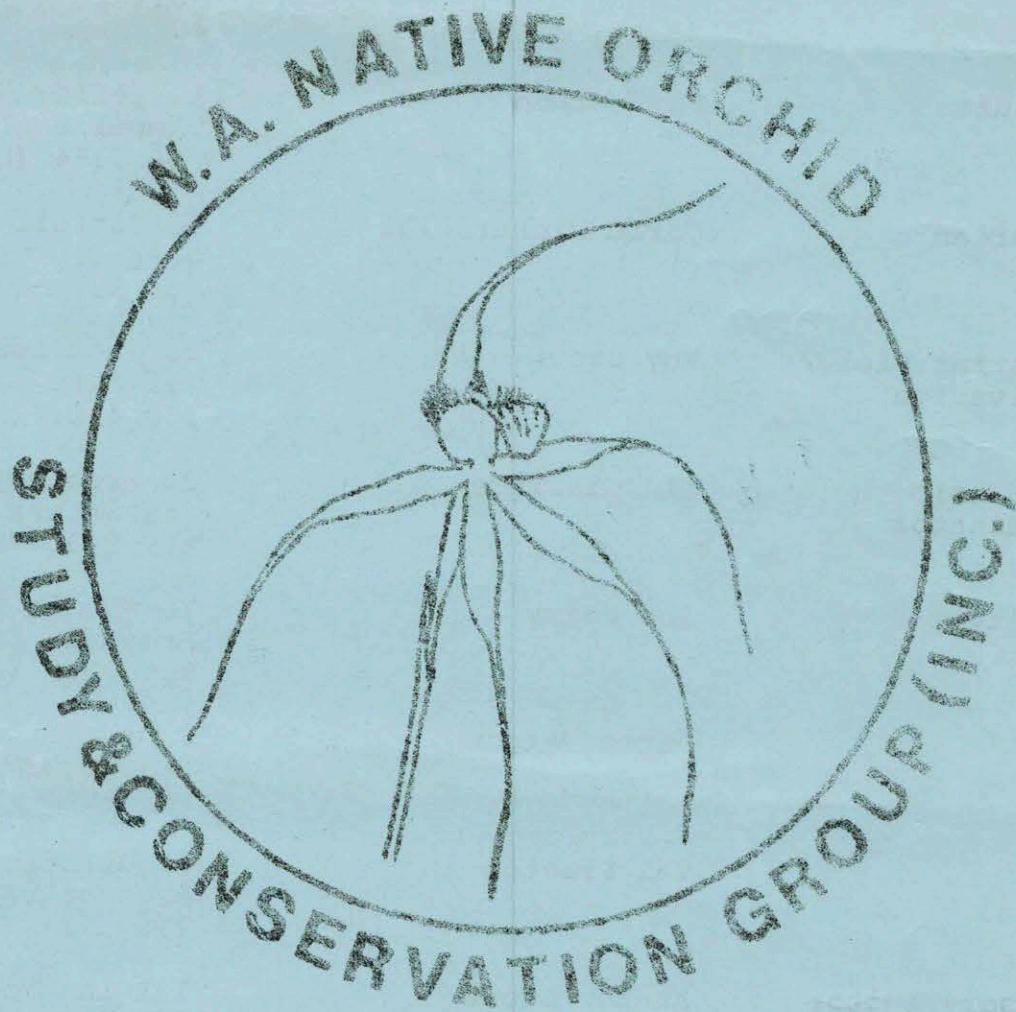


OFFICIAL BULLETIN

JUN 1982



Registered for posting as Category "B"

20 CENTS

OFFICE BEARERS 1982

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	Peter Watson
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MONTHLY MEETING

Wednesday 16th June 1982, 8.00 p.m.
Film Room, Department of Agriculture
Jarrah Road, South Perth.

Please bring - Pots of Terrestrials
- Epiphytes as distributed last year
- Slides of Orchid interest or for clarification of identity.

TOPICS

How to care for Epiphytes in Winter.

COMMITTEE MEETING, JUNE

Wednesday 2nd June at Peter Watson's,
at 8.00 p.m.

APRIL MEETING REPORT

As announced at the beginning of the year it is now Policy to tape Speakers at our General Meetings to enable Country Members to have access to these talks. Any Country Member requiring a copy is asked to send a blank cassette tape to the Librarian, Mrs. Marie Pickersgill. She will return your tape with the speaker recorded. This enables the original to be retained in Library files.

The April Meeting Topic given by Mr. Neville Marchant was primarily aimed at introducing the concept of his project, how it functions and how we can contribute.

Attached is a list of Orchids found in the area defined by his project. This area is larger than System 6 and is bounded by Moore River in the North, Wooraloo, Mt. Dale and Dwellingup in the East and Mt. Lennard and Boyanup to the South.

This list comes from "Checklist of Vascular Plants of the Perth Region" N.G. Marchant & Gillian Perry pg. 111-134, Western Australian Herbarium Research Notes, No. 5, July 1981. If you know of any orchids which grow in this area which are not included, you are asked to submit at least 2 specimens to the Herbarium with details of date collected, location, longitude and latitude, soil and vegetation, and numbers of plants.

Only orchids which have specimens in the Herbarium have been included in this Checklist.

