



Prioria pinnata, Kulavu

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Taxonomy

Kingdom	Phylum	Class	Order	Family
Plantae	Tracheophyta	Magnoliopsida	Fabales	Fabaceae

Scientific Name: *Prioria pinnata* (Roxb. ex DC.) Breteler

Synonym(s):

- *Hardwickia pinnata* Roxb. ex DC.
- *Kingiodendron pinnatum* (DC.) Harms

Common Name(s):

- Malayalam: Kulavu, Ennappayin

Taxonomic Source(s):

Board of Trustees, RBG Kew. 2021. Plants of the World Online Portal. Richmond, UK. Available at: <http://www.plantsoftheworldonline.org>.

Identification Information:

Prioria pinnata is a large tree up to 35 m high with a clear bole. The bark is whitish with grey blotches. Trunk is cylindrical, straight up to 20 m and has very small buttress. Leaves are compound with 5 - 7 leaflets, lanceolate or oblong with acuminate apex, abrupt acumen is characteristic of the seedlings. Fruits are single seeded pods up to 5 x 2.5 cm.

Assessment Information

Red List Category & Criteria: Vulnerable A1acd [ver 3.1](#)

Year Published: 2023

Date Assessed: September 7, 2022

Justification:

Prioria pinnata is an endemic large legume tree up to 35 m high in the low to medium elevation tropical rainforest of the central and southern Western Ghats, India. The present area of occupancy (AOO) is 88 km² and extent of occurrence (EOO) is 18,874 km². The recent studies brought out 24 collection localities from 14 locations within eight important landscape of its distribution range (Devika and Amitha Bachan 2021). The species was considered threatened, chiefly due to large scale conversion of low elevation forest and traditional tapping of oil. This led to a decline of over 50% in three generations (90 years). However, the traditional harvest of the "Ennappayin" oil has ceased because of other alternatives for lamp oil. Distribution into the medium elevation ensures continuity of its habitat even though the primary low elevation forest are heavily fragmented (Devika and Amitha Bachan 2021). The species shows a good regeneration and establishment and *in situ* restoration are in place (Jose *et al.* 2017). A niche profile based area specific species management plan is in place (Devika and Amitha Bachan 2021). The species is assessed here as Vulnerable.

Previously Published Red List Assessments

1998 – Endangered (EN)

1998 – Rare (R)

Geographic Range

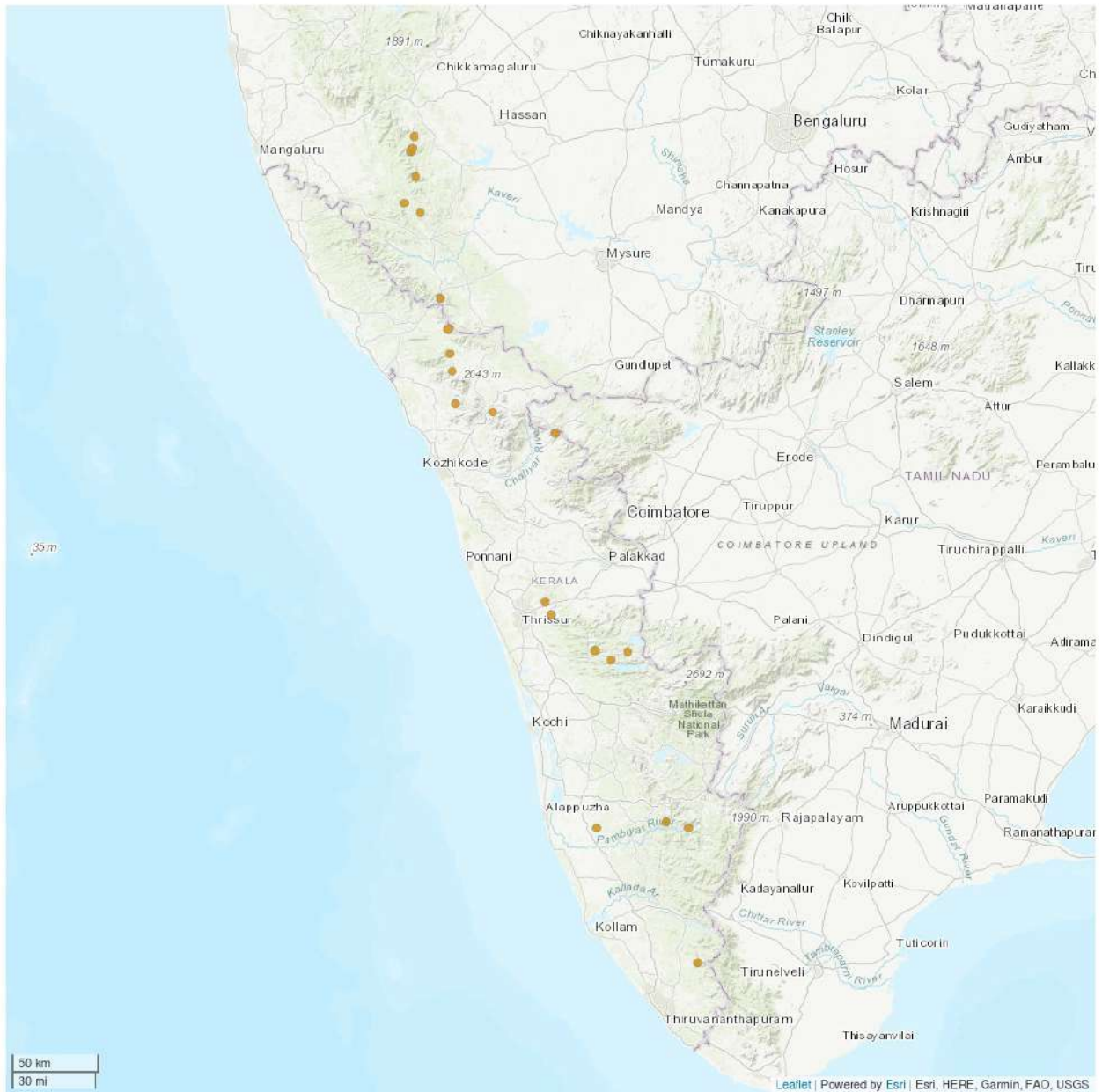
Range Description:

