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PLANTS OF THE CARR VILLA CEMETERY, LAUNCESTON

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The Carr Villa Cemetery, Crematorium and War Memorial is located in the suburb of Kings Meadows in Launceston. In addition to an extensively developed portion having graves, headstones and memorial walls, there is an adjoining ca. 40 hectare portion of native bushland bounded on the south, east and north by Quarantine and Opossum Roads, which has been set aside as the Carr Villa Wildlife Sanctuary. A part has been fenced off as a Flora Reserve available to school groups, natural history clubs and others to visit, by application to the Launceston City Council, Parks and Recreation Section. The present survey reports on the vegetation of this undeveloped portion of the cemetery.

The bushland of the survey area can be characterised as dry sclerophyll. The soils are moderately acidic sandy loams or clay loams, developed on clays, gravels and sands. Although not perfectly level, there is little variation in topography over the survey area, which is mostly from 65 to 90m above sea level. Visits were made approximately once per week between September, 1991 and February, 1992.

Despite its rather small size, the survey area is rich in plant species. This survey identified 200 flowering plant species (of which 117 are native), 2 ferns, 9 mosses, 1 liverwort and 21 lichens (see Table 1). The flowering plants encompass 62 families, of which the most abundant are the grasses (Poaceae) with 28 species, the "daisies" (Asteraceae) with 26 species, the wattles and "pea" flowers (Fabaceae) with 21 species, and the orchids (Orchidaceae) with 13 species.

The scientific names of the flowering plants and ferns follow Buchanan et al. (1989); those of the mosses, Dalton et al. (1991); and that of the single liverwort, Ratkowsky (1987). For the lichens, the authorities as well as the scientific names are listed, as there have been many additions and alterations since the previously published checklist of Kantvilas (1989). For the flowering plants and ferns, a measure of abundance, either local, rare, occasional, frequent or common, is given for each species. Since bryophyte and lichen species require microscopic examination and/or chemical analysis for unambiguous identification, estimation of their abundance was not attempted.

Given the lack of detailed published accounts of the vegetation of comparable areas, it is difficult to assess whether any of the species recorded are unusual for the north of Tasmania for dry sclerophyll environments on soils of this type. For example, a work devoted to the plant species of parks and cemeteries (Kirkpatrick et al. 1988) only makes cursory mention of the Carr Villa Cemetery. Nevertheless, the great diversity of species obtained in the present survey is noteworthy. Two of the species recorded, Brunonia australis and Gratiola pubescens are unknown from any secure reserve in Tasmania (Kirkpatrick et al. 1991). A further four species, Crassula decumbens, Danthonia geniculata, Dichopogon strictus and Myosotis australis are classified as r2 by these authors (loc. cit.), that is, they occur in 20 or less 10km x 10km National Mapping grid squares in Tasmania.

The undeveloped portion of the cemetery, including the Flora Reserve which is not necessarily exempt, may eventually be ploughed up and converted to graves, headstones and memorial walls as the need for more burial space increases. Indeed, part of the undeveloped portion is already undergoing such modification. Thus, many of the species that are currently present will disappear in the future. The results of this survey will serve as a record of the vegetation that is there at the present time.

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Table 1. List of species found in survey area.

(I) = species introduced to Tasmania

Abundance 1 = local (growing in a few places only, sometimes abundantly)

r = only 1-3 plants observed, rare

o = widespread, but only occasional

f = widespread and frequent

c = widespread and common

Abund	Abundance		ance
FLOWERING PLANTS		Gnaphalium purpureum (Purple Cudweed) (I)	r
Acanthaceae Acanthus mollis (Bear's Breech) (I) Alliaceae	r	Helichrysum apiculatum (Everlasting) Helichyrsum scorpioides (Button Everlasting)	o c
Allium triquetrum (Three-cornered Garlic) (I)	f	Hypochaeris radicata (Cat's Ear) (I) Lagenifera huegelii (Coarse Bottle-Daisy) Lamtodon taraxacoides (Hawkbit) (I)	r o
Apiaceae Hydrocotyle callicarpa (Pennywort)	o	Leptorhynchos squamatus (Scaly Buttons) Olearia myrsinoides (Silky Daisy Bush)	o f l
Apocynaceae Vinca major (Blue Periwinkle) (I)	1	Pseudognaphalium luteo-album (Cudweed) Senecio hispidulus (Scabrid Fireweed)	f o
Asteraceae Arctotheca calendula (Cape Weed) (I) Bellis perennis (Daisy) (I)	c f	Senecio quadridentatus (Cotton Fireweed) Sonchus asper (Prickly Sow Thistle) (I) Sonchus oleraceus (Sow Thistle) (I)	r 0
Brachyscome decipiens (Field Daisy) Brachyscome spathulata ssp. glabra (Daisy)	o f	Tanacetum parthenium (Feverfew) (I) Vellereophyton dealbatum (Silver	r
Carduus tenuiflorus (Winged Slender Thistle) (I)	f	Cudweed) (I) Boraginaceae	0
Cassinia aculeata (Dolly Bush) Conyza albida (Tall Fleabane) (I) Cotula australis (Common Cotula)	r r	Cynoglossum suaveolens (Hound's-Tongue) Myosotis australis (Forget-me-not)	o
Cotula coronopifolia (Water Buttons) Craspedia glauca var. glauca (Billy Buttons)	r c	Brassicaceae Barbarea intermedia (Wintercress) (I)	r
Filago gallica (French Filago) (I)	r	Coronopus didymus (Lesser Swine-cress) (I)	r

