Government of **Western Australia**
Department of **Environment and Conservation**

Australian Government

I
NTERIM RECOVERY PLAN NO. 273

SARGENT'S SNAKEBUSH

(*Hemiandra rutilans*)

INTERIM RECOVERY PLAN

2008-2013

April 2008
Department of Environment and Conservation
Kensington

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. Note: CALM formally became the Department of Environment and Conservation (DEC) in July 2006. DEC will continue to adhere to these Policy Statements until they are revised and reissued.

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.

DEC is committed to ensuring that threatened taxa are conserved through the preparation and implementation of Recovery Plans (RPs) or IRPs and by ensuring that conservation action commences as soon as possible and, in the case of Critically Endangered (CR) taxa, always within one year of endorsement of that rank by the Minister.

This IRP will operate from April 2008 to March 2013 but will remain in force until withdrawn or replaced. It is intended that, if the species is still ranked CR, this IRP will be reviewed after five years and the need for further recovery actions assessed.

This IRP was approved by the Director of Nature Conservation on 30 April 2008. The allocation of staff time and provision of funds identified in this IRP is dependent on budgetary and other constraints affecting DEC, as well as the need to address other priorities.

Information in this IRP was accurate as at April 2008.

This IRP was prepared with financial support from the Australian Government to be adopted as a National Recovery Plan under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

IRP PREPARATION

This IRP was prepared by Mia Morley[1], Andrew Brown[2], Diana Papenfus[3] and Felicity Bunny[4]

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ACKNOWLEDGMENTS

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

Joel Collins	Conservation Officer (Flora), DEC's Avon-Mortlock District
Barry Conn	Research Scientist, National Herbarium of NSW
Andrew Crawford	Technical Officer, DEC's Threatened Flora Seed Centre
Kingsley Dixon	Science Director, Botanic Gardens and Parks Authority
Bob Elkins	Horticulturalist, Botanic Gardens and Parks Authority
Sue Patrick	Former Senior Research Scientist, DEC Science Division
Barbara Rye	Senior Research Scientist, DEC
Amanda Shade	Horticulturalist, Botanic Gardens and Parks Authority
Claire Welbon	Former Conservation Officer, DEC, Merredin (now Yilgarn)

Thanks also to the staff of the W.A. Herbarium for providing access to Herbarium databases and specimen information. Thanks also to DEC's Species and Communities Branch and the private land holders who provided information on altered contact details, new land divisions and assistance in locating new and old populations in the field.

Cover photograph by Robert Boase

CITATION

This IRP should be cited as:

Department of Environment and Conservation (2008) Sargent's Snakebush (*Hemiandra rutilans*) Interim Recovery Plan 2008-2013. Interim Recovery Plan No. 273. Department of Environment and Conservation, Western Australia.

SUMMARY

Scientific Name:	*Hemiandra rutilans*	**Common Name:**	Sargent's Snakebush
Family:	Lamiaceae	**Flowering Period:**	October - December
DEC Region:	Wheatbelt	**DEC District:**	Avon-Mortlock
Shire:	Dowerin	**Recovery Team:**	Avon-Mortlock District Threatened Flora and Communities Recovery Team (AMDTFCRT)
NRM Region:	Avon		

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; Department of Environment and Conservation (2008) *Western Australian Herbarium FloraBase 2 – Information on the Western Australian Flora* (Accessed 2008) Department of Environment and Conservation, Western Australia. http://www.calm.wa.gov.au/science/; Sargent O.H. (1927) Notes on the Genus *Hemiandra* R. Br. *Journal of Botany* 65, 174-176.

Current status: *Hemiandra rutilans* was declared as Rare Flora under the Western Australian *Wildlife Conservation Act 1950* in 1994 and is currently ranked as Critically Endangered (CR) under World Conservation Union (IUCN 1994) Red List criteria A1ac; B1+2a-e; D due to there being a single population in which the only known individual has now died. Threats include lack of habitat, lack of disturbance, herbicide drift and weed invasion. The species is listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Description: *Hemiandra rutilans* is a small, low growing shrub (to 10cm high) with attractive, dark red flowers. Leaves are generally 21 by 2mm in size, linear and rough to touch. Stamen are hidden from view, but long anthers extend from the flowers. Plants flower from October to December.

