

INTERIM RECOVERY PLAN NO. 125

**BRANCHED HEMIGENIA**  
**(*HEMIGENIA RAMOSISSIMA*)**

**INTERIM RECOVERY PLAN**

**2003-2008**

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Photograph: Bethea Loudon

February 2003

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*

 Government of  
Western  
Australia

  
DEPARTMENT OF  
**Conservation**  
AND LAND MANAGEMENT  
*Conserving the nature of WA*

## **FOREWORD**

Interim Recovery Plans (IRPs) are developed within the framework laid down in Department of Conservation and Land Management (the Department) 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.

The Department 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This Interim Recovery Plan will operate from February 2003 to January 2008 but will remain in force until withdrawn or replaced.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 reviewed after five years and the need for a full Recovery Plan will be assessed.

This IRP was approved by the Director of Nature Conservation 20 June, 2003. The provision of funds identified in this Interim Recovery Plan is dependent on budgetary and other constraints affecting the Department, as well as the need to address other priorities.

Information in this IRP was accurate at February 2003.

## SUMMARY

**Scientific Name:** *Hemigenia ramosissima*  
**Family:** Lamiaceae  
**Dept Region:** Wheatbelt  
**Shire:** West Arthur

**Common Name:** Branched Hemigenia  
**Flowering Period:** late October to January  
**Dept District:** Katanning  
**Recovery Team:** Katanning District Threatened Flora Recovery Team (KDTFRT)

**Illustrations and/or further information:** Leigh, J., Boden, R. and Briggs, J. (1984) *Extinct and Endangered Plants of Australia*. The MacMillan Company of Australia Pty Ltd, Melbourne; Marchant, N.G., Wheeler, J.R., Rye, B.L., Bennett, E.M., Lander, N.S. and Macfarlane, T.D. (1987) *Flora of the Perth Region*, Part 1. Western Australian Herbarium, Department of Agriculture, Western Australia.

**Current status:** *Hemigenia ramosissima* was declared as Rare Flora in November 2000 and currently meets World Conservation Union (IUCN 2000) Red List Category 'CR' under criteria A3c; B1ab(iii)+2ab(iii) due to a reduction in population size, the extent of occurrence estimated to be less than 100 km<sup>2</sup> and the area of occupancy less than 10 km<sup>2</sup> with populations fragmented and a continuing decline in the quality of habitat. The main threats are road and powerline maintenance, salinity and prolonged waterlogging, weeds and inappropriate fire regimes.

**Habitat requirements:** *Hemigenia ramosissima* is endemic to Western Australia where it is confined to the Arthur River area. The species grows on grey, loamy clay in open shrub mallee to four metres of *Eucalyptus spathulata* over heath of *Melaleuca uncinata* and *M. acuminata*.

**Critical habitat:** The critical habitat for *Hemigenia ramosissima* comprises the area of occupancy of the known populations; similar habitat within 200 metres of known populations; remnant vegetation that links populations; additional nearby occurrences of similar habitat that do not currently contain the species but may have done so in the past and may be suitable for translocations; and the local catchment for the surface and ground waters that provide the seasonal wetland habitat of the species.

**Habitat critical to the survival of the species, and important populations:** Given that this species is listed as Critically Endangered it is considered that all known habitat for wild and translocated populations is habitat critical.

**Benefits to other species/ecological communities:** There are no ecological communities or other threatened species in the immediate vicinity of *Hemigenia ramosissima*. However, recovery actions implemented to improve the quality or security of the habitat of the species, such as weed control and rehabilitation, will benefit the habitat in which it occurs.

**International Obligations:** This plan is fully consistent with the aims and recommendations of the Convention on Biological Diversity, ratified by Australia in June 1993, and will assist in implementing Australia's responsibilities under that Convention. However, as *Hemigenia ramosissima* is not listed under any international agreement, the implementation of other international environmental responsibilities is not affected by this plan.

**Role and interests of indigenous people:** There are no known indigenous communities interested or involved in the management of areas affected by this plan. Therefore no role has been identified for indigenous communities in the recovery of this species.

**Social and economic impacts:** The implementation of this recovery plan is unlikely to cause significant adverse social and economic impacts. Both populations of *Hemigenia ramosissima* occur on Nature Reserves.

**Evaluation of the Plans Performance:** The Department of Conservation and Land Management, in conjunction with the Recovery Team will evaluate the performance of this IRP. In addition to annual reporting on progress with listed actions and comparison against the criteria for success and failure, the plan is to be reviewed within five years of its implementation.

