from a group of four trees, two of which were fruiting, and Jones 17873 & Fitzgerald was from a group of three adventive plants. The authors have often encountered single plants alongside watercourses. Possibly 'fruit' are discarded by humans or are eaten by animals and birds alongside watercourses and plants arise from discarded 'fruit' or animal dispersed seed. *Ficus carica* is listed as naturalised in South Australia and Western Australia (Jessop in Jessop & Toelken 1986, Hussey et al. 2007) and doubtfully naturalised in Queensland and Victoria (Jessop in Bostock & Holland 2007, Walsh & Stajsic 2007). The species is widely naturalised around the world (Tutin in Tutin et al. 1993, Webb in Webb et al. 1988, Randall in Bossard et al. 2000, Tassin et al. 2006, Berg in Jørgensen and León-Yáñez 1999). It is considered to be a weed in California where it may invade and dominate riparian forests, streamside habitats, levees and canal banks (Randall in Bossard et al. 2000).

## **Myrtaceae**

### ***Corymbia citriodora* (Hook.) K.D. Hill & L.A.S. Johnson**

[syn. *Eucalyptus citriodora* Hook.]

Lemon-scented Gum

DESCRIPTION: Tree to 40 (occasionally to 50) m high. See Chippendale in George (1988).

REGION OF ORIGIN: Native of Queensland.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. One of the C. Burgess collections from Beecroft lists the species as forming a naturalised community in *Eucalyptus pilularis* forest. At North Richmond plants are growing in an ironbark woodland cleared for grazing. Here cattle damage young *C. citriodora* but not enough to prevent growth.

FIRST RECORD: Beecroft, *C. Burgess s.n.*, 15 Mar 1963 (CANB).

ADDITIONAL RECORDS: Pennant Hills, *C. Burgess s.n.*, 15 Mar 1963 (CANB); Beecroft, *C. Burgess s.n.*, 9 May 1963 (CANB); Near Saint John of God Hospital, south of Grose Vale Road, North Richmond, *C.H. Barker 74*, 10 Dec 2004.

NOTES: Spread by seed. Collections by C. Burgess list the species as a 'naturalised community' at Beecroft in Mar 1963 and as a 'garden escape' at Pennant Hills in Mar 1963. Notes with the other C. Burgess collections list the species as forming naturalised communities. At North Richmond around 10 pole-like trees at heights around 13–15 m and around 80 saplings 1–10 m high were recorded growing around an 18 m high parent tree. *Corymbia citriodora* is also known to be naturalising at Scheyville National Park, the Australian Defence Industries (ADI) site Saint Marys (P. Mobbs pers. comm. 2004), Yarramundi and Greystanes. This species is also naturalised in Victoria and Western Australia (Walsh & Stajsic 2007, Keighery pers. comm.)

and questionably naturalised in South Australia (Robyn Barker pers. comm. 7 Sep 2009). Overseas *C. citriodora* is naturalised in California, Hawaii and Wake Island (McClintock in Hickman 1993, Wagner et al. 1999, Fosberg et al. 1979).

### ***Eugenia uniflora* L.**

Brazilian Cherry

DESCRIPTION: Small tree or shrub to 3 (rarely to 8) m high. See Henderson (2001).

REGION OF ORIGIN: Native of northern Argentina, Bolivia, Brazil, Paraguay and Uruguay

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Collected from subtropical rainforest regrowth (50 years) according to label information.

FIRST RECORD: Bilambil Heights, 4 km SW of Tweed Heads, C. Roberts s.n., 8 Mar 2000 (CANB, NSW).

NOTES: Spread by animal-dispersed seed. This species is widely cultivated for its edible fruit, as an ornamental and for hedging. It is now naturalised in coastal areas of Queensland (Bean et al. in Bostock & Holland 2007) and in many tropical and sub-tropical countries around the world (Fosberg et al. 1979, Henderson 2001, Wagner et al. 1999).

### ***Syzygium paniculatum* Gaertn.**

Brush Cherry

DESCRIPTION: Shrub or small tree to 14 m high. See Wilson in Harden (2002) and Spencer (2002a).

REGION OF ORIGIN: Native of coastal New South Wales.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Western Slopes. Volunteering in a garden in an area regularly watered.

FIRST RECORD: 46 Dibar Drive, Tamworth, J. Kneipp s.n., 30 Nov 2004 (NSW).

ADDITIONAL RECORDS: Possibly Ourimbah Creek Road, c. 10 km west of Pacific Highway, H. Bryant 317 & H. Fallding, 5 Apr 1979.

NOTES: Spread by seed. The species is widely cultivated and likely to naturalise in wet areas. It is listed as endangered under the *NSW Threatened Species Conservation Act 1995*. Only a single volunteer plant is known from the Tamworth area and this was in an artificially wet area. Notes with the Ourimbah Creek Road specimen list the species as occurring on recent alluvium and is likely to be native. *Syzygium paniculatum* may spread in moist areas of bushland reserves in Sydney, where it is apparently not native, but originates from cultivated street and garden plants.

## **Papaveraceae**

### ***Romneya coulteri* Harv.**

Matilija Poppy, California Tree Poppy

DESCRIPTION: Perennial herb to 2 m high. See Clark in Morin (1997) and Spencer (1997).

REGION OF ORIGIN: Native of south western California.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Southern Tablelands. Collected from a roadside at Yarralumla. The species also grows in a rail reserve in Hume Shire.

FIRST RECORD: In front of the Commonwealth Club, Canberra [Forster Crescent, Yarralumla], N. Burbidge s.n., 2 Dec 1965 (CANB, NSW).

NOTES: Spread by seed. The collection from in front of the Commonwealth Club has been treated as wild as it appears to match the species information in Burbidge and Gray (1979) where the species is noted as 'a garden escape persistent in the Forrest-Yarralumla-lakeside area'. The species was also found in Hume Shire in late 2005 and identified from digital images but a specimen does not appear to have been sent to NSW.

### ***Romneya trichocalyx* Eastw.**

Hairy Matilija Poppy

DESCRIPTION: Perennial herb to 2 m high. See Clark in Morin (1997) and Spencer (1997).

REGION OF ORIGIN: Native of south western California and northern Baja Norte.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Southern Tablelands, South Western Slopes. *Mowle 181* from central Canberra is recorded as 'growing by roadside on slope with grasses and weeds'. *Milvain s.n.* is also recorded from a roadside, but associated vegetation was not listed.

FIRST RECORD: National Circuit, Capital Hill area, K. Mowle 181, 7 Dec 1964 (CANB).

ADDITIONAL RECORD: S of Yerong Creek, H. Milvain s.n., 12 Dec 1991 (NSW).

