# Landnote



5/86

#### UPDATING YOUR RECORDS ON THE FLORA OF WESTERN AUSTRALIA

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#### WOODVALE RESEARCH

Western Australia has the largest land area of any Australian state, and probably the poorest known flora. Name changes (description of new taxa, deletion of names) and new records for the state are altering our flora at the rate of 5-10% per year. As one example the checklist of Green (1981) lists 7 695 species versus Green (1985) who lists 7 963 species.

These changes occur scattered through some 15 Australian journals, numerous books and overseas journals, making the task for regional officers interested in updating their current catalogues or flora lists very difficult. However, it is important that our Department uses the correct current names in articles, papers and correspondence. This article seeks to overcome this problem.

During 1980/85 I have been involved in updating the Descriptive Catalogue of Western Australian Plants, which will be current to the end of 1985 when published in 1986/87. However, taxonomic changes do not cease at a given date, and books take a long time to update, so the author has been running a series of notes on name changes in each quarterly issue of the Western Australian Wildflower Society Newsletter, in the same format as the Descriptive Catalogue, two examples are given below:

Don McGillivray "A Revision of *Galium* (Rubiaceae) in Australia and New Zealand." Telopea 2 (4) 1983.

Galium migrans Ehrendorfer et McGillivray

Perennial herb, densely branched to 10 cm, fls. cream or white, 9-12, on calcareous loam. South West: Darling (Warren, Dale, Drummond), Eyre. Eremaean: Coolgardie.

Thompson, Joy. "Redefinitions and Nomenclatural Changes within the *Leptospermum* suballiance of Myrtaceae" Telopea 2 (4), 1983.

Pericalymma: reinstated as a genus

Leptospermum ellipticum now Pericalymma ellipticum (Endl.) Schauer.

Leptospermum crassipes now Pericalymma crassipes (Lehm.) Schauer.

Leptospermum floridum now Pericalymma floridum Schauer.

Homalopsermum: reinstated as a genus

Leptospermum firmum now Homalospermum firmum Schauer

A brief description of the habit of the plant is given, followed by flower colour, flowering period (9-12 September to December) in numerals. When these are in parenthesis it indicates this may not be the normal flowering period. Soil types are then indicated, and finally the phytogeographic region of occurrence (figure 1).

This list will be produced once a year, but it is continually updated at Woodvale so persons who need more frequent information can write.

Some more detailed reports on specific groups have been prepared. One on the Epacridaceae (heaths) was produced for dieback planning. Two are being finalized, on the

Proteaceae (dieback planning) and Asteraceae (Horticulture, Rare Flora). Because these reports are considerably larger they are supplied only to person's who have immediate use for them, however, they are also available in the library.

Comments on the layout, format, information needed but lacking, of these reports by regional or operations staff would be appreciated, as this is the only way information flow can be improved.

References.

Green, J.W. A Census of the Vascular Plants of Western Australia. Dept. Agriculture. Perth. 1981.

Green, J.W. A Census of the Vascular Plants of Western Australia. Dept. Agriculture. Perth. 2nd Edition. 1985.

NAME CHANGES, NEW SPECIES: JUNE 1985-JUNE 1986

Churchill, D.M. (1985). Three New Species of Borya Labill. (Liliaceae) Muelleria 6: 1-8.

Borya constricta Churchill
Tufted herb, to 25 cm, fls, white, 7-9, granite, South
West: Avon, Darling, Roe, Eyre, Menzies, Coolgardie.

Borya laciniata Churchill Mat forming herb, to 5cm, fls. white 7-9, loam often swampy; South West: Irwin, Avon, Roe.

Short, P.S. (1985). A Revision of *Actinobole* Fenzl. ex Endl. (Compositae: Inuleae: Gnaphaliinae) Muelleria 6: 9-22.

Actinobole: All species listed, information only on new species.

- A. condensatum (A. Gray) P.S. Short
- A. drummondiana P.S. Short

  Prostrate annual, flowers yellow, 8-10, red sand, Eremaean:
  Carnarvon.
- A. oldfieldiana P.S. Short

  Prostrate annual, fls. yellow, 8-10, sound; Eremaean:
  Carnarvon, Ashburton, Austin, Giles, South West: Irwin
- A. uliginosum (A. Gray) Hj. Eichler was Gnaphalodes
- Ross, J.H. (1985) "A Revision of the Genus Labichea Gaudich. ex DC. (Caesalpiniaceae)". Mulleria 6: 23-50

