FLOYD'S CLASSIFICATION APPLIED TO FIVE RAINFOREST SITES IN THE MANNING VALLEY

Comments on G. Williams' "Riverine Rainforest Remants in the Manning Valley", *Wetlands*, Vol. 9, No. 2 (Dec., 1990)

J.D. Stockard, Supervisor,
Wingham Brush Regeneration Team,
P.O. Box 15, WINGHAM. NSW 2429

Abstract

Williams (1990) described three rainforest stands in the Manning Valley as riverine, and compared them with the well known Wingham Brush and Coocumbac Island remnants. These sites are re-examined and assigned to Floyd's sub-alliances (1990).

Introduction

Semantic variations within the usage of the term "riverine" in descriptive ecology could lead to confusion. The term "riverine" is generally used in rainforest literature to denote rainforest growing on the actual riverbank, where the roots have access to water from the stream (Floyd, pers. comm.). These rainforests are also known as riparian, or gallery rainforests, and have been variously described as "an extension of lowland subtropical rainforest along water courses" (NPWS, 1979), "narrow bands along rivers and creeks..." (Williams *et al.*, 1984), "the drier communities of subtropical rainforest" (Floyd, 1989), and dry rainforest, *Castanospermum -Waterhousea floribunda* Alliance (Floyd, 1990).

"Riverine" has also been used in a wider sense to equate with lowland subtropical rainforest and encompass rainforest growing some distance away from the actual riverbank (Williams, 1990). Using this wider definition, approximately 100 hectares of "surviving riverine rainforest" has been cited with the comment that "this figure is an underestimate of the total riverine rainforest" remaining in New South Wales (Williams, 1990). The NPWS (1979) estimated less than 100 hectares of lowland subtropical rainforest on alluvial soils remained in New South Wales. Important sites,which have been described by Floyd (1990) as containing Suballiance No. 3, include Stotts Island (35ha) in the Tweed River, Boatharbour on the Richmond River, Susan Island in the Clarence River, Jarrett Park or Bellingen Island in the Bellinger River, and Wingham Brush and Coocumbac Island on and in the Manning River. Shark Island, in the mouth of the Macleay River, has been described as riverine (Williams, 1990), but has long been regarded as littoral rainforest (NPWS, 1979), and, recently described as the most highly developed sub-alliance of littoral rainforest on sand, Suballiance No. 16 (Floyd, 1990). Pimlico Island in the lower Richmond River has also been described as riverine (Williams, 1990) and was classified as littoral, Suballiance No. 17 by Floyd (1990).

A preliminary list of tree species was compiled for the five sites in the Manning (Williams, 1990) and this has been expanded by an independent and more comprehensive floristic survey using Floyd's (1990) technique. Although the method for recording frequencies is subjective, it is a practical alternative to actual counts of individual trees within quadrats and is traditionally used by rainforest ecologists in New South Wales. The mosaic nature of rainforest would require a large number of quadrats per site and these, too, would ultimately be subjectively located. Where tree species in the tree list occur only as shrubs, they are denoted as such. *Alyxia ruscifolia* (Apocynaceae) appeared in the preliminary tree list (Williams, 1990), but this shrub is not known to achieve tree status and has been placed in a shrub list. Juvenile trees which may never contribute to the canopy are denoted. Exotic trees are those not endemic to the region, even if they are native to other Australian rainforests.

Although vegetation classifications inherently tend to be procrustean and individual vegetation communities vary within groupings, Floyd's classification system for New South Wales rainforests is the most comprehensive to date with 57 suballiances referred to 13 alliances. Where grey areas occur, as between two suballiances, hyphenation allows these to be described.

The varying geological substrates are significant when comparing the five Manning Valley sites. Basalt-enriched alluvium supports the rainforest at Wingham Brush and Coocumbac Island, while poorer alluvium underlies the Lansdowne sites. The accretion from weathered scree supports subtropical elements at Coopers Brush, while the scree supports dry rainforest.

An analysis of rainforest structure is also essential for the application of Floyd's classification. Thus it is important to differentiate between the tall (30-45 metre high), billowing canopy of subtropical rainforest and the lower, dense canopy of dry rainforest with its scattered emergents. Finally a traditional species list with frequencies of occurrence is required to determine suballiances (Floyd, 1990).