NOTES: Spread by seed. No information on abundance is recorded for *Mowle 181*, and this taxon (and the related *R. coulteri*) have not persisted in the ACT. Collector's notes for *Milvain s.n.* indicate that plants covered 100 square metres. The species is closely related and sometimes merged with *Romneya coulteri* Harvey. *Romneya trichocalyx* is also naturalised in Western Australia (FloraBase 1998+).

## **Primulaceae**

### ***Primula malacoides* Franch.**

Fairy Primrose

DESCRIPTION: Herb to over 30 cm high. See Richards (1993) and Spencer (1997).

REGION OF ORIGIN: Native of China (western Guangxi, Guizhou, Yunnan) and north eastern Myanmar.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. Recorded from creeklines.

FIRST RECORD: Near M2 crossing of Darling Mills Creek, on tributary running from Cook Street, Baulkam Hills, W.A. Cherry 545, 28 Aug 2004 (NSW).

NOTES: Spread by seed. The species is recorded as occasional in the collection area and also along Darling Mills Creek. *Primula malacoides* also occurs in Hunts Creek to the south east of the collection area (W Cherry pers. comm. 9 Apr 2010). This species has not previously been recorded as naturalised in Australia. *Primula malacoides* is also naturalised in New Zealand (Webb et al. 1995).

## **Proteaceae**

### ***Hakea laurina* R.Br.**

Pincushion Hakea

DESCRIPTION: Shrub or small tree to 6 m high. See Barker et al. in Wilson (1999) and Spencer (2002a).

REGION OF ORIGIN: Native of south western Western Australia.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Northern Tablelands. South Western Slopes. Recorded from dry sclerophyll forest growing on light sandy soil at Howes valley and from metasediments in a woodland at South Wagga Wagga.

FIRST RECORD: 14 miles south of Howes valley, *E. Bird s.n.*, May 1969 (Tamworth Agricultural Research Institute herbarium).

ADDITIONAL RECORD: Willans Hill Reserve, South Wagga Wagga, c. 400 m S of intersection of Lord Baden Powell Drive and Captain Cook Drive; within 5 m of Captain Cook Drive, *A. Muylt 4*, 23 Sep 2005 (CANB, NSW).

NOTES: Spread by seed. The specimen from Howes valley notes that the species is possibly a recent garden escape. The collection from South Wagga Wagga is recorded as being 'Part of a concentrated population of c. 20 plants covering an area 20 m x 20 m. All plants < 2 m high and appearing even aged. No fruits apparent on any plants; flowering just starting. Population is not planted, but may have originated from planted stock.' Naturalised in South Australia (Barker et al. in Wilson 1999) and outside its native range in Western Australia, as well as doubtfully naturalised in Victoria (Walsh & Stajsic 2007). A few plants have been recorded outside cultivation in Tasmania (Matthew Baker pers. comm. 11 Sep 2009).

### Ranunculaceae

#### *Anemone hupehensis* Lemoine var. *japonica* (Thunb.)

#### Bowles & Stearn

Japanese Windflower

DESCRIPTION: Herb to 1 m high. See Kadota in Iwatsuki et al. (2006) and Duncan in Wagner et al. (1999).

REGION OF ORIGIN: Horticulture, derived from *A. hupehensis*.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Recorded from sandy loam soil in shrubby dry sclerophyll forest.

FIRST RECORD: North side of Great Western Highway, near top of Boddington Hill, Wentworth Falls, *C.H. Barker 49*, 12 Apr 2004 (CANB, MEL, NE, NSW).

NOTES: Probably spreads as a result of rhizome growth. Appears to result from dumped garden waste, spread over 4 m x 3 m at the time of collection. This species is not known to occur outside cultivation elsewhere in Australia. It is cultivated and naturalised in Japan and Hawaii (Kadota in Iwatsuki et al. 2006, Duncan in Wagner et al. 1999).

### Rosaceae (spiraeoideae)

#### *Rhaphiolepis umbellata* (Thunb.) Makino

Japanese Hawthorn, Yeddo Hawthorn

DESCRIPTION: Shrub to 3 m high. See Given & Sykes in Webb et al. (1988) and Spencer (2002a).

REGION OF ORIGIN: Native of China, Taiwan, Japan and Korea (Quelpaert Island).

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast and South Coast. Growing in a shrub thicket on the north coast and in coastal woodland on sand below a cliff on the south coast.

FIRST RECORDS: Arrawarra Headland, *H.J. Wissmann*, 12 Apr 1991 (NE).

ADDITIONAL RECORDS: Harbour Beach, north of harbour, Ulladulla, *A. Pulford a*, 26 Mar 2004 (NSW); Harbour Beach, west side

of beach, Ulladulla, *A. Pulford b*, 26 Mar 2004 (NSW); Narrawallee Beach near Ulladulla, *T.C. Chambers s.n.*, 7 Jul 2006 (NSW, CANB).

NOTES: A species that was once common in cultivation. Probably spread by bird-dispersed seed. The species was first collected by Hans Wissmann in 1991 and the specimen label lists shrubs 3 m high in a shrub thicket on Arrawarra Headland. It was also noted by Carrick Chambers (NSW) in June 2002 and was collected by Arthur Pulford at Chamber's request. Notes with the Chamber's specimen indicate that plants are naturalised behind sand dunes. This species is not known to be naturalised elsewhere in Australia but is recorded as naturalised in New Zealand, where most naturalised plants appear to occur around previous plantings or in disturbed areas (Given & Sykes in Webb et al. 1988), and on Norfolk Island (Green in Wilson 1994).

#### *Sorbus aucuparia* L.

Rowan

DESCRIPTION: Small deciduous tree to 10 m high. See Spencer (2002a).

REGION OF ORIGIN: Native of Europe, Iceland and Asia.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Tablelands. Recorded on sandy soil in open forest.

FIRST RECORD: Alongside Bureau Park, North Katoomba, *J.R. Hosking 2435* & *C.H. Barker*, 7 Feb 2004 (AD, CANB, MEL, NE, NSW).

NOTES: Mostly spread by animal-dispersed seed, mainly by birds and to a lesser extent by mammals (Pfas & Guitián 2006). A single naturalised fruiting tree and a seedling were found in the collection area. At this site many of the fruit appeared to have been partly eaten by birds. *Sorbus aucuparia* is recorded as naturalised in Tasmania (Buchanan 2009) and doubtfully naturalised in Victoria and South Australia (Walsh & Stajsic 2009, eFlora SA 1999+). It is also naturalised in New Zealand and North America (Given & Sykes in Webb et al. 1988, Rosatti in Hickman 1993, USDA, NRCS 1995+).

