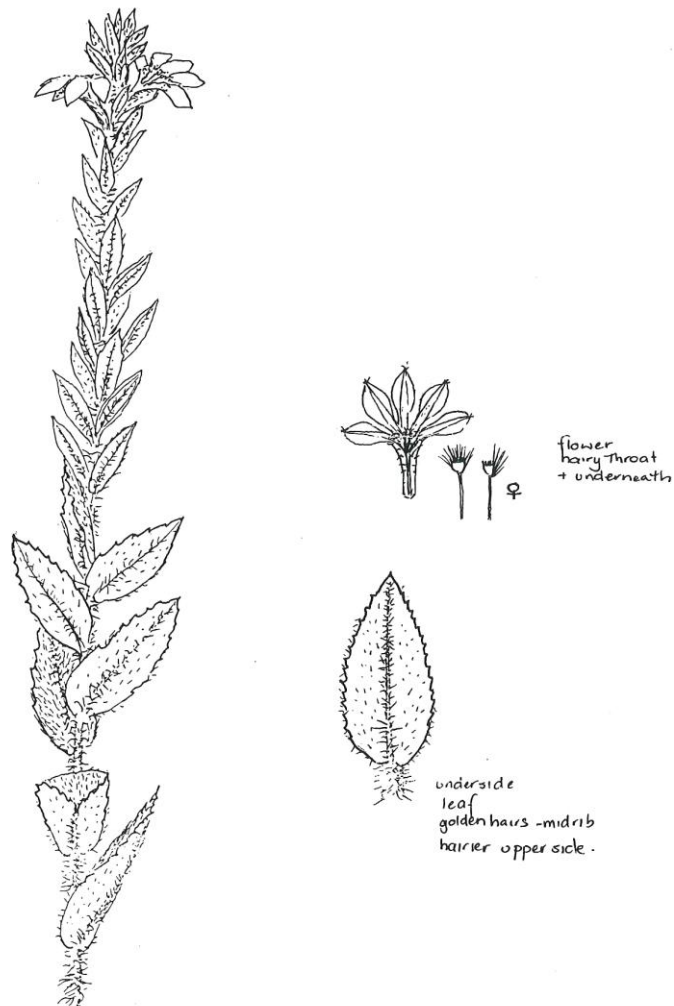




INTERIM RECOVERY PLAN NO. 306

Scaevola macrophylla
INTERIM RECOVERY PLAN
2010-2015



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This plan will operate from November 2010 to October 2015 but will remain in force until withdrawn or replaced. It is intended that, if the taxon is still ranked as Critically Endangered (CR), this IRP will be reviewed after five years and the need for further recovery actions assessed.

This IRP was given regional approval on 15 March 2010 and was approved by the Director of Nature Conservation on 17 December 2010. The 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 at November 2010.

IRP PREPARATION

This IRP was prepared by Robyn Luu¹ and Andrew Brown².

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ACKNOWLEDGMENTS

The following people provided assistance and advice in the preparation of this IRP:

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Jessica Donaldson	Threatened Flora Database Technical Officer, DEC Species and Communities Branch
Monica Hunter	Ecologist, DEC Species and Communities Branch
Amanda Shade	Assistant Curator (Nursery) Botanic Gardens and Parks Authority

Thanks also to the staff of the W.A. Herbarium for providing access to Herbarium databases and specimen information, and DEC's Species and Communities Branch for assistance.

Cover drawing by Libby Sandiford.

CITATION

This IRP should be cited as:

Department of Environment and Conservation (2010) *Scaevola macrophylla* Interim Recovery Plan 2010-2015. Interim Recovery Plan No. 306. Department of Environment and Conservation, Western Australia.

SUMMARY

Scientific Name: *Scaevola macrophylla* (de Vriese) Benth. **Common Name:** Large-flowered scaevola
Family: Goodeniaceae **Flowering Period:** September - October
DEC Region: South Coast **DEC District:** Albany District
Shire: City of Albany **NRM Region:** South Coast
Recovery Team: Albany District Threatened Flora and Communities Recovery Team (ADTFCRT)

Illustrations and/or further information: Bentham (1869) Flora of Australia, 4:98; Western Australian Herbarium (1998–) *FloraBase – The Western Australian Flora*. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/>.

Current status: *Scaevola macrophylla* was declared as Rare Flora under the Western Australian *Wildlife Conservation Act 1950* in July 2004. It is currently ranked as Critically Endangered (CR) under World Conservation Union (IUCN 2001) criterion D due to there being less than 50 mature individuals known. The species is not currently listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999). However, a Species Profile and Threats (SPRAT) information sheet has been drafted for assessment by the Commonwealth TSSC. The main threats to its habitat are inappropriate fire regimes and lack of appropriate disturbance. Although there are no extant plants the habitat of the last known population is intact.