Discussion

The remnant rainforests at Wingham Brush and Coocumbac Island were described as riverine (Williams, 1990), and these subtropical rainforests were assigned by Floyd (1987) to the *Argyrodendron trifoliatum* Alliance, Suballiance No. 3: *Cryptocarya obovata-Dendrocnide excelsa-Ficus* spp. - *Araucaria,* which was "the major suballiance on the well-drained, fertile, basaltically enriched alluvial lowland floodplains north from the Manning River." This suballiance was nearly extinguished in New South Wales with "today's remnants ... pitiful oases in an agricultural desert" (Floyd, 1990). "The few areas with reasonable prospects of survival are considered to be of exceptional conservation importance, both for the scientific fraternity and for general education of and understanding by the community" (NPWS, 1979).

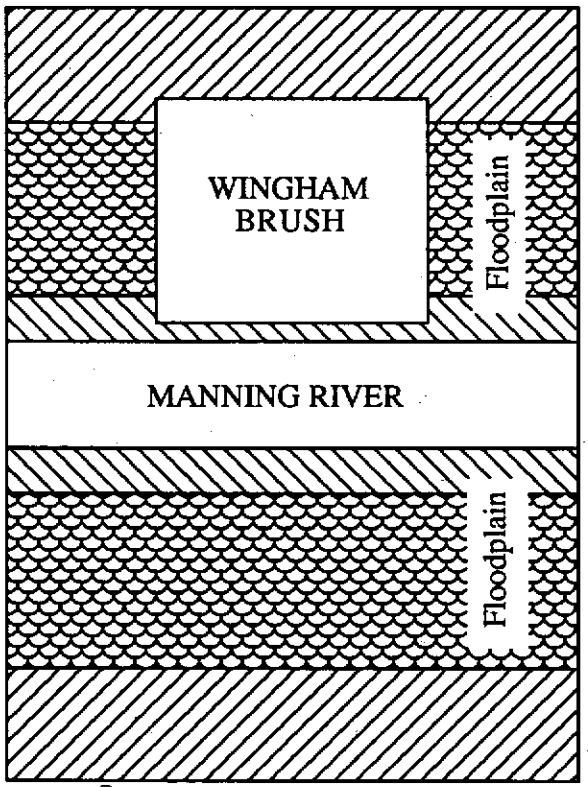
Lansdowne Reserve was described as riverine (Williams, 1990) and classified by Floyd (1990) as dry rainforest, *Drypetes-Araucaria* Alliance, Suballiance No. 23: *Ficus-Streblus-Dendrocnide-Cassine.* This degraded site on sandy alluvium is better described as a small rainforest lens, rather than a remnant (Williams, 1990). Portion plans suggest the flats of the Lansdowne River in this vicinity were largely occupied by sclerophyll communities with rainforest restricted to small, isolated patches (Taree Dept. of Lands). The estuarine character of the site is pronounced with mangroves and *Casuarina glauca* fringing the river. Floyd appears to have struggled with the classification of this site, noting that it had some affinities with the littoral *Drypetes-Sarcomelicope-Cassine-Podocarpus* Suballiance No. 19. The sandy alluvium is a departure from substrates generally supporting suballiance No. 23 and it is possible that key elements which would more closely affiliate this site with littoral rainforest are missing as a result of past disturbances.

Mischocarpus pyriformis, very common here, was described as being confined elsewhere in the Manning to littoral rainforest (Williams, 1990). Although *M. pyriformis* more commonly occurs in littoral rainforest, it also occurs in riverine and dry rainforests (Floyd, 1989) and is recorded from Tirrill Creek Flora Reserve in the Bulga-Dingo State Forest in the Manning hinterland (Forestry Comm. of New South Wales, 1991), which indicates a wide distribution for this species.

The presence of *Tradescantia* and *Lantana* have been noted (Williams, 1990), but the well-established presence of the vine *Anredera cordifolia,* widely regarded as the most serious weed threat to warmer rainforest sites in New South Wales, has been overlooked. Lansdowne Reserve is badly degraded and "in urgent need of rehabilitation" (Floyd, 1990).

The other Lansdowne River site described as riverine (Williams, 1990), Site "2" Lansdowne, is a portion of a lengthy band of gully-confined rainforest very common within the Manning region and may also be classified as dry rainforest, belonging to Floyd's *Castanospermum-Waterhousea floribunda* Alliance, Suballiance No. 26: *Waterhousea floribunda-Tristaniopsis laurina* (Dodkin, 1991). This alliance was defined by Floyd (1990) as synonymous with gallery or riparian rainforest, and here the two usages of "riverine" converge. Although described as a remnant (Williams, 1990), the gully of the Lansdowne River in that vicinity is generally occupied by rainforest and is contiguous with this site. It is doubtful that the flats of the Lansdowne River here supported extensive rainforest prior to European settlement, and this site was probably bordered with sclerophyll vegetation. The possibility of the site being tidal prior to the construction of a weir downstream earlier this century was discussed (Williams, 1990), but the 1901 portion plan (Taree Dept. of Lands) indicated that Lansdowne Site "2" is approximately 2kms upstream from the tidal limit. An interesting feature of this gallery rainforest is the occasional occurrence of *Argyrodendron actinophyllum* as an emergent.

