

## Abridged Threatened Species Nomination Form

For nominations/assessments under the Common Assessment Method (CAM) where supporting information is available, but not in a format suitable for demonstrating compliance with the CAM, and assessment against the IUCN Red List threat status.

### Cover Page *(Office use only for Assessment)*

<b>Species name</b> (scientific and common name):	<i>Marianthus paralius</i>
<b>Nomination for</b> (addition, deletion, change):	Addition
<b>Nominated conservation category and criteria:</b>	EN: B1ab(v)+2ab(v); C2(a)(i); D

Scientific committee assessment of eligibility against the criteria:		
This assessment is consistent with the standards set out in Schedule 1, item 2.7 (h) and 2.8 of the Common Assessment Method Memorandum of Understanding.		Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>A.</b>	Population size reduction	•
<b>B.</b>	Geographic range	•
<b>C.</b>	Small population size and decline	•
<b>D.</b>	Very small or restricted population	•
<b>E.</b>	Quantitative analysis	•

Outcome:			
<i>Scientific committee Meeting date:</i>			
<i>Scientific committee comments:</i>			
<i>Recommendation:</i>			
<i>Ministerial approval:</i>		<i>Date of Gazettal/ Legislative effect:</i>	

# Nomination/Proposal summary *(to be completed by nominator)*

Current conservation status				
Scientific name:	<i>Marianthus paralius</i>			
Common name:	None			
Family name:	Pittosporaceae	Fauna <input type="checkbox"/>	Flora <input checked="" type="checkbox"/>	
Nomination for:	Listing <input checked="" type="checkbox"/>	Change of status/criteria <input type="checkbox"/>	Delisting <input type="checkbox"/>	
1. Is the species currently on any conservation list, either in a State or Territory, Australia or Internationally? 2. Is it present in an Australian jurisdiction, but not listed?		Provide details of the occurrence and listing status for each jurisdiction in the following table		
Jurisdiction	State / Territory in which the species occurs	Date listed or assessed (or N/A)	Listing category i.e. critically endangered or 'none'	Listing criteria i.e. B1ab(iii)+2ab(iii)
International (IUCN Red List)				
National (EPBC Act)				
State / Territory	1. WA	2006	Critically Endangered	D
	2. WA	2016	Endangered	B1ab(v)+2ab(v); C2(a)(i); D
	3.			
Consistent with Schedule 1, item 2.7 (h) and 2.8 of the Common Assessment Method Memorandum of Understanding, it is confirmed that:				
<ul style="list-style-type: none"> <li>this assessment meets the standard of evidence required by the Common Assessment Method to document the eligibility of the species under the IUCN criteria;</li> </ul>			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comments:				
<ul style="list-style-type: none"> <li>surveys of the species were adequate to inform the assessment;</li> </ul>			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comments:	<ul style="list-style-type: none"> <li>Gibson, N. – A Floristic Survey of the Swan Coastal Plain (1994) – extensive bioregional survey.</li> <li>Keighery, G.J. – 1992. – possibly an incidental collection.</li> <li>Jacqui Maguire and Leigh W. Sage – Sept 2004 – survey of all known and potential habitats along a 10km stretch of coast from Seabird to Guilderton over 3 days (report provided).</li> <li>David Pike – Sept 2005 – survey of Iluka Foreshore Reserve by City of Joondalup.</li> <li>David Wake (Quinns Rock Environmental Group volunteer) - June 2013 – survey of Kinsale Park, Mindarie.</li> <li>Survey of all 3 known populations by DPaW staff in Sept 2013.</li> </ul>			
<ul style="list-style-type: none"> <li>the conclusion of the assessment remains current and that any further information that may have become available since the assessment was completed supports or is consistent with the conclusion of the assessment.</li> </ul>			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

