INTERIM RECOVERY PLAN NO. 64

PHALANX GREVILLEA

(*GREVILLEA DRYANDROIDES* SUBSP. *DRYANDROIDES*)

INTERIM RECOVERY PLAN

2000-2003

Robyn Phillimore and Andrew Brown

Photograph: Anne Cochrane

April 2000

Department of Conservation and Land Management
Western Australian Threatened Species and Communities Unit (WATSCU)
PO Box 51, Wanneroo, WA 6946

Natural Heritage Trust
Helping Communities Helping Australia

Department of Conservation and Land Management

THE GOVERNMENT OF WESTERN AUSTRALIA

FOREWORD

Interim Recovery Plans (IRPs) are developed within the framework laid down in Department of Conservation and Land Management (CALM) Policy Statements Nos. 44 and 50.

IRPs outline the recovery actions that are required to urgently address those threatening processes most affecting the ongoing survival of threatened taxa or ecological communities, and begin the recovery process.

CALM is committed to ensuring that CR taxa are conserved through the preparation and implementation of Recovery Plans or Interim Recovery Plans and by ensuring that conservation action commences as soon as possible and always within one year of endorsement of that rank by the Minister.

This Interim Recovery Plan will operate from April 2000 to March 2003 but will remain in force until withdrawn or replaced. It is intended that, if the taxon is still ranked CR, this IRP will be replaced by a full Recovery Plan after three years.

This IRP was approved by the Director of Nature Conservation on 20 August 2000. The provision of funds identified in this Interim Recovery Plan is dependent on budgetary and other constraints affecting CALM, as well as the need to address other priorities.

Information in this IRP was accurate at April 2000.

SUMMARY

Scientific Name: ***Grevillea dryandroides*** **subsp.** ***dryandroides***
Common Name: Phalanx grevillea
Family: Proteaceae
CALM Region: Wheatbelt
Shire: Wongan- Ballidu
Flowering Period: September to March
CALM District: Merredin
Recovery Team: Merredin District Threatened Flora Recovery Team (MDTFRT)

Illustrations and/or further information: Brown, A., Thomson-Dans, C. and Marchant, N. (Eds) (1998). *Western Australia's Threatened Flora*. Department of Conservation and Land Management, Western Australia; Olde, P.M. and Marriott, N.R. (1993). New species and taxonomic changes in *Grevillea* (Proteaceae: Grevilleoideae) from south-west Western Australia. *Nuytsia*: 9 (2) 237-304; Olde, P.M. and Marriott, N.R. (1995). *The Grevillea Book* Volume 2, Kangaroo Press Ltd, New South Wales.

Current status: *Grevillea dryandroides* subsp. *dryandroides* was declared as Rare Flora in October 1996 and was ranked as Critically Endangered (CR) in February 1997. It currently meets World Conservation Union (IUCN) Red List Category 'CR' under criteria B1+2b,c,d,e and C1 (IUCN 1994), due to there being just five small highly fragmented populations, a decline in the area of occupancy and the quality of its habitat (mainly on disturbed road and rail reserves), and a continuing decline in the number of individual plants. The main threats include weeds, accidental destruction through road and rail maintenance and recreational activities, fire and competition from associated native plant species.

Habitat requirements: *Grevillea dryandroides* subsp. *dryandroides* is endemic to Western Australia where it is apparently confined to the Ballidu area. It is known from five populations containing 115 plants in open heath on grey sandy loam and yellow gravelly sand, with shrubs of *Allocasuarina* and *Melaleuca*.

Critical habitat: The critical habitat for *Grevillea dryandroides* subsp. *dryandroides* comprises the area of occupancy of the known populations; areas with open heath on grey sandy loam and yellow gravelly sand, with shrubs of *Allocasuarina* and *Melaleuca* within 200 metres of known populations; corridors of remnant vegetation that link populations; additional areas with open heath on grey sandy loam and yellow gravelly sand, with shrubs of *Allocasuarina* and *Melaleuca* and that do not currently contain the subspecies.