Checklist of Perth Flora

Orchidaceae

- Acianthus reniformis* (R.Br.) Schlechter
Acianthus tenuissimus Nicholls & Boadby
Caladenia aphylla Benth.
Caladenia cairnsiana F.Muell.
Caladenia deformis R.Br.
Caladenia discoidea Lindl.
Caladenia filamentosa R.Br.
Caladenia flava R.Br.
Caladenia gemmata Lindl.
Caladenia hirta Lindl.
Caladenia huegelii H.Reichenb.
Caladenia latifolia R.Br.
Caladenia longiclavata E.Coleman
Caladenia macrostylis Fitzg.
Caladenia marginata Lindl.
Caladenia menziesii R.Br.
Caladenia nana Endl.
Caladenia patersonii R.Br.
Caladenia radiata Nicholls
Caladenia reptans Lindl.
Caladenia sericea Lindl.
Calochilus robertsonii Benth.
Corybas dilatatus (Rupp & Nicholls) Rupp
 & Nicholls ex Rupp
Cryptostylis ovata R.Br.
Diuris emarginata R.Br.
Diuris laxiflora Lindl.
Diuris longifolia R.Br.
Diuris purdiei Diels
Diuris setacea R.Br.
Drakaea elastica Lindl.
Drakaea glyptodon Fitzg.
Drakaea jeanensis R.S.Rogers
Elythranthera brunonis (Endl.) George
Elythranthera emarginata (Lindl.) George
Epiblema grandiflorum R.Br.
Eriochilus dilatatus Lindl.
Eriochilus scaber Lindl.
Leporella fimbriata (Lindl.) George
Lyperanthus nigricans R.Br.
Lyperanthus serratus Lindl.
Microtis alba R.Br.
Microtis atrata Lindl.
Microtis brownii H.Reichenb.
Microtis orbicularis R.S.Rogers
Microtis unifolia (G.Forster) H.Reichenb.
Monadenia micrantha Lindl.
Paracaleana nigrita (Lindl.) Blaxell
Prasophyllum brownii H.Reichenb.
Prasophyllum cyphochilum Benth.
Prasophyllum drummondii H.Reichenb.
Prasophyllum elatum R.Br.
Prasophyllum fimbria H.Reichenb.
Prasophyllum gibbosum R.Br.
Prasophyllum giganteum Lindl.
Prasophyllum hians H.Reichenb.
Prasophyllum macrostachyum R.Br.
Prasophyllum ovale Lindl.
Prasophyllum parvifolium Lindl.
Prasophyllum regium R.S.Rogers
Pterostylis angusta George
Pterostylis barbata Lindl.
Pterostylis nana R.Br.
Pterostylis recurva Benth.
Pterostylis rogersii E.Coleman
Pterostylis scabra Lindl.
Pterostylis vittata Lindl.
Spiculaea ciliata Lindl.
Thelymitra antennifera (Lindl.)
 J.D. Hooker
Thelymitra campanulata Lindl.
Thelymitra cornicina
 H.Reichenb.
Thelymitra crinita Lindl.
Thelymitra flexuosa Endl.
Thelymitra fuscolutea R.Br.
Thelymitra mucida Fitzg.
Thelymitra nuda R.Br.
Thelymitra pauciflora R.Br.
Thelymitra spiralis (Lindl.)
 F.Muell.
Thelymitra tigrina R.Br.
Thelymitra variegata (Lindl.)
 F.Muell.
Thelymitra villosa Lindl.

NEW MEMBERS

Welcome to the club,

Pat Dundas

Pat has a particular interest in drawing and painting our Native Orchids. One gets the feeling her talents will be put to much use in the coming years.

LETTERS

The group has received a letter from George and Thelma Spice, members from Victoria, thanking us for our hospitality in 1981 and for the help in finding orchids. They photographed 86 species. They are also offering tubers at the end of the season. Alison has details.

FIELD TRIP IN JUNE

The second field trip to seek *Rhizanthella gardneri* is to take place in the long weekend in June, 3rd, 4th & 5th. The group will again be travelling by bus and the destination is the area East/North East of Esperance. Accommodation in Shearing Quarters has been arranged. You are required to bring bedding, and all meals. Please, as usual, let Sid Gibbings know if you wish to attend.

MAY MEETING REPORT

The meeting was as usual well attended. We were lucky to have Ron Heberle to present the topic for the meeting. He continued the argument of unnamed orchids by presenting a slide programme of orchids he considers to be new species or varieties and others which are in all probability hybrids. Ron, as usual, presented much food for thought and much material for argument. I have never yet met one orchidologist who wholeheartedly agreed with another so arguments will continue to rage. It is essential that all amateur orchidologists become fully conversant with the established international practices of classifying and naming plants before they do become too aggressive in their own arguments.

Ron, again as usual, fired us with his own enthusiasm for this unique flora which intrigues us so much that we have a club specifically formed to learn about it.

PLANT DISPLAY

The Committee have decided to instigate a competition for the best Pot displayed. The pots being judged by the members. The person winning the most often during the year will receive a prize at the Christmas Party. It was felt that some reward should be offered for all those pots carried that long distance from the cars!

RAFFLE

A mounted plant of *Dendrobium canaliculatum* donated by Noel Clarke was won by Gordon Cutler.

PLANTS TABLED

As is to be expected at this time of the year most of the orchids on display were Pterostylis with the sole exception of one pot of Microtis unifolia.

All the Pterostylis with the exceptions of Pterostylis baptistii Pterostylis spp. were W.A. species. They were:

- Pt. nana - both rosetted and non-rosetted varieties
- Pt. scabra var. robusta
- Pt. scabra var. scabra
- Pt. vittata var. vittata
- Pt. rogersii
- Pt. angusta

It was of interest to note that, though the pots had had a variety of treatment ranging from storage in a garage with no summer watering to shade-house conditions with plenty of water and fertiliser, almost all the Pterostylis had appeared at roughly the same time, though the maturity of the plants varied noticeably at the time of the meeting. Our thanks to those who displayed and we hope to see a large display again at our June meeting.

Please note that names of species and varieties have been noted, as there were several pots of each.

CONGRATULATIONS

The Group extends congratulations to Lynley & Ron Penny on the birth of their second son Ryan Matthew. Ryan is the grandson of Noel Hoffman and Fay Gordon so he has to right background to be a keen orchidologist.