<b>Comments:</b>	The total number of known plants has increased from 30 to 175 following the discovery of two new populations. Therefore criterion D no longer applies for CR but does apply for EN. As there has been a decline in the number of plants at one location and a potential decline in habitat quality, criterion B1ab(v)+2ab(v) now applies for EN. Criterion C2(a)(i) also applies. Endorsed WA TSSC 15/7/2016.	
<b>Nominated national conservation status: category and criteria</b>		
Presumed extinct (EX) <input type="checkbox"/> Critically endangered (CR) <input type="checkbox"/> Endangered (EN) <input checked="" type="checkbox"/> Vulnerable (VU) <input type="checkbox"/>		
None (least concern) <input type="checkbox"/> Data Deficient <input type="checkbox"/> Conservation Dependent <input type="checkbox"/>		
<b>What are the IUCN Red List criteria that support the recommended conservation status category?</b>	<b>B1ab(iii,v)+2ab(iii,v); C2(a)(i); D</b>	
<b>Eligibility against the IUCN Red List criteria (A, B, C, D and E)</b>		
<i>Provide justification for the nominated conservation status; is the species eligible or ineligible for listing against the five criteria. For <b>delisting</b>, provide details for why the species no longer meets the requirements of the current conservation status.</i>		
<b>A.</b>	Population size reduction (evidence of decline)	<ul style="list-style-type: none"> <li>Monitoring from 2005 to 2013 showed a decline in observed plants at one known location but an increase in plants at another location. There is insufficient monitoring data to reliably show a rate of decline.</li> </ul>
<b>B.</b>	Geographic range (EOO and AOO, number of locations and evidence of decline)	<ul style="list-style-type: none"> <li>Known from three locations (EEO 56 km<sup>2</sup>). AOO using the 2x2km grid system is 12 km<sup>2</sup>. Mapped area of populations is 0.002224 km<sup>2</sup>.</li> <li>Ongoing decline in number of plants monitored from 2005 to 2013 at the location south of Burns Beach, and expected to continue. Potential decline in plants at Mindarie if threatening processes continue.</li> <li>Potential for future decline in condition of habitat due to frequent fire, weeds and recreational activities. One location under potential threat from limestone mining.</li> <li>Locations are separated but not deemed severely fragmented as each site is located in an area of remnant vegetation adequate to maintain a viable population. Map attached.</li> <li><b>Meets EN: B1ab(v)+2ab(v)</b></li> </ul>
<b>C.</b>	Small population size and decline (population size, distribution and evidence of decline)	<ul style="list-style-type: none"> <li>Known from 175 plants at three locations, ranging from Seabird in the north, to the southernmost point in Iluka, north of Perth, over a range of 57km.</li> <li>137 plants (78%) located in one location.</li> <li>Ongoing decline in number of plants at one site and likely at others.</li> <li><b>Meets EN C2(a)(i)</b></li> </ul>
<b>D.</b>	Very small or restricted population (population size)	<ul style="list-style-type: none"> <li>175 plants.</li> <li><b>Meets EN: D</b></li> </ul>