Habitat requirements: The species was originally collected at Sand Springs, south-west of York. The most recent confirmed location was south of Dowerin where it grew in low *Banksia prionotes* woodland with *Eremaea pauciflora*, *Nuytsia floribunda* and *Verticordia densiflora.* The soil type is deep grey sand.

Habitat critical to the survival of *Hemiandra rutilans*, and important populations: Given that *Hemiandra rutilans* is ranked as CR, it is considered that all known habitat for wild and future translocated populations is critical to the survival of the species, and that all wild and translocated populations are important populations. Habitat critical to the survival of *H. rutilans* includes the area of occupancy of the known population and additional occurrences of similar habitat nearby that may contain undiscovered populations of the species or be suitable for future translocations.

Benefits to other species or ecological communities: Recovery actions implemented to improve the quality or security of the habitat of *Hemiandra rutilans* will also improve the status of remnant vegetation in which it is found.

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. *Hemiandra rutilans* is not listed under any specific international treaty however, and this IRP does not affect Australia's obligations under any other international agreements.

Indigenous Consultation: According to the Department of Indigenous Affairs Aboriginal Heritage Sites Register, no known Aboriginal sites of significance occur within or in close proximity to known populations of *Hemiandra rutilans*. The involvement of the Indigenous community is currently being sought to determine if there are any indigenous issues identified in the Plan. If no role is identified for indigenous communities in the recovery of this species, opportunities may exist through cultural interpretation and awareness of the species.

The advice of the South West Aboriginal Land and Sea Council (SWALSC) and Department of Indigenous Affairs is being sought to assist in the identification of potential indigenous management responsibilities for land occupied by threatened species, or groups with a cultural connection to land that is important for the species' conservation.

Continued liaison between DEC and the indigenous community will identify areas in which collaboration will assist implementation of recovery actions.

Social and economic impact: The implementation of this recovery plan is unlikely to cause significant adverse social or economic impacts. However, as the known population was located on private property, habitat retention for possible future plant recruitment from soil-stored seed may potentially affect farming activities. Actions will involve liaison and cooperation between stakeholders with regard to this area.

Affected interests: Stakeholders potentially affected by the implementation of this plan include the owner of the private property on which the last known population was located. Recovery actions refer to continued liaison between stakeholders.

Evaluation of the plan's performance: DEC, in conjunction with the Avon-Mortlock District Threatened Flora and Communities Recovery Team (AMDTFCRT), will evaluate the performance of this IRP. In addition to annual reporting on progress and evaluation against the criteria for success and failure, the plan will be reviewed following four years of implementation.

Completed recovery actions

1. The habitat of the Dowerin population has been fenced to exclude rabbits and sheep.
2. The Botanic Gardens and Parks Authority (BGPA) have 50 propagates in vitro and two seeds in cryostorage.

Ongoing and future recovery actions

1. After the single extant *Hemiandra rutilans* plant died, BGPA staff treated the site with smoke in an attempt to stimulate germination of any seed that was stored in the soil. This treatment has to date been unsuccessful.
2. The Avon-Mortlock Threatened Flora and Communities Recovery Team (AMTFCRT) is overseeing the implementation of this IRP and will include information on progress in their annual reports to DEC's Corporate Executive and funding bodies.
3. Staff from DEC's Avon-Mortlock District office are monitoring the site.

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

Recovery criteria

Criteria for success: Recruitment from soil-stored seed occurs within the area of the previously known plant over the period of the plan or new populations are found.
Criteria for failure: No recruitment from soil-stored seed occurs within the area of the previously known plant over the period of the plan or no new populations are found.