Caladenia reptans Lindl. 1840

reptans meaning creeping refers to the plants creeping underground stem.

This is a relatively common species which can be found throughout the lower S.W. between Wongan Hills and Albany. More recently it has been collected from Kalbarri and may well also occur at Esperance.

C. reptans often forms small colonies and it is not unusual to see clumps of up to ten or more flowering plants.

It has from one to three small pink flowers 2 to 3 cm in diameter which resemble those of C. latifolia. The labellum is deeply trilobed with the mid lobe combed. The calli are united at the base into two deeply lobed plates and the column is erect, shortly hairy and prominently winged above and below. Its leaf is oblong or lanceolate, green and frequently purplish underneath.

C. reptans is usually found in cool moist places, often near swamps on the coastal plain and on lateritic ridges under low scrub further inland. Near the coast it appears to need the stimulus of fire however, further inland it flowers regularly with or without fire.

During August 1981 hybrids between C. reptans and C. flava were found at Kalbarri.

Flowering is from July to October depending on locality.

Cultivation is the same as for *C. flava*. However, to date although growing well I have not been able to flower this species.

Caladenia flava R.Br. 1110

flava meaning yellow refers to the colour of the flower.

This is one of the most common and widespread species of orchid found in W.A. being recorded from some 100 km north of Kalbarri in the north to Israelite Bay in the East.

C. flava is often seen in large numbers particularly after fire.

It has from one to four yellow flowers 4 to 5 cm in diameter which can be bloched or striped with varying amounts of red, sepals and petals are broad-lanceolate, lateral sepals longer than other segments. The labellum is deeply trilobed with the mid-lobe bordered on each side by two or three linear-clavate calli. The other calli are in two rows almost converging into a semi-circle. Its leaf is lanceolate after appearing rather large for the plant.

C. flava can be found in a wide variety of habitats ranging from cool moist Karri forest, swamps and Jarrah forest throughout the SW and coastal plain to Granite outcrops in the wheatbelt and goldfields.

The following *C. flava* have been recorded:

- C. flava* x *patersonii* = *triangularis*
- " x *marginata*
- " x *latifolia*
- " x *reptans*
- " x *nana*

Flowering is from July to November depending on locality.

Lack of success in cultivation is normally attributed to missing the new tuber when collecting. However if carefully collected it will grow well multiplying and flowering every year.

I use a sand based mix to which I add about 25% broken down leaf litter, I then top this mix with pure leaf litter

REPORTS ON BABAKIN FIELD DAY 15th, 16th MAY

A total of 14 members plus Kingsley Dixon and a student friend finally departed from the pick up area about 8.15 am. After a brief refuelling stop for both bus and passengers we arrived at the "Babakin Hilton" around 1.00 a.m. and unpacked with the enthusiasm of a picnic.

After lunch we moved off to the Town reserve, a known "*Rhizanthella*" area; to show our new members what to look for. During this indoctrination, several new plants turned up so we stayed there, and after one hour the score was 17; only one short of the previous year's grand total. By the end of the day our total stood at 41 and some enthusiast was heard to say "What about 100 for the week-end". Prophetic words Allison.

Dinner that night at the Ardath Hotel was almost a gala occasion, but the next day was a big one, so back to the "Hilton". A creaky sort of breakfast and we returned to the same reserve, where the total climbed steadily. Midday and we had 90; 10 to get before lunch and we made it. Bitingly enough it was Kingsley who found the magical 100th.

A comparatively sedate afternoon at Bee's reserve followed where four more *Rhizanthella* plus a few *Eriochilus dilatatus*, *Leporella fimbriata* and one *Caladenia drummondii* were found. Back to camp to pack up and bade farewell. We then went to our host and hostess. Discussions and mathematics during the trip home showed a grand total of 109 *Rhizanthellas*; a magnificent effort.

Strangely enough it was once again a new member who tapped the personal tally. Val Preston in '81 with 3 (I think), and this time Pat Dundas showed us all the way with 14. Congrat's Pat.

S. Gibbings

As my first field trip, the one to Babakin in search of elusive *Rhizanthella gardneri* would surely have to remain one of my most memorable.

A lot was due to the group whose enthusiasm was infectious (I also think there is something to be said for the power of positive thinking - it was known that *Rhizanthella* grew in the area last year and we were going to find them again this year. The only question was, how many would we find). I don't think any of us dreamed that we would find 109 in a weekend.

Even after seeing photos of *Rhizanthella*, and being shown how to scratch under which type of tree, it is impossible to imagine the thrill of actually uncovering one. It really is a beautiful orchid and all the more outstanding in its drab surroundings.

Credit must also go to our host and hostess of the Babakin Hilton for making our stay so enjoyable, and to the suppliers of the sumptuous feasts we called morning and afternoon tea.

It was most exciting to be part of such a well-organised and dedicated group of people and certainly a trip not to be missed.

Pat Dundas

COMPETITION

Photo Competition for Metropolitan Orchids.

At the conclusion of this flowering season, it is intended to collate members observations on Metropolitan Orchids into a Department of Fisheries and Wildlife published report. Subject to Arcasury Funds becoming available, a colour photograph of each of the 70 plus species would be included in the report.

Members are invited to submit photographs for consideration for inclusion in this publication. Each photograph published will have an acknowledgement of the photographer involved.

Condition of entry will be one photo of each species per person to be submitted.

All photographs to have been taken in the Perth Metropolitan Area (Yanchep to Rockingham, Wylunga National Park to Serpentin National Park).

The Committee will allocate a Judging panel. All photographs are to be submitted to the Secretary.

The photographs are to be colour 35 mm slides. In order to print colour slides they may have to be taken out of their mountings by the publisher.

Closing date is 1st December 1982.