E.	Quantitative analysis (statistical probability of extinction)	<ul style="list-style-type: none"> <li>No data</li> </ul>			
<b>Summary of assessment information</b>					
EOO	56 km <sup>2</sup>	AOO	12 km <sup>2</sup> (2x2km grid method)  Mapped area of subpopulations 0.0022km <sup>2</sup>	Generation length	-
No. locations	3	Severely fragmented		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown <input type="checkbox"/>	
No. subpopulations	3	No. mature individuals		175	
Percentage global population within Australia			100		
Percentage population decline over 10 years or 3 generations			unknown		
<b>Threats</b> (detail how the species is being impacted)					
Threat <i>(describe the threat and how it impacts on the species. Specify if the threat is past, current or potential)</i>		Extent <i>(give details of impact on whole species or specific subpopulations)</i>		Impact <i>(what is the level of threat to the conservation of the species)</i>	
Refer to table at end.					
<b>Management and Recovery</b>					
Is there a Recovery Plan (RP) or Conservation Management Plan operational for the species?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<p>List all relevant recovery or management plans (including draft, in-preparation, out-of-date, national and State/Territory recovery plans, recovery plans for other species or ecological communities, or other management plans that may benefit or be relevant to the nominated species).</p> <ul style="list-style-type: none"> <li>Department of Environment and Conservation (2009) <i>Marianthus paralius</i> Interim Recovery Plan 2009-2014. Interim Recovery Plan No. 291. Department of Environment and Conservation, Western Australia.</li> </ul>					
<p>List current management or research actions, if any, that are being undertaken that benefit the conservation of the species.</p> <ul style="list-style-type: none"> <li>Protect the site from fire unless required for ecological reasons, and implement early intervention in any wildfires which may threaten the site;</li> <li>Fencing of sites to protect the habitat from recreational activities;</li> <li>Survey for additional populations;</li> <li>Protect populations and their habitat from limestone mining;</li> <li>Liaise with City of Joondalup to protect the remnant vegetation on which the species occurs;</li> <li>Monitor the populations for evidence of rabbits or weed impacts, or changes in plant or site health.</li> </ul>					
<p>List further recommended management or research actions, if any, that would benefit the conservation of the species. Please ensure that this section addresses all identified threats.</p> <p>Management</p>					

- Protect the sites containing populations as well as other potential critical habitat from urban development by seeking to have remnant areas included in the reserve system;
- Protect additional populations from recreational activities by installing and maintaining fencing or other barriers where required;
- Control rabbits if evidence of a rabbit population or herbivory noted;
- Control infestations of weeds that might impact the species and its habitat;
- Collect seed for storage and *ex situ* propagation;
- Stimulate germination of soil;
- Establish new populations on secure tenure through implementation of translocations.

#### Research

- Investigate genetic variation within the species to confirm its taxonomic boundaries;
- Determine species pollination ecology, seed germination requirements and viability, and longevity;
- Determine disturbance response of the species and attempt to stimulate germination.

**Nomination prepared by:**

**Contact details:**

**Date submitted:**

15/7/2016

*If the nomination has been refereed or reviewed by experts, please provide their names and contact details:*

Summary of subpopulation information (detailed information to be provided in the relevant sections of the form)						
Location (include coordinates)	Land tenure	Survey information: Date of survey and No. mature individuals	Mapped area of subpopulations	Site / habitat Condition	Threats (note if past, present or future)	Specific management actions
South of Seabird	UCL	2004: 30 2012: 34	500 m <sup>2</sup>	Healthy, located near area being developed which is frequently burnt	Past <ul style="list-style-type: none"> <li>• Land clearing for urban development</li> <li>• Fire</li> </ul> Current <ul style="list-style-type: none"> <li>• Fire</li> <li>• Recreational activities</li> <li>• Small population size</li> </ul> Future <ul style="list-style-type: none"> <li>• Small population size</li> <li>• Land clearing</li> <li>• Limestone mining</li> <li>• Poor recruitment</li> <li>• Fire</li> <li>• Climate change</li> </ul>	As above
*Iluka Coastal Reserve 20561, 800m south of Burns Beach  *new population found	Shire reserve (recreation)	2005: 15 2006: 9 2010: 11 2011: 12 2013: 4	4 m <sup>2</sup>	Healthy, but under pressure as located in urban area which is frequently burnt	Past <ul style="list-style-type: none"> <li>• Land clearing for urban development</li> <li>• Fire</li> </ul> Current <ul style="list-style-type: none"> <li>• Weeds</li> <li>• Fire</li> <li>• Land clearing for development</li> </ul>	As above