Recovery actions

1. Coordinate recovery actions
2. Map habitat critical to the survival of *Hemiandra rutilans*
3. Obtain taxonomic, biological and ecological information
4. Conduct further surveys
5. Monitor habitat of last known plant
6. Develop and implement fire and soil disturbance trials
7. Develop a fire management strategy
8. Promote awareness
9. Liaise with relevant land managers and Indigenous groups
10. Review the plan and need for further recovery actions

1. BACKGROUND

History

The type collection of *Hemiandra rutilans* was made from Sand Springs near York by O.H. Sargent in 1924. In 1994, a *Hemiandra* species was located near the site of Sargent's collection but, following examination by Dr Conn of the Royal Botanic Gardens in Sydney, was identified as *H. hancocksiana.* The only recent collection of the species (1 plant) was located at Dowerin in 1992. As this plant died in 1994, *Hemiandra rutilans* is not known from any extant plants and may be extinct in the wild.

As species in the genus *Hemiandra* are particularly variable and Sargent's original description of *Hemiandra rutilans* was not detailed, its has since been confused with related taxa. This is highlighted in Blackall and Grieve's key where *H. rutilans* is confused with *H. coccinea* (Blackall and Grieve 1981). The name *H. rutilans* has also been applied to a species in the Three Springs area, now named *H. hancocksiana.*

In March 1994 staff from the Botanic Gardens and Parks Authority (BGPA) visited the Dowerin site and took material for tissue culture and grafting. Two seeds were also retrieved.

Hemiandra rutilans is closely related to *H. coccinea*, with differing opinions as to whether it is a separate species or variant of *H. coccinea*. *H. rutilans* differs from *H. coccinea* only in having 'short patent hairs on both surfaces of the leaf whereas typical *H. coccinea* has the upper surface glabrous or less hairy than the undersurface, with some long hairs on the veins of undersurface' (B. Rye pers comm.). Barry Conn believes the two taxa are sufficiently distinct to be recognised as separate species (B. Conn pers comm.).

Description

Hemiandra rutilans is a low spreading shrub to 10 cm high and 60 cm across with attractive, tubular, dark red (usually) flowers to two cm long. The dark green leaves are generally 21 mm long by 2 mm wide, ribbed, concave and linear, and rough to the touch. Brown *et al.* (1998) state that "The 6 mm long calyx has 2 lobes. The corolla is blood red and slightly pubescent; with a trumpet shaped tube, up to 21 mm long, and a scarcely bi-lobed limb. The lobes are more or less equal and much shorter than the tube." The stamen are hidden from view, but long anthers extend from the flowers. Plants flower from October to December.

Distribution and habitat

Hemiandra rutilans is historically known from two areas only - the type collection at Sand Springs south-west of York and, until its death in 1994, a single plant in remnant vegetation on private property near Dowerin. In this location *H. rutilans* grows in low *Banksia prionotes* woodland with *Eremaea pauciflora*, *Nuytsia floribunda* and *Verticordia densiflora.* The soil type is deep grey sand. Very little information on the habitat of the York population is available.

Summary of population land vesting, purpose and management

Pop. No. & Location	DEC District	Shire	Vesting	Purpose	Management
1 Dowerin	Avon-Mortlock	Dowerin	Freehold	Private Property	Landholders
2 Sand Springs, near York*			?	?	?

*Type locality, not relocated. Populations in **bold text** are considered to be Important Populations.

Biology and ecology

Very little is known about the ecology of the species. However, as species in the genus *Hemiandra* are mainly disturbance opportunists, it is likely that *H. rutilans* is likely to regenerate from soil-stored seed.

Threats

Hemiandra rutilans was declared as Rare Flora under the Western Australian *Wildlife Conservation Act 1950* in 1994 and is currently ranked as Critically Endangered (CR) under World Conservation Union (IUCN 1994) Red

List criteria A1ac; B1+2a-e; D due to there being a single population in which the only known individual has now died. Threats include lack of habitat, lack of disturbance, herbicide drift and weed invasion. The species is listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

- **Habitat clearance** is believed to be the major cause of the rarity of the species. Agricultural development in the Central Western Wheatbelt began early last century.

