

SURVEY OF RARE AND POORLY KNOWN
EUCALYPTS OF WESTERN AUSTRALIA

FIELD GUIDE No. 2

WHEATBELT REGION



BY

ANNA NAPIER, ANNE TAYLOR, SUSAN PATRICK
AND STEPHEN HOPPER

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The booklet contains a great deal of unpublished research data which will be published elsewhere, and also provides precise locations of some of the State's rarest eucalypts. Such information may place these eucalypts at risk to the activities of illegal seed collectors if widely disseminated.

Address enquiries on this matter to:

Dr S.D. Hopper
Wildlife Research Centre
Department of Conservation and Land Management
P.O. Box 51, Wanneroo, W.A., 6065
Ph (09) 405 5100

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**ANNA NAPIER, ANNE TAYLOR, SUSAN PATRICK
AND STEPHEN HOPPER**

**WESTERN AUSTRALIAN WILDLIFE RESEARCH CENTRE
P.O. Box 51, WANNEROO, W.A. 6065**

LINE DRAWINGS

BY

SUSAN PATRICK

WESTERN AUSTRALIAN DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

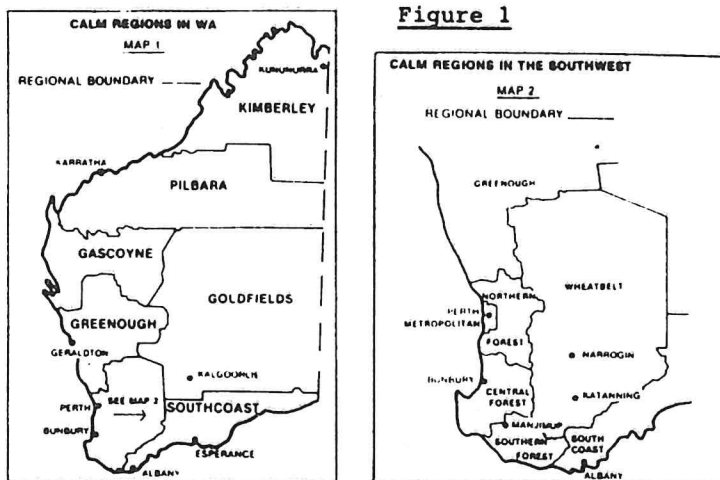
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CONTENTS

	Page
Introduction	1
Characters Useful in Identifying Eucalypts (Figure 4)	9
Glossary of Terms Used	11
Leaf, Bud and Fruit Shapes (Figure 5)	13
Species Descriptions	
Eucalyptus 'aequioperta'	15
E. angustissima	17
E. brevipes	19
E. caesia ssp. caesia	21
E. caesia ssp. magna	23
E. 'conformalis'	25
E. 'continens'	27
E. corrugata	29
E. crucis ssp. crucis	31
E. crucis ssp. lanceolata	33
E. 'dea' aff. eremophila	35
E. deflexa	37
E. 'dissimulata'	39
E. 'exigua'	41
E. exilis	43
E. formanii	45
E. georgei	47
E. georgei ssp. 'shiny'	49
E. incrassata ssp. 'narrow'	51
E. 'microschema'	53
E. 'mimica'	55
E. "newflock"	57
E. 'olivacea'	59
E. ornata	61
E. 'redimiculifera'	63

INTRODUCTION

This interim field guide has been produced to assist contributors to the "Survey of Rare and Poorly Known Eucalypts of W.A." to identify the species of interest. As the list of such species is large, it has been subdivided into different State regions. This booklet covers the Wheatbelt Region, as defined by the Western Australian Department of Conservation and Land Management (see Fig. 1). Subsequent booklets will cover other C.A.L.M. regions.



Eucalypts have been the subject of recent name changes and taxonomic research. This field guide is the most up-to-date reference available for rare and poorly known eucalypts of the Region, including new species and subspecies whose names have not yet been published. For information on such taxa, we have relied heavily on the unpublished "Field Guide to Eucalypts Vol. 2" by M.I.H. Brooker and D. Kleinig. We are indebted to the authors for allowing access to their manuscript. We have also drawn heavily on the unpublished research results of Ian Brooker, Lawrie Johnson, Ken Hill, Don Blaxell and Stephen Hopper to whom we are grateful for assistance. Because of the active phase of research occurring on eucalypts, this field guide is very much an

interim report. Undoubtedly, new taxa warranting inclusion in the study will be discovered during the course of the survey.

Common eucalypts of the Region can best be identified using Chippendale's "Eucalypts of the Western Australian Goldfields (and the Adjacent Wheatbelt)" and Blackall and Grieve's "How to Know Western Australian Wildflowers, Part IIIA".

Funding for this field guide and the Rare and Poorly Known Eucalypt Survey has been provided by the Australian National Parks and Wildlife Service and the Western Australian Department of Conservation and Land Management. We are grateful to the Curator, Western Australian Herbarium, for providing access to specimens and to Paul Gioia of the Western Australian Wildlife Research Centre for FLORAPLOT computer mapping.

Species' Description and Illustrations

The species are listed in alphabetical order. Unpublished taxa of L. Johnson, D. Blaxell and K. Hill are given a three letter code and referred to as aff. (with affinity to their nearest named relative). Unpublished taxa of Brooker and Hopper are given as manuscript names enclosed in parentheses. For each species (or subspecies), the main identifying features of the plant are indicated on the drawings. Other features, including those which can only be seen in the field are included under "Additional Field Characteristics". If there are similar eucalypts with which the species in question can be confused, these are indicated and their distinguishing features highlighted. In cases where a similar species is common and is thus not included in the field guide, full details of the comparison are given. If a similar species is rare, and is included in the field guide, only a brief comparison is provided. Further details can be found on the relevant page for that species.

All illustrations have been drawn using material from the W.A. Herbarium or from other collections. As it is not possible to show the slight variations of ornamentation which may occur within a species, the most representative specimens have been drawn.

Location Maps

The location maps have been produced from records of specimens lodged at the Western Australian Herbarium, from personal records of M.I.H. Brooker and S.D. Hopper and from information supplied by various wildlife officers and individuals as recorded on the Department of Conservation and Land Management species files. The maps have been compiled on the FLORAPLOT Computer System at the W.A. Wildlife Research Centre.

The maps of species' location are given as a general guide and should not be regarded as covering the entire range of the species. It is hoped that the present survey will either extend the known range or verify the restricted occurrence of certain species. It is also possible that some previously recorded populations or individuals may have disappeared as a result of agricultural clearing, or road widening, or other factors.

Collecting Specimens

Since eucalypts can be difficult to identify and also since we are only looking at rare and poorly known taxa for which confirmed identification is essential, we will be relying greatly on voucher specimens to confirm certain records.

A properly collected, well pressed and labelled specimen will be required in each of the following circumstances:

- For each 'new' species or subspecies recorded by a person e.g. when John Smith records *E. ornata* for the first time, a voucher specimen is needed.

- For any species or subspecies located a significant distance from its nearest known location (consult the map scale each time as most maps are at different scales). "Significant" may be a few kilometres for an extremely localised species (e.g. *E. steedmanii*), further for more widespread species.
- Whenever you are unsure of an identification.

The following guidelines suggest techniques for collecting and processing specimens so that they remain in a well preserved, identifiable state.

1. Do you have a collectors permit? This is needed before collecting specimens from publicly owned land. It can be obtained from the Senior Clerk Flora, Department of Conservation and Land Management, 50 Hayman Road, Como. On privately owned land, you should always seek the owners permission. Special Ministerial permits are required to collect Declared rare flora (see Table 1). These may also be applied for from the Senior Clerk Flora, Dept. of Conservation and Land Management, 50 Hayman Rd, Como, W.A.

<i>E. beardiana</i>	<i>E. steedmanii</i>
<i>E. bennettiae</i>	<i>E. suberea</i>
<i>E. brevipes</i>	<i>E. synandra</i> subsp. (wheatbelt)
<i>E. burdettiana</i>	<i>E. sp. 'olivacea'</i>
<i>E. ceracea</i>	<i>E. sp. 'latens'</i>
<i>E. cerasiformis</i>	<i>E. sp. 'pruiniramis'</i>
<i>E. coronata</i>	<i>E. sp. 'bla'</i>
<i>E. crucis</i> subsp. <i>crucis</i>	<i>E. sp. 'crispata'</i>
<i>E. erectifolia</i>	<i>E. sp. 'phy'</i>
<i>E. insularis</i>	<i>E. sp. 'pla'</i>
<i>E. johnsoniana</i>	<i>E. sp. 'balanites'</i>
<i>E. lateritica</i>	<i>E. sp. 'absita'</i>
<i>E. merrickiae</i>	<i>E. sp. 'cuprea'</i>
<i>E. mooreana</i>	<i>E. sp. 'argutifolia'</i>
<i>E. rhodantha</i>	<i>E. sp. 'leprophloia'</i>

Table 1. Declared Rare Eucalypts of W.A.

2. Collecting and Pressing

We recommend that you label each specimen collected with a unique number and your initials. For example, John D. Smith's collection of two eucalypt species at the first site he collects would be labelled JDS1 and JDS2. The same number should also be written in your field note book and on the relevant Sight Record Sheet, thus allowing future matching of specimens with recorded information. We also recommend that you collect in duplicate for each of your unique numbers. That is, enough material of each species to enable you to keep an adequate sample and to forward to the Survey Coordinators a duplicate (destined for the W.A. Herbarium) (see Fig. 2).

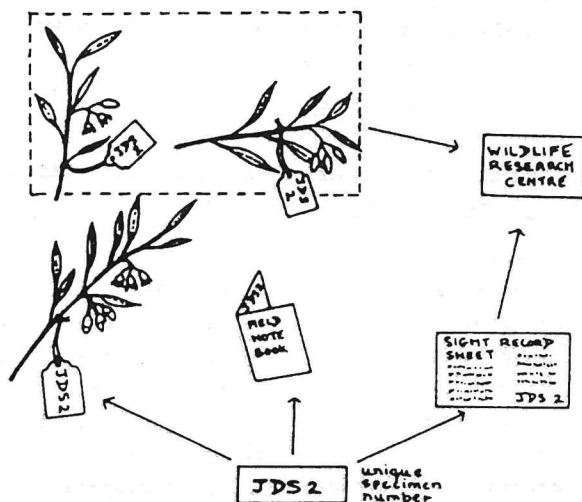


Figure 2. Labelling Plant Specimens

Collections should include leaves, buds and fruits and a small packet of fruits with the seeds enclosed. Where available, juvenile leaves from suckers near the base of the trunk should also be collected. If buds

are not available, a search on the ground may produce shed bud caps which are often an important aid in identification. Bark may be included if it is unusual.

As soon as possible after collection, plant parts should be put between sheets of newspaper, spread out so that they are clearly seen, and pressed. A simple press can be made from two sheets of any non-bending material, strapped together. Some sheets of cardboard, preferable smooth-sided corrugated cardboard, placed between the newspaper sheets will assist air circulation through the press. Drying of plant material occurs within the press and can be facilitated by keeping it in a warm room or in front of a heater and by changing the newspaper daily for the first few days, and then as conditions dictate. Most plants should dry in about a fortnight. Once dried, the plants should be placed between clean, dry sheets of newspaper and suitable measures taken to protect the specimens whilst they are in transit.

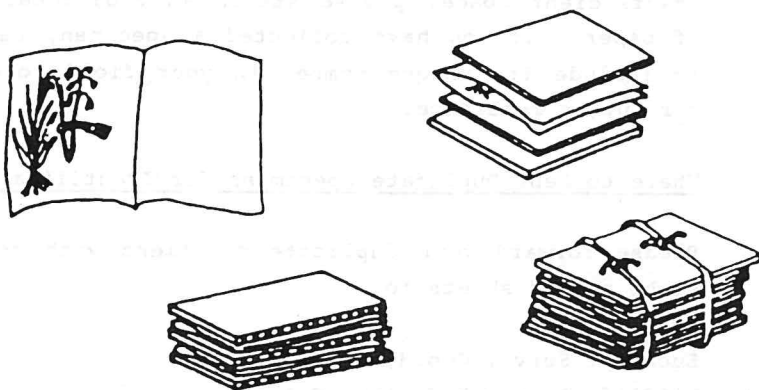


Figure 3. Pressing Plant Specimens

3. Specimen Label Slips

These are standardised recording slips which must accompany any specimen when it is submitted to a

herbarium. These can be filled in by either yourself or the Survey Coordinators (based on information contained on Sight Record Sheets). If you would like to fill in your own Specimen Label Slips, please contact Rare Eucalypt Survey Coordinators, W.A. Wildlife Research Centre, P.O. Box 51, Wanneroo, 6065.

4. Field Notebooks

We recommend the use of field notebooks when recording in the field, with all relevant data being later transferred to Sight Record Sheets. It is important that you make notes on most features illustrated in Fig. 4. when in the field, especially those difficult or impossible to observe on herbarium specimens (e.g. tree or mallee, habit, height, shape, bark features, leaf glossiness, leaf venation and oil gland pattern, presence of pith glands in branchlets, flower colour etc. Such information should be included on the Sight Record Sheets under "Additional Remarks". If there is insufficient space, please attach an additional sheet of paper. If you have collected a specimen, remember to include its unique number in your field note book for future reference.

5. Where to Send Duplicate Specimens for Identification

Please forward your duplicate specimens with relevant sight record sheets to:

Eucalypt Survey Coordinators
Wildlife Research Centre, C.A.L.M.
P.O. Box 51
Wanneroo W.A. 6065

The coordinators will ensure that your specimens are correctly identified, with the able assistance of botanists Ian Brooker and Stephen Hopper. As mentioned

above, the duplicate you send will be deposited in the Western Australian Herbarium.

6. Confidentiality

We urge contributors to be circumspect in divulging precise locations of the rarest of the eucalypts. Many of these are of considerable horticultural value, and some have been stripped entirely of mature fruits at particular sites by unscrupulous seed collectors in the past. If you consider that a given species might be at risk from such activities, please use general locations (e.g. Ravensthorpe district) when discussing or writing about your survey work. While we require very precise locations on computer sheets to ensure we can determine land status and ownership accurately, publications arising from this survey will not provide accurate details or maps for the rarest species.

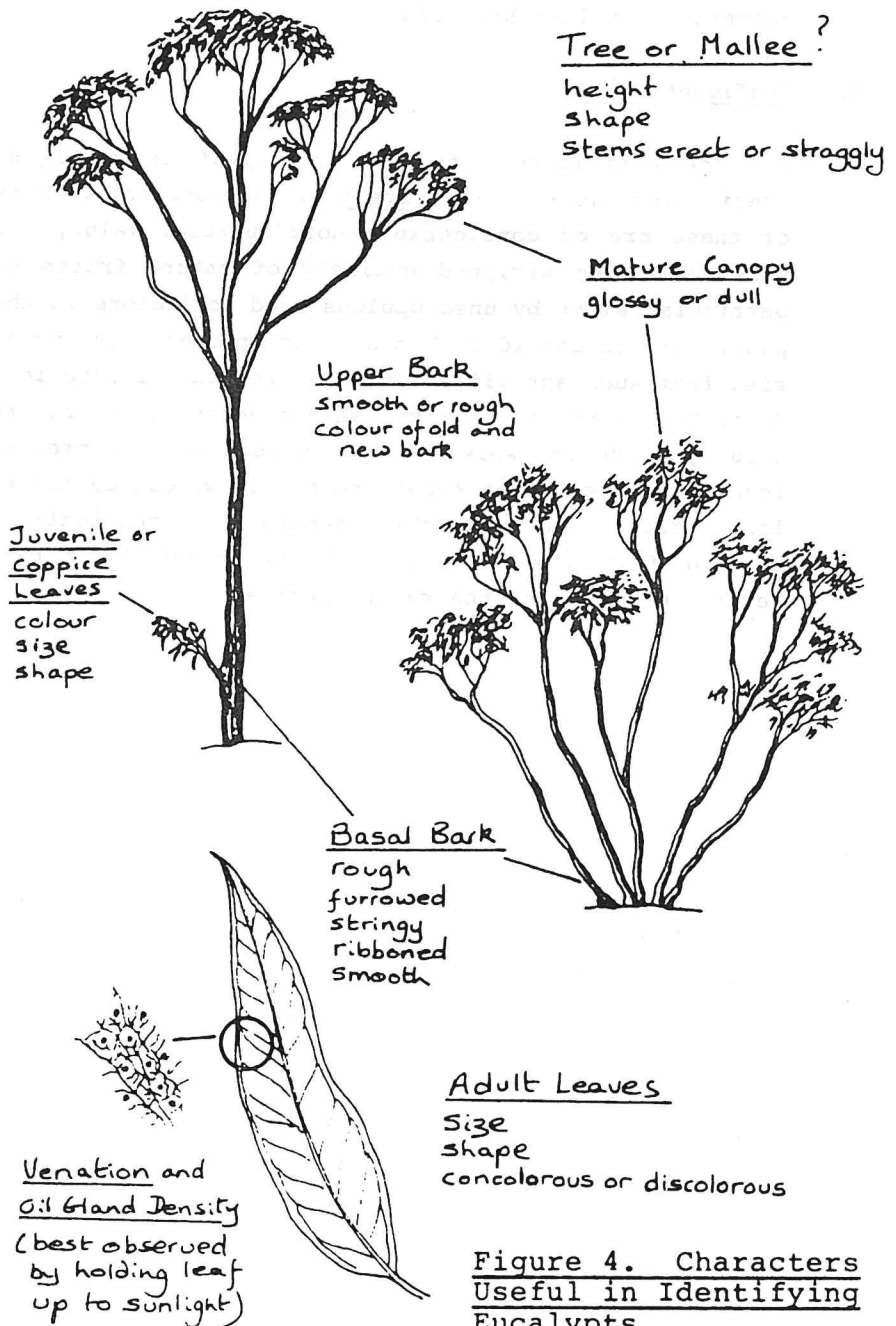
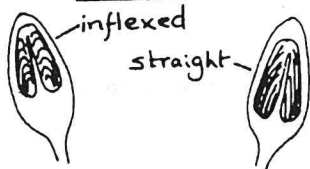


Figure 4. Characters Useful in Identifying Eucalypts

stamens

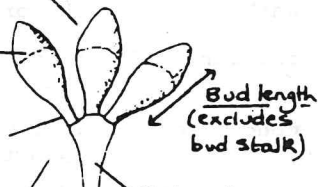


Bud cap (operculum)

conical
hemispherical
beaked
horn-shaped

Scar of dehiscence
outer bud cap

Bud stalk (pedicel)



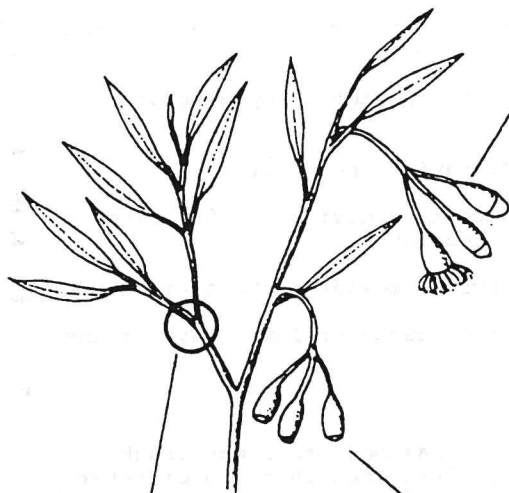
Bud length
(excludes
bud stalk)

Peduncle
(flat or
terete (rounded))

Buds

number of buds in each
inflorescence.

size
shape
ornamentation
erect or pendulous

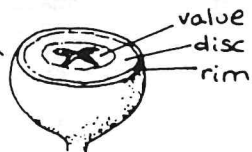


Flower
stamen
colour

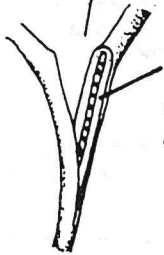


Fruits

size
shape
ornamentation



Oil Glands
Seen in pith
of branchlet



Seed

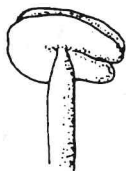
size
shape
ornamentation



GLOSSARY OF TERMS USED

acute	ending in a sharp point
adnate	(of anthers) rigidly fixed at the base (see diagram below)
anthesis	the process of flowering
axillary	in the leaf axil; from where the leaf joins the branchlet
concolorous	leaf with upper and lower sides the same colour
cuboid	resembling a cube
discolorous	leaf with upper and lower sides a different colour
exserted	protruding from the top or opening of the fruit
fertile	(of stamens) having an anther
glaucous	with a waxy coating giving a white, grey or blue-grey appearance
globoid	of the anthers, somewhat globular in form
hypanthium	the flower receptacle or lower part of the bud
inflorescence	cluster of flowers
mallee	shrub-mallee - has more than one trunk and each trunk is less than 10 cm in diameter tree-mallee - has more than one trunk and each trunk is more than 10 cm in diameter
mallet	small to medium sized tree, usually of steep-branching habit, sometimes fluted at the base of the trunk, and often with a conspicuously dense, terminal crown
obtuse	blunt or rounded at the apex
oil glands	minute oil containing structures seen near the surface of young stems, leaves, buds and fruits
operculum	the bud cap, the upper part of the bud which joins the hypanthium and covers the stamens
panicle	a much-branched inflorescence with flowers on stalks

peduncle	the stalk which holds the cluster of buds; may be terete, stout or flattened
pendulous	weeping habit or downturned
petiole	the leaf stalk which joins it to the branchlet
pith	the inner core of tissue of a plant stem
reticulation	the pattern of leaf veins
scar	the marking left on the bud when the first operculum is shed. If only one operculum is present no true scar is formed although a line of dying tissue which resembles a scar may appear near to flowering
sessile	without a stalk
striated	marked with almost parallel longitudinal ridges
terete	rounded; used when describing stems, peduncles and petioles and referring to a cross-section
truncate	slightly cut off
venation	refers to the pattern of veins in the leaf
versatile	(of anthers) fixed at a central point and able to pivot (see below)



versatile



adnate

Leaf Shapes

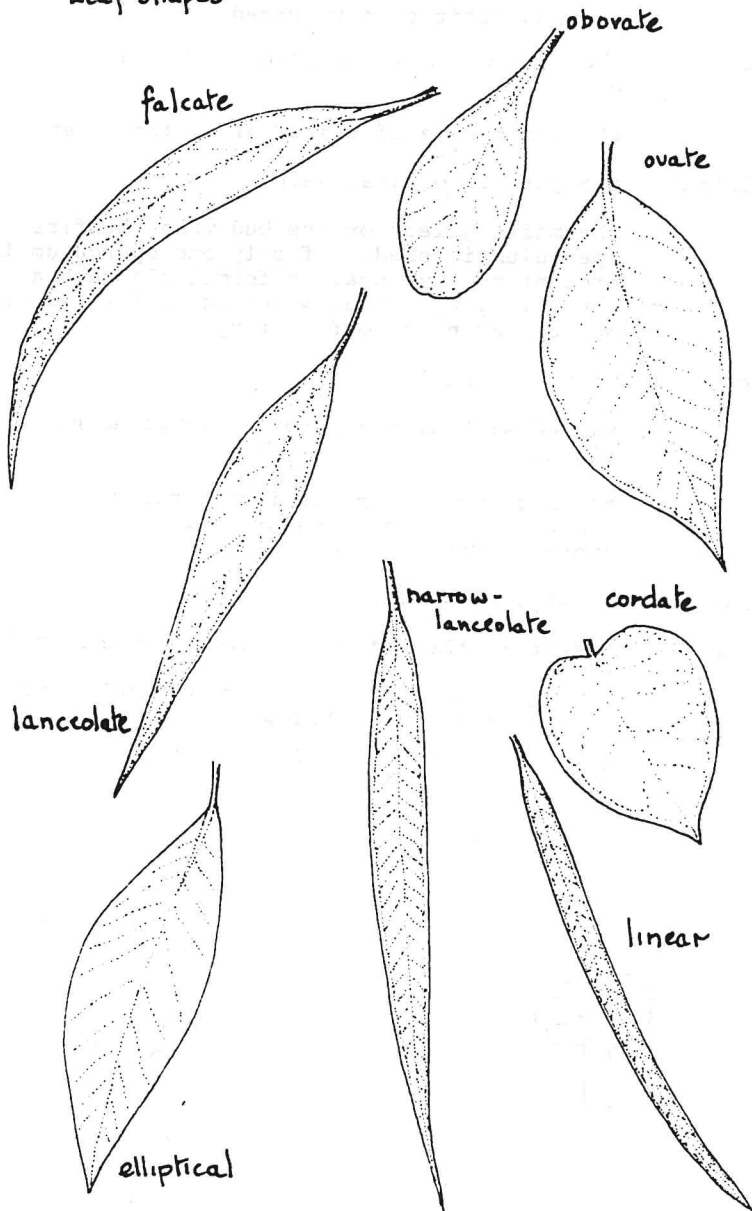


Figure 5. Leaf, bud and fruit shapes

Bud Shapes

Bud Caps

spindle-shaped



cylindrical



ovoid

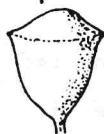


beaked



conical

top-shaped



double-conic



pear-shaped



rounded

hemispherical



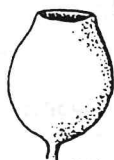
horn-shaped



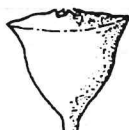
club-shaped



Fruits



urn-shaped



bell-shaped



barrel-shaped



cylindrical



cup-shaped



conical



truncate-globose



flask-shaped

EUCALYPTUS 'AEQUIOPERTA' Brooker and Hopper ined.