Lobularia maritima (Sweet Alyssum) (I) Raphanus raphanistrum (Wild Radish) (I)	0	Ericaceae Erica lusitanica (Spanish Heath) (I)	o
Sinapsis arvensis (Charlock) (I) Brunoniaceae	0	Euphorbiaceae	
Brunonia australis (Blue Pincushion)	f	Poranthera microphylla (Small-leaf Poranthera)	f
Campanulaceae		Fabaceae	
Wahlenbergia gymnoclada (Bluebell)	f	Acacia baileyana (Cootamundra) (I)	r
Wahlenbergia litticola (Bluebell)	0	Acacia dealbata (Silver Wattle)	c
Caryophyllaceae		Acacia genistifolia (Spreading Wattle)	c r
Cerastium glomeratum (Sticky Mouse-eared		Acacia sp. (I) Bossiaea prostrata (Creeping Bossiaea)	r
Chickweed) (I)	c	Cytisus scoparius (Broom) (I)	ò
Silene gallica (French Catchfly) (I) Spergularia rubra (Sand Spurrey) (I)	0	Daviesia latifolia (Bitter Leaf)	o
Stellaria media (Chickweed) (I)	0	Genista monspessulana (Canary Broom) (I)	0
• • • • • • • • • • • • • • • • • • • •	•	Gompholobium huegelii (Bladder Pea)	r
Casuarinaceae Allocasuarina littoralis (Bull Oak)	_	Hovea linearis (Common Hovea)	r
· · · · · · · · · · · · · · · · · · ·	c	Kennedia prostrata (Running Postman)	f
Centrolepidaceae		Lotus corniculatus (Bird's-foot Trefoil) (I)	1
Centrolepis aristata (Pointed Centrolepis)	T T	Lotus pedunculatus (Greater Trefoil) (I)	0
Centrolepis strigosa (Hairy Centrolepis)	•	Medicago arabica (Spotted Medick) (I) Medicago lupulina (Black Medick) (I)	0
Chenopodiaceae		Medicago polymorpha (Burr Medick) (I)	0
Chenopodium album (Fat Hen) (I) Clusiaceae	1	Platylobium obtusangulum (Common	Ü
Hypericum gramineum (Small St. John's		Flat-pea)	0
Wort)	0	Trifolium repens (White Clover, Dutch	0
Hypericum japonicum (Matted St. John's		Clover) (I) Trifolium subterraneum (Subterranean	O
Wort)	0	Clover) (I)	o
Convolvulaceae		Ulex europaeus (Gorse, Furze) (I)	c
Convolvulus erubescens (Australian Bindweed)	r	Vicia hirsuta (Hairy Vetch) (I)	r
Dichondra repens (Kidney-weed)	r	Fumariaceae	
Crassulaceae		Fumaria muralis (Wall Furnitory) (I)	1
Crassula decumbens (Spreading Crassula)	c	Gentianaceae	
	-	Centaurium erythraea (Common	_
Cyperaceae Cyperus eragrostis (Umbrella Sedge) (I)	1	Centaury) (I)	0
Cyperus tenellus (Tiny Flat-sedge)	ò	Geraniaceae	
Isolepis fluitans (Floating Club-rush)	ī	Erodium moschatum (Musk Storksbill) (I)	f f
Lepidosperma lineare (Narrow Sword-sedge) o	Geranium potentilloides (Geranium)	
Schoenus apogon (Common Bog-rush)	c	Goodeniaceae Goodenia lanata (Native Primrose)	f
Dilleniaceae		Haloragaceae	
Hibbertia riparia (Guinea Flower)	c	Gonocarpus tetragynus (Common	
Dipsacaceae	_	Raspwort)	c
Dipsacus sylvestris (Teasel) (1)	1	Hypoxidaceae	
Droseraceae		Hypoxis glabella (Yellow Star)	г
Drosera peltata sep. auriculata (Sundew)	f	Iridaceae	
Drosera peltata ssp. peltata (Sundew)	0	Diplarrhena moraea (White Iris)	0
Epacridaceae		Iuncaceae	_
Acrotriche serrulata (Ant's Delight)	f	Juncus articulatus (Jointed Rush) (I)	O
Astroloma humifusum (Native Cranberry)	o f	Juncus bufonius (Toad Rush)	o
Epacris impressa (Common Heath) Lissanthe strigosa (Peach Berry)	0	Juncus capitatus (Capitate Rush) (I)	ì
Dogument on Born (r court port),	•	•	