Labichea : all taxa listed

- L. cassioides Gaud. ex DC.
- L. deserticola J.H. Ross
  Shrub, to 1m, fls. yellow, ?-9-?, Eremaean: Helms.
- L. eremaea C.A. Gardn.
- L. lanceolata ssp. lanceolata
  South West : Irwin, Drummond, Dale, Avon
- L. lanceolata ssp. brevifolia (Meisn.) J.H. Ross Shorter leaves. On creek beds, loam, granite, coastal heath. South West: Irwin, Darling, Avon Roe, Eyre
- L. obtrullata J.H. Rossr
  Shrub, fls. yellow, ?-6-?; Eremaean : Austin
- L. punctata Benth. in Lindl.
- L. stellata J.H. Ross

Shrub, to 1m, fls. yellow, ironstone, 8-10; south West: Roe, Coolgardie

L. teretifolia C.A. Gardn. ssp. teretifolia Eremaean : Carnarvon; South West : Irwin

L. teretifolia ssp. grandistipula J.H. Ross Shrub, fls. yellow, has very large stipules, 8-9, on loam, gravel, clay or sand; South West: Irwin

Green, P.S. (1984) "A Revision of Jasminum in Australia". Allertonia 6: 403-438.

Jasminum (Oleaceae) : all taxa listed

J. didymum Forst.f. ssp. didymum
Northern : Gardner, Dampier, Fitzgerald

J. didymum ssp. lineare (R.Br.) P.S. Green Eremaean : Carnarvon; Fortescue, Austin, Canning, Giles

Northern : Dampier

J. calcareum F. Muell.

Northern: Dampier; Eremaean: Fortescue, Carnarvon, Austin, Helms; South West: Irwin

J. aemulum R.Br. var aemulum Northern : Gardner

J. lineare now J. didymum ssp. lineare

J. molle R.Br.

Northern : Gardner, Fitzgerald, Dampier

Recently the following new species and subspecies of Grevillea were described by Don McGillivray for Western Australia in a privately printed paper. No details apart from the latin diagnosis and type collection were given in the paper. Hopefully more is to come!

Grevillea acacioides C.A. Gardner ex McGillivray (E) - allied to G. endlicheriana.

- G. acrobotrya ssp uniforma McGillivray (S)
- G. aneura McGillivray (E) allied to G. treuerianae
- G. batrachioides F. Muell. ex McGillivray (S) allied to G. asparagoides
- G. beardiana McGillivray (S) allied to G. concinna
- G. cagiana McGillivray (S) allied to G. baxteri
- G. christiniae McGillivray (S) allied to G. costata
- G. decipiens McGillivray (S) allied to G. oligantha
- G. didymobotrya ssp involuta McGillivray
- G. disjuncta ssp dolichopoda McGillivray
- G. diversifolia ssp subtersericata McGillivray
- G. drummondii ssp centristigma McGillivray
- G. drummondii ssp pimeleoides (W.V. Fitzg.) McGillivray
- G. eriostachya ssp excelsior (Diels) McGillivray
- G. georgeana McGillivray (S) allied to G. wilsonii
- G. glabrata ssp dissectifolia McGillivray

- G. glabrata ssp ornithopoda (Meisn.) McGillivray
- G. granulosa McGillivray (S) allied to G. extorris
- G. hakeoides ssp commutata (F. Muell.) McGillivray
- G. hakeoides ssp stenophylla (W.V. Fitzg.) McGillivray
- G. integrifolia ssp biformis (Meisn.) McGillivray
- G. integrifolia ssp ceratocarpa (Diels) McGillivray
- G. integrifolia ssp incrassata (Diels) McGillivray
- G. integrifolia ssp shuttleworthiana (Meisn.)
  McGillivray
- G. kenneallyi McGillivray (S) allied to G. teretifolia
- G. leptopoda McGillivray (S) allied to G. teretifolia
- G. leucoclada McGillivray (S) allied to G. intricata
- G. lissopleura McGillivray (S) allied to G. scarbrida
- $\it G.~lullfitzii~McGillivray~(S)$  allied to  $\it G.~manglesioides$
- G. mackinsonii McGillivray (S,E) allied to G. polybotrya
- G. manglesioides ssp papillosa McGillivray
- G. maxwellii McGillivray (S) allied to G. asparagoides
- G. minutiflora McGillivray (S) allied to G. intricata
- G. murex McGillivray (S) allied to G. crithmifolia

