# Vegetation and Flora of the Dennis De Yong (No. 31653 and No. 33002) Reserve and the Bartram Road (No. 418, Swan Loc. 206 and 209) Complex, Jandakot. 

Greg Keighery July 1992

## SUMMARY

The vegetation of this area, part of the proposed Jandakot Botanic Park, has been described and a flora list compiled. The upland vegetation is Banksia low open woodland typical of the Bassendean sands of the region. The wetland vegetation around the larger swamps is also typical of the Jandakot Wetland suite. However, the clay flats north of Bartram Rd. Swamp contain a Melaleuca shrubland of unusual species composition that does not appear to be represented elsewhere in the region.

Several priority species were located, usually in heathland immediately south of the shrubland, one being the largest known.

Two hundred and fifty three species were recorded from the area, including a new record for the Perth Region (phyllota gracilis).

## VEGETATION

The vegetation of the area is largely determined by the changing topography of the site, being extensive low sand ridges separating low lying wetlands and drainage lines. The wetland areas are complex mosaics of communities that generally lack distinct boundaries, but contain species' assemblages determined by the degree and extent of winter innundation and the amount of clay in the soil.

Structurally the vegetation ranges from a low heath ( $<0.5 \mathrm{~m}$ ) to an open woodland of Eucalyptus rudis to 10 m .

The following vegetation community types were used as mapping units (except for B. illicifolia, which merges into the other Banksia woodland), starting from those occupying upland sites.

1. Banksia attenuata/B. menziesii open low woodland. Occasionally has Allocasuarina fraseriana present, and scattered Eucalyptus marginata or $E$. todtiana trees. Usually over a distinct shrub layer which is most commonly Melaleuca thymoides, Adenanthos cygnorum or Xanthorrhoea preissii. Beneath this layer to 40 cm another 18-20 species of shrub are commonly encountered, being mainly Scholtzia involucrata, Gompholobium tomentosum, Calytrix angulata, Leucopogon conostephoides, Petrophile linearis, Acacia huegelii, Bossiaea eriocarpa and Hibbertia racemosa.
2. Banksia illicifolia low woodland usually associated with Allocasuarina fraseriana scattered through.

Since this formation occurs adjacent to the wetland the shrubland contains many wetlands species, including Pericalymma ellipticum, Adenanthos obovatus, Xanthorrhoea preisii, Hypocalymma angustifolium, Melaleuca bracteosa and Euchilopsis linearis. Numerous sedges and sedge like species are found in the understory.

## WETLAND MOSAIC

3. Pericalymma ellipticum heath over Baumea juncea.

A rare community found only on the large dune fringing the western side of the largest wetland found in No. 418. This area had recently been burnt by a severe fire, and is still regenerating most species being present as young plants.
4. Hypocalymma angustifolium heath over sedges.

This community usually contains scattered trees of Melaleuca preissiana, and could be mapped in part of Melaleuca preissiana very open low woodland over heath. The occurrence of this community has been largely cleared on Dennis De Yong Reserve (see 1984 aerial photos). The largest area occurs on lot 209, Bartram Road. Here the common associates of Hypocalymma angustifolium are Pultenaea ocbreata, scattered Jacksonia sp., Xanthorrhoea preissii over sedges of Restio stenostachys, Hypolaena exsulca, Lyginia barbata and Schoenus caespititicus.
This community contains patches of pericalymma ellipticum, Kunzea ericifolia and Astartea fascicularis which can locally dominate, especially on Dennis De Yong Reserve.
5. Melaleuca mixed closed shrubland.

A closed shrubland of Melaleuca teretifolia, M. lateritia and the shrub form of M. rhaphiophylla occurs on Dennis De Yong Reserve along a drainage line from the lake, here the shrubland contains Kunzea ericifolia, Calothamnus lateralis, Pericalymma ellipticum and Astartea fasicularis as common associates. At the Bartram Rd. site Hakea varia, pimelea lanata and Melaleuca polygaloides also are prominent, and a distinct sedge layer of Baumea ?preissii and Lepyrodia muirii.
6. Melaleuca woodland
(a) Melaleuca cuticularis
(b) Melaleuca rhaphiophylla/M. preissiana

A small patch of Melaleuca cuticularis low open woodland over Melaleuca viminea/Astartea fasicularis shrubland over Baumea articulata sedgeland is located north-west of the Bartram Rd. Swamp.

