INTERIM RECOVERY PLAN NO 84

# BAILEY'S SYMONANTHUS

# (*SYMONANTHUS BANCROFTII*)

# INTERIM RECOVERY PLAN

# 2000-2003

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Photograph: G. Durell

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## FOREWORD

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

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

CALM is committed to ensuring that Critically Endangered 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This Interim Recovery Plan will operate from October 2000 to September 2003 but will remain in force until withdrawn or replaced. It is intended that, if the taxon is still ranked Critically Endangered, this IRP will be replaced by a full Recovery Plan after three years.

This IRP was approved by the Director of Nature Conservation on 27 June 2001. 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 October 2000.

## SUMMARY


**Scientific Name:** ***Symonanthus bancroftii***
**Common Name:** Bailey's symonanthus
**Family:** Solanaceae
**Flowering Period:** June - September
**CALM Region:** Wheatbelt
**CALM District:** Narrogin
**Shire:** Bruce Rock

**Recovery Team:** Narrogin District Threatened Flora Recovery Team (NDTFRT)

**Illustrations and/or further information:** Brown, A.P., Thomson-Dans C. and Marchant N. (1998). *Western Australia's Threatened Flora*. Department of Conservation and Land Management, Western Australia; Buehrig, R. M. (1997). *Symonanthus bancroftii Report*. Durell, G. S. and Buehrig, R. M. (2001.). *Declared Rare and Poorly Known Flora in the Narrogin District*; Department of Conservation and Land Management, Western Australia; Haegi, L. (1982). *Flora of Australia 29* 13-16); Mueller, F. (1882). Syst. Census Austral. *Symonanthus bancroftii*.

*Symonanthus bancroftii* is a low, many-stemmed herbaceous undershrub to 25 cm high. Its stalkless, egg-shaped to narrow, more or less spreading leaves are 5-17 mm long and up to 3 mm wide. They are hairy, somewhat warty and rolled over at the margins. Plants are dioecious. Flowers are white in colour, small, hairy and streaked with violet inside. The fruit is a nearly globular capsule, 3-4 mm long, 2.5-4 mm wide, with 3-5 seeds. Seeds are 2 mm long and 1 mm wide.

**Current status:** *Symonanthus bancroftii* was declared as Rare Flora in October 1996 and was ranked as Critically Endangered (CR) in November 1997. It currently meets IUCN Red List Criteria A1c and D as there has been a suspected population reduction of 80% over the last three generations based on a decline in area and quality of habitat, and population size is less than 50 mature individuals. The entire population is currently known from two mature plants (one male and one female) approximately 500 metres apart. Threats to the population include senescence, accidental destruction during firebreak, rail maintenance and roadworks, herbicide spraying and weed invasion.

**Habitat requirements:** The species is thought to be geographically restricted with just two plants occurring on the same reserve in the Bruce Rock area. Mr. Rob Buehrig (former CALM Technical Officer) compiled a report in 1997 which hypothesized that the species may have been more common in areas of prime agricultural soil and that extensive clearing in the Bruce Rock area may have destroyed most of its habitat.

**Critical habitat:** The critical habitat for *Symonanthus bancroftii* includes remnant vegetation in which the species occurs, a buffer of vegetation adjacent to the current habitat of the taxon, corridors of intact vegetation that are linked to the habitat of the species and occurrences of its habitat in areas where it has been found in the past.

**Existing Recovery Actions**:
The following recovery actions have been or are currently being implemented:
1. Appropriate land mangers have been notified of the threatened nature of this species and its location.
2. Both plants have been fenced.
3. Declared Rare Flora markers have been erected at population 1b (plant 2) to prevent accidental destruction from clearing and herbicide spraying.
4. Regular monitoring of both plants is being undertaken.
5. Botanic Gardens and Parks Authority (BGPA) staff have collected cutting material and now have over sixty male plants in cultivation. Female plants are still in early tissue culture stage.
6. Joint CALM/community surveys have been conducted within the known distribution range.

**IRP Objective**: The objective of this Interim Recovery Plan (IRP) is to abate identified threats and maintain or enhance the *in situ* population to ensure the long-term preservation of the species 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. Liaise with landowners and adjacent land managers.
3. Undertake weed control.
4. Maintain fences and Declared Rare Flora marker posts.
5. Monitor populations.
6. Conduct further surveys.
7. Develop and implement a fire management strategy.
8. Collect and preserve genetic material.
9. Assess the need for translocations or restocking and if deemed necessary develop a translocation proposal.
10. Obtain biological and ecological information
11. Promote awareness.
12. Seek changes in land vesting and purpose.
13. Write a full Recovery Plan.