Existing Recovery Actions: The following recovery actions have been or are currently being implemented:
1. Appropriate land managers have been informed of the subspecies' location and their legal obligations.
2. Declared Rare Flora (DRF) markers have been installed at populations 2 and 4, and subpopulations 1a, 1b, 3a and 5a.
3. Dashboard stickers and posters that illustrate DRF markers and describing their purpose have been produced and distributed.
4. A poster that provides a description of the subspecies and information about threats and recovery actions has been developed.
5. A reply paid postal drop describing the subspecies and its habitat has also been developed and distributed to local farmers and residents in the Wongan-Ballidu Shire.
6. Subpopulations 1b and 3b have been fenced.
7. Seed and cutting material was collected in 1996, 1997, 1998 and 1999 by CALM's Threatened Flora Seed Centre and Botanic Gardens and Parks Authority (BGPA).
8. Smoke trials were undertaken by BGPA in 1995.
9. The Merredin District Threatened Flora Recovery Team is overseeing the implementation of this IRP.
10. CALM staff from the Merredin District Office regularly monitor the populations.

IRP Objective: The objective of this Interim Recovery Plan (IRP) is to abate identified threats and maintain and/or enhance *in situ* populations to ensure the long-term preservation of the taxon in the wild.

Recovery Criteria
Criterion for success: The number of individuals within populations and/or the number of populations have increased.
Criterion for failure: The number of individuals within populations and/or the number of populations have decreased.

Recovery actions
1. Coordinate recovery actions.
2. Install Declared Rare Flora markers.
3. Undertake weed control.
4. Liaise with land managers.
5. Conduct further surveys.
6. Monitor populations.
7. Develop and implement a fire strategy.
8. Collect seed and cutting material.
9. Obtain biological and ecological information.
10. Propagate plants for translocation.
11. Undertake and monitor translocation.
12. Promote awareness.
13. Write full RP.

1. BACKGROUND

History

The genus *Grevillea* is named in honour of Charles Greville, a past Vice President of the Royal Society who introduced and cultivated many Australian plants in England. Some 340 species are known, most of which occur in Australia with some 150 found in the South-western Botanical Province of Western Australia. Here, they are concentrated on the sandheaths and lateritic rises of the kwongan, often in association with granite outcrops (Olde and Marriott, 1994).

Based on the persistence of foliar indumentum, leaf lobe length, conflorescence and pistil length, *Grevillea dryandroides* has been split into two subspecies (Olde and Marriott, 1993). *G. dryandroides* subsp. *dryandroides* differs from the subspecies *hirsutus* in having smooth leaves with lobes that are less than 12 millimetres long.

W.E. Blackall made the first collection of *Grevillea dryandroides* subsp. *dryandroides* from the Pithara area in 1931. Further collections were made from Ballidu, Pithara and Wubin between 1934 and 1996. Despite recent surveys in these areas only five populations are currently known from a single area near Ballidu.

Most *Grevillea dryandroides* subsp. *dryandroides* populations are located on road and rail reserves and are therefore particularly vulnerable to maintenance such as firebreak grading, cable installation, weedicide application and tourist visitation.

Grevillea dryandroides subsp. *dryandroides* was declared as Rare Flora in October 1996 and was ranked as Critically Endangered (CR) in February 1997. It currently meets World Conservation Union (IUCN) Red List Category 'CR' under criteria B1+2b,c,d,e and C1 (IUCN 1994), due to there being just five small highly fragmented populations, a decline in the area of occupancy and the quality of its habitat (mainly on disturbed road and rail reserves), and a continuing decline in the number of individual plants.

Description

Grevillea dryandroides subsp. *dryandroides* is a root suckering shrub to 50 centimetres tall. It usually forms colonies of less than five plants or is scattered singly amongst associated vegetation. The leaves are dull, yellow-green, each with leaf lobes 5 to 15 millimetres long. The inflorescence is 3 to 4 centimetres long, and pedicles are 1 to 1.5 millimetres long. Individual flowers are pink to orange-pink with a grey-green limb. The style is red or pink with a green tip. The perianth is 6 to7 millimetres long and the pistil 17 to 18 millimetres long (Olde and Marriott, 1993). Flowers occur from September to March (Brown *et al*., 1998).