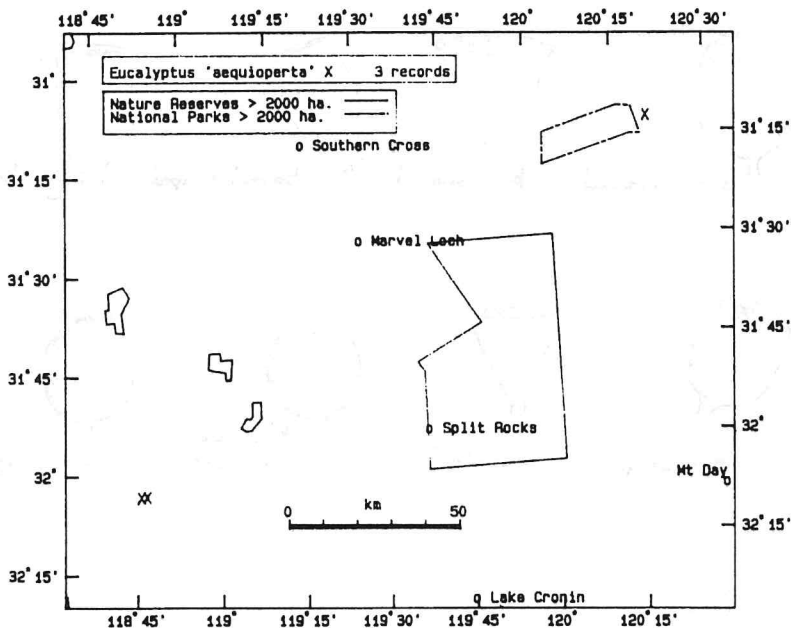
Distribution and Habitat: Has a scattered distribution from Narembeen to Coolgardie, a distance of some 290 km.

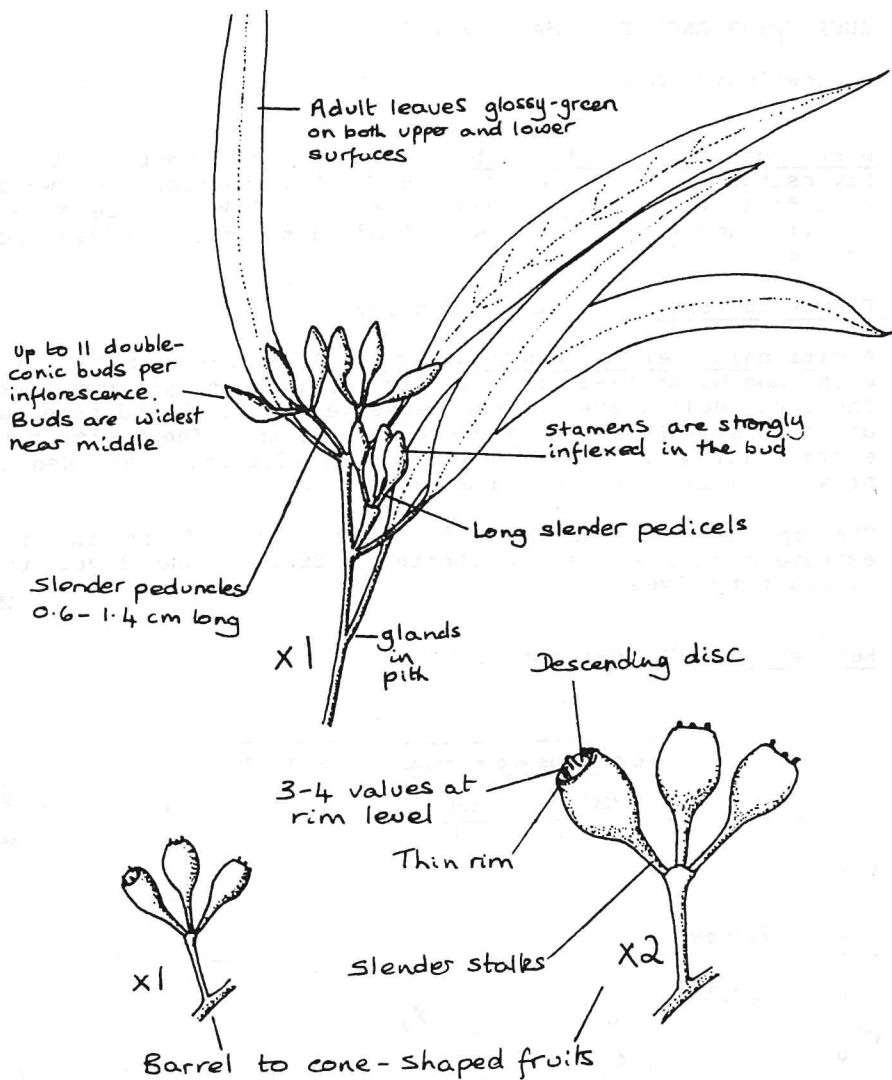
Flowering Period: Unknown.

Additional Field Characteristics: A mallee or tree with rough dark grey bark over most of the stems, finally ribbony, smooth dark grey and pale coppery above. Juvenile leaves are ovate to broad-lanceolate, 5-9 x 2.5-3 cm, dull and light green. Adult leaves measure 7-10 x 0.8-1 cm. The seed is brown and compressed-ovoid.

The species is similar to *E. ovularis*, *E. myriadena* and *E. brachycorys*, and may be distinguished by bud shape (see facing page). The buds of *E. myriadena* are tiny, having a maximum length of 0.4 cm. The buds of the other 3 species may be of similar size but differ in shape (*brachycorys* - constricted at join of operculum and hypanthium, *ovularis* widest towards base, *aequioperta* - widest towards middle and with conical operculum). *E. aequioperta* may also be confused with the *E. foecunda* and *E. leptophylla* group. It differs in having pith glands and versatile anthers (refer to glossary) whilst the latter two species have no pith glands and adnate anthers.

References: Brooker and Kleinig (ms).





x1
E. myriadena

x1
E. aequioperta

x1
E. brachycorys

x1
E. ovularis

EUCALYPTUS ANGUSTISSIMA F. Muell.

Narrow-leaved Mallee

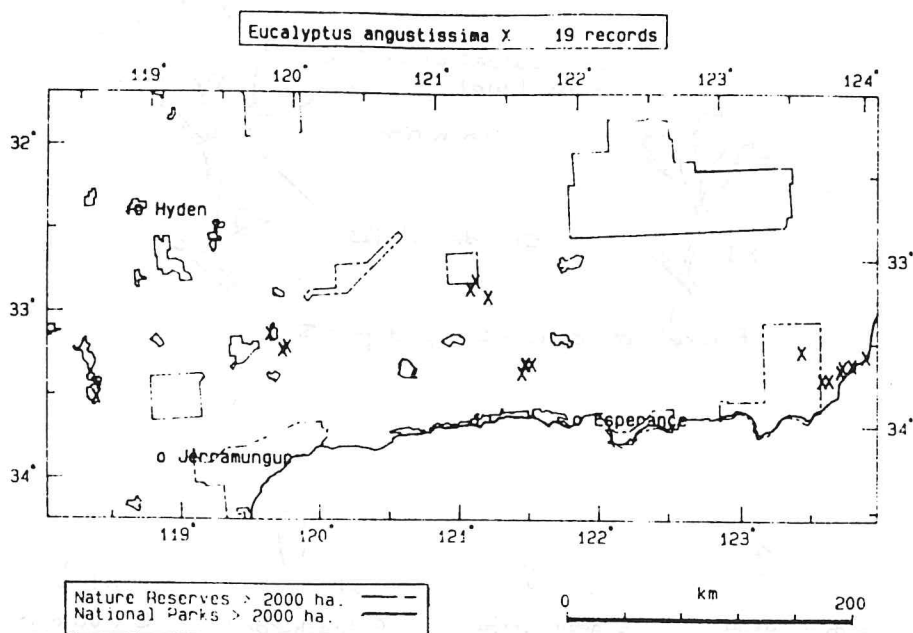
Distribution and Habitat: Known from north-west of Ravensthorpe, with a scattered distribution eastwards towards Israelite Bay. Grows near salt lakes in deep sand or alluvium in mallee and shrubland, associated species include *Acacia* sp. *Melaleuca* sp.

Flowering Period: August - January.

Additional Field Characteristics: A mallee 1.5-3 m high with smooth, mottled grey, whitish or light grey-brown bark. The long adult leaves have a dense vein network and numerous oil glands. The buds measure 0.6 x 0.5 cm. The fruits have a thick rim and measure 0.4-0.7 x 0.5-0.6 cm. The seed is brown, flattish to ovoid and smooth.

The species is similar to *E. 'mis'* but differs in its extremely narrow leaves, shorter peduncles and level to protruding valves.

References: Chippendale (1973).



Up to 7 buds per
inflorescence. Open
to white flowers.

x1

Erect adult leaves,
long and narrow.
(6-13 x 0.3-0.4cm)
Glossy and green.

Conical
bud cap
narrower
than the
hypanthium

x2

Erect buds

Scar

Short peduncle
0.1-0.4cm long

Hemispherical fruits
held erect on short
stalks

x2

3 valves at rim
level or slightly
protruding

level to slightly
convex disc.

x1

EUCALYPTUS BREVIPES Brooker

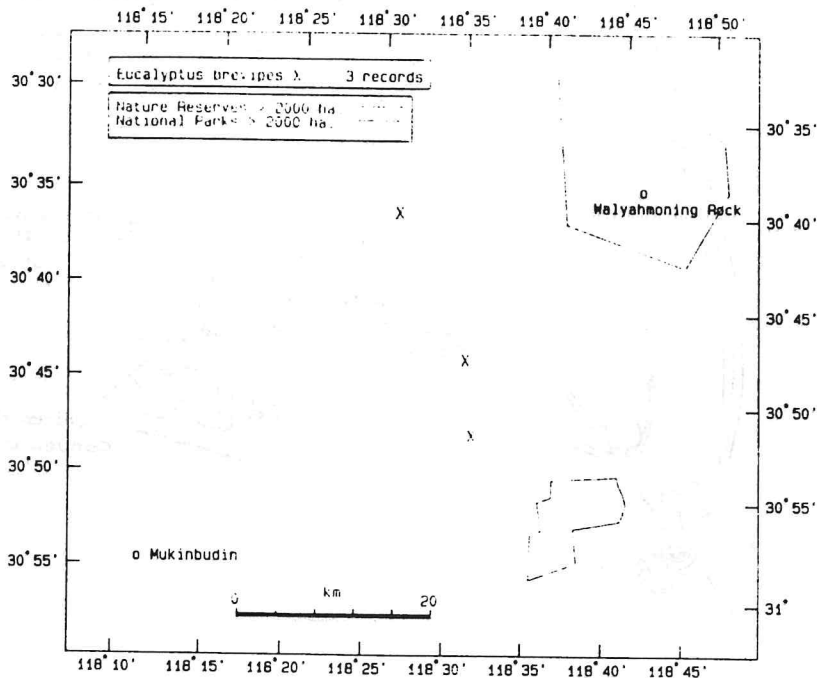
Distribution and Habitat: Known only from a very restricted area near Cunderin Hill and south of Yanneymooring Hill, north-east of Muckinbudin. Occurs on red clay-loams with *E. loxophleba* and *E. redunca* var. *subangusta*.

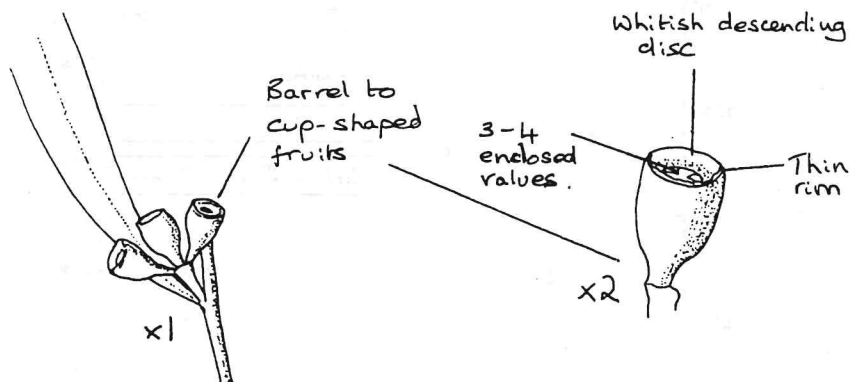
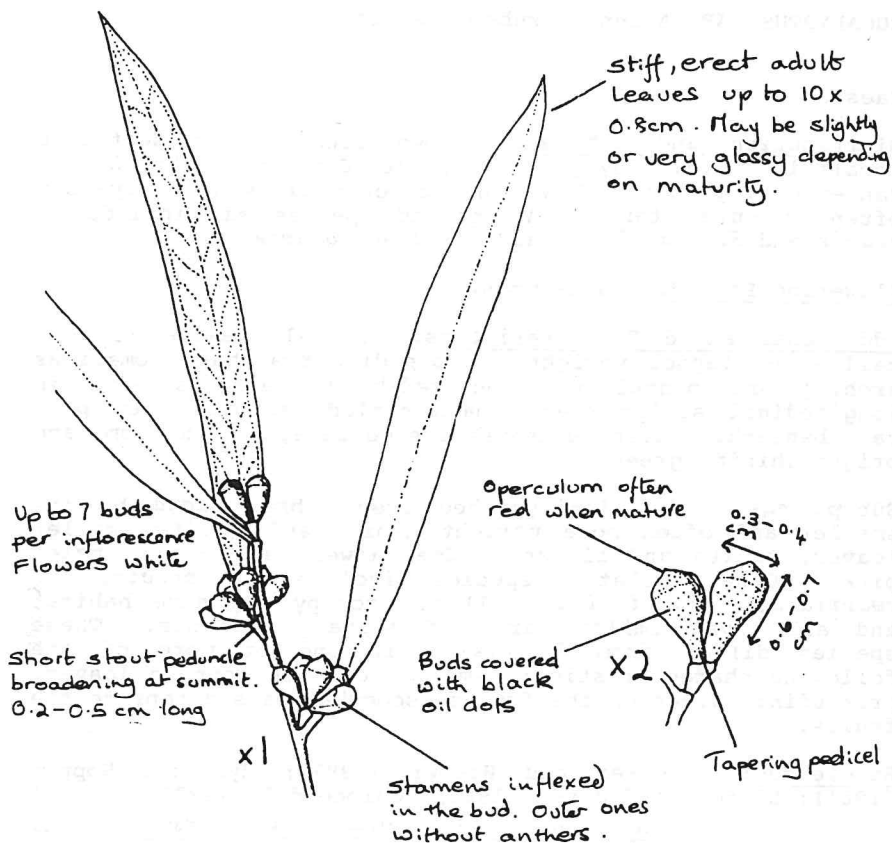
Flowering Period: July - not known.

Additional Field Characteristics: A mallee to 5 m tall with a stocking of hard rough bark to about 1 m, becoming softer and lighter in colour with age. The upper bark is smooth and grey over bronze or salmon pink. Juvenile leaves have short obscure petioles and are linear to narrow-lanceolate, up to 8 x 1.5 cm and dull green. The fruits measure 0.5-0.7 x 0.5-0.6 cm. Seed is reddish-brown to grey-brown and compressed ovoid in shape.

E. brevipes is closely related to *E. gracilis* but differs in its erect adult leaves, its shorter stout peduncle (*gracilis* - slender, 0.5-1.6 cm long) and its slightly larger buds (*gracilis* 0.4-0.6 x 0.3-0.4 cm). Also, with *E. gracilis* the join between operculum and hypanthium is constricted. *E. brevipes* is also similar to *E. calycogona*, but the latter has smooth bark throughout, and both its buds and fruits are four-sided.

References: Brooker (1986).





EUCALYPTUS CAESIA Benth. subsp. CAESIA

Caesia

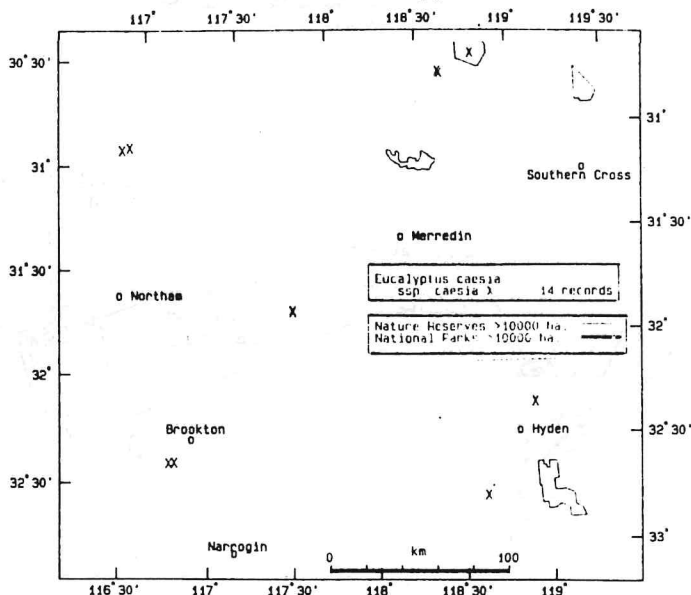
Distribution and Habitat: Known from a few scattered localities e.g. Boyagin Rock, Mt Caroline, The Humps, Yanneymooning Rock. Grows in shallow pockets of sandy loam often in pure stands. Associated species may include *E. crucis* and *E. loxophleba* and *Hakea petiolaris*.

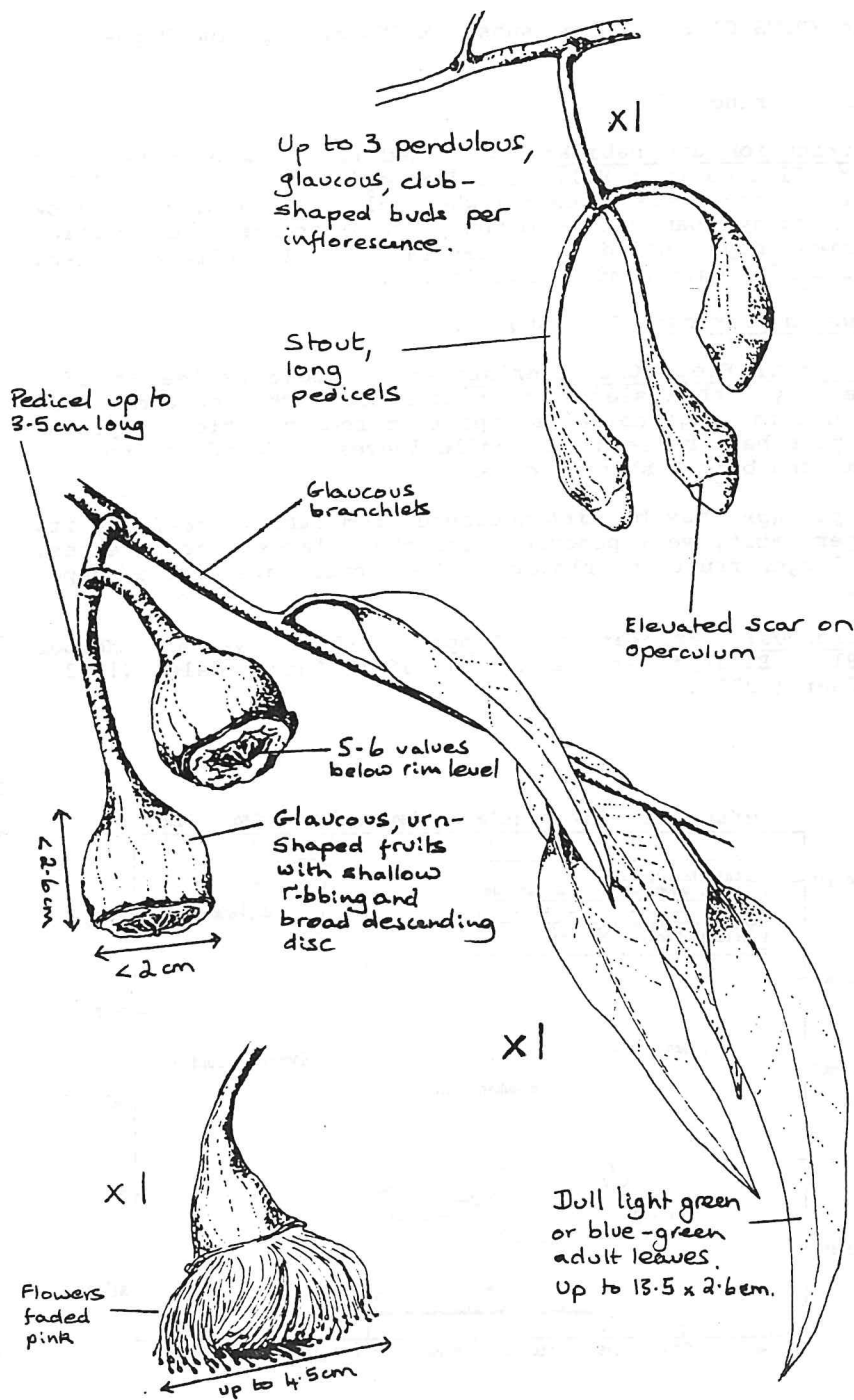
Flowering Period: June-August.

Additional Field Characteristics: A small mallee to 10 m tall with slender upright or spreading branches, sometimes arching and pendulous. The red-brown bark is shed in longitudinal strips that remain curled, exposing new pale bark beneath. Juvenile leaves are cordate, to 8 x 6 cm, and bright shining green.

Subsp. *caesia* is distinguished from subsp. *magna* by its smaller and often more upright habit, and by its smaller leaves, fruits and flowers. The flowers are also a paler pink. Other related species include *E. crucis*, *E. ewartiana*, *E. orbifolia*. All may occupy the same habitat and all have similar bark and silvery branches. These species differ from *E. caesia* in one or more of the following characteristics: smaller or more rounded leaves, protruding valves on the fruits, somewhat raised tops to the fruits.

References: Brooker and Hopper (1982); Rye and Hopper (1981); Elliott and Jones (1986); Chippendale (1973).





EUCALYPTUS CAESIA Benth. subsp. *MAGNA* Brooker and Hopper

"Silver Princess"

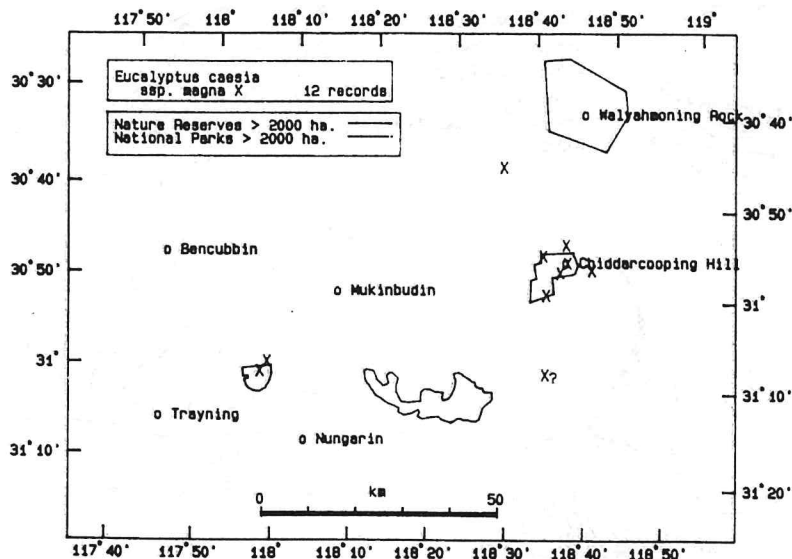
Distribution and Habitat: Confined to a few granite rocks (e.g. Billycatting Hill, Chiddarcooping Hill, Chutawalakin Hill) in the eastern central wheatbelt. It grows in shallow brown sandy loam and is often in pure stands. Association species may include *E. crucis*, *E. loxophleba*, *Hakea petiolaris*, *Calothamnus quadrifidus*.