# 1. BACKGROUND

## History

*Symonanthus* was named in honour of David Symon (Waite Agricultural Research Institute, Adelaide), for his work in Australian botany, which includes significant contributions to the understanding of the biology and taxonomy of the Solanaceae (Mueller and Haegi 1981). The name is derived from a combination of David Symon's name and the Greek *anthos,* a flower. The specific name, *bancroftii* is in honour of Dr. Joseph Bancroft (1836-1894), a Brisbane pharmacologist who studied the physiological properties of the related genus *Duboisia* (Leigh *et al.* 1984). M. Heal first collected *Symonanthus bancroftii* in 1892. In 1932 and 1945 it was collected by E.T. Bailey from near Bruce Rock and Muntadgin respectively and earned its common name of Bailey's symonanthus. It has been collected nine times since 1922. This includes a 1922 collection by C.A. Gardner from Bendering (60 km south of Bruce Rock). Robyn Campbell and Kim Kershaw made the most recent collections (1997-98) near Ardath. Historically, the species has been found over a range of 80 km, however, the two plants found in 1997/98 are the only ones currently known. Recent surveys have failed to locate additional populations.

## Description

*Symonanthus bancroftii* is a low, many-stemmed herbaceous undershrub to 25 cm. Its stalkless, egg-shaped to narrow, more or less spreading leaves are 5-17 mm long and up to 3 mm wide. They are hairy, somewhat warty and rolled over at the margins. Plants are dioecious. Flowers are white in colour, small, hairy and streaked with violet inside. The fruit is a nearly globular capsule, 3-4 mm long, 2.5-4 mm wide, with 3-5 seeds. Seeds are 2 mm long and 1 mm wide. An aroma of tobacco emanates from Charles Gardner's 75-year-old collection, however this has not been evident from freshly collected material (Durell and Buehrig, 2001).

## Distribution and habitat

Historically, the species has been found over a range of 80 km between Bruce Rock, Muntadgin, Ardath and Bendering, however, it is currently known only from the Ardath area where just two plants have been located.

Both plants are found in areas of disturbed shallow granitic soil, which is prone to hard setting. Evidence from Rob Buehrig's report (1997) suggests that *Symonanthus bancroftii* prefer a residual/colluvial soil derived from granitic rocks. Beyond this the clues are conflicting. The plant may grow near granitic rock that outcrops as a sheet or dome, or it may grow close to drainage lines lower down in the landscape.

The surrounding vegetation at known sites is woodland consisting of *Eucalyptus erythronema* subsp. *erythronema*, *Eucalyptus salmonophloia*, *Eucalyptus sheathiana* and *Eucalyptus salubris* over dwarf scrub of *Acacia orbifolia*.

## Critical habitat

Critical habitat is habitat identified as being critical to the survival of a listed threatened species or community. Habitat means 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 have the potential to be reintroduced. (*Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)).

The critical habitat for *Symonanthus bancroftii* includes:

- Remnant vegetation in which the species occurs.
- A buffer of vegetation adjacent to the current habitat of the taxon.
- Corridors of intact vegetation that link the habitat of the species.
- Occurrences of its habitat in areas where it has been found in the past.

Explanatory Note: Adjacent uncleared vegetation linked to the known habitat of the species and additional occurrences of the habitat are potential areas for the species and provide opportunities for reintroduction or re-invasion.

**Biology and ecology**

There are two species in genus *Symonanthus*, *S. aromaticus* and *S. bancroftii*. Because of the limited collections and just two known plants, little is known about the biology of *S. bancroftii*. However, as both plants occur in disturbed sites it is presumed to be a disturbance opportunist. *S. aromaticus* occurs in the Eastern Wheatbelt and Goldfields and is commonly seen following fire (Durell and Buehrig, 2001).

It is presumed that *Symonanthus bancroftii* is insect pollinated as a variety range of insects have been observed on flowering plants. In July 1998 Kim Kershaw collected a native bee that had been visiting the female plant of *S. bancroftii*. Dr. Terry Houston (Curator of Insects, Western Australian Museum) subsequently identified it as *Nomia gracilipes*, a member of the family Halictidae. A further indicator that *S. bancroftii* is insect pollinated is the small tubular corolla of the flower.