**Existing Recovery Actions:** The following recovery actions have been or are currently being implemented -

1. All land managers have been formally notified of the presence and threatened nature of populations of *Hemigenia ramosissima* on their land.
2. Declared Rare Flora markers have been installed at Subpopulation 1b.
3. Dashboard stickers and posters describing the significance of DRF markers have been produced and distributed.

4. Staff from the Threatened Flora Seed Centre (TFSC) collected a negligible amount of *Hemigenia ramosissima* seed (six) in 2000. In February 2001 approximately 2011 seeds were collected from Population 1 and stored in the TFSC at  $-18^{\circ}\text{C}$ . The initial germination rate was found to 45%.
5. Cuttings were taken in 2000 and sent to the Botanic Garden and Parks Authority (BGPA) for propagation. It appears that the species may be difficult to propagate from cuttings with all of the material collected now dead.
6. A study of *Hemigenia* and *Microcorys* is being undertaken by a PhD student from the Department of Environmental Biology at the University of Adelaide.
7. The Katanning District Threatened Flora Recovery Team (KDTFRT) is overseeing the implementation of this IRP and will include information on progress in its annual report to the Department's Corporate Executive and funding bodies.
8. Staff from the Department's Katanning District regularly monitor all populations of this species.

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

**Recovery criteria**

**Criteria for success:** The number of individuals within populations and/or the number of populations have increased by 10% or more.

**Criteria for failure:** The number of individuals within populations and/or the number of populations have decreased by 10% or more.

**Recovery actions**

1. Coordinate recovery actions.
2. Conduct further surveys.
3. Undertake weed control.
4. Collect seed and cutting material.
5. Develop and implement a fire management strategy.
6. Liaise with relevant land managers.
7. Monitor populations.
8. Promote awareness.
9. Start the translocation process.
10. Obtain biological and ecological information.
11. Review the need for a full Recovery Plan.

## 1. BACKGROUND

### History

*Hemigenia ramosissima* was first collected by James Drummond over 150 years ago. However, the collection location and date of this isotype were not listed making survey difficult and it was not until Val Crowley<sup>1</sup> made a collection during an opportunistic survey in November 1996 that the species was seen again. Prior to this other collections were made of taxa that were thought to be *H. ramosissima* but these turned out to be related species that had been misidentified. Two such collections that were made from the South West Capes area are now known to be *Hemigenia rigida*.

In November 1999, officers from the Department's Katanning District conducted surveys at the Val Crowley collection site and located two populations. Extensive clearing in the area has restricted the number of sites where the species may be found. Currently, *Hemigenia ramosissima* is known from just two populations containing around 373 mature plants.

### Description

*Hemigenia ramosissima* Benth. is a loosely spreading, slender shrub, hairless or with opposite lines of minute hairs running along the branches. Leaves are about 1 cm long, in whorls of 3, nearly stalkless, linear, with a blunt or pointed tip, and rather rigid. Flowers are purple, borne singly in the leaf axils on slender peduncles about as long as the leaves. A pair of linear, leaf-like bracts under the calyx are about 3 mm long, broadly bell-shaped and 2-lipped, the upper lip shortly or broadly 3-lobed, the lower lip distinctly 2-lobed and curved over the tube (Leigh *et al.* 1984).

### Distribution and habitat

*Hemigenia ramosissima* is endemic to Western Australia where it is confined to the Arthur River area. The species grows on grey, loamy clay in open shrub mallee to four metres of *Eucalyptus spathulata* over heath of *Melaleuca uncinata* and *M. acuminata*. Associated species include *Anthotium humile*, *Austrostipa elegantissima*, *Borya* sp., *Comesperma confertum*, *Meeboldina cana*, *Melaleuca lateriflora*, *Neurachne alopecuroidea*, and *Ptilotus manglesii*.

### 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 occupied (continuously, periodically or occasionally) by an organism or group of organisms or 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*).

The critical habitat for *Hemigenia ramosissima* comprises:

- the area of occupancy of known populations;
- areas of similar habitat within 200 metres of known populations, ie. grey, loamy clay in open shrub mallee to 4 metres of *Eucalyptus spathulata* over heath of *Melaleuca uncinata* and *M. acuminata* (these provide potential habitat for natural recruitment);
- remnant vegetation that surrounds and links populations (this is necessary to allow pollinators to move between populations);
- additional occurrences of similar habitat that do not currently contain the species but may have done so in the past (these represent possible translocation sites); and
- the local catchment for the surface and ground waters that provide the seasonal wetland habitat of the species (the species occurs in winter wet areas which depends on the local hydrology).