Suballiance No. 26 also occurred adjacent to Wingham Brush but was cleared for recreational development. The occurrence of *Waterhousea floribunda* at Wingham Brush is restricted to scattered remnant trees in the recreation area and edge trees bordering the riverbank picnic area. A diagram of rainforest zones bordering the Manning River at Wingham Brush is included for further clarification.



dry rainforest, Suballiance No. 26: *Waterhousia floribunda - Tristaniopsis laurina*

subtropical rainforest, Suballiance No. 3: *Cryptocarya obovata - Dendrocnide excelsa - Ficus* spp. *- Araucaria*

dry rainforest, Suballiance No. 28: *Backhousia sciadophora - Dendrocnide - Drypetes*

Diagram Schematic representation of rainforest zones bordering the Manning River in the vicinity of Wingham Brush before European settlement.

Coopers Brush was also described as riverine (Williams, 1990), but is located 40-150 metres above sea level, above the coastal floodplain in the foothills of the Great Dividing Range. The Suballiance No. 3 rainforests probably extended inland to the expansive river flats at nearby Mt. George, 15 metres above sea level. Coopers Brush is located on scree with the lower band enriched by accretion from the upper slope. Coopers Brush is largely dry rainforest and belongs to Floyd's *Choricarpia-Backhousia* spp. Alliance, Suballiance No. 28: *Backhousia sciadophora-Dendrocnide-Drypetes*. This forest type is widespread in the Manning region where it is commonly known as "Myrtle Scrub".

Backhousia sciadophora, which indicates Suballiance No. 28, is also recorded from Wingham Brush, but is confined to the northwest corner above the floodplain and does not occur in the main body of rainforest (see diagram). The site of the Suballiance No. 28 border to Wingham Brush is now largely occupied by residential development. *B. sciadophora* can be found on steep, rocky, non-alluvial banks of the Manning River near Wingham in a quasi-gorge habitat, whereas alluvial banks, where uncleared, support *Waterhousea*. The distribution of *Waterhousea* generally follows that of *Casuarina cunninghamiana*, which is replaced, with increasing salinity downstream near Taree, by *Casuarina glauca*. *B. sciadophora* is present on the southern alluvial bank of the Manning River opposite Coocumbac Island, which suggests the alluvial riverbanks at Taree, in the absence of *Waterhousea* and *Tristaniopsis laurina*, were occupied by Suballiance No. 28.

Subtropical rainforest is present within the lower band of Coopers Brush and belongs to Floyd's *Argyrodendron actinophyllum* Alliance, Suballiance No. 10: *Argyrodendron actinophyllum-Dendrocnide-Ficus*, which commonly occurs in association with Suballiance No. 28 in the Manning and Hastings Valleys (Floyd, 1990), and is the prevalent subtropical rainforest in the Manning division of the Great Dividing Range. The occasional occurrence of *Harpullia hillii* at Coopers Brush is noteworthy as the Manning River is the recorded southern limit for this species. Floyd (1989) recorded *H. hillii* from nearby Knorrit Flat, 6km northwest of Coopers Brush.

The development of a complex classification of New South Wales rainforest with alliances and associations has been long regarded as essential for the development of an effective

conservation strategy (NPWS, 1979). The traditional subforms cool temperate, warm temperate, subtropical and dry were merely "classes of convenience," which were too simplified to encompass the complex rainforest ecosystems in New South Wales. Floyd's classification system (1990) enables a much broader sample of New South Wales rainforests to be conserved.

There are distinct conservation advantages in splitting rainforests into suballiances and restricting the usage of the term "riverine" in rainforest classification to equate with gallery and riparian rainforest, Floyd's *Castanospermum-Waterhousea* Alliance. The term "riverine" has been applied in a broader sense (Williams, 1990), lumping diverse rainforest types and associations together. Should this wide definition be applied to New South Wales rainforests, several thousand hectares would be classified as riverine, thereby concealing the uniqueness and scientific value of many sites.