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Atlas of the Western Australian Flora Pilot Project
Perth Metropolitan Orchid Survey

LIST OF ORCHIDS THAT OCCUR IN THE PERTH METROPOLITAN AREA
by A. Brown - May 1981

KEY TO HABITATS

1. Coastal dunes
2. Coastal woodland
3. Gnangara pine plantation
4. Coastal swamps
5. Darling scarp
6. Darling Range
7. Granite outcrops - Darling Range
8. Swampy areas - Darling Range

Species and flowering season		Habitat Number						
		(+ = present r = rare)						
	1	2	3	4	5	6	7	8
Acianthus								
reniformis var huegelii (Aug)	+	+	-	-	-	+	+	-
tenuissimus (Sept, Oct)	-	-	-	+r	-	-	-	-
Caladenia								
deformis (July, Aug.)	+	+	-	+	+	+	+	+
discoidea (Aug. Sept.)	-	+	-	-	-	-	-	-
filamentosa var denticulata (Aug. Sept.)	-	+	-	-	+r	+r	-	-
flava (Aug. Oct.)	+	+	+	+	+	+	+	+
gemmata forma gemmata (Sept. Oct., after fire)	-	+	-	-	+	+	+	-
gemmata forma lutea (Sept., after fire)	-	-	-	-	-	+r	-	-
hirta (Aug. Sept.)	-	+	-	-	-	-	-	-
huegelii (Aug. - Nov.; three forms)	-	+	-	+	-	-	-	-
latifolia (Aug. Sept.)	+	+	-	-	-	-	-	-
longiclavata var. longiclavata (Aug. Sept.)	-	-	-	-	-	+	+	-
macrostylis (Aug. Sept.)	-	+	-	-	-	+	+	-
marginata (Oct. Nov.)	-	-	-	+	-	-	+	-
menziesii (Sept. Oct., after fire)	-	+	-	+	-	+	+	+
* patersonii var. longicauda (Sept. Nov.)	-	+	-	+r	+	+	+	+r
reptans (July, Aug., after fire)	-	+r	-	-	+	+	+	-
sericea (Aug. Sept., after fire)	-	+	-	-	+	+	+	-
Calochilus								
robertsonii (Oct.)	-	-	-	+r	-	-	-	-
Cryptostylis								
ovata (Nov. Dec.)	-	-	-	+r	-	-	-	-
Diuris								
emarginata var emarginata (Nov. Dec.)	-	-	-	+	-	-	-	-
emarginata var pauciflora (Sept. Nov.)	-	-	-	+	-	-	-	-
laxiflora (Sept. Oct.)	-	-	-	+	+	-	+	+
longifolia (July, Oct., several forms)	-	+	-	+	+	+	+	-
purdiei (Sept. Oct., after fire)	-	-	-	+	-	-	-	-
setacea (Oct. Nov., after fire)	-	-	-	-	+	+	+	-
* Caladenia nana (Sept) after fire	-	-	-	+r	-	-	-	-

Species and flowering season	Habitat							
	(+ = present r = rare)							
	1	2	3	4	5	6	7	8
Drakea								
elastica (Aug. Sept.)	-	+	-	-	-	+r	-	-
glyptodon (Aug. Sept.)	-	+	-	+	-	-	-	+
jeanensis (Oct. Nov.)	-	+r	-	-	-	-	-	-
Elythranthera								
brunonis (Sept. Oct.)	-	+	-	+	+	+	+	+
emarginata (Oct. Dec., after fire)	-	-	-	+	+	-	-	-
Epiblema								
grandiflorum (Nov. Dec.)	-	-	-	+r	-	-	-	-
Eriochilus								
dilatatus (April, June)	+	+	+	-	+	+	+	-
scaber (July, Aug., after after fire)	-	-	-	+	-	-	+	+
Leporella								
fimbriata (April, June)	-	+	-	-	-	+	+	-
Lyperanthus								
nigricans (July, Oct., after fire)	-	+	-	-	+	+	+	-
serratus (Sept. Oct.)	-	+	-	+r	+	+	-	-
Microtis								
* atrata (Sept. Oct.)	-	-	-	+	-	-	-	+
brownii	-	-	-	+	-	-	-	-
orbicularis (Sept. Oct.)	-	-	-	+r	-	-	-	+
unifolia (Sept. Dec., several forms)	-	-	-	+	+	-	+	+
Monadenia								
micrantha (Oct. Nov.)	-	+	+	+r	+	-	-	-
Paracaleana								
nigrita (Aug. Sept.)	-	+	-	-	-	+r	-	-
Prasophyllum								
brownii (Nov. Dec., after fire)	-	-	-	+r	-	-	+	-
cyphochilum (Sept. Oct., after fire)	-	-	-	+	-	-	-	-
drummondii (Oct. Dec., after fire)	-	-	-	+	-	-	-	-
elatum (Sept. Oct., after fire)	-	+	-	-	+	+	-	-
fimbria (June, Aug., after fire)	-	-	-	+	+	+	-	+
gibbosum (Sept. Nov., after fire)	-	-	-	+	-	-	-	-
grimwadeanum (Sept. Oct., after fire)	-	+r	-	-	-	+r	-	-
hians (Aug. Oct., after fire)	-	+	-	+	+	+	-	-
* Microtis alba (Oct Nov)	-	-	-	-	+r	-	+r	-
* Drakea undescribed (Sept Oct) small flowers, 4 leaf	-	+r	-	-	-	-	-	-