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<sup>1</sup> Val Crowley, Flora Volunteer for the Department

### **Habitat critical to the survival of the species, and important populations**

Given that this species is listed as Critically Endangered it is considered that all known habitat for wild and any future translocated populations is habitat critical.

### **Benefits to other species/ecological communities**

There are no threatened ecological communities or other threatened species in the immediate vicinity of *Hemigenia ramosissima*. However, recovery actions implemented to improve the quality or security of the habitat of the species, such as weed control and rehabilitation, will benefit the remnant bushland habitat in which it occurs.

### **International Obligations**

This plan is fully consistent with the aims and recommendations of the Convention on Biological Diversity, ratified by Australia in June 1993, and will assist in implementing Australia's responsibilities under that Convention. However, as *Hemigenia ramosissima* is not listed under any international agreement, the implementation of other international environmental responsibilities is not affected by this plan.

### **Role and interests of indigenous people**

There are no known indigenous communities interested or involved in the management of areas affected by this plan. Therefore no role has been identified for indigenous communities in the recovery of this subspecies.

### **Social and economic impacts**

The implementation of this recovery plan is unlikely to cause significant adverse social and economic impacts. Both populations of the species occur on nature reserves.

### **Evaluation of the Plans Performance**

The Department of Conservation and Land Management, in conjunction with the Recovery Team will evaluate the performance of this IRP. In addition to annual reporting on progress with listed actions and comparison against the criteria for success and failure, the plan is to be reviewed within five years of its implementation.

### **Biology and ecology**

The specific name of *Hemigenia ramosissima* is derived from the Latin word *ramosus* (full of boughs, branchy) and refers to the habit of the species (Leigh *et al.* 1984).

Field observations by staff from the Department's Katanning District have found that where lateral branches of *Hemigenia ramosissima* have been touching the ground for some time several have produced roots at the point of contact. In one instance, the part of the branch between the main plant and the rooted plant of the lateral branch has withered and died to form a separate plant (pers obs. B. Loudon<sup>2</sup>).

### **Threats**

*Hemigenia ramosissima* was declared as Rare Flora in November 2000 and currently meets World Conservation Union (IUCN 2000) Red List Category 'CR' under criteria A3c; B1ab(iii)+2ab(iii) due to a reduction in population size, the extent of occurrence estimated to be less than 100 km<sup>2</sup> and the area of occupancy less than 10 km<sup>2</sup> with populations fragmented and a continuing decline in the quality of habitat.

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<sup>2</sup> Bethea Loudon, Conservation Officer, the Department's Katanning District

The main threats are road and powerline maintenance, salinity and prolonged waterlogging, weeds and inappropriate fire regimes.

- **Road and drain maintenance** has the potential to threaten both plants and habitat at Subpopulation 1b. Threats include grading, construction of drainage channels and the mowing of roadside vegetation. Several of these actions also encourage weed invasion.
- **Salinity and prolonged waterlogging** has resulted from a rise in the water table following agricultural clearing. Both populations occur in a seasonally wet/waterlogged area that is showing signs of increasing salinity including the death of native vegetation and an increase in salt tolerant species such as *Callistemon phoeniceus*. Piezometers within a nearby reserve have recorded high salt levels. Assessment and monitoring of the populations is required.
- **Weed invasion** is a minor threat to Subpopulation 1b which is located on a narrow road reserve. 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 the easy ignition of high fuel loads, which are produced annually by many weed species.
- **Inappropriate fire regimes** may affect the long term viability of *Hemigenia ramosissima* populations. It is not known what the fire response of the species is, however, frequent fire would most likely destroy populations if it occurs before regenerating or juvenile plants have reached maturity, produced seed and replenished the soil seed bank. Conversely, infrequent fires may be required for the species to regenerate from soil stored seed and rooty stock.
- **Powerline maintenance** is a potential threat to Population 2. Such disturbance events may encourage weed invasion as well as causing damage to actual plants. The relevant authority has been made aware of the population.