Juncus subsecundus (Finger Rush)	1	Plantago lanceolata (Ribwort) (I)	c
Lamiaceae		Plumbaginaceae	
Prunella vulgaris (Self-heal)	0	Limonium sinuatum (Notch-leaf Sea	
Lauraceae		Lavender) (I)	r
Cassytha melantha (Native Dodder)	c	Poaceae	
Cassytha pubescens (Downy Native		Agrostis capillaris (Brown-top Bent) (I)	f
Dodder)	0	Aira caryophyllea (Silvery Hair Grass) (I)	f
Liliaceae		Aira elegantissima (Elegant Hair Grass) (I)	f
Arthropodium milleflorum (Pale		Anthoxanthum odoratum (Sweet Vernal	
Vanilla-lily)	г	Grass) (I)	0
Burchardia umbellata (Milkmaids)	0	Arrhenatherum elatius var. bulbosum (Onion	
Chamaescilla corymbosa var. corymbosa (Blue		Twitch) (I)	0
Stars)	r	Briza maxima (Quaking Grass) (I)	С
Dianella revoluta var. revoluta(Flax-lily)	f	Briza minor (Lesser Quaking Grass) (I)	c
Dichopogon strictus (Chocolate Lily)	f	Bromus catharticus (Prairie Grass) (I)	f
Thysanotus patersonii (Twining Fringe-Lily)	r	Cynosurus echinatus (Rough Dog's-Tail) (I)	0
Wurmbea dioica (Early Nancy)	f	Dactylis glomerata (Cocksfoot) (I)	f f
Linaceae		Danthonia caespitosa (Wallaby Grass) Danthonia geniculata (Wallaby Grass)	1
Linum marginale (Wild Flax)	0	Danthonia pilosa (Wallaby Grass)	f
Myrtaceae		Danthonia setacea (Wallaby Grass)	0
Eucalyptus amygdalina (Black Peppermint)	c	Deyeuxia quadriseta (Bent Grass)	f
Eucalyptus viminalis (White Gum, Manna	•	Dichelachne rara (Plumegrass)	f
Gum)	0	Ehrharta distichophylla (Ricegrass)	0
•	Ū	Ehrharta stipoides (Weeping Grass)	f
Orchidaceae		Holcus lanatus (Yorkshire Fog) (I)	f
Caladenia catenata (Pink Fingers)	r	Hordeum murinum ssp. leporinum (Barley	•
Calochilus robertsonii (Red Beard-orchid)	r	Grass) (I)	f
Dipodium punctatum (Hyacinth Orchid) Diuris maculata (Leopard Orchid)	r o	Lolium perenne (Perennial Ryegrass) (I)	0
Diuris pedunculata (Golden Moths)	r	Paspalum dilatatum (Paspalum) (I)	f
Diuris sulphurea (Tiger Orchid)	r	Phalaris aquatica (Phalaris) (I)	f
Eriochilus cucullatus (Parson's Bands)	r	Poa annua (Annual Poa)	f
Glossodia major (Parson-in-the-Pulpit)	f	Poa labillardieri (Tussock Grass)	f
Microtis sp. (Onion Orchid)	r	Stipa semibarbata (Speargrass)	f
Pterostylis nutans (Nodding Greenhood)	i	Stipa mollis (Speargrass)	f
Pterostylis pedunculata (Maroonhood)	i	Themeda triandra (Kangaroo Grass)	f
Thelymitra ixioides (Dotted Sun-orchid)	ī	Polygalaceae	
Thelymitra pauciflora (Slender Sun-orchid)	ī	Comesperma volubile (Blue Love Creeper)	f
Oxalidaceae		•	-
Oxalis corniculata (Yellow Wood Sorrel)	_	Polygonaceae	
Oxalis incarnata (Pale Wood Sorrel) (I)	c 1	Polygonum aviculare (Wireweed,	_
_	1	Knotgrass) (I)	c
Papaveraceae		Rumex acetosella (Dock; Sheep's Sorrel) (I) Rumex obtusifolius (Broad-leaved Dock) (I)	1
Eschscholzia californica (Californian			•
Poppy) (I)	r	Primulaceae	
Papaver somniferum (Opium Poppy) (I)	r	Anagallis arvensis ssp. arvensis	
Pittosporaceae		(Pimpernel) (I)	f
Billardiera procumbens (Mary's Flower)	0	Proteaceae	
Billardiera scandens (Apple Berry)	0	Banksia marginata (Honeysuckle)	0
Bursaria spinosa (Australian Prickly Box)	c	Ranunculaceae	
Plantaginaceae		Clematis aristata (Australian Clematis)	f
Plantago coronopus (Buck's-horn		Ranunculus lappaceus (Common Buttercup)	r
Plantain) (I)	c	Ranunculus muricatus (Sharp Buttercup) (I)	r