The continued existence of Wingham Brush and Coocumbac Island as representative samples of original flora, as well as most other Suballiance No. 3 sites in New South Wales, depends upon rehabilitation programs which are largely justified by their recognized scarcity and scientific value. Floyd's complex system of rainforest classification enables rare and unusual associations to be recognized and guides rehabilitation programs towards restoration of the appropriate vegetational alliance.

Acknowledgements

I thank Mike Dodkin, National Parks & Wildlife Service, for his participation in the field and assistance with the vegetation survey, as well as providing information on Coocumbac Island. The species list for Wingham Brush was based on an initial survey by Floyd (1978) and expanded by contributions from the National Herbarium New South Wales (1985-1989), particularly Gwen Harden. I also thank Gwen Harden for her help with the plant list. I further thank Mike Dodkin, and also Stan Watkins and Max Solling for their comments on the draft. I thank Carl Atchison, Taree Department of Lands, for his kind assistance with the portion plans for Lansdowne Village. Finally I thank Stephanie Stockard for her comments and typing.

References

Dodkin, M. (1991). *Species List of Riverine Rainforest Remnant on the Lansdowne River, 2km WSW of Lansdowne Village*. NPWS Internal Report. Port Macquarie, p. 6.

Floyd, A. (1987). Status of rainforests in northern New South Wales in *The Rainforest Legacy Vol. 1*. Australian Government Publishing Service. Canberra, pp. 95-117.

Floyd, A. (1989). *Rainforest Trees of Mainland South-eastern Australia*. Forestry Commission of N.S.W. Inkata Press, Melbourne.

Floyd, A. (1990). *Australian Rainforests in New South Wales*. Two Volumes. Surrey Beatty & Sons Pty. Ltd. Chipping Norton.

Forestry Commission of N.S.W. (1991). *Management Plan for Wingham Management Area 1990*. Forestry Commission of N.S.W. Sydney, Appendix 6, xviii.

National Parks and Wildlife Service (1979). *Developing a Rainforest Conservation Policy*. NPWS Background Paper.

Taree Department of Lands. Portion plans, Village of Lansdowne, Parish of Lansdowne, County of Macquarie.

Williams, G. (1990). "Riverine Rainforest Remnants in the Manning Valley." *Wetlands (Australia)* 9 (2): 68-75.

Williams, J.B., Harden, G.J. & McDonald, W.J.F. (1984). *Trees and Shrubs in Rainforests of New South Wales and Southern Queensland*. University of New England Printery. Armidale.

VEGETATION SURVEY

1. **Wingham Brush**
2. **Coocumbac Island**
3. **Lansdowne Reserve**
4. **Lansdowne Site "2"**
5. **Cooper's Brush**

Legend:

VC - Very Common
C - Common
O - Occasional
R - Rare

j - Juvenile
T - Tree
S - Shrub
L - Localized
*** - exotic**

Note: Wingham Brush and Coocumbac Island are being restored by regeneration teams and the plant lists are therefore more exhaustive compared with the other sites.

SPECIES LISTS

FAMILY Genus species	Common Name	Abundance				
TREES		1	2	3	4	5
Conifers						
ARAUCARIACEAE						
*Araucaria bidwillii	Bunya Pine	R				
*Araucaria cunninghamii	Hoop Pine	R				
Monocotyledons						
ARECACEAE						
Archontophoenix cunninghamiana	Bangalow Palm	jR		jO	R	
*Phoenix sp.	Date Palm	jR		jR		
Dicotyledons						
ALANGIACEAE						
Alangium villosum	Muskwood	VC				O
ARALIACEAE						
Polyscias elegans	Celery Wood	R				R
BORAGINACEAE						
Ehretia acuminata	Koda	O				O
CAPPARACEAE						
Capparis arborea	Brush Caper Berry	C	VC			C
CELASTRACEAE						
Cassine australis	Red Olive Plum	R	R		R	O
CUNONIACEAE						
Ceratopetalum apetalum	Coachwood				O	
EBENACEAE						
Diospyros australis	Black Plum	R		SR		SO
Diospyros pentamera	Myrtle Ebony	O	O		R	O
ELAEOCARPACEAE						
Elaeocarpus obovatus	Hard Quandong	R	R	SC	O	O
Sloanea australis	Maiden's Blush				O	
EPACRIDACEAE						
Trochocarpa laurina	Tree-heath				R	
EUPHORBIACEAE						
Alchornea ilicifolia	Native Holly					SO
Baloghia inophylla	Brush Bloodwood	O				C
Bridelia exaltata	Brush Ironbark		O			