### Summary of population information and threats

Pop. No. and Location	Land Status	Year/No. plants	Condition	Threats
1A. SSE of Arthur River	Water and Conservation of Flora and Fauna Reserve	1999 33 (1) 2001 *306 (41) [6 dead]	Healthy	Salinity/prolonged waterlogging, inappropriate fire regimes
1B. SSE of Arthur River	Main Roads WA Road Reserve	1999 5+ 2001 *306 (41) [6 dead]	Healthy	Road maintenance, salinity/prolonged waterlogging, weeds, inappropriate fire regimes
2. SSE of Arthur River	Water and Conservation of Flora and Fauna Reserve	1999 25+ 2001 37 2002 67	Healthy	Salinity/prolonged waterlogging, powerline maintenance, inappropriate fire regimes

Numbers in brackets = number of seedlings. \* = total for subpopulations combined.

### Guide for decision-makers

Section 1 provides details of current and possible future threats. Developments in the immediate vicinity of the population or within the defined critical habitat of *Hemigenia ramosissima* require assessment. No developments should be approved unless the proponents can demonstrate that they will have no significant impact on the species, or its habitat or potential habitat, or the local surface and ground water hydrology.

## 2. RECOVERY OBJECTIVE AND CRITERIA

### Objectives

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

**Criteria for success:** The number of individuals within populations and/or the number of populations have increased by 10% or more.

**Criteria for failure:** The number of individuals within populations and/or the number of populations have decreased by 10% or more.

### 3. RECOVERY ACTIONS

#### Existing recovery actions

All land managers have been notified of the location and threatened status of the species. The notification details the Declared Rare status of *Hemigenia ramosissima* and the legal responsibility to protect it.

Declared Rare Flora (DRF) markers have been installed at Subpopulation 1b. These serve to alert people working in the vicinity to the presence of DRF, and the need to avoid work that may damage plants or their habitat. Dashboard stickers and posters describing the significance of DRF markers have been produced and distributed.

Staff from the Department's Threatened Flora Seed Centre (TFSC) collected a negligible amount of *Hemigenia ramosissima* seed (six) in 2000. A further collection of approximately 2011 seeds were made from Population 1 in February 2001 and stored in the TFSC at  $-18^{\circ}\text{C}$ . The initial germination rate of *Hemigenia ramosissima* seed was found to be 45% (unpublished data, A. Cochrane<sup>3</sup>). Seed was also collected in March 2002 by the Recovery Team but is yet to be processed.

Cuttings were taken in 2000 and sent to the Botanic Garden and Parks Authority (BGPA) for propagation. It appears that the species may be difficult to propagate from cuttings with all of the material collected now dead (pers comm. A. Shade<sup>4</sup>).

Numerous surveys for *Hemigenia ramosissima* have been undertaken by Val Crowley (volunteer), Camille Scanlon (local landowner) and other volunteers in other areas but no new populations have been located.

A study of *Hemigenia* and *Microcorys* is being undertaken by a PhD student from the Department of Environmental Biology at the University of Adelaide (Guerin 2002). The aims of the project are to:

1. Undertake a taxonomic revision of the genera *Hemigenia* and *Microcorys*.
2. Determine the generic limits of the groups.
3. Study the floral biology of the genera.
4. Examine evolutionary relationships.

The Katanning District Threatened Flora Recovery Team (KDTFRT) is overseeing the implementation of this IRP and will include information on progress in its annual report to the Department's Corporate Executive and funding bodies.

Staff from the Department's Katanning District regularly monitor all populations of this species.

#### Future recovery actions

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

#### 1. Coordinate recovery actions

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<sup>3</sup> Anne Cochrane, Manager, the Department's Threatened Flora Seed Centre

<sup>4</sup> Amanda Shade, Horticulturalist, Botanic Garden and Parks Authority

The Katanning District Threatened Flora Recovery Team (KDTFRT) will continue to coordinate recovery actions for *Hemigenia ramosissima* and other Declared Rare Flora in the district. They will include information on progress in their annual report to the Department's Corporate Executive and funding bodies.

**Action:** Coordinate recovery actions  
**Responsibility:** The Department (Katanning District) through the KDTFRT  
**Cost:** \$600 per year.

## 2. Conduct further surveys

Further surveys will be conducted for this species during its flowering period (late November to January). Surveys will encompass areas of suitable habitat on both crown and private land where possible. Areas considered suitable for translocation will also be noted. Volunteers from the local community, Wildflower Societies and Naturalist Clubs will be encouraged to be involved in surveys supervised by Departmental staff.

**Action:** Conduct further surveys  
**Responsibility:** The Department (Katanning District) through the KDTFRT  
**Cost:** \$1,900 per year.

