

Ecoregion

East Deccan Dry Evergreen Forests



Area of the ecoregion
25,458 km²



Altitude
<100 m–750 m



Annual rainfall
1000–1800 mm



Temperature
12°C–40°C



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Overview

This ecoregion has a unique dry-evergreen forest type of natural vegetation, found along the plains and low hills in south-east India—southern Andhra Pradesh, eastern Tamil Nadu and Pondicherry. Main natural vegetation type is low statured (8–12 m) forest with evergreen tree liana, and shrub species, along with some deciduous trees.

Ecological Restoration Projects in the Ecoregion

[Auroville project](#)

[Pitchandikulam restoration project](#)

Adjoining ecoregions

It is sandwiched between parts of the Godavari-Krishna mangroves ecoregion along the coast to the east and the Deccan thorn scrub forests ecoregion to the west.

Geography

The East Deccan dry-evergreen forests ecoregion spans an area of 25,458 km² stretches about 500 km long parallel to the east coast, between the Penner river in southern Andhra Pradesh in the north to the Vaigai River in Tamil Nadu in the south.



Dry evergreen forest hill ranges and valleys near Gingee

It forms a narrow band extending up to 30-80 km inland from the Bay of Bengal coastline. Most of the terrain is flat and under 100 m elevation, except for small hillocks and low hills (up to 750 m) in the north, near Tirupathi.

Geology and Soil

This ecoregion has mainly alluvial soil, overlaid on a bedrock of charnockite. Most forest remnants are situated over red ferralitic soil. Along river basins and banks rich clay deposits may be found, becoming progressively sandy near the coast. Hillslopes may be eroded and leached. Alluvial deposits are prevalent closer to river deltas and plains. In the hills, alluvial deposits are narrower in riparian belts, surrounded by arid dry soils.

Climate

This ecoregion receives between 1000 mm and 1800 mm of annual rainfall and has a mean annual temperature above 27.5°C. Temperatures increase from February through the dry season and hot, dry summer from April to June. Thunderstorms during April-May help sustain the vegetation ecosystem through the harsh summer when temperatures reach 40°C during the day and may fluctuate by up to 12°C over a 24-hour period. The ecoregion receives some rainfall during the southwest monsoon between July and September, but the bulk of the rainfall is from the northeast monsoon between October and December. Most of this precipitation is due to large-scale depressions or cyclones in the Bay of Bengal. Subsequently, from the short winter in January to early March this belt receives heavy dew. The moisture contributed by dew during these otherwise dry months, along with the rain from both monsoons, contributes to supporting the dry-evergreen vegetation of this ecoregion, which is distinct from the thorn forest and dry deciduous forest vegetation further inland.

Natural vegetation

The main natural vegetation type is a dry-evergreen forest characterised by a continuous canopy 8 to 12 metres tall formed by short trees with spreading crowns. Evergreen plant species, including trees, lianas, and shrubs, dominate the forest making up more than two thirds of the floral community. The evergreen plants typically have thick and leathery (coriaceous), dark-green leaves, are generally slow growing, with dense wood and thick bark, and elaborate root systems forming dense mats in the upper soil layers. Deciduous and brevi-deciduous species make up about a third of the plant species. Climbers are many, while shrubs include some thorny species.



Evergreen trees[left to right]: *Atalantia racemosa*, *Drypetes sepiaria*, *Lepisanthes tetraphylla*, *Chionanthus Zeylanica*



Brevi-deciduous trees[left to right]: *Diospyros chloroxylon*, *Pterospermum suberifolium*, *Cassine glauca*, *Streblus asper*



Shrubs[left to right]: *Capparis brevispina*, *Dimorphocalyx glabellus*, *Diospyros ferrea* var. *Buxifolia*, *Memecylon umbellatum*



Climbers[left to right]: *Jasminum angustifolium*, *Strychnos minor*, *Reissantia indica*, *Aristolochia indica*

Bamboos are usually absent, grass and herbs are present but not abundant in the dark understorey. Brevi-deciduous species are those that lack an inherent seasonality in leaf-shedding, or in having a completely bare canopy for a period. They retain



An example of a dry evergreen canopy near Pondicherry

some leaves through prolonged dry periods while shedding part of their foliage (e.g., *Manilkara hexandra*, *Pterospermum canescens*).

Variation within ecoregion

There is some variation in the natural vegetation and forest within the ecoregion in relation to soil, elevation, and proximity to the coast.

Soil: East Deccan dry-evergreen forest remnants on sandy loam or alluvial deposits may be taller statured (up to 12m), compared to those on hard and compact red ferralitic soil that tend to be stunted (<8 m tall) and slow-growing.

Proximity to coast: close to the coast there are pockets of littoral forest and sand dunes with their own unique vegetation.

Drying and degradation: In some locations within the ecoregion, natural vegetation similar to the Deccan thorn scrub forests may also occur (forming drier and more open habitats with *Borassus flabellifer* trees and thorny shrub vegetation).