The lakes with open water are fringed by low woodlands of Melaleuca rhaphiophylla and M. preissiana. On Dennis De Yong Reserve Melaleuca preissiana predominates over Baumea juncea. The lake edges are dominated by Baumea articulata and Juncus pallidus. Bartram Rd. Swamp is fringed by Melaleuca rhaphiophylla low forest over Astartea fasicularis over Baumea ?preissiana. Further away along the drainage line scattered Banksia litteralis and Eucalyptus rudis is found. The vegetated swamp on No. 418 is covered by a low open forest of Melaleuca rhaphiophylla over shrubs of Melaleuca teretifolia, Melaleuca lateriflora, Calothamnus lateralis and Acacia pulchella over sedges of Baumea preissii.
7. Eucalyptus rudis open woodland.

A small area of tall open woodland of Eucalyptus rudis over scattered low trees of Banksia littoralis occurs on the north-western corner of the area. Understory species were Melaleuca teretifolia, Melaleuca lateritia and Acacia pulchella over sedges of Baumea ?preissii.

Priority Species (C.A.L.M. list 1991)
The distribution of each of these species is shown on accompanying sketch maps.
(1) Restio stenostachys (Restionaceae).

A population of over 1,000 plants was recorded in the Hypocalymma heath north-west of Bartram Rd. Swamp. This is the largest known occurrence of this species. Other more scattered occurrences are shown on the map.
(2) Anthotium junciforme (Goodeniaceae).

Scattered populations of this species were located in the Melaleuca shrubland north of Bartram Rd. Swamp.
(3) Gonocarpus pithyoides (Haloragaceae).

Populations of this species are scattered throughout the Banksia woodland of both areas.
(4) Macarthuria ?apetala (Molluginaceae).
populations of this species were scattered through the Banksia woodland of both areas.
(5) Verticordia Iindleyi ssp. lindleyi (Myrtaceae).

A large population ( 174 plants) of this subspecies was located in a small swampy depression of the western sides of the Dennis De Yong Reserve.
(6) Tripterococcus "panniculata" (Stackhousiaceae).

Six large populations (20-30 plants) and one small (3 plants) population of this species, were located in the Bartram Rd. site.

## New Records

A plant collected at both sites appears to be closely related to Phyllota gracilis, a genus, and species, not previously recorded for the Perth Metro. Region (Marchant et, al, 1987). All collections of the genera Aotus, Eutaxia, Latrobea, Phyllota and Pultenaea were examined in PERTH to determine this species. An old collection from the Perth area determined as Eutaxia sp. is also this taxon.
Phyllota gracilis is itself a priority species, and this record, if proven correct represents a very significant range extension.

## GENERAL FLORA

Two hundred and fifty four taxa of vascular plants were recorded from the two areas (Appendix One), of which 42 are naturalized aliens. Considering the flora survey was undertaken when the swamps were passable in autumn and summer, this total will obviously increase (note: no orchids are listed) if the site is visited in Spring.
Comparing the flora at these sites compared to those recorded from Anstey Rd and the Forrestdale Reserve (Keighery, 1992) one can immediately notice the absence of species that characterize the mud flats and clay pans of the pinjarra Plain (eg: Isoetes drummondii, Pilularia novae-hollandiae, Trithuria submersa, Tribonanthes uniflora, Eryngium pinnatifidum ssp. palustris, Schoenolaena juncea, Villarsia submersa and Isotoma pusilla), and those occurring on the shallow sandy rises present on these clay flats (eg: Actinostrobus pyramidalis, Loxocarya pubescens, Johnsonia acaulis, Banksia telmatiaea, Grevillea thelemanniana ssp. thelemanniana, Petrophile media var juncifolia, Drosera gigantea, Beaufortia squarrosa and Stylidium ultricularioides).
The Banksia woodlands, lakes and swamps of this area contain a suite of species that seem to be characteristic of the Bassendean sands between Pinjarra and the Canning River. The wetlands are typical of the Jandakot Suite, except for the Melaleuca shrublands and Hypocalymma heaths on Lot 209, Bartram Road. These unique communities appear to occur on clay soils, and are intermediate between the Jandakot Wetland Suite and those of the Pinjarra plain to the east on alluvial soils. Nearly all of the priority species recorded for this area occur within these vegetation types.