		1	2	3	4	5
Claoxylon australe	Brittlewood	SR	O			SO
Cleistanthus cunninghamii	Cleistanthus	O			O	SC
Croton insularis	Silver Croton					O
Croton verreauxii	Native Cascarilla			SO	O	SO
Drypetes australasica	Yellow Tulip	R	R	SR		C
Glochidion ferdinandi	Cheese Tree	R		O	O	
Mallotus philippensis	Red Kamala	C	O			C
Omalanthus populifolius	Bleeding Heart	O				
FABACEAE				C		
Acacia decurrens	Green Wattle	SO	O	C	O	
Acacia melanoxylon	Blackwood	R				
*Castanospermum australe	Black Bean	O	O		R	O
Pararchidendron pruinosum	Snow Wood					
FLACOURTIACEAE						
Scolopia braunii	Flintwood	R	O	O	O	O
ICACINACEAE						O
Citronella moorei	Churnwood	SR				
Pennantia cunninghamii	Brown Beech	R				
LAURACEAE						
Beilschmiedia elliptica	Grey Walnut	O				
Beilschmiedia obtusifolia	Blush Walnut	R				
*Cinnamomum camphora	Camphor Laurel		O	O	O	
Cinnamomum oliveri	Oliver's Sassafras	R				
Cryptocarya meisneriana	Thick-leaved Laurel	R				
Cryptocarya micronеura	Murrogun	R	SR	R	O	R
Cryptocarya obovata	Pepperberry Tree	O	R		Rj	SR
Endiandra discolor	Rose Walnut			R	R	
Endiandra muelleri	Green-leaved Rose Walnut			O	R	
Litsea reticulata	Bolly Gun	SR				SR
Neolitsea australiensis	Green Bolly Gum					
Neolitsea dealbata	White Bolly Gum	C		SR	R	SR
MALVACEAE						
Hibiscus heterophyllus	Native Rosella		O	LC	R	O,LC
MELIACEAE						
Dysoxylum fraserianum	Rosewood	R	C			O
Dysoxylum rufum	Hairy Rosewood	C		O		O
Melia azederach	White Cedar	VC	O			R
Synoum glandulosum	Scentless Rosewood				R	
Toona australis	Red Cedar	O				R
MONIMIACEAE						
Daphnandra micrantha	Socketwood	O				O
Doryphora sassafras	Sassafras				O	
MORACEAE						
Ficus coronata	Creek Sandpaper Fig	O	O	R	SR	
Ficus macrophylla	Moreton Bay Fig	YC	O	R		O

		1	2	3	4	5
Ficus obliqua	Small-leaved Fig		O		R	
Ficus rubiginosa	Rusty Fig			R		R
Ficus superba var. henneana	Deciduous Fig	R	O		R	R
Ficus watkinsiana	Strangler Fig		R			
*Morus nigra	Mulberry	jO	R		jO	
Streblus brunonianus	Whalebone Tree	C	C	O	O	C
MYOPORACEAE						
Myoporum acuminatum †	Mangrove Boobialla		O	LC		
MYRSINACEAE						
Aegiceras corniculatum	River Mangrove		VC	C		
Rapanea howittiana	Brush Muttonwood			O	R	
Rapanea variabilis	Muttonwood					T,SO
MYRTACEAE						
Acmena smithii	Lilly Pilly			O	R	R
Austromyrtus bidwillii	Python Tree	LR			R	O
Backhousia myrtifolia	Grey Myrtle			O	C	
Backhousia sciadophora	Shatterwood	LC				VC
Eucalyptus grandis	Flooded Gum	O	R	C	O	
Eucalyptus tereticornis	Forest Red Gum			O		
Lophostemon confertus	Brush Box	R		O	O	
Rhodamnia rubescens	Scrub Turpentine				R	R
Rhodomyrtus psidioides	Native Guava			O	O	
Syncarpia glomulifera	Turpentine				O	
Syzygium australe	Brush Cherry	O	R	O	R	O
Syzygium francisii	Giant Water Gum	R	jR#			
Tristaniopsis laurina	Water Gum				C	
Waterhousia floribunda	Weeping Lilly Pilly	LO			VC	
OLEACEAE						
Notelaea longifolia	Large Mock-Olive	SR	R	R	SO	SC
Olea paniculata	Native Olive	R	VC			C
PITTOSPORACEAE						
Hymenosporum flavum	Native Frangipani	O				
*Pittosporum rhombifolium	Hollywood		R			
Pittosporum undulatum	Sweet Pittosporum	O	O			SO
PROTEACEAE						
*Grevillea robusta	Silky Oak	R		R		
Stenocarpus salignus	Scrub Beefwood					SR
*Stenocarpus sinuatus	Firewheel Tree	R				
RHAMNACEAE						
Alphitonia excelsa	Red Ash	R	R	C	O	O
Emmenosperma alphitonioides	Yellow Ash	R				
RUTACEAE						
Acronychia oblongifolia	Common Acronychia	R	R	R	O	
Euodia micrococca	White Euodia	R			SO	R