- G. nana ssp abbreviata McGillivray
- G. newbeyi McGillivray (S) allied to G. patentiloba
- G. pauciflora ssp psilophylla McGillivray
- G. pauciflora ssp saxatilis McGillivray
- G. petrophiloides ssp magnifica McGillivray
- G. petrophiloides ssp oligomera McGillivray
- G. phillipsiana McGillivray (S/E) allied to G. lavandulacea
- G. pilosa ssp dissecta McGillivray
- G. psilantha McGillivray (N) allied to G. nematophylla
- G. rosieri McGillivray (S) allied to G. pityophylla
- G. roycei McGillivray (S) allied to G. spinosissima
- G. sarissa ssp anfractifolia McGillivray
- G. sarissa ssp bicolor McGillivray
- G. sarissa ssp rectitepala McGillivray
- G. sarissa ssp succineta McGillivray
- G. secunda McGillivray (E,S) allied to G. hookeriana
- G. spinosa McGillivray (E) allied to G. pteridifolia
- G. spinosissima McGillivray (S) allied to G. acrobotrya

- G. subtiliflora McGillivray (E/S) allied to G. intricata
- G. tetrapleura McGillivray (S) allied to G. extorris
- G. thelemanniana ssp delta McGillivray
- G. thelemanniana ssp fililoba McGillivray
- G. thelemanniana ssp hirtella (Benth.) McGillivray
- G. thelemanniana ssp obtusifolia (Meisn.) McGillivray
- G. thelemanniana ssp pinaster (Meisn.) McGillivray
- G. thelemanniana ssp preissii (Meisn.) McGillivray
- G. uncinulata ssp florida McGillivray
- G. velutinella McGillivray (N) allied to G. wickhamii
- G. vestita ssp isopogoides McGillivray
- G. wittweri McGillivray (S) allied to G. tetragonoldoa

Perhaps some points to note immediately; G. shuttleworthiana now part of G. integrifolia; G. excelsior now part of G. eriostachya; forms of G. petrophiloides, G. drummondii and G. thelemanniana now subspecies.

The letter in parenthesis indicates if the type collection comes from the South Western (S), Eremaean (E), or Northern Botanical Province (N). Allied species are those mentioned in the latin diagnosis. Some species described from types of Northern Territory origin may also occur in Western Australia.

P.S. Don McGillivray, the person who is revising the genus is seriously ill, and is worried he may not be able to continue his studies, hence this interim list of new names.

Carr, D.J. and Carr, S.G.M. (1985) Eucalyptus I: New or Little known species of the Corymbosae. Phytoglyph Press. Canberra. 116pp.

A confusing treatment of the tropical and desert bloodwoods, which by this account comprise 24 species of which 20 are described as new. While the authors state that the aim of the book is to provide a field guide to the identification of the species of bloodwoods presently determined as "Eucalyptus dichromophloia, E. polycarpa and E. terminalis", they provide no key, no comparison between the new and previously named species, no indication of population variability and have studied only a few collections of each species. Given the very narrow circumscription of a species adopted here, such criticisms assume a larger significance and suggest that further study is needed before this treatment is adopted.

However, it would appear that *Eucalyptus dichromophloia* is confined to tropical Northern Territory, and *E. polycarpa* (and its segregate *E. arenaria*) are found only in the northern Kimberlies in Western Australia. Although not clearly stated the authors hint that true *E. terminalis* is confined to Arnhem Land, (or at least the Kimberlies to Queensland in a wider sense) and material from Central Australia is undescribed.

There are two commonly recognized bloodwoods in Central Australia, one growing on the dunes and one on the plains and two of the Carr's species probably equate to these. These are

(a) Eucalyptus chippendalei Carr et Carr. Sandhill Bloodwood"

A tree or mallee growing on the dunes; Eremaean: Giles, Canning, Keatland

(b) Eucalyptus lenziana Carr et Caerr "Sandplain Bloodwood"

Tree to 10 m or rarely a mallee, flats, red sand; Eremaean: Coolgardie, Austin, Canning, Giles, Carnegie.

The other segregates named are lsited below:

- (1) Central Australian species
- E. symonii Carr et Carr

Tree to 7 m, rocky slopes; Eremaean : Giles

E. eremaea Carr et Carr

Mallee tree to 10 m, rocky slopes; Eremaean : Giles

E. australis Carr et Carr

Tree to 9 m, rocky slopes; Eremaean : Giles

E. connerensis Carr et Carr

Straggly tree to 5 m, rocky ranges; Eremaean : Giles

E. fordeana Carr et Carr

Mallee, rarely a tree to 5 m, rocky ranges; Eremaean : Ashburton

E. centralis Carr et Carr

Tree rarely a mallee to 12 m, loamy or sandy flats; Eremaean : Canning, Carnegie, Giles, Fortesque, ?Carnarvon, Mueller E. opaca Carr et Carr