## 3. Undertake weed control

Weeds are a minor threat to Subpopulation 1b. Weed control will be undertaken by hand weeding or localised application of herbicide with the approval of the land manager. All weed control will be followed by a report on the method, timing and success of the treatment and the effect on *Hemigenia ramosissima* and associated native plant species. It is anticipated that native species in the habitat will regenerate well after weed competition is removed.

**Action:** Undertake weed control  
**Responsibility:** The Department (Katanning District, Science Division) through the KDTFRT  
**Cost:** \$700 per year.

## 4. Collect seed and cutting material

Preservation of germplasm is essential to guard against extinction if wild populations are lost. Such collections are also needed to propagate plants for translocations. Seed is required from all populations to maximise the genetic diversity of the *ex situ* material. Cuttings will also be obtained to establish a living collection at the Botanic Garden and Parks Authority (BGPA).

**Action:** Collect seed and cutting material and propagate plants  
**Responsibility:** The Department (Katanning District, TFSC) and BGPA, through the KDTFRT  
**Cost:** \$3,300 for the first two years and \$1,000 in subsequent years.

## 5. Develop and implement a fire management strategy

The response of *Hemigenia ramosissima* to fire is not known. Fire will therefore be prevented from occurring in the area of populations, except where it is being used experimentally as a recovery tool. A fire management strategy will be developed to determine fire control measures and fire frequency.

**Action:** Develop and implement a fire management strategy  
**Responsibility:** The Department (Katanning District) through the KDTFRT  
**Cost:** \$2,500 in first year and \$1,000 in subsequent years.

## 6. Liaise with relevant land managers

Staff from the Department's Katanning District will continue to liaise with land managers and landowners to ensure that populations are not accidentally damaged or destroyed.

**Action:** Liaise with relevant land managers  
**Responsibility:** The Department (Katanning District) through the KDTFRT  
**Cost:** \$700 per year

## 7. Monitor populations

Annual monitoring of factors such as habitat degradation (including weed invasion and plant diseases), population stability (expansion or decline), pollination activity, seed production, recruitment, longevity and predation is essential. Both populations will be inspected annually with special attention given to salinity levels and its impact. Soil salinity and pH readings will be taken annually during winter and summer.

**Action:** Monitor populations  
**Responsibility:** The Department (Katanning District) through the KDTFRT  
**Cost:** \$1,500 per year.

## 8. Promote awareness

The importance of biodiversity conservation and the need for the long-term protection of wild populations of this species will be promoted to the community through poster displays and the local print and electronic media. Formal links with local naturalist groups and interested individuals will also be encouraged. An information sheet, which includes a description of the plant, its habitat, threats, recovery actions and photos will be produced.

A reply paid postal drop illustrating *Hemigenia ramosissima* and describing its distinctive features and habitat will be produced and distributed to residents in Shires that contain possible habitat of the species. Postal drops aim to stimulate interest, provide information about threatened species and provide a name and number to contact if new populations are located by members of the community.

**Action:** Promote awareness  
**Responsibility:** The Department (Katanning District, Corporate Relations) through the KDTFRT  
**Cost:** \$1,900 in first year, \$1,200 in second year and \$900 in subsequent years.

## 9. Start the translocation process

As extant plants are low in number and the area inhabited by the plants quite small a translocation proposal will be developed and suitable translocation sites selected. This will be coordinated by the KDTFRT. Information on the translocation of threatened animals and plants in the wild is provided in the Department's Policy Statement No. 29 *Translocation of Threatened Flora and Fauna*. All translocation proposals require endorsement by the Director of Nature Conservation.

**Action:** Start the translocation process  
**Responsibility:** The Department (Science Division, Katanning District) through the KDTFRT  
**Cost:** \$5,100 in third year and \$4,000 in fifth year.

## 10. Obtain biological and ecological information

Improved knowledge of the biology and ecology of *Hemigenia ramosissima* will provide a better scientific basis for management of wild populations. An understanding of the following is particularly necessary for effective management:

1. Soil seed bank dynamics and the role of various disturbances (including fire), competition, rainfall and grazing in germination and recruitment.
2. The pollination biology of the species, and the requirements of pollinators.
3. The reproductive strategies, phenology and seasonal growth of the species.

4. The population genetic structure, levels of genetic diversity and minimum viable population size.
5. The impact of salinity on *Hemigenia ramosissima* and its habitat.

**Action:** Obtain biological and ecological information  
**Responsibility:** The Department (Science Division, Katanning District) through the KDTFRT  
**Cost:** \$18,500 per year for the first three years.