Ranunculus parviflorus (Small-flowered Buttercup) (I)	c	MOSSES (no abundance data)
Rosaceae		Bartramiaceae Breutelia affinis
Acaena echinata (Sheep's Burr)	c	_ "
Acaena novae-zelandiae (Buzzy,		Bryaceae Bryum billardieri
Biddy-widdy)	f	
Crataegus monogyna (Hawthorn) (I)	0	Dicranaceae
Rosa canina (Dog Rose) (I)	r	Campylopus introflexus
Rosa sp. (Garden Rose) (I)	r	Ditricaceae
Rubus fruiticosus (Blackberry) (I)	0	Ceratodon purpureus
Rubiaceae		Funariaceae
Galium aparine (Cleavers, Goosegrass) (I)	f	Funaria hygrometrica
Opercularia varia (Variable Stinkweed)		Orthotrichaceae
Rutaceae		Zygodon intermedius
Boronia nana (Dwarf Boronia)	1	
Eriostemon verrucosus (Fairy Wax-flower)	1	Polytrichaceae Polytrichum juniperinum
Salicaceae		• • •
Populus sp. (Poplar) (I)	r	Pottiaceae
Salix sp. (Willow) (I)	r	Barbula calycina
Santalaceae		Tortula princeps
Exocarpos cupressiformis (Native Cherry)	f	LIVERWORTS (no abundance data)
Scrophulariaceae		
Gratiola pubescens (Hairy Brooklime)	r	Geocalycaceae
Parentucellia viscosa (Sticky Bartsia) (I)	0	Chiloscyphus semiteres
Solanaceae		LICHENIC (no should not date)
Solanum laciniatum (Kangaroo Apple)	r	LICHENS (no abundance data)
Solanum nigrum (Black Nightshade) (I)	1	Calicium victorianum (F. Wilson) Tibell ssp.
Stackhousiaceae		victorianum
Stackhousia monogyna (Native Mignonette,		Candelariella xanthostigmoides (Müll. Arg.) R.W.
Candles)	0	Rogers Cladia aggregata (Sw.) Nyl.
Stylidiaceae		
	f	Cladonia corniculata Ahti & Kashiwadani
Stylidium graminifolium (Trigger Plant)	f	Cladonia corniculata Ahti & Kashiwadani Cladonia pleurota (Flörke) Schaerer
Stylidium graminifolium (Trigger Plant) Thymelaeaceae		Cladonia corniculata Ahti & Kashiwadani Cladonia pleurota (Flörke) Schaerer Cladonia praetermissa Archer var. praetermissa
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THE BIRDS OF THE CARR VILLA CEMETERY, LAUNCESTON

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The Carr Villa Cemetery and associated Crematorium and War Memorial is located in the Launceston suburb of Kings Meadows. Its total area of approximately 60 hectares is divided up into a developed western portion of ca. 20 hectares, consisting of graves, headstones and memorial walls, and an undeveloped eastern portion of ca. 40 hectares, bounded by Quarantine and Opossum Roads. The vegetation in the undeveloped area is a mixture of grassy and shrubby Eucalyptus amygdalina forest. This area is designated as the Carr Villa Wildlife Sanctuary and includes a fenced-off Floral Reserve under the supervision of the Launceston City Council. The vegetation in the undeveloped section Part of the wildlife sanctuary is earmarked for future development, and only the tendency for many residents and their families to choose cremation as an alternative to burial will decelerate the eventual conversion of all of the native bushland into a developed graveyard.