Distribution and habitat

Grevillea dryandroides subsp. *dryandroides* is endemic to Western Australia where it is apparently confined to the Ballidu area. It is known from five populations that include 115 plants.

Grevillea dryandroides subsp. *dryandroides* is found in open heath on grey sandy loam and yellow gravelly sand, with shrubs of *Allocasuarina* and *Melaleuca*. Associated species include *Acacia resinimarginea*, *Acacia yorkrakinensis* subsp. *acrita*, *Acacia sessilispica*, *Dampiera lavandulacea*, *Calytrix breviseta* subsp. *stipulosa*, *Chorizema rhynchotropis*, *Opercularia spermacocea*, *Melaleuca cordata*, *Waitzia acuminata*, *Hakea scoparia*, *Allocasuarina campestris*, *Stylidium* sp., *Conospermum stoechadis* subsp. ?*sclerophyllum*, *Synaphea* sp., *Hakea meisneriana*, *Glischrocaryon aureum* var. *aureum*, *Jacksonia* sp., *Melaleuca conothamnoides*, *Verticordia chrysantha*, *Petrophile incurvata*, *Melaleuca uncinata*, *Melaleuca orbicularis*, *Verticordia* sp., *Hibbertia huegelii*, and *Thryptomene* sp.

Critical Habitat

Critical habitat is habitat identified as being critical to the survival of a listed threatened species or listed threatened ecological community. Habitat is defined as the biophysical medium or media (a) occupied (continuously, periodically or occasionally) by an organism or group of organisms; or (b) once occupied (continuously, periodically or occasionally) by an organism, or group of organisms, and into which organisms of that kind that the potential to be reintroduced. (sections 207A and 528 of Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)).

The critical habitat for *Grevillea dryandroides* subsp. *dryandroides* comprises:

- the area of occupancy of the known populations,
- areas of similar habitat ie. open heath on grey sandy loam and yellow gravelly sand, with shrubs of *Allocasuarina* and *Melaleuca*, within 200 metres of known populations (these provide potential habitat for natural range extension),
- corridors of remnant vegetation that link populations (these are necessary to allow pollinators to move between populations and are usually road and rail verges),
- additional occurrences of similar habitat ie. open heath on grey sandy loam and yellow gravelly sand, with shrubs of *Allocasuarina* and *Melaleuca* (this represent possible translocation sites).

Biology and ecology

It is known that the subspecies is pollinated by birds and regenerates from seed or suckers after fire or disturbance (Olde and Marriott, 1995). Smoke trials undertaken by the Botanic Parks and Gardens Authority (BGPA) in 1995 on two adult plants supports this hypothesis, with up to 60 seedlings germinating in a 15 metre radius around the plants. Otherwise the biology and ecology of *Grevillea dryandroides* subsp. *dryandroides* is poorly known.

Some minor seed predation has been observed but not enough to prevent a large amount being stored in the soil.

Threats

The main threats include weeds, accidental destruction through road and rail maintenance and recreational activities, fire and competition from an associated native plant species.

- **Weed invasion** is a threat to all populations. Weeds suppress early plant growth by competing for soil moisture, nutrients and light. They also exacerbate grazing pressure and increase the fire hazard due to their high fuel loads. Narrow, linear populations, such as road and rail reserves, are severely affected by weed seed blown in from adjacent cleared land (Lynch 1987; Saunders *et al*. 1987; Taylor 1987).

- **Road and track maintenance** threatens population 2 and subpopulations 1a, 1b, 3a, 3c, 5a and 5b. Threats include maintenance of telephone cables located underneath subpopulation 3a, grading of road reserves, spraying of chemicals, construction of drainage channels and mowing of roadside vegetation. These events often encourage weed invasion as well as causing damage to actual plants. Relevant authorities need to be

informed of the location of populations so that appropriate protective measures can be implemented. Adjacent landowners should also be informed to prevent possible damage due to grazing, crop maintenance, firebreak maintenance or other activities that may threaten the populations.