Description: *Scaevola macrophylla* is an erect herb (woody at base) to 0.4 m high. The flowers are almost sessile, blue and clustered in a terminal, leafy spike, at first very dense but afterwards lengthening. The bracteoles are long and thin and taper at a point (Bentham 1869).

Habitat requirements: *Scaevola macrophylla* is endemic to Western Australia where it is confined to the Cape Riche area, near Albany. The species grows in loam soil on laterite, in association with *Verticordia* and *Kunzea* species.

Habitat critical to the survival of the species, and important populations: Given that *Scaevola macrophylla* is ranked as CR, it is considered that the habitat of previously known populations and additional areas 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, is habitat critical to the survival of the species.

Benefits to other species or ecological communities: Recovery actions implemented to improve the quality or security of the habitat of *Scaevola macrophylla* will also improve the status of associated native vegetation, one Declared Rare flora species and ten Priority flora species. No Threatened Ecological Communities occur with or adjacent to the species.

International obligations: *Scaevola macrophylla* is not listed under any specific international treaty and this IRP does not affect Australia's obligations under any other international agreements. However, 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.

Indigenous Consultation: As the Aboriginal Sites Register maintained by the Department of Indigenous Affairs lists two significant sites in the vicinity of *Scaevola macrophylla* – a Cheyne Bay site (#4935), listed as having artefacts with no restrictions, and a Cape Riche Ochre site (#20214), listed as a quarry and artefacts with no restrictions – input and involvement is being sought through the South West Aboriginal Land and Sea Council (SWALSC) and Department of Indigenous Affairs to determine if there are any issues or interests. As this is not expected to be completed before the approval of the IRP, consultation has been included as a recovery action to ensure there has been Indigenous engagement.

Social and economic impacts: The implementation of this recovery plan is unlikely to cause significant adverse social and economic impact as the previously known location for *Scaevola macrophylla* is a Parklands and Recreation reserve.

Affected interests: Input and involvement is being sought through the South West Aboriginal Land and Sea Council (SWALSC) and Department of Indigenous Affairs to determine if there are any issues or interests.

Evaluation of the Plan's Performance: The DEC in conjunction with the Albany District Threatened Flora and Communities Recovery Team (ADTFCRT) 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 five years of implementation.

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

Interim Recovery Plan for *Scaevola macrophylla*

1. Surveys for *Scaevola macrophylla* have been undertaken by DEC staff and volunteers from the Albany Branch of the Wildflower Society.
2. In 2001, an article and line drawing of *Scaevola macrophylla* was placed in the Albany Advertiser and Wellstead Whisper asking for the public to assist in finding the species and report any sightings.
3. The ADTFCRT are overseeing the implementation of this IRP and will include information on progress in their annual report to DEC's Corporate Executive and funding bodies.

IRP Objective: The objective of this IRP is to abate identified threats and maintain or enhance the habitat of the previously known populations of the species.

Recovery Criteria

Criteria for success: No significant deterioration in the habitat condition over the period of the plan or discovery of an extant wild population.

Criteria for failure: Significant deterioration in the habitat condition over the period of the plan.

Recovery actions

1. Coordinate recovery actions
2. Map habitat critical to the survival of *Scaevola macrophylla*
3. Achieve long-term protection of habitat
4. Stimulate germination
5. Conduct further surveys
6. Develop and implement a fire management strategy
7. Monitor habitat
8. Liaise with land managers and Indigenous groups
9. Promote awareness
10. Review this IRP and assess the need for further recovery actions

1. BACKGROUND

History

Scaevola macrophylla was named *Molkenboeria macrophylla* by de Vriese in 1854 from specimens collected by James Dummond from an unknown location and was placed in *Scaevola* by Bentham in 1868.

As it had not been relocated since its original discovery *Scaevola macrophylla* was Presumed Extinct until specimens collected by Eileen Croxford in 1987 and 1990 from a burnt area at Cape Riche were received by the Western Australian (WA) Herbarium and confirmed as the species. In October 1996, the area was revisited but no plants were located. An Albany Wildflower Society member found a possible population of the species in the Mt Groper area in August 1997. However, as a specimen has not been lodged at the WA Herbarium and plants have not been relocated at that site, it remains unconfirmed. It is possible that plants at this site are in fact *Scaevola microphylla* rather than *S. macrophylla*.