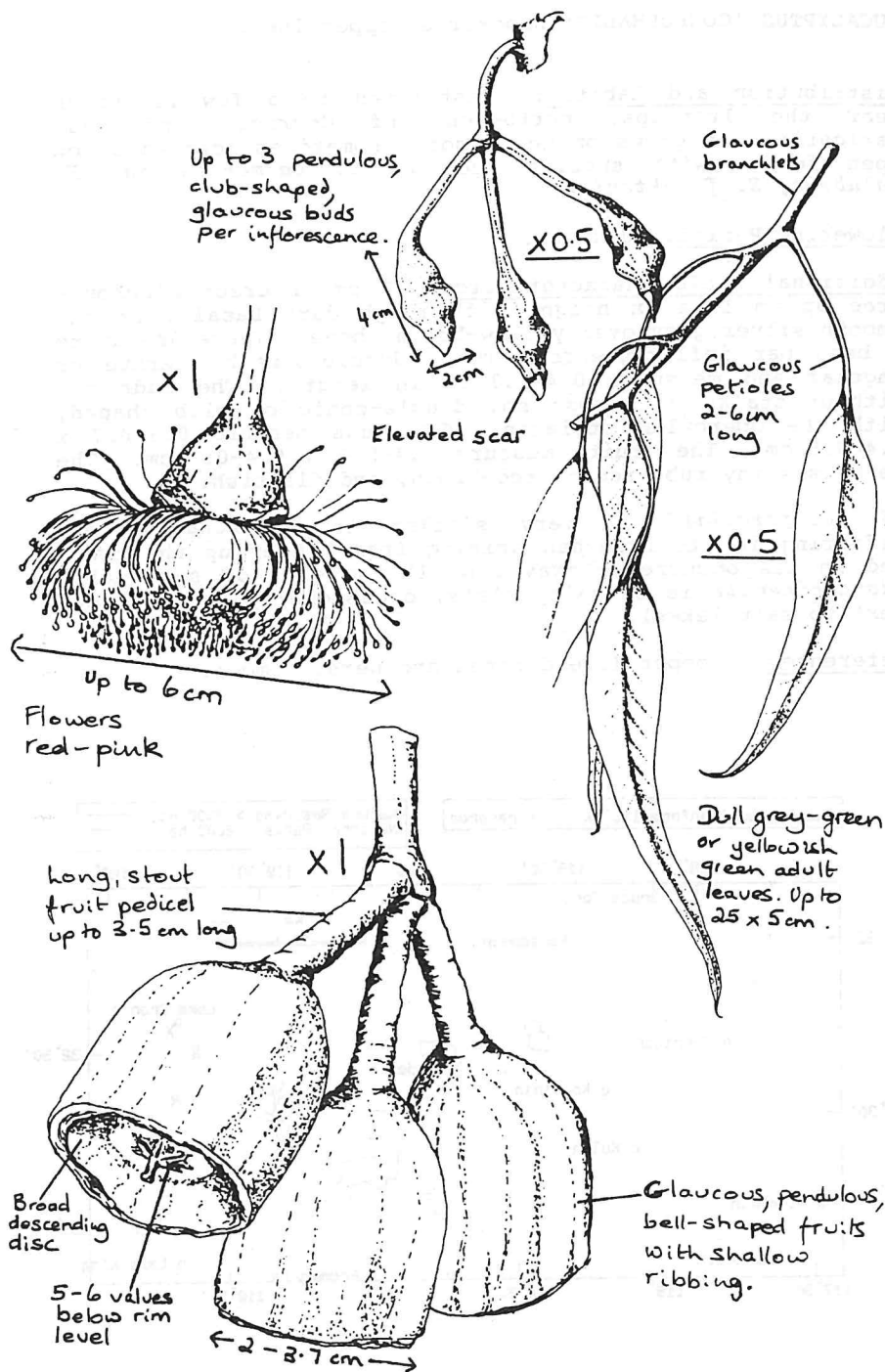
Flowering Period: June-August.

Additional Field Characteristics: A stout mallee to 15 m generally with a slender weeping habit. The red-brown bark is shed in longitudinal strips that remain curled, exposing new pale bark beneath. Juvenile leaves are cordate, to 10 x 8 cm, and bright shining green.

Subsp. *magna* may be distinguished from subsp. *caesia* by its larger habit, very pendulous branches, larger adult leaves, and larger fruit and flowers. The flowers are also a deeper red.

References: Brooker and Hopper (1982); Rye and Hopper (1981), Elliott and Jones (1986); Chippendale (1973); Gardner (1979).





EUCALYPTUS 'CONFORMALIS' Brooker & Hopper ined.

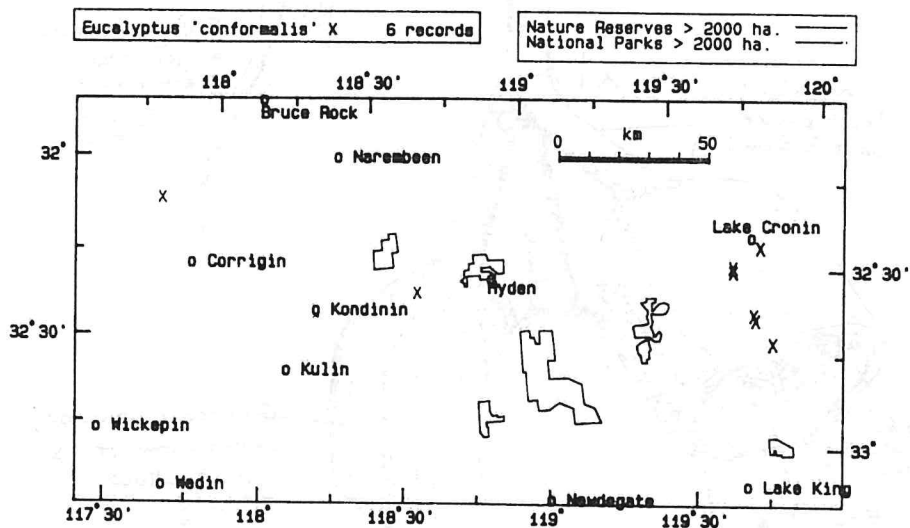
Distribution and Habitat: Restricted to a few locations near the Ironcaps, north-west of Corrigin and near Karlgarin. It grows on heavy soils sometimes forming a low open forest with species such as *E. salmonophloia*, *E. salubris*, *E. flocktoniae*.

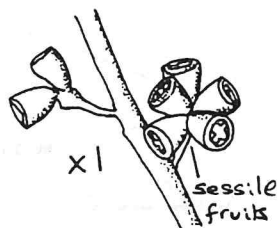
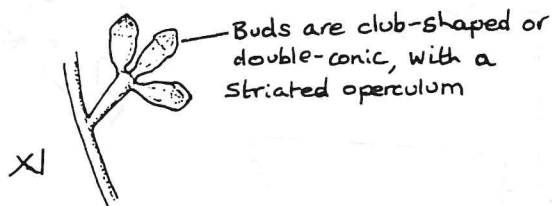
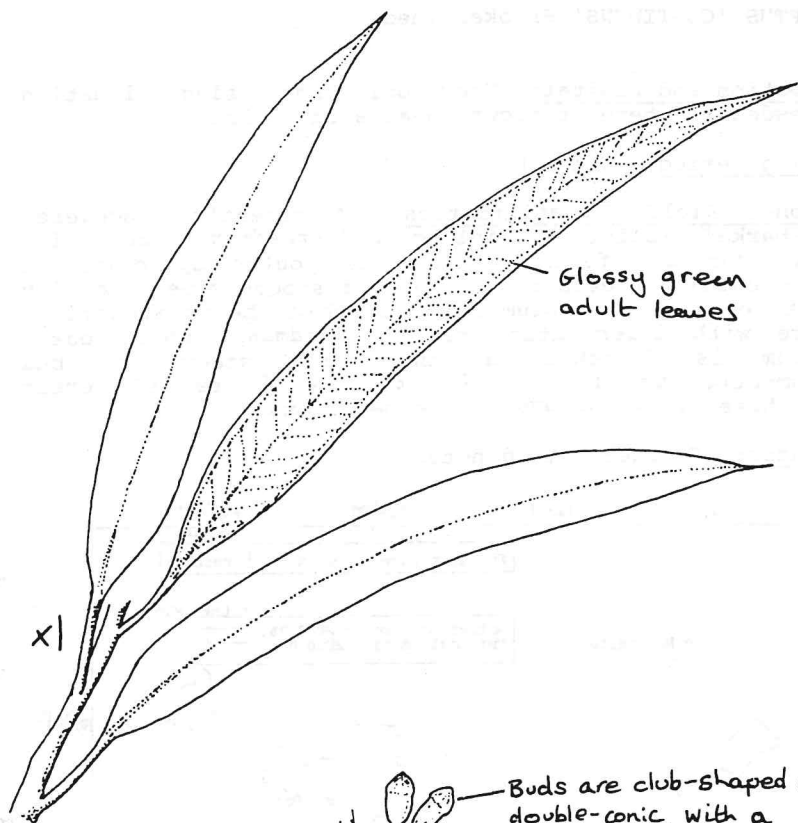
Flowering Period: Unknown.

Additional Field Characteristics: A small erect blackbutt tree up to 10 m in height with rough dark basal bark and smooth silver-grey over yellow-brown above. There are up to 7 buds per inflorescence. The peduncle may be terete or angular and measures 0.4-1.1 cm in length. The buds are without stalks or almost so, double-conic or club shaped, with the operculum striated. The buds measure 0.6-0.7 x 0.4-0.5 cm. The fruits measure 0.4-0.6 x 0.4-0.7 cm. The seed is shiny ruby-red to red-brown, and flattish.

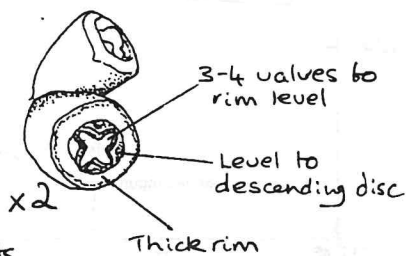
'*E. conformalis*' is very similar to *E. kondininensis* differing in its branches arising from higher up the trunk and in its occurrence away from the margins of salt lakes (*kondininensis* is on salty flats, occasionally on low rises next to salt lakes).

References: Hopper (field notes and pers. comm.).





Cup-shaped fruits



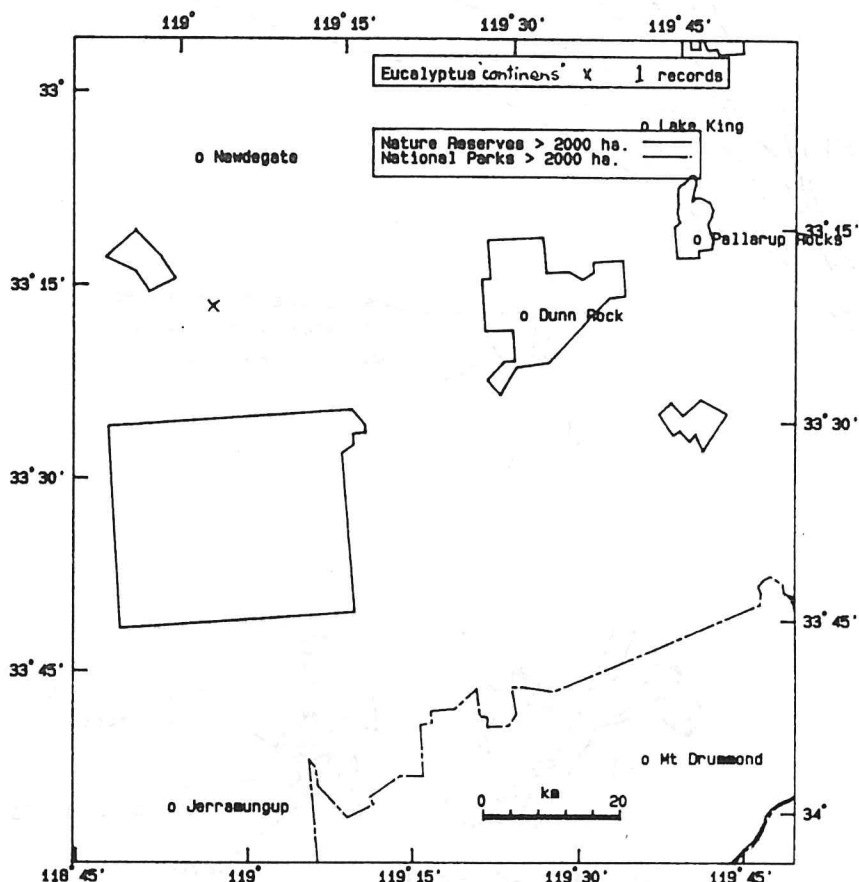
EUCALYPTUS 'CONTINENS' Brooker ined.

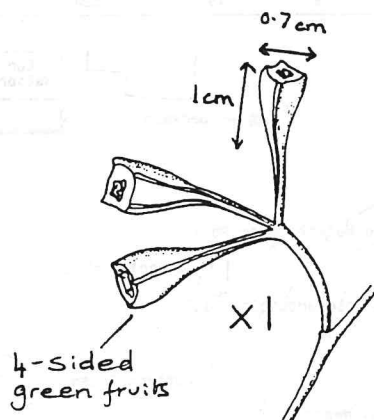
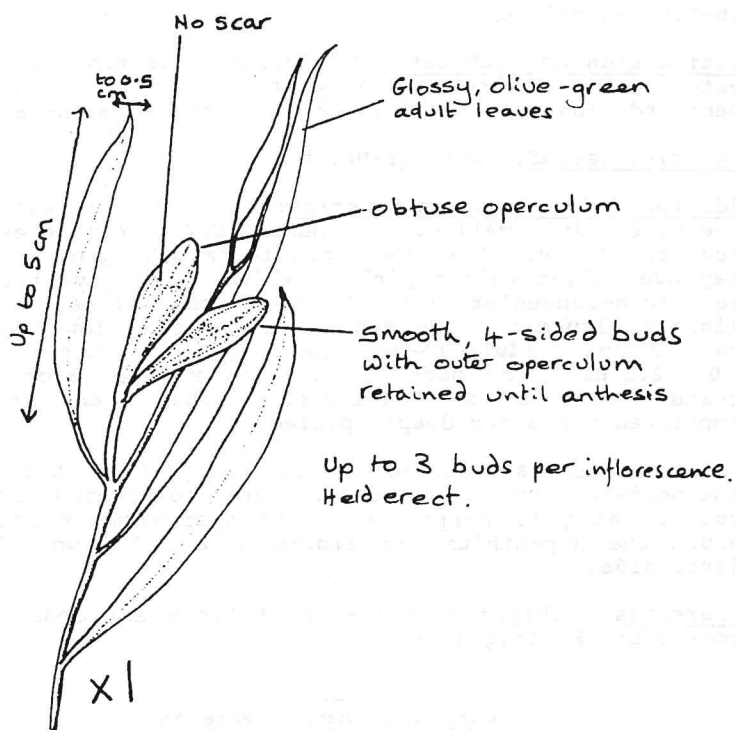
Distribution and Habitat: Known only from a single location near Newdegate where it occurs near a salt flat.

Flowering Period: Unknown.

Additional Field Characteristics: A recently discovered smooth-barked mallet resembling *E. steedmanii* but with smaller buds and fruits. Also, the outer operculum is retained until anthesis resulting in a smooth-sided bud with the join between operculum and hypanthium being indistinct (compare with illustration of *E. steedmanii* whose outer operculum is detached in the early stages of bud development). The buds of *E. 'continens'* are held erect whilst those of *E. steedmanii* are pendulous.

References: Brooker (field notes).





EUCALYPTUS CORRUGATA Luehm.

Rib-fruited mallee

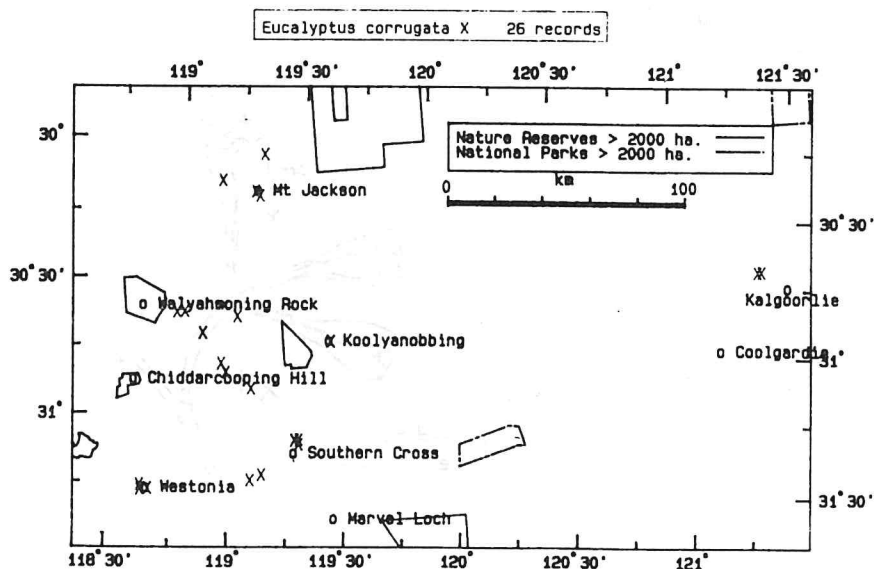
Distribution and Habitat: A scattered distribution between Westonia, Mt. Jackson and Kalgoorlie. Occurs on lateritic loams and clays with *E. salmonophloia* and *E. melanoxylon*.

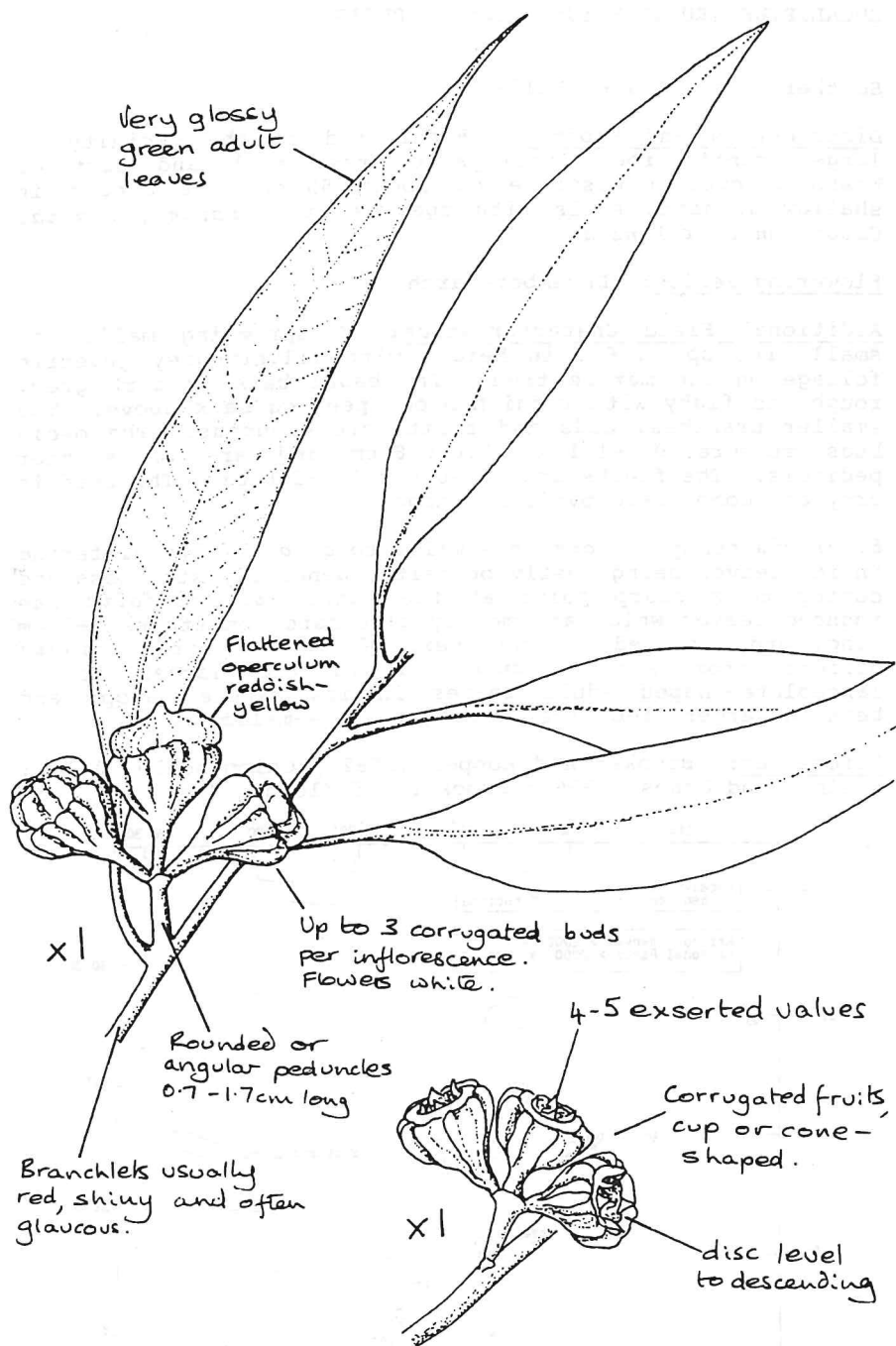
Flowering Period: October-March.

Additional Field Characteristics: A small to medium-sized tree or rarely a mallee. The basal bark is dark grey-black, rough and flaky. The upper bark is smooth, grey or pinkish grey over light salmon pink or white. The juvenile leaves are broad-lanceolate, to 8 x 3.5 cm, glossy green or slightly glaucous. The young stems are yellow or reddish and glaucous. Adult leaves are lanceolate and measure 7-12 x 0.7-2.5 cm. The buds are 1.1-1.8 x 0.8-1.3 cm and the fruits, 0.8-1.5 x 0.9-1.9 cm. The seed is grey, compressed-ovoid and deeply pitted.

E. corrugata is related to *E. griffithsii* but may be distinguished by its larger, more corrugated buds and fruits. With *E. griffithsii*, the operculum is corrugated though the hypanthium and fruits have only two ribs, one either side.

References: Chippendale (1973); Elliott and Jones (1986); Brooker and Kleinig (ms).





EUCALYPTUS CRUCIS Maiden subsp. CRUCIS

Southern Cross Silver Mallee

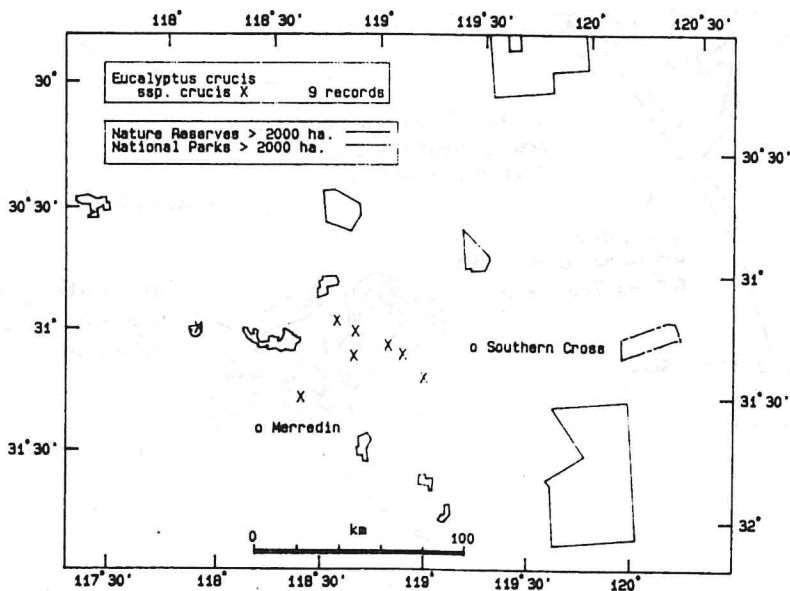
Distribution and Habitat: Restricted to the vicinity of large granite rock outcrops to the north and east of Westonia over a distance of about 55 km. It occurs in shallow granitic soils with species of *Casuarina*, *Acacia*, *Calothamnus* or *Kunzea*.