					<ul style="list-style-type: none"> <li>• Rabbits</li> <li>• Recreational activities</li> <li>• Poor recruitment</li> </ul> <p>Future</p> <ul style="list-style-type: none"> <li>• Clearing</li> <li>• Fire</li> <li>• Recreational activities</li> <li>• Rabbits</li> <li>• Poor recruitment</li> <li>• Climate change</li> </ul>	
<p>*Kinsale Park, Mindarie</p> <p>*new population found</p>	Shire Crown reserve	9/2013: 137	1,720 m <sup>2</sup>	Healthy, but under pressure as located in urban area which is frequently burnt	<p>Past</p> <ul style="list-style-type: none"> <li>• Land clearing for urban development</li> <li>• Fire</li> </ul> <p>Current</p> <ul style="list-style-type: none"> <li>• Land clearing for urban development</li> <li>• Fire</li> <li>• Weeds</li> <li>• Recreational activities</li> <li>• Poor recruitment</li> </ul> <p>Future</p> <ul style="list-style-type: none"> <li>• Fire</li> <li>• Weeds</li> <li>• Recreational activities</li> <li>• Clearing</li> <li>• Poor recruitment</li> <li>• Climate change</li> </ul>	As above



**FLORA NOMINATION FORM**  
**TO BE CONSIDERED AT THE 2005 TSSC MEETING (updated 2016)**

**Proposed addition, deletion or other change to the schedule of Declared Rare Flora pursuant to the *Wildlife Conservation Act 1950* and/or amendments to CALM's Priority Flora List.**

See CALM Policy Statement No. 9 for criteria and definitions. Please complete all sections. Attach additional information, if space is insufficient.

**1. TAXON:** *Marianthus paralius* **Author** L. Cayzer & Crisp **Hybrid** ☐  
Refer to special guidelines

**2. CURRENT LIST/SCHEDULE:** Declared Rare: ☐ Threatened (extant) ☐ or Presumed Extinct ☐  
Priority ☐ One ☐ None ☐

**3. PROPOSED LIST/SCHEDULE:** Threatened ☒ Presumed Extinct ☐  
Priority ☐ None ☐

**4. PROPOSED IUCN THREAT CATEGORY** (see page 4): Extinct (EX) ☐ Extinct in the Wild (EW) ☐  
Critically Endangered (CR) ☒ Endangered (EN) ☐ Vulnerable (VU) ☐ Lower Risk (LR) ☐  
IUCN EN: B1ab(iii,v)+2ab(iii,v); C2(a)(i); D (2016) [CR: D,2006]

**5. SUMMARY REASON FOR CHANGE:**

Addition: Believed to be rare, but needs further survey ☐ Confirmed to be rare ☒  
Populations not adequately reserved ☐ Subject to threatening processes ☒  
Deletion: More common than previously thought ☐ Populations adequately reserved ☐  
Taxonomic uncertainty ☐ Does not comply with guidelines for hybrids ☐  
Change: Name Change ☐ Now presumed extinct ☐ Presumed extinct to extant ☐ Date found / /  
Other ☐ (reason)

**6. TAXONOMIC HISTORY/AFFINITY:**

Curated as *Billardiera* sp. Seabird (G. J. Keighery 12977) at PERTH and listed as this taxon in the Priority Flora List. Recently described as *Marianthus paralius* by Cayzer and Crisp (2004) in the journal '*Australian Systematic Botany*' (Vol 17(1): 137-140

*Marianthus paralius* is a small climbing plant with distinctive bright green foliage and red flowers. The species occupies a small rocky, limestone ridge within 100m of the sea edge.

**7. RECENT SURVEY EFFORT** (refer to the CALM guidelines for survey requirements):

- Gibson, N. – A Floristic Survey of the Swan Coastal Plain (1994) – extensive bioregional survey.
- Keighery, G.J. – 1992. – possibly an incidental collection.
- Jacqui Maguire and Leigh W. Sage – Sept 2004 – survey of all known and potential habitats along a 10km stretch of coast from Seabird to Guilderton over 3 days (report provided).
- David Pike – Sept 2005 – survey of Iluka Foreshore Reserve by City of Joondalup.
- David Wake (Quinns Rock Environmental Group volunteer) - June 2013 – survey of Kinsale Park, Mindarie.
- Survey of all 3 known populations by DPaW staff in Sept 2013.