When rediscovered in 1987, *Scaevola macrophylla* was described as being locally abundant and, as no plants have been located since 1990, it is thought that the species may be a short-lived disturbance opportunist, appearing in large numbers following fire and quickly senescing.

Description

Scaevola macrophylla is an erect herb (woody at base) to 0.4 m high. The flowers are blue, almost sessile and clustered in a terminal, leafy spike, at first very dense but afterwards lengthening. The bracteoles are long and thin and taper at a point (Bentham 1868).

Distribution and habitat

Scaevola macrophylla is endemic to Western Australia where it is confined to the Cape Riche area near Albany, growing in loam soil over laterite in association with *Verticordia* and *Kunzea* species. The extent of occurrence is unknown as attempts to relocate plants have failed. Based on anecdotal information, it is thought that the area of occupancy was less than 1 km².

Table 1. Summary of population land vesting, purpose and manager

Pop. No. & Location	DEC District	Shire	Vesting	Purpose	Manager
1. Cape Riche	Albany	City of Albany	Non vested	Parkland and Recreation	Un-managed

The population in **bold text** is considered to be an important population.

Biology and ecology

Scaevola macrophylla appears to be a short-lived species that recruits post-fire.

Threats

Scaevola macrophylla was declared as Rare Flora under the Western Australian *Wildlife Conservation Act 1950* in July 2004. It is currently ranked as Critically Endangered (CR) under World Conservation Union (IUCN 2001) criterion D due to there being less than 50 mature individuals known. The species is not currently listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999). However, a Species Profile and Threats (SPRAT) sheet has been drafted for assessment by the Commonwealth TSSC. The main threats to its habitat are inappropriate fire regimes and lack of disturbance. Although there are no extant plants the habitat of the last known population is intact.

- **Inappropriate fire regimes.** *Scaevola macrophylla* appears to be a short-lived species that recruits post fire. A lack of suitable fire events may result in little or no recruitment.

The intent of this plan is to provide actions that will deal with immediate threats to the habitat of *Scaevola macrophylla*. Although climate change may have a long-term effect on the habitat, actions taken directly to prevent the impact of climate change are beyond the scope of this plan.

Table 2. Summary of population information and threats

Pop. No. & Location	Land Status	Year / No. of plants	Current Habitat Condition	Threats (to habitat)
1. Cape Riche	Unvested Reserve	2005 0	Healthy	Inappropriate fire regimes

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 population of *Scaevola macrophylla* requires assessment and should not be approved unless the proponents can demonstrate that their actions will have no significant impact on the species' habitat or potential habitat, the local surface hydrology, such that drainage in the habitat would be altered, or have the potential to spread or amplify dieback disease caused by the plant pathogen *Phytophthora cinnamomi*.

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

Given that *Scaevola macrophylla* is ranked as CR, it is considered that the habitat of the last known population, additional areas of similar habitat that may contain undiscovered populations or be suitable for future translocations, and the local catchment for the surface and/or groundwater that maintains the habitat, is habitat critical to the survival of the species.

Benefits to other species or ecological communities

Recovery actions implemented to improve the quality or security of the habitat of *Scaevola macrophylla* will also improve the status of associated native vegetation, one DRF flora species (Vulnerable) and ten Priority flora species. The DRF and Priority species are listed in the table below.

Table 3. Conservation-listed flora species occurring within one kilometre of *Scaevola macrophylla*

Species name	Conservation Status (WA)	Conservation Status (EPBC Act 1999)
<i>Verticordia helichrysantha</i>	DRF, Vulnerable	Vulnerable
<i>Andersonia carinata</i>	Priority 2	
<i>Chamelaucium juniperinum</i>	Priority 2	
<i>Calothamnus robustus</i>	Priority 3	
<i>Gonocarpus trichostachyus</i>	Priority 3	
<i>Sphaerolobium validum</i>	Priority 3	
<i>Thysanotus gageoides</i>	Priority 3	
<i>Acacia empelioclada</i>	Priority 4	
<i>Acrotriche parviflora</i>	Priority 4	
<i>Kunzea pauciflora</i>	Priority 4	
<i>Melaleuca araucarioides</i>	Priority 4	

For a description of the Priority categories see Atkins (2008).

No Threatened Ecological Communities are known to occur in the habitat of or near *Scaevola macrophylla*.

International obligations

Scaevola macrophylla is not listed under any specific international treaty and this IRP does not affect Australia's obligations under any other international agreements. However, 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.