Characteristic native plant species

Tree Evergreen

Aglaia elaeagnoidea
Atalantia monophylla
Buchanania axillaris
Celtis philippensis
Chionanthus zeylanica
Diospyros affinis
Diospyros ebenum
Drypetes sepiaria
Ficus microcarpa
Garcinia spicata
Lepisanthes tetraphylla
Manilkara hexandra
Pamburus missionis
Pleiospermium alatum
Psydrax dicoccos
Syzygium cumini
Walsura trifoliolata

Tree Brevi-deciduous

Albizia amara
Cassine glauca
Dalbergia lanceolaria
Diospyros chloroxylon
Pterospermum suberifolium
Pterospermum xylocarpum
Streblus asper
Strychnos nux-vomica
Wrightia tinctoria
















Shrubs

Cadaba trifoliata
Capparis brevispina
Dimorphocalyx glabellus
Diospyros ferrea var. buxifolia
Ehretia pubescens
Eugenia bracteata
Glycosmis mauritiana
Ixora pavetta
Memecylon umbellatum
Miliusa eriocarpa
Murraya paniculata
Pleurostylia opposita
Polyalthia korinti
Polyalthia suberosa
Salacia chinensis
Tarenna asiatica
Tricalysia sphaerocarpa

Climbers

Aristolochia indica
Capparis zeylanica
Cissus quadrangularis
Cocculus hirsutus
Euphorbia antiquorum
Gloriosa superba
Grewia rhamnifolia
Jasminum angustifolium
Mimosa intsia
Reissantia indica
Strychnos minor

Plant seasonality

J	F	M	A	M	J	J	A	S	O	N	D
											
											
											

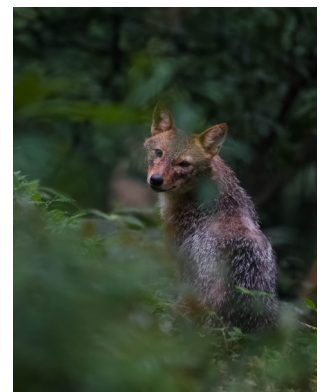
Pollination and seed dispersal ecology

Most plants are pollinated by bees, butterflies, moths, bats and birds. The dominant group of pollinators are social and solitary bees (i.e. *Apis cerana*, *Apis dorsata*, *Trigona iridipennis* and *Braunsapis picatorius*), followed by butterflies and moths (lepidoptera) and then the family of flies (diptera). Only a very small number of species were pollinated by birds and they were mostly deciduous and brevi-deciduous trees. Most of the flowers open during the day and provide nectar alone. Most flowers are generalised to multiple pollinators, with some exceptions specialised on nocturnal moths or bats.

Most fruits are dispersed by birds (such as Coppersmith Barbets, bulbuls) and small mammals (such as palm civets), besides monkeys, jackals, and bats. Some species disperse their seeds through wind or mechanical means.

Animal life

This ecoregion has a diverse fauna, including many species endemic to the Indian subcontinent. Snakes found here include the bamboo pit viper, rock python, russell's viper, cobra, common krait, trinket snake, Elliot's shieldtail, and green keelback to name a few. Along with other reptiles such as the monitor lizard, chameleon, and green forest calotes. There are more than 200 species of birds, including residents such as the White-browed Bulbul and Green-billed Malkoha, and winter migrants such as the Indian pitta, Orange-headed thrush, and Blue-throated flycatcher. Over 100 species of butterflies are documented along with a large insect and spider diversity. Mammals such as the Golden jackal, common palm civet, three-striped palm squirrel, and black-naped hare occur here.



Left to right: *Bamboo Pit Viper*, *Blue throated flycatcher*, *Green Forest Calotes*, *Golden Jackal*

Conservation

Over 95% of the forests of this ecoregion have been fragmented and deforested historically, with most remnants occurring as small and degraded only patches. Historically even tigers and Asian elephants were recorded here but have vanished, while other species such as leopards and blackbuck occur sparingly in specific locations. Some timber trees have also been exploited heavily and are rare.

Important Protected Areas in the Ecoregion

1. Guindy National Park
2. Point Calimere National Park
3. Pulicat Lake bird Sanctuary,
4. Vedanthangal Bird Sanctuary
5. Kailveli Bird Sanctuary
6. Karikili Bird Sanctuary

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Acknowledgements

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Text

Madhavan A. P.

Editors

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[cover] Ecoregion Map: Madhavan A.P.

[Pg 1] Dry evergreen forest hill ranges and valleys: Madhavan A.P.

[Pg 3] *Atalantia racemosa*: Varun pabrai

[Pg 3] *Drypetes sepiaria*: Gihan Jahaveera

[Pg 3] *Lepisanthes tetraphylla*: Vinayaraj

[Pg 3] *Chionanthus Zeylanica*: Lalithamba

[Pg 3] *Diospyros chloroxylon*: J.M Garg

[Pg 3] *Pterospermum suberifolium*: Dinesh Valke

[Pg 3] *Cassine glauca*: Vinayaraj

[Pg 3] *Streblus asper*: A.J.T Johnsingh

[Pg 3] *Capparis brevispina*: Dinesh Valke

[Pg 3] *Dimorphocalyx glabellus*: Dinesh Valke

[Pg 3] *Diospyros ferrea* var. *buxifolia*: Lalithamba

[Pg 3] *Memecylon umbellatum*: Dinesh Valke

[Pg 3] *Jasminum angustifolium*: Dinesh Valke

[Pg 3] *Strychnos minor*: Kerry Coleman

[Pg 3] *Reissantia indica*: Vinayaraj

[Pg 3] *Aristolochia indica*: Delonix

[Pg 4] An example of a dry evergreen canopy: Madhavan A.P.

[Pg 7] Bamboo Pit Viper: Thamos Brown

[Pg 7] Blue throated flycatcher: Imran Shah

[Pg 7] Green Forest Calotes: Rehman Abubakr

[Pg 7] Golden Jackal: Thc Photography Nepal

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Key References

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One Earth Ecoregion Snapshot

<https://www.oneearth.org/ecoregions/east-deccan-dry-evergreen-forests/>



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