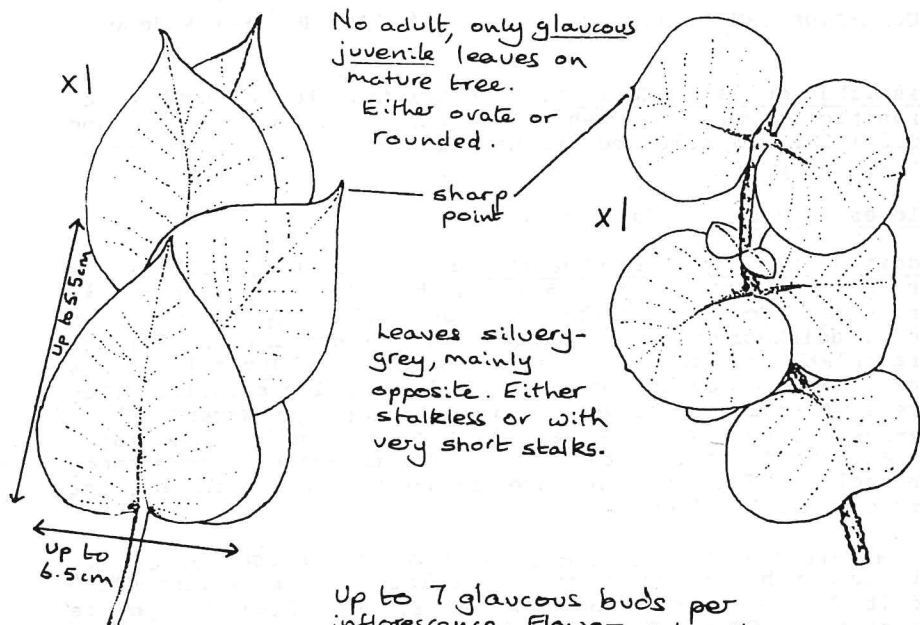
Flowering Period: December-March.

Additional Field Characteristics: A sprawling mallee or small tree up to 6 m in height with silvery-grey juvenile foliage on the mature tree. The basal bark is dark grey, rough and flaky with reddish-brown peeling bark above. The smaller branches, buds and fruits are glaucous. The ovoid buds measure 0.8-1.1 x 0.6-0.8 cm and are on slender pedicels. The fruits are 0.7-0.9 x 1.1-1.6 cm. The seed is grey and compressed-ovoid in shape.

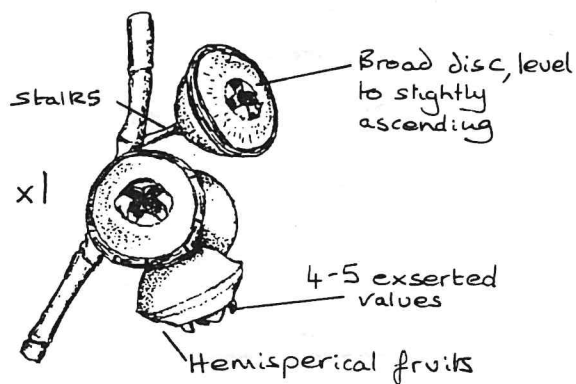
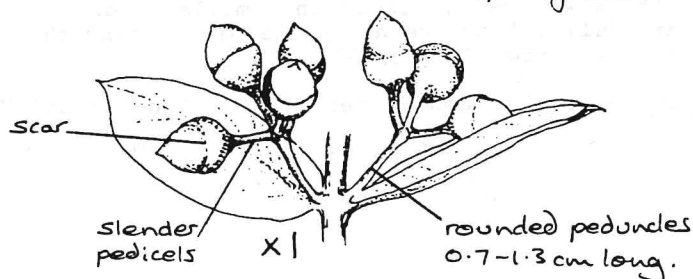
E. crucis subsp. *crucis* is similar to *E. orbifolia* differing in its leaves being mostly opposite, generally stalkless and coming to a sharp point at the apex. *E. orbifolia* has rounded leaves which are mostly alternate, on stalks 1-2 cm long, and indented at the apex. *E. crucis* subsp. *crucis* differs from subsp. *lanceolata* in the latter having lanceolate-shaped adult leaves in its mature canopy and being a larger erect (not straggly) tree-mallee.

References: Brooker and Hopper (1982); Chippendale (1973); Elliott and Jones (1986); Brooker and Kleinig (ms).





Up to 7 glaucous buds per inflorescence. Flowers pale yellow



Distinctive bark. Reddish brown and peeling during late summer.

EUCALYPTUS CRUCIS Maiden subsp. **LANCEOLATA** Brooker & Hopper

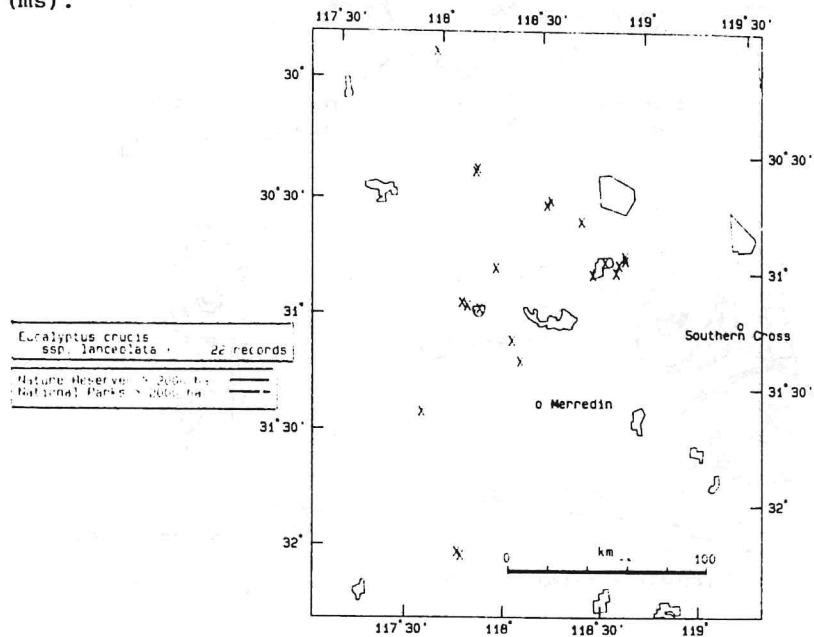
Distribution and Habitat: Restricted to a number of granitic rocks between Corrigin, Mt. Churchman and Bullfinch. It sometimes occurs with *E. caesia* subsp. *magna* or *E. orbifolia*.

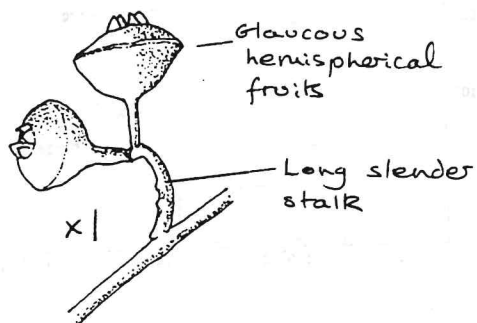
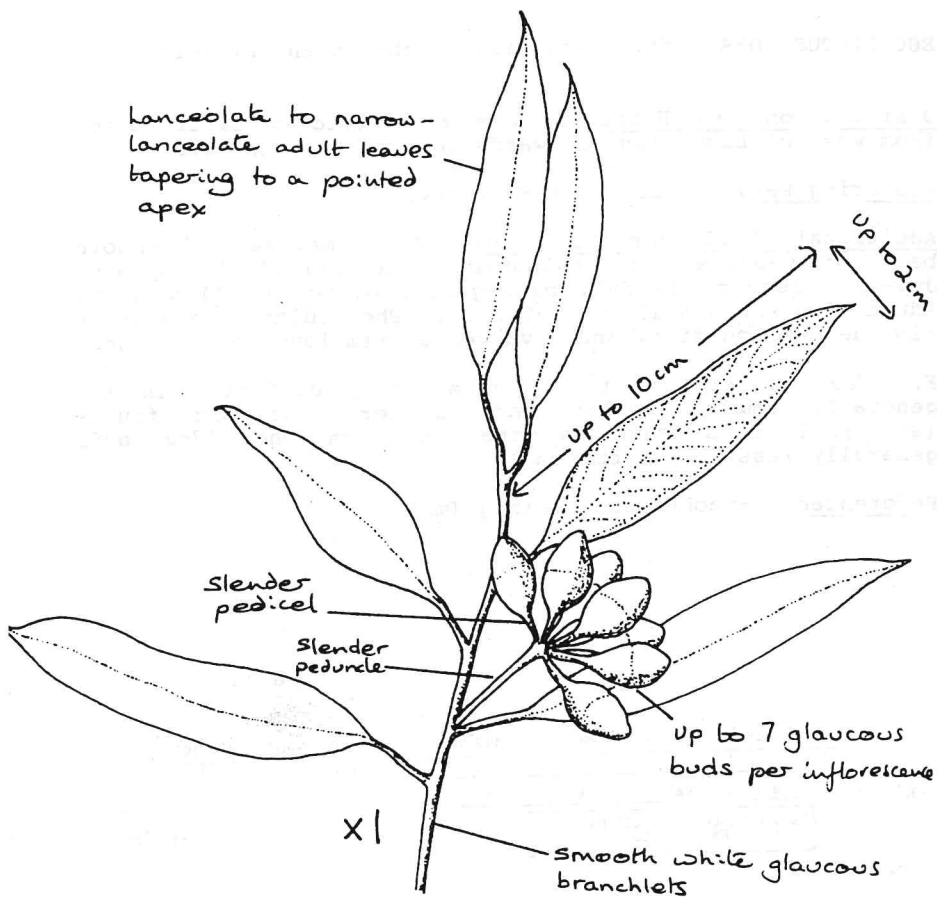
Flowering Period: January to March.

Additional Field Characteristics: A sprawling tall mallee or small tree up to 15 m in height. Basal bark is grey-black to dark red-brown, loose and flaky. Upper bark is reddish-brown and peeling in longitudinal strips. Branchlets are smooth, white and glaucous. Juvenile leaves are rounded to ovate, opposite, and generally sessile. They are similar to the leaves of subsp. *crucis*. However, subsp. *lanceolata* has adult leaves which are lanceolate and taper to a pointed apex. Both buds and fruits are on long slender peduncles. The buds measure up to 0.6 x 0.4 cm and the fruits to 1.6 x 1 cm.

E. crucis subsp. *lanceolata* differs from subsp. *crucis* in its larger habit and in its lanceolate to narrow-lanceolate adult leaves. From the similar *E. ewartiana* it can be distinguished by the latter having petiolate juvenile leaves, thick 4-sided pedicels and smaller buds. Its adult leaves are dull yellow-green and the plant lacks the overall glaucous appearance of *E. crucis*.

References: Brooker and Hopper (1982); Brooker and Kleinig (ms).





EUCALYPTUS 'DEA' aff. eremophila Johnson and Blaxell

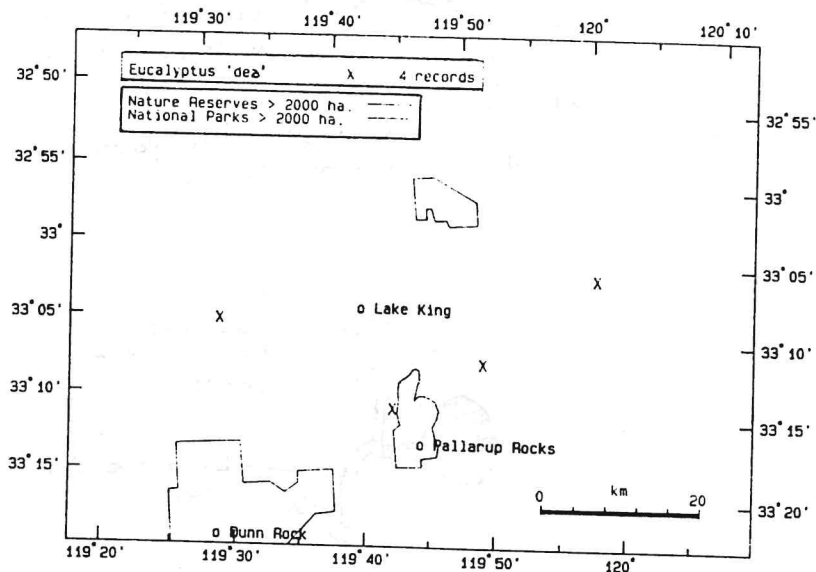
Distribution and Habitat: Has a restricted distribution from west of Lake King eastwards towards Peak Charles.

Flowering Period: December-February.

Additional Field Characteristics: A low mallee with smooth bark, grey-white over salmon-pink to brilliant coppery. Juvenile leaves are dull blue-green, ovate, to 11 x 4 cm. Adult leaves are 5-12 x 0.6-2.3 cm. The fruits have a thick rim, descending disc, and 4 valves at rim level or enclosed.

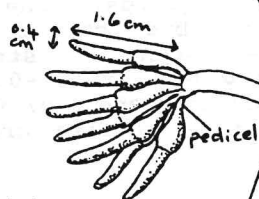
E. 'dea' is similar to *E. eremophila*, differing in its generally smaller habit and smaller buds and fruits (*eremophila* buds generally more than 3 cm long, '*dea*' buds generally less than 3 cm long).

References: Brooker and Kleinig (ms).



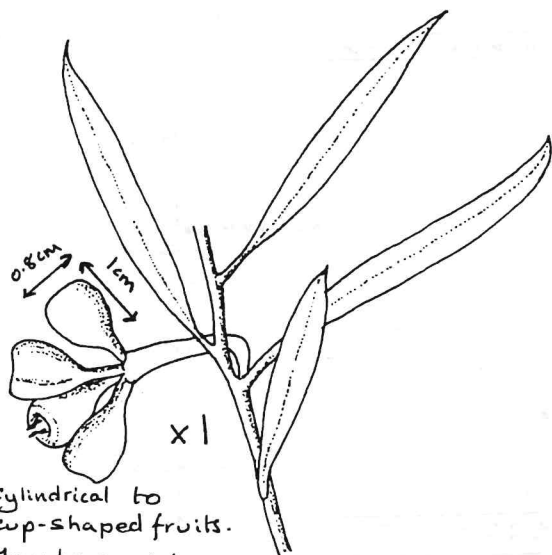
Glossy, olive-green
to green erect
adult leaves

Venation scarcely
visible due to dense
oil glands



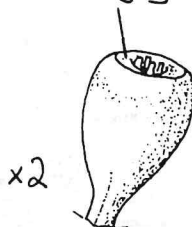
Up to 9
elongated buds
per inflorescence.
Flowers cream-
pale yellow.
Rarely pink.

Flattened peduncle
either erect
or downturned
1.5-3.6 cm
long



cylindrical to
cup-shaped fruits.
May be pendulous

Thick rim
overhanging orifice



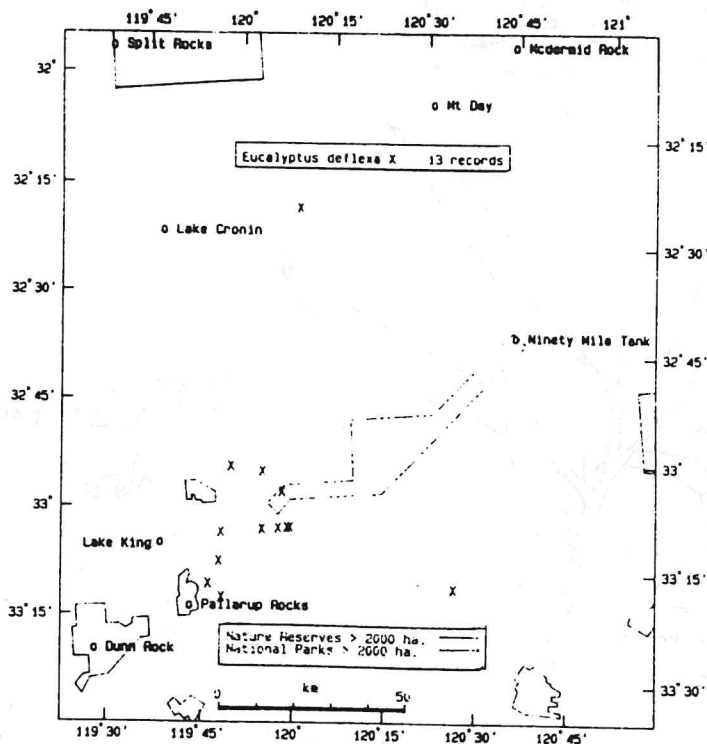
EUCALYPTUS DEFLEXA Brooker

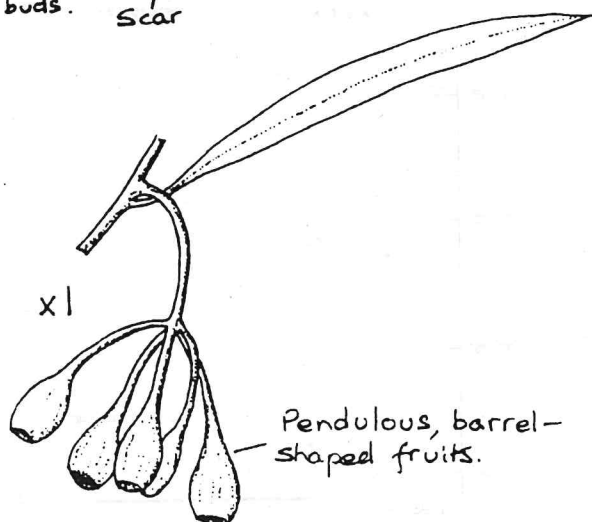
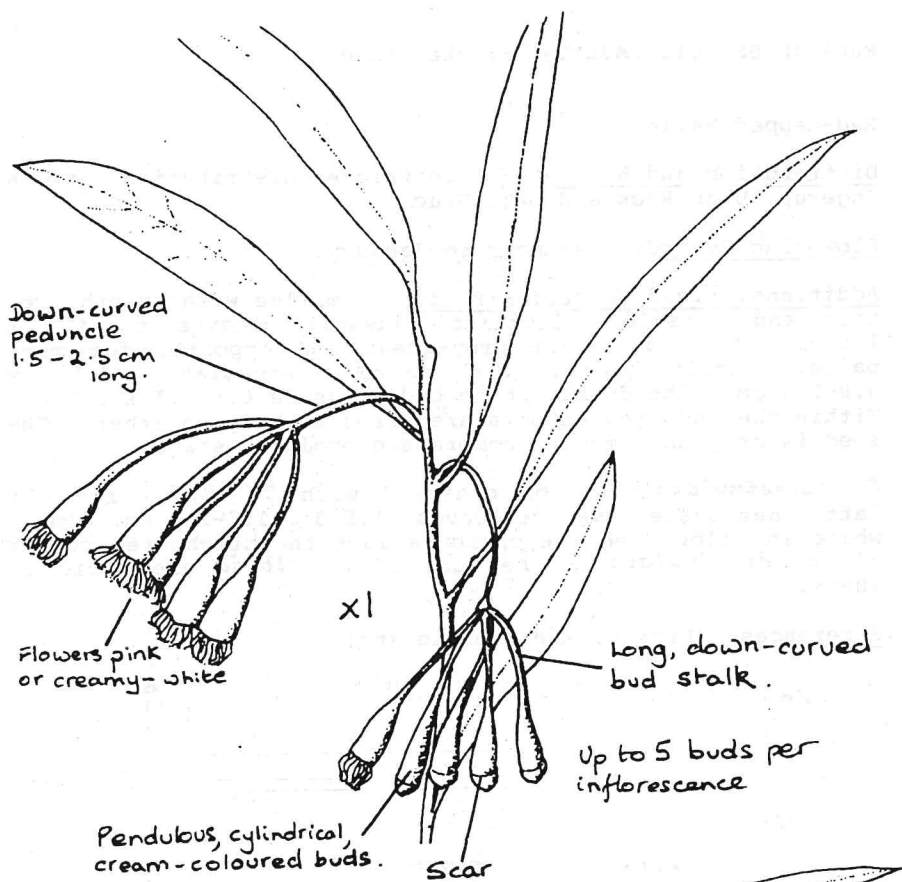
Distribution and Habitat: Occurs from E of Lake King north east to Mt Day. It grows in sandy soils, on undulating plains often with lateritic gravel, and grows in open shrub mallee in association with *E. eremophila*, *E. flocktoniae*, *E. leptophylla*, *E. incrassata* and *E. pileata*.

Flowering Period: August - October.

Additional Field Characteristics: A small mallee to 3 m with smooth, grey bark. Juvenile leaves are lanceolate and green 5 x 1.5 cm. Adult leaves are narrow-lanceolate or curved, 4.5-9 x 0.4-1 cm, slightly glossy and green with a dense vein network and scattered oil glands. The buds measure 0.8-1.2 x 0.4-0.5 cm. The bud cap may be hemispherical or slightly beaked. The stamens are strongly inflexed in the bud. The fruits are 0.8-1.3 x 0.6-0.8 cm. They have a fairly thick rim, depressed disc and four valves which are deeply enclosed. The seed is whitish grey in colour and ovoid in shape.

References: Brooker (1976).





EUCALYPTUS 'DISSIMULATA' Brooker ined.

Red-capped Mallee

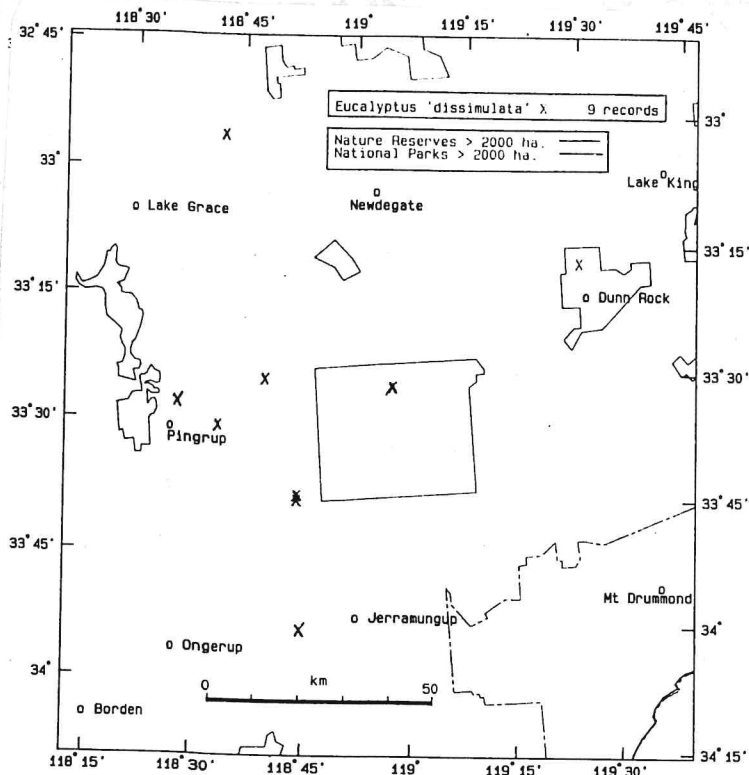
Distribution and Habitat: A restricted distribution between Ongerup, Dunn Rock and Lake Grace.