## APPENDIX ONE

## FLORA LIST

KEY :

```
* = naturalized
1 = Dennis De Yong Reserve
2 = Bartram Rd. Area
B = Banksia woodland
Bi = Banksia illicifolia woodland
H = Hypocalymma heath
PW = Paperbark woodland (Melaleuca trees)
MS = Melaleuca shrubland
Ew = Eucalyptus rudis woodland
```

FERNS
DENNSTAEDTIACEAE
pteridium esculentum
1, 2
PW

GYMNOSPERMS
ZAMIACEAE
Macrozamia riedlei
1, 2
B
MONOCOTYLEDONS
ANTHERICACAE
Arnocrinum preissii
Caesia micrantha
Corynotheca micrantha
Arthropodium capillipes
Laxmannia ramosa
Thysanotus multiflorus
T. "patersonii"
T. sparteus

Tricoryne elatior

## COLCHICACEAE

Burchardia bairdii
B. umbellata

Wurmbaea sp

## CENTROLEPIDACEAE

Aphelia cyperoides
centrolepis aristata
c. drummondiana
C. polygyna

CYPERACEAE
Baumea articulata
B. juncea
B.?preissii

Cyathochaeta avenacea
*Cyperus congestus
Isolepis cernuua
I. marginatus

Lepidosperma angustatum
Mesomelaena graciliceps
M. pseudostygia

Schoenus curvifolius
s.?clandestinus
S. rigens
s. rodwayanus
S. subbulbosus

Tetraria octandra
DASYPOGONACEAE
Dasypogon bromeliifolius
Lomandra caespitosa
L. hermaphrodita
L. preissii
L. sericea

1, 2
1, 2
B
1, 2
1, 2
1, 2
1, 2
1, 2
1, 2
1, 2
2

2
1, 2
2

| 1, | 2 | B |
| :--- | :--- | :--- |
| 1, | 2 | B |
| 1, | 2 | B |
| 1, | 2 | PW |

1, 2 PW
1, 2
1, 2
1, 2
2
2

1, 2
1, 2
1, 2
1, 2
2
1, 2
1, 2
2

1, 2
1, 2
1, 2
1,2

PW, MS
PW, MS
B, Bi, H
PW
PW
Bi
B
H, Bi
B
B
B
H
H
H
H
B
P, MS

Bi, B, H
Bi
B
Bi
Bi
Bi
C. juncea
Haemodorum paniculatum
H. spicatum
Phlebocarya ciliatum

IRIDACEAE
*Gladiolus caryophyllaceus Patersonia occidentalis

JUNCACEAE
Juncus bufonius
*J. capitatus
J. Pallidus

Luzula meridionalis
JUNCAGINACEAE
Triglochin ?calcitrapa
POACEAE
*Aira caryophyllea
Amphipogon turbinatus
*Avena barbata
*Briza maxima
*B. minor
Cortaderia selloana
*Cynodon dactylon
Danthonia occidentalis
*Ehrharta calycina
*E. longiflora
*Eragrostis curvula
E. elongata
*Lagurus ovatus
*Lolium sp Microlaena stipoidea Neurachne alopecuroidea Stipa compressa s. sp
*Vulpia bromioides
*Stenotraphum secundatum
ORCHIDACEAE
No records
RESTIONACEAE
Anarthria laevis
Hypolaena exsulca
Leptocarpus sp
Lepyrodia muirii
Loxocarya flexuosa
L. cinerea

Lyginia barbata
Restio stenostachys
XANTHORRHOEACEAE
Xanthorrhoea preissii

1, 2
1, 2
1, 2
1,2

1, 2
1, 2

| 1,2 | PW |  |
| :--- | :--- | :--- |
| 2 |  | Ms |
| 1,2 | PW |  |
| 2 |  | Bi |