- **Lack of disturbance.** *Hemiandra* species are known disturbance opportunists and the area where the last known plant of the species was located is long undisturbed.

The intent of this plan is to provide actions that will deal with immediate threats to *Hemiandra rutilans*. Threats such as drought and climate change may impact on the species over time however actions taken to prevent such threats are beyond the scope of this plan.

Summary of population information and threats

Pop. No. & Location	Year No. plants	Condition	Threats
1 South of Dowerin	1982 1 1994 0	No extant plants	Habitat clearing, lack of disturbance.
2 Sand Springs, near York*	n/a	Unknown	Unknown

Populations in **bold text** are considered to be Important Populations. *Type locality, not relocated

Guide for decision-makers

Section 1 provides details of current and possible future threats. Developments and/or land clearing in the immediate vicinity of the last known site of *Hemiandra rutilans* or within the defined critical habitat of *H. rutilans* will require assessment. Developments or clearing should not be approved unless the proponents can demonstrate that their actions will have no 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.

Habitat critical to the survival of *Hemiandra rutilans*, and important populations

Given that *Hemiandra rutilans* is ranked as CR, it is considered that all known habitat for wild and future translocated populations is critical to the survival of the species, and that all wild and translocated populations are important populations. Habitat critical to the survival of *H. rutilans* includes the area of occupancy of the known population, areas of similar habitat surrounding and linking the population (these providing potential habitat for population expansion and pollinators), additional occurrences of similar habitat that may contain undiscovered populations of the species or be suitable for future translocations, and the local catchment for the surface and/or groundwater that maintains the habitat of the species.

Benefits to other species or ecological communities

Recovery actions implemented to improve the quality or security of the habitat of *Hemiandra rutilans* is likely to also improve the status of remnant vegetation in which it is located.

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. *Hemiandra rutilans* is not listed under any specific international treaty and this IRP does not affect Australia's obligations under any other international agreements.

Indigenous Consultation

According to the Department of Indigenous Affairs Aboriginal Heritage Sites Register, no known Aboriginal sites of significance occur within or in close proximity to the previously known population of *Hemiandra*

rutilans. The involvement of the Indigenous community is currently being sought to determine if there are any indigenous issues identified in the Plan. If no role is identified for indigenous communities in the recovery of this species, opportunities may exist through cultural interpretation and awareness of the species.

The advice of the South West Aboriginal Land and Sea Council (SWALSC) and Department of Indigenous Affairs is being sought to assist in the identification of potential indigenous management responsibilities for land occupied by threatened species, or groups with a cultural connection to land that is important for the species' conservation.

Continued liaison between DEC and the indigenous community will identify areas in which collaboration will assist implementation of recovery actions.

Social and economic impact

The implementation of this recovery plan is unlikely to cause significant adverse social or economic impacts. However, as the known population was located on private property, habitat retention for possible future plant recruitment from soil-stored seed may potentially affect farming activities. Actions will involve liaison and cooperation between stakeholders with regard to this area.

Affected interests

Stakeholders potentially affected by the implementation of this plan include the owner of the private property on which the last known population was located. Recovery actions refer to continued liaison between stakeholders.

Evaluation of the plan's performance

DEC, in conjunction with the Avon-Mortlock District Threatened Flora and Communities Recovery Team (AMDTFCRT), will evaluate the performance of this IRP. In addition to annual reporting on progress and evaluation against the criteria for success and failure, the plan will be reviewed following four years of implementation.

2. RECOVERY OBJECTIVE AND CRITERIA

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

Criteria for success: Recruitment from soil-stored seed occurs within the area of the previously known plant over the period of the plan or new populations are found.
Criteria for failure: No recruitment from soil-stored seed occurs within the area of the previously known plant over the period of the plan or no new populations are found.

3. RECOVERY ACTIONS

Existing recovery actions

The habitat of the Dowerin population has been fenced to exclude rabbits and sheep.

BGPA has 50 propagates in vitro culture and two seeds in cryostorage.