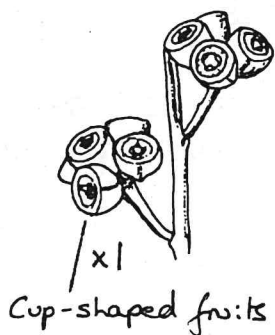
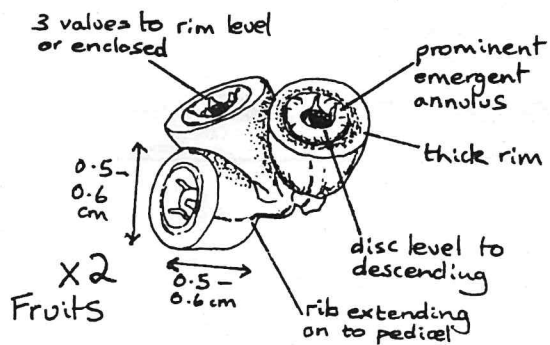
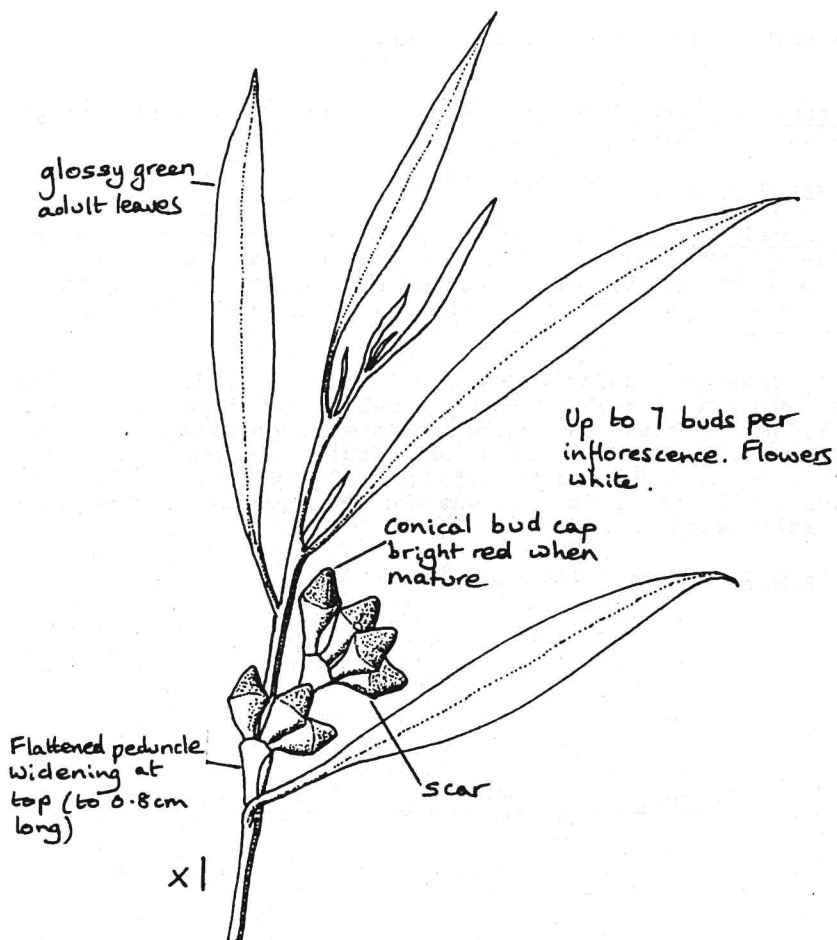
Flowering Period: December to January.

Additional Field Characteristics: A mallee with smooth grey bark and sessile, elliptical juvenile leaves to 4.5 x 1.5 cm. They are dull grey-green and opposite for many pairs. Adult leaves are narrow lanceolate, 7-11 x 0.8-1.3 cm. The double-conic buds measure 0.9-1.1 x 0.5 cm. Within the buds the anthers are fused tightly together. The seed is grey and smooth, compressed-ovoid in shape.

E. 'dissimulata' may be confused with *E. albida* but the latter has ovate juvenile leaves, 1.5-3 x 1.3-2.1 cm, almost white in colour and the opercula lack the bright red colour of '*E. dissimulata*'. The buds of *E. albida* are ovoid in shape.

References: Brooker and Kleinig (ms).





EUCALYPTUS 'EXIGUA' Brooker and Hopper ined.

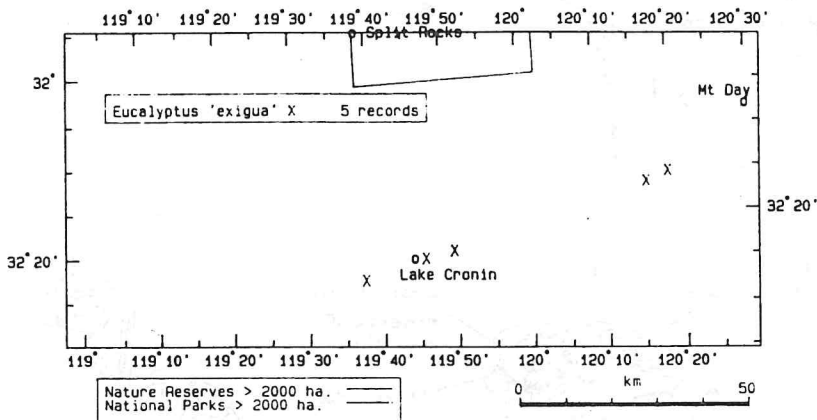
Distribution and Habitat: Has a restricted distribution between Lake Cronin and Mt. Day.

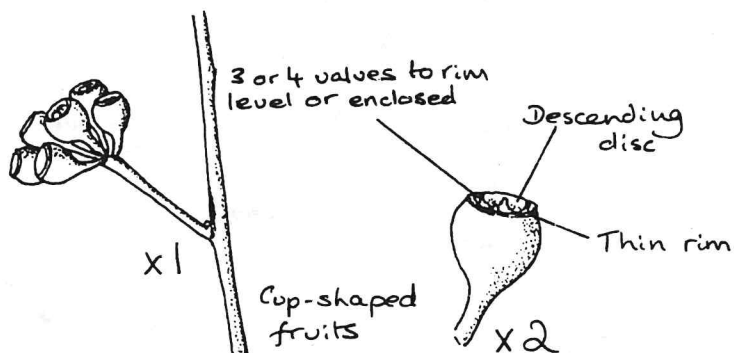
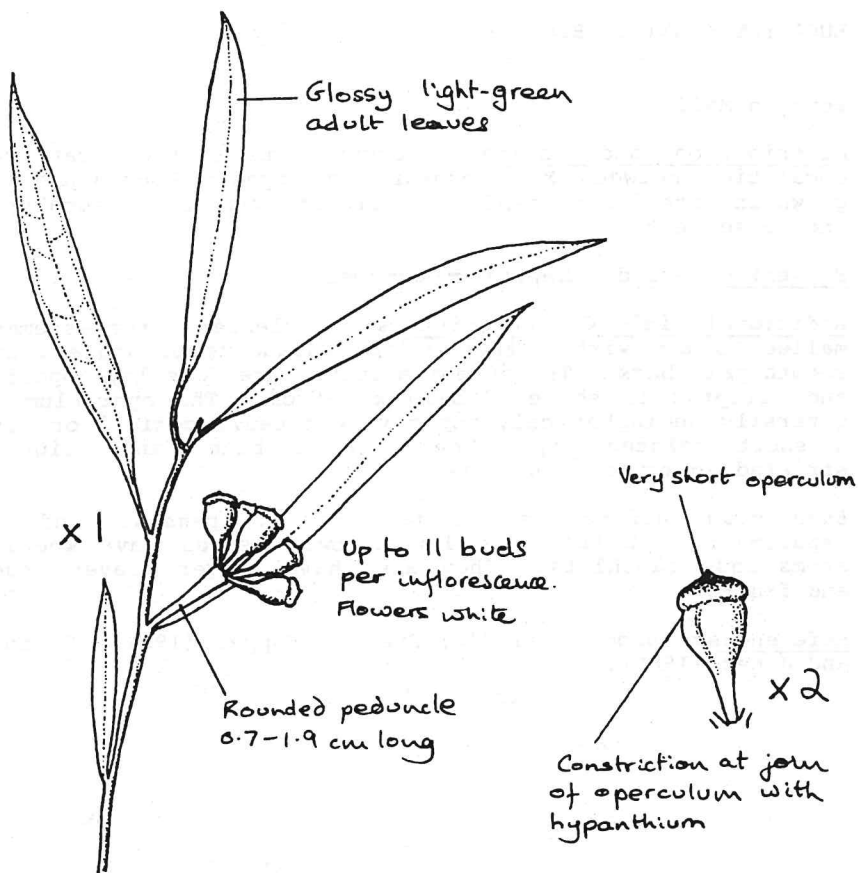
Flowering Period: Unknown.

Additional Field Characteristics: An erect smooth barked mallee of approximately 3.5 m. Juvenile leaves are ovate, to 7 x 4 cm, grey green to glaucous. Adult leaves measure 6-11 x 0.8-1.9 cm and may be narrow-lanceolate or lanceolate.

The species is similar to *E. brachycorys* but differs in its lower stature (*brachycorys* - a mallee or tree up to 6 m high), smooth bark (*brachycorys* has a rough basal stocking) and generally smaller buds and fruits (*brachycorys* buds 0.6-0.8 x 0.3-0.5, fruits 0.5-0.8 x 0.5-0.7 cm). Also, *E. exigua* occurs on sandplain, whereas *brachycorys* is generally near salt lakes.

References: Brooker and Kleinig (ms).





EUCALYPTUS EXILIS Brooker

Boyagin Mallee

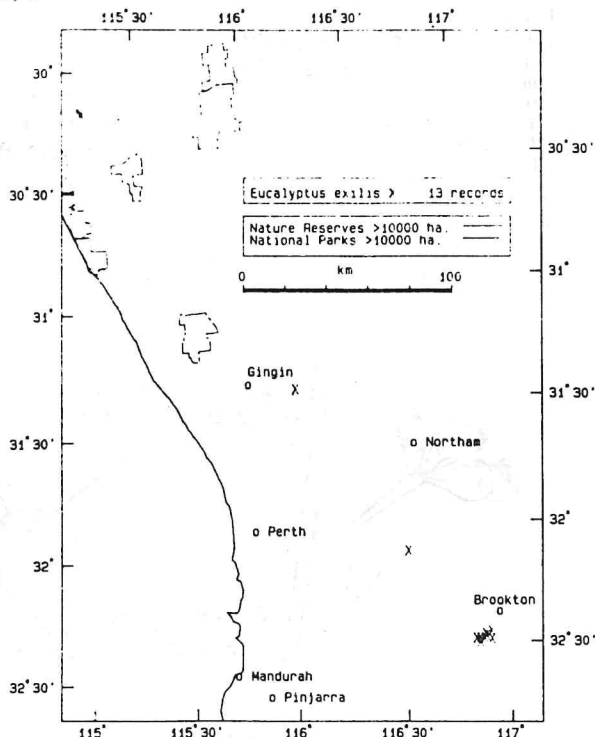
Distribution and Habitat: Occurs in a few scattered localities between Mt. Lesueur and Boyagin Rock where it grows in laterite or sand over laterite with other eucalypts and dense heath.

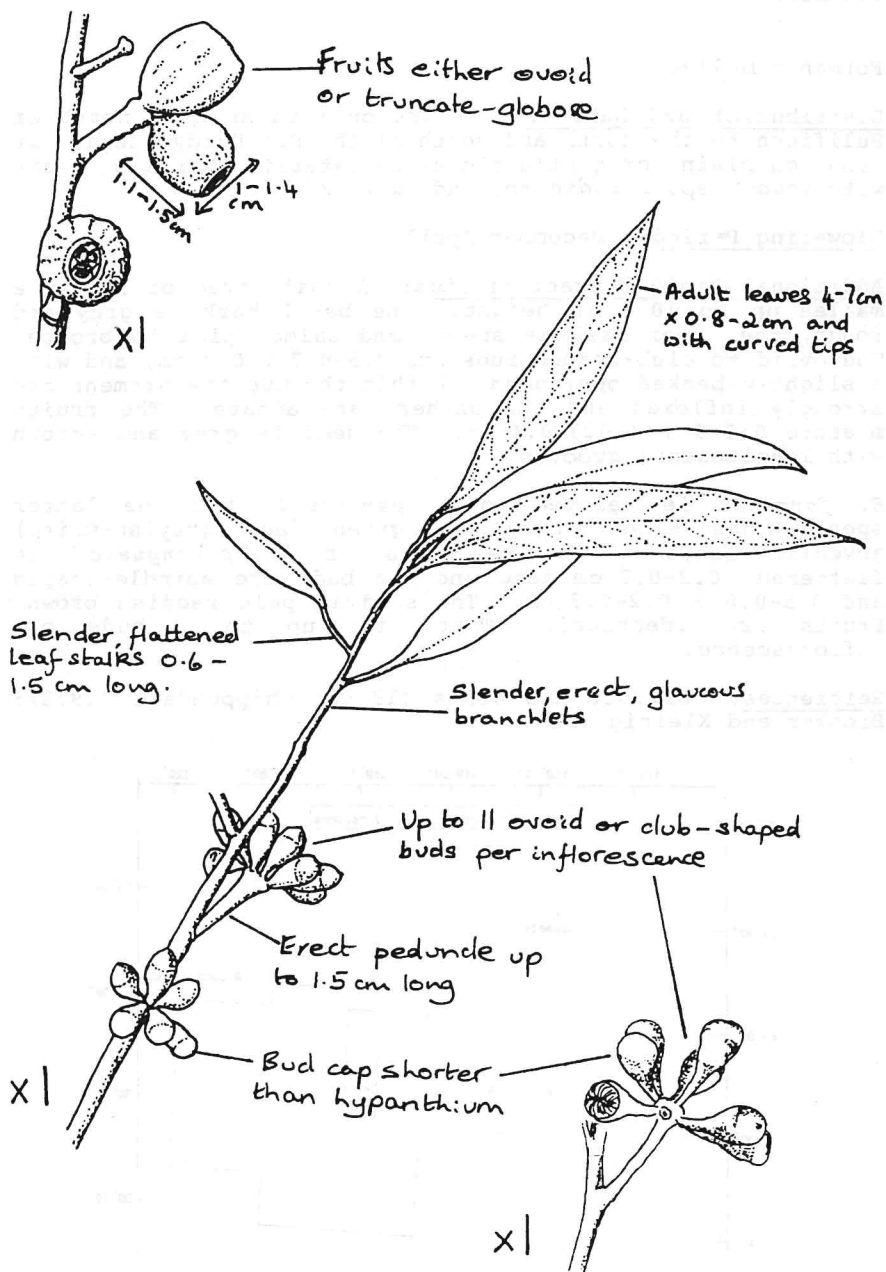
Flowering Period: September-October.

Additional Field Characteristics: A slender, erect-stemmed mallee to 6 m with a thin canopy, glaucous branchlets and smooth pale bark. The juvenile leaves are sessile, opposite and elliptic in shape, 1.5-10 x 1-6 cm. The operculum is generally hemispherical, but may be broadly conical or with a short pointed tip. The seed is black and slightly striated, pyramidal in shape.

Eucalyptus exilis is related to *E. pendens* and *E. sepulcralis* but both the latter two species have weeping stems and branchlets. They also have larger leaves, buds and fruits.

References: Brooker (1974); Rye and Hopper (1981); Elliott and Jones (1986).





EUCALYPTUS FORMANII C.A. Gardner

Forman's mallee

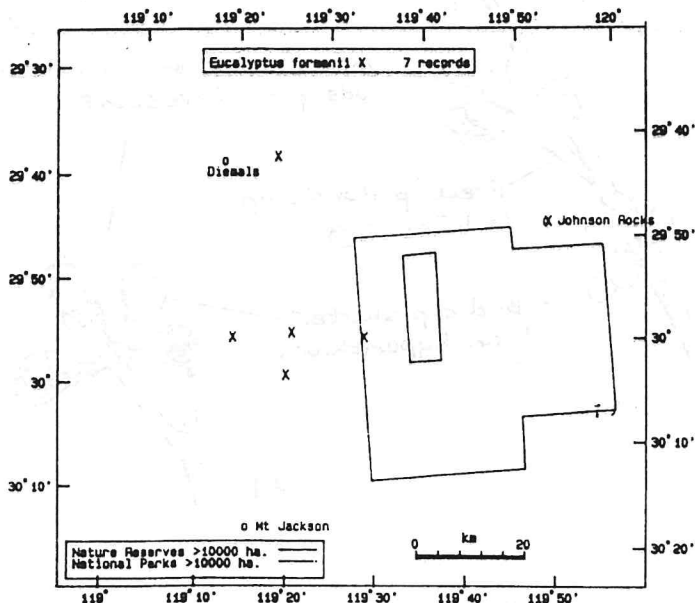
Distribution and Habitat: Occurs only in an area north of Bullfinch to the north and south of the Die Hardy Range. It grows on plains or gentle slopes on lateritic sands or loams with *Acacia* sp. *Triodia* sp. and *Callitris* sp.

Flowering Period: December-April.

Additional Field Characteristics: A small tree or rarely a mallee up to 10 m in height. The basal bark is grey and rough, the upper bark is smooth and salmon pink to bronze. The ovoid to club-shaped buds are 0.5-0.7 x 0.3 cm, and with a slightly beaked operculum. Within the bud the stamens are strongly inflexed and the anthers are adnate. The fruits measure 0.3-0.5 x 0.3-0.4 cm. The seed is grey and smooth with longitudinal grooves.

E. formanii is related to *E. perangusta* but the latter species has smooth bark and green (not greyish-white) juvenile leaves. The peduncles of *E. perangusta* are flattened, 0.2-0.7 cm long and the buds are spindle-shaped and 0.5-0.8 x 0.2-0.3 cm. The seed is pale reddish brown. Fruits are identical. There are up to 7 buds per inflorescence.

References: Elliott and Jones (1986); Chippendale (1973); Brooker and Kleinig (ms).



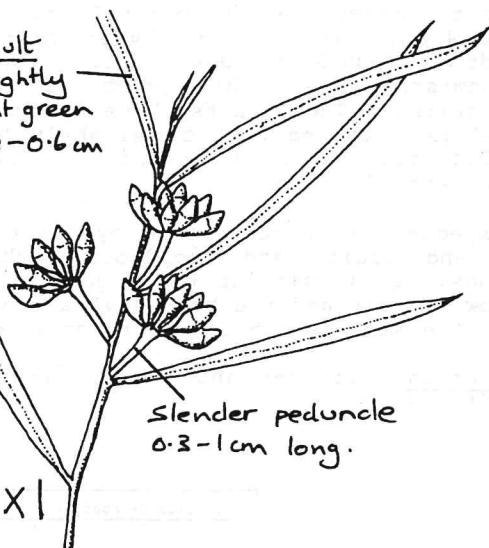


Whitish-grey juvenile
leaves, linear and crowded.
Up to 5cm long x 0.4cm wide

X1

Linear adult
leaves. Slightly
glossy, light green
3.5-9 x 0.2-0.6 cm

Up to 11 buds
per inflorescence.
Flowers white,
very conspicuous.



Slender peduncle
0.3-1 cm long.

X1



X1

3 valves slightly
exserted or
enclosed.

Level to descending
whitish disc.

thick rim

Hemispherical to
shortly cylindrical fruits.

Single
Fruit
x2

EUCALYPTUS GEORGEI Brooker and Blaxell

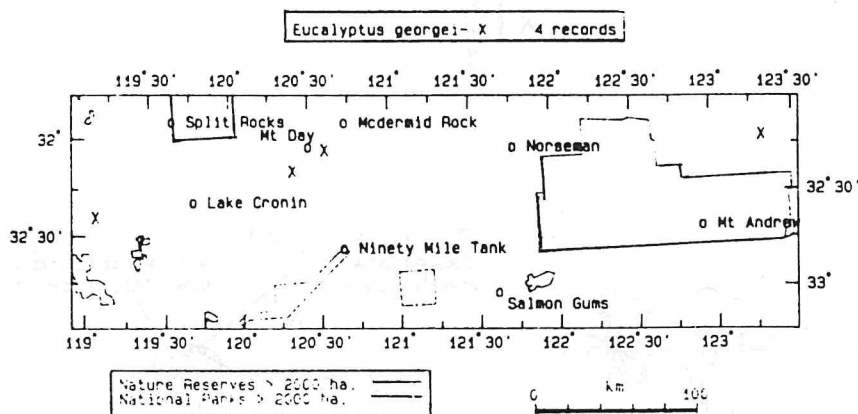
Distribution and Habitat: Has a restricted distribution in a few areas between Hyden and Norseman. Grows on flat low-lying areas on loams or clays, in open low woodland. Associated species include *E. salubris*, *E. transcontinentalis*, *E. salmonophloia*, *E. flocktoniae*, and *E. aff. oleosa*.

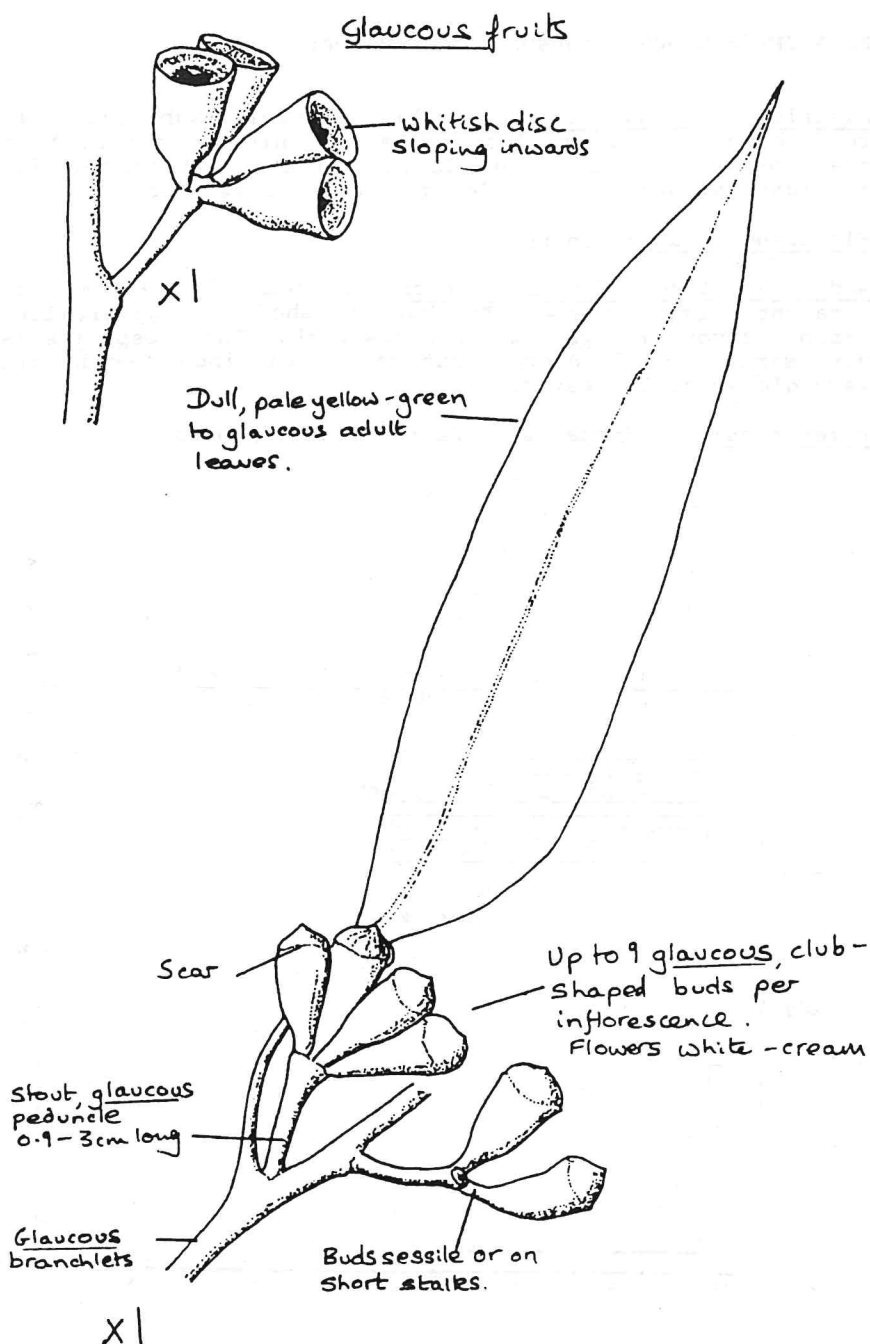
Flowering Period: January - March.

Additional Field Characteristics: A mallee with smooth whitish bark, often hanging in ribbons. Juvenile leaves are ovate to lanceolate, up to 8 x 5 cm. Adult leaves are up to 20 x 4 cm, with a dense vein pattern and numerous oil glands. The buds measure 0.9-1.4 x 0.6-0.9 cm. The bud cap is hemispherical with a knob, and is shorter than the hypanthium. The fruits have short stalks and may be cup-shaped, cylindrical or slightly bell-shaped, 0.8-1.5 x 0.7-1.4 cm. The seed is shiny, ruby-red to red-brown in colour and flattish.

The species is characterised by its glaucous leaves, stems, buds and fruits and deciduous bark which peels off in ribbons. It is similar to *E. woodwardii* but the latter has yellow flowers and the buds have a beaked cap, the cap being about the same length as the hypanthium.

References: Brooker and Blaxell (1978); Elliott and Jones (1986).