1,2

1, 2
1, 2
1, 2
1,2
1, 2
2
1
1, 2
1, 2
1,2
1, 2
2
1, 2
1, 2
2
1, 2
1, 2
1,2
1,2

1, 2
2
2
1, 2
1, 2
1, 2
2

B
B

D, PW
Pw, H
$B, B i$
PW, B, D
D, B, PW
D, $\mathrm{H}, \mathrm{PW}$
PW
PW, D
B
B, D
PW
D
B
PW
PW
$\mathrm{H}, \mathrm{Bi}$
B
B
B

## B

H, D
D, B
B

## Pw

Ms
PW
Bi

H

D

Wi
B

D, P

## DICOTYLEDONS

## AIZOACEAE

*Carpobrotus edulis
AMARANTHACEAE
ptilotus drummondii

## APIACEAE

Apium prostratum
Daucus glochidiatus
Centella cordifolia
Homalosciadium homalocarpum
Hydrocotyle callicarpa
Platysace compressa
Trachymene pilosa
Xanthosia huegelii

## ASTERACEAE

*Aster subulatus Asteridea pulverulenta
*Cirsium vulgare
*Conyza albida
Cotula coronopifolia
*Dittrichia graveolens
*Hypochaeris glabra Lagenifa huegelii Millotia myosotidiifolia M. tenuifolia Podolepis ?gracilis podotheca angustifolia P. gnaphaloides Quinetia urvillei Senecio lautus s. quadridentatus siloxerus humifusus *Sonchus asper
*S. oleraceus *Ursinia anthemoides Waitzia paniculata

## CAMPANULACEAE

*Wahlenbergia capensis
W. preissii

## CARYOPHYLLACEAE

*Cerastium glomeratum
*Petrohagia velutina
CASUARINACEAE
Allocasuarina fraseriana
A. humilis

1,2
B, PW

1

2
1, 2
2
1, 2
1, 2
1, 2
1, 2
1,2

1, 2
1, 2
1, 2
1, 2
1, 2
1, 2
1, 2
1, 2
1, 2
2
1, 2
1, 2
2
1, 2
2
2
1, 2
1, 2
1, 2
1, 2
1, 2

1, 2
1, 2

1, 2
1,2

1, 2
B, Bi
1, 2

2
MS, PW
B
MS, PW
MS, PW
PW
D
PW, D
H, Bi, B
B
H
PW
B
H
B
EW
EW
H, Bi, B
PW
B, H
B,
B

B
B ; PW

D, $P$
D

Bi

PW

CHENOPODIACEAE
*Atriplex ?prostrata
*Chenopodium ?album



OROBANCHACEAE


| RUTACEAE |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Boronia crenulata |  |  | H |  |
| B. spathulata |  |  | H |  |
| Eriostemon spicatus |  |  | B |  |
| SCROPHULARIACEAE D, |  |  |  |  |
| *Dischisma capitatum | 2 |  |  |  |
| Grattiola peruviana 1,2 MS |  |  |  |  |
|  |  |  |  |  |
| SOLANACEAE PW |  |  |  |  |
| *Solanum americanum | $\frac{1}{2}$ | 2 | EW |  |
| *S. nigrum |  |  |  |  |
| STACKHOUSIACEAETripterococcus "panniculatus" |  |  |  |  |
| STYLIDIACEAE Bi H |  |  |  |  |
| Levenhookia stipitata |  |  |  |  |
| stylidium brunonianum |  | 2 |  |  |
| S. calcaratum | $2{ }^{1}$ |  | H |  |
| S. carnosum |  |  | PW, | MS |
| S. guttatum |  | 2 |  |  |
| S. piliferum |  | 2 | Bi, |  |
| S. repens <br> s. schoenoides | 1, | 2 | B |  |
| THYMELEACEAE MS |  |  |  |  |
| Pimelea lanata 2 |  |  |  |  |
| VIOLACEAE |  |  |  |  |
| Hybanthus calycinus | 1 |  | B |  |