Fifteen visits were made between October 10, 1991 and February 4, 1992. Observations were always made during the early morning, between the hours of 7.0-11.0am. Separate lists of the bird species present were made in the "developed" area, that is, where graves are present and little if any of the original native vegetation remains, and in the "undeveloped" area. Table 1 lists the 48 species that were observed during the survey and also gives the percentage of total visits in which each species was observed. The order of the common names in Table 1, and the names themselves, follows that of Simpson and Day (1989), which also gives the scientific names of the species.

Twenty-one of the species (44%) were observed during all 15 visits. All of the 22 species observed exclusively in the undeveloped area were natives, and three of the four species observed exclusively in the developed area were introduced. An additional four species were observed almost equally in both areas, and 18 others were observed predominantly in one of the areas, usually the undeveloped area, but not exclusively in that one area. The predominance of native species in the "undisturbed" area and introduced species in the developed area indicates the influence that alteration of natural habitat has on bird species distribution. This undoubtedly points to a paucity of food sources for native species in the developed area, although there are some exceptions. For example, the New Holland Honeyeater and Brush Wattlebird were more prevalent in the developed than in the undeveloped area, and the Pallid Cuckoo seemed equally "at home" in both.

The species list contains most species likely to be observed in a dry sclerophyll environment lacking the diversity of marshlands, native grasslands and perennial

streams. Such a habitat, forming an "island" in a sea of suburbia, may occasionally attract an unusual bird species. For example, the author believes she heard a Leaden Flycatcher on November 4, 1991 in the undeveloped area, but conditions were not suitable for positive visual identification. The calls made by the bird in question fitted that species rather than the more common related species, the Satin Flycatcher, which was recorded on eight of the visits. The regular occurrence of the Spotted Quail-thrush is encouraging, suggesting that ground-dwelling species such as these can still survive despite their vulnerability to predation by suburban cats.

The cemetery managers should consider planting native species in the disturbed area to provide additional foraging habitat for birds, and also to retain some native plant species in the present undisturbed section due to be cleared for further development in the near future.

Table 1. List of Birds at Carr Villa Cemetery Observed in 15 visits during the period October, 1991 – February, 1992

(I) = species introduced to Tasmania

(E) = species, subspecies or race endemic to Tasmania

Area observed B = almost equally observed in both areas D = observed exclusively in developed area

U = observed exclusively in undeveloped area

U+D = observed mostly in undeveloped area, but not exclusively D+U = observed mostly in developed area, but not exclusively

Species	% of visits	Area	Species	% of visits	Area
-	observed observed		•	observed observed	
Mallard (I)	40	D	Grey Fantail	100	U
Masked Lapwing (Plover)	100	В	Spotted Quail-thrush	73	U
Feral Pigeon (I)	60	D+U	Superb Fairy-wren	93	U
Spotted Turtle-Dove (I)	<i>7</i> 3	D	Brown Thornbill	100	U+D
Common Bronzewing	27	U+D	Yellow-rumped Thornbill	33	U+D
Brush Bronzewing	7	U	Yellow Wattlebird (E)	100	U+D
Swift Parrot	13	U	Brush (Little) Wattlebird (E)	80	D+U
Green Rosella (E)	33	U+D	Yellow-throated Honeyeate	r (E) 67	U
Pallid Cuckoo	100	В	Black-headed Honeyeater (E) 47	U
Fan-tailed Cuckoo	47	U	Crescent Honeyeater	53	U
Horsfield's Bronze-Cuckoo	7	U	New Holland Honeyeater	100	D+U
Shining Bronze-Cuckoo	100	U	Eastern Spinebill	100	U
Tawny Frogmouth	40	U	Spotted Pardalote	100	U+D
Laughing Kookaburra (I)	67	U+D	Striated Pardalote	100	U+D
Welcome Swallow	13	D	Silvereye (E)	100	U+D
Tree Martin	53	U	European Goldfinch (I)	100	В
Black-faced Cuckoo-shrike	100	U	European Greenfinch(I)	73	D
Blackbird (I)	100	В	House Sparrow (I)	100	U+D
Flame Robin	13	U	Common Starling(I)	93	D+U
Scarlet Robin	100	U+D	Dusky Woodswallow	100	U+D
Dusky Robin (E)	47	U+D	Grey Butcherbird	33	U
Golden Whistler	100	U	Australian Magpie	33	U
Grey Shrike-thrush	100	U	Grey Currawong	100	U
Satin Flycatcher	53	Ū	Forest Raven	100	U+D