**Threats**

*Symonanthus bancroftii* was declared as Rare Flora in October 1996 and was ranked as Critically Endangered (CR) in November 1997. It currently meets IUCN Red List Criteria A1c and D as there has been a suspected population reduction of 80% over the last three generations based on a decline in area and quality of habitat, and population size is estimated to number less than 50 mature individuals. The entire population is currently known from just two mature plants (one male and one female) that occur approximately 500 metres apart. Threats to the population include senescence, accidental destruction during firebreak, rail and road maintenance, herbicide spraying and weed invasion. If no further plants are found or few seeds are stored in the soil seed bank lack of genetic diversity may also be a threat to the long-term conservation of the species.

The main threats to the survival of the adult plants are:

- **Small population size**. There are only two adult plants known, which provide an extremely limited gene pool for the long term viability of the species (there may be additional genetic variation in the soil-stored seed bank).

- **Lack of genetic diversity** is not likely to be a significant threat in the short term unless inbreeding depression has already affected reproductive traits such as flower, fruit or seed production, seed viability and seedling growth. Of more immediate concern (if there is no soil seed bank) is the lack of plant numbers with the probability of one or both plants dying in the next few years. Small populations are more likely to be threatened by chance demographic or environmental events, rather than by a lack of genetic diversity. Genetic diversity (or lack of it) may become a more important issue over the longer-term.

- **Lack of recruitment:** No natural recruitment of *Symonanthus bancroftii* has been observed and little is known of its reproductive biology and ecology. However, it is possible that the small population size (and lack of obvious recruitment) is quite normal in the absence of disturbance. The long-term survival of the species will, however, depend on the presence of a viable soil seed bank that is able to persist for many years between disturbance events. All adult plants may naturally senesce a few years after disturbance (fire), whilst the next event to stimulate regeneration may not occur for decades.

- **Inappropriate fire regimes** may adversely affect the viability of populations. Although fire almost certainly kills adult plants it is likely that soil-stored seed requires fire to germinate and the current lack of recruitment is probably due to the absence of recent fire. Such fires should be occasional as overly frequent fires could lead to local extinction if they occurred before seedling plants reached maturity.

- **Road, rail and firebreak maintenance** may threaten plants and habitat. Threats include grading, herbicide spraying and dumping of road material. These disturbance events may also encourage weed invasion.

- **Grazing** by rabbits and/or kangaroos has the potential to impact both plants. In addition, disturbance of soil by rabbit warren construction and increased nutrient levels from their droppings may encourage weeds.

Grazing by sheep is a minor threat to both plants. Grazing may have an impact on the establishment of *Symonanthus bancroftii* seedlings thus limiting the natural recruitment of the species.

- **Weed invasion** is a threat to one plant (subpopulation 1b). However weeds are also likely to cause further degradation to the habitat across the whole site. Small reserves such as those where *Symonanthus bancroftii* occurs are particularly susceptible to edge effects (Lynch 1987, Saunders *et al*. 1987, Taylor 1987) that enhance opportunities for weed invasion and establishment. Weeds of particular concern are wild turnip (*Brassica tournefortii*), wild oats (*Avena fatua*), capeweed (*Arctotheca calendula*) and cape tulip (*Homeria flaccida*).

**Summary of population information and threats**

| Pop. No. & Location | Land Status | Year/No. plants | Condition | Threats |
|---|---|---|---|---|
| 1a. S of Bruce Rock | Shire reserve | 1997 1 | Disturbed | Grazing, roadworks, dumping of road material, inappropriate fire, senescence. |
| 1b. S of Bruce Rock | Westrail reserve | 1998 1 | Disturbed | Railway maintenance, herbicide spraying, firebreak maintenance, grazing, weed invasion, inappropriate fire, senescence. |

**Guide for decision-makers**

Section 1 provides details of current and possible future threats. Developments or land clearing in the immediate vicinity of any of the populations of *Symonanthus bancroftii* require assessment. No developments or clearing should be approved unless the proponents can demonstrate that their actions will not have a significant impact on the species, its habitat or potential habitat or on the local surface hydrology such that drainage in the habitat of the species would be altered.

## 2. RECOVERY OBJECTIVES AND CRITERIA

**Objective**

The objective of this Interim Recovery Plan is to abate identified threats and maintain or enhance the *in situ* population to ensure the long-term preservation of the species in the wild.