#### 11. Review the need for a full Recovery Plan

At the end of the fourth year of the five-year term of this Interim Recovery Plan, if the taxon is still ranked as Critically Endangered, the need for a full Recovery Plan or a review of this IRP will be assessed and a plan prepared if necessary.

**Action:** Review the need for a full Recovery Plan  
**Responsibility:** The Department (WATSCU, Katanning District) through the KDTFRT  
**Cost:** \$20,600 in the fifth year (if required).

#### 4. TERM OF PLAN

This Interim Recovery Plan will operate from February 2003 to January 2008 but will remain in force until withdrawn or replaced. It is intended that, if the taxon is still ranked as Critically Endangered after four years, Action 11 above will be implemented.

#### 5. ACKNOWLEDGMENTS

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

Brett Beecham	Regional Ecologist, the Department's Wheatbelt Region, Narrogin
Bruce Bone	District Manager, the Department's Katanning District
Anne Cochrane	Manager, the Department's Threatened Flora Seed Centre
Mal Graham	Previously District Operations Officer, the Department's Katanning District
Bethea Loudon	Conservation Officer, the Department's Katanning District
Barbara Rye	Senior Research Scientist, the Department's Science Division
Amanda Shade	Horticulturalist, Botanic Garden and Parks Authority
Meredith Spencer	Conservation Officer, the Department's Blackwood District

Thanks also to staff of the W.A. Herbarium for providing access to Herbarium databases and specimen information, and the Department's Wildlife Branch for their assistance.

#### 6. REFERENCES

- Department of Conservation and Land Management (1992) Policy Statement No. 44 *Wildlife Management Programs*. Department of Conservation and Land Management, Western Australia.
- Department of Conservation and Land Management (1994) Policy Statement No. 50 *Setting Priorities for the Conservation of Western Australia's Threatened Flora and Fauna*. Department of Conservation and Land Management, Western Australia.
- Department of Conservation and Land Management (1995) Policy Statement No. 29 *Translocation of Threatened Flora and Fauna* Department of Conservation and Land Management, Perth.
- Guerin, G. (2002) Systematics in the Prostanthereae (Labiatae). *Research Proposal –PhD*. University of Adelaide, unpublished document.
- Leigh, J., Boden, R. and Briggs, J. (1984) *Extinct and Endangered Plants of Australia*. The MacMillan Company of Australia Pty Ltd, Melbourne.
- Marchant, N.G., Wheeler, J.R., Rye, B.L., Bennett, E.M., Lander, N.S. and Macfarlane, T.D. (1987) *Flora of the Perth Region*, Part 1. Western Australian Herbarium, Department of Agriculture, Western Australia.

Western Australian Herbarium (1998) FloraBase - Information on the Western Australian Flora. Department of Conservation and Land Management, Western Australia. <http://www.calm.wa.gov.au/science/>  
World Conservation Union (2000) *IUCN red list categories prepared by the IUCN Species Survival Commission*, as approved by the 51st meeting of the IUCN Council. Gland, Switzerland.

## 7. TAXONOMIC DESCRIPTION

Marchant, N.G., Wheeler, J.R., Rye, B.L., Bennett, E.M., Lander, N.S. and Macfarlane, T.D. (1987) *Flora of the Perth Region*, Part 1. Western Australian Herbarium, Department of Agriculture, Western Australia.

*Hemigenia ramosissima* Benth. Is a slender, almost glabrous shrub to 0.5 m high. Stems with glabrous lines decurrent from the leaf bases and alternating with depressed lines of minute hairs. Leaves almost sessile, opposite and decussate, rarely in whorls of 3 or 4, narrowly oblong to narrowly elliptic, 9-26 x 2-8 mm, often folded lengthwise, obtuse. Flowers solitary; pedicels 3-7 mm long; bracteoles very narrowly triangular. Calyx broadly and distinctly 2-lipped, 3.5-7 mm long; tube campanulate, 1.5-3 mm long; upper lip broad, 3-4 mm long, abruptly acuminate, sometimes very shortly and broadly 3-lobed, the margins entire or very minutely denticulate; lower lip 2-3 mm long, with 2 acute lobes up to 1 mm long, the margins entire to very minutely denticulate. Corolla blue to mauve, 5-11 mm long, almost glabrous outside, lobes crenulate; upper lip short; lower lip with the middle lobe emarginate. Connective of upper stamens clavate and bearded, that of lower stamens clavate and glabrous.