Species and flowering season	Habitat							
	(+ = present r = rare)							
	1	2	3	4	5	6	7	8

macrostachum var.								
macrostachyum (Oct.)	-	-	-	+	-	-	-	+
macrostachum var. ringens (July, Aug.)	-	-	-	-	+	-	+	-
ovale var. triglochin (Aug. Oct.)	-	+	-	-	-	+	-	-
parvifolium (July, Sept.)	-	+	-	+	+	+	+	-
regium (Sept. Nov., after fire)	-	-	-	+	-	-	-	-
Pterostylis								
barbata (July, Sept.)	-	+	-	-	+	+	+	-
nana (July, Sept.)	+	+	+	-	+	+	+	-
nana (non rosetted form)	-	-	+	-	-	-	-	-
recurva (Aug. Sept.)	-	+	+	-	+	+	+	-
scabra var. robusta (June, July)	+	-	+	-	-	-	-	-
vittata var. vittata (June, Aug.)	+	+	+	-	+	+	+	-
Spiculaea								
ciliata (Nov. Jan.)	-	-	-	-	-	-	+	-
Thelymitra								
antennifera (July, Sept.)	-	-	-	+	+	-	+	+
campanulata (Sept. Oct.)	-	+	-	-	-	-	-	-
carnea (Sept. Oct.)	-	-	-	+r	-	-	-	-
cornicina (Sept.)	-	-	-	+r	-	-	-	-
crinita (Sept. Nov.)	-	+	-	+	+	+	+	-
x cucullata (Oct., after fire) - also from Canning Mills (1 collection only)	-	-	-	+r	-	-	-	-
flexuosa (Sept. Oct., after fire)	-	-	-	+	+	-	+	+
fuscolutea var. fuscolutea (Oct. Nov.)	-	-	-	+	+	+	+	+
fuscolutea var. stellata (Nov.)	-	-	-	-	+r	+r	-	-
mucida (Oct.)	-	-	-	+	-	-	-	-
nuda (Oct. Nov.)	-	-	-	-	+	+	+	-
pauciflora (Sept. Nov.)	-	-	-	+	+r	-	+	+
tigrina (Nov. Dec.)	-	-	-	+r	-	-	-	-
variegata (July, Aug.)	-	+r	-	-	-	-	-	-
villosa (Oct.)	-	-	-	+r	-	-	-	-

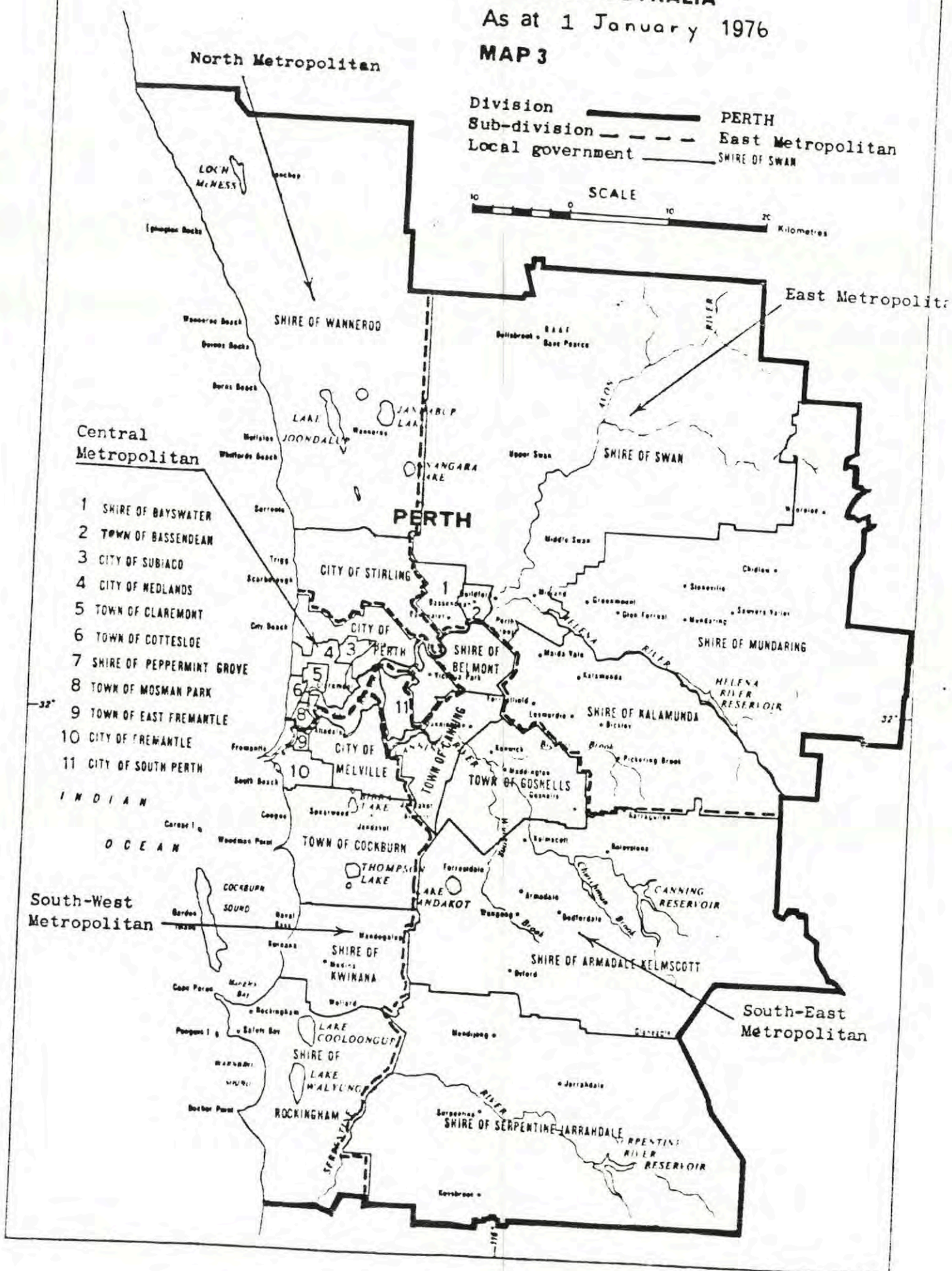
x canaliculata

Swamp at Canning Mills (Nicolson Rd) - flowers later than campanulata - superficially similar