### Scrophulariaceae (Buddlejeae)

#### *Buddleja dysophylla* (Benth.) Radlk.

DESCRIPTION: Climbing shrub to 4 m high on supporting vegetation. See Stuart (2006).

REGION OF ORIGIN: Native of eastern South Africa to Tanzania and Zaire.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. Recorded from bushland, and a track edge on boundary of moist forest associated with tributary of Narara Creek and cleared land.

FIRST RECORD: Oatley, *G. Chippendale s.n.*, 21 Jun 1953 (NSW).

ADDITIONAL RECORDS: Narara (north Gosford), *N. Corkish s.n.*, 4 Jul 2005 (NSW); Smalls Creek, end of Acres Rd, Kellyville, *I. Charlton s.n.*, 20 Jul 2005 (NSW).

NOTES: Spread by seed and will grow from stem fragments. Notes with the 1953 collection suggest that the species was naturalised at this time 'scrambling over many other shrubs, extending into bushland'. Notes with the Charlton collection mention that the plant is forming a thicket. This species is also naturalised in Victoria and Western Australia (Walsh & Stajsic 2007, FloraBase 1998+) and New Zealand (Sykes in Webb et al. 1988). There is also an 'Extensive infestation climbing high over native vegetation' on King Island (Matthew Baker pers. comm. 11 Sep 2009).



**Solanaceae**

***Brugmansia suaveolens* (Humb. & Bonpl. ex Willd.) Bercht. & J. Presl** [syn. *Datura suaveolens* Humb. & Bonpl. ex Willd.]

Angel's Trumpet

DESCRIPTION: Shrub to 3 m high. See Hunziker (2001), Schultes in Hawkes et al. (1979), Shaw in Cullen et al. (2000) and Spencer (2002b).

REGION OF ORIGIN: Native of Bolivia, Brazil and Peru.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Growing alongside streams.

FIRST RECORD: Bellinger River, near junction with Boggy Creek, *S. Jacobs* 6702, 21 Nov 1992 (NSW).

ADDITIONAL RECORD: Byrangery Creek, 4.2 km [actually 3 km based on the GPS location] NNW of Federal, *S. Kidman s.n.*, 16 Nov 2005 (CANB, NSW).

NOTES: Spreads by suckering, rooting of broken pieces and possibly by seed. The species was recorded as naturalised and common in a shady gully leading down to the Bellinger River. According to Iain Jamieson (pers. comm. 15 Feb 2006) the infestation of *Brugmansia suaveolens* near Byron Bay runs for 3–4 kilometres along Byrangery Creek and one of his staff believes it has been there for at least 20 years and has spread slowly over that period. Plants occur singly or in small groups along both sides of the creek. *Brugmansia suaveolens* is also naturalised in New Zealand, Norfolk Island, Florida and Puerto Rico (Sykes in Webb et al. 1988, Green in Wilson 1994, Wunderlin & Hansen 1996+, Liogier 1995).

***Brugmansia x candida* Pers.**

Angel's Trumpet

DESCRIPTION: Shrub to 5 m high. See Schultes in Hawkes et al. (1979), Shaw in Cullen et al. (2000), Roy et al. (1998) & Spencer (2002b).

REGION OF ORIGIN: Native of Ecuador and Peru.

NEW SOUTH WALES DISTRIBUTION / HABITATS: Central Coast. Recorded growing on alluvium under native trees.

FIRST RECORD: 8 km W of Wyong on Yarramalong road, near Wyong Creek, *B. Briggs* 7133 & *L.A.S. Johnson*, 29 Nov 1980 (NSW).

NOTES: Spread possibly as a result of dumped garden waste or rooting of broken pieces. Notes with the collection indicate that occasional plants were present along the roadside and were growing to 1.5 m high. *Brugmansia x candida* has naturalised in New Zealand, Hawaii and the Galapagos Islands (Sykes in Webb et al. 1988, Roy et al. 1998, Symon in Wagner et al. 1999, Tye in Groves et al. 2001)

**Tetrachondraceae**

***Polypremum procumbens* L.**

Juniper Leaf, Rustweed

DESCRIPTION: Perennial procumbent or ascending forb. See Liogier (1995), Diggs et al. (1999) and Norman (2000).

REGION OF ORIGIN: Native of North and South America, from north eastern and north central USA to Paraguay.

NEW SOUTH WALES DISTRIBUTION / HABITATS: North Coast. Collected from open wet area adjacent to *Melaleuca quinquinervia* forest.

FIRST RECORD: Coolangatta Airport, Tweed Heads West, *A.R. Bean* 15228, 28 Jun 1999 (BRI, NSW).

NOTES: Spread by seed. Also recorded from the Queensland side of the same airport (*D. Halford Q3831* & *G. Leiper* – BRI, MEL, NSW). Not known to be naturalised elsewhere in Australia. The species is considered to be weedy (Correll & Johnston 1970, Liogier 1995).

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**Appendix 1. Summary information on the 174 species in this paper or in the two previous papers in the series (Hosking et al. 2003, Hosking et al. 2007). Name, Family, Growth Form, First Record, Botanical Regions, Place of Origin, Introduction Source, Weed Potential in NSW, and Cunninghamia volume are provided.**