- **Lack of population recruitment** has been observed at all populations. Possible causes include seed and/or seedling predation and a lack of disturbance events to stimulate germination.

- **Human activities** threaten subpopulation 3b and population 4, both of which are located in Shire reserves. Threats include trampling by people, accidental mowing and construction of new graves.

- **Inappropriate fire regimes** may affect the viability of plants. Seed of *Grevillea dryandroides* subsp. *dryandroides* probably germinates following fire and occasional fires are needed for recruitment. No natural fire has occurred in the area of the populations in recent times. Too frequent fire may rapidly deplete the soil seed bank if it occurs before plants have reached maturity. It could also deplete nutrients stored in the roots and so affect the plants' capacity to resprout. Further investigation is required and will be addressed in management action 9.

- **Competition** from a local dodder species (*Cuscuta* sp.) is a threat to subpopulations 1b and 5b, as the vine covers many adult plants. Dodder not only competes for light, nutrients and possibly pollinators but also physically restricts the host, therefore posing an immediate threat to the longevity of individual plants.

Summary of population information and threats

Pop. No. and Location	Land Status	Year/No. plants	Condition	Threats
1a. Ballidu	MRWA road reserve	1991 9 1998 4	Moderate	Road maintenance, weed invasion
1b. Ballidu	Westrail reserve	1991 18 1995 40 1999 26	Moderate	Rail maintenance, weed invasion, dodder infestation
2. Ballidu	Shire road reserve	1980 36 1999 5	Poor	Weed invasion, road maintenance
3a. Ballidu	MRWA road reserve	1988 62 1999 20+	Moderate	Road maintenance, weed invasion, cable maintenance
3b. Ballidu	Shire Reserve	1994 2 1999 1	Poor	Weed invasion, trampling, mowing, poor habitat
3c. Ballidu	Westrail reserve	1999 5	Healthy	Rail maintenance, weed invasion
4. Ballidu	Shire Reserve	1985 2 1999 9	Moderate	Trampling, grave construction, weed invasion
5a. Ballidu	MRWA road reserve	1995 3 1999 45*	Moderate	Weed invasion, road maintenance
5b. Ballidu	Westrail reserve	1999 45*	Healthy	Rail maintenance, weed invasion, dodder infestation

*Total for both subpopulations combined.

Guide for decision-makers

Section 1 provides details of current and possible future threats. Developments in the immediate vicinity of any of the populations or within the defined critical habitat of *Grevillea dryandroides* subsp. *dryandroides* require assessment. No developments should be approved unless the proponents can demonstrate that they will have no significant impact on the subspecies, and its habitat or potential habitat.

2. RECOVERY OBJECTIVE AND CRITERIA

Objective

The objective of this IRP is to abate identified threats and maintain and/or enhance *in situ* populations to ensure the long-term preservation of the taxon in the wild.

Criterion for success: The number of individuals within populations and/or the number of populations have increased.
Criterion for failure: The number of individuals within populations and/or the number of populations have decreased.

3. RECOVERY ACTIONS

Existing recovery actions

Local Shires and private property owners have been formally notified of the presence of populations of *Grevillea dryandroides* subsp. *dryandroides* on their lands. Notifications detail the Declared Rare status of the taxon and the associated legal responsibilities.

Declared Rare Flora (DRF) markers have been installed at populations 2 and 4, and subpopulations 1a, 1b, 3a and 5a. DRF markers alert people working in the area of the presence of threatened flora, and help prevent accidental damage. An increased awareness of these markers is being promoted to relevant land managers such as local authorities. Dashboard stickers and posters have been produced and distributed. These illustrate DRF markers, inform of their purpose and provide a contact telephone number to use if such a marker is encountered.

An A4 sized poster, which provides a description of the subspecies, and information about threats and recovery actions, has been developed for *Grevillea dryandroides* subsp. *dryandroides*. It is hoped that the poster will result in the discovery of new populations.

A reply paid postal drop illustrating *Grevillea dryandroides* subsp. *dryandroides* and describing its distinctive features and habitat has been distributed by CALM's Merredin District office to local farmers and residents in the Wongan-Ballidu Shire. Postal drops aim to provide information about threatened species and a contact name and number. It is hoped that by targeting residents of specific areas new populations will be located.