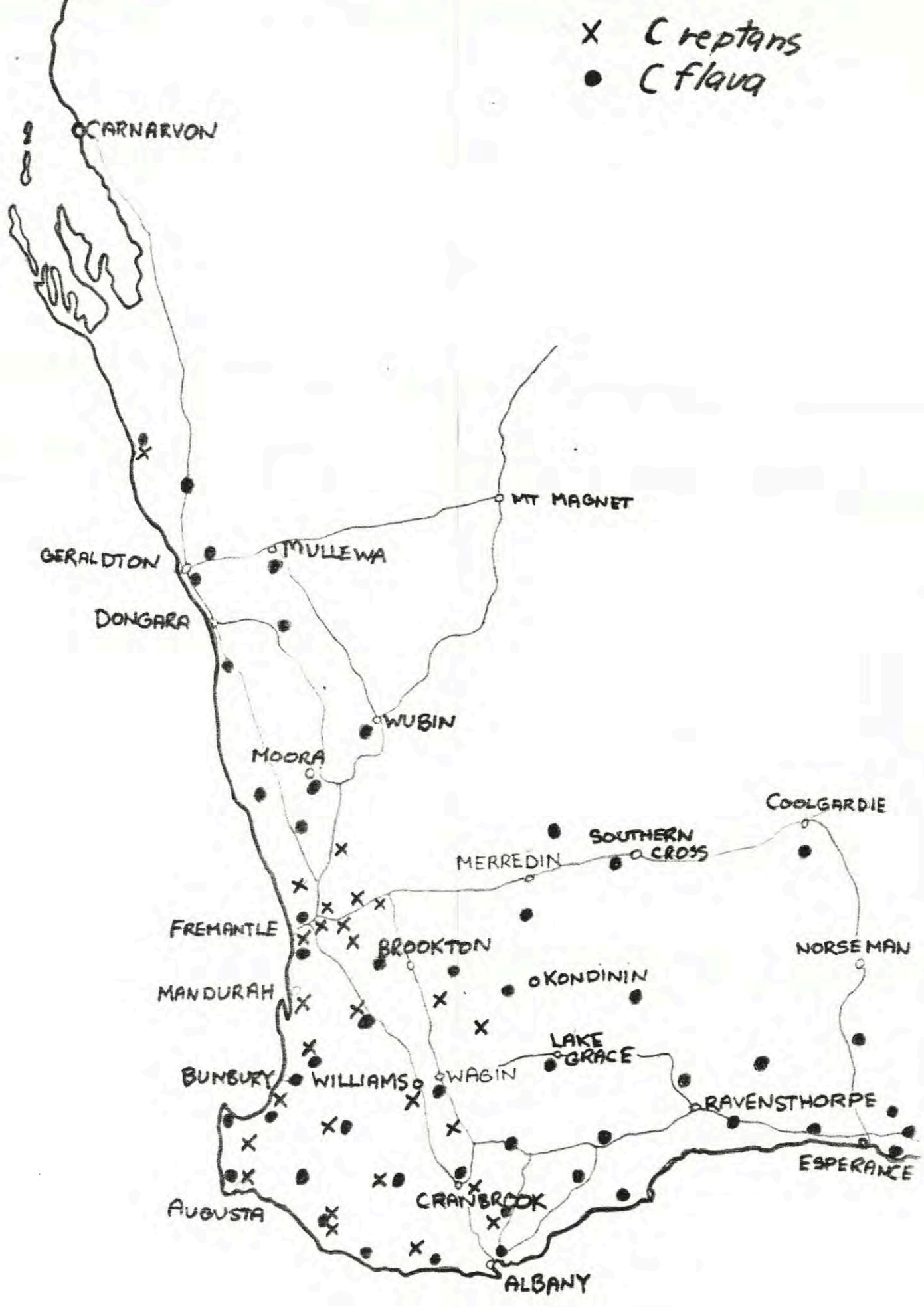
MAP 3

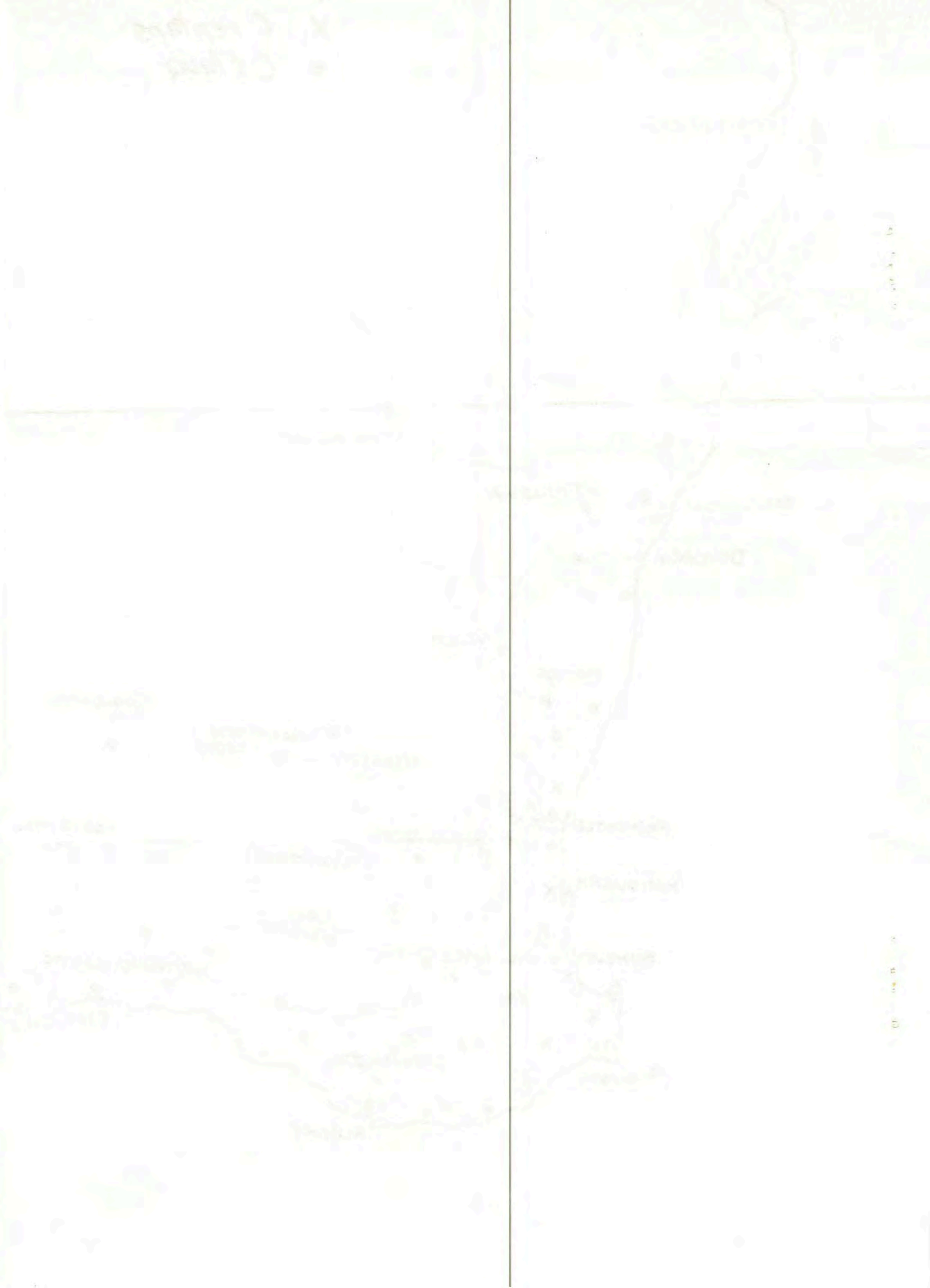
Division PERTH
Sub-division East Metropolitan
Local government SHIRE OF SWAN

A horizontal scale bar with the word "SCALE" centered above it. The bar has markings at 10, 0, 10, and 20. The unit "Kilometres" is written at the right end. The segment between 0 and 10 is shaded with diagonal lines.



X *C reptans*
● *C flava*







UNDERGROUND ORCHID

Rhizanthella gardneri Rogers (ORCHIDACEAE)



Side view of an excavated Underground Orchid. (photo: S. D. Hopper)
Inset shows a plant slightly emergent from the soil. (photo: A. Brown)

This extraordinary plant is one of only two subterranean orchid species known in the world. The other, somewhat similar species is *Cryptanthemis slateri*, which is native to New South Wales and Queensland. Their underground habit makes these orchids very difficult to find and, despite their enormous public and scientific appeal, many aspects of their biology remain a mystery.

Rhizanthella may have been collected as early as 1914 when a plant was unearthed on a farm west of Wubin. However, no specimens from this locality were preserved to permit a definite identification. The first verified collection of the orchid was made on 23 May 1928 by John Trott while he was clearing virgin bush on his farm near Corrigin in the central Western Australian wheatbelt. In the following month two further finds were made in similar agricultural districts by farmers ploughing virgin land.