Name	Family	Growth Form	First Record	Botanical Regions	Place of Origin	Introduction Source	Weed Potential in NSW	Cunninghamia volume (part number): page(s)
<i>Abrus precatorius</i> subsp. <i>africanus</i>	Fabaceae (Faboideae)	Vine	14 Mar 2001	NC	tropical Africa and Indian Ocean islands	Ornamental	Moderate	10(1): 162 & 8(2): 183 incorrectly as <i>Abrus precatorius</i> subsp. <i>precatorius</i>
<i>Abutilon pictum</i>	Malvaceae (Malvoideae)	Shrub	17 Sep 2003	CC	South America	Ornamental	Minor	10(1): 155
<i>Acacia pulchella</i> var. <i>pulchella</i>	Fabaceae (Mimosoideae)	Shrub	27 Sep 2000	CT	south western Western Australia	Ornamental	Moderate	8(2): 183
<i>Acanthus mollis</i>	Acanthaceae	Herb	25 Feb 2002	CC & CT	southern Europe, northern Africa & western Asia	Ornamental	Minor	10(1): 145
<i>Acer palmatum</i>	Aceraceae	Tree	31 Mar 2004	CT	South Korea & Japan	Ornamental	Minor	12(1)
<i>Acer saccharinum</i>	Aceraceae	Tree	9 Feb 2004	CT	eastern Canada to Guatemala	Ornamental	Minor	12(1)
<i>Achillea filipendula</i>	Asteraceae	Herb	8 Feb 1996	ST	central and western Asia	Ornamental	Minor	12(1)
<i>Acokanthera oblongifolia</i>	Apocynaceae	Shrub/Tree	May 2003	NC	South Africa (eastern Cape Province, Natal) & southern Mozambique	Ornamental	Minor	12(1)
<i>Aesculus indica</i>	Hippocastanaceae	Tree	23 Mar 2003	CT	eastern Afghanistan, northern India, Nepal and northern Pakistan	Ornamental	Minor	10(1): 154
<i>Agapanthus paraecox</i> subsp. <i>orientalis</i>	Alliaceae	Herb	23 Apr 2002	CT	South Africa	Ornamental	Moderate	10(1): 142
<i>Agave vivipara</i>	Agavaceae	Herb	28 Nov 2001	NC	North America	Ornamental	Minor	8(2): 177
<i>Ajuga reptans</i>	Lamiaceae	Herb	25 Nov 2002	CT	Europe, western Asia and northern Africa	Ornamental	Minor	10(1): 154
<i>Alnus glutinosa</i>	Betulaceae	Tree	10 Apr 1999	ST & CT	Europe, western Asia & northern Africa	Ornamental	Moderate? (Major in New Zealand)	8(2): 179
<i>Anemone hupehensis</i> var. <i>japonica</i>	Ranunculaceae	Herb	14 Apr 2004	CT	Horticulture, derived from Chinese <i>A. hupehensis</i>	Ornamental	Minor	12(1)
<i>Anigozanthos flavidus</i>	Haemodoraceae	Herb	20 Nov 2003	SC	south western Western Australia	Ornamental	Moderate	10(1): 144
<i>Aquilegia vulgaris</i>	Ranunculaceae	Herb	21 Nov 2003	CT	Europe & north western Africa	Ornamental	Minor	10(1): 157
<i>Arbutus unedo</i>	Ericaceae (Arbutoideae)	Tree	27 Mar 2003	CT & ST	southern Europe, northern Africa & Turkey	Ornamental	Moderate	10(1): 152



Name	Family	Growth Form	First Record	Botanical Regions <sup>1</sup>	Place of Origin	Introduction Source	Weed in NSW	Potential	Cunninghamia volume (part number): page(s)
<i>Athertonia diversifolia</i>	Proteaceae	Tree	14 Mar 2003	NC	northern Queensland	Ornamental	Minor	10(1): 157	
<i>Berberis aquifolium</i>	Berberidaceae	Shrub	6 Oct 1947	NT, CT, ST & SWS	British Columbia to northern California	Ornamental	Moderate but major in Europe	12(1)	
<i>Berberis thunbergii</i>	Berberidaceae	Shrub	6 Oct 2000	CT	Japan	Ornamental	Moderate?	8(2): 179	
							(Major in North America)		
<i>Bergenia x schmidtii</i>	Saxifragaceae	Herb	20 Aug 2003	CC & CT	Horticulture	Ornamental	Minor	10(1): 160	
<i>Bidens aurea</i>	Asteraceae	Herb	1956	CC	southern Arizona to Guatemala	Ornamental	Minor	12(1)	
<i>Bromus catharticus</i> subsp. <i>stramineus</i>	Poaceae	Grass	17 Jan 1973	CT & ST	Argentina & Chile	Unknown	Moderate	10(1): 144	
<i>Brugmansia suaveolens</i>	Solanaceae	Shrub	21 Nov 1992	NC	Peru, Bolivia & Brazil	Ornamental	Minor	12(1)	
<i>Brugmansia x candida</i>	Solanaceae	Shrub	29 Nov 1980	CC	Ecuador & Peru	Ornamental	Minor	12(1)	
<i>Bryophyllum daigremontianum</i>	Crassulaceae	Herb	2 Sep 2003	NWP	Madagascar	Ornamental	Minor	10(1): 151	
<i>Bryophyllum x houghtonii</i>	Crassulaceae	Herb	24 Jul 1970	NC, CC, NWS & NWP	Hybrid developed in USA	Ornamental	Major	8(2): 181 as <i>Bryophyllum daigremontianum</i> x <i>B. delagoense</i>	
<i>Bryophyllum fedtschenkoi</i>	Crassulaceae	Herb	8 Jul 2002	NWP	Madagascar	Ornamental	Minor	10(1): 151	
<i>Buddleja dysophylla</i>	Scrophulariaceae	Shrub	21 Jun 1953	CC	eastern South Africa to Tanzania & Zaire	Ornamental	Minor	12(1)	
<i>Callisia fragrans</i>	Commelinaceae	Herb	21 Nov 2000	NC & CC	Horticulture	Ornamental	Minor	8(2): 177–178	
<i>Calypocarpus vialis</i>	Asteraceae	Herb	13 Aug 2002	NC, CC & NWP	Mexico, El Salvador & Honduras	Unknown	Moderate	10(1): 147	
<i>Cetiba speciosa</i>	Malvaceae (Bombacoideae)	Tree	14 Mar 2003	NC	Argentina, Brazil & Paraguay	Ornamental	Minor	10(1): 148–149	
<i>Celtis sinensis</i>	Ulmaceae	Tree	10 Mar 1986	NC & NT	China, Korea & Japan	Ornamental	Major	8(2): 185	
<i>Cereus uruguayanus</i>	Cactaceae	Shrub/Tree	25 Nov 2003	NWS & NWP	North America	Ornamental	Minor	10(1): 149	
<i>Cestrum x cultum</i>	Solanaceae	Shrub	21 Aug 2003	CC	Horticulture	Ornamental	Minor	10(1): 160	
<i>Chamaecyparis lawsoniana</i>	Cupressaceae	Tree	3 Dec 2003	CT	USA	Ornamental	Minor	10(1): 140–141	
<i>Chamaesyce ophthalmica</i>	Euphorbiaceae	Herb	21 Nov 2000	NC & NT	south eastern USA to northern Argentina & Paraguay	Unknown	Minor	8(2): 182 & 10(1): 162	
<i>Cistus salvifolius</i>	Cistaceae	Shrub	2 Nov 1988	ST	southern Europe, northern Africa and Tunisia	Ornamental	Minor	10(1): 150	
<i>Clematis montana</i>	Ranunculaceae	Climber	26 Nov 2002	CT	Afghanistan, India, Bhutan and China	Ornamental	Moderate	10(1): 157	
<i>Convolvulus farinosus</i>	Convolvulaceae	Herb	Feb 2003	CC	Eritrea & Ethiopia to South Africa, Madagascar & Mascarene Islands	Unknown	Moderate	12(1)	
<i>Coprosma x cunninghamii</i>	Rubiaceae	Shrub	30 Sep 2003	CT	New Zealand	Ornamental	Minor	10(1): 159	
<i>Coprosma robusta</i>	Rubiaceae	Shrub/Tree	24 Mar 2003	CT	New Zealand	Ornamental	Moderate	10(1): 159–160	