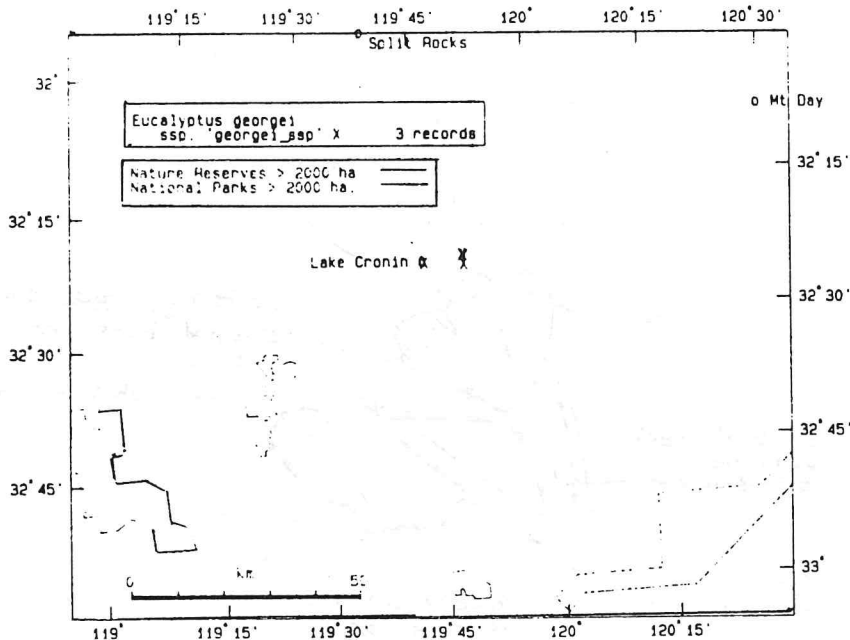
EUCALYPTUS GEORGEI subsp. 'shiny' Hopper

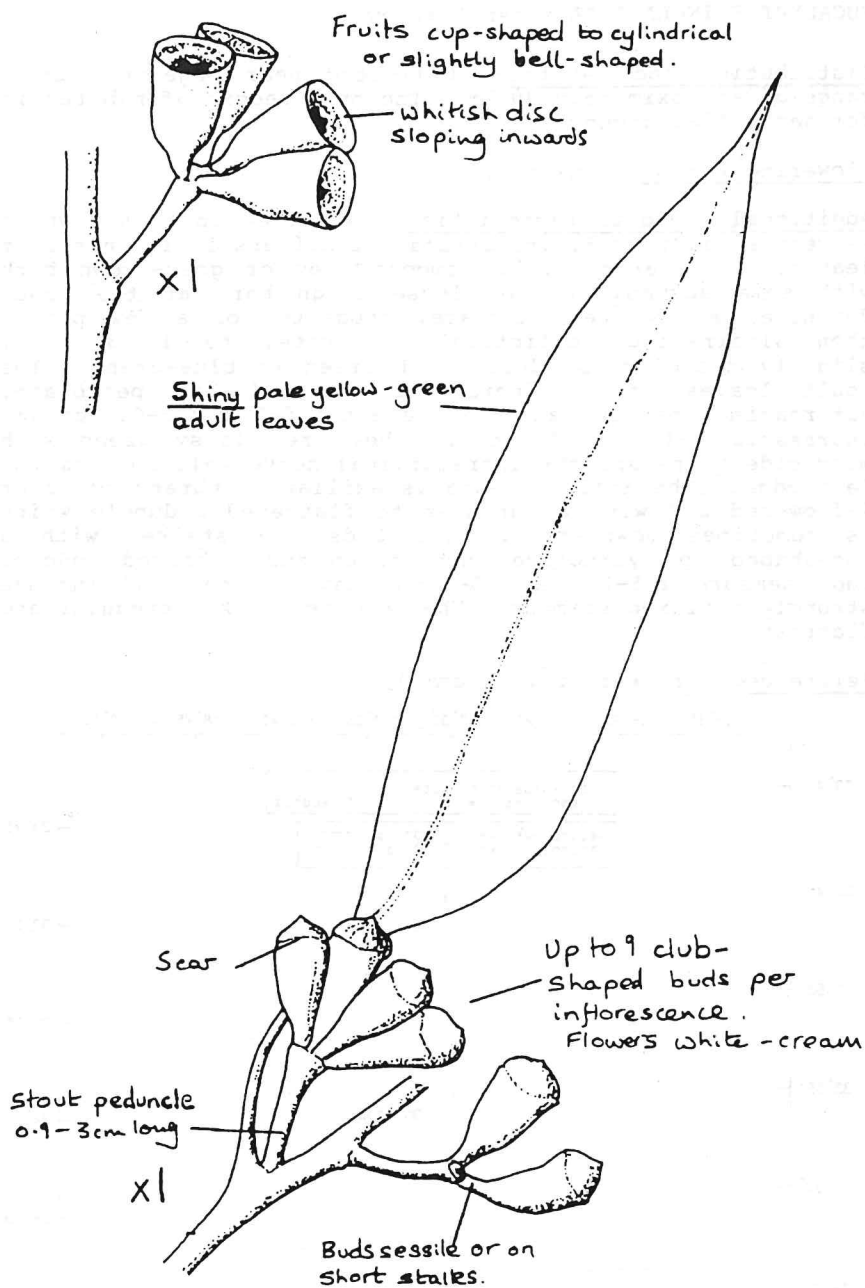
Distribution and Habitat: This possible subspecies is restricted to an area close to Lake Cronin and occurs in a clay loam depression in undulating terrain. It occurs with *E. transcontinentalis*, *E. 'exigua'* and *Daviesia* sp.

Flowering Period: Unknown.

Additional Field Characteristics: A small tree 8-9 m with straight, narrow stems. The bark is shed in long trailing ribbons uncovering yellow-brown new bark. The subspecies is very similar to *E. georgei* but can be distinguished by its very glossy adult leaves.

References: S. Hopper & S. Patrick (field notes).





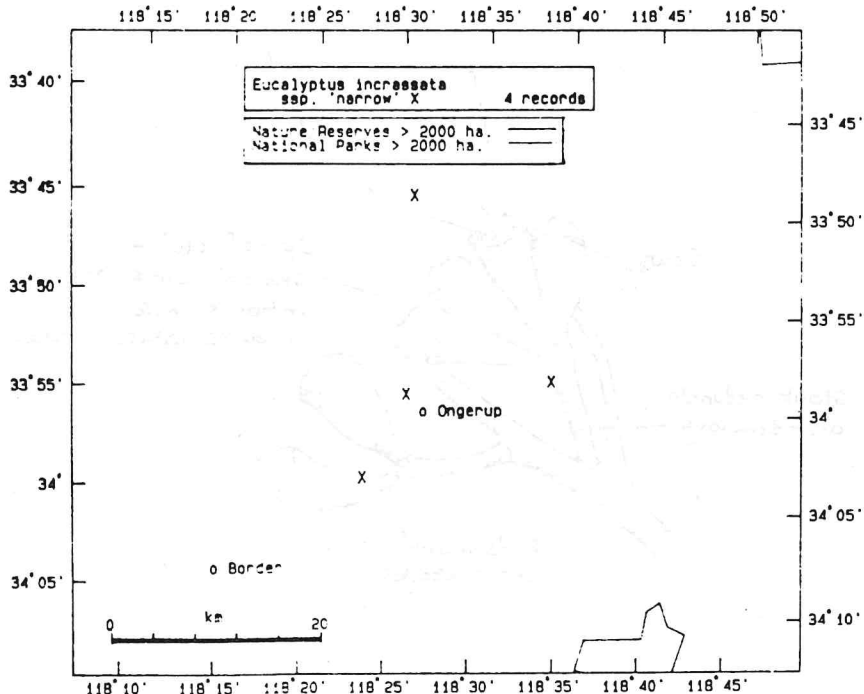
EUCALYPTUS INCRASSATA subsp. "Narrow"

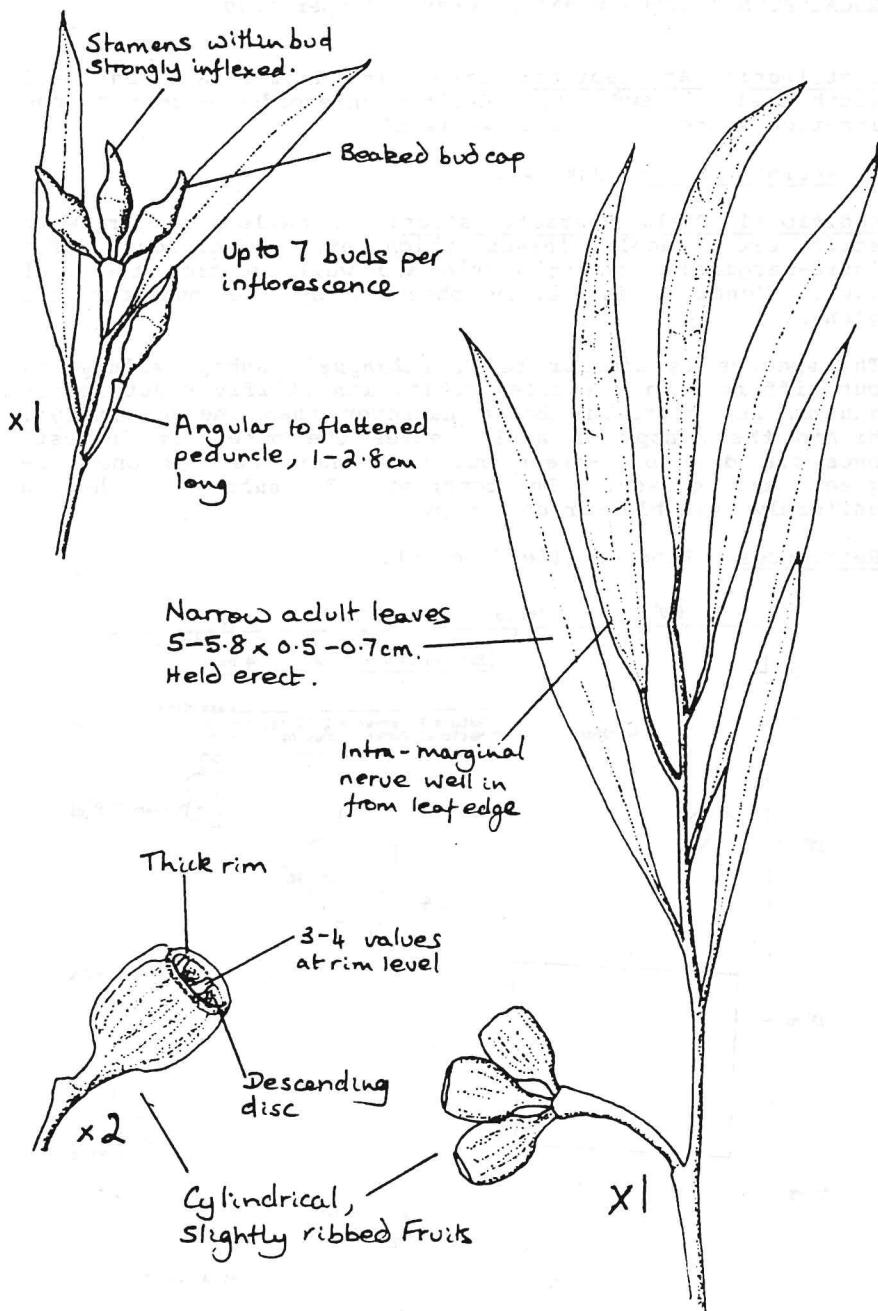
Distribution and Habitat: Collected near Ongerup over a range of approximately 30 km. The only record of habitat is for sandy flat ground.

Flowering Period: Unknown.

Additional Field Characteristics: A mallee up to 6 m which is very similar to *E. incrassata* but differs in its narrower leaves. *E. incrassata* has smooth grey or grey-brown bark with some accumulation of loose rough bark at the base. Juvenile leaves are petiolate, opposite for a few pairs, then alternating, elliptical to ovate, to 10 x 5 cm, slightly discoloured, dull light green to blue-green. The adult leaves in *E. incrassata* 'narrow' are petiolate, alternating, narrow lanceolate erect 5.5-8 x 0.5-0.7 cm (*E. incrassata* 5-11 x 0.9-3 cm). They are glossy green with many side veins and the intramarginal nerve well in from the leaf edge. The inflorescence is axillary, unbranched, 3 or 7-flowered and with an angular to flattened peduncle which is sometimes downcurved. The buds are stalked with a cup-shaped to cylindrical hypanthium and a beaked budcap. Buds measure 1.5-2.3 x 0.5-1 cm, have a scar and include strongly inflexed stamens. The seed is black, irregular and flattish.

Reference: Brooker (pers. comm.).





EUCALYPTUS 'MICROSCHEMA' Brooker & Hopper ined.

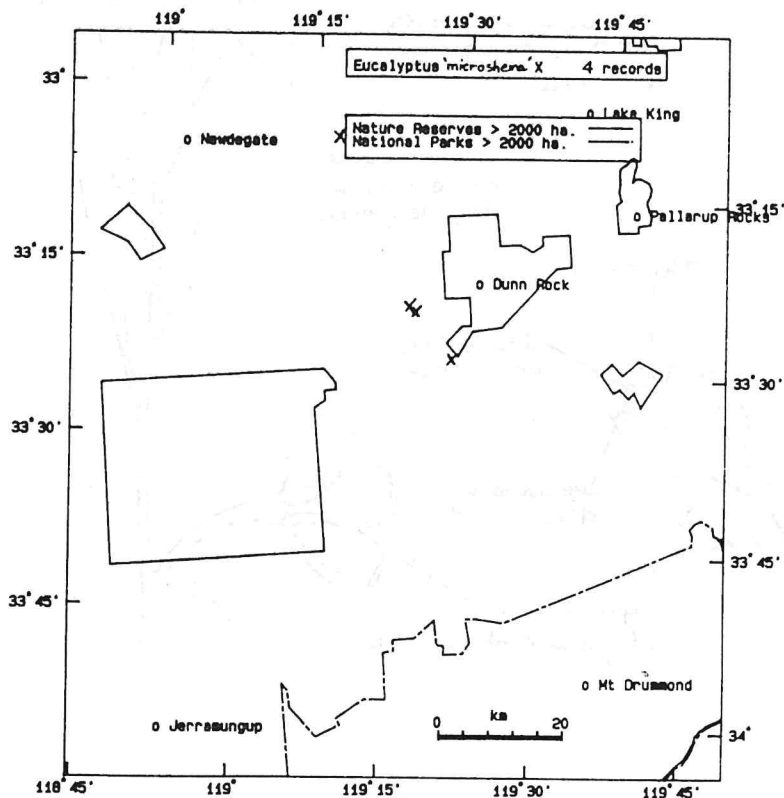
Distribution and Habitat: Known from a small area east and south east of Newdegate. Habitat unrecorded except at one location where it grows in white clay.

Flowering Period: Unknown.

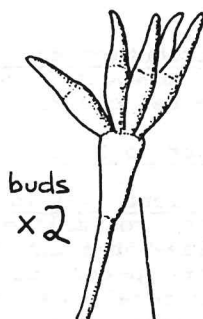
Additional Field Characteristics: A mallee to 1 m with stiff erect adult leaves which are concolorous. The intra-marginal vein is looped and well in from the leaf edge. Venation is partly obscured by the numerous oil glands.

The species is similar to *E. subangusta* subsp. *subangusta* but differs in its smaller habit, its stiffly erect leaves and in its operculum being narrower than the hypanthium. Within the canopy of adult leaves the outermost (newest) ones are dull blue-green but the inner (mature) ones are green and glossy. In contrast, *E. subangusta* has a uniformly dull blue-green canopy.

References: Brooker (field notes).



Adult leaves held
stiffly erect
3-6 cm x 0.4-0.6 cm



Spindle-shaped buds
Maximum number per
inflorescence not known.

Horn-shaped operculum narrower
than hypanthium at join

Scar

0.8 cm
1.5 cm

Flattened
peduncle

x1

x1

Cup-shaped fruits
sessile or with very
short pedicels

descending
disc

thin
rim

x2

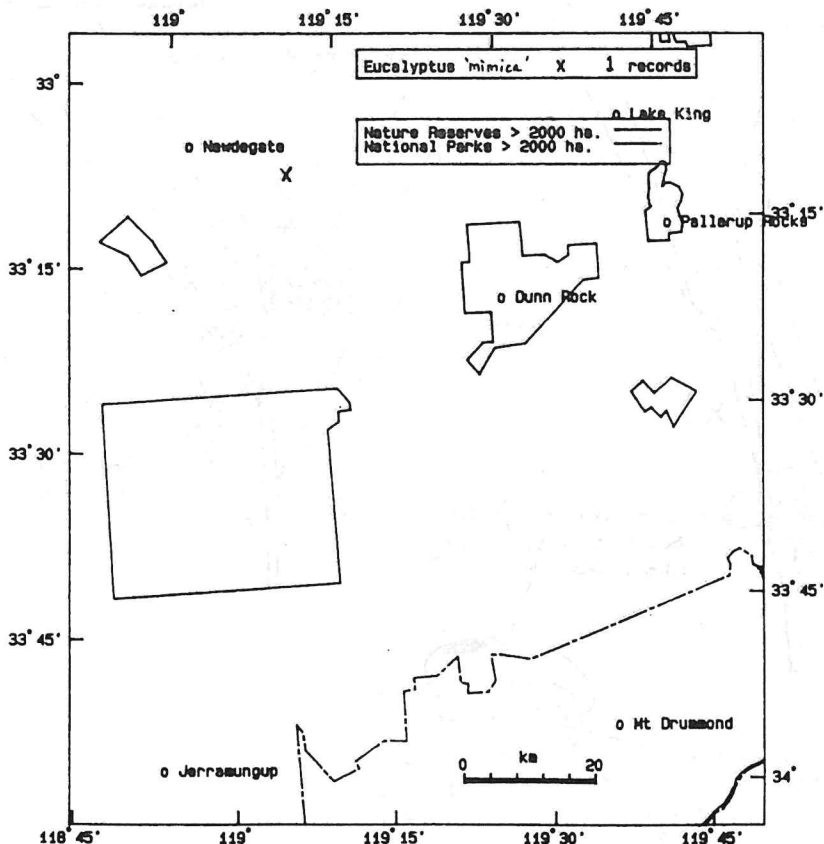
EUCALYPTUS 'MIMICA' Brooker ined.

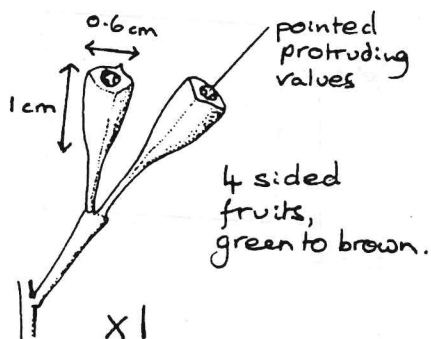
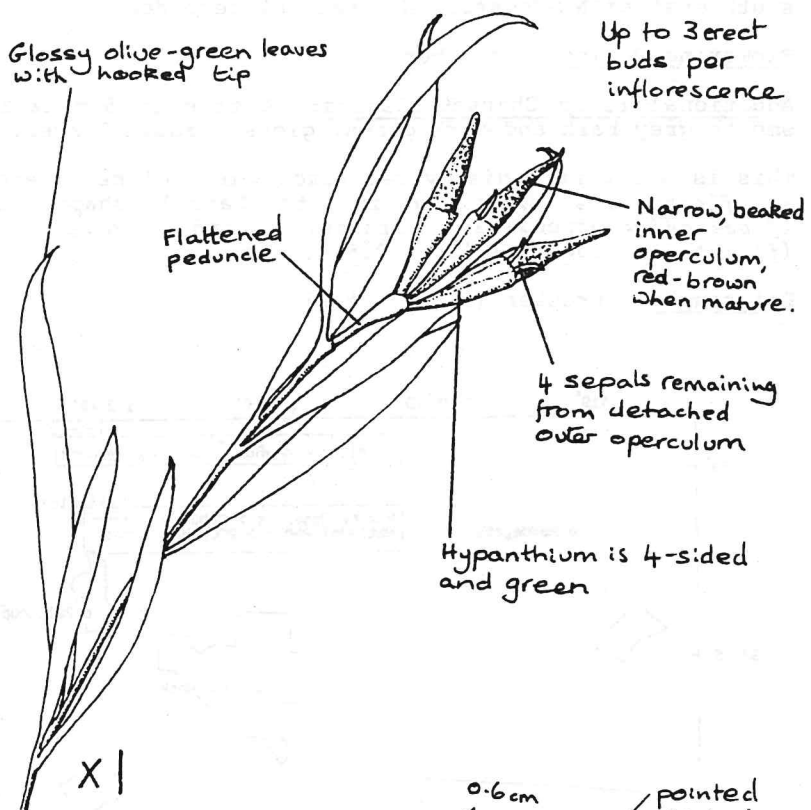
Distribution and Habitat: Known only from a single location near Newdegate where it occurs on white sands in a salt affected clearing. Associated species include *E. sargentii*.

Flowering Period: Unknown.

Additional Field Characteristics: A recently discovered taxon resembling *E. steedmanii* but differing in its mallee-habit and its smaller buds and fruits which are held erect (pendulous in *steedmanii*). As with *E. steedmanii*, four sepals may remain from the detached outer operculum. The long narrow, beaked inner operculum (bud cap) of *E. 'mimica'* is also distinctive compared with the more squat, pyramidal bud cap of *E. steedmanii*.

References: Brooker (field notes).





EUCALYPTUS "NEWFLOCK" Brooker ined.

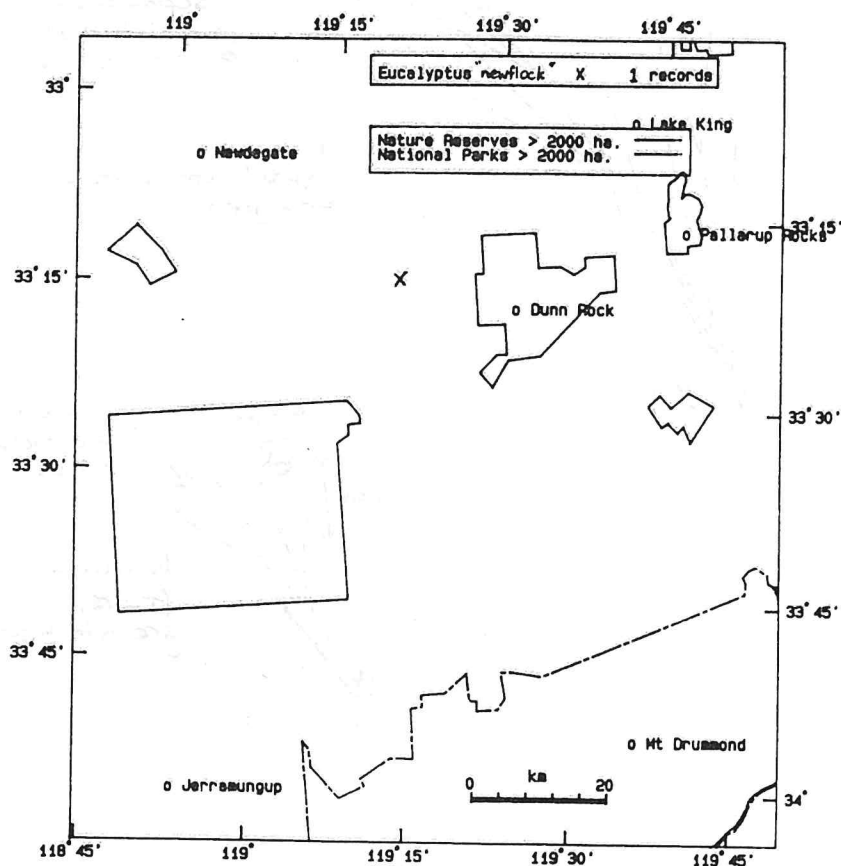
Distribution and Habitat: Known from only a single location south east of Newdegate. Habitat not recorded.

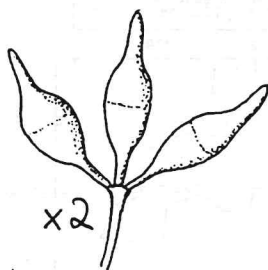
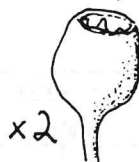
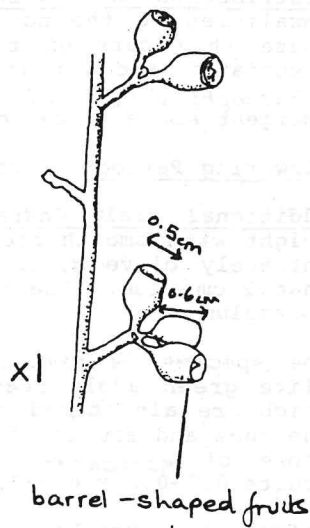
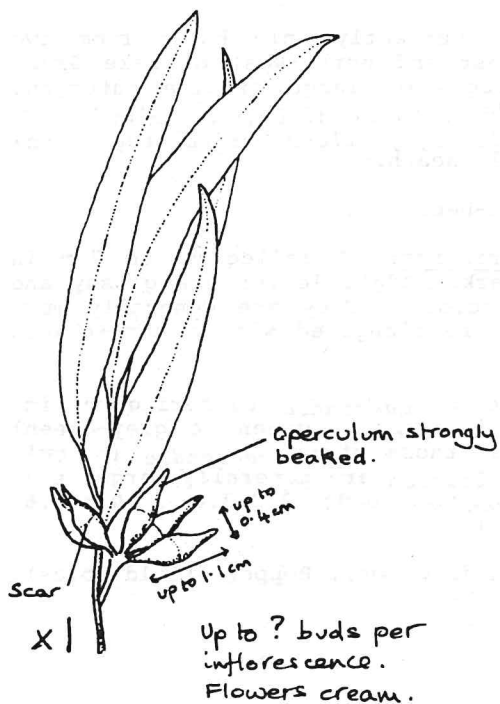
Flowering Period: December-?