† Landsdowne Reserve - specimen .3m diameter, 17m tall

intentionally introduced from Wingham Brush

		1	2	3	4	5
*Flindersia australis	Teak	R				
Geijera latifolia	Scrub Wilga	O	R			C
Sarcomelicope simplicifolia	Bauerella	R	R			R
SAPINDACEAE						
Alectryon subcinereus	Wild Quince	O	O	R	C	C
Alectryon subdentatus	Hard Alectryon					O
Alectryon tomentosus	Hairy Alectryon	R	O			O
Arytera divaricata	Coogera	R	O			O
Cupaniopsis parvifolia	Small-leaved Tuckeroo	LO	R	jR		O
Diploglottis australis	Native Tamarind	R				O
Elattostachys nervosa	Green Tamarind	C	R			C
Guioa semiglauca	Guioa	O		O		
Harpullia hillii	Blunt-leaved Tulip					O
Jagera pseudorhus	Foambark		R			
Mischocarpus australis	Red Pear-fruit	SR				R
Mischocarpus pyriformis	Yellow Pear-fruit			VC		
Rhystoechia bifoliolata	Twin-leaf Tuckeroo	R	O			O
SAPOTACEAE						
Planchonella australis	Black Apple	R	R	C	C	O
SIMAROUBACEAE						
Guilfoylia monostylis	Guilfoylia	C	R			O
SOLANACEAE						
Duboisia myoporoides	Duboisia		O	R		
STERCULIACEAE						
Argyrodenron actinophyllum	Black Booyong	O	R		O	C
Brachychiton acerifolius	Flame Tree	R	O			O
Brachychiton discolor	Lacebark Tree	R	R			
Commersonia fraseri	Brush Kurrajong			C		O
ULMACEAE						
Aphananthe philippinensis	Rough-leaved Elm	VC	VC	O	O	C
Celtis paniculata	Native Celtis	SR	VC			O
Trema aspera	Native Peach	R		O		
URTICACEAE						
Dendrocnide excelsa	Giant Stinging Tree	VC	O			O
Dendrocnide photinophylla	Shiny-leaved Stinging Tree	R	R			O
VERBENACEAE						
Avicennia marina	Grey Mangrove		C	C		

SHRUBS

Cycads

ZAMIACEAE						
Lepidozamia peroffskyana	Shining Burrawang					jR

		1	2	3	4	5
Monocotyledons						
AGAVACEAE						
Cordyline stricta	Narrow-leaved Cordyline				O	O
Dicotyledons						
APOCYNACEAE						
Alyxia ruscifolia	Prickly Alyxia					O
ASTERACEAE						
Ozothamnus diosmifolius			R	O		
CAPRIFOLIACEAE						
Sambucus australasicus	Native Elderberry	R				
EUPHORBIACEAE						
Breynia oblongifolia	Breynia		O			
*Ricinus communis	Castor Oil Plant	LO	C			
FABACEAE						
*Cassia coluteoides	Winter Senna	R	O	O	R	
*Cassia floribunda	Smooth Cassia	R		O		
MALVACEAE						
*Abutilon grandifolium	Tall Abutilon		R			
Abutilon oxycarpum	Small-flowered Abutilon		O			R
Pavonia hastata	Pavonia	R				
MYRTACEAE						
Callistemon salignus	Pink Tip	R				
OCHNACEAE						
*Ochna serrulata	Ochna	jR	O	R	R	
OLEACEAE						
*Ligustrum lucidum	Large-leaved Privet	jO	O		C	
*Ligustrum sinense	Small-leaved Privet	jO	O	C	VC	
PHYTOLACCACEAE						
*Rivina humilis	Coral Berry	O				
PITTOSPORACEAE						
Citriobatus pauciflorus	Orange Thorn	O	O	O	O	C
Pittosporum revolutum	Hairy Pittosporum	O	O	O	O	
RUBIACEAE						
Randia benthamiana	Native Gardenia		O			
RUTACEAE						
*Citrus jambhiri	Bush Lemon	R		R	R	
*Murraya paniculata	Orange Jessamine	jO	O			