Name	Family	Growth Form	First Record	Botanical Regions <sup>1</sup>	Place of Origin	Introduction Source	Weed Potential in NSW	Potential <i>Cunninghamia</i> volume (part number): page(s)
<i>Cordylone australis</i>	Asparagaceae (Lomandroideae)	Tree	26 Nov 2004	CT	New Zealand	Ornamental	Minor	12(1)
<i>Coriandrum sativum</i>	Apiaceae	Herb	22 Jun 2000	NWS, CWS & NWP	possibly Mediterranean region to south western Asia	Spice	Minor	12(1)
<i>Cornus capitata</i>	Cornaceae	Tree	3 Dec 2003	ST	China, Bhutan, India (Assam, Punjab) and Myanmar	Ornamental	Moderate	10(1): 150–151
<i>Corymbia citriodora</i>	Myrtaceae	Tree	15 Mar 1963	CC	Queensland	Ornamental	Moderate	12(1)
<i>Cotoneaster microphyllus</i>	Rosaceae (Spiraeoideae)	Shrub	23 Feb 2000	CT & ST	China, Bhutan, India & Nepal	Ornamental	Minor	10(1): 162–163 & 8(2): 184 incorrectly as <i>Cotoneaster ?horizontalis</i>
<i>Cotoneaster symondsii</i>	Rosaceae (Spiraeoideae)	Shrub	28 Nov 2002	CT	northern India, Bhutan and Nepal	Ornamental	Moderate	10(1): 158 as <i>Cotoneaster sinonsii</i>
<i>Cotoneaster x watereri</i>	Rosaceae (Spiraeoideae)	Shrub	26 Nov 2002	CT	Hybrid developed in cultivation	Ornamental	Minor	10(1): 158
<i>Crassula ericoides</i> subsp. <i>ericoides</i>	Crassulaceae	Shrub	<Mar 1998	CT	coastal areas of South Africa	Ornamental	Minor	12(1)
<i>Crinum moorei</i>	Amaryllidaceae	Herb	16 Mar 1997	SC & CT	South Africa	Ornamental	Minor	10(1): 142
<i>Crotalaria retusa</i>	Fabaceae (Faboideae)	Shrub	2 Apr 2001	NC	tropical & subtropical Africa, Asia & northern Australia	Ornamental	Minor	12(1)
<i>Cupressus arizonica</i>	Cupressaceae	Tree	17 Mar 1999	CT & ST	USA (Arizona, California, New Mexico) & Mexico (Chihuahua, Sonora)	Ornamental	Minor	8(2): 176
<i>Cupressus lusitanica</i>	Cupressaceae	Tree	9 Feb 1991	CT	Mexico, El Salvador, Guatemala & Honduras	Ornamental	Minor	10(1): 141
<i>Cylindropuntia fulgida</i> var. <i>mamillata</i>	Cactaceae	Shrub	18 Sep 2000	NWP & NFWP	Arizona	Ornamental	Moderate	10(1): 149
<i>Cylindropuntia kleiniae</i>	Cactaceae	Shrub	19 Sep 2000	NWP	USA (southern New Mexico, south western Texas) & northern Mexico	Ornamental	Minor	10(1): 161 & 8(2): 180 incorrectly as <i>Cylindropuntia arbuscula</i>
<i>Cylindropuntia leptocaulis</i>	Cactaceae	Shrub	19 Sep 2000	NWS & NWP	north western Mexico & adjoining areas of the USA	Ornamental	Minor	8(2): 180 & 10(1): 161
<i>Cylindropuntia prolifera</i>	Cactaceae	Shrub	24 Apr 1993	NWP & NFWP	California & Baja California	Ornamental	Moderate	10(1): 150–151
<i>Cylindropuntia rosea</i>	Cactaceae	Shrub	18 Sep 2000	NWS & NWP	Mexico	Ornamental	Moderate to Major	10(1): 161–162 & 8(2): 181 incorrectly as <i>Cylindropuntia tunicata</i>
<i>Cylindropuntia spinosior</i>	Cactaceae	Shrub	9 May 2000	NWP & NFWP	USA (Arizona, New Mexico) & Mexico (Chihuahua, Sonora)	Ornamental	Minor	8(2): 180–181 & 10(1): 162
<i>Cylindropuntia tunicata</i>	Cactaceae	Shrub	25 Nov 2003	NWP	southern USA, northern Mexico & Cuba	Ornamental	Moderate to Major	10(1): 150 & incorrectly listed in 8(2): 180
<i>Cyperus proflifer</i>	Cyperaceae	Herb	28 Oct 1979	NC	southern USA, northern Mexico & Cuba	Ornamental	Moderate	12(1)
<i>Cyperus teneristolon</i>	Cyperaceae	Herb	10 Mar 2000	CT	eastern & southern Africa	Unknown	Moderate	8(2): 178
<i>Desmanthus virgatus</i>	Fabaceae (Faboideae)	Shrub	May 2002	NWP	Texas to Argentina & Uruguay	Pasture	Moderate	10(1): 153