Tree to 12 m, sandy plains; northern Dampier, Eremaean : Canning, Carnegie

[E. centralis, E. opaca - segregates of E. terminalis; E. symonii, E. eremaea, E. australis, E. connerensis and E. fordeana segregates of ? E. polycarpa ]

- (2) Northern Species
- E. ollaris Carr et Carr (E. dichromophloia)
  Tree to 12 m on lateritic gravel, clay or red loam; Northern
  : Gardner

E. drysdalensis Carr et Carr (E. dichromophloia
Tree to 7 m, on quartzite, Northern: Gardner, Fitzgerald, ?
Hall.

E. pontis Carr et Carr (E. cliftoniana)

Tree to 7 m, rocky slopes; Northern: Gardner

E. umbonata Carr et Carr

Tree to 17 m, rocky area; Northern: Dampier

E. coniophloia Carr et Carr (E. dichromophloia)

Tree to 6 m, rocky areas; Eremaean: Fortesque,

E. desertorum Carr et Carr (E. zygophylla)

Tree to 6 m, red loam; Eremean: Canning

Cooke, D.A. (1986). "Iridaceae" Flora Australia 46: 1-66

#### Patersonia

P. rudis Endl. ssp. rudis
South West : Drummond, Dale, Avon

P. rudis ssp. velutina D.A. Cooke
Differs in having thinner leaves, velvety inflorescence, on
sandy clay, fls. 11-12 South West: Coolgardie

P. lantana R.Br. forma calvata D.A. Cooke glabrous form, throughout species' range.

George, A.S. (1986) "Acanthocarpus" Flora Australia 46: 92-98

Acanthocarpus - All taxa listed

Tufted perennial herbs with short rhizomes, short leaves and with flowers clustered in the upper axils.

A. canaliculatus A.S.George
To 50 cm, leaves green, fls white striped purple 6-10, sand, sandy clay, granite or laterite, Souith West: Irwin, Avon, Drummond, Dale

- A. humilis A.S.George
- To 20 cm, leaves green, fls. white striped brown, 8-9, red sand over limestone; Eremaean: Carnarvon
- A. parviflorus A.S. George

To 40 cm, leaves dark green, fls. white, 5-6, sand over sandstone; South West: Irwin

A. preissii Lehm.

To 70 cm, leaves grey green rarely dark green, fls. white striped purple, 4-5, coastal dunes, limestone or sandstone; Eremaean: Carnarvon; South West: Irwin, Drummond, Menzies, Warren.

A. robustus A.S. George

To 70 cm, leaves yellow-green, fls. sepals white, petals pink, 8-10, red sand over limestone; Eremaean: Carnarvon; South West: Irwin

A. rupestris A.S. George

To 50 cm, leaves dark-green, fls. white, 5-6, red sand over limestone; Eremnaean: Carnarvon.

A. verticillatus A.S. George

To 50cm, leaves bluish green, fls. white striped purple; 8-10, red sandy clay over limestone; Eremaean: Fortescue, Carnarvon; South West: ? Irwin

George A.S. (1986) "Xerolirion" Flora Australia 46: 998-100 Xerolirion A.S. George

Monotypic genus, related to Lomandra and Acanthocarpus. Has a divaricate habit, terminal flowers, very small inflorescences, dioeciores flowers leaves which are short lived and fall leaving bare branches.

X. divaricata A.S. George

Intricately branched clumps to 40 cm, fls. white, 7-9, on decaying granite or laterite outcrops South West: Avon Coolgardie

Lee, A.T. and Macfarlane T.D. (1986) "Lomandra" Flora Australia 46: 100-141.

Lomandra micrantha (Endl.) Ewart ssp. micrantha South West: Irwin, Drummond, Dale, Avon, Eyre, Roe L. micrantha ssp. teretifolia Everett. Differs in having rigid, terete leaves; South West: Avon, Roe Bedford, D.J. (1986) "Xanthorrhoea" Flora Australia 46: 148-169.

#### Xanthorrhoea

X. brunonis Endl. ssp. brunonis Trunkless or short to 10 cm, 10-11, sand or sandy clay; South West: Drummond, Menzies, Warren.

X brunonis ss. semibarbata Bedford
Has hairy inflorescence bracts, 10-12, coastal sands; South
West: Drummond, Menzies, Warren

X. platyphylla Bedford

Often trunkless or to 1.5 m, leaves slightly glaucous, 6-9, snad, quartzite or sandy clay; South West: Eyre [This species previously referred to as X. preissii, which now occurs from Geraldton to Cape Leeuwin, not extending to the south coast].

X. drummondii Harv, new name for X. reflexa.
Conn, B.J. (1986) "New Species of Hemigenia and Microcorys (Labiatae)." Muelleria 6: 259-264.