		1	2	3	4	5
MONIMIACEAE						
Wilkiea huegeliana	Veiny Wilkiea	jR		O	R	C
SOLANACEAE						
*Physalis peruviana	Cape Gooseberry	R	O			
Solanum brownii	Violet Kangaroo Apple				R	R
*Solanum mauritianum	Wild Tobacco	C	C	C	O	
*Solanum nigrum	Blackberry Nightshade		C	C		
*Solanum pseudocapsicum	Madeira Winter Cherry		R		R	
VERBENACEAE						
Clerodendrum floribundum	Smooth Clerodendrum		R			
Clerodendrum tomentosum	Hairy Clerodendrum	O	O		R	O
VIOLACEAE						
Hymenanthera dentata	Tree Violet	R				O
WINTERACEAE						
Tasmannia insipida	Brush Pepperbush				R	
HERBS						
Ferns						
ADIANTACEAE						
Adiantum aethiopicum	Common Maidenhair	R	O		O	C
Adiantum formosum	Giant Maidenhair	C	R	O		O
Adiantum hispidulum	Rough Maidenhair		R	O	O	O
ASPIDACEAE						
Lastreopsis decomposita	Trim Shield Fern				C	O
Lastreopsis microsora	Creeping Shield Fern	C		O		
ASPLENIACEAE						
Asplenium attenuatum	Simple Spleenwort		R			O
BLECHNACEAE						
Blechnum minus	Soft Water Fern		R			
Doodia aspera	Rasp Fern			C	C	
PTERIDACEAE						
Pteris tremula	Tender Bracken	O				
SINOPTERIDACEAE						
Pellaea falcata	Sickle Fern		R	C		O
Pellaea paradoxa						C
Monocotyledons						
AMARYLLIDACEAE						
Crinum pedunculatum	Swamp Lily		O	O		
ARACEAE						
Alocasia macrorrhizos	Cunjevoi	O	R			
Gymnostachys anceps	Settler's Flax	R		O	O	O

		1	2	3	4	5
COMMELINACEAE						
Aneilema biflorum		O				O
Commelina cyanea	Blue Wandering Jew	O	O	O	O	
*Tradescantia albiflora	White Wandering Jew	R	VC	VC	VC	LC
CYPERACEAE						
Cyperus exaltatus	A sedge	O				
Cyperus mirus	A slender sedge	O				
Cyperus sp.	A sedge		R		O	O
LILIACEAE						
Kreysigia multiflora	Bush Lily			R	O	
PEPEROMIACEAE						
Peperomia tetraphylla						O
POACEAE						
Oplismenus aemulus	Oplismenus	O	O	LC	O	O
Stipa ramosissima	Stout Bamboo Grass	R	O			O
XANTHORRHOEACEAE						
Lomandra hystrix	Mat Rush	R	R	O	LC	R
Dicotyledons						
ACANTHACEAE						
Pseuderanthemum variabile	Pseuderanthemum	C	O	O	O	C
ASTERACEAE						
*Cirsium vulgare	Spear Thistle	R				O
LAMIACEAE						
Plectranthus parviflorus	Cockspur Flower	O				O
LOBELIACEAE						
Lobelia trigonocaulis	Lobelia	O				
URTICACEAE						
Elatostema reticulata	Elatostema	R				
Urtica incisa	Scrub Nettle	O	C			O
VINES						
Ferns						
OLEANDRACEAE						
Arthropteris tenella	Climbing Fern	O				C
POLYPODIACEAE						
Microsorium scandens	Fragrant Fern				R	
Monocotyledons						
FLAGELLARIACEAE						
Flagellaria indica	Bull Cane		O	O		