Subpopulation 1b was fenced following the destruction of ten plants during firebreak grading and weedicide activities in 1991. Subpopulation 3b was fenced in 1999 to reduce the risk of plants being trampled.

Seed was collected from populations 1 and 5 in November 1996, 1997, 1998 and 1999 and stored in CALM's Threatened Flora Seed Centre. A total of 604 seeds have been collected from approximately 20 plants and these are being stored at -18°C. The initial germination rate of *Grevillea dryandroides* subsp. *dryandroides* seed was found to range between 40 and 100%. A sample germinated after one year in storage gave an 80% germination rate.

Eighteen cuttings were collected by staff from the Botanic Gardens and Parks Authority (BGPA) in 1994 and a further ten in 1997. The success rate of these cuttings has been low with only six plants from the first batch and one plant from the second batch surviving. Material was also collected by BGPA for tissue culture in 1997. The TFSC propagated six seedlings in 1997, with three still alive.

Thirty *Grevillea dryandroides* subsp. *dryandroides* cuttings were taken in 1999 and are currently being propagated at BGPA for a potential translocation.

Smoke trials undertaken by BGPA in 1995, on two adult *Grevillea dryandroides* subsp. *dryandroides* plants resulted in 50 to 60 seedlings germinating in a 15 metre radius around the plants.

The Merredin District Threatened Flora Recovery Team is overseeing the implementation of this IRP and will include information on progress in annual reports to CALM's Corporate Executive and funding bodies.

CALM's Merredin District Office staff regularly monitor all populations.

Future recovery actions

Where recovery actions are implemented on lands other than those managed by CALM, permission has been or will be sought from the appropriate land managers prior to actions being undertaken.

1. Co-ordinate recovery actions

The MDTFRT oversees the implementation of recovery actions for *Grevillea dryandroides* subsp. *dryandroides* and will include information on progress in its annual report to CALM's Corporate Executive and funding bodies.

Action: Coordinate recovery actions
Responsibility: CALM (Merredin District) through the MDTFRT
Cost: $300 per year.

2. Install Declared Rare Flora markers

Declared Rare Flora (DRF) markers are required at subpopulations 3c and 5b.

Action: Install Declared Rare Flora markers at subpopulations 3c and 5b.
Responsibility: CALM (Merredin District) through the MDTFRT
Cost: $600 in first year.

3. Undertake weed control

Weeds are a threat to all populations and effective control with the use of herbicides and hand pulling is required. The following actions will be implemented:

1. Appropriate herbicides will be selected after determining which weeds are present.
2. Invasive weeds will be controlled by hand removal or spot spraying.
3. Dodder infestations will be controlled by hand removal when deemed necessary.
4. Weed control will be scheduled to include spraying at other threatened flora populations within the Merredin district.

The tolerance of associated native plant species to herbicides at the site of *Grevillea dryandroides* subsp. *dryandroides* is not known and weed control programs will be undertaken in conjunction with research (see Recovery Action 9).

Action: Undertake weed control
Responsibility: CALM (Merredin District, CALMScience) through the MDTFRT
Cost: $1,100 per year.

4. Liaise with land managers

Staff from CALM's Merredin District will continue to liaise with Westrail, Main Roads WA, the Shire and adjacent landowners to ensure that populations are not damaged or destroyed accidentally.

Action: Liaise with land managers
Responsibility: CALM (Merredin District) through the MDTFRT
Cost: $700 per year.

5. Conduct further surveys

Further surveys, supervised by CALM staff and with assistance from local naturalists and wildflower society members, will be conducted during the subspecies' flowering period (September to October, February to March). Likely survey sites will include the Wubin and Pithara areas where historical collections of the subspecies were made.

Action: Conduct further surveys
Responsibility: CALM (Merredin District) through the MDTFRT
Cost: $2,100 per year.

6. Monitor populations

Monitoring of factors such as weed invasion, habitat degradation, salinity levels and population stability (expansion or decline), pollinator activity, seed production, recruitment from seedlings and the plant's longevity is essential. All populations will be inspected annually.