#### Hamigenia conferta Conn

Erect or spreading shrub to 1.4 m, fls. white to cream coloured with maroon dots on inner surface of tube, 8-9, on shallow loam over laterite (endemic to Wongan Hills) South West: Avon

Microcorys cephalantha Conn

Decumbent shrub to 20 cm, fls. white with maroon spots, 11-1, sandy lateritic loam; South West: Avon

Microcorys wilsoniana Conn

Dense shrub to 60 cm, fls. mauve or purple (5)-8-10, red
brown lateritic loam; South West: Eyre (endemic to
Ravensthorpe Ranges).

Keighery, G.J. (1986). A new species of Tricoryne
(Liliaceae) from Western Australia. Willdenowia 15:
473-474

Tricoryne corynothecoides Keighery.

Clonal rhizomatous herb, to 30 cm tall x 3 m across, fls. yellow, 8-12, red sand; Eremaen: Carnarvon.

Keighery, G.J. (1985). "Walteranthus, a new genus of Gyrostemonaceae from Western Australia" Bot. Jahrb. syst. 106: 107-113.

Walteranthus erectus Keighery
Erect shrub with succulent leaves, to 1 m, fls. reddish,
inconspicuous, 7-8, sand over limestone; South West: Irwin.

Maesen van der L.J.G. (1985). "Cajanus DC. and Atylosia W. et A. (Leguminosae)." Ag. Univ. Wageningen Papers 85-4.

This paper combines Atylosia with Cajanus.

Cajanus : all taxa listed

- C. acutifolius (F. Muell.) van der Maesen
- C. cinereus (F. Muell) F. Muell.
- C. crassicaulis van der Maesen

Shrub to 1.5 m, fls. yellow, 5-6, on sandstone; Northern: Gardner, Fitzgerald, Hall.

- C. lanceolatus (W.V. Fitz.) van der Maesen
- C. latisepalus (Reynolds et Pedley) van der Maesen

- C. mamoratus (R.Br. ex Benth.) F. Muell.
- C. pubescens (Ewart et Morrison) van der Maesen previously under Atylosia cinerea: Shrub to 2 m, fls. yellow,
- (1)-4-7-(9), on sand, loam, laterite; Eremaean: Fortescue; Northern: Gardner, Dampier, Hall, Fitzgerald.
- C. reticulatus (Dryander) F. Muell.

Note: Atylosia grandiflora now a variety of C. reticulatus - C. reticulatus var grandiflorus (F. Muell.) van der Maesen which is the only variety in W.A.

C. viscidus van der Maesen

Twining viscid shrub, to 1 m, fls. yellow/sand, 5-6, on sandstone; Northern: Gardner, Fitzgerald, Hall.

Orchard, A.E. (1986). "New Taxa in Gonocarpus and Haloragis (Haloragaceae)." Nuytsia 5(3) 327-339.

#### Gonocarpus

- G. ephemerus A.E. Orchard
  Annual herb, 8-15 cm, fls. green-red, ?-5-?, red sand;
  Eremaean: Austin
- G. ericifolius A.E. Orchard
  Multistemmed shrub to 15 cm, fls. green-red, ?-1-?, gravelly
  sand; South West: Roe.
- G. hispidus A.E. Orchard
  Multistemmed shrub with ascending branches to 20 cm, fls.
  green-red, ?-9-?, stony quartzite sand; South West: Roe.

#### Haloragis

Material of *H. acutangula* forma *occidentalis* actually *H. digyna*. New name for true *H. acutangula* material from West. Australia is *H. acutangula* forma *stellata* Orchard. Occurs South West: Warren, Menzies and Eyre.

Brooker, M.I.H. and Hopper, S.D. (1986). "Notes on the

informal subgenus "Monocalyptus" of Eucalyptus (Myrtaceae) and the description of three new upland species from south-west Western Australia." Nuytsia 5: 341-356.

#### Eucalyptus

- E. erectifolia Brooker et Hopper
  Mallee to 3 m, stems smooth, fls. white, ?-3-?, sandy clay;
  South West: Eyre (Stirling Range).
- E. lateritica Brooker et Hopper Mallee, to 3 m, with lower rough barked, fls. white, 4-9, lateritic soils; South West: Irwin.
- E. suberaea Brooker et Hopper Mallee to 3 m, with corky rough basal bark, fls. white, 12-3, lateritic soils; South West: Irwin.
- Brooker, M.I.H. (1986). "New species and subspecies of the informal "Eucalyptus series Calycoyonae" Pryor et Johnson (Eucalyptus series Aridae Blakely Myrtaceae)". Nuytsia 5: 357-371.

