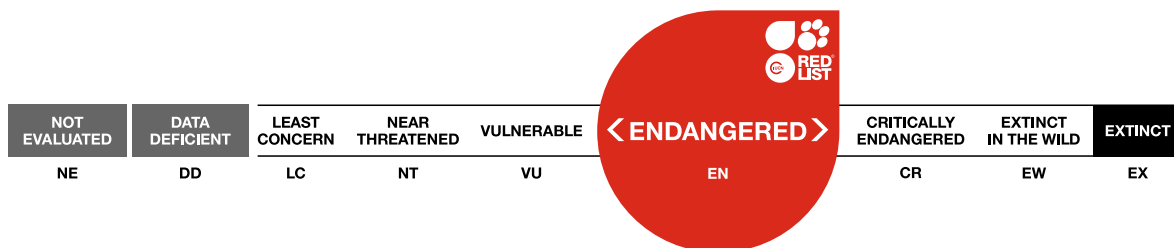




## *Syzygium occidentale*, Attuchamba

Assessment by: Amitha Bachan, K.H. & Devika, M.A.



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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Plantae	Tracheophyta	Magnoliopsida	Myrtales	Myrtaceae

**Scientific Name:** *Syzygium occidentale* (Bourd.) Gandhi

**Synonym(s):**

- *Eugenia occidentalis* Bourd.

**Common Name(s):**

- Malayalam: Attuchamba

**Taxonomic Source(s):**

WCVP. 2022. World Checklist of Vascular Plants (WCVP), version 2.0. Facilitated by the Royal Botanic Gardens, Kew. Available at: <http://wcvp.science.kew.org/>. (Accessed: 2022).

## Assessment Information

**Red List Category & Criteria:** Endangered A2c+4c; B2ab(i,ii,iii,iv,v) [ver 3.1](#)

**Year Published:** 2023

**Date Assessed:** February 20, 2022

**Justification:**

*Syzygium occidentale* is an obligate riparian rheophytic small tree species endemic to the southern Western Ghats in India. Its distribution is highly restricted to low-medium elevation evergreen riparian forest between 60–750 m altitude. Studies indicate a 57% population loss due to climate change induced floods in 2018 and 2019 coupled with dam operations. There has been a 20% reduction in the extent of occurrence (EOO) and a 57% reduction in the area of occupancy (AOO). The number of locations reduced from 14 to five. This indicates the endangerment of the species and the habitat with threats continuing (Amitha Bachan and Shajan 2019, Amitha Bachan and Devika 2020, 2022). The estimated EOO is 8,154 km<sup>2</sup> and the AOO is 24 km<sup>2</sup>. Hence, the species is assessed here as Endangered considering the narrow range and vulnerability of the habitat along with population reduction.

**Previously Published Red List Assessments**

[1998 – Vulnerable \(VU\)](#)

1998 – Indeterminate (I)

## Geographic Range

**Range Description:**

This species is an obligatory evergreen riparian rheophyte endemic to low elevation river stretches of southern Western Ghats.

**Country Occurrence:**

**Native, Extant (resident):** India (Karnataka, Kerala)

# Distribution Map



## Legend

■ EXTANT (RESIDENT)

Compiled by:

GTA 2022



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.



## Population

*Syzygium occidentale* was reported from 14 locations of low to medium elevation river stretches in six ecoregions of the southern Western Ghats in South India. Nine among the 14 locations were washed out due to floods in 2018 and 2019 (Amitha Bachan 2010, Amitha Bachan and Shajan 2019). The reservoir operations and submergence are the important threats to the species and its habitats (Amitha Bachan and Devika 2020). The population reduction is 57% based on an area of occupancy (AOO) reduction and the reduction in the extent of occurrence (EOO) is 20%.

**Current Population Trend:** Decreasing

## Habitat and Ecology (see Appendix for additional information)

*Syzygium occidentale* is an obligate rheophytic evergreen riparian large shrub or small tree species endemic to low-medium elevation river stretches in the southern Western Ghats.