Action: Monitor populations
Responsibility: CALM (Merredin District) through the MDTFRT
Cost: $900 per year.

7. Develop and implement a fire management strategy

Frequent fire may prevent the accumulation of sufficient soil stored seed to allow regeneration. Fire should therefore be excluded from the area at least in the short term. A fire management strategy will be developed to determine fire control measures and an appropriate fire frequency.

Action: Develop and implement a fire management strategy
Responsibility: CALM (Merredin District) through the MDTFRT
Cost: $2,300 in first year, and $1,000 in subsequent years.

8. Collect seed and cutting material

A small quantity of seed has been collected from populations 1 and 5. Additional seed will be collected as required. Cuttings will also be collected to add to the living collection of genetic material at the BGPA.

Action: Collect seed and cutting material
Responsibility: CALM (Merredin District, TFSC) and BGPA, through the MDTFRT
Cost: $3,000 per year.

9. Obtain biological and ecological information

Increased knowledge of the biology and ecology of the subspecies will provide a scientific basis for management of *Grevillea dryandroides* subsp. *dryandroides* in the wild. Investigations will include:

1. Study of the soil seed bank dynamics and the role of various factors including disturbance, competition, rainfall and grazing on recruitment and seedling survival.
2. Determination of the plant's reproductive strategies, phenology and seasonal growth.
3. Investigation of the plant's mating system and pollination biology.
4. Investigation of population genetic structure, levels of genetic diversity and minimum viable population size.
5. The impact of increased salinity levels on the habitat.

Action: Obtain biological and ecological information
Responsibility: CALM (CALMScience, Merredin District) through the MDTFRT
Cost: $15,900 per year.

10. Propagate plants for translocation

The propagation of plants in readiness for translocation is essential as all known wild populations of *Grevillea dryandroides* subsp. *dryandroides* are under threat. A total of 604 seeds and 30 cuttings were taken in 1999 and are currently being germinated and propagated at BGPA for planting in June 2000.

Action: Propagate plants for translocation
Responsibility: CALM (Merredin District) and BGPA through the MDTFRT
Cost: $2,100 for first and second years.

11. Undertake and monitor translocation

Although translocations are generally undertaken under full RPs, the many threats to wild populations of this CR subspecies require the development of an urgent translocation proposal within the time frame of this IRP. This will be coordinated by the MDTFRT. A translocation proposal has been approved for this subspecies.

A translocation site has been selected which contains healthy remnant vegetation, is relatively free of weeds, and contains a similar soil type, associated vegetation and structure to that of the known populations. The site is also adjacent to Population 2, therefore the translocation can be considered a restocking under the definitions provided by Policy Statement 29 and the guidelines for translocation of threatened plants in Australia. An irrigation system will be set up during planting out of seedlings. Monitoring of the translocation is essential and will occur during the flowering period of the subspecies.

Action: Undertake and monitor translocation
Responsibility: CALM (CALMScience, Merredin District) through the MDTFRT
Cost: $11,500 in first year, and $5,600 in subsequent years.

12. Promote awareness

The importance of biodiversity conservation and the protection of the CR *Grevillea dryandroides* subsp. *dryandroides* will be promoted to the public. Formal links with local naturalist groups and interested individuals will also be implemented.

Action: Promote awareness
Responsibility: CALM (Merredin District, Corporate Relations) through the MDTFRT
Cost: $600 per year.

13. Write a full Recovery Plan

At the end of the three year term of this IRP, the need for further recovery will be assessed. If the subspecies is still ranked CR a full RP will be developed. A RP will be prepared with the benefit of knowledge gained over the time frame of this IRP.

Action: Write a full Recovery Plan
Responsibility: CALM (WATSCU, Merredin District) through the MDTFRT
Cost: $16,500 in third year.

4. TERM OF PLAN

This IRP will operate from April 2000 to March 2003 but will remain in force until withdrawn or replaced. It is intended that, if the taxon is still ranked CR, this IRP will be replaced by a full RP after three years.