#### Eucalyptus

- E. celastroides Turcz. ssp. virella M.I.H. Brooker
  Mallee to 4 m, fls. white, ?, ?; South West: Avon, Roe,
  Irwin, Coolgardie.

  (non glaucous, smaller fruited variant of E. celastroides)
- E. brevipes M.I.H. Brooker
  Mallee to 5 m, basal stocking of rough bark, fls. white, ?,
  ?; South West : Avon.
- E. yilgarnensis (Maiden) M.I.H. Brooker
  Tree or mallee to 6 m, basal stocking of rough bark, fls.
  white, ?, ?; South West: Coolgardie, Avon.

Brooker, M.I.H. and Edgecombe, W.B. (1986). "Eucalyptus ferriticala and E. pilbarensis (Myrtaceae), two new species from the Pilbara region of Western Australia." Nuytsia 5: 373-380.

#### Eucalyptus

- E. ferriticola Brooker et Edgecombe
  Mallee or tree to 8 m, fls. white, 11-12, ironstone or
  granite; Eremaean: Fortescue, Ashburton.
- E. pilbarensis Brooker et Edgecombe
  Mallee to 4 m, fls. white, ?-7-?, shale scree or chert;
  Eremaean: Fortescue.
- Brooker, M.I.H. and Done, C.C. (1986). "Eucalytpus ceracea, E. rupestris and E. chlorophylla (Myrtaceae), three new species in the Kimberley Division of Western Australia." Nuytsia 5: 381-390.

#### Eucalyptus

- E. ceracea Brooker et Done Small tree to 3 m, fls. orange, 8-11, stony ridge; Northern : Gardner.
- E. chlorophylla Brooker et Done
  Tree to 5 m, fls. white, 7-10, sandy soil with laterite;
  Norther: Gardner
- E. rupestris Brooker et Done
  Tree to 5 m, fls. ?, ?3-7, sandstone; Northern : Gardner.
- Chinnock, R.J. (1986). "Five endangered new species of Myoporaceae from south-western Australia." Nuytsia 5: 391-400.

#### Eremophila

- E. compressa Chinnock
  Erect spindly shrub, 0-8-2 m tall, fls. cream, 10-11, red-brown clay loam; South West: Roe.
- E. lactea Chinnock
  Erect compact or spindly shrub, 1-3.5 m tall, fls. lilac,
  8-11, sandy loam; South West : Roe.
- E. nivea Chinnock
  Shrub to 1.6 m, fls. lilac, brown clay loam; South West: Avon.
- E. verticillata Chinnock
  Low spreading shrub, 0 to 80 cm tall x 1 m wide, fls.
  violet, 10-12, brown loam; South West: Roe.

#### Myoporum

M. turbinatum Chinnock
Broomebush shrub to 4 m, fls. white often tinged lilac,
?-11-?, sand over clay; South West : Roe.

Bennett, E.M. (1986). "Bentleya, a new genus of Pittosporaceae from southern Western Australia." Nuytisa 5: 401-406.

Bentleya spinosa E.M. Bennett Low spreading shrub from a rhizome, to 20 cm tall, fls. whitish-green to cream, 9-10, sandy clay; South West: Roe.

Macfarlane, T.D. (1986). "Two new species of Wurmbaea (Colchicaceae or Liliaceae s. lat.) from south western Australia." Nuytsia 5: 407-413.

#### Wurmbaea

W. graniticola T.D. Macfarlane

Bulbous herb to 11 cm, fls. white or pale pinkish lilac with prominent nectary, 7-11, coarse sandy clay over granite; South West: Coolgardie, Avon, Roe.

W. murchisoniana T.D. Macfarlane
Bulbous herb to 25 cm, fls. white, 7-8, winter wet clay;
South West: Irwin.

Trudgen, M.E. (1986). "Reinstatement and revision of Rinzia Schauer (Myrtaceae, Leptospermeae, Baeckeinae)."

Nuytsia 5: 415-439.

All species listed. Genus endemic to south western Australia, segregate of Baeckea.

Rinzia

R. affinis Trudgen

Erect shrub to 70 cm, fls. white or pale pink, 8-10, sand (yellow, lateritic), sandy clay; South West: Roe.

R. carnosa (S. Moore) Trudgen prev. Baeckea carnosa Shrub to 1.3 m, fls. white to rose pink, 9-11, loam or granitic loam; South West: Coolgardie, Avon.