Name	Family	Growth Form	First Record	Botanical Regions <sup>1</sup>	Place of Origin	Introduction Source	Weed Potential in NSW	Potential <i>Cunninghamia</i> volume (part number): page(s)
<i>Deutzia crenata</i>	Hydrangeaceae	Shrub	19 Nov 1985	CT	Japan	Ornamental	Major	8(2): 183-184
<i>Drosanthemum candens</i>	Acanthaceae	Shrub	22 Jan 1992	SC	South Africa	Ornamental	Minor	10(1): 147
<i>Echinochloa polystachya</i>	Poaceae	Grass	14 May 2001	NC	southern USA to Argentina & Uruguay	Pasture	Moderate to Major	12(1)
<i>Elaeagnus umbellata</i>	Elaeagnaceae	Shrub	27 Sep 2003	CT	Afghanistan to China, Korea & Japan	Ornamental	Minor but major in the USA	10(1): 151-152
<i>Eragrostis trichophora</i>	Poaceae	Grass	14 Apr 2003	NWS & NWP	southern Africa	Unknown	Moderate to Major	10(1): 144-145
<i>Erica arborea</i>	Ericaceae (Ericoideae)	Tree	6 Oct 2000	CT	southern Europe, Asian Turkey and central to northern Africa	Ornamental	Moderate	8(2): 182
<i>Erica glandulosa</i>	Ericaceae (Ericoideae)	Shrub	17 May 2000	CT	South Africa (Cape Province)	Ornamental	Minor	8(2): 182
<i>Eugenia uniflora</i>	Myrtaceae	Shrub/Tree	8 Mar 2000	NC	northern Argentina, Bolivia, Brazil, Paraguay & Uruguay	Fruit	Moderate to Major	12(1)
<i>Eupatorium lindleyanum</i>	Asteraceae	Herb	<1865	NC & NT	China, Japan, Taiwan & Philippines	Ornamental	Minor	10(1): 147-148
<i>Ficus carica</i>	Moraceae	Tree	9 Dec 1993	CC, NWS, CWS & SWS	southern Europe, northern Africa and Asia	Fruit tree	Minor	12(1)
<i>Geranium robertianum</i>	Geraniaceae	Herb	21 Nov 2000	CC & CT	Europe, Asia & north Africa	Ornamental	Moderate	8(2): 183
<i>Gibasis pellucida</i>	Commelinaceae	Herb	5 Dec 2003	CC	Mexico	Ornamental	Minor	10(1): 143
<i>Gladiolus dalenii</i>	Iridaceae	Herb	11 Jan 2004	NC, CC, SC & CT	Senegal to Sudan, Eritrea, South Africa, Saudi Arabia & Yemen	Ornamental	Moderate	12(1)
<i>Gladiolus hybrid</i> (with <i>G. dalenii</i> strain dominating)	Iridaceae	Herb	22 Jan 2004	CT	Horticulture	Ornamental	Minor	12(1)
<i>Glechoma hederacea</i>	Lamiaceae	Herb	28 Oct 1973	CC & NT	Europe & Asia	Ornamental	Moderate	10(1): 154
<i>Hakea laurina</i>	Proteaceae	Shrub/Tree	May 1969	NT & SWS	south western Western Australia	Ornamental	Minor	12(1)
<i>Hemerocallis fulva</i> var. <i>fulva</i>	Xanthorrhoeaceae	Herb	19 Jan 2004	CC & CT	probably China & Japan	Ornamental	Minor	12(1)
<i>Hesperis matronalis</i>	Brassicaceae	Herb	17 Jan 1989	CT	southern Europe to western Siberia	Ornamental	Minor	10(1): 149
<i>Hieracium aurantiacum</i> subsp. <i>carpathicola</i>	Asteraceae	Herb	17 Dec 2003	ST	Europe	Ornamental	Moderate to Major	10(1): 148
<i>Hieracium muromum</i>	Asteraceae	Herb	Nov 1998	CT	Europe & western Asia	Unknown	Minor	8(2): 179
<i>Hieracium pilosella</i>	Asteraceae	Herb	1992	ST	Europe & Asia	Ornamental	Major	12(1)
<i>Hippeastrum puniceum hybrid</i>	Amarylidaceae	Herb	23 Nov 2000	NC	Horticulture	Ornamental	Minor	8(2): 177
<i>Hyacinthoides non-scripta</i>	Hyacinthaceae	Herb	5 Oct 2000	CT	western Europe	Ornamental	Minor	8(2): 178
<i>Hydrangea macrophylla</i>	Hydrangeaceae	Shrub	12 Sep 1999	NT & CT	Asia (Himalayas to South Korea & Japan)	Ornamental	Minor	12(1)
<i>Hydrocleys nymphoides</i>	Limnocharitaceae	Herb	Nov 1957	NC, CC & SWS	Guatemala to Argentina	Ornamental	Moderate	12(1)
<i>Hymenachne amplexicaulis</i>	Poaceae	Grass	14 Apr 2004	NC	Mexico to Paraguay	Pasture	Minor but major in more tropical areas	12(1)



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<i>Hypericum adyginum</i>	Hypericaceae	Shrub	13 Jan 2004	CT	northern Turkey & south eastern Bulgaria	Ornamental	Minor	12(1)
<i>Hypericum kouytchense</i>	Hypericaceae	Shrub	2 Feb 2000	CT	China (Guizhou)	Ornamental	Moderate	8(2): 181 & 10(2): 162
<i>Hypericum patulum</i>	Hypericaceae	Shrub	23 Feb 2000	CT	China (Guizhou, Sichuan)	Ornamental	Minor	8(2): 181
<i>Impatiens balfourii</i>	Balsaminaceae	Herb	18 Apr 2004	CT	Himalayan India & Pakistan	Ornamental	Minor	12(1)
<i>Indigofera spicata</i>	Fabaceae (Faboideae)	Herb	Feb 2005	NC	Ethiopia to Central African Republic & South Africa, & to Yemen, Madagascar & Mauritius	Pasture	Moderate	12(1)
<i>Inga edulis</i>	Fabaceae (Mimosoideae)	Tree	25 Feb 2002	NC	Bolivia and Brazil to Colombia, Suriname and Venezuela	Ornamental and for fruit	Minor	10(1): 153–154
<i>Iris laevigata</i>	Iridaceae	Herb	16 Nov 2004	NC	China, Japan, Korea and eastern Russia	Ornamental	Minor	12(1)
<i>Jacaranda mimosifolia</i>	Bignoniaceae	Tree	27 Sep 1983	NC & CC	north western Argentina & southern Bolivia	Ornamental	Major	8(2): 180
<i>Jasminum polyanthum</i>	Oleaceae	Shrub	10 Sep 1981	NC, CC & CT	China (Guizhou, Sichuan, Yunnan)	Ornamental	Major	8(2): 184
<i>Juglans ailantifolia</i>	Juglandaceae	Tree	9 Feb 2004	CT	Japan & Russia (Sakhalin)	Ornamental & Minor fruit tree	Minor	12(1)
<i>Juglans regia</i>	Juglandaceae	Tree	4 Mar 1994	ST	south eastern Europe to temperate Himalayas	Fruit tree	Minor	8(2): 184
<i>Juniperus conferta</i>	Cupressaceae	Shrub	25 Nov 2002	CT	Japan & Russia (Sakhalin)	Ornamental	Minor	10(1): 141
<i>Justicia betonica</i>	Acanthaceae	Herb	22 Nov 2000	NC	Asia & tropical Africa	Ornamental	Minor	8(2): 178
<i>Justicia caudata</i>	Acanthaceae	Shrub	1 Oct 2002	NC	Mexico to South America	Ornamental	Minor	10(1): 145
<i>Koelreuteria formosana</i>	Sapindaceae	Tree	13 Mar 2001	NC	Taiwan	Ornamental	Moderate	8(2): 185
<i>Lamium galeobdolon</i>	Lamiaceae	Herb	26 Nov 2003	CT	Europe & western Asia	Ornamental	Minor	10(1): 154–155
<i>Lathyrus tingitanus</i>	Fabaceae (Faboideae)	Herb	21 Oct 1967	CC, SC & CT	south western Europe, north western Africa, Azores, Madeira and Canary Islands	Ornamental	Moderate	10(1): 153
<i>Lilium lancifolium</i>	Liliaceae	Herb	7 Feb 2004	CT	China, Japan & Korea	Ornamental	Minor	12(1)
<i>Lygodium japonicum</i>	Lygodiaceae	Fern	4 Aug 2000	CC	Japan & China to Pakistan, Sri Lanka & Papua New Guinea	Ornamental	Minor but major in south eastern USA	12(1)
<i>Lysimachia fortunei</i>	Primulaceae (Myrsinoideae)	Herb	13 Feb 2002	NT	Japan, Korea, China & Vietnam	Ornamental	Minor	10(1): 156–157
<i>Maaackia amurensis</i>	Fabaceae (Faboideae)	Tree	27 Mar 2003	CT	China, Japan, Korea and far eastern Russia	Ornamental	Minor	10(1): 153
<i>Malephora crocea</i>	Aizoaceae	Subshrub	Sep 1926	NWP	South Africa (Cape Province)	Ornamental	Minor	12(1)
<i>Mauranthemum patulosum</i>	Asteraceae	Herb	13 Nov 1988	CC & SC	Algeria to Libya & Spain	Ornamental	Minor	12(1)
<i>Melastoma malabathricum</i>	Melastomataceae	Shrub/Tree	1 May 1987	CC	western Indian Ocean Islands across southern Asia to Polynesia	Ornamental	Minor, possibly more of a problem in more tropical areas	12(1)