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

## 3. RECOVERY ACTIONS

**Existing recovery actions**

The Shire of Bruce Rock, Westrail and adjacent land managers have been formally notified and shown the species and its location.

Members of the Bruce Rock Land Conservation District Committee are monitoring the plants monthly during the flowering period and every two months for the rest of the year.

Declared Rare Flora markers are in place at subpopulation 1b. Note: subpopulation 1a does not require markers.

Subpopulation 1a is fenced with Ringlock and subpopulation 1b is fenced with rabbit netting.

Botanic Gardens and Parks Authority (BGPA) staff have collected cutting material from both plants and using tissue culture techniques over sixty plants have been propagated from material collected from subpopulation 1a (male). Tissue culture material has also been taken and plants successfully propagated from subpopulation 1b (female), with three plants now established in potting media. Pollen from the male plant is held in cryostorage.

Mr. R. M. Buehrig conducted several surveys prior to 1997 and a report of this work is available. CALM staff and community volunteers conducted two further surveys in 1997 and 1998 respectively. The Bruce Rock Land Conservation District Committee coordinated these surveys with funding from the Gordon Reid Foundation and the Threatened Species Network Community Grants Scheme (delivered through the TSN, a joint program of the Natural Heritage Trust and the World Wide Fund for Nature Australia).

The NDTFRT is overseeing the implementation of this IRP and will include it in its Annual Report to CALM's Corporate Executive and funding bodies.

**Future recovery actions**

It should be noted that CALM Narrogin District will be listed as the responsible authority. This refers largely to implementing recovery actions coordinated by the Narrogin District Threatened Flora Recovery Team (NDTFRT).

Where appropriate, the completion date for actions is given as year 1, 2 or 3, referring to the years for which this IRP operates.

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. Coordinate recovery actions**

The NDTFRT will coordinate the implementation of recovery actions for *Symonanthus bancroftii* and will include progress information in its annual report to CALM's Corporate Executive and relevant funding bodies.

**Action:** Coordinate recovery actions
**Responsibility:** The NDTFRT
**Cost:** $350 p.a.

**2. Liaise with landowners and adjacent land managers**

Staff from CALM and members of the Bruce Rock Landcare District Committee (BRLCDC) will continue to liaise with the land managers and adjacent landowners to ensure that the two known plants are not damaged or destroyed accidentally. Approval and assistance of land managers will also be sought to implement recovery actions.

**Action:** Liaise with adjacent land managers
**Responsibility:** CALM (Narrogin District), BRLCDC, Westrail, Shire of Bruce Rock and adjacent landowners through the NDTFRT
**Cost:** $500 p.a.

**3. Undertake weed control**

Weeds may be a threat to subpopulation 1b, and a lesser threat to subpopulation 1a. The following actions will be implemented with the approval of land managers:

- Manual weeding will be done to maintain an area within 5 m of existing plants free of weeds. This will be done with minimum soil disturbance to avoid damage to any possible seedlings.
- Weed control will be conducted, following a smoked water germination trial, to maintain a weed free area of 5 m around the trial plot.
- A weed control program will be developed for the whole bushland area containing plants of *Symonanthus bancroftii* in order to prevent further decline in habitat quality.

**Action**: Undertake weed control
**Responsibility**: CALM (Narrogin District), BRLCDC, Westrail, Shire of Bruce Rock through the NDTFRT
**Cost**: $1,200 p.a.

### 4. Maintain fences and Rare Flora marker posts

**Action:** Maintain fences and marker posts
**Responsibility:** CALM (Narrogin District) and the BRLCDC through the NDTFRT
**Cost:** $250 p.a.

### 5. Monitor populations

A demographic monitoring program will be implemented to measure key population processes (numbers, structure, dynamics, trends), and help identify potential threats such as the occurrence of weed species, assess the effectiveness of management actions, identify research priorities, and collect other relevant biological and ecological information. Monitoring will coincide with the flowering period of *Symonanthus bancroftii*, seed production (fruit ripening) and likely periods of seedling recruitment and mortality. This may require 2 to 3 visits per year. A Rare Flora Report Form will be completed for each visit. All plants will either be individually marked or their location referenced from a known point to facilitate relocation on subsequent monitoring visits. All plants will be assigned a unique identification number to record all data against. The following data will be collected and recorded for all individuals plants using absolute or relative/proportional measures:

- Health/vigour.
- Bud, flower and seed production.
- Damage from grazing/browsing and the organism responsible.
- On an opportunistic basis, pollinator activity.