Later in the same year Richard Rogers, an authority on Australian Orchids, described the plant as a new genus and species. The generic name is derived from the Greek words *rhiza* (root) and *anthos* (flower) and refers to the underground flowering habit of the species. The specific name honours the botanist Charles Gardner, who had provided Rogers with material and drawings of the orchid.

Four further sightings of *Rhizanthella*, including two completely new localities, were recorded before 1960. However, the orchid was rapidly eliminated by farming at all the known localities. In the following years all attempts to locate the orchid were fruitless and in 1978 John Trott offered a reward of \$100 to anyone who could rediscover it. Eventually a new population was discovered in May 1979 near Munglipin, far removed

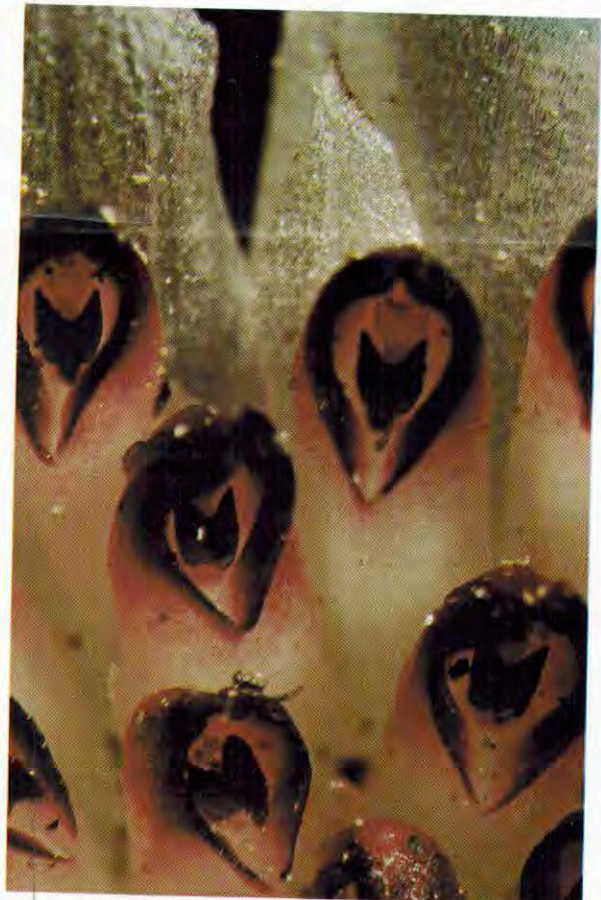
from all previous localities. This discovery renewed interest in the orchid and permitted new studies of its biology to be undertaken. Indeed in 1980, a grant of \$29 000 was awarded by the World Wildlife Fund to Dr P. R. Wycherley and Professor J. S. Pate for further study of the distribution and biology of *Rhizanthella*.