Indigenous Consultation

As the Aboriginal Sites Register maintained by the Department of Indigenous Affairs lists two significant sites in the vicinity of *Scaevola macrophylla* – Cheyne Bay site (#4935), listed as having artefacts with no restrictions and Cape Riche Ochre site (#20214), listed as a quarry and artefacts with no restrictions – input and involvement is being sought through the South West Aboriginal Land and Sea Council (SWALSC) and Department of Indigenous Affairs to determine if there are any issues or interests. As this is not expected to be completed before the approval of the IRP, consultation has been included as a recovery action to ensure there has been Indigenous engagement.

Social and economic impacts

The implementation of this recovery plan is unlikely to cause significant adverse social and economic impact as the habitat of *Scaevola macrophylla* is in a Parklands and Recreation reserve.

Affected interests

There are no significant stakeholders likely to be affected by implementation of this plan.

Evaluation of the Plans Performance

The DEC in conjunction with the Albany District Threatened Flora and Communities Recovery Team (ADTFCRT) 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 five years of implementation.

2. RECOVERY OBJECTIVE AND CRITERIA

Objective

The objective of this IRP is to abate identified threats and maintain or enhance the habitat of the previously known populations of the species.

Recovery Criteria

Criteria for success: No significant deterioration in habitat condition over the period of the plan or the discovery of an extant wild population.

Criteria for failure: Significant deterioration in the habitat condition over the period of the plan.

3. RECOVERY ACTIONS

Existing recovery actions

Surveys for *Scaevola macrophylla* have been undertaken by DEC staff and volunteers from the local Wildflower Society Group (Albany) and include:

- Surveys of the Cape Riche area in November 1995, 1996, 1997, 1999 and 2002.
- Survey of the Boat Harbour-Mt Groper (Beaufort Inlet) area in August 1999.
- Survey of Cape Riche to Mt Groper area and Cape Knob to Pallinup River area in July 1999 and spring 2000.

In 2001, an article and line drawing of *Scaevola macrophylla* was placed in the Albany Advertiser and Wellstead Whisper asking if the public could assist in finding the species and report any sightings.

The ADTFCRT are overseeing the implementation of this IRP and will include information on progress in their annual report to DEC's Corporate Executive and funding bodies.

Future recovery actions

Where recovery actions occur on lands other than those managed by DEC, permission has been or will be sought from appropriate owners/land managers prior to recovery 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 ADTFCRT will continue to oversee the implementation of the recovery actions for *Scaevola macrophylla* and will include information on progress in their annual report to DEC's Corporate Executive and funding bodies.

Action: Coordinate recovery actions
Responsibility: DEC (Albany District) through the ADTFCRT
Cost: \$3,000 per year

2. Map habitat critical to the survival of *Scaevola macrophylla*

It is a requirement of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that spatial data relating to habitat critical to the survival of the species be determined. Although this is alluded to in Section 1, the habitat has not yet been mapped and this will be addressed under this action. If additional populations are located, then habitat critical to the survival of the species in those areas will also be determined.

Action: Map habitat critical to the survival of *Scaevola macrophylla*
Responsibility: DEC (SCB, Albany District) through the ADTFCRT
Cost: \$3,000 in year 2

3. Achieve long term protection of habitat

The possibility of including the non vested reserve where the species was last seen into the Conservation Estate will be investigated and action taken if deemed necessary.

Action: Achieve long term protection of habitat
Responsibility: DEC (Albany District, Land Acquisition Branch) through the ADTFCRT
Cost: \$1,500 per year

4. Stimulate germination

Small scale experimental burns and smoke water treatment in the area where *Scaevola macrophylla* was last collected will be trialled to encourage recruitment. Records will be maintained for future research.

Action: Stimulate germination
Responsibility: DEC (Albany District) through the ADTFCRT
Cost: \$3,500 in years 1 and 3, \$1,000 in years 2, 4 and 5

5. Conduct further surveys

It is recommended that surveys for *Scaevola macrophylla* continue to be undertaken during the species' flowering period. All surveyed areas will be recorded and the presence or absence of the species documented to increase survey efficiency and reduce duplicate surveys. Where possible, volunteers from the local community, Landcare groups, wildflower societies and naturalists clubs will be involved.

Action: Conduct further surveys
Responsibility: DEC (Albany District) through the ADTFCRT
Cost: \$3,000 in years 1, 3 and 5

6. Develop and implement a fire management strategy

Scaevola macrophylla is thought to be a short-lived species which recruits post fire. However, as this is not known for certain, fire should be prevented from occurring in the area of previous known populations, except where it is being used 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: DEC (Albany District) through the ADTFCRT
Cost: \$2,500 in first year and \$1,000 in subsequent years

7. Monitor habitat

Monitoring of factors such as habitat degradation (including impact of dieback) and grazing is essential.