Ongoing and future recovery actions

After the single extant plant of *Hemiandra rutilans* died, BGPA staff treated the site with smoke in an attempt to stimulate germination of any seed stored in the soil. This treatment has to date been unsuccessful.

The Avon-Mortlock Threatened Flora and Communities Recovery Team (AMTFCRT) is overseeing the implementation of this IRP and will include information on progress in their annual reports to DEC's Corporate Executive and funding bodies.

Staff from DEC's Avon-Mortlock District office are monitoring the site.

Where populations occur on lands other than those managed by DEC, permission has been or will be sought from appropriate land managers prior to actions being undertaken. The following recovery actions are generally in order of descending priority, influenced by their timing over the life of the plan. However this should not constrain addressing any of the actions if funding is available and other opportunities arise.

1. Coordinate recovery actions

The AMDTFCRT are coordinating recovery actions for *Hemiandra rutilans* and other DRF in their district and will include information on recovery progress in their annual report to DEC's Corporate Executive and funding bodies.

Action: Coordinate recovery actions
Responsibility: DEC (Avon-Mortlock District) through the AMDTFCRT
Cost: $1,600 per year

2. Map habitat critical to the survival of *Hemiandra rutilans*

It is a requirement of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that spatial data relating to habitat critical to the specie's survival be determined. Although this is alluded to in Section 1, the areas described have not yet been accurately mapped and this will be addressed under this action. If new populations are located, habitat critical to their survival will also be determined and mapped.

Action: Map habitat critical to the survival of *Hemiandra rutilans*
Responsibility: DEC (Avon-Mortlock District) through the AMDTFCRT
Cost: $2,000 in the first year

3. Obtain taxonomic, biological and ecological information

As very little is currently known about the biology or ecology of the species and its relationship with the related *Hemiandra coccinea*, research would provide information on:

1. Its relationship with *Hemiandra coccinea*.
2. The size and viability of the seed bank, and seed germination requirements
3. The role of disturbance in regeneration
4. The species sensitivity to fire and response to different fire regimes

Action: Obtain taxonomic, biological and ecological information
Responsibility: DEC (Science Division, Avon-Mortlock District) through the AMTFCRT
Cost: $16,500 in years 2 and 3, $31,500 in year 4

4. Conduct further surveys

Hemiandra rutilans will be surveyed during the species flowering period (October to December) with assistance from local naturalist clubs and volunteers. Surveys will also be done on an opportunistic basis while surveying for other threatened flora, particularly on private property. Volunteers from the local community, wildflower societies and naturalist clubs may be involved in surveys, supervised by DEC staff.

Action: Conduct further surveys
Responsibility: DEC (Avon-Mortlock District) through the AMTFCRT
Cost: $1,400 per year

5. Monitor habitat of last known plant

Annual monitoring of threatening processes and possible germinates of this species will be conducted and Rare Flora Report Forms completed.

Action: Monitor habitat of last known plant
Responsibility: DEC (Avon-Mortlock District) through the AMTFCRT
Cost: $1,200 per year

6. Develop and implement fire and soil disturbance trials

DEC's Avon-Mortlock District will, in consultation with the private landowner, develop and implement fire or soil disturbance trials to stimulate the germination of soil stored seed. The results of trials will be monitored and, if successful, a larger scale operation undertaken.

Action: Develop and implement fire and soil disturbance trials
Responsibility: DEC (Science Division, Avon-Mortlock District) through the AMTFCRT
Cost: $3,400 in years 1, 3 and 5

7. Develop and implement a fire management strategy

A fire management strategy will be developed for the species, including recommendations on fire frequency, intensity and season. Fire should be prevented from occurring within the area of the last known population until a research burn has determined the role of fire in regeneration of the species.

Action: Develop a fire management strategy
Responsibility: DEC (Avon-Mortlock District) through the AMDTFCRT
Cost: $2,500 in year 1 and $900 in subsequent years

8. Promote awareness

A publicity campaign will increase local community awareness of this species. Publicity may be in the form of exposure in the local print or electronic media, or production of a poster for display in venues of high exposure. Formal links with local naturalist groups and interested individuals should also be encouraged.