R. communis M.E. Trudgen Spreading shrub to 30 cm tall  $\times$  40 cm wide, fls. white to pale pink, 8-10, sand (lateritic, brown, orange, yellow),

R. crassifolia Turcz.

laterite; South West : Eyre, Roe.

Prostrate, spreading to erect shrub to  $20~\rm{cm} \times 40~\rm{cm}$ , fls. white or pink, 9-11, lateritic sand or clay; South West: Avon, Dale.

R. dimorphandra (F. Muell. ex Benth.) Trudgen prev. Baeckea dimorphandra.

Spreading shrub to 30 cm tall x 30 cm across, fls. pink or pale pink, 8-10, sand (white, grey or yellow); South West: Eyre.

#### R. fumana Schau.

Prostrate or sprawling shrub, rarely erect to 25 cm x 60 cm across, fls. pink or white, 8-11, lateritic clay or loam, granitic loam; South West: Dale, Menzies, Avon, Eyre.

## R. longifolia Turcz.

Shrub 40-80 cm, fls. pink or white, 8-11, clay; South West: Roe.

## R. morrisonii Trudgen

Prostrate or spreading shrub, to 60 cm across, fls. pink or white, 9-11, sandy clay; South West: Eyre (Stirling Range).

## R. oxycoccoides Turcz.

Sprawling or procumbent shrub, to 60 cm across, fls. pale to deep pink, stony sandy clay; South West: Eyre.

(Barren Ranges thicket, Fitzgerald River)

#### R. rubra Trudgen

Shrub to 70 cm tall x 1 m across, fls. white, 9-11, sand, sand over clay; South West: Coolgardie, Roe.

#### R. sessilis Trudgen

Low spreading to erect shrub, 50 cm tall x 60 cm across, fls. pale pink, 9-11, sand (white, granitic), laterite, sandy clay; South West: Coolgardie, Roe.

## R. schollerifolia (Lehm.) Trudgen

Spreading shrub, to 20 cm tall x 60 cm across, fls. pink or white, 8-11, sand, sandy clay, laterite, peaty sand; South West: Warren, Menzies, Eyre.

Hewson, H.J. Burseraceae Flora of Australia 25. 165-179. 1986.

Canarium australianum F. Muell var velutinum Hewson Tree to 30 m, dioecious, fls. ?, ?, loam; Northern: Gardner, Dampier.

Orchard, A.E. (1986). "Myriophyllum (Haloragaceae) in Australasia II. The Australian Species." Brunonia 8: 173-291.

Aquatic or mud dwelling herbs with inconspicuous wind pollinated flowers, usually male and female flowers are present on the same plant but some species are dioecious. Have feathery aquatic leaves, usually simple when terestial.

Myriophyllum

## M. amphibium Labill.

Orchard notes that although there are many reports of this species in S.W.W.A., they are all based on a geminal error, Labillardiere's type was collected at Recerche Bay (S.W. Tasmania) and not the Recerche Archipelago. This species does not occur in W.A.

\*M. aquaticum (Vellozo) Verdc. "Parrots Feather"
Stout aquatic or marsh dwelling herb, to 1 m, only female
plants in Australia, 11-1; South West: Drummond
(usually quoted as M. brasiliense Cambessedes)

## M. balladoniense Orchard

Robust usually perennial aquatic herb, to 30 cm, 9-12-(3); rock pools on granite; South West: Coolgardie, Roe.

M. callitrichoides Orchard ssp. striatum Orchard
Annual aquatic herb, to 25 cm, leaves entire, floating,
?-2-?, shallow pools on sandstone; Northern: Gardner.

M. callitrichoides ssp callitrichoides Arnhem Land.

#### M. costatum Orchard

?Annual rhizomatous semi-aquatic herb, to 10 cm, ?-8-?, edges billabong; Northern: Gardner.

#### M. crispatum Orchard

Stout perennial (occ. annual) shortly rhizomatous herb, to 60 cm, 11-1, aquatic or in mud; South West: Drummond, Dale, Menzies, Warren.

(prev. known as M. propinquum)

#### M. decussatum Orchard

Semi-aquatic annual, floating in shallow water or on mud, mats to 2 metres diameter, 7-9, claypans; Eremaean: Carnarvon, Ashburton, Austin.

#### M. dicoccum F. Muell.

Aquatic rhizomatous herb, to 50 cm, 5-9, swamps or lagoons; Northern: Gardner, Fitzgerald.

(some populations are female only, and are apparently parthenocarpic)

#### M. drummondii Benth.

Annual, to 4 cm, 10-12, seepages, claypans, mud; South West: Drummond.

#### M. echinatum Orchard

Ascending annual to 3 cm, ?-11-?, mud; South West: Drummond.