5. ACKNOWLEDGMENTS

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Alex Agafonoff	Former Conservation Officer, CALM Merredin District
Paul Armstrong	Student, Curtin University
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Dave Coates	Principal Research Scientist, CALM W.A. Herbarium
Anne Cochrane	Manager, CALM Threatened Flora Seed Centre
Val English	Ecologist, CALM W.A. Threatened Species and Communities Unit
Rebecca Evans	Former Project Officer, CALM W.A. Threatened Species and Communities Unit
Mike Fitzgerald	Project Officer, CALM Merredin District
Nigel Goode	Works Manager, Wongan-Ballidu Shire
Sophie Juszkiewicz	Propagator, Botanic Gardens and Parks Authority
Leonie Monks	Research Scientist, CALMScience

Paul Roberts District Manager, CALM Merredin District
Amanda Shade Horticulturalist, Botanic Gardens and Parks Authority
Gillian Stack Former Project Officer, CALM W.A. Threatened Species and Communities Unit

We would like to thank the staff of the W.A. Herbarium for providing access to Herbarium databases and specimen information, and CALM's Wildlife Branch for their extensive assistance.

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7. TAXONOMIC DESCRIPTION

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Grevillea dryandroides

Tufty, root-suckering shrub 10 -50 cm high with leafless peduncles trailing up to 1 m from the foliage; branchlets angular, villous. Leaves 5 - 20 cm long, ascending, shortly petiolate, subpinnatisect, secund; leaf rachis straight, incurved or recurved; leaf lobes 5 - 35 mm long, 1.2-2.5 mm wide, linear, closely aligned, the apex uncinate; upper surface glabrous to villous, the midvein evident; margin angularly to smoothly refracted; lower surface binucleate, the lamina obscured or almost so by the margins, villous on the grooves, the midvein prominent. Conflorescences erect on trailing peduncles, terminal, usually branched, sometimes simple; unit conflorescence 3-10 cm long, conico- to oblong- secund, dense; peduncles sparsely to densely sericeous to appressed- villous; floral rachis sericeous; floral bracts 1-2 mm long, ovate - acuminate, some usually at anthesis. Flowers: pedicels 1-2 mm long, sericeous; torus 1-1.5 mm across, oblique to almost straight; perianth

6-8 mm long, pink to purplish - red, ovoid-sigmoid, sericeous to tomentose outside, glabrous inside' limb green, revolute, ellipsoid; pistil 17-23 mm long; stipe 0.5-1.5 mm long; ovary appressed-villous; style red, straight, sparely villous becoming glabrous near the style - end; pollen presenter straight, erect, very narrowly elongate-conical, the base slightly bulbous. Fruits 14-16.5 mm long, 8.5 mm wide, oblique, oblong to ellipsoid; pericarp 0.5 mm thick throughout. Seed 7 mm long, 2.5 mm wide, oblong-ellipsoid; outer face convex, rugulose; inner face flat, channelled around the margin: margin recurved with a papery or waxy border.

Discussion

Two subspecies are here recognised based on the persistence of foliar indumentum, leaf lobe length, conflorescence and pistil length.

Key to subspecies of *Grevillea dryandroides*

1. Most leaf lobe <10 mm long, glabrescent; pistil 17 mm long; ovarian stipe < 1 mm long .... ***Grevillea dryandroides* subsp. *dryandroides***

2. Most leaf lobe >12 mm long, persistently hairy; pistil 19-23 mm long; ovarian stipe 1-1.5 mm long .... ***Grevillea dryandroides* subsp. *hirsuta***

Grevillea dryandroides* subsp. *dryandroides

A lightly root-suckering shrub 10-50 cm high, usually forming colonies of <5 plants or scattered singly among the vegetation; leaves dull, yellow-green; leaf rachis glabrous; leaf lobes 5-10 (15) mm long, glabrescent; unit conflorescence 3-4 cm long, oblong-secund; pedicels 1-1.5 mm long; torus oblique at c. 30°; perianth 6-7 mm long; pistil 17 mm long; ovarian stipe 0.5-0.7 mm long.