**8. RESEARCH KNOWLEDGE/NEEDS:**

- Biological and ecological research is needed (distribution and abundance) including:
  - disturbance response
  - phenology
  - floristics
  - soil and geology
  - pollination biology



## 9 MANAGEMENT NEEDS & IMPLICATIONS (including susceptibility to disease, and presence of other threats): [updated 2016]

- Fire threats (most likely killed by fire) – potential extinction.
- Weeds – weeds are not a major threat at present but would compete with juveniles to leave a senescing population in the long-term.
- Proposed mining – habitat of known population is low coastal heath on low coastal limestone cliff; limestone mining poses an immediate threat that could lead to potential extinction as the site has been identified as a potential source of limestone.
- Recreational activities – potential site/ habitat degradation from rubbish dumping and incidental recreational use of the area by 4WD vehicles.
- Residential development – occurring in the Seabird, Mindarie and Iluka areas is a potential threat.
- Small population size – two populations contain less than 50 plants and are therefore at greater risk of extinction.
- Rabbits – evidence of rabbits has been observed at the Iluka population.

Specific management requirements [2016] include:

- Maintain liaison with City of Joondalup to ensure protection of the remnant vegetation in which the species occurs;
- Protect the sites containing populations as well as other potential critical habitat from urban development and mining by seeking to have remnant areas included in the reserve system;
- Monitor the populations for evidence of rabbits or changes in plant or site health;
- Protect the sites from fire unless required for ecological reasons, and implement early intervention in any wildfires which may threaten the sites;
- Survey any newly identified areas of suitable habitat;
- Control infestations of weeds that might impact the species and its habitat;
- Erect barriers/fencing if recreational activities continue to threaten populations;
- Remove rubbish dumped at sites;
- Control rabbits if evidence of a rabbit population or herbivory noted;
- Collect and store seed;
- Establish new populations on secure tenure through implementation of translocations;
- Determine species pollination ecology, seed germination requirements and viability, and longevity;
- Stimulate germination of species in wild;
- Undertake morphological and genetic studies to confirm the species taxonomic boundaries.

## 10. DISTRIBUTION BY CALM REGION:

Kimberley [ ]	Pilbara [ ]	Midwest [ ]	Goldfields [ ]	Wheatbelt [ ]
Swan [X]	Central Forest [ ]	Southern Forest [ ]	South Coast [ ]	

## 11. KNOWN POPULATIONS AND RANGE (attach WAHERB and/or population database printout):

CALM Region	Location	Land Status	Population size/area	Date of most Recent Survey	Condition of Population
A. Conservation Reserves (National Parks, Nature Reserves, State Forests)					
Nil					
B. Other Crown Lands					
UCL at Seabird (2004: 30, healthy) [2012: 34, healthy]					
New populations found:					
Shire recreation reserve at Iluka (2013: 4, healthy)					
Shire reserve at Mindarie (2013: 137, healthy)					
C. Private/Leasehold Lands					
Nil					

D. Unconfirmed Locations

Ni

**12. TRENDS IN POPULATION SIZE & RANGE:**

A. Previous  
Unknown

B. Current

Increase in Seabird population from approx.30 mature, 10 juveniles in 2004 to 34 plants in 2012.

New population from Iluka Coastal Reserve decreased in plant numbers from 15 in 2005 to 4 in 2013 due to fire, weeds, rabbits and recreational activities.

New population from Mindarie known from 137 in 2013.

**13. SUMMARY STATUS ASSESSMENT:**

This species is highly restricted geographically (known from three populations [2016]), is known from only 40 plants (2004) [175 in 2016], is not represented in the conservation estate and is under a potential threat from limestone mining (note that limestone mining occurs within 5km to the south and the known species habitat is a potential source of further material), weeds, frequent fire, recreational activities and urban development. This species meets all the criteria for listing as Threatened Flora (DRF) – Endangered (EN)

B1ab(iii,v)+2ab(iii,v); C2(a)(i); D.

**14. PROPOSED BY:**

**DATE:** /11/2004