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<i>Monstera deliciosa</i>	Araceae	Herb	26 Mar 2002	NC & CC	southern North America	Ornamental	Minor	10(1): 142
<i>Murdannia keisak</i>	Commelinaceae	Herb	6 Mar 1974	CC	Asia	Ornamental	Minor	10(1): 143
<i>Myagrurum perfoliatum</i>	Brassicaceae	Herb	1 Aug 2000	NWS	Europe & western Asia	Unknown	Major	8(2): 180
<i>Nassella tenuissima</i>	Poaceae	Grass	29 Sep 2004	ST & NWS	USA (New Mexico, Texas) & Mexico as well as Argentina & Chile	Ornamental	Major	12(1)
<i>Odontonema tubaeforme</i>	Acanthaceae	Shrub	25 Feb 2002	NC & CC	Mexico to Panama	Ornamental	Minor	10(1): 145–146
<i>Oenothera biennis</i>	Onagraceae	Herb	10 Apr 2001	CT	eastern USA & eastern Canada	Ornamental	Minor	8(2): 184
<i>Oxalis vallicola</i>	Oxalidaceae	Herb	3 Dec 2003	CT	Mexico	Ornamental	Minor	10(1): 155–156
<i>Pelargonium quercifolium</i>	Geraniaceae	Shrub	16 Nov 2004	NC	South Africa	Ornamental	Minor	12(1)
<i>Phoenix canariensis</i>	Arecaceae	Tree	26 Sep 1987	CC, NWS, CWS & SWS	Canary Islands	Ornamental	Major	10(1): 142–143
<i>Phoenix reclinata</i>	Arecaceae	Tree	17 Nov 2004	NC	tropical & subtropical Africa & Asia, & Indian Ocean islands	Ornamental	Moderate	12(1)
<i>Phormium tenax</i>	Xanthorrhoeaceae	Herb	1 Feb 2004	CC & CT	New Zealand	Ornamental	Minor	12(1)
<i>Physostegia virginiana</i>	Lamiaceae	Herb	14 Mar 1975	NC, CC & NT	Canada, USA and northern Mexico	Ornamental	Minor	10(1): 155
<i>Pinus contorta</i>	Pinaceae	Tree	5 Feb 2004	CT & ST	western Canada, western USA and north western Mexico	Ornamental	Major	12(1)
<i>Pinus durangensis</i>	Pinaceae	Tree	13 Aug 2000	NT	northern Mexico	Ornamental	Minor	8(2): 176–177
<i>Pinus halepensis</i>	Pinaceae	Tree	14 Jan 1986	ST & SWS	southern Europe, western Asia & northern Africa	Forestry	Major	10(1): 161 & 8(2): 177 incorrectly as <i>Pinus nigra</i> var. <i>corsica</i>
<i>Pinus patula</i>	Pinaceae	Tree	15 Jun 2002	CC, NT & CT	Mexico	Ornamental	Major	10(1): 141
<i>Pittosporum eugenioides</i>	Pittosporaceae	Tree	27 Mar 2003	CT	New Zealand	Ornamental	Moderate	10(1): 156
<i>Pittosporum ralphii</i>	Pittosporaceae	Shrub	25 Nov 2002	CT	New Zealand	Ornamental	Moderate	10(1): 156–157
<i>Pittosporum tenuifolium</i>	Pittosporaceae	Shrub/Tree	3 Dec 2003	CT	New Zealand	Ornamental	Minor	10(1): 156
<i>Plectranthus ecklonii</i>	Lamiaceae	Shrub	24 Apr 2002	CC	South Africa	Ornamental	Minor	10(1): 155
<i>Podranea ricasoliana</i>	Bignoniaceae	Vine	8 Dec 2004	CT	South Africa (eastern Cape Province, Kwazulu-Natal)	Ornamental	Minor	12(1)
<i>Polygonatum x hybridum</i>	Asparagaceae (Nolinoideae)	Herb	30 Oct 2004	CT	Horticulture	Ornamental	Minor	12(1)
<i>Polypremum procumbens</i>	Tetrachondraceae	Herb	28 Jun 1999	NC	south eastern and north central USA to Paraguay	Unknown	Minor	12(1)
<i>Potentilla vesca</i>	Rosaceae (Rosoidae)	Herb	26 Nov 2003	CT	northern hemisphere	Ornamental and for fruit	Minor	10(1): 158–159
<i>Primula malacoides</i>	Primulaceae (Primuloideae)	Herb	28 Aug 2004	CC	southern China & north eastern Myanmar	Ornamental	Minor	12(1)
<i>Prunus campanulata</i>	Rosaceae (Spiraeoideae)	Shrub/Tree	21 Aug 2003	CC	China, Japan & Taiwan	Ornamental	Minor	10(1): 157–158
<i>Rhaphiolepis umbellata</i>	Rosaceae (Spiraeoideae)	Shrub	12 Apr 1991	NC & SC	China, Taiwan, Japan & Korea (Queipaert Island)	Ornamental	Minor	12(1)