		1	2	3	4	5
LILIACEAE						
*Protasparagus plumosus	Asparagus Fern	jR	O	O		
PIPERACEAE						
Piper novae-hollandiae	Pepper Vine	O				
RIPOGONACEAE						
Ripogonum album	Smooth Supplejack	R		O		
Ripogonum discolor	Prickly Supplejack	R				R
SMILACACEAE						
Eustrephus latifolius	Wombat Berry	R			R	
Geitonoplesium cymosum	Scrambling Lily	R	O	O	O	O
Smilax australis	Austral Sarsparilla	O		O	O	O
Dicotyledons						
AMARANTHACEAE						
Deeringia arborescens	Climbing Deeringia					R
APOCYNACEAE						
Melodinus australis	Southern Melodinus	R				
Parsonsia straminea	Common Silkpod	R	O	C	O	
Parsonsia velutina	Hairy Silkpod	R	O			O
ASCLEPIADACEAE						
*Araujia hortorum	Moth Vine	R	O		O	O
Gymnema dunnii	Downy Gymnema					O
Marsdenia flavescens	Hairy Milk Vine				O	
Marsdenia lloydii	Corky Vine	R				
Marsdenia rostrata	Common Milk Vine					C
ASTERACEAE						
*Senecio mikanoides	Cape Ivy	R	C			O
BASELLACEAE						
*Anredera cordifolia	Potato Vine	jC	C	C		R
BIGNONIACEAE						
*Macfadyena unguis-cati	Cat's Claw Vine	R	R			
Pandorea pandorana	Wonga Vine	O	R	C	O	O
CELASTRACEAE						
Celastrus australis	Staff Vine	O	O			
Celastrus subspicatus	Large-leaf Staff Vine					O
CONVOLVULACEAE						
Calystegia marginata	Forest Bindweed	O				
*Ipomoea cairica	Five-leaf Morning Glory			O		
CUCURBITACEAE						
Diplocyclos palmatus	Native Bryony	R				
Sicyos angulata	Star Cucumber	LC				

		1	2	3	4	5
CUNONIACEAE						
Aphanopetalum resinosum	Gum Vine	R				
FABACEAE						
Austrosteenisia blackii	Blood Vine	R	R			
Kennedia rubicunda	Red Coral Pea			O		
Derris involuta	Native Derris	R		VC	O	VC
MENISPERMACEAE						
Legnephora moorei	Roundleaf Vine	O	R			C
Sarcopetalum harveyanum	Pearl Vine	R				O
Stephania japonica	Tar Vine	R		R		
MORACEAE						
Maclura cochinchinensis	Cockspur	O	C	O		C
Malaisia scandens	Burny Vine	O	O	VC	R	R
MYRSINACEAE						
Embelia australiana	Embelia	O	R	R	R	O
OLEACEAE						
Jasminum volubile	Stiff Jasmine		O		O	O
PASSIFLORACEAE						
*Passiflora edulis	Passionfruit			R		
*Passiflora subpeltata	White Passionflower	R	R	R		
RANUNCULACEAE						
Clematis glycinoides	Forest Clematis	R				O
ROSACEAE						
Rubus moorei	Green-leaved Bramble				R	
Rubus rosifolius	Rose-leaf Bramble	O			R	
RUBIACEAE						
Morinda acutifolia	Veiny Morinda					C
Morinda jasminoides	Morinda	O		R		O
SAPINDACEAE						
*Cardiospermum grandiflorum	Balloon Vine	R	VC			
SOLANACEAE						
*Solanum seaforthianum	Climbing Solanum	R	R			
VERBENACEAE						
*Lantana camara	Lantana		VC	VC	C	O
VITACEAE						
Cayratia clematidea	Slender Grape	O	C			
Cissus antarctica	Water Vine	O	O	O	O	O
Cissus hypoglauca	Giant Water Vine	R			O	
Tetrastigma nitens	Native Grape	R	O			C

		1	2	3	4	5
EPIPHYTES						
Ferns						
ASPLENIACEAE						
Asplenium australasicum	Bird's Nest Fern					R
POLYPODIACEAE						
Platycerium bifurcatum	Elkhorn			R		
Platycerium superbum	Staghorn					O
Pyrrosia confluens	Horseshoe Felt Fern	VC	C	LC	C	C
Monocotolyedons						
ORCHIDACEAE						
Bulbophyllum crassulifolium	Stonecrop Orchid				R	
Dendrobium beckleri	Pencil Orchid	R				O
Dendrobium gracilicaule	Spotted Orchid	R	R		R	
Dendrobium linguiforme	Thumbnail Orchid	R	R		R	R
Dendrobium speciosum	Rock Lily	R				O
Dendrobium teretitfolium	Rat's Tail Orchid	R				O
Dendrobium tetragonum	Tree Spider Orchid				R	
Rhinerrhiza divitiflora	Raspy Root Orchid					R
Sarcochilus falcatus	Orange Blossom Orchid	R	R		R	
Dicotyledons						
LORANTHACEAE						
Amylotheca dictyophleba	Mistletoe	O	C			
Benthamina alyxifolia	Box-leaf Mistletoe		R			