Additional Field Characteristics: A tree to 5 m tall with smooth grey bark and dark green, glossy, adult leaves.

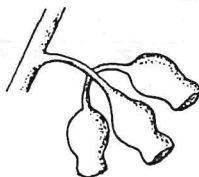
This is a recently discovered taxon which closely resembles *E. flocktoniae* differing in its barrel shaped fruits (*flocktoniae*-urceolate fruits) and small buds (*flocktoniae*-buds 1.1-1.9 x 0.5-0.6 cm).

References: Brooker (field notes).





E. flocktoniae - urceolate
fruits, often
ribbed



EUCALYPTUS 'OLIVACEA' Brooker and Hopper ined.

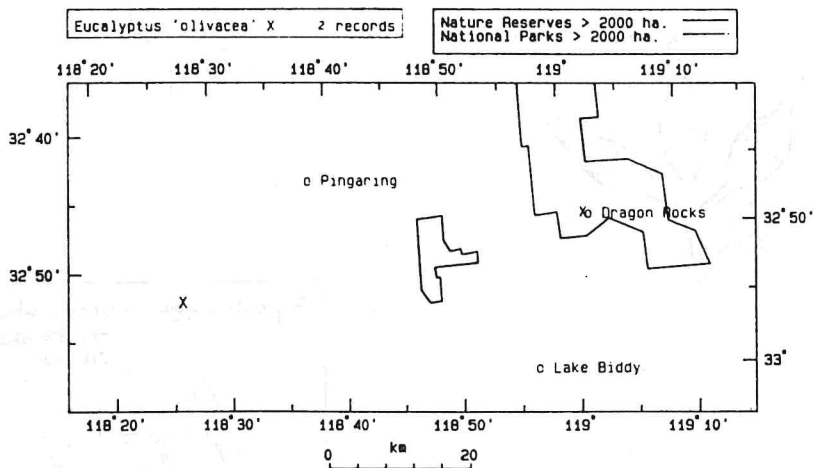
Distribution and Habitat: Currently only known from two localities to the north-east and north-west of Lake Grace where it occurs on the edges of large granite outcrops. Associated species include *E. loxophleba*, *E. albida*, *E. 'phaenophylla'*, *Acacia lasiocalyx*, *Allocasuarina huegeliana*, emergent above a low to tall heath.

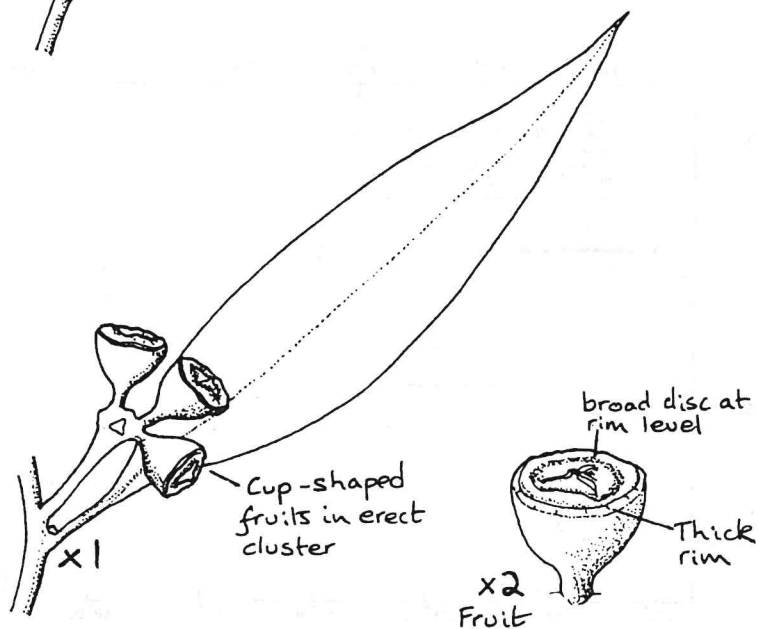
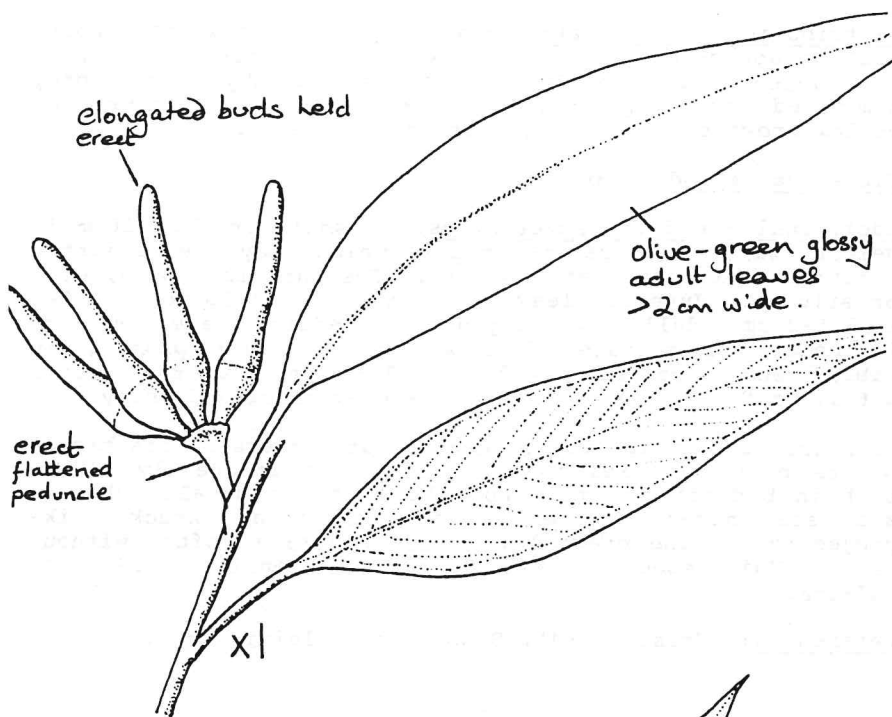
Flowering Period: November-December.

Additional Field Characteristics: A mallee up to 7 m in height with smooth grey bark. Adult leaves are glossy and intensely olive green in colour. They are generally more than 2 cm wide. The buds are elongated with a horn-shaped operculum.

The species is similar to *E. macrandra* differing in its olive green adult leaves (*macrandra*, green to grey-green) which are also broader than those of *E. macrandra* (2 cm). The buds and fruits of *E. olivacea* are generally larger than those of *macrandra* (*macrandra*, buds 2.2-3.6 x 0.4-0.6, fruits 0.7-0.8 x 0.6-0.8 cm).

References: Brooker and Kleinig (ms), Hopper (field notes).





EUCALYPTUS ORNATA Crisp

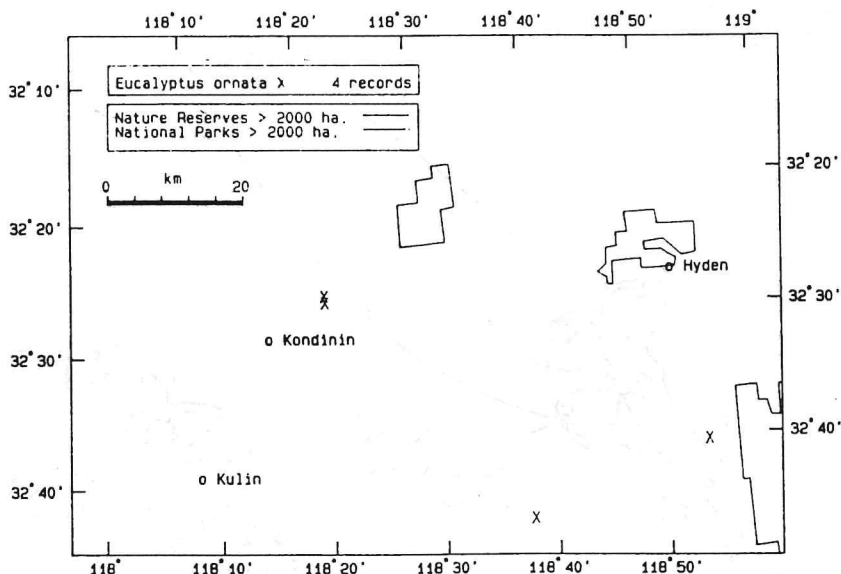
Distribution and Habitat: Known only from a few sites north east to south-east of Kondinin where it is co-dominant with *E. gardneri* in woodlands with a shrubby understorey dominated by *Allocasuarina acutivalvis*. It occurs on yellow-brown sandy loam with ironstone gravel.

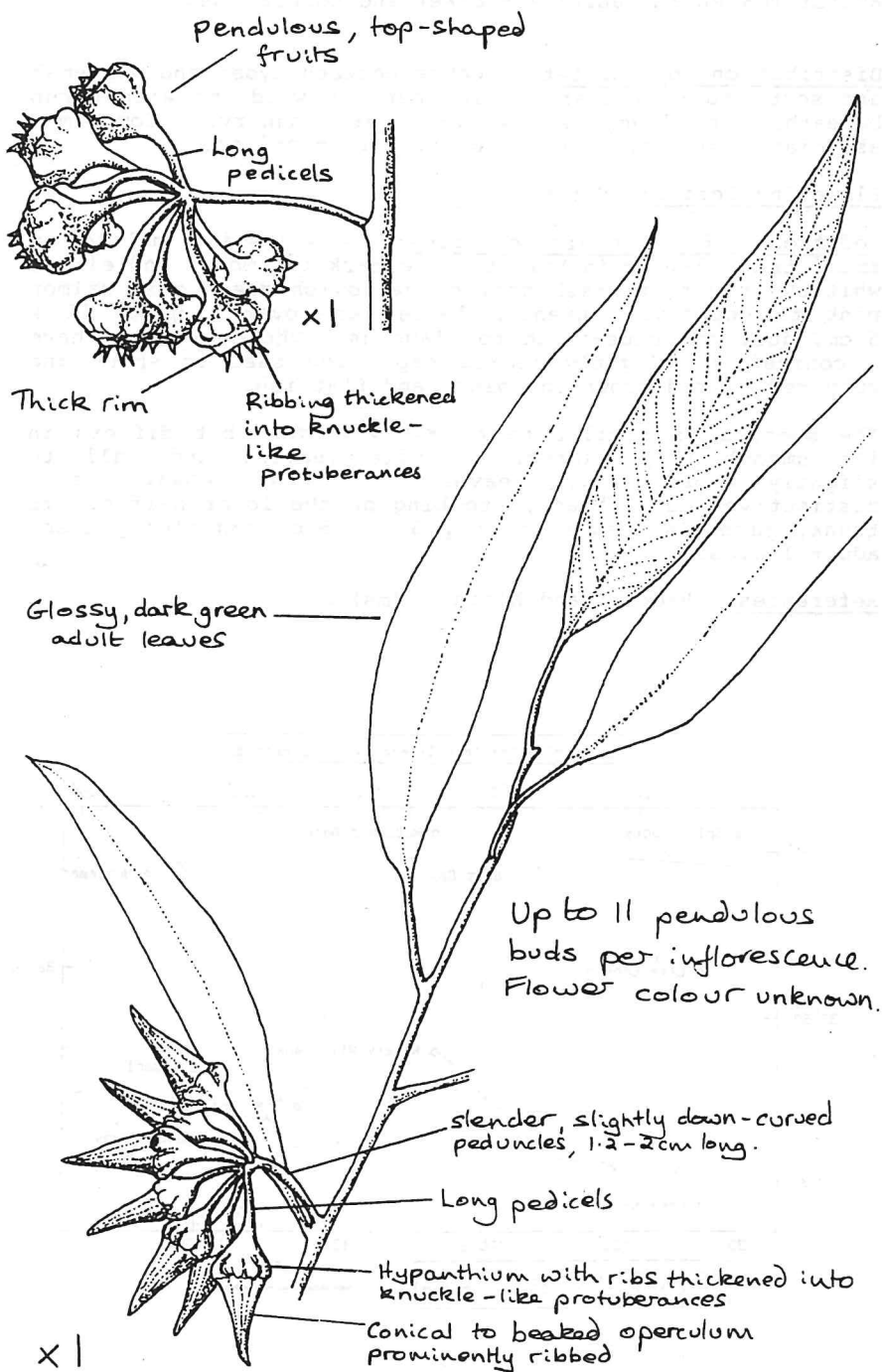
Flowering Period: Unknown.

Additional Field Characteristics: A small tree to 10 m in height with a straight trunk which may be slightly buttressed or fluted at the base. The bark is smooth, grey or silvery. Juvenile leaves are ovate to elliptical, 3.5-6 x 1.5-2 cm, dull and grey-green. Adult leaves may be lanceolate or falcate, 5-15 x 1-2.2 cm. The prominently ribbed buds measure 1.4-2.3 x 0.7-1 cm and the fruits 0.6-1.1 x 0.9-1.3 cm. The seed is grey-black and shiny.

E. ornata is similar to *E. falcata* but differs in its highly ornate buds and fruits. *E. falcata* is frequently ribbed both in bud and in fruit but the ribs are usually obscure and are never thickened into prominent knuckle-like projections. The operculum of *E. falcata* is often without ribs. This species may intergrade extensively with *E. falcata*.

References: Crisp (1984); Brooker and Kleinig (ms).





EUCALYPTUS 'REDIMICULIFERA' Brooker and Hopper ined.

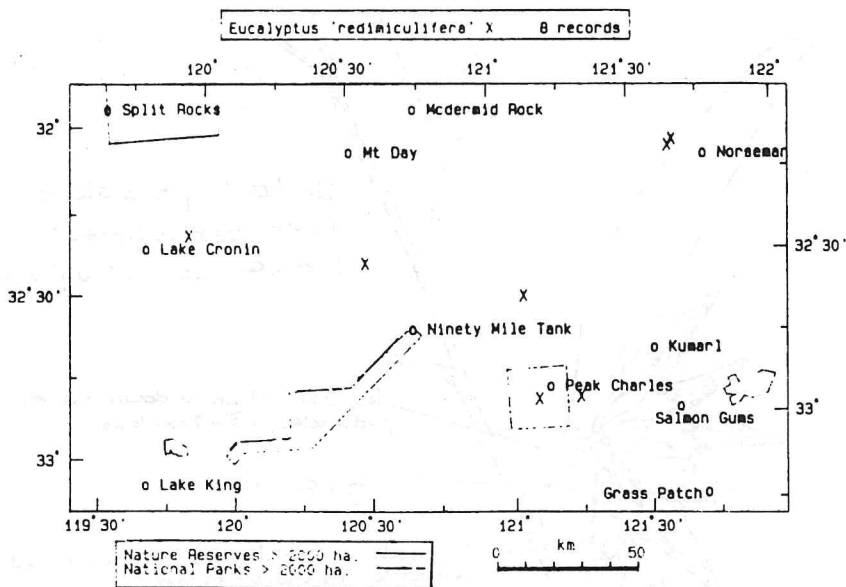
Distribution and Habitat: Occurs between Hyden and Norseman and south to Peak Charles, in open low woodland with scrub beneath, on loamy soils in flat country. Sometimes associated with *E. salubris* or *E. salmonophloia*.

Flowering Period: Not Known.

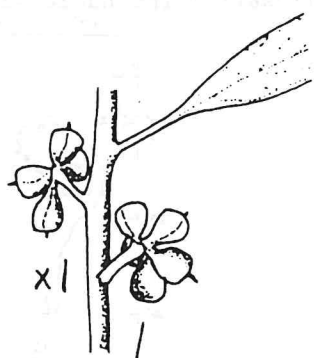
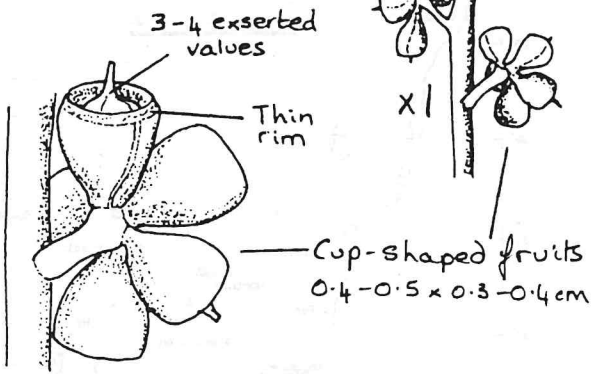
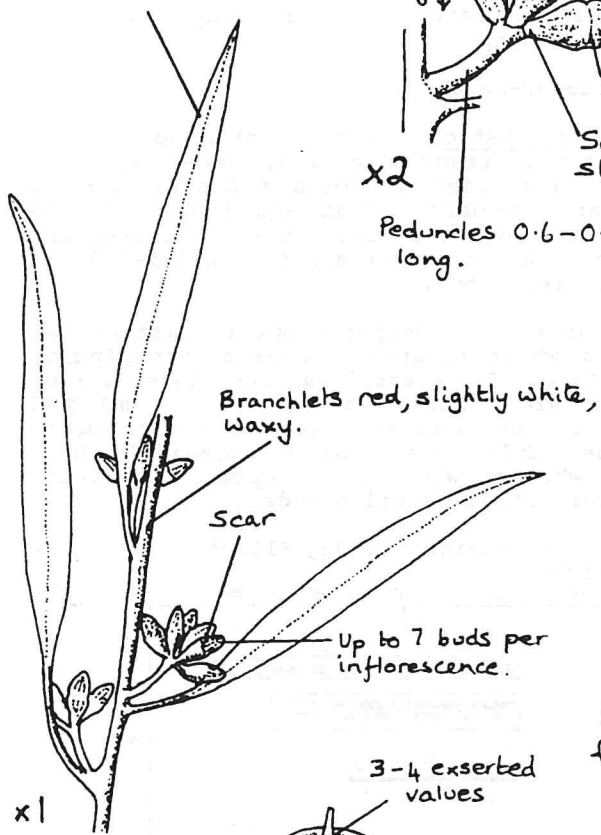
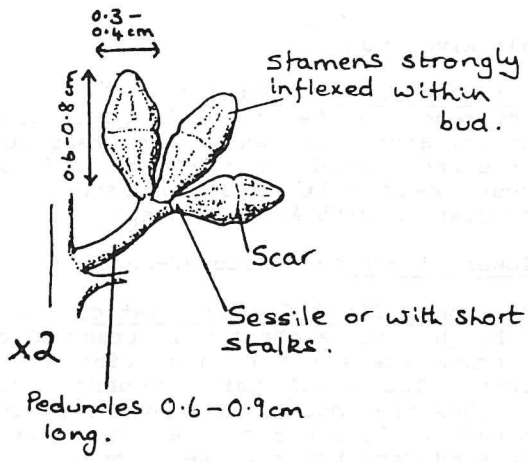
Additional Field Characteristics: A whipstick mallee or small tree, 5-10 m in height. The bark is smooth and either whitish grey to pinkish grey or yellowish green over salmon pink to coppery. Juvenile leaves are ovate, up to 10 x 6 cm, dull and blue-green to glaucous. The ovoid buds have a conical or slightly beaked cap. The seed is shiny and ruby red to red-brown in colour and flattish.

The species is similar to *E. kondininensis* but differs in its smooth bark, longer juvenile leaves, and dull to slightly glossy adult leaves. *E. kondininensis* has a distinctive rough, black, stocking on the lower half of its trunk, juvenile leaves to only 3 x 1.5 cm and glossy green adult leaves.

References: Brooker and Kleinig (ms) .



Dull to slightly glossy
adult leaves. 13 x 1.3 cm.



EUCALYPTUS SARGENTII Maiden

Salt River Gum

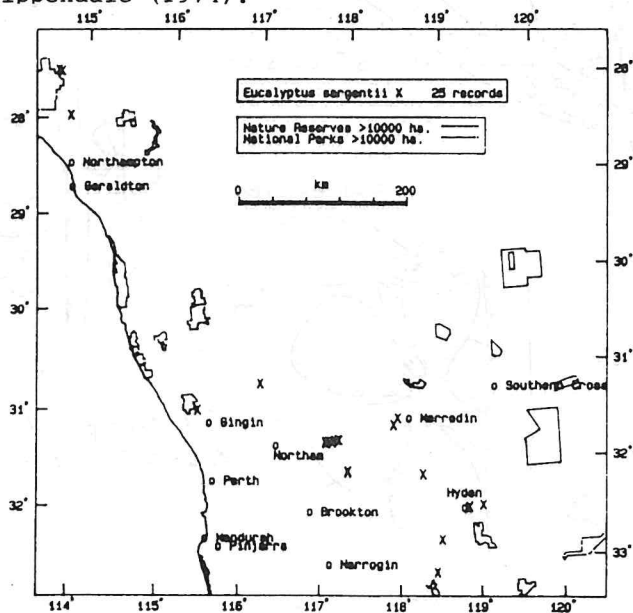
Distribution and Habitat: Has a limited and scattered occurrence in the wheatbelt particularly in the Quairading, Tammin, Hines Hill and Hyden areas but also extends to near Binu and Eurardy in the north and southwards to Pingaring. Occurs near salt lakes in sandy loams or clays often in association with *Melaleuca* sp.

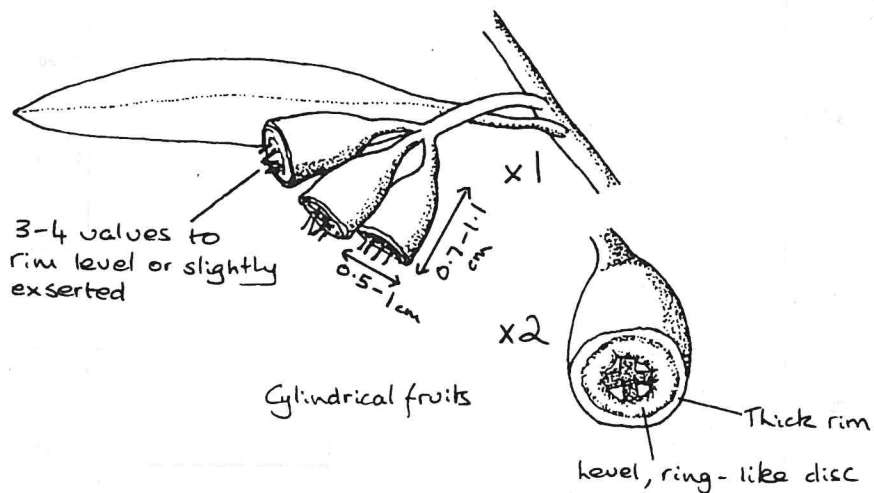
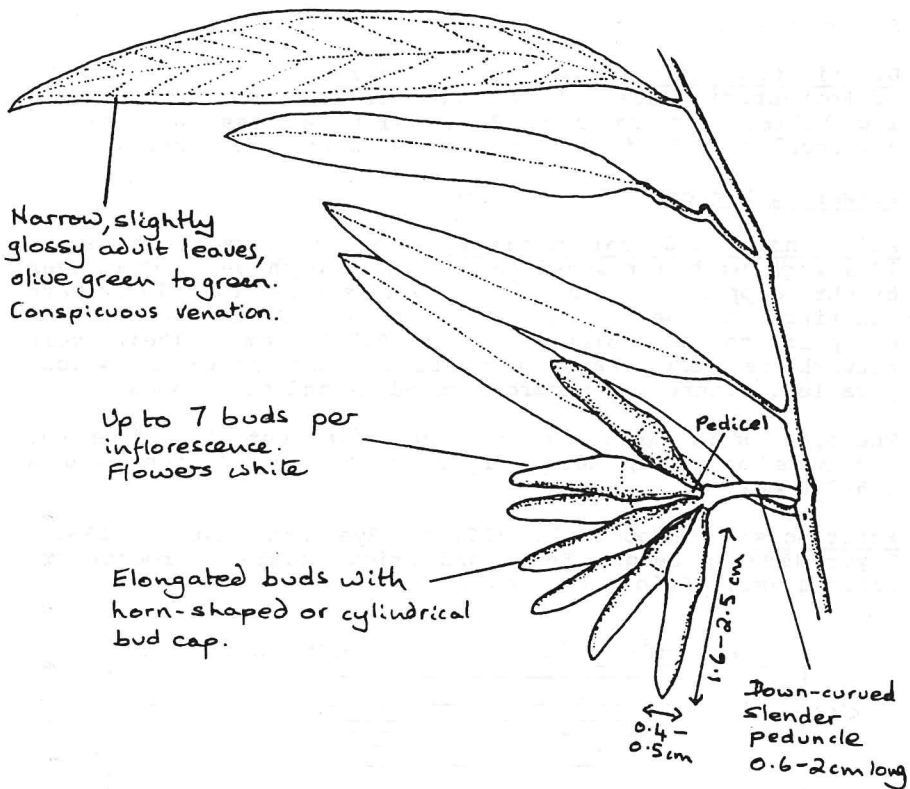
Flowering Period: October-January.