**Action:** Monitor populations
**Responsibility:** CALM (Narrogin District), BRLCDC through the NDTFRT
**Cost:** $1,800 p.a.

### 6. Conduct further surveys

Further surveys by CALM staff and members of the BRLCDC with assistance from local naturalists, Wildflower Society members and other volunteers will be conducted during the species flowering period (June to early September). Surveys will be conducted over three years and will include sites close to where past collections have been made. Surveys will be conducted at the same time as monitoring to reduce costs.

**Action:** Conduct further surveys
**Responsibility:** CALM (Narrogin District) and BRLCDC through the NDTFRT
**Cost:** $2,400 p.a.

### 7. Develop and implement a fire management strategy

It is likely that this species requires occasional fire to stimulate recruitment from soil-stored seed, but frequent fires during the flowering and seeding phase may be detrimental to its long-term survival. Fire also promotes the introduction and proliferation of weed species. A fire management strategy will be developed which will aim to prevent inappropriate fire from occurring in the area of the population. The strategy will also include the development of smoke trial plots aimed at encouraging germination of soil-stored seed.

**Action:** Develop and implement a fire management strategy
**Responsibility:** CALM (Narrogin District) and BRLCDC through the NDTFRT
**Cost:** $1,400 in year 1, and $900 in years 2 and 3

## 8. Collect and preserve genetic material

Given the threat to the species in the wild, ex-situ collections of genetic material needs to be maintained to minimise the risk of extinction. Consideration should be given to holding material in a variety of forms, including seed storage, living collections and possibly cryostorage. These collections should aim to sample and preserve the maximum range of genetic diversity possible. Such material will be used to propagate plants for future translocations (see 9). The "Germplasm Conservation Guidelines for Australia" produced by the ANPC should be used to guide this process. Pollination studies with *in situ* and *ex situ* plants to preserve the genetic material should be deemed an urgent recovery action.

**Actions:** Develop an appropriate strategy to collect and preserve genetic material
**Responsibility:** CALM (Narrogin District), Threatened Flora Seed Centre (TFSC) and BGPA through the NDTFRT
**Cost:** $1,500 in first year, $500 p.a. thereafter

## 9. Assess the need for translocations or restocking and if deemed necessary develop a translocation proposal

Translocation or restocking may be considered if no new populations of *S. bancroftii* are discovered during the period of this IRP, or if population recruitment either does not occur or is considered inadequate. Translocations are generally undertaken under full Recovery Plans, but due to the extreme danger of losing the two known plants of this species, it is vital to commence this course of action before a full Recovery Plan is written. All translocation proposals require endorsement by the Director of Nature Conservation.

Translocations, once approved, will be coordinated by the NDTFRT. Information on the translocation of threatened species in the wild is provided in CALM Policy Statement No. 29 *Translocation of Threatened Flora and Fauna*.

**Action:** Assess the need for translocations or restocking and if necessary develop a translocation proposal
**Responsibility:** CALM (CALMScience, Narrogin District), BRLCDC, and BGPA (Botanic Gardens and Parks Authority) through the NDTFRT
**Cost:** $3, 000 in year 2

## 10. Obtain biological and ecological information

Improved knowledge of the biology and ecology of *Symonanthus bancroftii* will provide a scientific basis for the management of the species in the wild and will be used in the development of a full Recovery Plan should one be deemed necessary. Action 7 will incorporate monitoring (see 6) and include:

1. The study of seed dispersal and soil seed bank dynamics including its size, seed viability, germination stimulants (smoke, physical disturbance, rainfall), rates of seed accumulation and seed predation.
2. The effects of competition, rainfall and grazing on seedling survivorship.
3. Developing techniques to successfully propagate the species using tissue culture and seed (if available).
4. The study of the species' reproductive ecology including mating systems and pollination biology.
5. The study of population genetic structure and levels of genetic diversity.
6. An analysis of population viability to assist in the development of future management and recovery actions, including translocation.
7. Analysis of genetic diversity resulting from crossing of existing two plants.
8. Cross pollination studies between Male and Female plants on location.