Action: Monitor habitat
Responsibility: DEC (Albany District) through the ADTFCRT
Cost: \$3,500 per year

8. Liaise with land managers and Indigenous groups

Staff from DEC's Albany District will liaise with appropriate land managers to ensure that the habitat of *Scaevola macrophylla* is not accidentally damaged or destroyed. Indigenous consultation will take place to determine if there are any issues or interests in areas that are habitat for *S. macrophylla*.

Action: Liaise with relevant land managers and Indigenous groups
Responsibility: DEC (Albany District) through the ADTFCRT
Cost: \$500 per year

9. Promote awareness

The importance of biodiversity conservation and the protection of *Scaevola macrophylla* will be promoted to the public. This will be achieved through an information campaign using local print and electronic media and by setting up poster displays. An information sheet that includes a description of the plant, its habitat type, threats and management actions, and photos will be produced. Formal links with local naturalist groups and interested individuals will also be encouraged.

Action: Promote awareness
Responsibility: DEC (Albany District, SCB, Strategic Development and Corporate Affairs Division) through the ADTFCRT
Cost: \$1,500 in year 1 and \$1,000 in years 2-5

10. Review this IRP and assess the need for further recovery actions

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

Action: Review this IRP and assess the need for further recovery actions
Responsibility: DEC (SCB, Albany District) through the ADTFCRT
Cost: \$2,000 in year 5

Table 4. Summary of Recovery Actions

Recovery Action	Priority	Responsibility	Completion Date
Coordinate recovery actions	High	DEC (Albany District) through the ADTFCRT	Ongoing
Map habitat critical to the survival of <i>Scaevola macrophylla</i>	High	DEC (SCB, Albany District) through the ADTFCRT	2011

Achieve long-term protection of habitat	High	DEC (Albany District, Land Acquisitions Branch) through the ADTFCRT	2014
Stimulate germination	High	DEC (Albany District) through the ADTFCRT	2014
Conduct further surveys	High	DEC (Albany District) through the ADTFCRT	Ongoing
Develop and implement a fire management strategy	High	DEC (Albany District) through the ADTFCRT	Developed by 2010 with implementation ongoing
Monitor habitat	High	DEC (Albany District) through the ADTFCRT	Ongoing
Liaise with land managers and Indigenous groups	Medium	DEC (Albany District) through the ADTFCRT	Ongoing
Promote awareness	Medium	DEC (Albany District, SCB, and Strategic Development and Corporate Affairs Division) through the ADTFCRT	Ongoing
Review this IRP and assess the need for further recovery actions	Medium	DEC (SCB, Albany District District) through the ADTFCRT	2014

4. TERM OF PLAN

This IRP will operate from November 2010 to October 2015 but will remain in force until withdrawn or replaced. If the species is still ranked CR after five years, the need for further recovery actions will be determined.

5. REFERENCES

- Atkins, K. (2008) *Declared Rare and Priority Flora List for Western Australia*. Department of Environment and Conservation, Perth, Western Australia.
- Bentham (1869) *Flora of Australia*, 4:98.
- Department of Conservation and Land Management (1992a) Policy Statement No. 44 *Wildlife Management Programs*. Department of Conservation and Land Management, Western Australia.
- Department of Conservation and Land Management (1992b) Dieback disease hygiene manual. Perth, 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.
- Government of Australia (1999) *Endangered Species Protection Act 1999*. Government Printer, Canberra.
- Western Australian Herbarium (1998–) *FloraBase – The Western Australian Flora*. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/>.
- World Conservation Union (2001) *IUCN Red List Categories: Version 3.1*. Prepared by the IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK.

6. TAXONOMIC DESCRIPTION

Scaevola macrophylla

Bentham (1869) *Flora of Australia*, 4:98.

Erect (from a woody stock?), very hispid, 1 to 2 ft. high. Leaves ovate or ovate-lanceolate, acute, mostly toothed, stem-clasping at the base, 1 to 1½ in. long in some specimens, much smaller in others, the upper ones passing gradually into lanceolate bracts. Flowers almost sessile, in a terminal, leafy spike, at first very dense, but afterwards lengthening. Bracteoles linear-subulate. Calyx-lobes exceedingly small, ovate, ciliate. Corolla ¾ to 1 in. long, silky hairy or hispid outside. Style flattened. Indusium almost surrounded at the base by a dense tuft of purplish hairs as long as itself, the margin ciliate with white hairs. Ovary 2-celled. Drupe small, oblong, rugose.