Action: Promote Awareness
Responsibility: DEC (Avon-Mortlock District, Species and Communities Branch (SCB), Strategic Development and Corporate Affairs) through the AMDTFCRT
Cost: $2,000 in the first year, $1,000 in years 3 and 5

9. Liaise with relevant land managers and Indigenous groups

Staff from DEC's Avon-Mortlock District will continue to liaise with the private land owners. Input and involvement will be sought from Indigenous groups that may have an active interest in the habitat of the species.

Action: Liaise with relevant land managers and Indigenous groups
Responsibility: DEC (Avon-Mortlock District) through the AMDTFCRT
Cost: $800 per year

10. Review the plan and assess the need for further recovery actions

If *Hemiandra rutilans* is still ranked Critically Endangered at the end of the five-year term of this IRP, the need for further recovery actions, or a review of this IRP will be assessed and a revised plan prepared if necessary.

Action: Review the plan and assess the need for further recovery actions
Responsibility: DEC (Avon-Mortlock District, SCB) through the AMDTFCRT
Cost: $1,500 in the fifth year

Summary of recovery actions

Recovery Actions	Priority	Responsibility	Completion date
Coordinate recovery actions	High	AMTFCRT	Ongoing
Map habitat critical to the survival of *Hemiandra rutilans*	High	DEC (Avon-Mortlock District) through the AMTFCRT	2009
Obtain biological and ecological information	High	DEC (Science Division, Avon-Mortlock District) through the AMTFCRT	2012
Conduct further surveys	High	DEC (Avon-Mortlock District) through the AMTFCRT	Ongoing
Monitor habitat of last known plant	High	DEC (Avon-Mortlock District) through the AMTFCRT	Ongoing
Develop and implement fire and soil disturbance trials	High	DEC (Science Division, Avon-Mortlock District) through the AMTFCRT	2013
Develop and implement a fire management strategy	High	DEC (Avon-Mortlock District) through the AMTFCRT	Develop by 2009 with implementation ongoing
Promote awareness	Moderate	DEC (Avon-Mortlock District, SCB, Strategic Development and Corporate Affairs Division) through the AMTFCRT	Ongoing
Liaise with the land manager and Indigenous groups	Moderate	DEC (Avon-Mortlock District) through the AMTFCRT	Ongoing
Review the plan and assess the need for further recovery actions	Moderate	DEC (Avon-Mortlock District, SCB) through the AMTFCRT	2013

4. TERM OF PLAN

Western Australia

This IRP will operate from April 2008 to March 2013 but will remain in force until withdrawn or replaced. If the species is still listed as DRF after five years, the need for further recovery actions will be determined.

Commonwealth

In accordance with the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) this adopted recovery plan will remain in force until revoked.

The recovery plan must be reviewed at intervals of not longer than 5 years.

5. REFERENCES

Atkins, K. (2008). *Declared Rare and Priority Flora List for Western Australia.* Department of Environment and Conservation, Western Australia.

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Sargent, O.H. (1927) Notes on the Genus *Hemiandra* R. Br. *Journal of Botany* 65, 174-176.

World Conservation Union (1994) *IUCN Red List Categories: Version 2.3.* Prepared by the IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK.

6. TAXONOMIC DESCRIPTION

Excerpt from: Sargent, O.H. (1927) Notes on the Genus *Hemiandra* R. Br. *Journal of Botany* 65, 174-176.

Translation
Erect shrublet. Stems, leaves and calyces subscabrous-canescent, or leaves occasionally glabrous. Leaves linear or linear-oblanceolate. Calyx bilobed. Corolla blood-red, subdensely pubescent; tube trumpet shaped, limb scarcely bilobed, lobes more or less equal, much shorter than the tube, entire. Stamens inserted in the lower quarter of the tube. Anthers long exserted.

Height to 10 cm (or higher). Leaves 21 mm long, 2 mm wide. Calyx tube 6 mm, corolla tube 21 mm long.