#### M. filiforme Benth.

Prostrate terrestial herb, flowering stems to 15 cm, forming tangled mats on damp soil, 4-7; Northern: Gardner, Fitzgerald.

## M. limnophilium Orchard

Decumbent annual reddish herb, to 10 cm, 10-12, seepage areas, shallow water; South West: Drummond, Menzies.

(prev. known as *M. integrifolium*, now restricted to eastern Australia)

M. muelleri Sond.

Slender aquatic annual to 60 cm, 9-11-(1), alkaline seepages; South West: Irwin.

#### M. petraeum Orchard

Aquatic annual, to 30 cm, 8-10-(12), ephemeral pools on granite; South West: Coolgardie, Roe, ?Eyre.

### M. salsugineum Orchard

Perennial aquatic herb, to 60 cm, 11-1, swamps, edges creeks; South West: Drummond, Warren, Menzies. (prev. known as M. elatinoides)

#### M. tillaeoides Diels

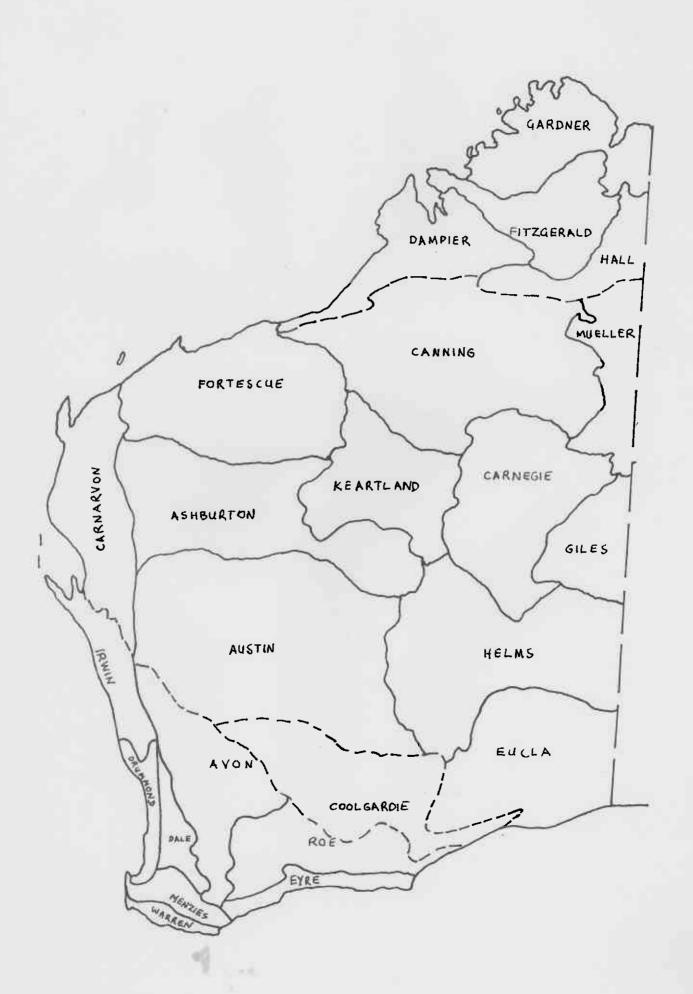
Annual aquatic or mud dwelling herb, to 10 cm, 9-12, mud or granite rock pools; South West: Drummond, Menzies, Eyre.

## M. trachycarpum F. Muell.

Robust aquatic herb, to 60 cm, 4-6, edges pools, lakes, slow moving streams, rarely on mud; Northern: Gardner.

## M. verrucosum Lindl. in Mitch.

Perennial aquatic herb, to 1.5 m, 11-3, slow flowing or stagnant water to 2 m deep or on mud; South West:
\*Drummond; Eremaean: Carnarvon, Ashburton, Fortescue; Northern: Dampier, Gardner, Fitzgerald, Hall.
(the southern population at Benger Swamp is considered introduced)



# FIGURE 1 - PHYTOGEOGRAPHICAL REGIONS OF WESTERN AUSTRALIA

NORTHERN BOTANICAL PROVINCE

(KIMBERLIES)

Gardner District Fitzgerald District Dampier District Hall District

EREMAEAN BOTANICAL

(DESERT)

Mueller District Canning District Fortescue District Carnegie District Giles District Keartland District Ashburton District Carnarvon District Austin District Helms District

SOUTH WEST BOTANICAL RESERVE (TEMPORATE)

Irwin District Avon District Roe District Eyre District Drummond Sub-district ) Dale Sub-district ) Darling Menzies Sub-district ) Warren Sub-district )