Being subterranean, *Rhizanthella* is unable to derive its energy by photosynthesis. Instead it subsists on the decaying stumps of the Broom Honey Myrtle, *Melaleuca uncinata*. A fungus (*Rhizoctonia*) that occurs in the outermost cells of the Underground Orchid and links it to the *Melaleuca* stump is probably essential for the orchid's very specialised lifestyle.

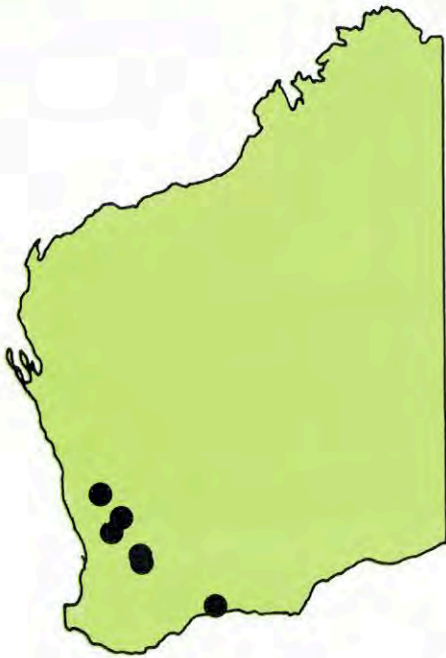
DESCRIPTION

Fleshy saprophytic underground herb with a short branching horizontal stem and longer vertical shoots bearing the terminal flower heads. Flower heads comprised of 50-100 flowers surrounded by 6-12 large spreading bracts. Flowers small, deep purple-red, arranged in spiral rows facing the centre of the heads.

Apart from its flowers, the orchid is uniformly white and if any part is cut it produces a faint formalin-like smell. *Rhizanthella*'s closest relative is the other subterranean orchid, *Cryptanthemis slateri*, but this occurs on the other side of Australia and is sufficiently distinct in form to be placed in a separate genus.



Flowers of the Underground Orchid which occur within the swollen head of the plant. (photo: H. Foote)



DISTRIBUTION AND HABITAT

The known geographical range of the Underground Orchid extends approximately 500km through the Western Australian wheatbelt. The average annual rainfall in this area varies from 300 to 600 mm but is generally about 350 mm.

The orchid is invariably associated with thickets of the Broom Honeymyrtle (*Melaleuca uncinata*), always occurring within about 1.5 m of the melaleucas' lignotubers. At the Munglinup locality, the orchid occurred in brown sandy clay in a tall open shrubland of several mallee species with an understorey dominated by *Melaleuca uncinata* and an open heath of many smaller shrub species.

REPRODUCTIVE BIOLOGY

Flowering occurs in May and June and the plants may flower at least two years in succession. The mature flower heads never appear above ground level, their highest portions being a few millimetres below the soil surface. However, they do raise and crack the topsoil,



A partially excavated Underground Orchid. (photo: S. D. Hopper)

allowing direct access to the flowers from above. The flowers produce a faint sweet odour which is not always noticeable.

Insect vectors are required for the flowers to be pollinated. There have been two observations of insects visiting the flowers and bearing the orchid's pollen. One of these insects was captured and identified as a species of wasp while the other insect was a fly. The seeds apparently mature in November-December but seed set appears to be low. The fruits are succulent.



The Underground Orchid's habitat near Munglinup with small Broom Honeymyrtle shrubs. (photo: S. D. Hopper)

CONSERVATION

All of the populations discovered prior to 1960 are now extinct and many others were probably destroyed by land clearance without even being noticed.

As a result of recent work by K. W. Dixon and members of the W.A. Native Orchid Study and Conservation Group, there are now five known surviving populations, three near Munglinup and two near Corrigin. In all, less than 50 plants have been found at these locations. (It takes ten man-hours to locate each *Rhizanthella* plant in known populations.). Two populations occur on Nature Reserves, one of which was upgraded to 'A Class' status in 1981.

It is particularly important to protect the known wild populations and locate further populations of the orchid because attempts to obtain mature seeds or cultures of it are only in their infancy. Even if adequate numbers of mature seeds could be found, the orchid is likely to prove difficult to grow in cultivation in view of its highly specialised biology.

IUCN Red Data Book Category: RARE
Australian Plants at Risk Code: 3V

FURTHER READING

George, A. S. (1980). *Rhizanthella gardneri*—the Underground Orchid of Western Australia. *Amer. Orchid Soc. Bull.* **49**: 631—646.
Rogers, R. S. (1928). A new genus of Australian orchid *J. Roy. Soc. West. Aust.* **15**: 1-7

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JUNE MEETING TOPIC

ANDREW. BROWN WILL CONDUCT A DISCUSSION.

ON WA PRASOPHYLLUMS & MICROTICS.

WE'LL COVER IDENTIFICATION, DISTRIBUTION & FLOWERING TIME.

PLEASE BRING ANY SLIDES YOU HAVE OF PRASOPHYLLUMS & MICROTICS

FOR IDENTIFICATION & DISCUSSION.

WE WANT AS MANY MEMBERS SLIDES AS POSSIBLE