Additional Field Characteristics: A small tree up to 11 m in height with a short main trunk of c. 1 m, above which the branches are erect or spreading and with a dense, rounded crown. The basal bark is dark, rough and flaky but the branches are smooth, grey over coppery. Juvenile leaves are linear, to 12 x 0.6 cm. Adult leaves are 6-10 x 0.5-1.3 cm. The seeds are brown to red-brown.

E. sargentii is similar to *E. eremophila* but the latter has smooth bark throughout which is greyish over salmon pink to brilliant copper. Also, *E. eremophila* can have larger leaves (up to 2.3 cm wide) buds (up to 4 x 0.7 cm) and fruits (up to 1.5 x 1.2 cm) and its flowers are cream to yellow or pink. The adult leaves of *E. sargentii* have conspicuous venation whereas with *E. eremophila* the veins are obscured by the very numerous oil glands.

References: Brooker and Kleinig (ms); Elliott and Jones (1986); Chippendale (1974).





EUCALYPTUS STEEDMANII Gardner

Steedman's mallet

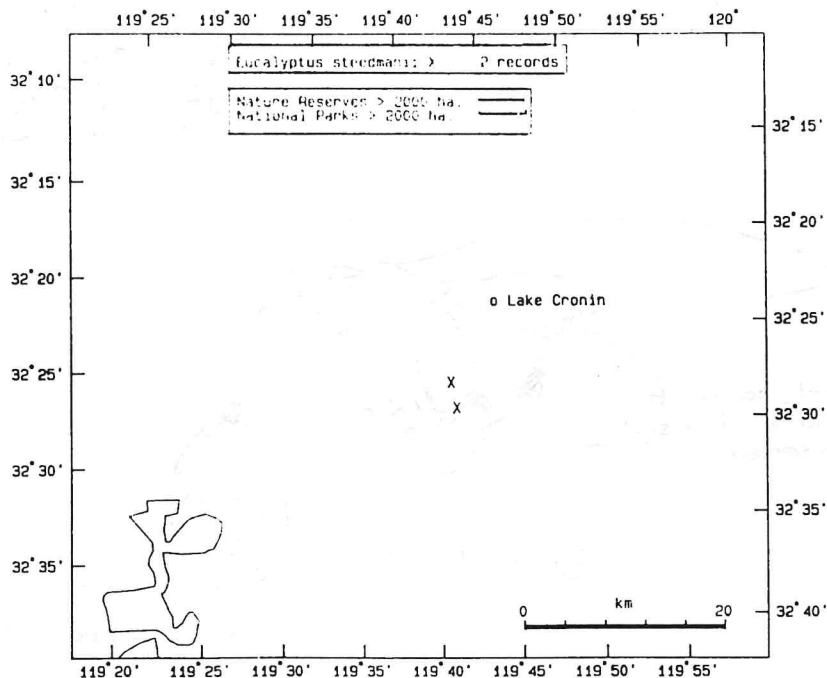
Distribution and Habitat: Only recorded from the vicinity of Forrestania (east of Hyden). Grows in gravelly loam in low hills, forming a woodland with species such as *E. salmonophloia*, *E. flocktoniae*, *E. salubris*, *E. eremophila*.

Flowering Period: January-March.

Additional Field Characteristics: A small erect tree up to 12 m high with a rounded canopy and smooth bark, grey over bright coppery, often with small strips of older bark adhering to the trunk or branches. Adult leaves are elliptic to lanceolate, 4-8 x 0.7-1.5 cm. Their vein network is very sparse with side veins acute to almost parallel. There are numerous round island oil glands.

The species is similar to *E. forrestiana* but the latter has red buds and red, much larger fruits (*forrestiana* 2-6 x 1.5-2.8 cm).

References: Chippendale (1973); Rye and Hopper (1981); Pryor (1981); Leigh, Boden and Briggs (1984); Brooker and Kleinig (ms); Elliott and Jones (1986).



Glossy olive-green
to green adult leaves

Flattened peduncle
1.5-3 cm long

Flowers cream to
pale yellow.
Rarely pink or
red

x1

Up to 3 pendulous
4-sided buds
per inflorescence

Pyramidal, green
operculum

0.8-
1.3 cm

2.4-3.3 cm

4-sided Fruits
green to brown

x1

Pointed protruding
valves

1.5-
2.2 cm

1.1-1.7
cm

EUCALYPTUS STOWARDII Maiden

Fluted horn mallee

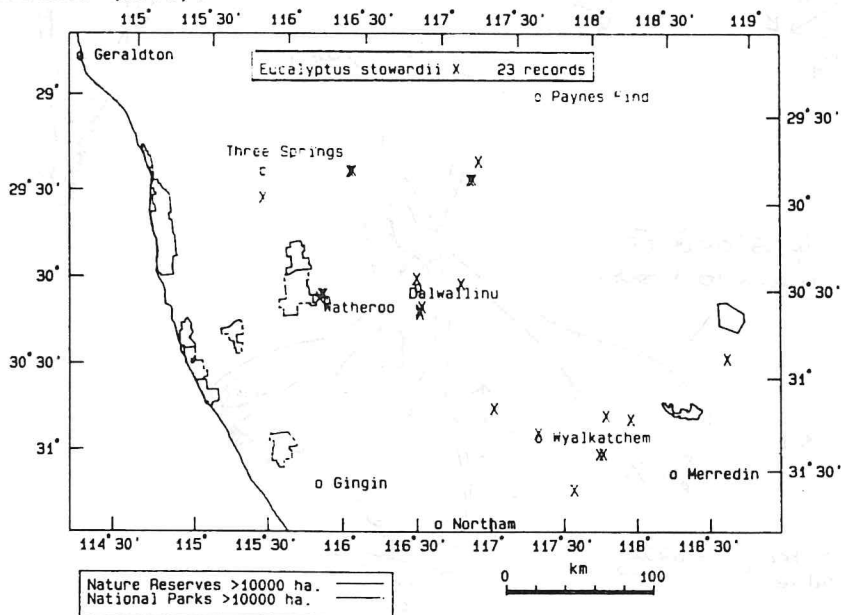
Distribution and Habitat: Has a scattered distribution in the northern wheatbelt from the Dalwallinu-Pithara area to Dowerin, Wyalkatchem, Kununoppin, Westonia and Kellerberrin. It is usually in granitic soil.

Flowering Period: August-November.

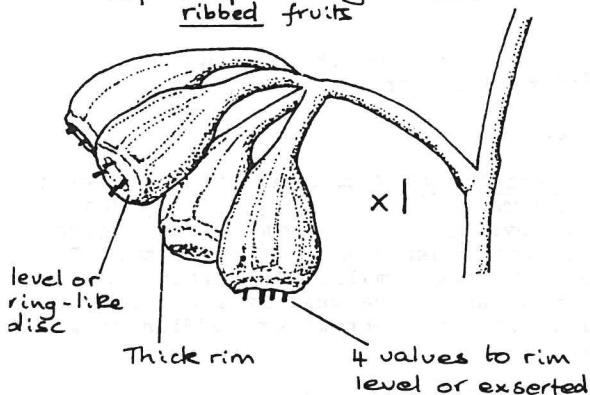
Additional Field Characteristics: A tall mallee, rarely a small tree, up to 8 m in height with smooth greyish bark over salmon-pink. Juvenile leaves are ovate to triangular, to 12 x 7 cm and blue-green. Adult leaves are lanceolate to broad-lanceolate, 6-12 x 1-2.5 cm. The ribbed buds measure 2-3.8 x 0.7-1 cm. Fruits are also ribbed and are 1.1-2.1 x 1-1.4 cm. The seed is grey-black.

E. stowardii resembles *E. eremophila* which is also a smooth barked mallee or mallet with glossy green leaves and similar shaped buds and fruits. However, the ribbing seen on buds and fruits of *E. stowardii* is lacking. Also, the leaf venation of *stowardii* is of moderate density and is visible whereas that of *eremophila* is very sparse and is obscured by the numerous oil glands. *E. stowardii* is also similar to *E. 'diminuta'* but the latter has smaller, less glossy leaves and smaller, less ribbed buds and fruit.

References: Elliott and Jones (1986); Chippendale (1973); Gardner (1979).



Cup-shaped to cylindrical
ribbed fruits



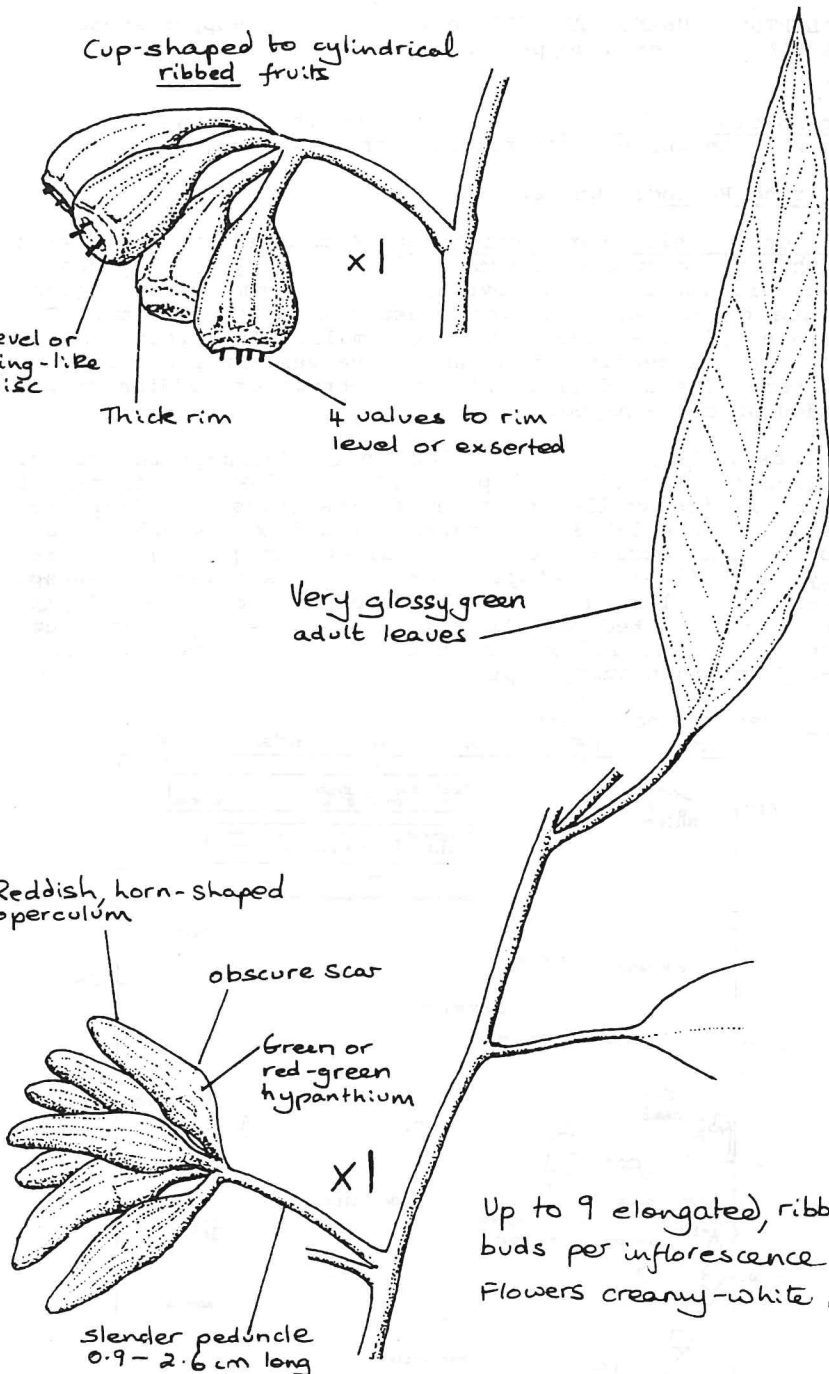
Very glossy green
adult leaves

Reddish, horn-shaped
operculum

obscure scar

Green or
red-green
hypanthium

Slender peduncle
0.9 - 2.6 cm long



Up to 9 elongated, ribbed
buds per inflorescence.
Flowers creamy-white.

EUCALYPTUS 'SUBANGUSTA' (Blakely) Brooker & Hopper subsp.
'PUSILLA' Brooker & Hopper ined.

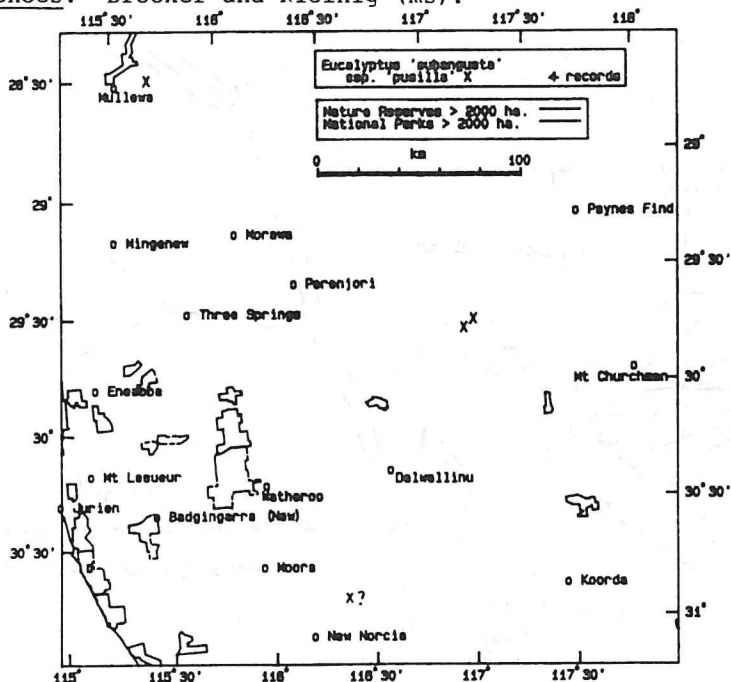
Distribution and Habitat: Occurs in the Mullewa to Wubin area with an unconfirmed record near Piawaning.

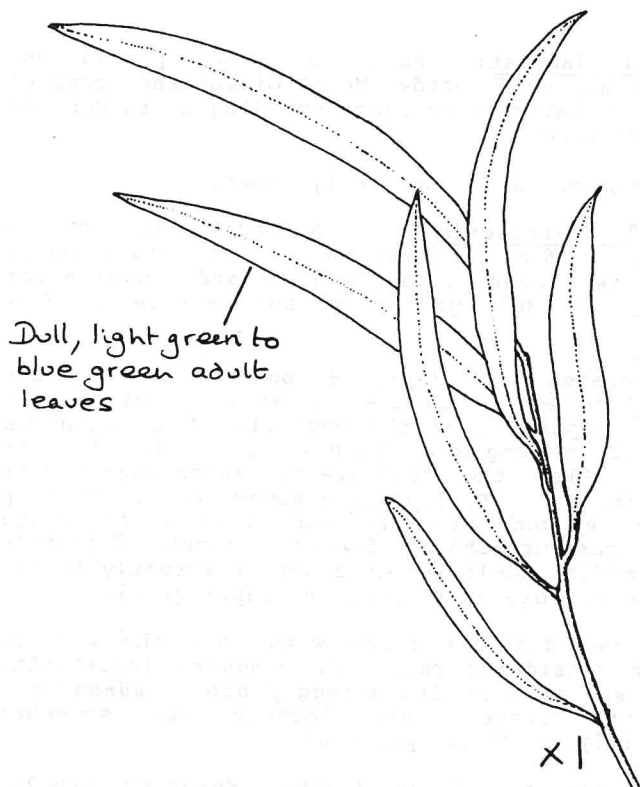
Flowering Period: Unknown.

Additional Field Characteristics: A mallee or mallet with smooth bark, grey over cream, pink or coppery. The juvenile leaves are lanceolate to ovate, to 9 x 4 cm and dull green or blue grey. Adult leaves measure 6-11 x 0.8-1 cm. The buds are spindle-shaped, and very small. The fruits have a thin rim, descending disc and 3 valves to rim level or enclosed. The seed is smooth, pale-brown or reddish brown, rounded or cube-shaped.

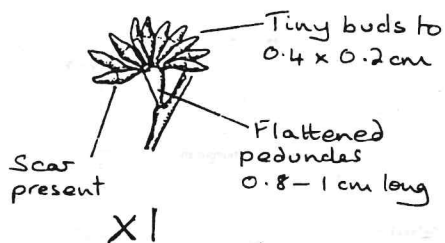
The subsp. 'pusilla' is similar to *E. 'subangusta'* subsp. 'subangusta' and also subsp. 'cerina'. From the former it differs in its smaller buds and fruits (subsp. 'subangusta' buds 0.8-1 x 0.2-0.3 cm, fruits 0.4-0.5 x 0.4-0.5 cm) and also in its occurrence as a mallet (subsp. 'subangusta' always a mallee). Subsp. 'cerina' is similar to subsp. 'subangusta' but has glaucous branchlets. *Eucalyptus redunca* is related to the subangusta group but has much larger buds (1.5-2.8 x 0.3-0.4 cm) and fruits (0.7-1.1 x 0.5-0.8 cm) than subsp. 'pusilla'.

References: Brooker and Kleinig (ms).





Up to 17 buds per inflorescence
Flowers white



Tiny cup-shaped
fruits to 0.3 x
0.3 cm

EUCALYPTUS SYNANDRA (Wheatbelt) Crisp

Distribution and Habitat: About 6 known populations scattered between north of Koorda, Mount Gibson and north of Morawa. Usually on laterite or ironstone ridges, though one population is from sand.

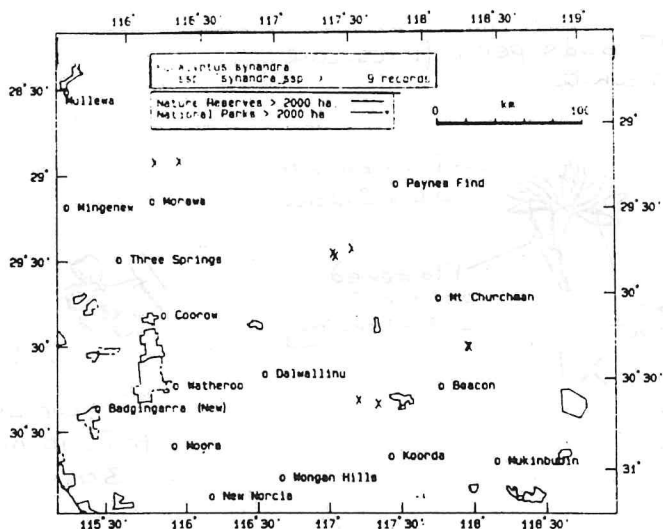
Flowering Period: February. Not fully known.

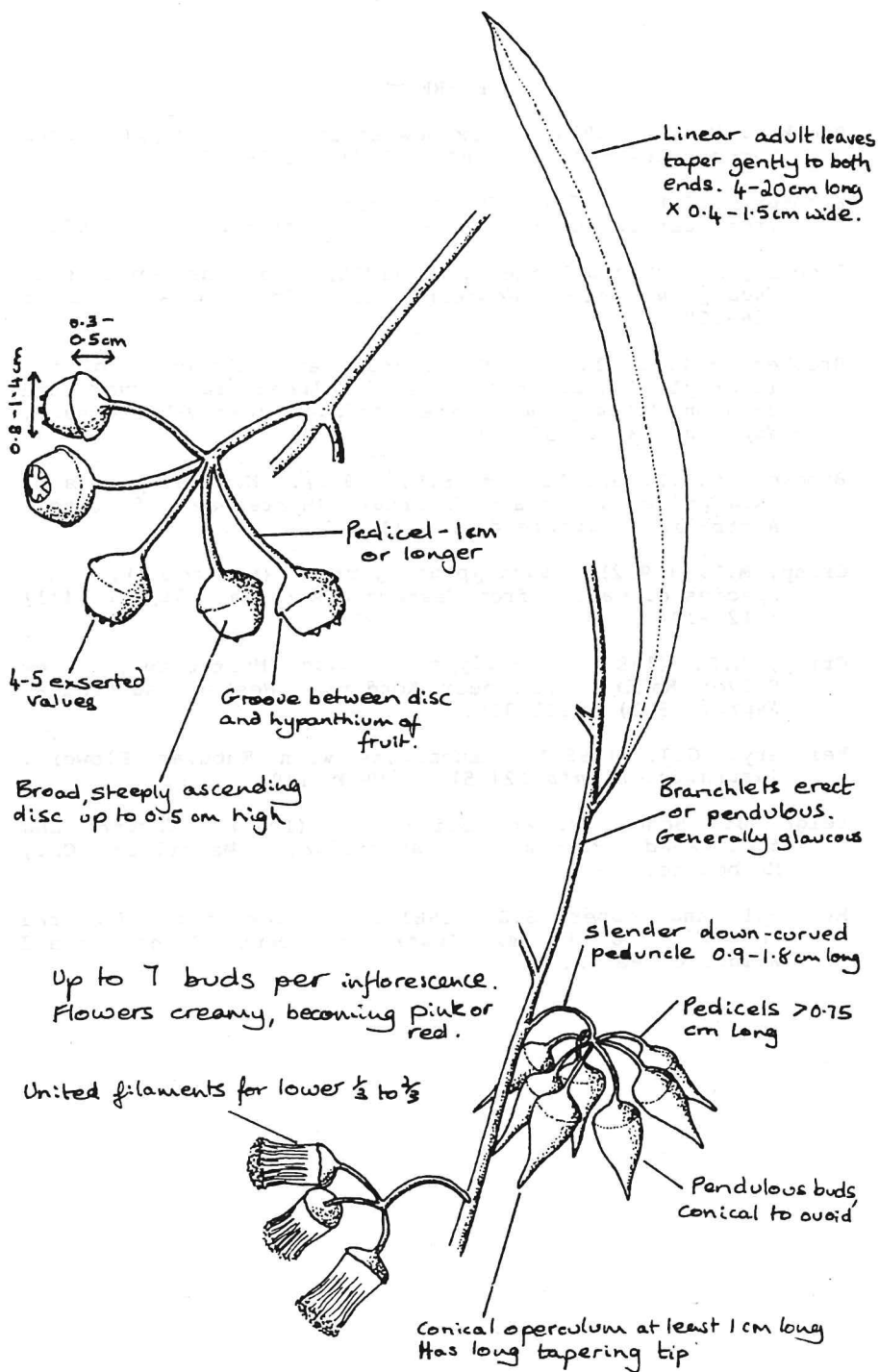
Additional Field Characteristics: An open and loosely spreading mallee to 6 m with smooth grey or white bark. Juvenile leaves are linear to narrow-ovate and opposite for 1-4 pairs. They are dull grey-green and measure 1.5-9 x 0.2-1.5 cm.

E. synandra is related to *E. leptopoda* but the latter lacks the partly fused filaments to the flowers. Non-flowering specimens can be separated by the opercula of *E. synandra* being more than 1 cm long and those of *E. leptopoda* less than 0.8 cm long. Also, the broad steeply ascending disc of *synandra* is distinctive. *E. leptopoda* always occurs on deep yellow sands. *E. synandra* is also similar to *E. beardiana* but the latter has urn-shaped fruits without a steeply ascending disc and its adult leaves contract abruptly to the leaf stalk, whereas those of *E. synandra* taper gently.

E. synandra has two distinct forms with only the western (Wheatbelt) form considered rare. *E. synandra* (Wheatbelt) differs from *E. synandra* in its straggly habit (*synandra* - upright) and its leaves held loosely and somewhat pendulously (stiffly erect in *synandra*).

References: Elliott and Jones (1986); Keighery (1983); Crisp (1982).





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