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<i>Rhododendron ponticum</i>	Ericaceae (Ericoideae)	Shrub	25 Nov 2002	CT	south western Europe, south eastern Europe & western Asia	Ornamental	Moderate but Major in the British Isles & Ireland	10(1): 152
<i>Romneya coulteri</i>	Papaveraceae	Herb	2 Dec 1965	ST	south western California	Ornamental	Minor	12(1)
<i>Romneya trichocalyx</i>	Papaveraceae	Herb	7 Dec 1964	ST & SWS	south western California & north western Mexico	Ornamental	Minor	12(1)
<i>Rosa luciae hybrids</i>	Rosaceae (Rosoidae)	Shrub	1 Dec 1983	CC, CT, ST & NWS	China, Korea & Japan	Ornamental	Minor	10(1): 159
<i>Rubus rugosus</i>	Rosaceae (Rosoidae)	Shrub	26 Feb 2002	NC	India, Nepal and Sri Lanka to Malay Peninsula and Vietnam	Fruit	Minor	10(1): 159
<i>Ruellia squarrosa</i>	Acanthaceae	Shrub	7 Dec 1993	NC & CC	southern Mexico	Ornamental	Moderate	10(1): 146
<i>Schinus terebinthifolius</i>	Anacardiaceae	Tree	11 Jan 1995	NC, CC & ?NWP	Argentina, southern Brazil & eastern Paraguay	Ornamental	Major	8(2): 178-179
<i>Scorpiurus muricatus</i>	Fabaceae (Faboideae)	Herb	20 Oct 1999	CWS	Europe, Asia Minor and northern Africa	Pasture	Moderate	8(2): 183
<i>Senna multijuga</i>	Fabaceae (Caesalpinoideae)	Tree	14 Mar 2003	NC	Colombia to Peru, Bolivia and Brazil	Ornamental	Moderate	10(1): 152
<i>Setaria incrassata</i>	Poaceae	Grass	14 Feb 1995	NWS	Nigeria to Ethiopia & South Africa	Pasture	Moderate	12(1)
<i>Sideritis lanata</i>	Lamiaceae	Herb	21 Oct 1969	NWS	Greece, Bulgaria, Yugoslavia & Turkey	Unknown	Minor to Moderate	12(1)
<i>Sorbus aucuparia</i>	Rosaceae (Spiraeoideae)	Tree	7 Feb 2004	CT	Europe, Iceland & Asia	Ornamental	Minor	12(1)
<i>Spartium junceum</i>	Fabaceae (Faboideae)	Shrub	14 Jan 1986	SC, ST & NWS	southern Europe, northern Africa and western Asia	Ornamental	Minor	12(1)
<i>Stapelia gigantea</i>	Apocynaceae	Herb	3 Sep 2003	NWP	southern Africa	Ornamental	Moderate	10(1): 147
<i>Stephanophysum longifolium</i>	Acanthaceae	Herb	13 Mar 2003	NC	Brazil	Ornamental	Moderate to Major	10(1): 146
<i>Strobilanthes anisophylla</i>	Acanthaceae	Shrub	21 Aug 2003	CC	northern India & Bhutan	Ornamental	Minor	10(1): 146-147
<i>Stylosanthes gualanensis</i>	Fabaceae (Faboideae)	Herb	4 Feb 2002	NC & NWS	southern Mexico to north eastern Argentina & Paraguay	Pasture	Moderate	12(1)
<i>Stylosanthes humilis</i>	Fabaceae (Faboideae)	Herb	1 Apr 2002	NC	Arizona to central Brazil	Pasture	Minor	12(1)
<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	Caprifoliaceae	Shrub	7 Dec 2005	ST	south eastern Alaska to California	Ornamental	Minor	12(1)
<i>Syzygium paniculatum</i>	Myrtaceae	Shrub/Tree	30 Nov 2004	NWS	coastal New South Wales	Ornamental	Minor	12(1)
<i>Tabebuia chrysotricha</i>	Bignoniaceae	Tree	13 Mar 2003	NC	north eastern Argentina and Brazil	Ornamental	Minor	10(1): 148
<i>Tabebuia impetiginosa</i>	Bignoniaceae	Shrub/Tree	14 Mar 2003	NC	Mexico to Peru, north western Argentina, Paraguay & Brazil	Ornamental	Minor	10(1): 148
<i>Tibouchina urvilleana</i>	Melastomataceae	Shrub	23 May 1987	NC & CC	southern Brazil	Ornamental	Moderate	12(1)



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<i>Tillandsia usneoides</i>	Bromeliaceae	Hanging epiphyte	20 Nov 2000	NC	south eastern USA to Argentina & Chile	Ornamental	Minor	8(2): 177
<i>Tradescantia cerinthoides</i>	Commelinaceae	Herb	8 Feb 2004	CC	northern Argentina & south eastern Brazil	Ornamental	Minor	12(1)
<i>Tradescantia pallida</i>	Commelinaceae	Herb	13 Nov 1985	CC & NWS	Mexico	Ornamental	Minor	10(1): 143–144
<i>Triadica sebifera</i>	Euphorbiaceae	Tree	3 May 2000	NC	China	Ornamental	Major	8(2): 182–183
<i>Ulmus x hollandica</i>	Ulmaceae	Tree	Jan 1973	CT & ST	Europe & Asia	Ornamental	Minor	10(1): 160
<i>Utricularia sandersonii</i>	Lentibulariaceae	Herb	Nov 2001	CT	South Africa (eastern Cape Province, Kwazulu-Natal)	Ornamental	Minor	12(1)
<i>Viola riviniana</i>	Violaceae	Herb	21 Dec 1983	CT & ST	Europe, northern Africa & Lebanon	Ornamental	Moderate	8(2): 185
<i>Vitis vinifera</i>	Vitaceae	Vine	10 Feb 1971	NC, CT, ST & NWS	Europe, western Asia and northern Africa	Fruit vine	Minor	8(2): 185–186
<i>Washingtonia filifera</i>	Arecaceae	Tree	10 Nov 2004	CWS	north western Mexico and south western USA	Ornamental	Minor	12(1)
<i>Zephyranthes carinata</i>	Amaryllidaceae	Herb	19 Oct 1987	NC	southern USA to Argentina	Ornamental	Minor	12(1)

Botanical Regions<sup>1</sup>: Botanical Divisions and Subdivisions of New South Wales as explained in Harden, G.J. (Ed.) (1990) *Flora of New South Wales* Volume 1

(University of New South Wales Press: Sydney); NC = North Coast, CC = Central Coast, SC = South Coast, NT = Northern Tablelands, CT = Central Tablelands,

ST = Southern Tablelands, NWS = North Western Slopes, CWS = Central Western Slopes, SWS = South Western Slopes, NWP = North Western Plains,

SWP = South Western Plains, NFWP = North Far Western Plains, SFWP = South Far Western Plains