Given the limited material potentially available for research into *Symonanthus bancroftii*, consideration should be given to using *Symonanthus aromaticus* to investigate key ecological and biological traits, assuming it has a similar ecology. Commence 1, 2 and 3 as a high priority. Commence 4, 5, 6, 7 and 8 over time if resources permit.

**Actions:** Obtain biological and ecological information
**Responsibility:** CALM (Threatened Flora Seed Centre (TFSC), CALMScience), BGPA through the NDTFRT
**Cost:** $5,000 in year 1, $6,800 in year 2 and $3,900 in year 3

### 11. Promote awareness

The importance of biodiversity conservation and the protection of *Symonanthus bancroftii* will be promoted to the public. This will be achieved through an information campaign using the local print and electronic media and by distributing posters and setting up poster displays. Both populations of the species are small (one plant in each) and highly threatened, and increased awareness may result in the discovery of others.

**Action:** Promote awareness
**Responsibility:** CALM (Narrogin District, Corporate Affairs and Strategic Development Division, WATSCU (Western Australian Threatened Species and Communities Unit)) and the BRLCDC through the NDTFRT
**Cost:** $500 in year 2

### 12. Seek a change land vesting and purpose

Seek a change in vesting and purpose of Reserve 12985 from Water and Parkland vested in the Shire of Bruce Rock to Conservation of Flora and fauna vested in the National Parks and Nature Conservation Authority (NPNCA).

**Action:** Seek a change in purpose and vesting of Reserve 12985.
**Responsibility:** CALM (Narrogin District) and Shire of Bruce Rock through the NDTFRT
**Cost:** $200 in year 1

### 13. Write full Recovery Plan

At the end of the second-year of this IRP, the need for further recovery will be assessed. If the species is still ranked Critically Endangered at that time a full Recovery Plan will be developed that prescribes actions required for its long-term recovery.

**Action:** Write a full Recovery Plan
**Responsibility:** CALM (Narrogin District, WATSCU) through the NDTFRT
**Cost:** $19,000 in year 3

## 4. TERM OF PLAN

At the end of the second-year of this IRP, the need for further recovery will be assessed. If *Symonanthus bancroftii* is still ranked Critically Endangered at that time, a full Recovery Plan will be developed which prescribes actions required for the long-term recovery of the species and will come into operation from the end of the third year.

## 5. ACKNOWLEDGMENTS

The following people have provided assistance and advice in the preparation of this Interim Recovery Plan:

| | |
|---|---|
| Eric Bunn | Research Botanist (Micropropagation), Botanic Gardens and Parks Authority |
| Kingsley Dixon | Director Plant Science, Botanic Gardens and Parks Authority |
| Rebecca Evans | Project Officer, CALM W.A. Threatened Species and Communities Unit |
| Dr Terry Houston | Curator of Insects, Western Australian Museum |
| Maggie Panaia | PhD. Student, Botanic Gardens and Parks Authority |
| Robyn Phillimore | Project Officer, CALM W.A. Threatened Species and Communities Unit |
| Gillian Stack | Previously Project Officer, CALM W.A. Threatened Species and Communities Unit |
| Darren Touchell | Research Scientist, previously Botanic Gardens and Parks Authority |

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 assistance.

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## 7. TAXONOMIC DESCRIPTION

Mueller, F. and Haegi, L. (1981). Teleopea 2:

***Symonanthus bancroftii*** is a small spreading undershrub, 15-25 cm high and with many sticky, moderately sparsely hairy ascending herbaceous branches arising from or near a perennial thickened stem base. *Leaves* are more or less spreading, stalkless, ovate to linear, 5-17 mm long and 1-3 mm wide, the edges rolled under, hairy and somewhat warty. *Flowers* are small, white streaked with violet inside, unisexual and borne singly on short hairy peduncles at the end of the branchlets with the male and female flowers on separate plants. Individual flowers are bell-shaped with a tubular corolla 5-6 mm long widening into 5 very short (1.5-2.0 mm long) round lobes and densely hairy on the outside. The shortly tubular calyx is hairy on the outside 2-2.5 mm long and 5 bluntly pointed teeth. The male flowers have 5 stamens to 4.5 mm long and an ovary lacking ovules, a developed stigma and often-entire style. Female flowers have 5 short stamens that are infertile, the rest of the flower being developed normally. *Fruit* is an almost globular capsule 3-4 mm long and 2.5-4 mm wide, borne on a downward curving peduncle and containing 3-5 seeds which are about 2 mm long and 1 mm wide.