The species is distributed across the central and southern Western Ghats, India.

Country Occurrence:

Native, Extant (resident): India (Karnataka, Kerala, Tamil Nadu)

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

Prioria pinnata has 14 subpopulations in eight important landscapes in the central and southern Western Ghats. The suitable habitat is forest at 130–950 m elevation, and this has been subjected to heavy degradation in the past. The species had been tapped for its oil traditionally, but this has almost stopped now (Devika and Amitha Bachan 2021). The 1,200 mature individuals estimated in the 14 subpopulations are stable now due to various conservation programmes. The species has declined by at least 50% in the last three generations (90 years) due to oil tapping.

Current Population Trend: Stable

Habitat and Ecology (see Appendix for additional information)

Prioria pinnata is a large tree up to 35 m high in the low (150 m) to medium (950 m) elevation rainforest of the central and southern Western Ghats. It is seen in association with *Hopea ponga*, *Hopea parviflora*, *Dipterocarpus indicus*, *Vateria indica*, *Tetrameles nudiflora* and *Diospyros crumenata*. The tree is an important component of the closed canopy of the forests and which had been subjected to traditional oil extraction through tapping by the local and indigenous community. Hence, it is named locally as "Kulavu" or "Ennappayin" (Devika and Amitha Bachan 2021). It has 17 collection records (Jose *et al.* 2018) and the scrutinized records indicate 24 collection records from 14 locations in eight landscapes. The medium elevation habitats provide continuity of the present locations even though the primary habitat in the low elevations are heavily fragmented. The oil extraction practice has almost ceased now because of the availability of alternatives and increased awareness. The species is showing good regeneration and a few recovery programs are in place (Devika and Amitha Bachan 2021).

Systems: Terrestrial

Use and Trade

Timber was used for railway sleepers during the colonial period. Traditionally, the species was tapped for oil.

Threats (see Appendix for additional information)

The traditional practice of oil extraction was the important threat for the species, and it is ceased now because of other alternatives for lamp oil. The degradation of low elevation rain forest happened in the past and remains another threat. The extended distribution of the species into medium elevation rainforest provides a continuity of its habitat. Seed germination and regeneration seems quite good (Jose *et al.* 2018, Devika and Bachan 2021).

Conservation Actions (see Appendix for additional information)

Prioria pinnata has distribution across 14 locations in the central and southern Western Ghats at low to medium elevation rainforest habitat. Earlier forest extraction and traditional tapping of oil were the major threat, and current research indicates good recovery of the population. Seedling germination and establishment rate are quite good. A detailed niche profile based management plan were prepared and incorporated in to the forest management plan in the Vazhachal forest region (Devika and Amitha Bachan 2021). The seedlings were reintroduced at four locations as part of *in situ* restoration programmes, and also at two *ex situ* sites (Jose *et al.* 2017). A systematic species and habitat

monitoring is recommended for this species.

Credits

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

Reviewer(s): Beech, E.

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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	Yes

Plant and Fungal growth forms

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

Plant and Fungal growth forms
TL. Tree - large

Use and Trade

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

End Use	Local	National	International
7. Fuels	Yes	Yes	No

Threats

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

Threat	Timing	Scope	Severity
1. Residential & commercial development -> 1.2. Commercial & industrial areas	Ongoing	Minority (<50%)	Slow, significant declines
1. Residential & commercial development -> 1.3. Tourism & recreation areas	Ongoing	Minority (<50%)	Slow, significant declines
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.2. Agro-industry plantations	Ongoing	Minority (<50%)	Slow, significant declines
7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.10. Large dams	Ongoing	Minority (<50%)	Rapid declines

Conservation Actions in Place

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

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: Yes

Conservation Action in Place
Systematic monitoring scheme: No
In-place land/water protection
Percentage of population protected by PAs: 51-60
Occurs in at least one protected area: Yes
In-place species management
Successfully reintroduced or introduced benignly: Yes
Subject to ex-situ conservation: Yes
In-place education
Subject to recent education and awareness programmes: No
Included in international legislation: No
Subject to any international management / trade controls: No

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	-
4. Education & awareness -> 4.3. Awareness & communications	-

Research Needed

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

Research Needed	Notes
2. Conservation Planning -> 2.2. Area-based Management Plan	-
3. Monitoring -> 3.1. Population trends	-
3. Monitoring -> 3.4. Habitat trends	-

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km ²): 88
Estimated extent of occurrence (EOO) (km ²): 18874
Number of Locations: 14
Lower elevation limit (m): 130

Distribution
Upper elevation limit (m): 950
Population
Number of mature individuals: 1,200
Population severely fragmented: No
No. of subpopulations: 14
No. of individuals in largest subpopulation: 32
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 30

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