**Systems:** Terrestrial

## Threats (see Appendix for additional information)

Habitat loss due to submergence and flash floods caused by dam operations are the major threats to the species. The climate change induced heavy rainfall and flood coupled with reservoir operations have destroyed 57% of the known population (Amitha Bachan 2010, Amitha Bachan and Shajan 2019, Amitha Bachan and Devika 2020, 2022).

## Conservation Actions (see Appendix for additional information)

Specific conservation actions are not in-place. Policies on the requirement of control over dam water operations for the conservation of habitat is in-place (Amitha Bachan and Shajan 2019) and an eco-restoration plan for the riparian habitat has been incorporated into the management plans of the Forest Department and Kerala State Biodiversity Board (Amitha Bachan *et al.* 2019).

## Credits

**Assessor(s):** Amitha Bachan, K.H. & Devika, M.A.

**Reviewer(s):** Hills, R.

## Bibliography

Amitha Bachan K.H. 2010. Riparian flora of the Chalakudy river basin and its Ecological significance. Department of Botany, University of Calicut.

Amitha Bachan, K.H. and Shajan, M.P. 2019. Assessment of Impact of flood/landslide on Biodiversity and developing methodology for long-term monitoring and evaluation of changes in the ecosystem and biodiversity: A case study in the Athirapilly Panchayath. Western Ghats Hornbill Foundation.

Amitha Bachan K.H. & Devika M.A. 2022. Niche Model Based Habitat Delineation and IUCN Reassessment of Obligate Riparian Species (*Syzygium occidentale* (Bourd.) Gandhi) Incorporating Flood Impact Population Data and Comparison with Ecosystem Prediction Pattern. International Conference on Advanced Biology. Thiruvananthapuram.

Amitha Bachan K.H, Pooja Suresh, Gouthami V., Sreehari S. Nair, Anitha K.T., Sidharth A.S. Kumar and Devika M. A. 2019. Ecological monitoring, natural forest enumeration and riparian ecorestoration supporting working plan preparation of Vazhachal Forest Division. Western Ghats Hornbill Foundation.

Amitha Bachan, K.H., Pooja Suresh., Gouthami, V., Sreehari, S. Nair., Anitha, K.T., Sidharth, A S Kumar. and Devika M.A. 2019. Ecological Monitoring, Natural Forest Enumeration and Riparian Ecorestoration supporting working plan preparation of Vazhachal Forest Division. Western Ghats Hornbill Foundation.

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IUCN. 2023. The IUCN Red List of Threatened Species. Version 2023-1. Available at: [www.iucnredlist.org](http://www.iucnredlist.org). (Accessed: 11 December 2023).

Ramesh, B.R. and Pascal, J.-P. 1997. Atlas of endemics of the Western Ghats (India). Distribution of tree species in the evergreen and semi-evergreen forests. Institut Français de Pondichéry.

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## External Resources

For [Supplementary Material](#), and for [Images and External Links to Additional Information](#), please see the Red List website.

## Appendix

### Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	Resident	Suitable	No
5. Wetlands (inland) -> 5.1. Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls)	Resident	Suitable	Yes

### Plant and Fungal growth forms

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Plant and Fungal growth forms
TS. Tree - small

### Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity
7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.9. Small dams	Ongoing	Minority (<50%)	Rapid declines
7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.10. Large dams	Ongoing	Majority (50-90%)	Rapid declines
11. Climate change & severe weather -> 11.4. Storms & flooding	Ongoing	Majority (50-90%)	Rapid declines
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance	

### Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Action in Place
In-place land/water protection
Area based regional management plan: Yes

### Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Action Needed	Notes
2. Land/water management -> 2.3. Habitat & natural process restoration	-
3. Species management -> 3.2. Species recovery	-
5. Law & policy -> 5.2. Policies and regulations	-

## Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Research Needed	Notes
2. Conservation Planning -> 2.1. Species Action/Recovery Plan	-

## Additional Data Fields

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 24
Continuing decline in area of occupancy (AOO): Yes
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 8154
Continuing decline in extent of occurrence (EOO): Yes
Number of Locations: 5
Continuing decline in number of locations: Yes
Lower elevation limit (m): 60
Upper elevation limit (m): 750
<b>Population</b>
Continuing decline of mature individuals: Yes
Continuing decline in subpopulations: Yes
All individuals in one subpopulation: Yes
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 25



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